DX-C206
DX-C106

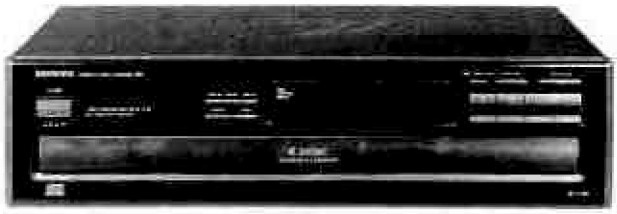
REF. NO. 3419

ONKYO SERVICE MANUAL

COMPACT DISC PLAYER

MODEL DX-C106

MODEL DX-C206



Black model

BHUD, BHUDN	120V AC, 60Hz
BHUP	230V AC, 50Hz
BHUW	120/220V AC, 50/60Hz
BHUQA	240V AC, 50Hz

BHUD, BHUDN	120V AC, 60Hz

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ 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 PARTS 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.

SPECIFICATIONS

Signal readout system:	Optical non-contact
Reading rotation:	About 500–200 r.p.m. (constant linear velocity)
Linear velocity:	1.2–1.4m/s
Error correction system:	Cross interleave readsolomon code
Decoded bits:	1 BIT PWM/ACCUPULSE D/A CONVERTER
Sampling frequency:	352kHz (8 times oversampling)
Number of channels:	2 (Stereo)
Frequency response:	2Hz–20kHz
Total harmonic distortion	0.004% (at 1kHz)
Dynamic range	96dB (at 1kHz)
Signal to noise ratio:	96dB (at 1kHz)
Channel separation:	90dB (at 1kHz)
Wow and Flutter:	Below threshold of measurability
Power consumption:	12 watts
Output level:	2 volts r.m.s.
Dimensions (W×H×D):	455×120×426mm 17-15/16"×4-3/4"×16-13/16"
Weight:	7.7kg, 17.0lbs.

Specifications are subject to change without notice.

ONKYO®
AUDIO COMPONENTS

TABLE OF CONTENTS

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.

2. Voltage Selector (Back panel)

Worldwide models are equipped with a voltage selector to conform with local power supplies.Be sure to set this switch to match the voltage of the power supply in user's area before turning the power switch on.

Voltage is changed by sliding the groove in the switch with a screw driver to the right or left.

Confirm that the switch has been moved all the way to the right or left before turning the power switch on.

at AC120V at AC220V

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,carefulley 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 inpedance 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 SERVICING

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 EMMISION, 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: 780nm
- 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

The label shown below are affixed.

1. Warning lable

This label is located on the arm of mechanism.

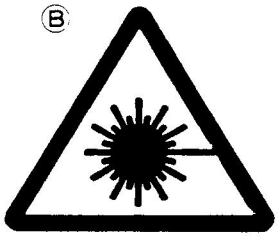
Ⓐ

DANGER —INVISIBLE LASER RADIATION WHEN OPEN AND INTERLOCK FAILED OR DEFEATED. AVOID DIRECT EXPOSURE TO BEAM

CAUTION —HAZARDOUS LASER AND ELECTROMAGNETIC RADIATION WHEN OPEN AND INTERLOCK DEFEATED

ATTENTION —RAYONNEMENT LASER ET ELECTROMAGNETIQUE DANGEREUX SI OUVERT AVEC L'ECLENCHEMENT DE SECURITE ANNULE.

Ⓑ



Ⓒ

ADVARSEL: USYNLIG LASERSTRÅLING VED ÅBNING, NÅR SIKKERHEDSAF-BRYDER ER UDE AF FUNKTION. UNDGÅ UDSÆTTELSE FOR STRÅLING.

Ⓓ

VARO!
AVATTAESSA JA SUOJALUKITUS OHITETTAESSA OLET ALTTIINA NÄKYMÄTTÖMÄLLE LASERSÄTEILYLLE. ÄLÄ KATSO SÄTEESEEN.

Ⓔ

VARNING
OSYNLIG LASERSTRÅLNING NÄR DENNA DEL ÄR ÖPPNAD OCH SPÄRREN ÄR URKOPPLAD. BETRAKTA EJ STRÅLEN.

Ⓐ : Danger label
Ⓑ : Except 120V model
Ⓒ : Except 120V model
Ⓓ,Ⓔ: Only 230V model

2. Certification label (120V model)

This label is located on the back panel.

PRODUCT IS CERTIFIED BY THE MANUFACTURER TO COMPLY WITH DHHS RULES 21 CFR SUBCHAPTER J APPLICABLE AT THE DATE OF MANUFACTURE.

MANUFACTURED

3. Class 1 label (Except 120V model)

This label is located on the back panel.

"CLASS 1 LASER PRODUCT"

LUOKAN 1
LASERLAITE

KLASS 1
LASER APPARAT

ADVARSEL

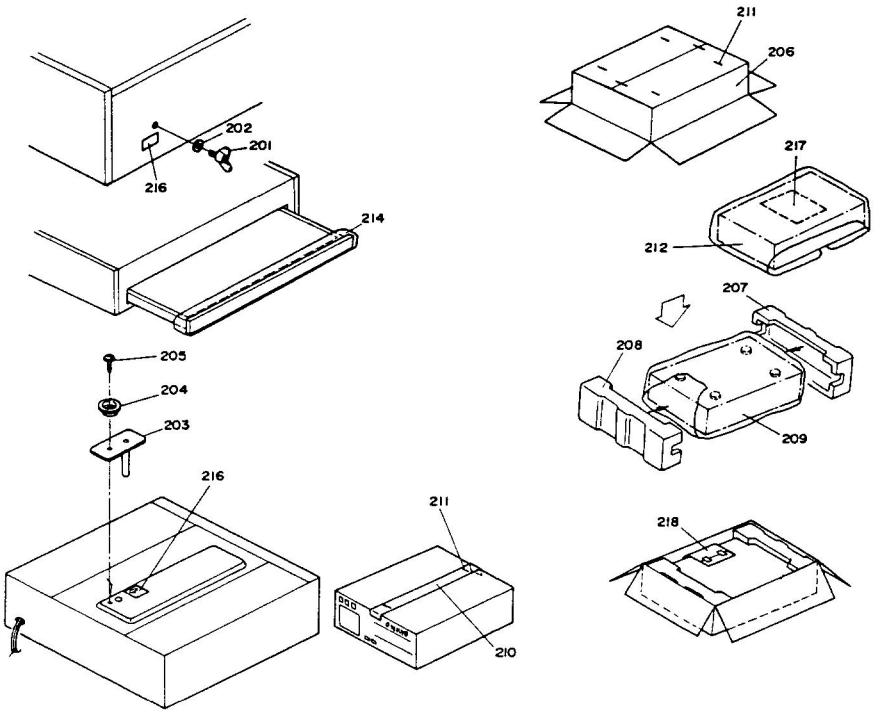
Denna maekning er anbragt på apparatets højre side og indikerer, at apparatet arbejder med laserstråler af klasse 1, hvilket betyder, at der anvendes laserstråler af svageste klasse, og at man ikke på apparatets yderside kan blive udsat for utilladelig kraftig stråling.

APPARATET BØ/R KUN ÅBNES AF FAGFOLK MED SÆRLIGT KENDSKAB TIL APPARATER MED LASERSTRÅLER!

Indvendigt i apparatet er anbragt den her gengivne advarselsmærkning, som advarer imod at foretage sådnne indgreb i apparatet, at man kan komme til at udsaette sig for laserstråling.

VAROITUS! LAITTEEN KÄYTTÄMINEN MUULLA KUIN TÄSSÄ KÄYTTÖOHJEESSA MAINTULLA TAVALLA SAATTAA ALTISTAA KÄYTTÄJÄN TURVALLISUUSLUOKAN 1 YLITTÄVÄLLE NÄKYMÄTTÖMÄLLE LASERSÄTEILYLLE.

