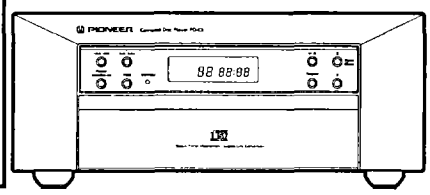
PIONEER®
The Art of Entertainment

Service Manual



ORDER NO.
RRV1018

COMPACT DISC PLAYER

PD-C5
PD-C3

THIS MANUAL IS APPLICABLE TO THE FOLLOWING MODEL(S) AND TYPE(S).

Type	Model		Power Requirement	Remarks
	PD-C5	PD-C3		
KU	○	–	AC120V	
WE	○	○	AC220 – 240V	
WEWM	○	○	AC220 – 240V	
WB	○	○	AC220 – 240V	

● **For the following : PD-C5/WE, WEWM and WB ; PD-C3/WE, WEWM and WB, refer to page 33 – 34.**

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T – SI JAN. 1994 Printed in Japan

1. SAFETY INFORMATION

This service manual is intended for qualified service technicians; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual.
Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty. If you are not qualified to perform the repair of this product properly and safely, you should not risk trying to do so and refer the repair to a qualified service technician.

WARNING

Lead in solder used in this product is listed by the California Health and Welfare agency as a known reproductive toxicant which may cause birth defects or other reproductive harm (California Health & Safety Code, Section 25249.5).
When servicing or handling circuit boards and other components which contain lead in solder, avoid unprotected skin contact with the solder. Also, when soldering do not inhale any smoke or fumes produced.

NOTICE
(FOR CANADIAN MODEL ONLY)
Fuse symbols (fast operating fuse) and/or (slow operating fuse) on PCB indicate that replacement parts must be of identical designation.

REMARQUE
(POUR MODÈLE CANADIEN SEULEMENT)
Les symboles de fusible (fusible de type rapide) et/ou (fusible de type lent) sur CCI indiquent que les pièces de remplacement doivent avoir la même désignation.

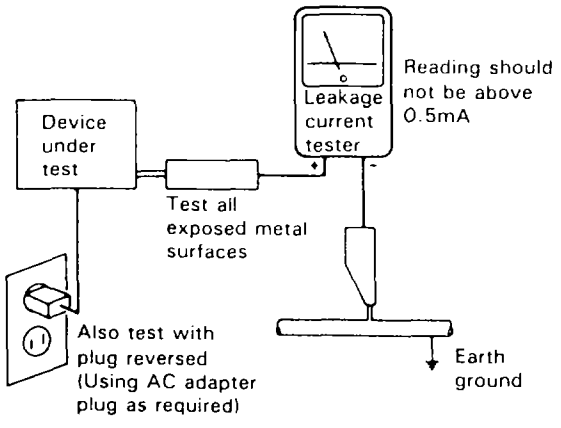
(FOR USA MODEL ONLY)

1. SAFETY PRECAUTIONS

The following check should be performed for the continued protection of the customer and service technician.

LEAKAGE CURRENT CHECK

Measure leakage current to a known earth ground (water pipe, conduit, etc.) by connecting a leakage current tester such as Simpson Model 229-2 or equivalent between the earth ground and all exposed metal parts of the appliance (input/output terminals, screwheads, metal overlays, control shaft, etc.). Plug the AC line cord of the appliance directly into a 120V AC 60Hz outlet and turn the AC power switch on. Any current measured must not exceed 0.5mA.



AC Leakage Test

ANY MEASUREMENTS NOT WITHIN THE LIMITS OUTLINED ABOVE ARE INDICATIVE OF A POTENTIAL SHOCK HAZARD AND MUST BE CORRECTED BEFORE RETURNING THE APPLIANCE TO THE CUSTOMER.

2. PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in the appliance have special safety related characteristics. These are often not evident from visual inspection nor the protection afforded by them necessarily can be obtained by using replacement components rated for voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in this Service Manual.

Electrical components having such features are identified by marking with a ⚠ on the schematics and on the parts list in this Service Manual.
The use of a substitute replacement component which dose not have the same safety characteristics as the PIONEER recommended replacement one, shown in the parts list in this Service Manual, may create shock, fire, or other hazards.

Product Safety is continuously under review and new instructions are issued from time to time. For the latest information, always consult the current PIONEER Service Manual. A subscription to, or additional copies of, PIONEER Service Manual may be obtained at a nominal charge from PIONEER.

(FOR EUROPEAN MODEL ONLY)

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

ADVERSEL:
USYNLIG LASERSTRÅLING VED ÅBNING NÅR SIKKERHEDSAFBRYDERE ER UDE AF FUNKTION UNDGÅ UDSAETTELSE FOR STRÅLING.

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

LASER
Kuva 1
Lasersateilyn varoitusmerkki

WARNING!
DEVICE INCLUDES LASER DIODE WHICH EMITS INVISIBLE INFRARED RADIATION WHICH IS DANGEROUS TO EYES. THERE IS A WARNING SIGN ACCORDING TO PICTURE 1 INSIDE THE DEVICE CLOSE TO THE LASER DIODE.

IMPORTANT
THIS PIONEER APPARATUS CONTAINS LASER OF CLASS 1.
SERVICING OPERATION OF THE APPARATUS SHOULD BE DONE BY A SPECIALLY INSTRUCTED PERSON.

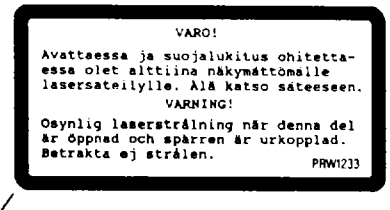
LASER DIODE CHARACTERISTICS
MAXIMUM OUTPUT POWER: 5 mw
WAVELENGTH: 780-785 nm

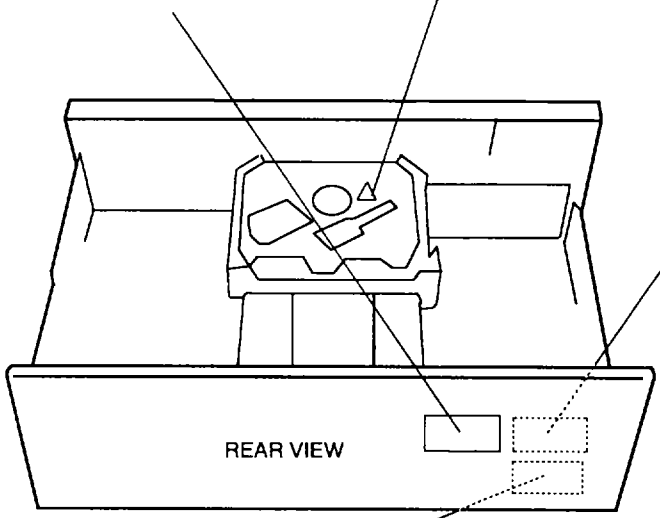
LASER
Picture 1
Warning sign for laser radiation

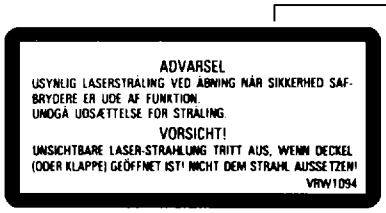
LABEL CHECK

WB, WE and WEWM types

WE and WEWM types







WE and WEWM types **WB type**

Additional Laser Caution

1. Laser Interlock Mechanism
   The position of the switch (S601) for detecting loading completion is detected by the system microprocessor, and the design prevents laser diode oscillation when the switch (S601) is not $\overline{\text{CLMP}}$ terminal side (when $\overline{\text{CLMP}}$ signal is OFF, that is, high level).
   Thus, the interlock will no longer function if the switch (S601) is deliberately set to $\overline{\text{CLMP}}$ terminal side (if $\overline{\text{CLMP}}$ signal is low level).
   In the test mode ∗, the interlock mechanism will not function.
   Laser diode oscillation will continue, if pin 1 of M51593FP (IC101) on the preamplifier board loaded on pickup assembly are connected to GND, or pin 19 is connected to low level (ON), or else the terminals of Q101 are shorted to each other (fault condition).

2. When the cover is opened with the servo mechanism block removed to be turned over, close viewing of the objective lens with the naked eye will cause exposure to a Class 1 laser beam.

∗ : Refer to page 24.

2. EXPLODED VIEWS, PACKING AND PARTS LIST

NOTES:

- Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.
- The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- Parts marked by "⊙" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.

