

Service Manual

Pioneer



ORDER NO.
RRV2027

COMPACT DISC PLAYER

CDJ-100S

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

| Type | Model | Power Requirement | The voltage can be converted by the following method. |
|------|----------|---------------------|---|
| | CDJ-100S | | |
| KUC | ○ | AC120V | _____ |
| RL | ○ | AC110-120V/220-240V | With the voltage selector |
| WY | ○ | AC220-240V | _____ |

CONTENTS

| | | | |
|--|----|--|----|
| 1. SAFETY INFORMATION | 2 | 7. GENERAL INFORMATION | 39 |
| 2. EXPLODED VIEWS AND PARTS LIST | 4 | 7.1 PARTS | 39 |
| 3. SCHEMATIC DIAGRAM | 10 | 7.1.1 IC | 39 |
| 4. PCB CONNECTION DIAGRAM | 24 | 7.1.2 DISPLAY | 41 |
| 5. PCB PARTS LIST | 30 | 7.2 DIAGNOSIS | 42 |
| 6. ADJUSTMENT | 33 | 7.2.1 ERROR DISPLAY | 42 |
| | | 7.2.2 DISASSEMBLY | 42 |
| | | 7.3 BLOCK DIAGRAM | 46 |
| | | 8. PANEL FACILITIES AND SPECIFICATIONS | 47 |

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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

This product contains lead in solder and certain electrical parts contain chemicals which are known to the state of California to cause cancer, birth defects or other reproductive harm.

Health & Safety Code Section 25249.6 – Proposition 65



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.

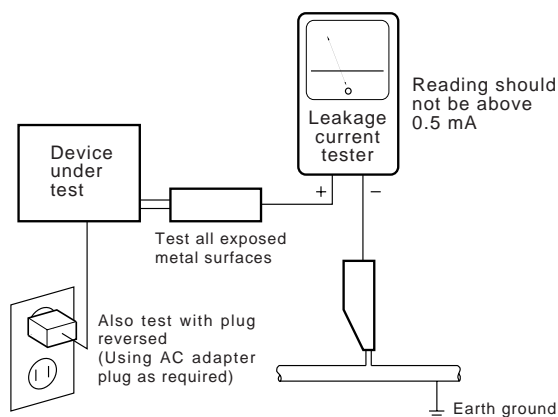
(FOR USA MODEL ONLY)

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 60 Hz outlet and turn the AC power switch on. Any current measured must not exceed 0.5 mA.




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 does 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.

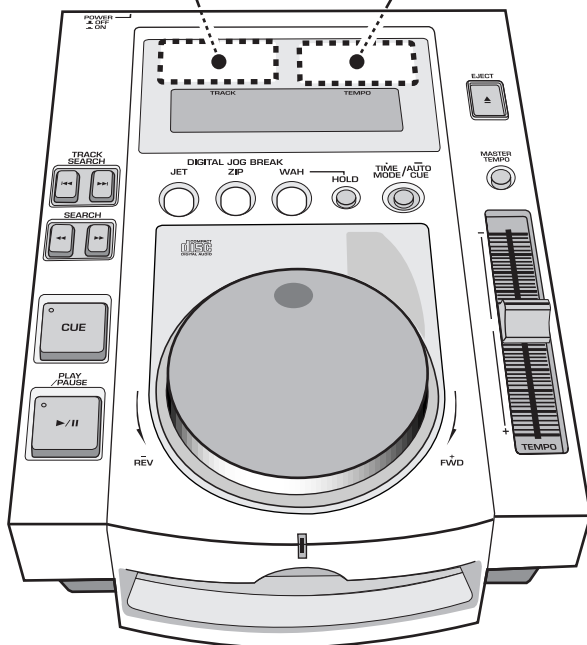
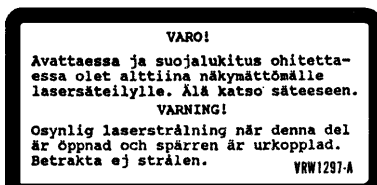
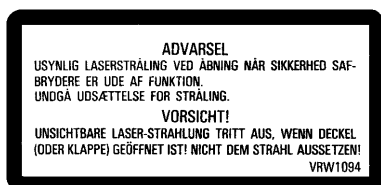
— IMPORTANT —

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

LABEL CHECK (for WY type)



— Additional Laser Caution —

1. Laser Interlock Mechanism


The position of the switch (S1) for detecting loading completion is detected by the system microprocessor, and the design prevents laser diode oscillation when the switch is not in LPS1 terminal side (when the mechanism is not clamped and LPS1 signal is high level.) Thus, the interlock will no longer function if the switch is deliberately set to LPS1 terminal side. (if LPS1 signal is low level).

In the test mode* the interlock mechanism will not function. Laser diode oscillation will continue, if pin 33 of CXA1782CQ (IC101) on the MOTHER BOARD ASSY is connected to GND, or pin 43 of IC701 (LDON) is connected to low level (ON), or else the terminals of Q101 are shorted to each other (fault condition).

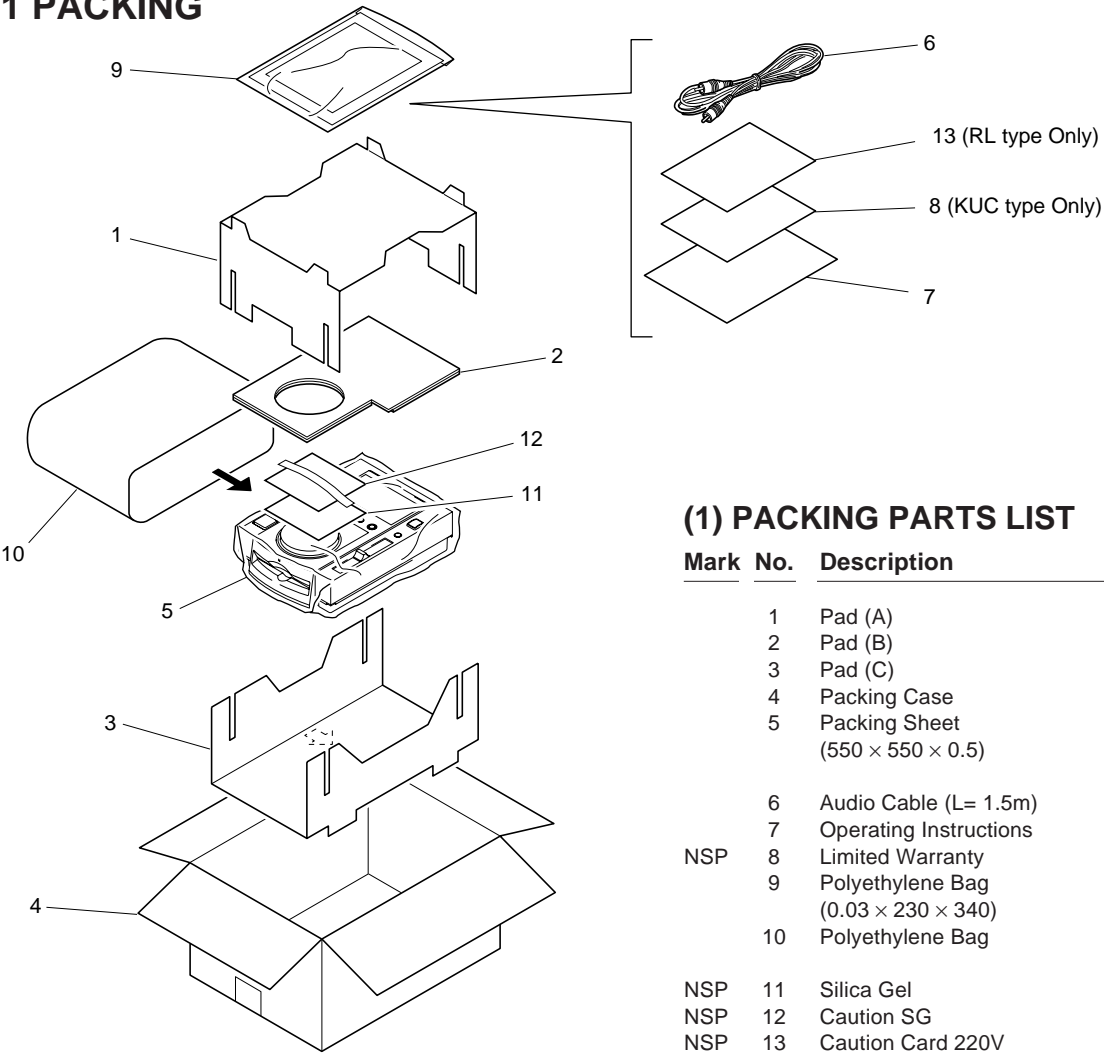
2. When the cover is opened, close viewing of the objective lens with the naked eye will cause exposure to a Class 1 laser beam.

* : Refer to page 34.