PACKING VIEW



PARTS LIST

REF.NO.	PART NO.	DESCRIPTION
201	800306	M5×20,Wing screw
202	27270357	15×5×0.5,Spacer
203	24822012	Bracket,pin
204	27265155A	Ring,cover
205	834430088	3TTS+8B(BC),Self-tapping screw
206	29052400	Master carton box <DX-C106>
	29052401	Master carton box <DX-C206>
207	29091562A	Pad L
208	29091563A	Pad R
209	29100038A	Styrene bag
210	29110071	Damplon tape
211	282301	Sealing hook
212	29095019-1	0.5×600×800,Protection sheet
214	29095654	Protection sheet
216	29361434	Label
217	29361433	Label

PART NO.	DESCRIPTION
Accessary bag ass'y	
2010098A	Connection cord
2010200	Remote control cord
24140227	RC-227C,Remote control unit <DX-C206>
3010054	UM-3,Two batteries <DX-C206>
29341725	Instruction manual <D>
29341726	Instruction manual <P/W/Q/C>
29365019A	Warranty card <N>
29358002J	Service station list <N>
25055040	CV-K-2,Conversion plug <W>
29100097	350×250,Styrene bag

NOTE: <D>:120V model only
<P>:230V model only
<W>:Worldwide model only
<Q>:240V model only
<N>:U.S.A. model only
<C>:Canadian model only

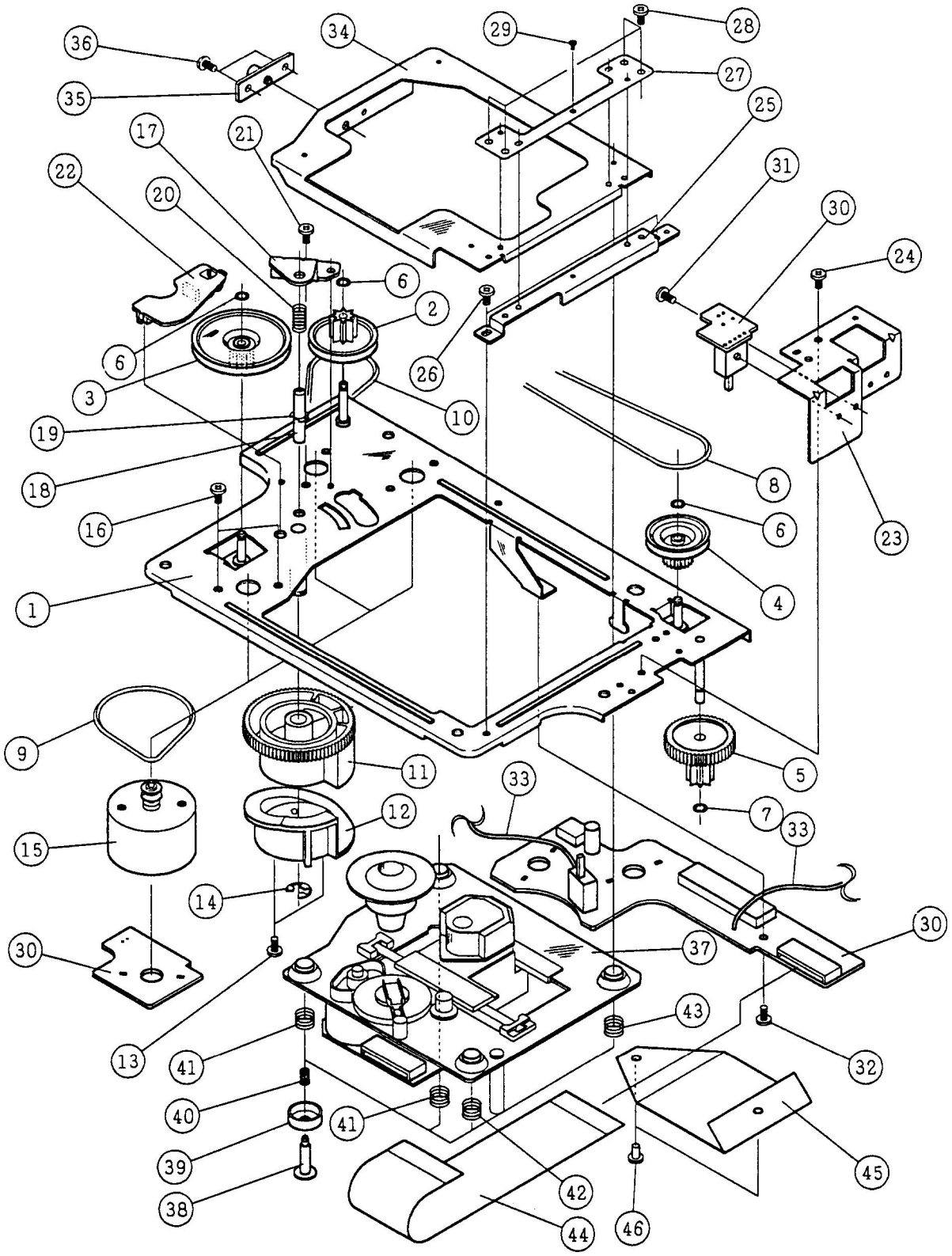
DX-C206(BH)UWX-D type is the same as the DX-C206(BH)UW with the exception of the following sections.

Page	Ref. No.	Part Name	(BH)UWX-D Part No.	(BH)UW Part No.
9	206	Master carton box	29052490	29052401
9		Warranty card	29365021	Not used
9		Service station list	29358002J	Not used

CAUTION:
How to lock the transport screw (when the tray opens)
1.Press the memory button.
2.Press the close button to close the tray.
3.Turn the power switch off after more than 3 seconds.

MECHANISM-EXPLODED VIEW

CHANGER MECHANISM(CMC-B)