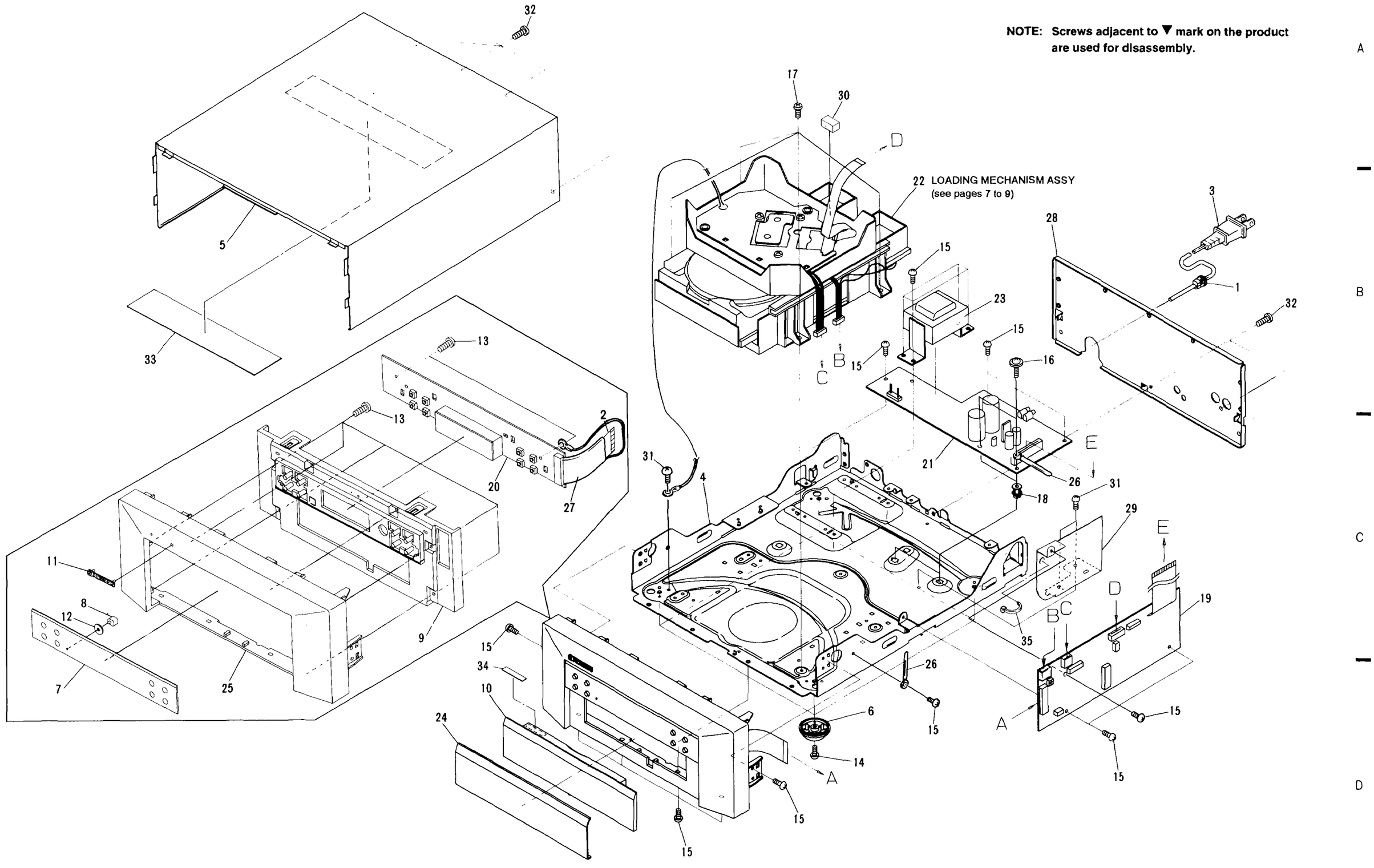
1. EXTERIOR

Parts List

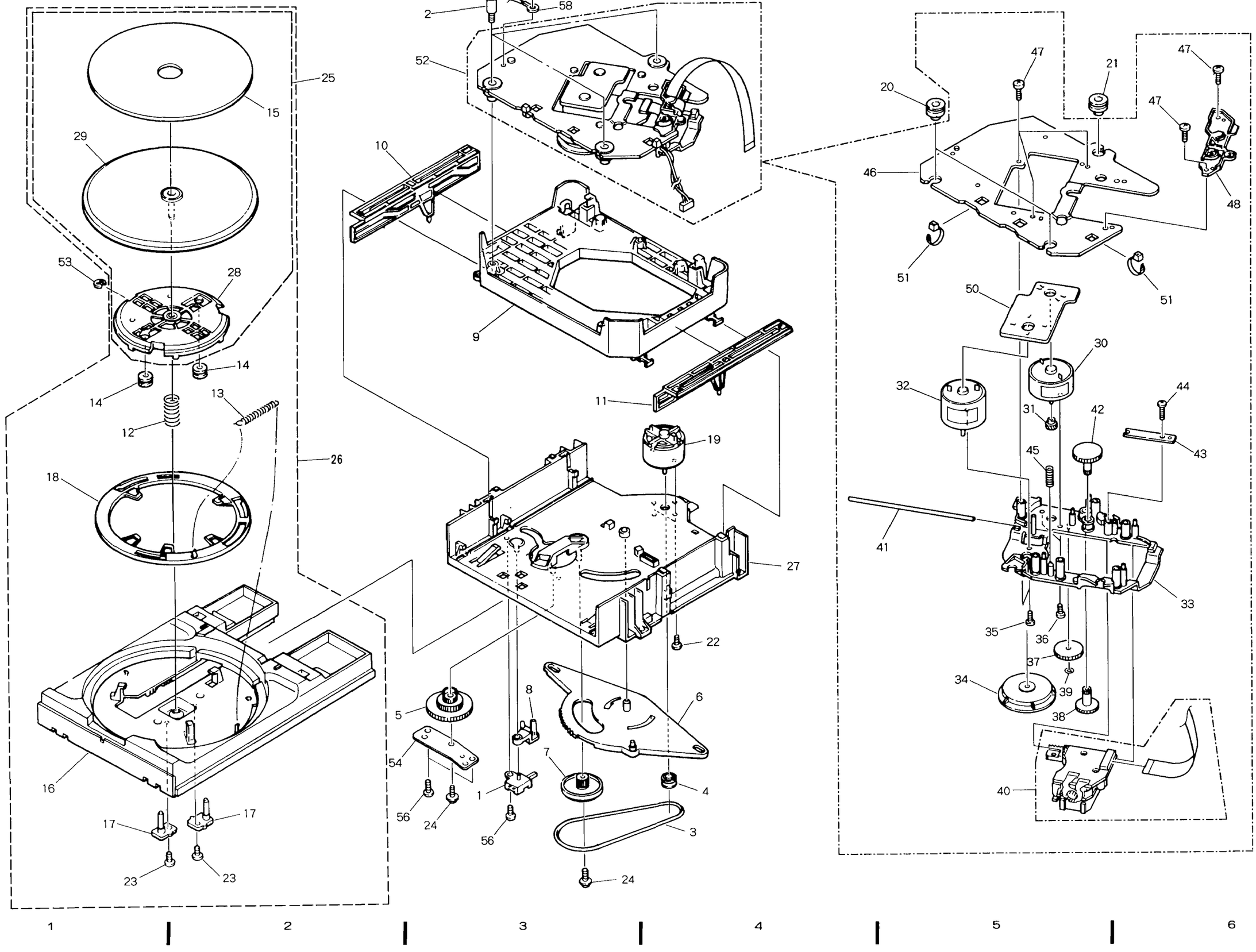
Mark	No.	Description	Part No.
⚠	1	Strain relief	CM – 22C
	2	21P F.F.C/30V	PDD1154
⚠	3	AC power cord	PDG1015
NSP	4	Under base	PNA2038
	5	Bonnet	PNA2039
	6	Insulator	PNW2363
	7	Display window	PAM1633
	8	LED lens	PNW2019
	9	Sub panel	PNW2361
	10	Holder	PNW2362
	11	Name plate	RAN1013
	12	Washer	RBF1017
	13	Screw	BPZ26P080FMC
	14	Screw	BBZ30P100FCC
	15	Screw	BBZ30P080FCC
	16	Screw	IBZ30P150FCC
	17	Screw	BSZ30P070FMC
NSP	18	Spacer	PNY – 404
⚠	19	MOTHER BOARD ASSY	PWM1833
	20	OPERATION BOARD ASSY	PWZ2681
⚠	21	SERVO TRANSFORMER BOARD ASSY	PWZ2686
NSP	22	Loading mechanism assy	PXA1521
⚠	23	Power transformer	PTT1296
	24	Name plate	PAN1296
	25	Front panel	PNW2482
NSP	26	Cord clamper	DNF1128
NSP	27	Shield tube	PDM1018
NSP	28	Rear panel	PNA2055
NSP	29	Angle	PNB1467
NSP	30	Cushion	PNM1176
	31	Screw	PDZ30P050FMC
	32	Screw	BBT30P080FCC
	33	65 label	ORW1069
	34	Cushion label	PRW1244
	35	Binder	Z09 – 056

EXTERIOR

NOTE: Screws adjacent to ▼ mark on the product are used for disassembly.



2. LOADING MECHANISM ASSY



2. LOADING MECHANISM ASSY

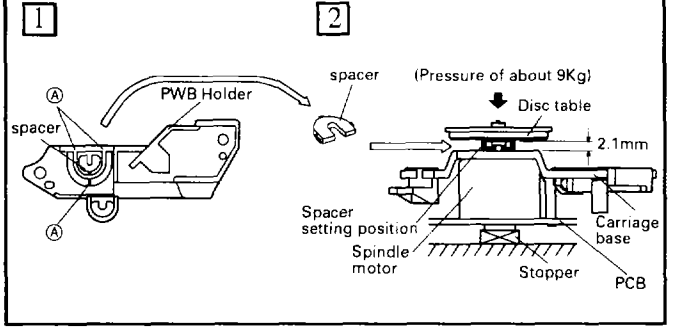
Parts List

Mark	No.	Description	Part No.
	1	Lever switch (S601)	DSK1003
	2	Float screw	PBA1027
	3	Rubber belt	PEB1186
	4	Motor pulley	PNW1634
	5	Drive gear	PNW1996
	6	Synchronized lever	PNW2168
	7	Gear pulley	PNW1998
	8	SW head	PNW1999
	9	Float base	PNW2000
	10	Left cam	PNW2001
	11	Right cam	PNW2002
	12	Float spring	PBH1120
	13	Lock spring	PBH1121
	14	Float rubber	PEB1014
	15	Table rubber sheet	PEB1181
	16	Tray	PNW2003
	17	Table guide	PNW2004
	18	Lock plate	PNW2005
	19	D.C. motor (0.75W, LOADING)	PXM1010
	20	Float rubber	PEB1031
	21	Float rubber	PEB1170
	22	Screw	BMZ26P040FMC
	23	Screw	IPZ26P060FCU
	24	Screw	IPZ20P080FMC
	25	Turn table assy	PEA1165
NSP	26	Tray assy	PXA1397
NSP	27	Loading base	PNW1995
NSP	28	Table shaft holder	PXA1383
NSP	29	Turn table (AL)	PNR1035
NSP	30	Carriage D.C. motor (0.3W)	PXM1027
	31	Pinion gear	PNW2055
	32	D.C. motor assy (SPINDLE, with oil)	PEA1156
	33	Carriage base	PNW2445
	34	Disc table	PNW1067
	35	Screw	JFZ20P030FNI
	36	Screw	JFZ17P025FZK
	37	Gear 3	PNW2054
	38	Gear 2	PNW2053
	39	Washer	WT12D032D025
	40	Pickup assy	PEA1179
	41	Guide bar	PLA1094
	42	Gear 1	PNW2052
NSP	43	Gear stopper	PNB1303
	44	Screw	BPZ20P060FMC
	45	Earth spring	PBH1132
NSP	46	Mechanism base TT	PNB1431
	47	Screw	BPZ26P100FMC
	48	PWB holder	PNW2057
	49	.....	
NSP	50	MECHANISM BOARD ASSY	PWX1192
	51	Binder	PEC – 107
NSP	52	Servo mechanism assy TT92	PXA1479
	53	Stop ring	YE20S
	54	Shaft holder	PNB1382
	55	.....	
	56	Screw	BPZ26P060FMC
	57	Screw	BBZ26P060FMC
NSP	58	Earth lead unit	PDF1148

• How to install the disc table

1 Use nipper or other tool to cut the three sections marked Ⓐ figure 1. Then remove the spacer.

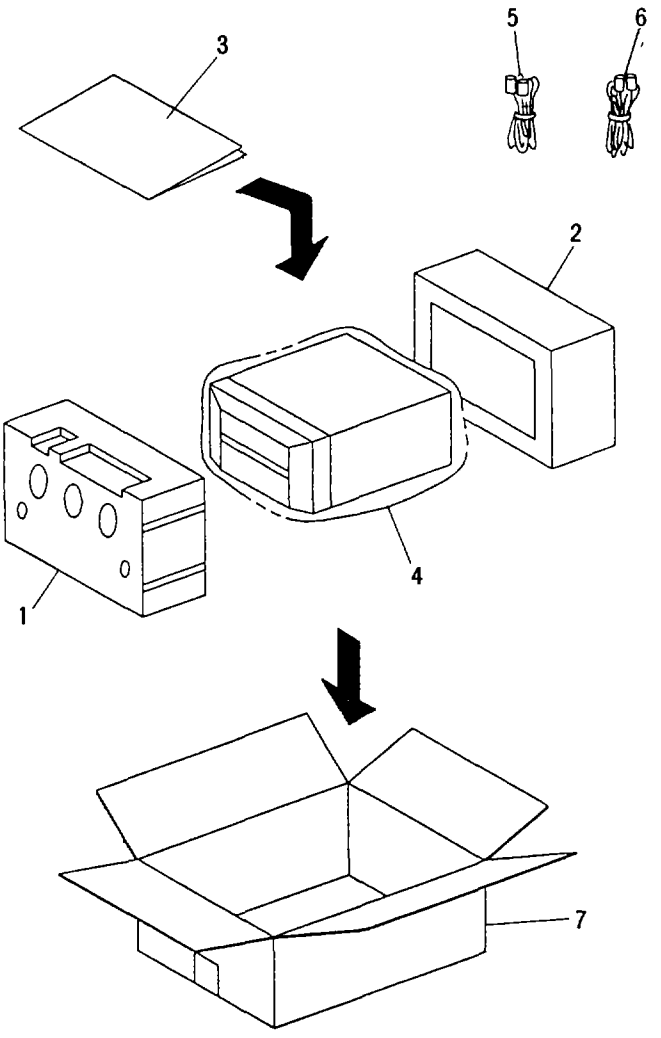
2 While supporting the spindle motor shaft with the stopper, put spacer on top of the motor base (angled so it doesn't touch section Ⓑ), and stick the disc table on top (takes about 9Kg pressure). Take off the spacer.



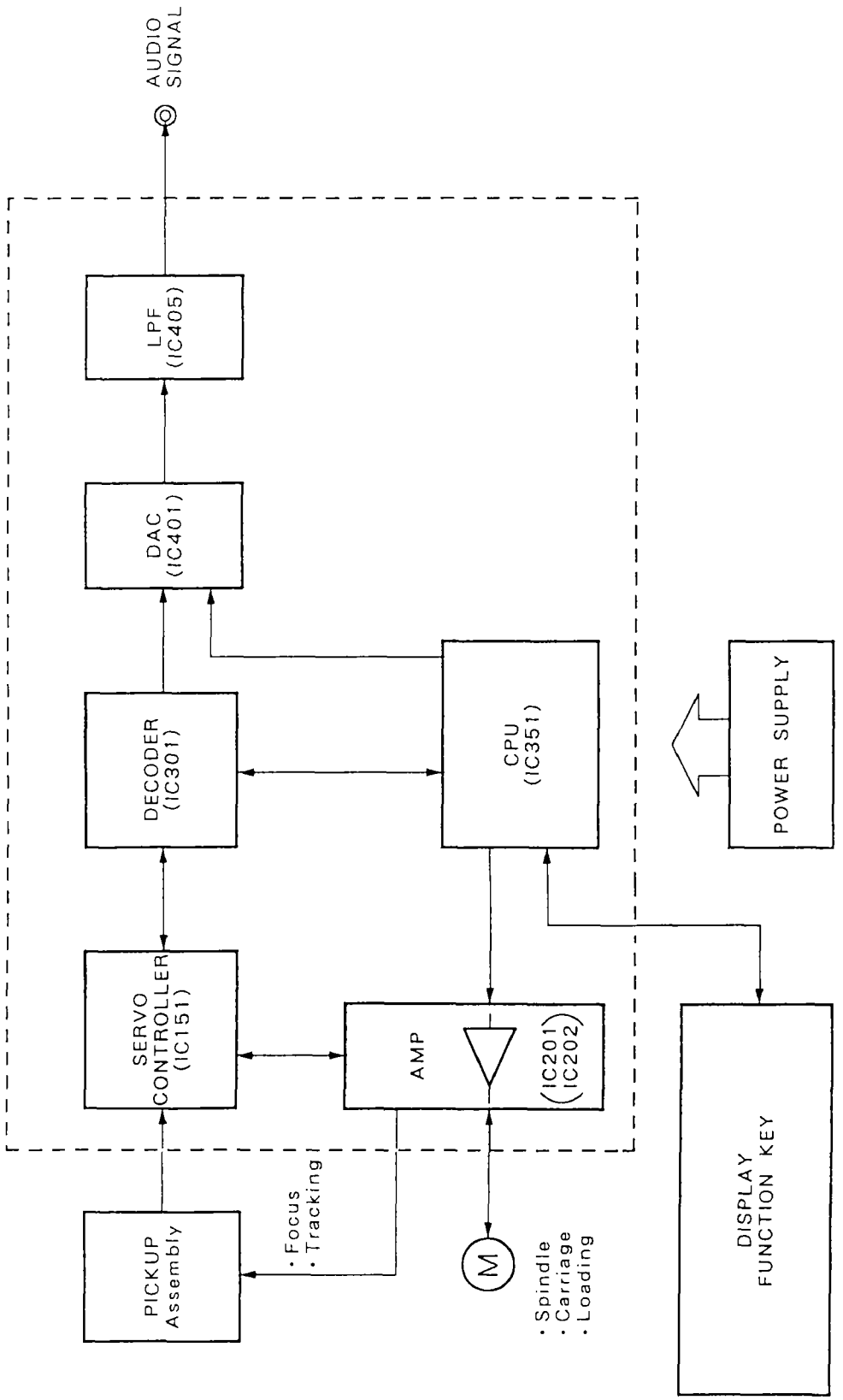
3. PACKING

Parts List

Mark	No.	Description	Part No.
	1	Styrol protector F	PHA1270
	2	Styrol protector R	PHA1271
	3	Operating instructions (English)	PRB1204
	4	Sheet	Z23 – 007
	5	Cord with mini plug	PDE1247
	6	Cord with plug	PDE1065
	7	Packing case	PHG2063