2. EXPLODED VIEWS 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.
● Screw adjacent to ▼ mark on the product are used for disassembly.

2.1 PACKING



(1) PACKING PARTS LIST

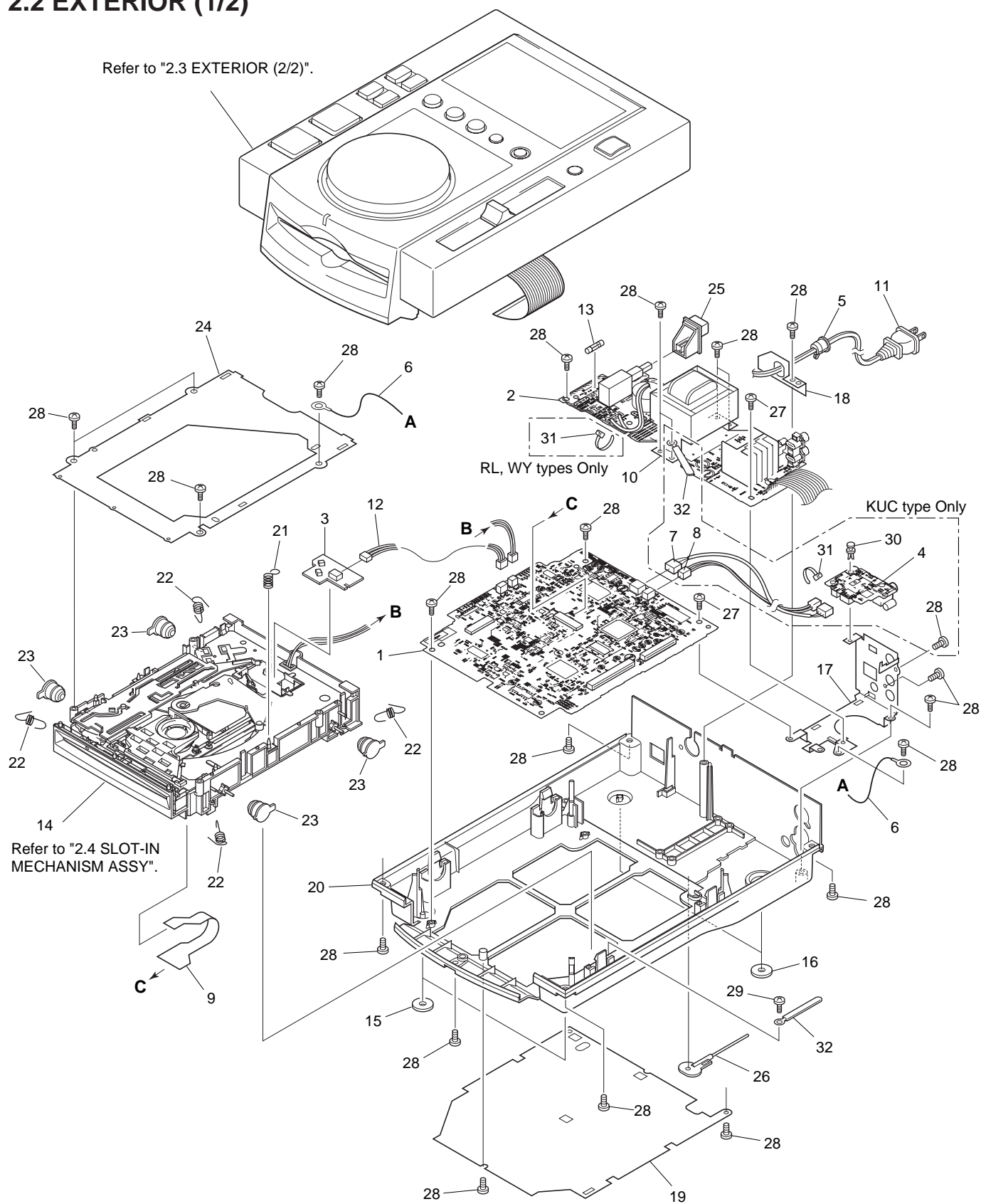
| Mark | No. | Description | Part No. |
|------|-----|--|------------------------|
| | 1 | Pad (A) | DHA1411 |
| | 2 | Pad (B) | DHA1412 |
| | 3 | Pad (C) | DHA1413 |
| | 4 | Packing Case | See Contrast table (2) |
| | 5 | Packing Sheet (550 × 550 × 0.5) | Z23-026 |
| | 6 | Audio Cable (L= 1.5m) | VDE1033 |
| | 7 | Operating Instructions | See Contrast table (2) |
| NSP | 8 | Limited Warranty | See Contrast table (2) |
| | 9 | Polyethylene Bag (0.03 × 230 × 340) | Z21-038 |
| | 10 | Polyethylene Bag | DHL1106 |
| NSP | 11 | Silica Gel | AEN7001 |
| NSP | 12 | Caution SG | DRM1199 |
| NSP | 13 | Caution Card 220V | See Contrast table (2) |

(2) CONTRAST TABLE

CDJ-100S/KUC, RL and WY are constructed the same except for the following:

| Mark | No. | Symbol and Description | Part No. | | | Remarks |
|------|-----|---|----------|----------|----------|---------|
| | | | KUC type | RL type | WY type | |
| | 4 | Packing Case | DHG1852 | DHG1851 | DHG1850 | |
| | 7 | Operating Instructions (English) | DRB1232 | Not used | Not used | |
| | 7 | Operating Instructions (English/Spanish/Chinese) | Not used | DRB1229 | Not used | |
| | 7 | Operating Instructions (English/French/German/Italian/ Dutch/Spanish) | Not used | Not used | DRB1227 | |
| NSP | 8 | Limited Warranty | DRY1177 | Not used | Not used | |
| NSP | 13 | Caution Card 220V | Not used | ARR7003 | Not used | |

2.2 EXTERIOR (1/2)



(1) EXTERIOR (1/2) PARTS LIST

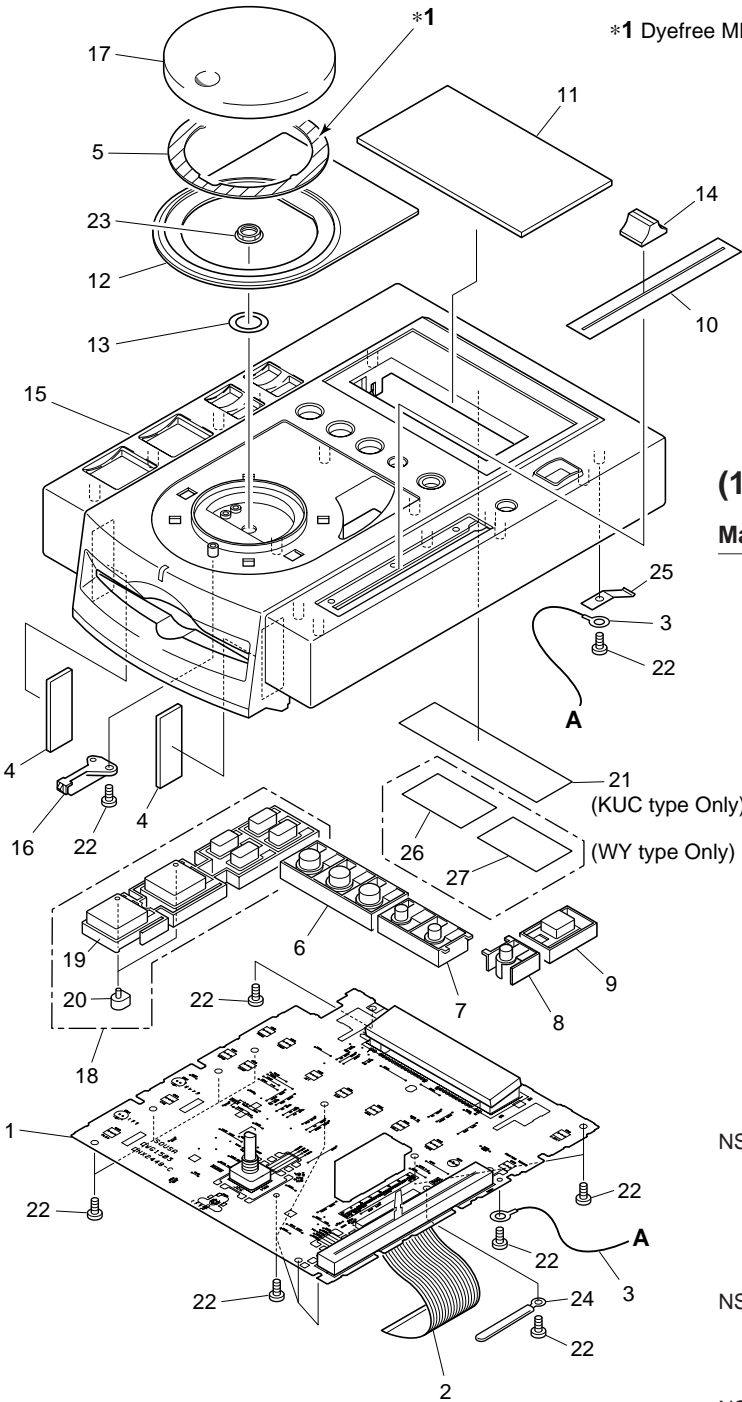
| Mark | No. | Description | Part No. | Mark | No. | Description | Part No. |
|------|-----|------------------------|------------------------|------|-----|-----------------------|------------------------|
| | 1 | MOTHER BOARD ASSY | See Contrast table (2) | | 26 | Push Rod | DEX1008 |
| | 2 | TRANS BOARD ASSY | See Contrast table (2) | | 27 | Screw | BBZ30P080FMC |
| NSP | 3 | SL MECHA BOARD ASSY | DWS1294 | | 28 | Screw | BPZ30P080FZK |
| NSP | 4 | DIGITAL OUT BOARD ASSY | See Contrast table (2) | | 29 | Screw | BPZ30P140FMC |
| | 5 | Strain Relief | See Contrast table (2) | | 30 | Nylon Rivet (3 × 4.5) | See Contrast table (2) |
| | 6 | Earth Lead Unit/300V | DDF1010 | | 31 | Binder | ZCA-SKB90BK |
| | 7 | Connector Assy | See Contrast table (2) | NSP | 32 | Binder | Z09-061 |
| | 8 | Connector Assy (2P) | See Contrast table (2) | | | | |
| | 9 | S Flex | DNP1748 | | | | |
| △ | 10 | Power Transformer | See Contrast table (2) | | | | |
| △ | 11 | AC Power Cord | See Contrast table (2) | | | | |
| △ | 12 | Connector Assy | PF03PP-B30 | | | | |
| △ | 13 | Fuse (FU1) | See Contrast table (2) | | | | |
| NSP | 14 | Slot-in Mechanism Assy | DXA1845 | | | | |
| | 15 | Insulator | DEC2235 | | | | |
| | 16 | Insulator MO | DEC2250 | | | | |
| | 17 | Earth Plate | DNF1588 | | | | |
| | 18 | Cable Stay | DNF1589 | | | | |
| | 19 | Bottom Plate | See Contrast table (2) | | | | |
| NSP | 20 | Chassis | See Contrast table (2) | | | | |
| | 21 | Earth Spring | DBH1398 | | | | |
| | 22 | Float Spring | DBH1428 | | | | |
| | 23 | Damper | DEC2236 | | | | |
| | 24 | Mecha Holder | DNH2339 | | | | |
| | 25 | Power Knob | DAC1895 | | | | |