PARTS LIST

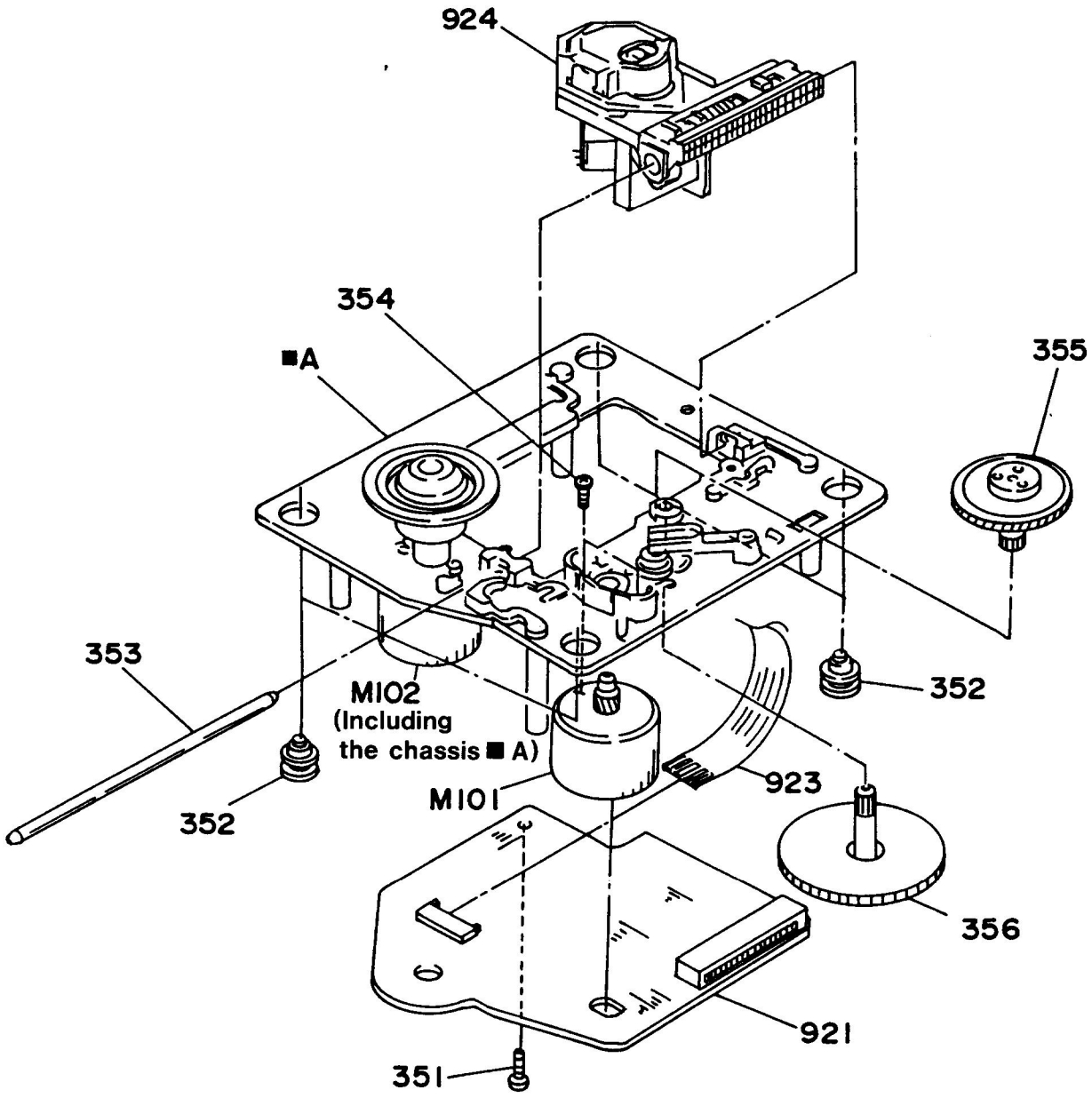
CMC-B

REF.NO.	PART NO.	DESCRIPTION
1	24802004	Chassis ass'y
2	24810007	Gear A
3	24810008	Gear B
4	24810009	Gear C
5	24810010	Gear D
6	24834003	Washer
7	24840019	E ring
8	24816003	Belt
9	24816004	Belt
10	24816005	Belt
11	24810011	Gear cam A
12	24810012	Gear cam B
13	801502	Self-tapping screw
14	24840020	E ring
15	24804005	Motor ass'y
16	801503	Pan head screw
17	24822006	Plate holder
18	24828004	Shaft
19	24840021	E ring
20	24820004	Spring
21	801504	Pan head screw
22	24814002	Arm switch
23	24822007	Plate switch
24	801505	Screw
25	24822008	Plate B
26	801506	Screw
27	24822009	Plate
28	801507	Screw
29	801508	Screw
30	24840009	Connector pc board ass'y
	25065375	NMS-1219,Switch
CN101	24840022	Connector
CN102	24840012	Connector
CN103	24840011	Connector
31	801506	Screw
32	801509	Screw
33	24840013	Wire
34	24802005	Sub chassis
35	24840014	Lift lever
36	801505	Screw
37	24506980	BU-5BD3,Pickup drive unit
38	801510	Screw
39	24840015	Bush
40	24820005	Spring
41	24820006	Spring
42	24820007	Spring
43	24820008	Spring
44	24840016	Flexible wire
45	24840017	Vinyl sheet
46	24840018	Nylon rivet