3. BLOCK DIAGRAM



4. SCHEMATIC DIAGRAM

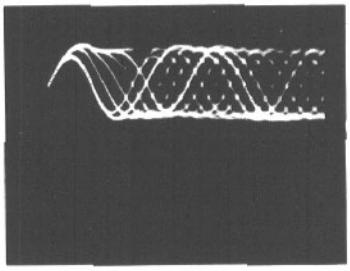
Waveforms

Note: The encircled numbers denote measuring points in the schematic diagram.

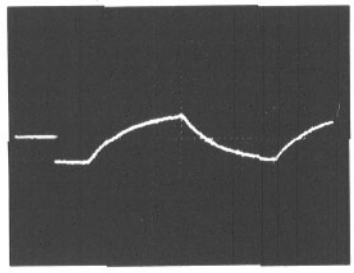
*1 50T-JUMP: After switching to the pause mode, press the manual search key.

*2 FOCUS-IN: Press the key without loading a disc.

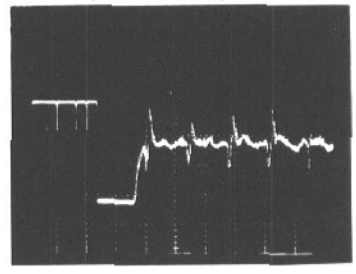
(2) TP1 - Pin 1:PLAY MODE
(RF)
500mV/div 500nsec/div



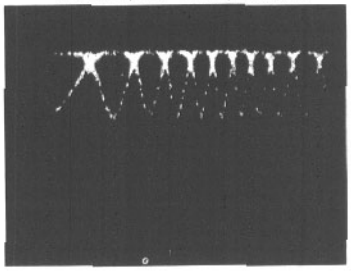
(5) IC202-Pin 1:FOCUS-IN (* 2)MODE
(FODR)
1V/div 200msec/div



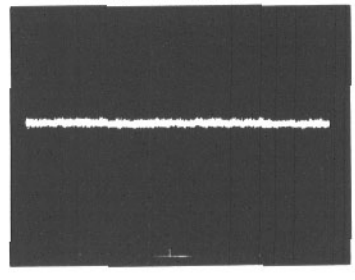
(7) IC201-Pin 4:TRACK SEARCH MODE
(SPDR)
2V/div 50msec/div



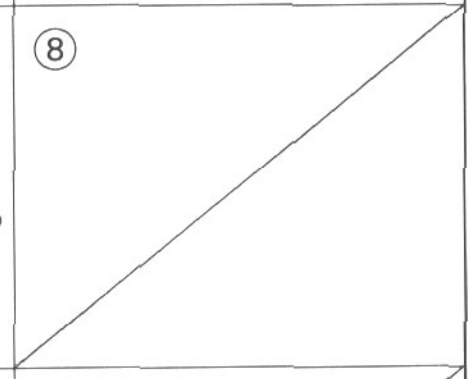
(2) TP1 - Pin 1:TRACK SEARCH MODE
(RF)
500mV/div 200 μ sec/div



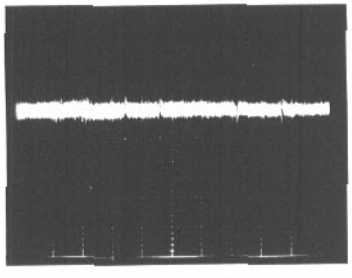
(5) IC202-Pin 1:PLAY MODE
(FODR)
1V/div 1msec/div



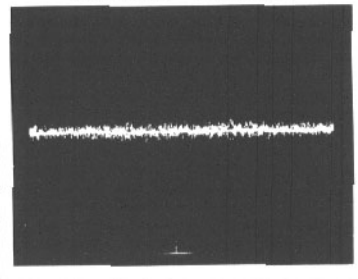
(8)



(3) TP1 - Pin 6:PLAY MODE
(FOER)
100mV/div 10msec/div



(6) IC202 - Pin 3:PLAY MODE
(TRDR)
500mV/div 1msec/div



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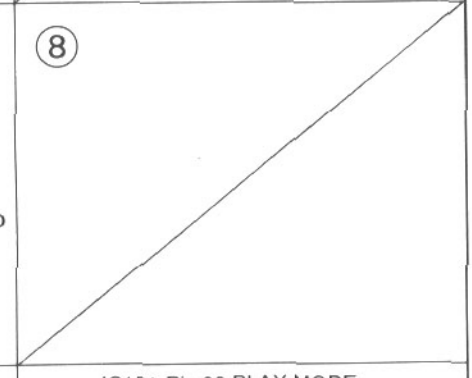
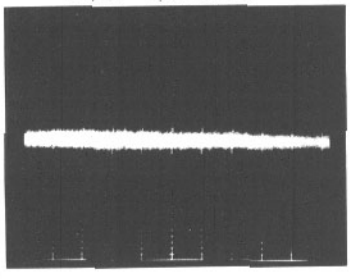
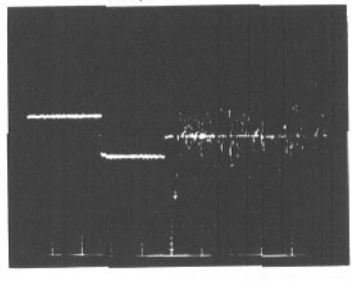


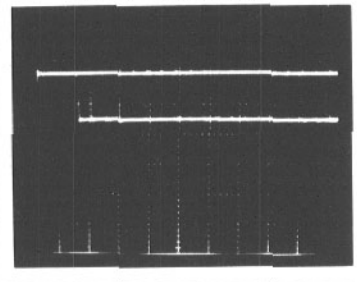
(4) TP1 - Pin 2:PLAY MODE
(TRER)
1V/div 10msec/div



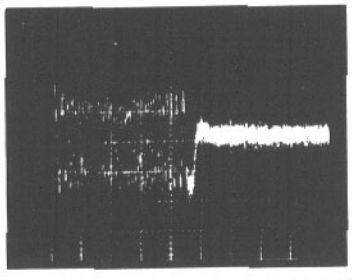
(6) IC202 - Pin 3:50T - JUMP (*1) MODE
(TRDR)
500mV/div 1msec/div



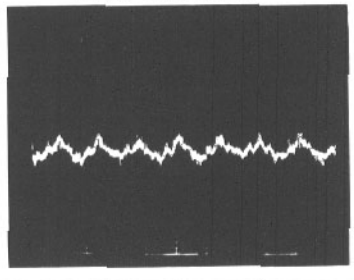
(9) IC151-Pin 32:PLAY MODE
(EFM)
2V/div 500nsec/div



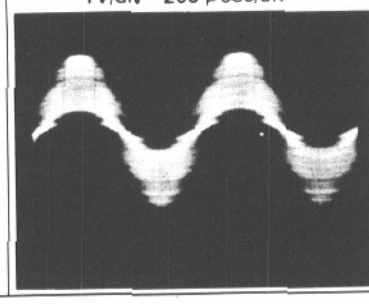
(4) TP1 - Pin 2:50T - JUMP (*1) MODE
(TRER)
1V/div 1msec/div



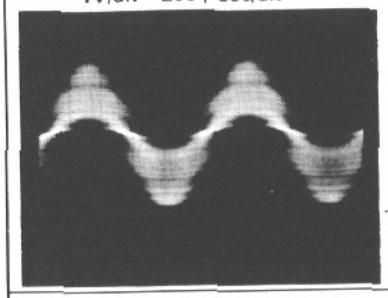
(7) IC202-Pin 4:PLAY MODE
(SPDR)
1V/div 50msec/div



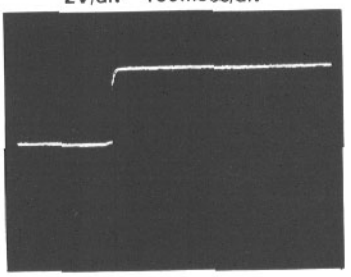
(10) IC401 - Pin 9:PLAY MODE (1kHz)
($\overline{LO}$) (D/A DATA OUT)
1V/div 200 μ sec/div



(11) IC401 - Pin 10:PLAY MODE (1kHz) (LO) (D/A DATA OUT)
1V/div 200 μ sec/div

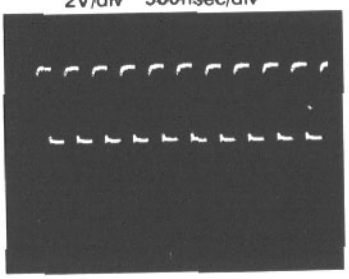


(22) IC20-Pin 4:POWER SWITCH - ON (RST)
2V/div 100msec/div

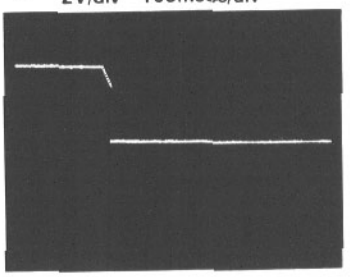


(26)

(16) IC301 - Pin 35:PLAY MODE (1kHz) (BCLK)
2V/div 500nsec/div

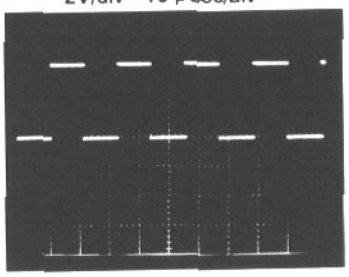


(22) IC20-Pin 4:POWER SWITCH-OFF (RST)
2V/div 100msec/div

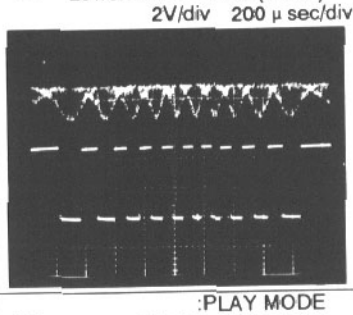


(27)

(18) IC301 - Pin 32:PLAY MODE (1kHz) (LRCK)
2V/div 10 μ sec/div

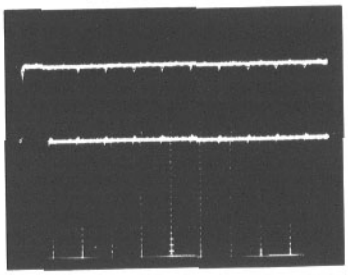


(23) :TRACK SEARCH MODE
Upper:TP1 - Pin 1 (RF) 1V/div
Lower:IC151-Pin 29(MIRR)
2V/div 200 μ sec/div

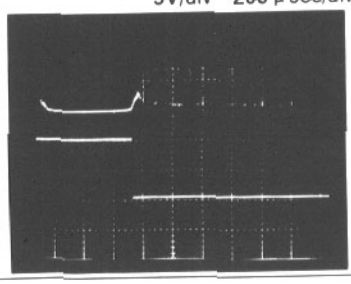


(28)

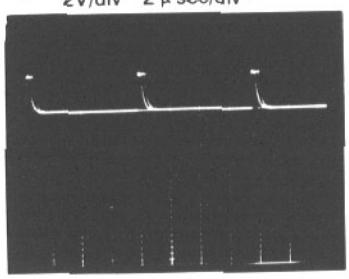
(19) IC301 - Pin 34:PLAY MODE (1kHz) (DATA)
2V/div 500nsec/div