(2) CONTRAST TABLE

CDJ-100S/KUC, RL and WY are constructed the same except for the following:

| Mark | No. | Symbol and Description | Part No. | | | Remarks |
|------|-----|---|----------|----------|----------|---------|
| | | | KUC type | RL type | WY type | |
| NSP | 1 | MOTHER BOARD Assy | DWM2078 | DWM2079 | DWM2079 | |
| | 2 | TRANS BOARD Assy | DWR1298 | DWR1301 | DWR1300 | |
| | 4 | DIGITAL OUT BOARD Assy | DWZ1082 | Not used | Not used | |
| | 5 | Strain Relief | CM-22C | CM-22B | CM-22B | |
| | 7 | Connector Assy | DKP3408 | Not used | Not used | |
| △ | 8 | Connector Assy (2P) | DKP3409 | Not used | Not used | |
| | 10 | Power Transformer (AC120V) | DTT1148 | Not used | Not used | |
| | 10 | Power Transformer (AC110-120V/220-240V) | Not used | DTT1149 | Not used | |
| △ | 10 | Power Transformer (AC220-240V) | Not used | Not used | DTT1150 | |
| △ | 11 | AC Power Cord | PDG1063 | PDG1003 | PDG1003 | |
| △ | 13 | Fuse (FU1) | VEK1009 | AEK1051 | AEK1051 | |
| | 19 | Bottom Plate | DNH2341 | DNH2338 | DNH2338 | |
| NSP | 20 | Chassis | DNK3562 | DNK3561 | DNK3553 | |
| | 30 | Nylon Rivet (3 × 4.5) | RBM-003 | Not used | Not used | |

2.3 EXTERIOR (2/2)



(1) EXTERIOR (2/2) PARTS LIST

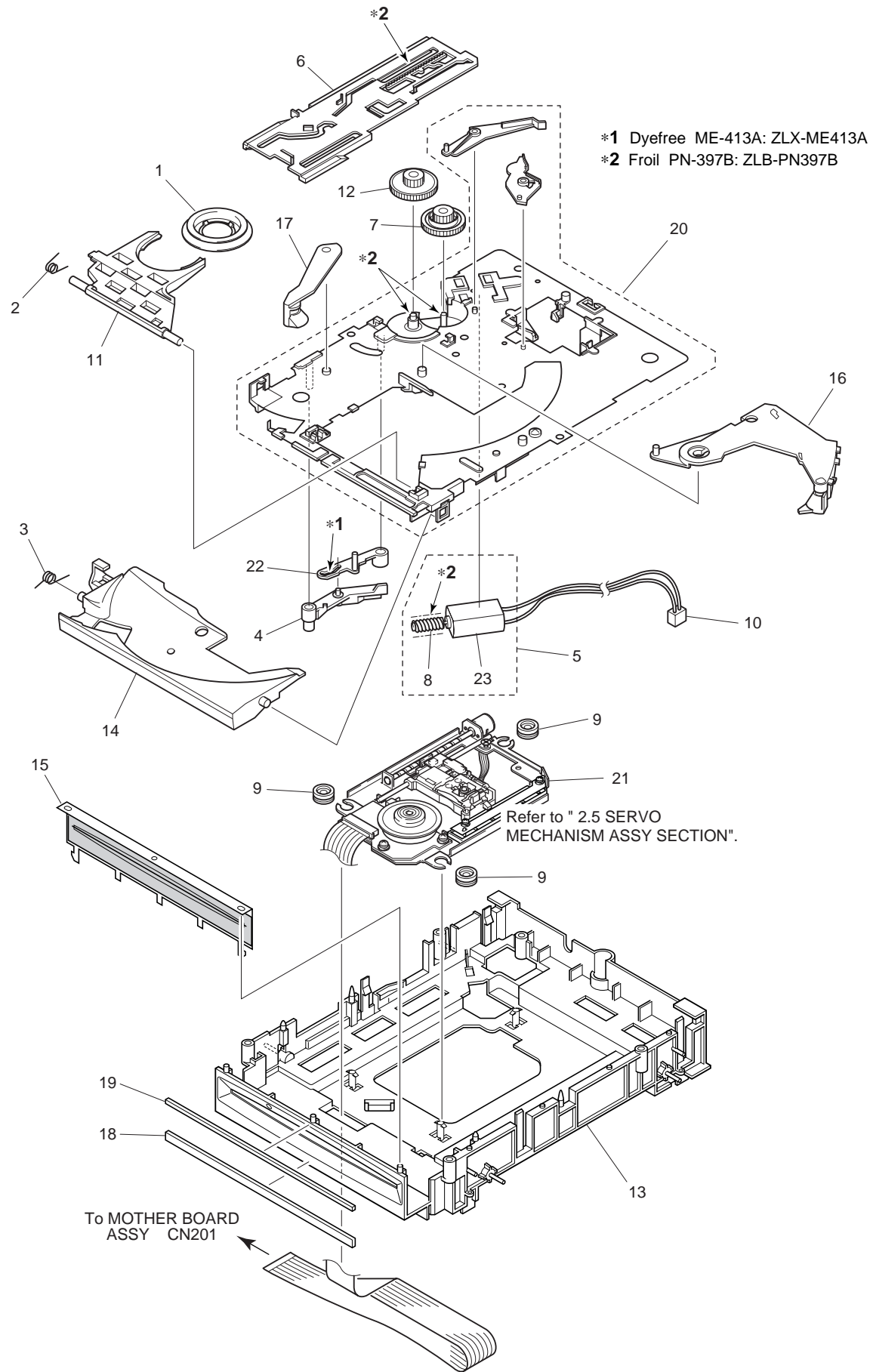
| Mark | No. | Description | Part No. |
|------|-----|----------------------|------------------------|
| | 1 | DISPLAY BOARD ASSY | DWG1503 |
| | 2 | 36P F.F.C/60V | DDD1131 |
| | 3 | Earth Lead Unit/300V | PDF1104 |
| | 4 | Cushion C | DEC2259 |
| | 5 | POM Ring | DNK3556 |
| | 6 | Knob B | DAC1891 |
| | 7 | Time Knob | DAC1892 |
| | 8 | MT Knob | DAC1893 |
| | 9 | Eject Knob | DAC1894 |
| | 10 | Slide Sheet | DAH1855 |
| | 11 | Display Plate | DAH1886 |
| | 12 | Ring Plate | DAH1887 |
| | 13 | Jog Washer | DBF1001 |
| | 14 | Slide Knob | DNK2936 |
| | 15 | Control Panel | DNK3552 |
| | 16 | Disc Indicator | DNK3555 |
| | 17 | Jog Dial | DNK3625 |
| | 18 | Knob A Assy | DXA1846 |
| NSP | 19 | Knob A | DAC1890 |
| | 20 | LED Lens | PNW2019 |
| | 21 | 65 Label | See Contrast table (2) |
| | 22 | Screw | BPZ30P080FZK |
| | 23 | Nut (M9) | DBN1004 |
| NSP | 24 | Binder | Z09-061 |
| | 25 | Earth Plate | VBK1070 |
| | 26 | Caution Label | See Contrast table (2) |
| NSP | 27 | Caution Label HE | See Contrast table (2) |