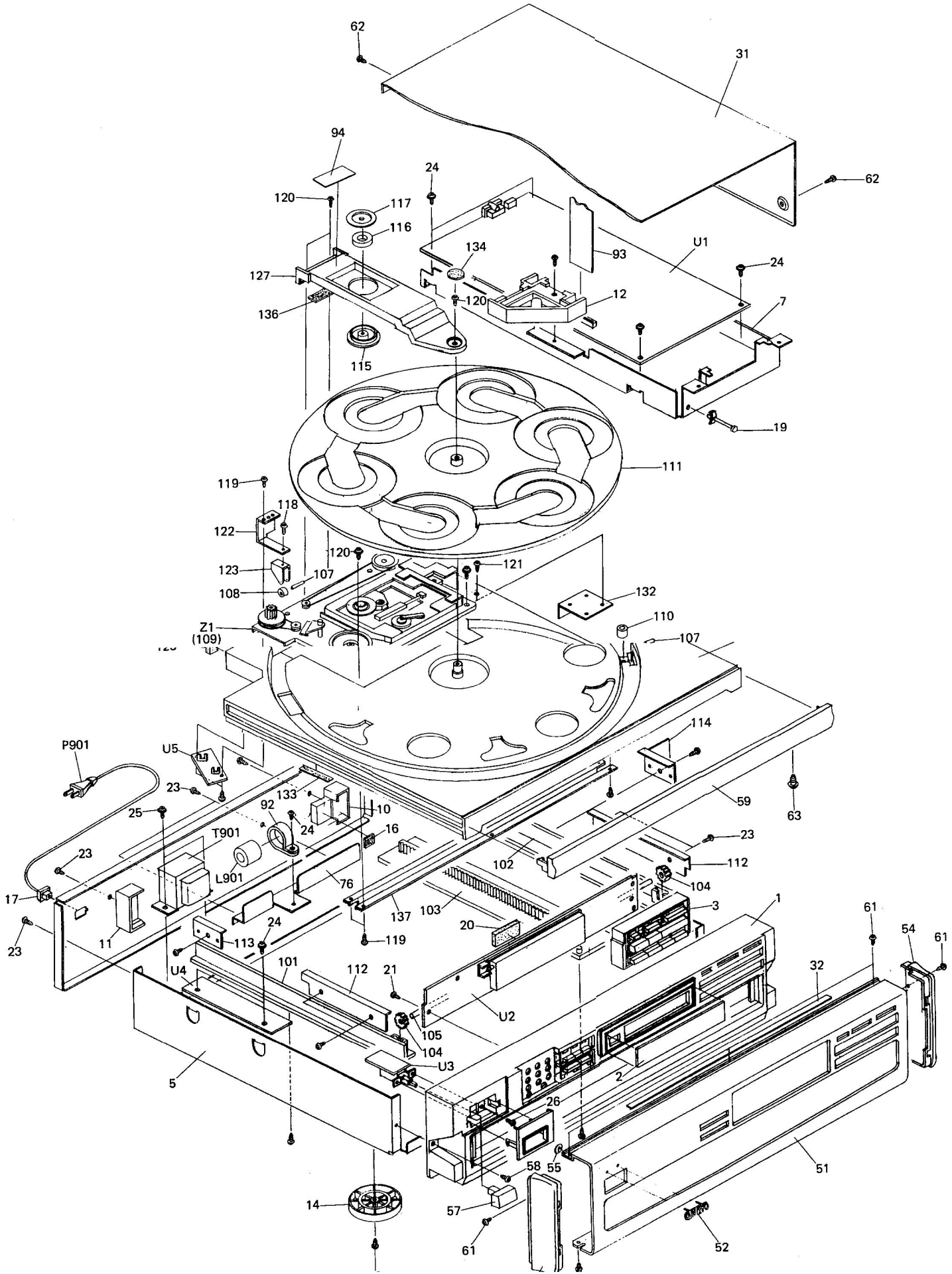
BU-5BD3

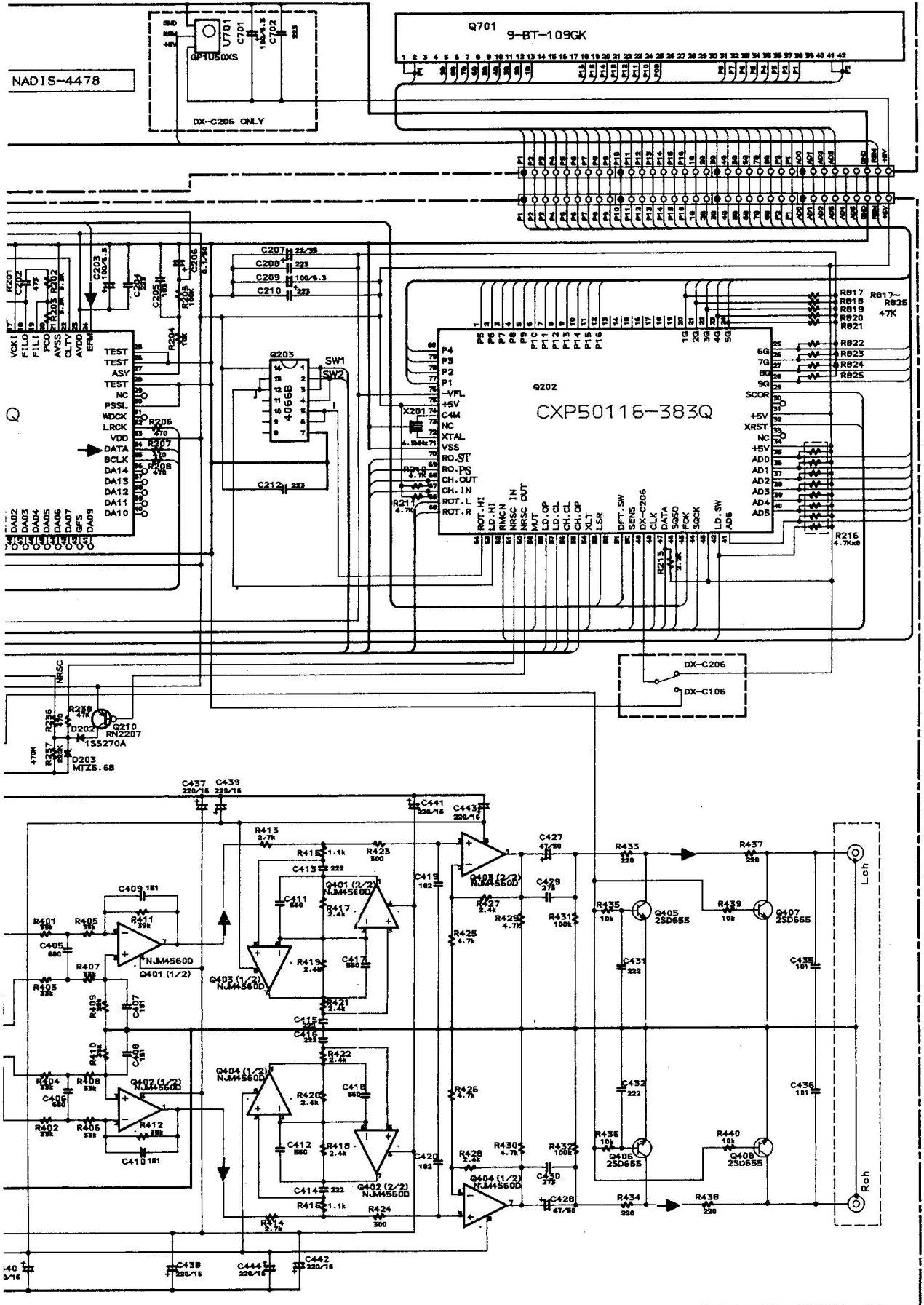
REF. NO.	PART NO.	DESCRIPTION
351	838426088	2.6TTB+8B(BC),Self-tapping screw
352	24818001	Insulator A
353	24828001	Sled shaft
354	82142003	2P+3F(BC),Pan head screw
355	24810004	Wheel
356	24810005	Wheel
921	24505321	AR-AS-1,RF/Servo pc board ass'y
923	2043120010	Flexible cable
924	24110011	KSS-240A,Optical pickup
M101	24804002	Sled motor ass'y
M102	24804003	Spindle motor ass'y
S101	25065446	NLF-11022,Leaf switch

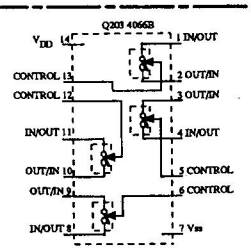
PICK-UP DRIVE UNIT(BU-5BD3)