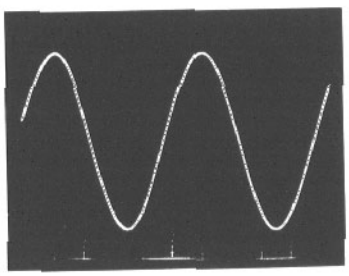
(24) :PLAY MODE
Upper:TP1-Pin 1(RF)1V/div
Lower:IC151-Pin 30(DFCT)
5V/div 200 μ sec/div



(33) IC301 - Pin 4:PLAY MODE (MDP)
2V/div 2 μ sec/div

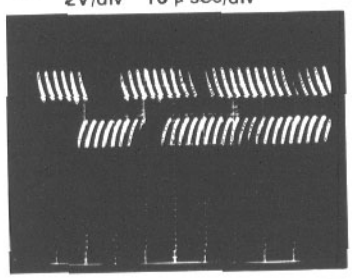


(21) Pin - OUTPUT:PLAY MODE(1kHz)
1V/div 200 μ sec/div

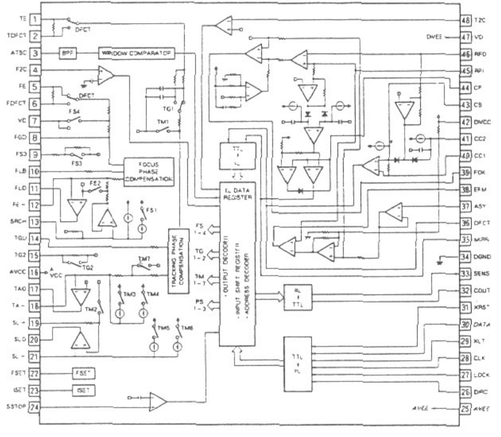


(25)

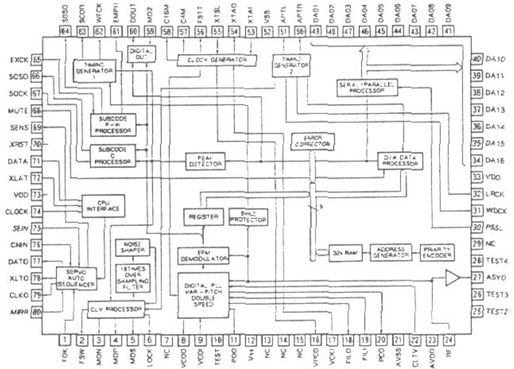
(53) IC301 - Pin 20:PLAY MODE (PCO)
2V/div 10 μ sec/div



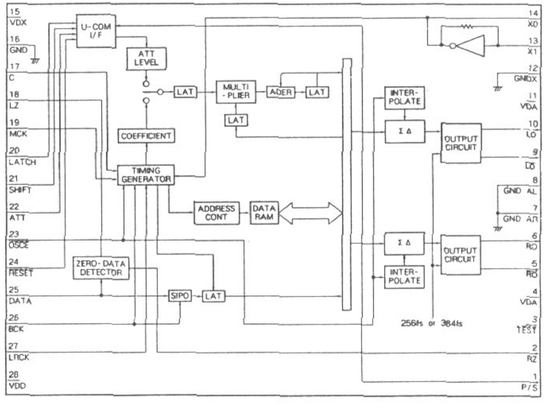
IC151 : CXA1372Q



IC301 : CXD2500BQ



IC401 : PD2029A



NOTE FOR SCHEMATIC DIAGRAMS *(Type 4A)*

1. **When ordering service parts, be sure to refer to "PARTS LIST of EXPLODED VIEWS" or "PCB PARTS LIST".**
2. **Since these are basic circuits, some parts of them or the values of some components may be changed for improvement.**
3. **RESISTORS:**
   Unit: k:kΩ, M:MΩ, or Ω unless otherwise noted.
   Rated power: 1/4W, 1/6W, 1/8W, 1/10W unless otherwise noted.
   Tolerance: (F): ±1%, (G): ±2%, (K): ±10%, (M): ±20% or ±5% unless otherwise noted.
4. **CAPACITORS:**
   Unit: p:pF or μF unless otherwise noted.
   Ratings: capacitor (μF)/ voltage (V) unless otherwise noted.
   Rated voltage: 50V except for electrolytic capacitors.
5. **COILS:**
   Unit: m:mH or μH unless otherwise noted.
6. **VOLTAGE AND CURRENT:**
   ⌐ or ← V :
   DC voltage (V) in PLAY mode unless otherwise noted.
   ⇨ mA or ← mA :
   DC current in PLAY mode unless otherwise noted.
   Value in ( ) is DC current in STOP mode.
7. **OTHERS:**
   - ⊘ or ❶ : Adjusting point.
   - ◁| : Measurement point.
   - The ⚠ mark found on some component parts indicates the importance of the safety factor of the parts. Therefore, when replacing, be sure to use parts of identical designation.
8. **SCH—□ ON THE SCHEMATIC DIAGRAM:**
   - SCH—□ indicates the drawing number of the schematic diagram. (SCH stands for schematic diagram.)
9. ***SWITCHES*** *(Underline indicates switch position)*:

   OPERATION BOARD ASSY
   S701 : ⏮◀◀
   S702 : ▶▶⏭
   S703 : Power standby/on
   S704 : PGM
   S705 : ■ (STOP)
   S706 : ▲ (Open/Close)
   S707 : Repeat
   S708 : ▶❚❚ (Play, Pause)

SERVO MECHANISM ASSY (PXA1479)

PICKUP ASSY (PEA1179)

HOLOGRAM LASER UNIT

PRE AMP BOARD ASSY

CN102

CN131 12FMZ-AST

A MOTHER BOARD ASSY
PWM1829 : PD-C3
PWM1830 : PD-C5/WE, WB, WEWM
PWM1833 : PD-C5/KU

CN201 VKN-0046

IC301 CXD2500BQ (DECODER)

IC351 μPD45005A (SYSTEM CONTROL)

IC151 CXA1372Q (SERVO CONTROL)

IC402 (DAC)

No parts are connected.

SIGNAL ROUTE
:FOCUS SERVO LOOP
:AUDIO SIGNAL ROUTE
:TRAKING SERVO LOOP
:CARRIAGE SERVO LOOP
:LOADING MOTOR ROUTE
:SPINDLE MOTOR ROUTE

	IC401	IC405	C431, C432
PD-C5	PD2029A	NJM5532MD	180/16
PD-C3	PD2026B	NJM4558M	33/16

※1	R447, R448	R459, R460	R461, R462
PD-C5/KU	470	270	560
PD-C5/WE, WEWM, WB	220	82	820
PD-C3/WE, WEWM, WB			

MECHANISM BOARD ASSY (PWX1192)

SPINDLE MOTOR ASSY PEA1156

CARRIAGE MOTOR PXM1027

LOADING MECHANISM ASSY
(PXA1459 : PD – C3
PXA1521 : PD – C5)

S601 CLAMP SW DSK1003

PXM1010 LOADING MOTOR

IC301 (CXD/500BQ)

Pin No.	Voltage [V]	Pin No.	Voltage [V]	Pin No.	Voltage [V]	Pin No.	Voltage [V]
1	5.0	21	0	41	NC	61	NC
2	NC	22	2.5	42	5.0	62	NC
3	5.0	23	5.0	43	NC	63	NC
4	2.6	24	2.5	44	NC	64	NC
5	NC	25	NC	45	NC	65	0
6	5.0	26	0	46	4.4	66	3.1 to 4.4
7	NC	27	2.5	47	0	67	5.0
8	NC	28	NC	48	0	68	0
9	0	29	0	49	3.1 to 4.4	69	3.1 to 4.4
10	0	30	NC	50	NC	70	5.0
11	NC	31	3.1 to 4.4	51	NC	71	5.0
12	0	32	2.5	52	0	72	5.0
13	NC	33	5.0	53	2.5	73	5.0
14	NC	34	2.5	54	NC	74	5.0
15	NC	35	NC	55	0	75	5.0
16	NC	36	NC	56	NC	76	0
17	0	37	NC	57	NC	77	5.0
18	2.5	38	NC	58	NC	78	5.0
19	2.4	39	NC	59	0	79	5.0
20	2.4	40	NC	60	-	80	0

IC151 (CXA1372Q)

Pin No.	Voltage [V]	Pin No.	Voltage [V]
1	0	25	5.0
2	0	26	0
3	0	27	5.0
4	0	28	0
5	0.3	29	0
6	0	30	5.0
7	0.7	31	2.5
8	0	32	2.5
9	0	33	5.0
10	5.0	34	1.5
11	0	35	1.7
12	0	36	5.0
13	0	37	0.7
14	1 to 1.2	38	1.6
15	0	39	0
16	4.0	40	0.8
17	1.3	41	5.0
18	0	42	0
19	5.0	43	0
20	5.0	44	0
21	5.0	45	0
22	5.0	46	0
23	5.0	47	0
24	5.0	48	0

IC401 (PD2026B, PD2029A)

Pin No.	Voltage [V]	Pin No.	Voltage [V]
1	0	15	5.0
2	0	16	0
3	5.0	17	NC
4	5.0	18	0
5	7.4	19	7.0
6	7.6	20	5.0
7	0	21	5.0
8	0	22	5.0
9	7.6	23	5.0
10	7.4	24	5.0
11	5.0	25	7.4
12	0	26	7.4
13	7.4	27	7.4
14	7.4	28	5.0

IC351 (PD45005A)

Pin No.	Voltage [V]	Pin No.	Voltage [V]	Pin No.	Voltage [V]	Pin No.	Voltage [V]
1	5.0	17	3.8 to 4.1	33	5.0	49	0
2	4.8 to 5.1	18	2.6	34	3.3 to 4.1	50	5.0
3	4.8 to 5.1	19	5.0	35	5.0	51	0
4	4.8 to 5.1	20	3.8 to 4.1	36	0	52	5.0
5	4.8 to 5.1	21	3.8 to 4.1	37	5.0	53	5.0
6	4.8 to 5.1	22	3.8 to 4.1	38	5.0	54	5.0
7	4.8 to 5.1	23	3.8 to 4.1	39	NC	55	0
8	4.8 to 5.1	24	3.8 to 4.1	40	NC	56	2.5
9	4.8 to 5.1	25	3.8 to 4.1	41	0	57	2.5
10	4.8 to 5.1	26	5.0	42	0	58	0
11	4.8 to 5.1	27	3.8 to 4.1	43	5.0	59	0
12	0	28	3.8 to 4.1	44	NC	60	NC
13	0	29	3.8 to 4.1	45	0	61	0
14	NC	30	3.8 to 4.1	46	5.0	62	0
15	0	31	5.0	47	NC	63	0
16	3.8 to 4.1	32	5.0	48	NC	64	0

NOTE

RESISTORS
(1) MOTHER PCB ASS'Y
(except for VR) 1/10W Type
(2) SUB PCB ASS'Y 1/6W Type

CAPACITORS
(1) CH Ceramic CCSQCH
(2) YB Ceramic CKSQYB
(3) TX Film CFTXA
(4) Unmarked type
MOTHER PCB ASS'Y CKSQYF
(5) Unmarked type
SUB PCB ASS'Y CKCYF
(6) Unmarked Electrolysis
MOTHER PCB ASS'Y CEJA
(7) Unmarked Electrolysis
SUB PCB ASS'Y CEAS

INDUCTORS
(1) Unmarked type LAU

OTHERS
: CHASSIS GROUND
ABC : LOW ACTIVE SIGNAL

⚠SUB BOARD ASSY
(PWX1310 : PD – C3
PWX1311 : PD – C5/WE,WB,WEWM
PWX1314 : PD – C5/KU

OPERATION BOARD ASSY
(PWZ2680 : PD – C3
PWZ2681 : PD – C5)

FLUORESCENT DISPLAY
PEL1078 V701

⚠SERVO TRANSFORMER BOARD ASSY
(PWZ2682 : PD – C3
PWZ2683 : PD – C5/WE,WB, WEWM
PWZ2686 : PD – C5/KU

CAUTION : FOR CONTINUED PROTECTION AGAINST RISK OF FIRE REPLACE ONLY WITH SAME TYPE NO ICP-N10, MFD BY ROHM CO.,LTD FOR IC31