(2) CONTRAST TABLE

CDJ-100S/KUC, RL and WY are constructed the same except for the following:

| Mark | No. | Symbol and Description | Part No. | | | Remarks |
|------|-----|------------------------|----------|----------|----------|---------|
| | | | KUC type | RL type | WY type | |
| NSP | 21 | 65 Label | ORW1069 | Not used | Not used | |
| | 26 | Caution Label | Not used | Not used | VRW1094 | |
| | 27 | Caution Label HE | Not used | Not used | VRW1297 | |

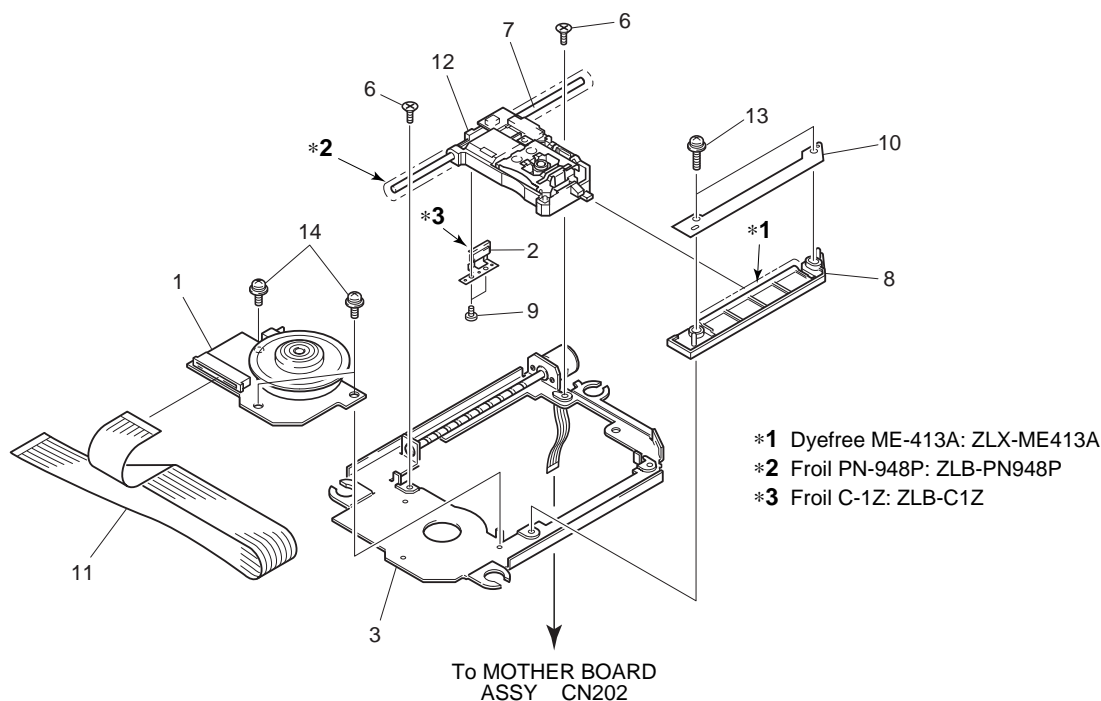
2.4 SLOT-IN MECHANISM ASSY



■ SLOT-IN MECHANISM ASSY PARTS LIST

| Mark | No. | Description | Part No. | Mark | No. | Description | Part No. |
|------|-----|----------------------|------------|------|-----|------------------------|----------|
| | 1 | Clamper Assy | DXA1821 | | 16 | Eject Lever | DNK3548 |
| | 2 | Clamp Spring | DBH1374 | | 17 | Loading Lever | DNK3406 |
| | 3 | Guide Spring | DBH1375 | | 18 | Cushion A | DEC2257 |
| | 4 | Lever B | DNK3558 | | 19 | Cushion B | DEC2258 |
| | 5 | Loading Motor Assy-S | DEA1008 | | 20 | Loading Base Assy-S | DXX2431 |
| | 6 | Main Cam | DNK3407 | | 21 | Servo Mechanism Assy-S | DXX2432 |
| | 7 | Loading Gear | DNK3409 | | 22 | Lever A | DNK3564 |
| NSP | 8 | Worm Gear | DNK3410 | NSP | 23 | Loading Motor | DXM1093 |
| | 9 | Mount Bush | DEB1328 | | | | |
| | 10 | Connector Assy | PF02PY-B27 | | | | |
| | 11 | Clamp Arm | DNK3404 | | | | |
| | 12 | Drive Gear | DNK3565 | | | | |
| | 13 | Float Base Assy | DXB1683 | | | | |
| | 14 | Disc Guide | DNK3478 | | | | |
| | 15 | Front Sheet | DED1132 | | | | |