EXPLODED VIEW

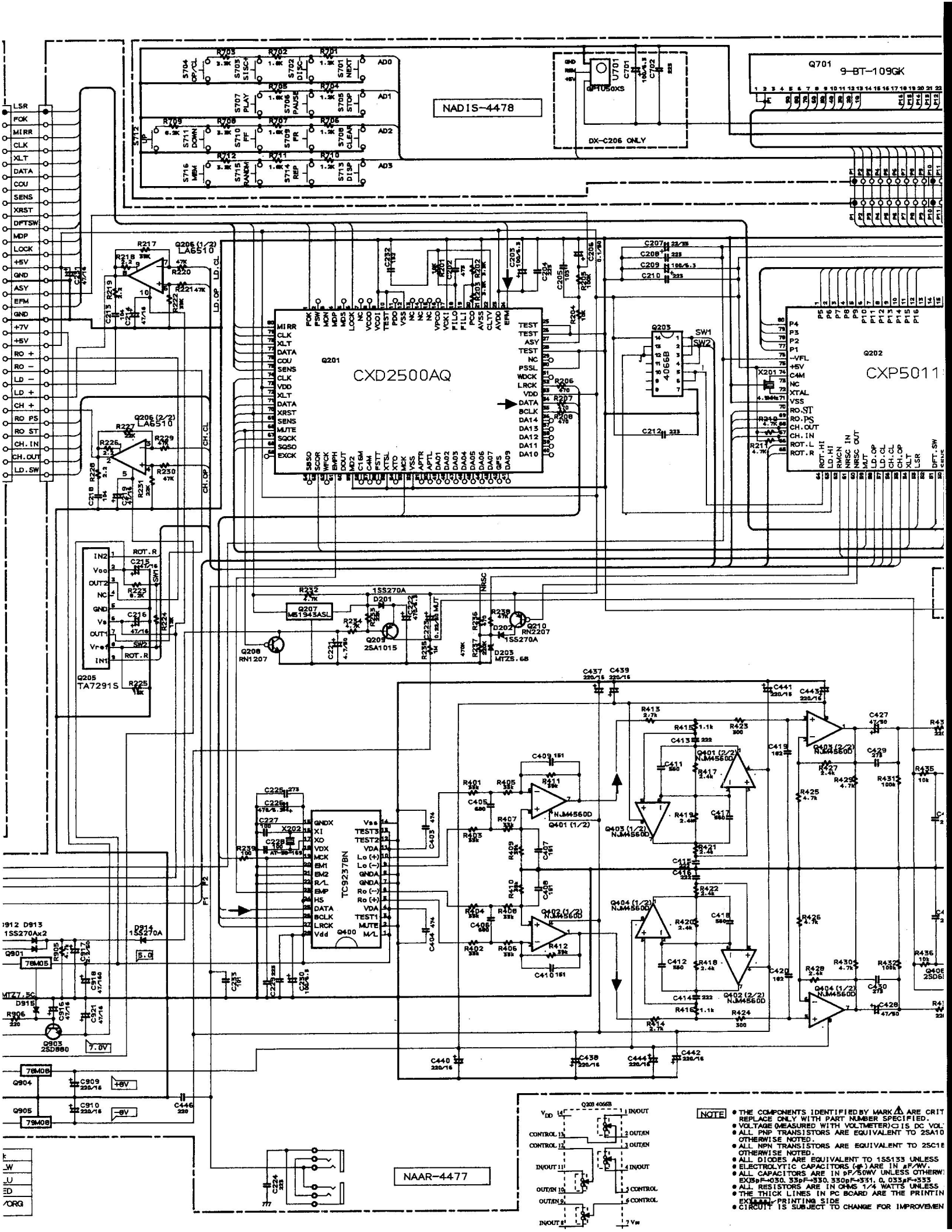


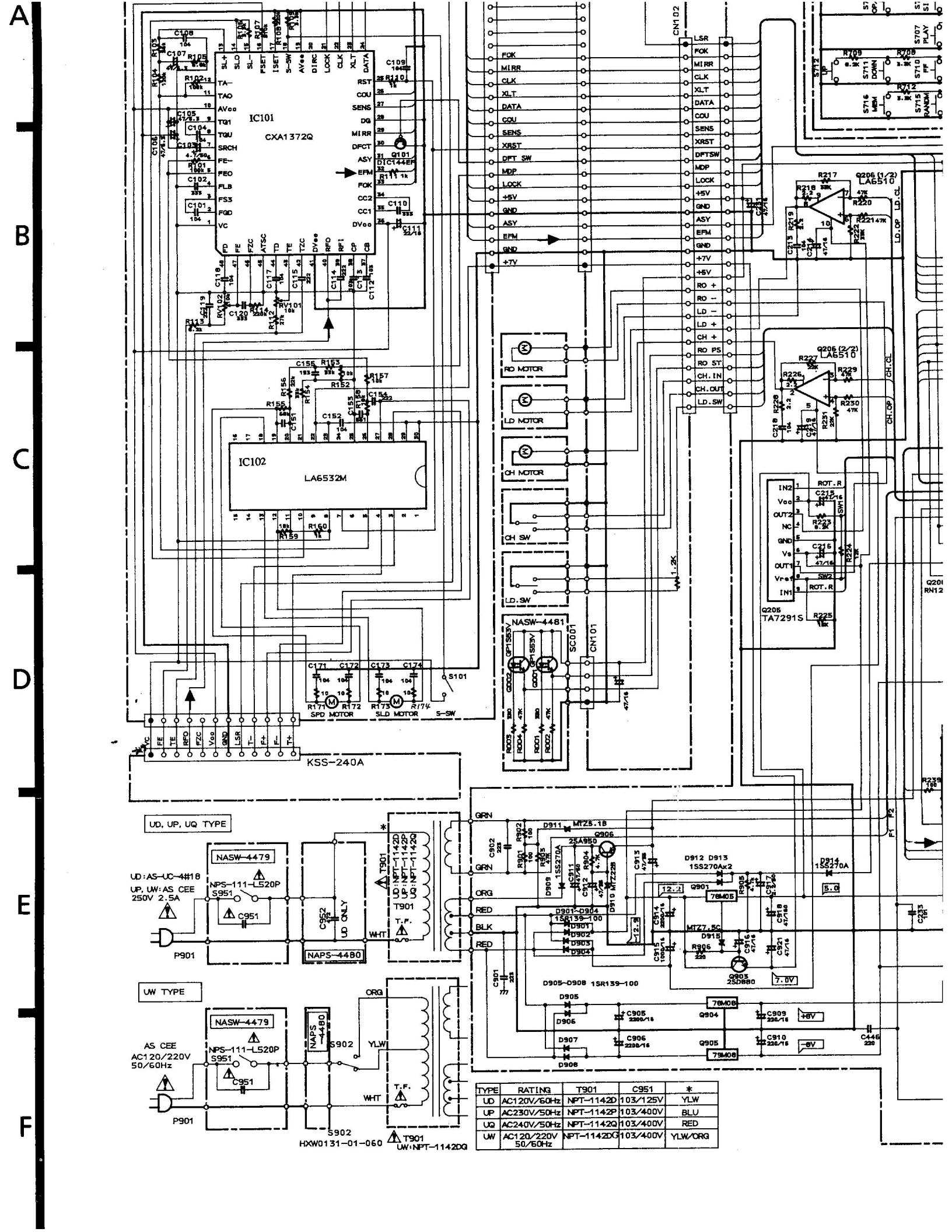




NOTE
- THE COMPONENTS IDENTIFIED BY MARK ⚠ ARE CRITICAL FOR SAFETY. REPLACE ONLY WITH PART NUMBER SPECIFIED.
- VOLTAGE (MEASURED WITH VOLTMETER) IS DC VOLTAGE.
- ALL PNP TRANSISTORS ARE EQUIVALENT TO 2SA1015-GR UNLESS OTHERWISE NOTED.
- ALL NPN TRANSISTORS ARE EQUIVALENT TO 2SC1815-GR UNLESS OTHERWISE NOTED.
- ALL DIODES ARE EQUIVALENT TO 1SS133 UNLESS OTHERWISE NOTED.
- ELECTROLYTIC CAPACITORS (—) ARE IN μF/WV.
- ALL CAPACITORS ARE IN pF/50WV UNLESS OTHERWISE NOTED. EX)5pF→050, 33pF→330, 330pF→331, 0.033μF→333
- ALL RESISTORS ARE IN OHMS 1/4 WATTS UNLESS OTHERWISE NOTED.
- THE THICK LINES IN PC BOARD ARE THE PRINTING SIDE OF THE PARTS. EX) [illegible] PRINTING SIDE
- CIRCUIT IS SUBJECT TO CHANGE FOR IMPROVEMENT.

4477


NADIS-4478
DX-C206 ONLY
Q701
9-BT-109GK
CXD2500AQ
Q201
CXP5011
Q202
NAAR-4477
LSR
FOK
MIRR
CLK
XLT
DATA
COU
SENS
XRST
DFTSW
MDP
LOCK
+5V
GND
ASY
EFM
+7V
RO +
RO −
LD +
CH +
RO PS
RO ST
CH.IN
CH.OUT
LD.SW
LD.OP
LD.CL
CH.CL
Q206 (1/2) LA6510
Q206 (2/2) LA6510
Q205 TA7291S
Q207 M51943ASL
Q208 RN1207
Q209 2SA1015
Q210 RN2207
Q203 4066B
TC9237BN
Q400
Q401 (1/2) NJM4560D
Q402 (1/2) NJM4560D
Q403 (1/2) NJM4560D
Q404 (1/2) NJM4560D
Q901 78M05
Q903 2SD880
Q904 78M08
Q905 79M08
NOTE
• THE COMPONENTS IDENTIFIED BY MARK ⚠ ARE CRIT
REPLACE ONLY WITH PART NUMBER SPECIFIED.
• VOLTAGE (MEASURED WITH VOLTMETER) ○ IS DC VOL
• ALL PNP TRANSISTORS ARE EQUIVALENT TO 2SA10
OTHERWISE NOTED.
• ALL NPN TRANSISTORS ARE EQUIVALENT TO 2SC1E
OTHERWISE NOTED.
• ALL DIODES ARE EQUIVALENT TO 1SS133 UNLESS
• ELECTROLYTIC CAPACITORS (μF) ARE IN μF/WV.
• ALL CAPACITORS ARE IN pF/50WV UNLESS OTHERW
EX)5pF→050, 33pF→330, 330pF→331, 0.033μF→333
• ALL RESISTORS ARE IN OHMS 1/4 WATTS UNLESS
• THE THICK LINES IN PC BOARD ARE THE PRINTIN
EX) PRINTING SIDE
• CIRCUIT IS SUBJECT TO CHANGE FOR IMPROVEMEN



TYPE	RATING	T901	C951	*
UD	AC120V/60Hz	NPT-1142D	103/125V	YLW
UP	AC230V/50Hz	NPT-1142P	103/400V	BLU
UQ	AC240V/50Hz	NPT-1142Q	103/400V	RED
UW	AC120/220V 50/60Hz	NPT-1142DG	103/400V	YLW/ORG

PARTS LIST

MODEL DX-C106

REF.NO.	PART NO.		DESCRIPTION
1	27110694		Front bracket
2	28191624		Clear plate
3	28324583		Knob,play
5	27100257		Chassis
6	27121572A		Back panel
7	27130684		Bracket PC
10	27190899		Holder
11	27190874		Holder
12	27190869		Holder
13	27190882		K103G,Holder
14	27175254		Leg
16	24836009		Cushion
17	27300750	⚠	Bushing,cord
19	27190902		KGPS-16S,Holder
20	28141197		3×30×20,Cushion
21	838426088		2.6TTB+8B(BC),Self-tapping screw
22	833430080		3TTP+8P(BC),Self-tapping screw
23	834430088		3TTS+8B(BC),Self-tapping screw
24	831130088		3TTW+8B,Self-tapping screw
25	830440089		4TTC+8C(BC),Self-tapping screw
26	82143006		3P+6FN(BC),Pan head screw
27	833430127		3TTP+12S(BC),Self-tapping screw
29	86213010		WN3×10FN,Washer
31	1H199901		Top cover
32	28140680		0.5×180×8,Cushion
51	27211413		Front panel
52	28135199		Badge
53	28125248Y		End cap L
54	28125249Y		End cap R
55	8910301		CS-3(SUS),Ring
57	28324140		Knob,power
58	27267775Y		Guide
59	27211414		Tray panel
61	833430080		3TTP+8P(BC),Self-tapping screw
62	834430088		3TTS+8B(BC),Self-tapping screw
63	833440120		4TTP+12P(BC),Self-tapping screw
91	260208		Binder
92	260221		NK-10N,Clamper
93	2041294010		NCFC1-294010,Flat cable
94	29360807		Label,danger
L901	230907	⚠	TR-16-8-16,Core
P901	253168 or	⚠	AS-UC-6#18,
	253146		Power supply cord
T901	2300789	⚠	NPT-1142D,Power transformer
U1	1H199577-1		NAAR-4477-1,Main circuit pc board ass'y
U2	1H199578-1		NADIS-4478-1,Display circuit pc board ass'y
U3	1H199579-1		NASW-4479-1,Power switch pc board ass'y
U4	1H199580-1		NAPS-4480-1,Power supply circuit pc board ass'y
U5	1H199581-1		NASW-4481-1,Disc sensor pc board ass'y
Z1			NCD-52S-C,CD changer mechanism

(MODEL DX-C106/C206)