EXCEPT KU

REGULATOR

⚠AC POWER CORD
WE,WEWM : PDG1003 AC220 - 240V 50/60Hz
WB : PDG1021 AC220 - 240V 50/60Hz
KU : PDG1015 AC120V 60Hz

⚠POWER TRANSFORMER
PD – C3 : PTT1296
PD – C5/WE,WB,WEWM : PTT1296
PD – C5/KU : PTT1296

BUFFER

JA393 VKN1165 DECK SYNCHRO JACK

JA391 PKN1084 SR JACK IN

PKB1009 JA401 (1/2) LINE OUT JACK

MUTE

5. PCB CONNECTION DIAGRAM

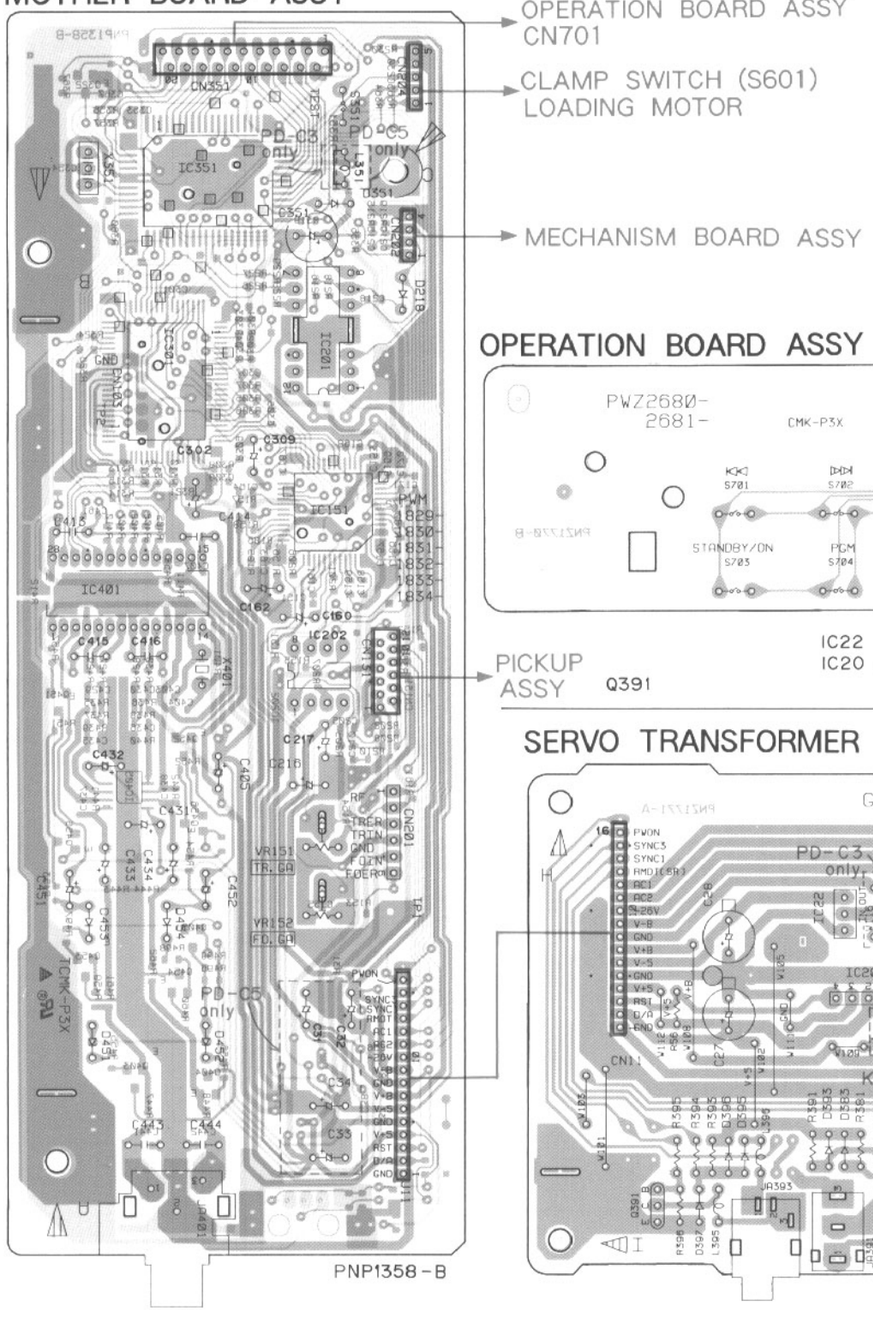
- **This diagram is viewed from the pink colored foil side.**
- **This PCB is double sided.**

NOTE FOR PCB DIAGRAMS:

1. Part numbers in PCB diagrams match those in the schematic diagrams.
2. A comparison between the main parts of PCB and schematic diagrams is shown below.

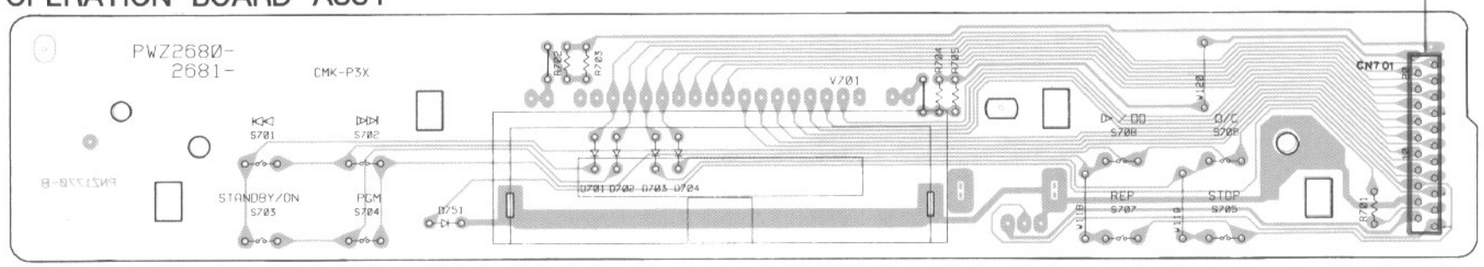
Symbol in PCB Diagrams	Symbol in Schematic Diagrams	Part Name
B C E	B C E B C E	Transistor
B C E	B C E B C E	Transistor with resistor
D G S	D G S D G S	Field effect transistor
		Resistor array
I O	IN OUT	3- terminal regulator

MOTHER BOARD ASSY



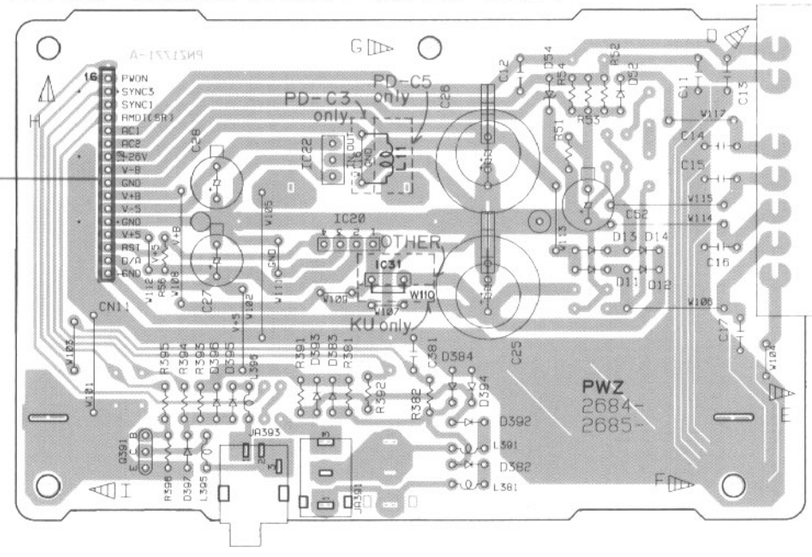
OPERATION BOARD ASSY

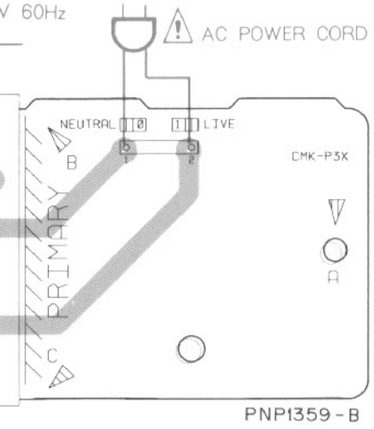
- **This diagram is viewed from the mounted parts side.**



WE,WEWM : PDG1003 AC220 - 240V 50/60Hz
WB : PDG1021 AC220 - 240V 50/60Hz
KU : PDG1015 AC120V 60Hz

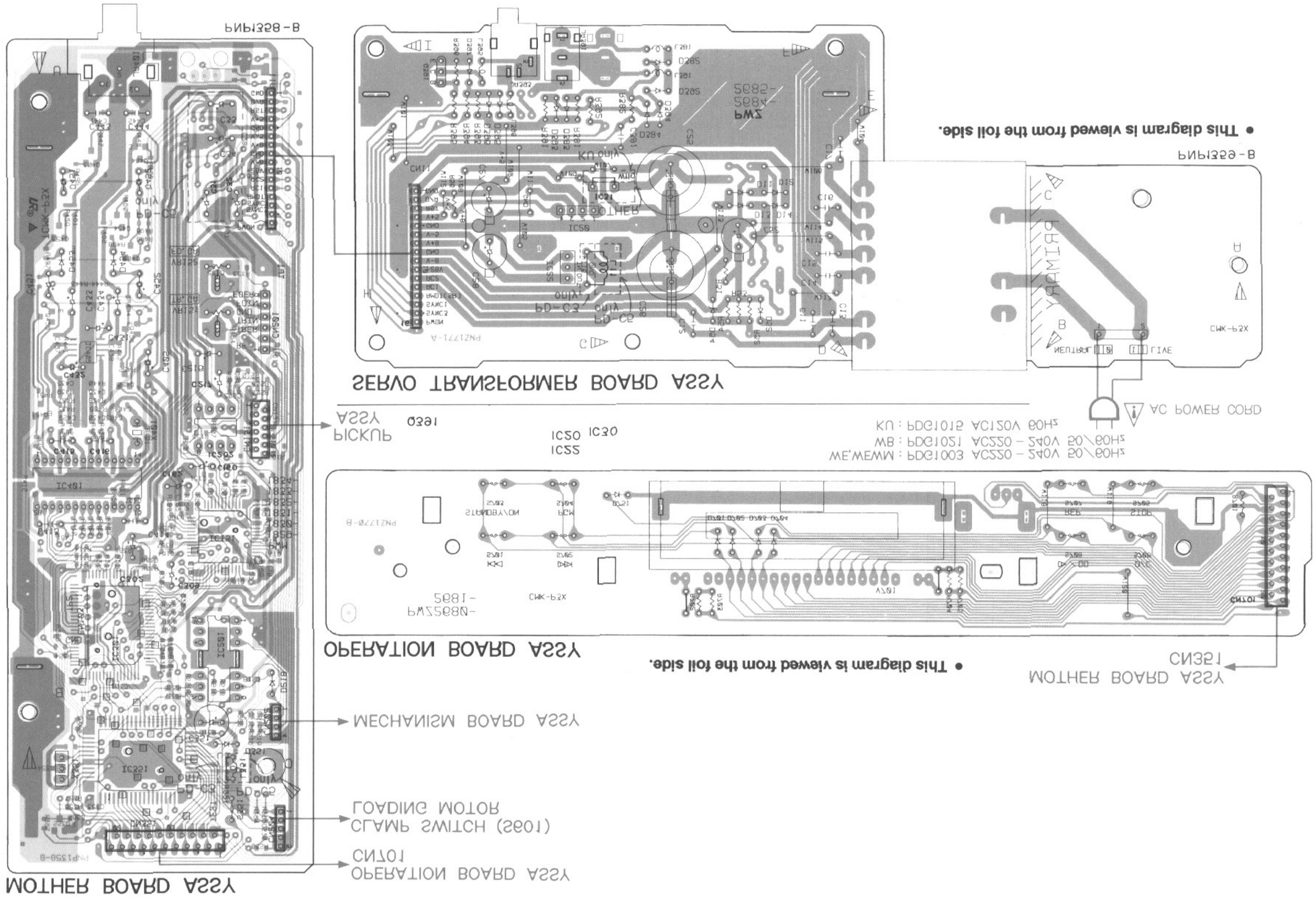
SERVO TRANSFORMER BOARD ASSY





- **This diagram is viewed from the mounted parts side.**

2. PCB CONNECTION DIAGRAM



6. PCB PARTS LIST

NOTES:

- Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.
- The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- Parts marked by "⊙" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.
- When ordering resistors, first convert resistance values into code form as shown in the following examples.

Ex.1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J=5%, and K=10%).

560 Ω → 56 × 10^1 → 561 ····· RD1/8PM 5 6 1 J
47k Ω → 47 × 10^3 → 473 ····· RD1/4PS 4 7 3 J
0.5 Ω → 0R5 ····· RN2H 0 R 5 K
1 Ω → 010 ····· RS1P 0 1 0 K

Ex.2 When there are 3 effective digits (such as in high precision metal film resistors).

5.62k Ω → 562 × 10^1 → 5621 ····· RN1/4PC 5 6 2 1 F

Mark	No.	Description	Part No.