2.5 SERVO MECHANISM ASSY



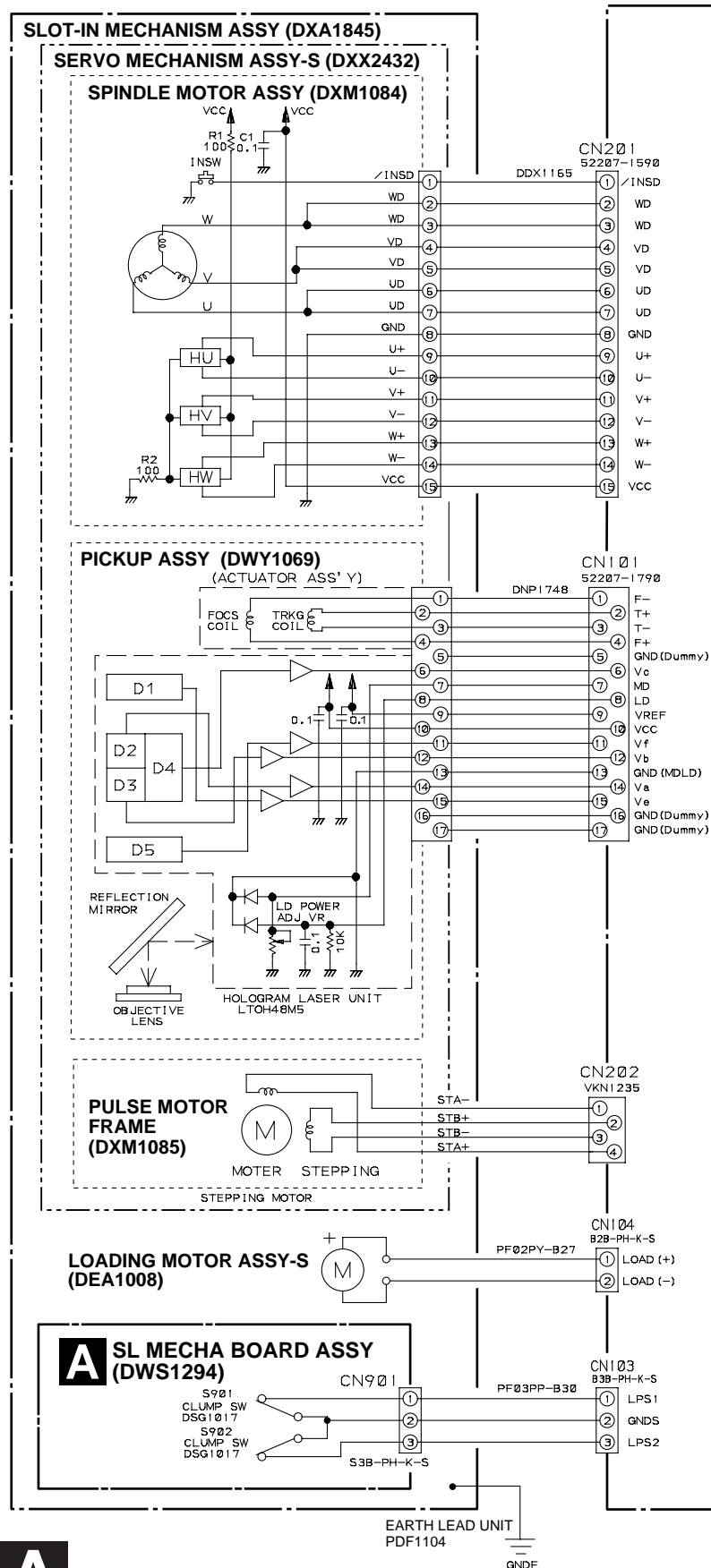
■ SERVO MECHANISM ASSY PARTS LIST

| Mark | No. | Description | Parts No. | Mark | No. | Description | Parts No. |
|------|-----|-------------------|--------------|------|-----|-----------------|--------------|
| | 1 | Spindle Motor | DXM1084 | | 8 | Sub Guide Shaft | DNK3638 |
| | 2 | Screw Guide | DNK3238 | | 9 | Screw | ABA7022 |
| | 3 | Pulse Motor Frame | DXM1085 | | 10 | Stopper | DNH2355 |
| | 4 | | | | | | |
| | 5 | | | | | | |
| | 6 | Screw | CMZ20P060FMC | NSP | 11 | SPD Card | DDX1165 |
| | 7 | Guide Shaft | DLA1731 | | 12 | Pickup Assy | DWY1069 |
| | | | | | 13 | Screw | PMA20P080FMC |
| | | | | | 14 | Screw | PMH20P040FCC |

3. SCHEMATIC DIAGRAM

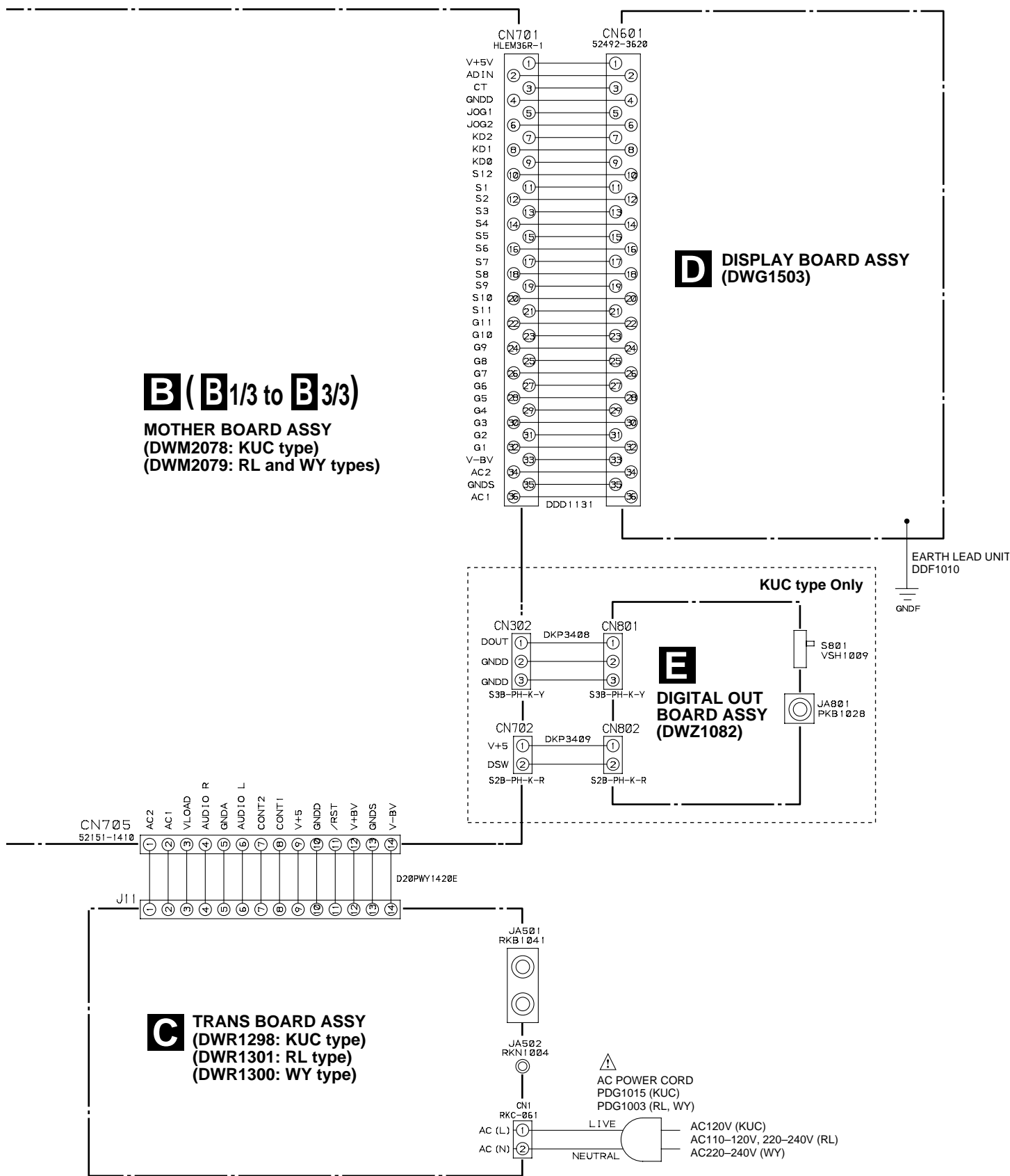
Note: When ordering service parts, be sure to refer to "EXPLODED VIEWS AND PARTS LIST" or "PCB PARTS LIST".

3.1 OVERALL CONNECTION DIAGRAM



B (B_{1/3} to B_{3/3})

MOTHER BOARD ASSY
(DWM2078: KUC type)
(DWM2079: RL and WY types)



3.2 MOTHER BOARD ASSY (1/3)

A

SIGNAL ROUTE

RF and Audio Signal Route

(F) : Focus Servo Loop

(T) : Tracking Servo Loop

(L) : LOADING Drive

Note

Chip

RESISTOR

No mark Carbon film resistor (Ω)

No mark 1/10W

COIL

No mark LAU (H)

LC LCTA

CAPACITOR

No mark electrolytic:CEAT (μF)

AL :CEAL (μF)

JA :CEJA (μF)

No mark ceramic :CKSQYF (μF)

YB :CKSQYB (μF)

TL :CFTLA (μF)

CH :CCSQCH (F)