REF.NO.	PART NO.	DESCRIPTION
101	27301472A	Guide rail L
102	27301473	Guide rail R
103	27301476A	Rack
104	27301470	Gear
105	27260309	Shaft,gear
106	27301461C	Tray
107	27260308	Shaft,roller
108	27301465A	Roller
109	24506981B	CMC-B,Changer mechanism
	24506980	BU-5BD3,Pickup drive unit
110	24834001	Tube
111	27301460A	Carousel
112	27267767A	Side plate F
113	27267768	Side plate R
114	27267800	Side plate RR
115	27301474	Cap CH
116	28181019A	Magnet CH
117	27301475	Yoke CH
118	838430068	3TTB+6B(BC),Self-tapping screw
119	838430080	3TTP+8P(BC),Self-tapping screw
120	831430100	3TTW+10P(BC),Self-tapping screw
121	834430088	3TTS+8B(BC),Self-tapping screw
122	24822002	Bracket A
123	24822003	Bracket B
125	24836006	Cushion,tray
127	24814001	Arm
132	24822010	Bracket BT
133	28140451	Cushion
134	24840005	Cover seal
135	831430088	3TTW+8B(BC),Self-tapping screw
136	24836007	Cushion
137	24822011	Bracket UT
138	833430060	3TTP+6P(BC),Self-tapping screw

MODEL DX-C206

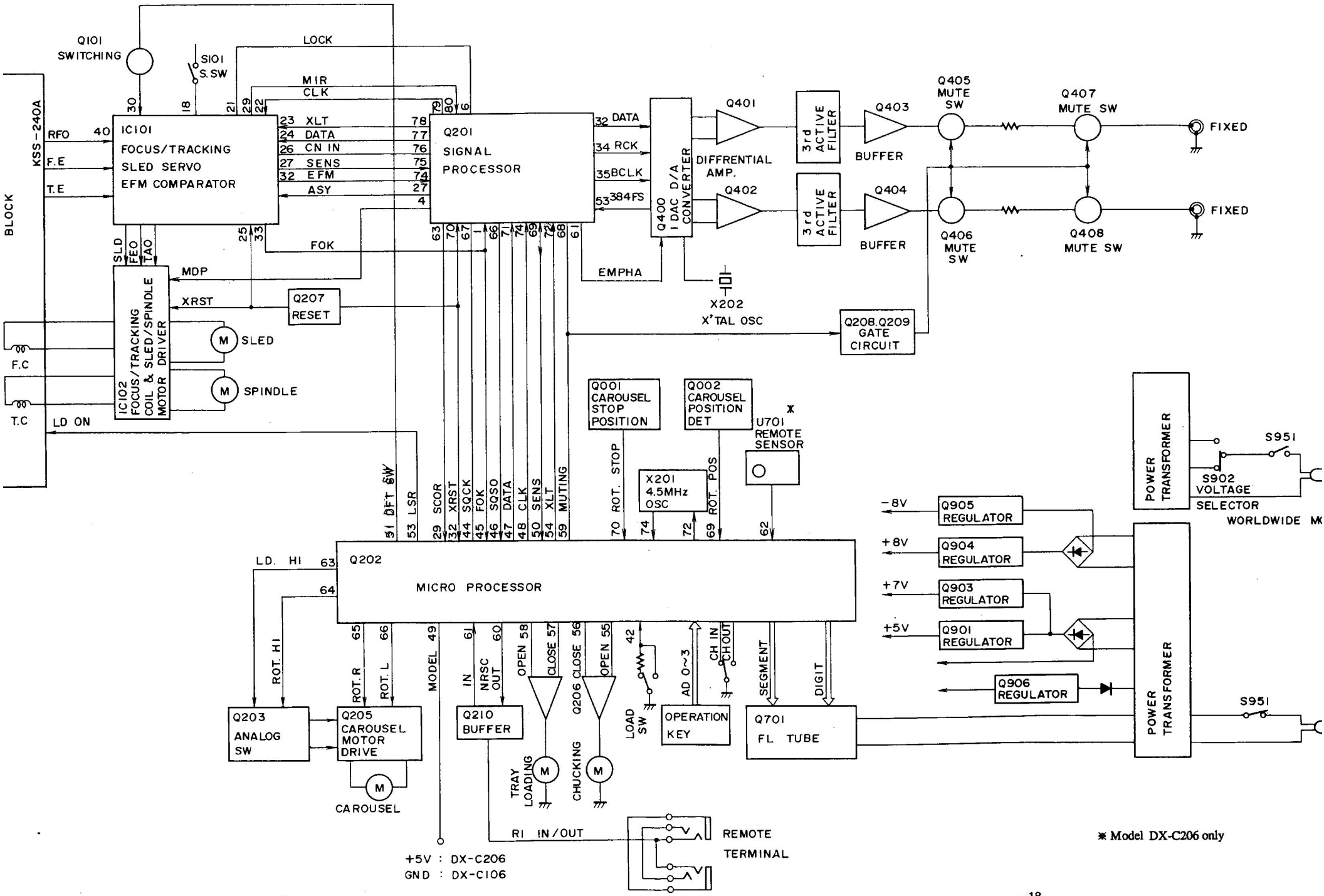
REF.NO.	PART NO.		DESCRIPTION
1	27110694		Front bracket
2	28191625A		Clear plate
3	28324583		Knob,play
5	27100257		Chassis
6	27121573A		Back panel <D>
	27121574A		Back panel <P>
	27121575A		Back panel <W>
	27121648		Back panel <Q>
7	27130684		Bracket PC
10	27190899		Holder
11	27190874		Holder
12	27190869		Holder
13	27190882		K103G,Holder <D/P/Q>
14	27175254		Leg
16	24836009		Cushion
17	27300750	⚠	Bushing,cord
19	27190902		KGPS-16S,Holder
20	28141197		3×30×20,Cushion
21	838426088		2.6TTB+8B(BC),Self-tapping screw
22	833430080		3TTP+8P(BC),Self-tapping screw
23	834430088		3TTS+8B(BC),Self-tapping screw
24	831130088		3TTW+8B,Self-tapping screw
25	830440089		4TTC+8C(BC),Self-tapping screw
26	82143006		3P+6FN(BC),Pan head screw
27	833430127		3TTP+12S(BC),Self-tapping screw
29	86213010		WN3×10FN,Washer
31	1H199901		Top cover
32	28140680		0.5×180×8,Cushion
51	27211415		Front panel
52	28135199		Badge
53	28125248Y		End cap L
54	28125249Y		End cap R
55	8910301		CS-3(SUS),Ring
57	28324140		Knob,power
58	27267775Y		Guide
59	27211414		Tray panel
61	833430080		3TTP+8P(BC),Self-tapping screw
62	834430088		3TTS+8B(BC),Self-tapping screw
63	833440120		4TTP+12P(BC),Self-tapping screw
71	29361218		Label,laser <P/W/Q>
72	29360811A		Label <P>
73	29361298A		Label SEM <P>
74	29361342A		Label SEM/FIN <P>

REF.NO.	PART NO.		DESCRIPTION
75	29360687		Label,class 1 <P/W/Q>
76	27141525		Bracket T <W>
91	260208		Binder
92	260221		NK-10N,Clamper
93	2041294010		NCFC1-294010,Flat cable
94	29360807		Label,danger <P/W/Q>
L901	230907	⚠	TR-16-8-16,Core
P901	253168 or	⚠	AS-UC-6#18,
	253146		Power supply cord <D>
	253149	⚠	AS-CEE,Power supply cord <P/W>
	253118 or	⚠	AS-SAA,
	253170		Power supply cord <Q>
S902	25065123	⚠	NSS-1258P,Voltage selector switch <W>
T901	2300789	⚠	NPT-1142D,Power transformer <D>
	2300790	⚠	NPT-1142P,Power transformer <P>
	2300791	⚠	NPT-1142DG,Power transformer <W>
	2300792	⚠	NPT-1142Q,Power transformer <Q>
U1	1H202577-2		NAAR-4477-2,Main circuit pc board ass'y
U2	1H202578-2		NADIS-4478-2,Display circuit pc board ass'y
U3	1H202579-2		NASW-4479-2,Power switch pc board ass'y
U4	1H202580-2		NAPS-4480-2,Power supply circuit pc board ass'y <D>
	1H202580-2A		NAPS-4480-2A,Power supply circuit pc board ass'y <W>
	1H202580-2B		NAPS-4480-2B,Power supply circuit pc board ass'y <P/Q>
U5	1H202581-2		NASW-4481-2,Disc sensor pc board ass'y
Z1			NCD-52S-C,CD changer mechanism

NOTE: <D>:120V model only
<P>:230V model only
<W>:Worldwide model only
<Q>:240V model only

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

BLOCK DIAGRAM



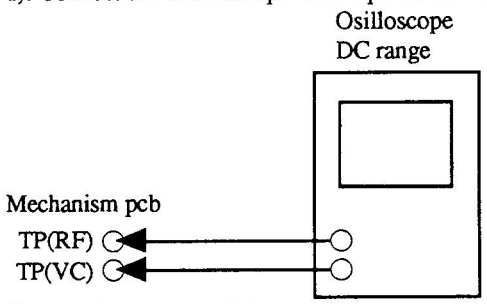
* Model DX-C206 only

ADJUSTMENT PROCEDURES

It is not necessary to perform the adjustment of optical pickup.