LIST OF ASSEMBLIES

⚠		MOTHER BOARD ASSY	PWM1833
NSP		MECHANISM BOARD ASSY	PWX1192
⚠NSP		SUB BOARD ASSY	PWX1314
		├OPERATION BOARD ASSY	PWZ2681
⚠		└SERVO TRANSFORMER BOARD ASSY	PWZ2686

MOTHER BOARD ASSY

SEMICONDUCTORS

		IC151	CXA1372Q
		IC301	CXD2500BQ
⚠		IC202	LA6517
⚠		IC201	LA6520
		IC405	NJM5532MD
		IC401	PD2029A
		IC351	PD4505A
		Q403, Q404, Q453, Q454	2SD2114K
		Q451, Q452	DTA124EK
		Q322, Q405, Q455, Q456	DTC124EK
		D218, D351, D451-D454	1SS133X

SWITCHES AND RELAYS

		S351	PSG1006

COILS AND FILTERS

		L351	LFA3R3J

CAPACITORS

		C435-C438	CCSQCH050C50
		C403	CCSQCH120J50
		C404	CCSQCH220J50
		C429, C430	CCSQCH390J50
		C31, C32, C431, C432	CEJA101M16
		C302	CEJA101M6R3
		C433, C434	CEJA220M25
		C216, C217	CEJA330M16
		C351, C405	CEJA331M6R3
		C160, C162, C451, C452	CEJA4R7M50
		C309	CEJAR47M50
		C33, C34, C413-C416	CFTXA104J50
		C157, C164, C169, C308	CKSQYB103K50
		C158, C159, C161, C163, C230	CKSQYB104K25
		C301	CKSQYB104K25
		C306	CKSQYB152K50
		C155	CKSQYB182K50
		C218	CKSQYB272K50
		C170	CKSQYB332K50
		C156, C168	CKSQYB333K25
		C171, C172	CKSQYB472K50
		C307, C354	CKSQYB473K25
		C167, C205, C210, C215, C219	CKSQYF103Z50
		C35, C353, C36, C37, C407	CKSQYF103Z50
		C461	CKSQYF103Z50
		C151, C153	CKSQYF104Z25
		C443, C444 (0.0015/50V)	PCL1030

RESISTORS

		VR151, VR152 (22K)	RCP1046
		Other Resistors	RS1/10S□□□J

OTHERS

		CN131 FPC CONNECTOR (12P)	12FMZ-AST
		CN351 FFC CONNECTOR (21P)	HLEM21R
		JA401 PIN JACK (2P)	PKB1009
		X401 CRYSTAL RESONATOR (16.9344MHZ)	PSS1008
		CN202 AMP CONNECTOR (4P)	VKN1061
		CN204 AMP CONNECTOR (5P)	VKN1062
		X351 CERAMIC RESONATOR(4.19MHZ)	VSS1028
		CN201 6P SIDE POST	VKN-004

MECHANISM BOARD ASSY

SWITCHES AND RELAYS

		S610	DSG1016

OTHERS

		CN610 AMP CONNECTOR (4P)	VKN1061

Mark	No.	Description	Part No.

OPERATION BOARD ASSY

SEMICONDUCTORS

	D701-D704	1SS254
	D751	PCX1019

SWITCHES AND RELAYS

	S701-S708	PSG1006

RESISTORS

	All Resistors	RD1/6PM□□□J

OTHERS

	CN701 FFC CONNECTOR (21P)	HLEM21R
	V701 FL TUBE	PEL1078

SERVO TRANSFORMER BOARD ASSY

SEMICONDUCTORS

⚠	IC22	NJM79L05A
⚠	IC20	PQ05RR12
	Q391	2SC1740S
⚠	D11-D14, D52	11ES2
	D382-D384, D392-D397	1SS254
	D54	MTZJ18B

COILS AND FILTERS

	L381, L391, L395, L396	LAU010K
	L11	VTH1024

CAPACITORS

	C52	CEAS101M35
	C27	CEAS102M35
	C28	CEAS471M6R3
	C25, C26	CEAS472M16
	C15	CFTXA103J50
	C11-C14, C16, C17, C381	CKCYF103Z50

RESISTORS

	All Resistors	RD1/6PM□□□J

OTHERS

	JA391 REMOTE CONTROL JACK (12V)	PKN1004
⚠	TERMINAL	RKC-061
	JA393 MINI JACK	VKN1165

7. ADJUSTMENTS

● Adjustment Methods

If a disc player is adjusted incorrectly or inadequately, it may malfunction or not work at all even though there is nothing at all wrong with the pickup or the circuitry. Adjust correctly following the adjustment procedure.

● Adjustment Items/Verification Items and Order

If the specified values cannot be obtained or no adjustment is possible by performing the verifications or adjustments described in steps 1 − 4, the pickup block may be defective.

Step	Item	Test Point	Adjustment Location
1	Focus offset verification	TP1, Pin 6(FCS. ERR)	None
2	Tracking error balance verification	TP1, Pin 2(TRK. ERR)	None
3	Pickup radial/tangential direction tilt adjustment	TP1, Pin 1(RF)	Radial tilt adjustment screw, Tangential tilt adjustment screw
4	RF level verification	TP1, Pin 1(RF)	None
5	Focus servo loop gain adjustment	TP1, Pin 5(FCS. IN) TP1, Pin 6(FCS. ERR)	VR152(FCS. GAN)
6	Tracking servo loop gain adjustment	TP1, Pin 3(TRK. IN) TP1, Pin 2(TRK. ERR)	VR151(TRK. GAN)

● **Abbreviation table**

FCS. ERR :Focus Error
TRK. ERR :Tracking Error
FCS GAN :Focus Gain
TRK GAN :Tracking Gain
FCS. IN :Focus In
TRK. IN :Tracking In

● Measuring Instruments and Tools

1. Dual trace oscilloscope (10:1 probe)
2. Low-frequency oscillator
3. Test disc (YEDS-7)
4. Low pass filter (39kΩ +0.001 μF)
5. Resistor (100 kΩ)
6. Standard tools

● Test Point and Adjustment Variable Resistor Positions

MOTHER BOARD ASSY

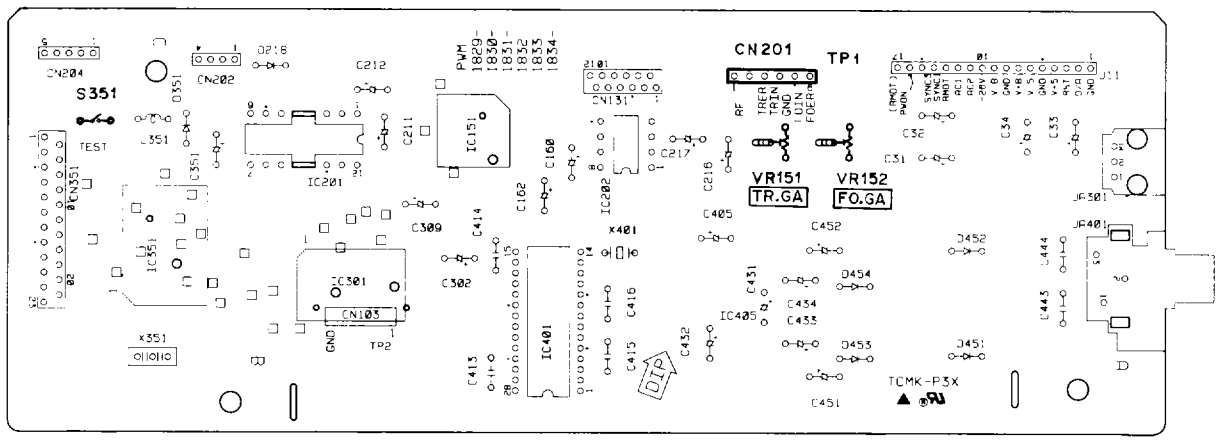


Figure 1. Adjustment Locations

● Notes

1. Use a 10:1 probe for the oscilloscope.
2. All the knob positions (settings) for the oscilloscope in the adjustment procedures are for when a 10:1 probe is used.

● Test Mode

These models have a test mode so that the adjustments and checks required for service can be carried out easily. When these models are in test mode, the keys on the front panel work differently from normal. Adjustments and checks can be carried out by operating these keys with the correct procedure. For these models, all adjustments are carried out in test mode.

[Setting these models to test mode]

How to set this model into test mode.

1. Unplug the AC power cord from the AC socket.
2. Push the test mode switch (S351). (See Figure 1.)
3. Plug the AC power cord back into the AC socket.

When the test mode is set correctly, the display is different from what it usually is when the power is turned on. If the display is still the same as usual, test mode has not been set correctly, so repeat Steps 1 – 3.

[Release from test mode]

Here is the procedure for relèasing the test mode:

1. Press the STOP key and stop all operations.
2. Turn off the power switch on the front panel.

[Operations of the keys in test mode]

Code	Key Name	Function in Test Mode	Explanation
	PGM (PROGRAM)	Focus servo close	The laser diode is lit up and the focus actuator is lifted up, then lowered slowly and the focus servo is closed at the point where the objective lens is focused on the disc. With the player in this state, if you lightly rotate the stopped disc by hand, you can hear the sound the focus servo. If you can hear this sound, the focus servo is operating correctly. If you press this key with no disc mounted, the laser diode lights up, the focus actuator is pulled up, then the actuator is lowered and raised three times and returned to its original position.
▷/▯▯	PLAY/PAUSE	Spindle servo ON	Starts the spindle motor in the clockwise direction and when the disc rotation reaches the prescribed speed (about 500 rpm at the inner periphery), sets the spindle servo in a closed loop. Be careful. Pressing this key when there is no disc mounted makes the spindle motor run at the maximum speed. If the focus servo does not go correctly into a closed loop or the laser light shines on the mirror section at the outermost periphery of the disc, the same symptom is occurred.
▷/▯▯	PLAY/PAUSE	Tracking servo close/open	Pressing this key when the focus servo and spindle servo are operating correctly in closed loops puts the tracking servo into a closed loop, displays the track number being played back and the elapsed time on the front panel, and outputs the playback signal. If the elapsed time is not displayed or not counted correctly or the audio is not played back correctly, it may be that the laser is shining on the section with no sound recorded at the outer edge of the disc, that something is out of adjustment, or that there is some other problem. This key is a toggle key and open/close the tracking servo alternately. This key has no effect if no disc is mounted.

Code	Key Name	Function In Test Mode	Explanation
⏮ / ◀◀	TRACK / MANUAL SEARCH REV	Carriage reverse (inwards)	Moves the pickup position toward the inner diameter of the disc. When this key is pressed with the tracking servo in a closed loop, the tracking servo automatically goes into an open loop. Since the motor does not automatically stop at the mechanical end point in test mode, be careful with this operation.
▶▶ / ⏭	TRACK / MANUAL SEARCH FWD	Carriage forward (outwards)	Moves the pickup position toward the outer diameter of the disc. When this key is pressed with the tracking servo in a closed loop, the tracking servo automatically goes into an open loop. Since the motor does not automatically stop at the mechanical end point in test mode, be careful with this operation.
⏹	STOP	Stop	Initializes and the disc rotation stops. The pickup and disc remain where they are when this key is pressed.
⏏	OPEN/CLOSE	Disc tray open/close	Open/close the disc tray. This key is a toggle key and open/close tray alternately. Pressing this key when the disc is turning stops the disc, then opens the tray. This key operation does not affect the position of the pickup.

[How to play back a disc in test mode]

In test mode, since the servos operate independently, playing back a disc requires that you operate the keys in the correct order to close the servos.
Here is the key operation sequence for playing back a disc in test mode.

PGM(PROGRAM) — Lights up the laser diode and closes the focus servo.

⇩

PLAY/PAUSE ▷/ ⏸ — Starts the spindle motor and closes the spindle servo.

⇩

PLAY/PAUSE ▷/ ⏸ — Closes the tracking servo.

Wait at least 2-3 seconds between each of these operations.

1. Focus Offset Verification

● Objective ● Symptom when out of adjustment	Verify the DC offset for the focus error amp. The model does not focus in and the RF signal is dirty.		
● Measurement instrument connections	Connect the oscilloscope to TP1, Pin 6 (FCS. ERR) [Settings] 5 mV/division 10 ms/division DC mode	● Player state ● Adjustment location ● Disc	Test mode, stopped (just the Power switch on) None None needed
[Procedure] Verify the DC voltage at TP1, Pin 6 (FCS. ERR) is 0 ± 50 mV.			

Note : If the specified values cannot be obtained or no adjustment is possible by performing the verifications or adjustments described in adjustment items 1 – 4, the pickup block may be defective.