B

A

C

D

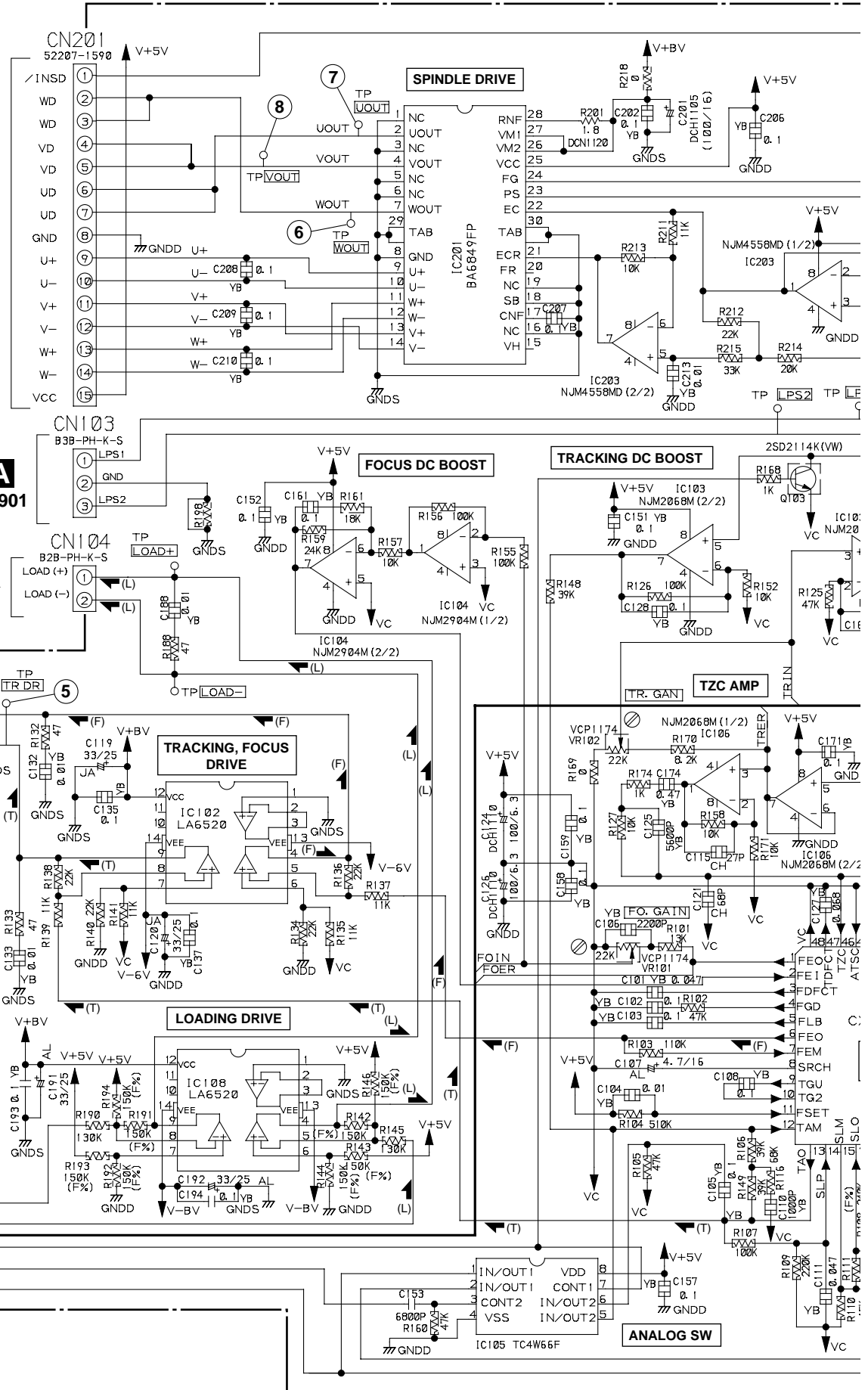
To PICKUP ASSY

To SPINDLE MOTOR ASSY

To LOADING MOTOR ASSY

B6P-SHF-1AA

B3/3

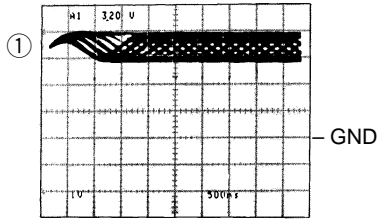
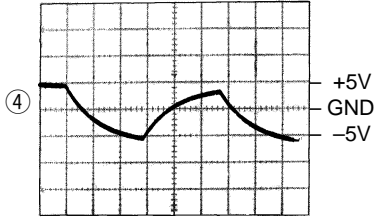
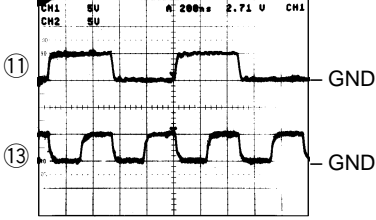
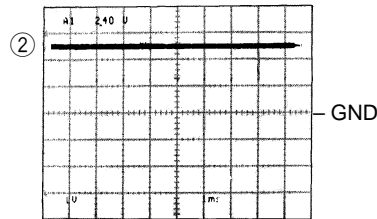
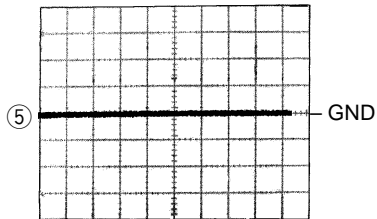
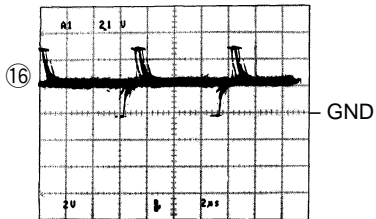
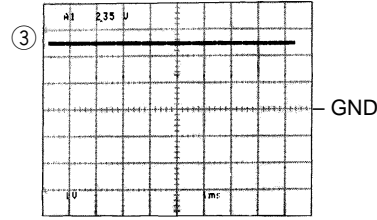
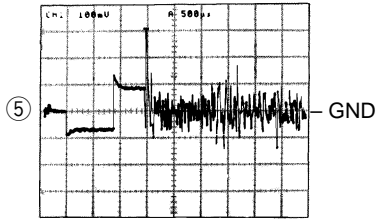
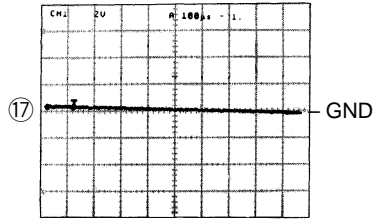
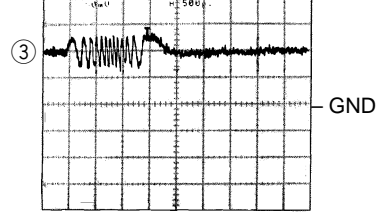
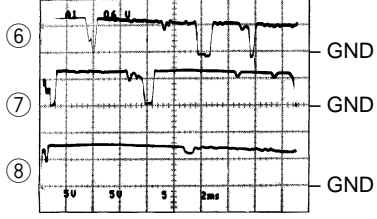
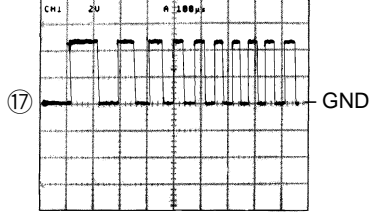
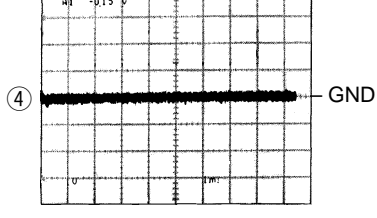
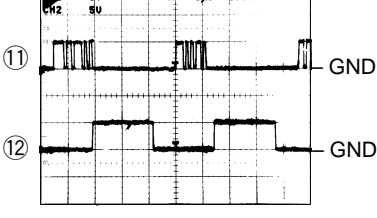
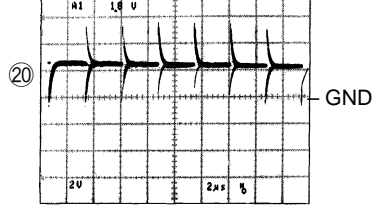




Waveforms of MOTHER BOARD ASSY (1/3)

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

*1 14T-JUMP : After switching to the pause mode, Press the manual search key.

| | | |
|--|--|--|
| <p>① TP1 – Pin 1 : PLAY MODE (RF) 1 V/div, 500 ns/div</p>  | <p>④ TP – FODR : TEST MODE (FOCUS IN) 5 V/div, 200 ms/div</p>  | <p>⑪ TP – DATA1 ⑬ TP – BCLK1 PLAY MODE 5 V/div, 200 ns/div</p>  |
| <p>② TP1 – Pin 6 : PLAY MODE (FOER) 1 V/div, 1 ms/div</p>  | <p>⑤ TP – TRDR : PLAY MODE 1 V/div, 1 ms/div</p>  | <p>⑯ TP – MDP : PLAY MODE 2 V/div, 2 μs/div</p>  |
| <p>③ TP1 – Pin 2 : PLAY MODE (TRER) 1 V/div, 1 ms/div</p>  | <p>⑤ TP – TRDR : 14T-JUMP (*1) MODE 1 V/div, 200 μs/div</p>  | <p>⑰ IC301-Pin80(MIRR) : PLAY MODE 2 V/div, 100 μs/div</p>  |
| <p>③ TP1 – Pin 2 : 14T-JUMP (*1) MODE (TRER) 1 V/div, 2 ms/div</p>  | <p>⑥ TP – WOUT ⑦ TP – UOUT ⑧ TP – VOUT PLAY MODE 5 V/div, 2 ms/div</p>  | <p>⑰ IC301-Pin80(MIRR) : 14T-JUMP (*1) MODE 2 V/div, 100 μs/div</p>  |
| <p>④ TP – FODR : PLAY MODE 1 V/div, 1 ms/div</p>  | <p>⑪ TP – DATA1 ⑫ TP – LRCK1 PLAY MODE 5 V/div, 5 μs/div</p>  | <p>⑳ IC301 – Pin20 (PCO) : PLAY MODE 2 V/div, 2 μs/div</p>  |

Voltages of MOTHER BOARD ASSY (1/3)

Set: DJ mode PLAY

IC101
(CXA1782CQ)

| No. | Voltage [V] | No. | Voltage [V] |
|-----|-------------|-----|-------------|
| 1 | +2.5 | 25 | +4.9 |
| 2 | | 26 | +0.6 |
| 3 | | 27 | +0.7 |
| 4 | | 28 | +1.6 |
| 5 | | 29 | +2.3 |
| 6 | +2.7 | 30 | +2.5 |
| 7 | +2.5 | 31 | +3.5 |
| 8 | +2.7 | 32 | +2.5 |
| 9 | +2.5 | 33 | +3.4 |
| 10 | | 34 | 0 |
| 11 | +0.8 | 35 | +2.5 |
| 12 | +2.5 | 36 | |
| 13 | | 37 | |
| 14 | | 38 | |
| 15 | | 39 | |
| 16 | | 40 | +2.2 |
| 17 | +1.2 | 41 | 0 |
| 18 | +4.9 | 42 | +2.5 |
| 19 | 0 to +5 | 43 | |
| 20 | | 44 | |
| 21 | | 45 | |
| 22 | +4.9 | 46 | |
| 23 | 0 to +5 | 47 | +2.4 |
| 24 | | 48 | +2.5 |