This confirmation should be made when replacing the optical pickup.

1). Connect the oscilloscope to test points RF and VC.

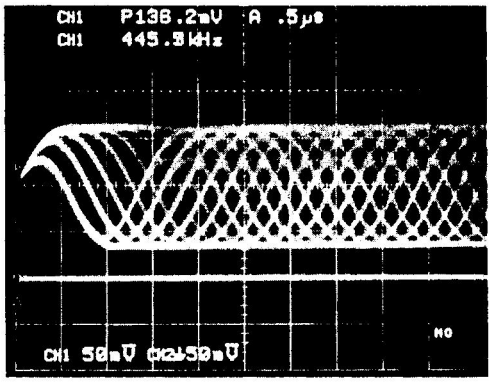


2). Turn the power switch on.

3). Load the test disc YEDS-18 on the tray and press the play button.

4). Confirm that the waveform on the oscilloscope is optimum eye pattern and optimum level as shown photo 1.

Optimum eye pattern means that shape "◇" can be clearly distinguished at the center of the waveform.



REFERENCE

Focus/Tracking Gain Adjustment

A frequency response analyzer is necessary in order to perform this adjustment exactly.

However, this gain has a margin, so even if it is slightly off, there is no problem. Therefore, do not perform this adjustment.

Focus/tracking gain determines the pick-up follow-up (vertical and horizontal) relative to mechanical noise and mechanical shock when the 2-axis device operate.

However, as these reciprocate, the adjustment is at the point where both are satisfied.

- When gain is raised, the noise when the 2-axis device operates increases.
- When gain is lowered, it is more susceptible to mechanical shock and skipping occurs more easily.
- When gain adjustment is off, the symptoms below appear.

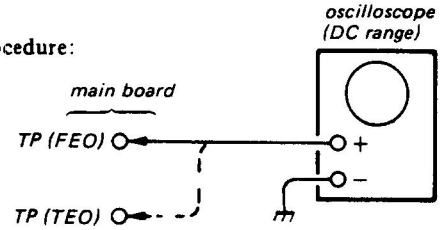
Symptoms \ Gain	Focus	Tracking
• The time until music starts becomes longer for STOP →▷PLAY or automatic selection (⏮, ⏭ buttons pressed. (Normally takes about 2 seconds.)	low	low or high
• Music does not start and disc continues to rotate for STOP→▷PLAY or automatic selection (⏮, ⏭ buttons pressed.)	–	low
• Disc table opens shortly after STOP→▷PLAY.	low or high	–
• Sound is interrupted during PLAY. Or time counter display stops progressing.	–	low
• More poise during 2-axis device operation.	high	high

The following is a simple adjustment method.

– Simple Adjustment –

Note: Since exact adjustment cannot be performed, remember the positions of the controls before performing the adjustment. If the positions after the simple adjustment are only a little different, return the controls to the original position.

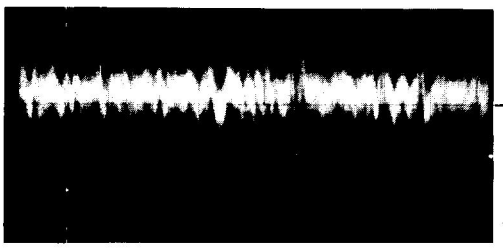
Procedure:



1. Keep the set horizontal.
   (If the set is not horizontal, this adjustment cannot be performed due to the gravity against the 2 axis device.)
2. Insert disc (YEDS-18) and press ▷PLAY button.
3. Connect oscilloscope to RF/ Servo board TP (FE).
4. Adjust RV102 so that the waveform is as shown in the figure below. (focus gain adjustment)

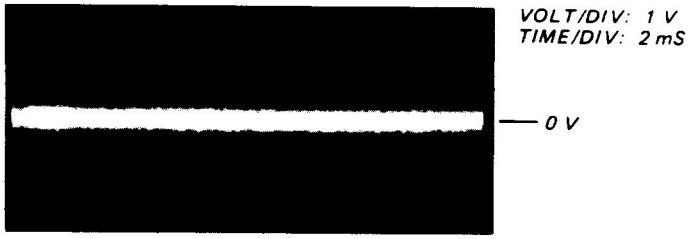
- Incorrent Examples (DC level changes more than cn adjusted waveform)

low focus gain



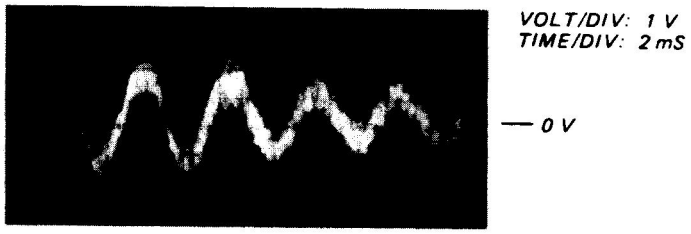
high focus gain

5. Connect oscilloscope to RF/ Servo board TP (TE).
6. Adjust RV101 so that the waveform is as shown in the figure below. (tracking gain adjustment)

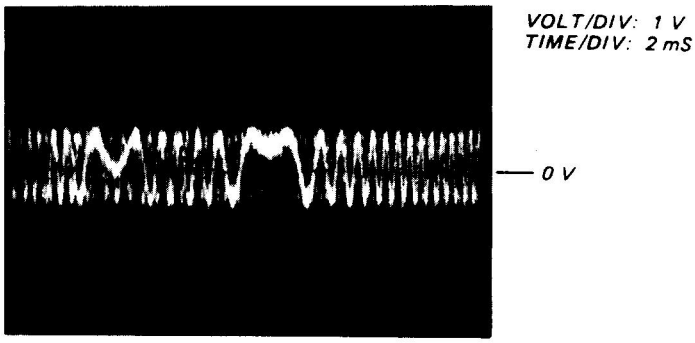


- Incorrect Examples (fundamental wave appears)

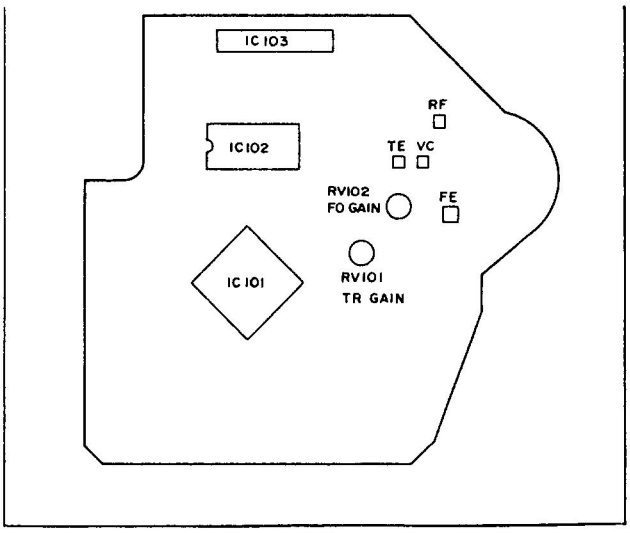
low tracking gain



high tracking gain
(higher fundamental wave than for low gain)



Adjustment Location: RF/ Servo board



PRINTED CIRCUIT BOARD – PARTS LIST

MAIN CIRCUIT PC BOARD(NAAR-4477-1/2)