2. Tracking Error Balance Verification

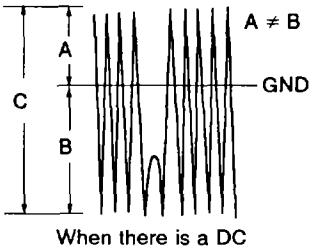
● Objective ● Symptom when out of adjustment	To verify that there is no variation in the sensitivity of the tracking photo diode. Play does not start or track search is impossible.		
● Measurement instrument connections	Connect the oscilloscope to TP1, Pin 2 (TRK. ERR). This connection may be via a low pass filter. [Settings] 50 mV/division 5 ms/division DC mode	● Player state ● Adjustment location ● Disc	Test mode, focus and spindle servos closed and tracking servo open None YEDS-7

[Procedure]

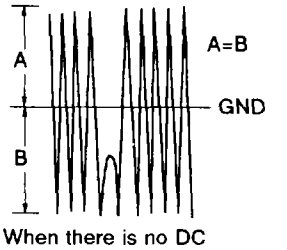
1. Move the pickup to midway across the disc (R=35 mm) with the TRACK/MANUAL SEARCH FWD ▷▷ ▷▷| or REV |◁◁ ◁◁ key.
2. Press the PGM (PROGRAM) key, then the PLAY ▷ key in that order to close the focus servo then the spindle servo.
3. Line up the bright line (ground) at the center of the oscilloscope screen and put the oscilloscope into DC mode.
4. Supposing that the positive amplitude of the tracking error signal at TP1, pin 2 (TRK ERR) is (A) and the negative amplitude is (B), the following expression is satisfied.

When $A \geqq B$, $\frac{A-B}{C} \times \frac{1}{2} \leqq 0.1$

When $A < B$, $\frac{B-A}{C} \times \frac{1}{2} \leqq 0.1$



When there is a DC component



When there is no DC component

3. Pickup Radial/Tangential Direction Tilt Adjustment

● Objective	To adjust the angle of the pickup relative to the disc so that the laser beams are shone straight down into the disc for the best read out of the RF signals.		
● Symptom when out of adjustment	Sound broken;some discs can be played but not others.		
● Measurement instrument connections	Connect the oscilloscope to TP1, Pin 1 (RF). [Settings] 20 mV/division 200 ns/division AC mode	● Player state ● Adjustment location ● Disc	Test mode, play Pickup radial tilt adjustment screw and tangential tilt adjustment screw YEDS-7

[Procedure]

1. Press the TRACK / MANUAL SEARCH FWD ▷▷ ▷▷| or REV |◁◁ ◁◁ key to move the pickup to halfway across the disc (R=35mm).
   Press the PGM (PROGRAM) key, the PLAY/PAUSE ▷ / ▯▯ key two times in that order to close the respective servos and put the player into play mode.
2. First, adjust the radial tilt adjustment screw with a Phillips screwdriver so that the eye pattern (the diamond shape at the center of the RF signal) can be seen the most clearly.
3. Next, adjust the tangential tilt adjustment screw with a Phillips screwdriver so that the eye pattern (the diamond shape at the center of the RF signal) can be seen the most clearly (Figure 3).
4. Adjust the radial tilt adjustment screw and the tangential tilt adjustment screw again so that the eye pattern can be seen the most clearly. As necessary, adjust the two screws alternately so that the eye pattern can be seen the most clearly.
5. When the adjustment is completed, lock the radial and tangential adjustment screw.
   Note:Radial and tangential mean the directions relative to the disc shown in Figure 2.

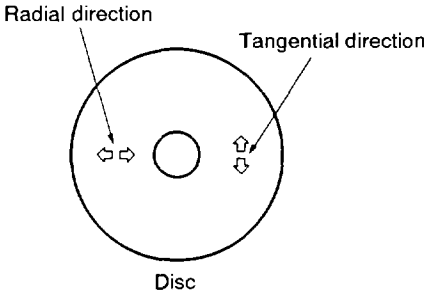
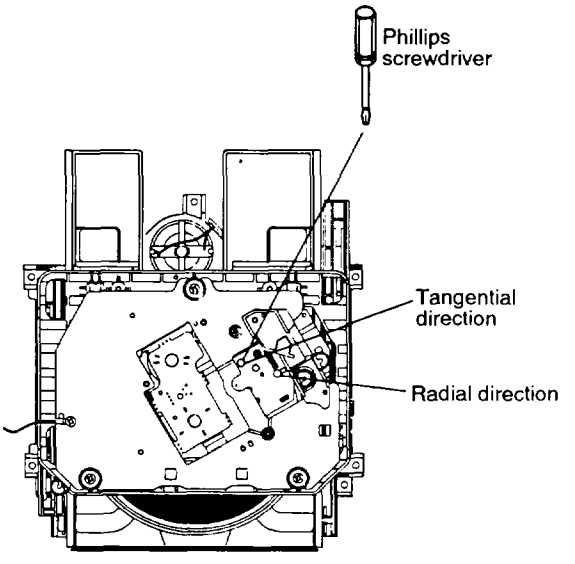


Figure 2



Adjustment locations

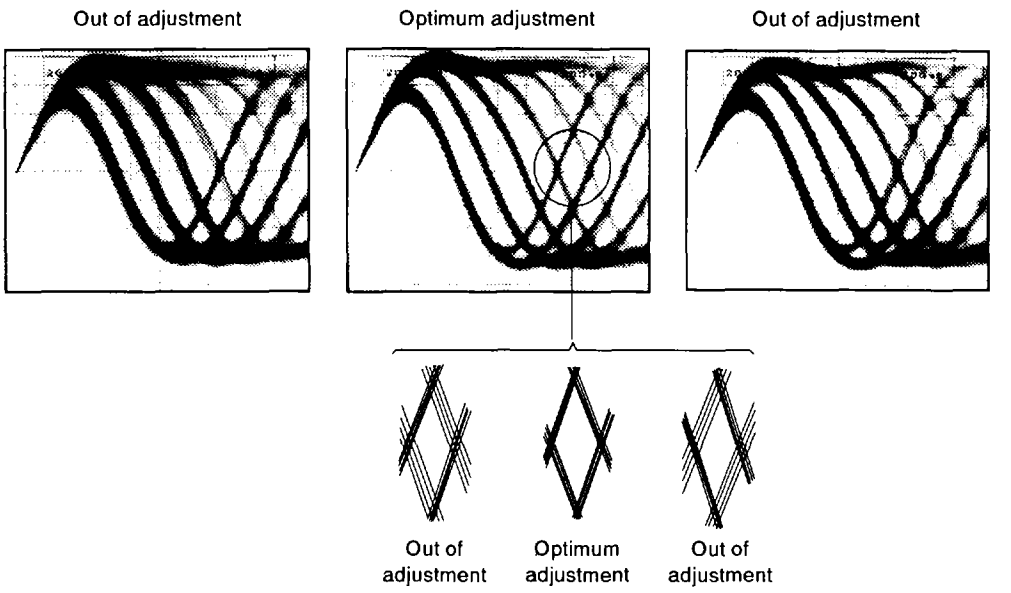


Figure 3. Eye pattern

4. RF Level Verification

● Objective	To verify the playback RF signal amplitude		
● Symptom when out of adjustment	No play or no search		
● Measurement instrument connections	Connect the oscilloscope to TP1, Pin 1 (RF). [Settings] 50 mV/division 10 ms/division AC mode	● Player state ● Adjustment location ● Disc	Test mode, play None YEDS-7

[Procedure]

1. Move the pickup to midway across the disc (R = 35mm) with the TRACK/MANUAL SEARCH FWD ▷▷ ▷▷| or REV |◁◁ ◁◁ key, then press the PGM (PROGRAM) key, the PLAY/PAUSE ▷/ ▯▯ key two times in that order to close the respective servos and put the player into play mode.
2. Verify the RF signal amplitude is 1.2Vp-p ± 0.2V.

5. Focus Servo Loop Gain Adjustment

● Objective	To optimize the focus servo loop gain.		
● Symptom when out of adjustment	Playback does not start or focus actuator noisy.		
● Measurement instrument connections	See figure 4. [Settings] CH1 CH2 20 mV/division 5 mV/division X-Y mode	● Player state ● Adjustment location ● Disc	Test mode, play VR152 (FCS. GAN) YEDS-7

[Procedure]

1. Set the AF generator output to 1.2 kHz and 1 Vp-p.
2. Press the TRACK/MANUAL SEARCH FWD ▷▷ ▷▷| or REV |◁◁ ◁◁ key to move the pickup to halfway across the disc (R = 35mm), then press the PGM (PROGRAM) key, the PLAY/PAUSE ▷ / ▯▯ key two times in that order to close the corresponding servos and put the player into play mode.
3. Adjust VR152 (FCS. GAN) so that the Lissajous waveform is symmetrical about the X axis and the Y axis.

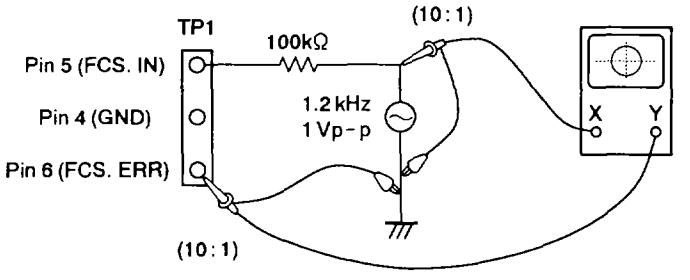
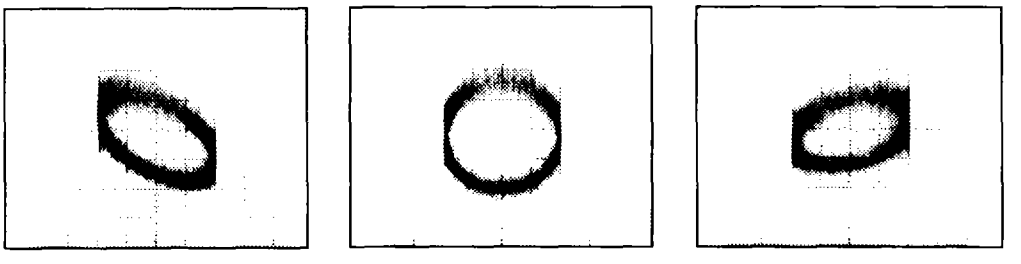


Figure 4

Focus Gain Adjustment



Higher gain | Optimum gain | Lower gain

6. Tracking Servo Loop Gain Adjustment

● Objective ● Symptom when out of adjustment	To optimize the tracking servo loop gain. Playback does not start, during searches the actuator is noisy, or tracks are skipped.		
● Measurement instrument connections	See Figure 5. [Settings] CH1 CH2 50 mV/division 20 mV/division X-Y mode	● Player state ● Adjustment location ● Disc	Test mode, play VR151 (TRK. GAN) YEDS-7

[Procedure]

1. Set the AF generator output to 1.2 kHz and 2 Vp-p.
2. Press the TRACK/MANUAL SEARCH FWD ▷▷ ▷▷| or REV |◁◁ ◁◁ key to move the pickup to halfway across the disc (R = 35mm), then press the PGM (PROGRAM) key, the PLAY/PAUSE ▷ / ▯▯ key two times in that order to close the corresponding servos and put the player into play mode.
3. Adjust VR151 (TRK. GAN) so that the Lissajous waveform is symmetrical about the X axis and the Y axis.

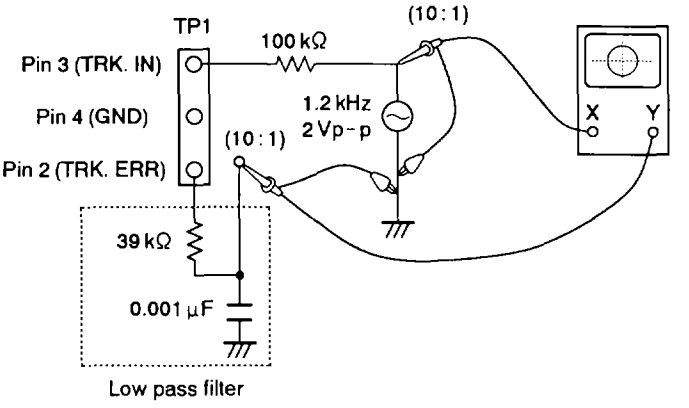
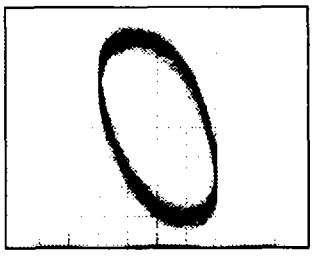
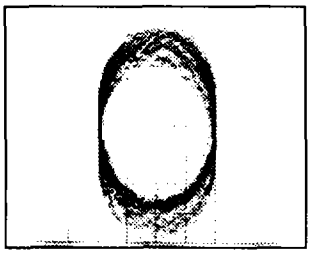