IC201
(BA6849FP)

| No. | Voltage [V] | No. | Voltage [V] |
|-----|-------------|-----|-------------|
| 1 | 0 | 16 | 0 |
| 2 | +6.0 | 17 | +0.5 |
| 3 | 0 | 18 | 0 |
| 4 | +6.0 | 19 | |
| 5 | 0 | 20 | |
| 6 | | 21 | +2.6 |
| 7 | +6.0 | 22 | +2.5 |
| 8 | 0 | 23 | +4.9 |
| 9 | +2.5 | 24 | +2.4 |
| 10 | | 25 | +4.9 |
| 11 | | 26 | +7.5 |
| 12 | | 27 | |
| 13 | | 28 | |
| 14 | | 29 | 0 |
| 15 | +0.5 | 30 | |

IC102
(LA6520)

| No. | Voltage [V] |
|-----|-------------|
| 1 | 0 |
| 2 | |
| 3 | |
| 4 | -0.3 |
| 5 | +1.6 |
| 6 | |
| 7 | |
| 8 | |
| 9 | -0.1 |
| 10 | 0 |
| 11 | |
| 12 | +8.0 |
| 13 | -8.7 |
| 14 | |

IC203
(NJM4558MD)

| No. | Voltage [V] |
|-----|-------------|
| 1 | +2.5 |
| 2 | |
| 3 | |
| 4 | 0 |
| 5 | +2.6 |
| 6 | |
| 7 | +2.7 |
| 8 | +4.9 |

IC103
(NJM2068M)

| No. | Voltage [V] |
|-----|-------------|
| 1 | +2.5 |
| 2 | |
| 3 | |
| 4 | 0 |
| 5 | +2.5 |
| 6 | |
| 7 | |
| 8 | +4.9 |

IC104
(NJM2904M)

| No. | Voltage [V] |
|-----|-------------|
| 1 | +2.5 |
| 2 | |
| 3 | |
| 4 | 0 |
| 5 | +2.5 |
| 6 | |
| 7 | |
| 8 | +4.9 |

IC301
(CXD2500BQ)

| No. | Voltage [V] | No. | Voltage [V] | No. | Voltage [V] | No. | Voltage [V] |
|-----|-------------|-----|-------------|-----|-------------|-----|-------------|
| 1 | +4.9 | 21 | 0 | 41 | +2.3 | 61 | 0 |
| 2 | 0 | 22 | +2.5 | 42 | +4.9 | 62 | +2.5 |
| 3 | +4.9 | 23 | +4.9 | 43 | +2.5 | 63 | 0 to +5 |
| 4 | +2.7 | 24 | +1 to +4 | 44 | 0 | 64 | 0 |
| 5 | 0 | 25 | +0.9 | 45 | +4.9 | 65 | |
| 6 | +4.9 | 26 | +2.5 | 46 | +4.4 | 66 | 0 to +5 |
| 7 | 0 | 27 | | 47 | 0 | 67 | |
| 8 | +4.9 | 28 | +4.9 | 48 | | 68 | 0 |
| 9 | 0 | 29 | 0 | 49 | | 69 | 0 to +5 |
| 10 | | 30 | | 50 | +1.2 | 70 | +4.9 |
| 11 | | 31 | +2.5 | 51 | | 71 | 0 to +5 |
| 12 | | 32 | 0 to 5 | 52 | 0 | 72 | |
| 13 | | 33 | +5 | 53 | +2.6 | 73 | +4.9 |
| 14 | 0 | 34 | 0 to 5 | 54 | +2.7 | 74 | 0 to +5 |
| 15 | | 35 | | 55 | 0 | 75 | |
| 16 | +2.6 | 36 | +2.5 | 56 | +2.8 | 76 | |
| 17 | +2.5 | 37 | +2.4 | 57 | +1.4 | 77 | |
| 18 | 0 | 38 | +2.5 | 58 | +2.1 | 78 | |
| 19 | +2.6 | 39 | 0 | 59 | 0 | 79 | |
| 20 | | 40 | +4.9 | 60 | | 80 | |

IC105
(TC4W66F)

| No. | Voltage [V] |
|-----|-------------|
| 1 | +2.6 |
| 2 | +2.5 |
| 3 | 0 |
| 4 | |
| 5 | +2.5 |
| 6 | |
| 7 | 0 |
| 8 | +4.9 |

IC106
(NJM2068M)

| No. | Voltage [V] |
|-----|-------------|
| 1 | +2.5 |
| 2 | |
| 3 | |
| 4 | 0 |
| 5 | +2.5 |
| 6 | |
| 7 | |
| 8 | +4.9 |

IC107
(TC4W53F)

| No. | Voltage [V] |
|-----|-------------|
| 1 | +2.5 |
| 2 | 0 |
| 3 | |
| 4 | |
| 5 | |
| 6 | |
| 7 | +2.5 |
| 8 | +4.9 |

IC302
(BA7042)

| No. | Voltage [V] |
|-----|-------------|
| 1 | +2.4 |
| 2 | +2.1 |
| 3 | |
| 4 | 0 |
| 5 | +3.5 |
| 6 | +4.9 |
| 7 | +2.4 |
| 8 | |

IC108
(LA6520)

| No. | Voltage [V] |
|-----|-------------|
| 1 | 0 |
| 2 | |
| 3 | |
| 4 | |
| 5 | +2.5 |
| 6 | |
| 7 | |
| 8 | |
| 9 | 0 |
| 10 | |
| 11 | |
| 12 | +8.0 |
| 13 | -8.7 |
| 14 | |

IC303
(TC7SU04F)

| No. | Voltage [V] |
|-----|-------------|
| 1 | 0 |
| 2 | +2.5 |
| 3 | 0 |
| 4 | +2.6 |
| 5 | +4.9 |

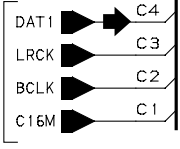
3.3 MOTHER BOARD ASSY (2/3)

B2/3 MOTHER BOARD ASSY (2/3) (DWM2078: KUC type) (DWM2079: RL and WY types)

SIGNAL ROUTE

➡ : RF and Audio Signal Route

B1/3

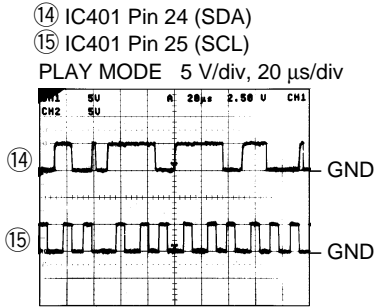


IC402 (MB814800-70PJ)

Set: DJ MODE PLAY

| Pin No. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
|-------------|------|---------|----|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|----|
| Voltage [V] | +4.9 | 0 to +5 | 0 | 0 | 0 to +5 | 0 | 0 to +5 | 0 | 0 to +5 | 0 | 0 to +5 | 0 | 0 to +5 | 0 |
| Pin No. | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 |
| Voltage [V] | 0 | 0 to +5 | 0 | 0 to +5 | 0 | 0 to +5 | 0 | 0 to +5 | 0 | 0 to +5 | 0 | 0 to +5 | 0 | 0 |

DRAM (512k × 8 bit)



IC401 MN19413A-P
DSP

Note □ □ □ : Chip

RESISTOR

- No mark : Carbon film resistor (Ω)
- No mark \sim : 1/4W
- \square : 1/10W
- VM : RD1/4VM (Ω)
- RN : RN1/10SE (Ω)
- COIL : LAU (H)