CIRCUIT NO.	PART NO.	DESCRIPTION
	ICs	
Q201	22240487	CXD2500AQ
Q202	22240591A	CXP50116-383Q
Q203	222840661TOS	4066B
Q205	22240239	TA7291S
Q206	22240034	LA6510
Q207	22240018	M51943ASL
Q400	22240535	TC9237BN
Q401-Q404	222579	NJM4560D
Q901	222780055MIT	M5F78M05
Q904	222780085MIT	M5F78M08L
Q905	222790085MIT	M5F79M08L
	Transistors	
Q208	2213570	RN1207
Q209	2211454 or	2SA1015-Y or
	2211455	2SA1015-GR
Q210	2213590	RN2207
Q405-Q408	2211705 or	2SD655-E or
	2211706	2SD655-F
Q903	2201074 or	2SD880-Y or
	2201073	2SD880-O
Q906	2211504 or	2SA950-Y or
	2211503	2SA950-O
	Diodes	
D201,D202	223205	1SS270A
D203	224450562	MTZ5.6B
D901-D908	22380032	1SR139-100
D909	223205	1SS270A
D910	224452202	MTZ22B
D911	224450512	MTZ5.1B
D912-D914	223205	1SS270A
D915	224450753	MTZ7.5C
	Ceramic oscillator	
X201	3010188	CTS4.50MGW040
	X'tal	
X202	3010159	AT-38-169
	Capacitors	
C202	374724734	0.047 μ F±5%,50V,Plastic
C203,C209	354721019	100 μ F,6.3V,Elect.
C205	374721034	0.01 μ F±5%,50V,Plastic
C206	354781099	0.1 μ F,50V,Elect.
C207	354762209	22 μ F,35V,Elect.
C213,C218	374721044	0.1 μ F±5%,50V,Plastic
C214-C216	354744709	47 μ F,16V,Elect.
C219	354744709	47 μ F,16V,Elect.
C221	354780479	4.7 μ F,50V,Elect.

CIRCUIT NO.	PART NO.	DESCRIPTION
	Capacitors	
C222	354724719	470 μ F,6.3V,Elect.
C223	354782299	0.22 μ F,50V,Elect.
C226	354724719	470 μ F,6.3V,Elect.
C230	354721019	100 μ F,6.3V,Elect.
C231	354744709	47 μ F,16V,Elect.
C403,C404	374724744	0.47 μ F±5%,50V,Plastic
C413-C416	374722224	2200pF±5%,50V,Plastic
C419,C420	374721824	1800pF±5%,50V,Plastic
C427,C428	393184707	47 μ F,50V,Elect.
C429,C430	374722734	0.027 μ F±5%,50V,Plastic
C431,C432	374722224	2200pF±5%,50V,Plastic
C437-C444	393142217	220 μ F,16V,Elect.
C905,C906	354742229	2200 μ F,16V,Elect.
C909,C910	393142217	220 μ F,16V,Elect.
C911	354784709	47 μ F,50V,Elect.
C912,C913	354764709	47 μ F,35V,Elect.
C914	354742229	2200 μ F,16V,Elect.
C915	354741029	1000 μ F,16V,Elect.
C916	354744709	47 μ F,16V,Elect.
C917	354780229	2.2 μ F,50V,Elect.
C918,C921	393144707	47 μ F,16V,Elect.
	Resistor	
R216	49163472408	4.7kohm×8,1/10W,Array
	Socket	
P101	25050512 or	NSCT-29P335 or
	25050861	NSCT-29P656
	Terminals	
P401	25045361	NPJ-2PDBL207,Output
P102	25045362	LGY6502-0102,RI
	Radiator	
	27160176	RAD56
	Pan head screw	
	82143006	3P+6FN(BC)
	Holder	
	27190751	
	Bracket	
	27141059	Ground
	Cord ass'y	
	2065525100	
	2065525080	

DISPLAY CIRCUIT PC BOARD(NADIS-4478-1/2)

MARK	CIRCUIT NO.	PART NO.	DESCRIPTION
	Q701	212110	9-BT-109GK,FL tube
	S701-S716	25035548	NPS-111-S510,Push switch
O	U701	24130007	GP1U571X,Remote sensor
O	C701	353744709	47 μ F,16V,Elect. capacitor
		27190884AY	Holder,display

POWER SWITCH PC BOARD(NASW-4479-1/2)

MARK	CIRCUIT NO.	PART NO.	DESCRIPTION
⚠	C951	3500065A	DE7150FZ103PAC400V/ 125V,Capacitor IS
⚠	S951	25035558	NPS-111-L520P, Power switch

POWER SUPPLY CIRCUIT PC BOARD(NAPS-4480-1/2/2A/2B)

MARK	CIRCUIT NO.	PART NO.	DESCRIPTION
⚠/<D>	C952	3500077	DE7150FZ472M Capacitor IS
		25060092	NTM-1S33,Terminal

DISC SENSOR PC BOARD(NASW-4481-1/2)

MARK	CIRCUIT NO.	PART NO.	DESCRIPTION
	Q001,Q002	24190037 or 24190038	GP1S53V or GP1S53,Photo interruptor
	SC001	2002390815	NSAS-8P0309,Socket

RF/SERVO PC BOARD

MARK	CIRCUIT NO.	PART NO.	DESCRIPTION
	IC101	22240394	CXA1372Q,IC
	IC102	22240551	LA6532M,IC
	Q101	2214290	DTC144EF,Transistor
	CN101	25050669	NSCT-22P473,Connector
	CN102	25050670	NSCT-12P474,Connector
	S101	25065446	NLF-11022,Leaf switch

MARK: O:DX-C206 only
<D>:120V model only

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

DISASSEMBLING PROCEDURES

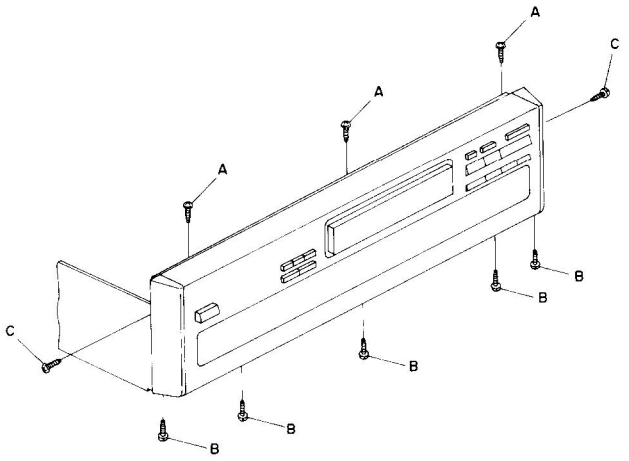
1.Front Panel

Remove the top cover.

Remove the three screws A and the five screws B.

Remove the two screws C.

Remove the two end caps and the front panel.



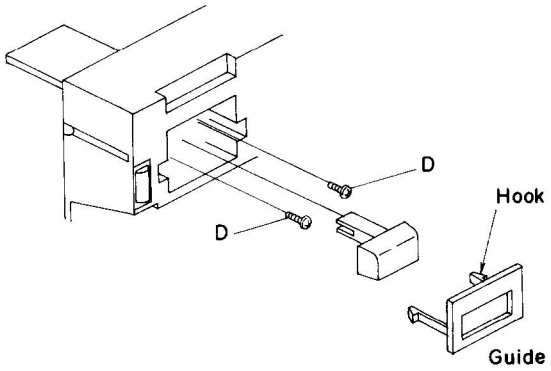
2.Power switch pc board

Remove the top cover and the front panel.

Press the hook of guide and remove the guide.

Pull the power knob.

Remove the two screws D to remove the power switch pc board.



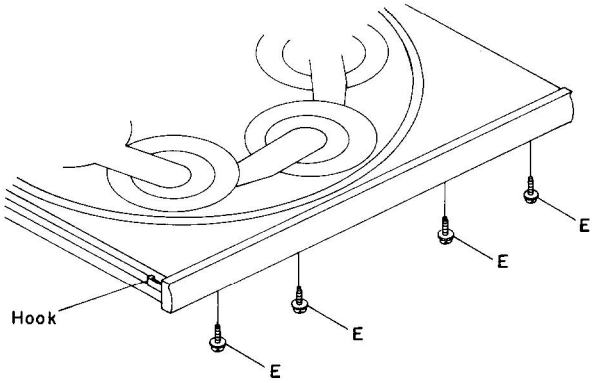
3.Tray panel

Remove the top cover.

Pull the tray ass'y to the front direction.

Remove the four screws E.

Remove the hook of tray to remove the tray panel.



4.Front Bracket

Remove the front panel,the power switch pc board, and the tray panel.

Remove the nine screws holding the front bracket and the chassis.(top:2 bottom:2 front:5)

5.Mechanism ass'y

Remove the front bracket.(Procedures:1→2→3→4)

Remove the four screws F from the left and right sides.

Pull the tray ass'y to the front direction and lift up the mechanism ass'y.