Figure 5

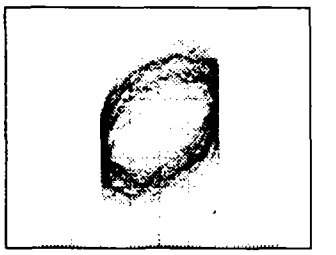
Tracking Gain Adjustment



Higher gain



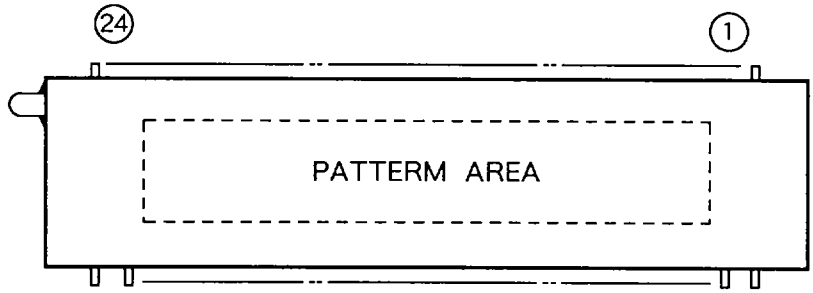
Optimum gain



Lower gain

8. FL INFORMATION

● PEL1078 (V701)

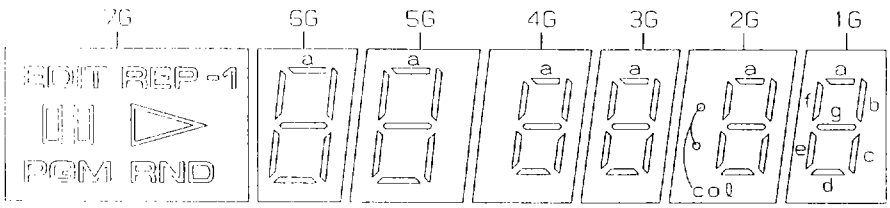


PIN CONNECTION

PIN NO.	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
CONNECTION	F2	F2	NP	NC	NC	P5	P6	P7	P8	P1	P2	P3	P4	7G	6G	5G	4G	3G	2G	1G	NC	NP	F1	F1

NOTE
1) F1,F2 --- Filament
2) NP ------ No pin
3) NC ------ No connection
4) DL ------ Datum Line
5) 1G~7G --- Grid

GRID ASSIGNMENT



ANODE CONNECTION

	7G	6G	5G	4G	3G	2G	1G
P1	REP	a	a	a	a	a	a
P2	-1	b	b	b	b	b	b
P3	▷	c	c	c	c	c	c
P4	RND	d	d	d	d	d	d
P5	PGM	e	e	e	e	e	e
P6	□□	f	f	f	f	f	f
P7	EDIT	g	g	g	g	g	g
P8	-	-	-	-	-	col	-

9. FOR PD-C5/WE, WEWM, WB, PD-C3/WE, WEWM AND WB

CONTRAST OF MISCELLANEOUS PARTS

NOTES:

- Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.
- The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- Parts marked by "⊙" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.

PD-C5/WE, WEWM, WB, PD-C3/WE, WEWM, WB and PD-C5/KU have the same construction except for the following:

Mark	Symbol & Description	Part No.						
		PD-C5/KU	PD-C5/WE	PD-C5/ WEWM	PD-C5/WB	PD-C3/WE	PD-C3/ WEWM	PD-C3/WB
⚠	MOTHER BOARD ASSY	PWM1833	PWM1830	PWM1830	PWM1830	PWM1829	PWM1829	PWM1829
⚠NSP	SUB BOARD ASSY	PWX1314	PWX1311	PWX1311	PWX1311	PWX1310	PWX1310	PWX1310
	├OPERATION BOARD ASSY	PWZ2681	PWZ2681	PWZ2681	PWZ2681	PWZ2680	PWZ2680	PWZ2680
⚠	└SERVO TRANSFORMER BOARD ASSY	PWZ2686	PWZ2683	PWZ2683	PWZ2683	PWZ2682	PWZ2682	PWZ2682
⚠	Strain relief	CM – 22C	CM – 22B	CM – 22B	CM – 22B	CM – 22B	CM – 22B	CM – 22B
⚠	AC power cord	PDG1015	PDG1003	PDG1003	PDG1021	PDG1003	PDG1003	PDG1021
⚠	Power transformer (AC120V)	PTT1296	.....	.....	.....	.....	.....	.....
⚠	Power transformer (AC220 – 240V)	.....	PTT1295	PTT1295	PTT1295	PTT1236	PTT1236	PTT1236
	Name plate	PAN1296	PAN1296	PAN1296	PAN1296	PAN1297	PAN1297	PAN1297
	Front panel	PNW2482	PNW2360	PNW2360	PNW2360	PNW2381	PNW2381	PNW2381
	65 label	ORW1069	.....	.....	.....	.....	.....	.....
NSP	Rear panel	PNA2055	PNA2040	PNA2058	PNA2139	PNA2054	PNA2059	PNA2140
NSP	Loading mechanism assy	PXA1521	PXA1521	PXA1521	PXA1521	PXA1459	PXA1459	PXA1459
NSP	Cushion	PNM1176	PNM1176	PNM1176	PNM1176	.....	.....	.....
NSP	Angle	PNB1467	PNB1467	PNB1467	PNB1467	.....	.....	.....
NSP	Cord clamper	DNF1128	DNF1128	DNF1128	DNF1128	.....	.....	.....
NSP	Shield tube	PDM1018	PDM1018	PDM1018	PDM1018	.....	.....	.....
	Packing case	PHG2063	PHG2061	PHG2061	PHG2061	PHG2062	PHG2062	PHG2062
	Operating instructions (English)	PRB1204	.....	.....	PRB1204	.....	.....	PRB1204
	Operating instructions (English/French/German/Italian/ Dutch/Swedish/Spanish/Portuguese)	.....	PRE1190	.....	.....	PRE1190	.....	.....
	Operating instructions (English/French)	.....	.....	PRF1066	.....	.....	PRF1066	.....
	Caution label HE*	.....	PRW1233	PRW1233	.....	PRW1233	PRW1233	.....
	Caution label*	.....	VRW1094	VRW1094	PRW1018	VRW1094	VRW1094	PRW1018
	Caution label (G)*	.....	VRW – 329	VRW – 329	VRW – 329	VRW – 329	VRW – 329	VRW – 329

*: See page 3

LOADING MECHANISM ASSY

PWX1459 and PWX1521 have the same construction except for the following:

Mark	Symbol & Description	Part No.		Remarks
		PXA1521	PXA1459	
	Turn table assy	PEA1165	PEA1199	
NSP	Tray assy	PXA1397	PXA1449	
NSP	Earth lead unit	PDF1148	PDF1104	

MOTHER BOARD ASSY

PWM1829, PWM1830 and PWM1833 have the same construction except for the following:

Mark	Symbol & Description	Part No.			Remarks
		PWM1833	PWM1830	PWM1829	
	IC401	PD2029A	PD2029A	PD2026B	
	IC405	NJM5532MD	NJM5532MD	NJM4558M	
	L351	LFA3R3J	LFA3R3J	.....	
	C31, C32	CEJA101M16	CEJA101M16	.....	
	C33, C34	CFTXA104J50	CFTXA104J50	.....	
	C431, C432	CEJA101M16	CEJA101M16	CEJA330M16	
	C451	CEJA4R7M50	CEJA4R7M50	.....	
	R351	.....	.....	RS1/10S000J	
	R447, R448	RS1/10S471J	RS1/10S221J	RS1/10S221J	
	R459, R460	RS1/10S271J	RS1/10S820J	RS1/10S820J	
	R461, R462	RS1/10S561J	RS1/10S821J	RS1/10S821J	

OPERATION BOARD ASSY

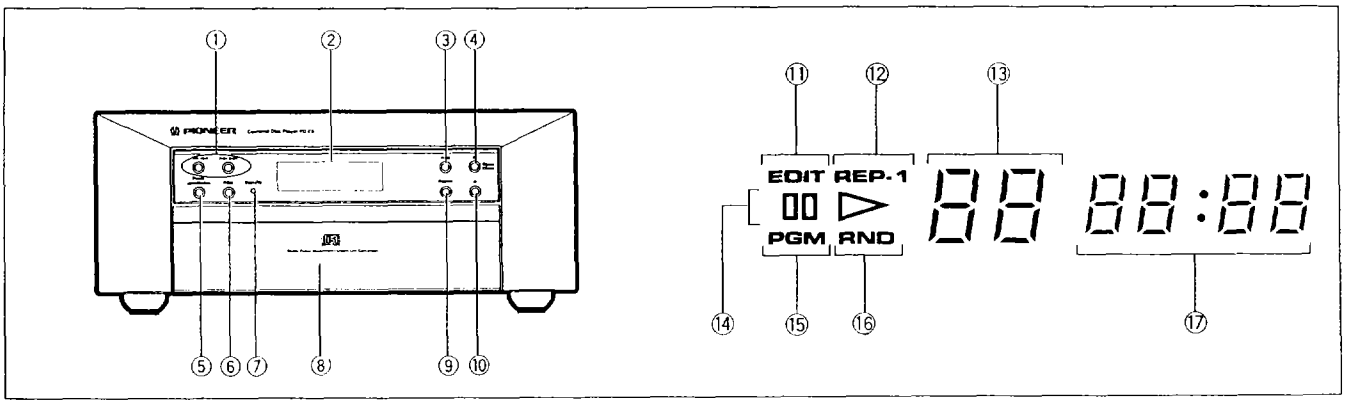
Although PWZ2680 and PWZ2681 are different in part number, they have the same service parts.

SERVO TRANSFORMER BOARD ASSY

PWZ2683, PWZ2682 and PWZ2686 have the same construction except for the following:

Mark	Symbol & Description	Part No.			Remarks
		PWZ2686	PWZ2683	PWZ2682	
	IC31	.....	ICP – N10	ICP – N10	
	L11	VTH1024	VTH1024	.....	
	C15	CFTXA103J50	CFTXA103J50	CKCYF103Z50	
	C25	CEAS472M16	CEAS472M16	CEAS332M16	
	C26	CEAS472M16	CEAS472M16	CEAS222M16	
	C27	CEAS102M35	CEAS102M35	CEAS471M6R3	

10. PANEL FACILITIES



① **Track/Manual search buttons (|◄◄ ◄◄, ►► ►►|)**
② **Display**
③ **Play/Pause button (► II)**
④ **Open/Close button (⏏)**
⑤ **Power standby/on switch**
⑥ **PGM (program) button**
⑦ **Standby indicator**
⑧ **Disc tray**
⑨ **Repeat button**
⑩ **Stop button (■)**

Display Section

⑪ **Lights during automatic program edit.***
⑫ **Lights during repeat playback.**
REP–1: Single-track repeat playback.
REP: All-track (or all program) repeat playback.
⑬ **Displays the track number.**
⑭ **II: Lights during pause mode.**
►: Lights during playback.
⑮ **Lights when setting a program, and during program playback.**
⑯ **Lights during random playback.***
⑰ **Time display**
During playback, displays the elapsed time from beginning of the current track.
If the ►► ►►| button is pressed from the stop mode, each track's playing time will be displayed, beginning from track 1 (tracks 30 and higher are not displayed).

***When using this player as part of a PIONEER compact component system:**
When the system-control connector on this player is connected to the other components in the system, the remote control unit supplied with the system amplifier can be used to perform the following operations on this component:

Auto program edit: (Edit button) — When recording a CD onto cassette tape, tape tracks are automatically programmed in the optimum order to fill the cassette tapes without interruption or loss of music programs.

Random playback: (Random button) — Used to perform playback of the tracks on a CD in random order.

Time display switching: Allows the time display to be switched as follows:

Elapsed time of currently playing track → Remaining time of currently playing track (does not display for tracks exceeding number 30 on a disc)

↑ ↓

Total number of tracks and total playing time on disc (or of all programmed tracks). ← Remaining time on disc (or remaining time of programmed tracks; this function does not operate during random playback)

11. SPECIFICATIONS

General

Component type ..... Compact disc audio system
Usable discs ..... Standard compact discs
Power ..... AC 220 – 240 V, 50/60 Hz
Power consumption ..... 14 W
Ambient temperature during operation ..... +5° C to +35° C
Weight
  PD-C5 ..... 3.1 kg
  PD-C3 ..... 3.0 kg
External dimensions ..... 260 (W) x 110 (H) x 328 (D)
Frequency response ..... 2 Hz – 20 kHz
S/N ratio
  PD-C5 ..... 106 dB or more (EIAJ)
  PD-C3 ..... 98 dB or more (EIAJ)
Dynamic range ..... 95 dB or more (EIAJ)
Channel separation
  PD-C5 ..... 100 dB or more (EIAJ)
  PD-C3 ..... 92 dB or more (EIAJ)
Total harmonic distortion ..... 0.005% or less (EIAJ)
Output voltage ..... 2.0 V
Wow and Flutter ..... Limit of measurement (± 0.001% W.PEAK) or less (EIAJ)
Channels ..... 2-channel (stereo)

Functions

- Play
- Pause
- Stop
- Track/Manual search
- Repeat (single track, all tracks, program, random*)
- Auto program edit*
- Program playback (24 tracks)
- Random playback*

Accessories

- Audio connection cables 1
- Control cable 1
- Operating Instructions 1

NOTE:
Specifications and design subject to possible modifications without notice due to improvements.

*Functions controllable with the remote control unit furnished with the amplifier.