CAPACITOR

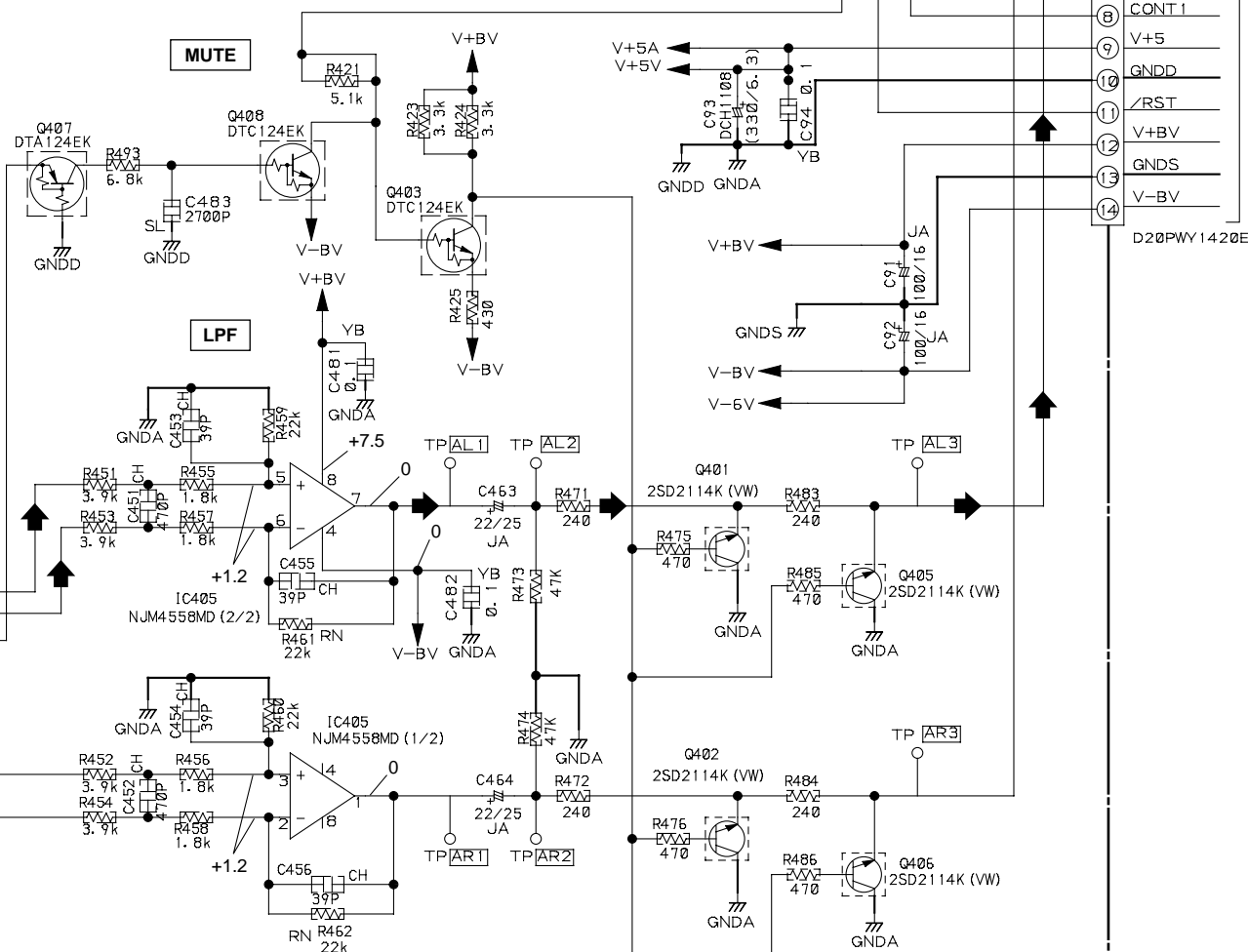
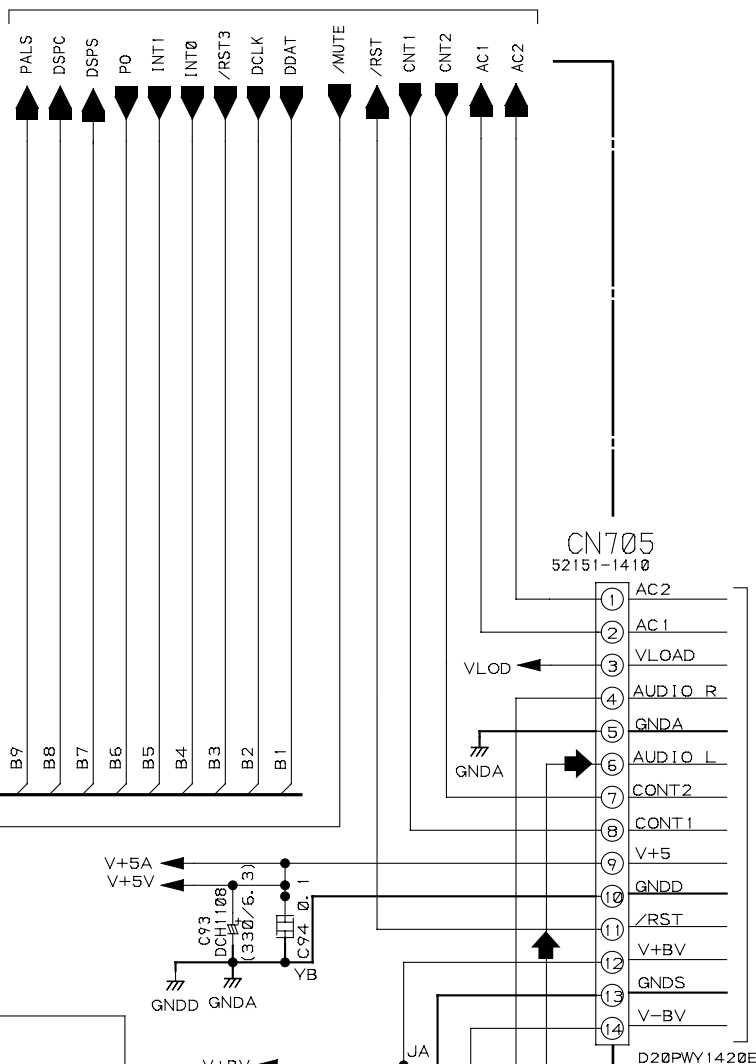
- No mark electrolytic : CEAL (μF)
- JA : CEJA (μF)
- No mark ceramic : CKSQYF (μF)
- YB : CKSQYB (μF)
- CH : CCSQCH (F)
- M : CQMA (μF)

B3/3

IC401 (MN19413A-P)

Set: DJ MODE PLAY

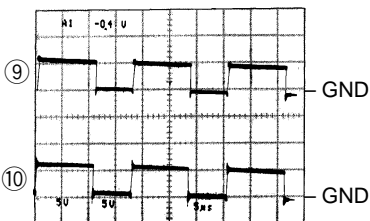
| Pin No. | Voltage [V] | Pin No. | Voltage [V] | Pin No. | Voltage [V] | Pin No. | Voltage [V] |
|---------|-------------|---------|-------------|---------|-------------|---------|-------------|
| 1 | +1.5 | 26 | 0 | 51 | +4.9 | 76 | 0 |
| 2 | | 27 | +4.9 | 52 | | 77 | |
| 3 | +4.9 | 28 | | 53 | | 78 | +4.9 |
| 4 | | 29 | | 54 | | 79 | 0 |
| 5 | 0 to +5 | 30 | | 55 | | 80 | |
| 6 | | 31 | 0 | 56 | 0 to +5 | 81 | +4.9 |
| 7 | 0 | 32 | | 57 | | 82 | |
| 8 | | 33 | | 58 | | 83 | 0 |
| 9 | +2.4 | 34 | | 59 | | 84 | |
| 10 | | 35 | | 60 | | 85 | +1.0 |
| 11 | 0 | 36 | | 61 | 0 | 86 | +2.4 |
| 12 | | 37 | 0 to +5 | 62 | +2.5 | 87 | 0 |
| 13 | | 38 | | 63 | +2.6 | 88 | +1.0 |
| 14 | | 39 | | 64 | +4.9 | 89 | +2.5 |
| 15 | 0 to +5 | 40 | 0 | 65 | +2.4 | 90 | 0 |
| 16 | | 41 | | 66 | +2.5 | 91 | +4.9 |
| 17 | | 42 | | 67 | 0 | 92 | |
| 18 | | 43 | | 68 | +4.9 | 93 | 0 |
| 19 | | 44 | | 69 | 0 | 94 | +2.3 |
| 20 | +4.9 | 45 | 0 to +5 | 70 | +4.9 | 95 | 0 |
| 21 | | 46 | | 71 | | 96 | +1.5 |
| 22 | 0 | 47 | | 72 | 0 | 97 | 0 |
| 23 | | 48 | | 73 | +1.4 | 98 | +4.9 |
| 24 | 0 to +5 | 49 | | 74 | +4.9 | 99 | |
| 25 | 0 | 50 | 0 | 75 | 0 | 100 | +1.5 |



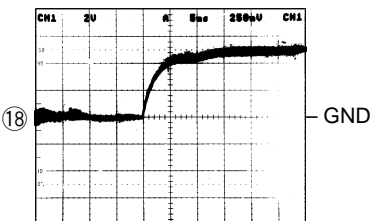
3.4 MOTHER BOARD ASSY (3/3)

Waveforms

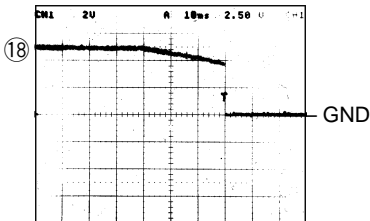
- ⑨ TP – STA + PLAY MODE
⑩ TP – STA – 5 V/div, 5 μ s/div



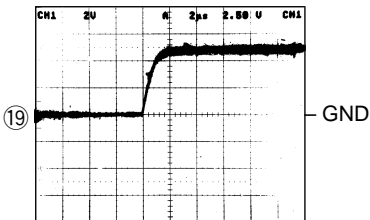
- ⑮ TP – RST : POWER ON
2 V/div, 5 ms/div



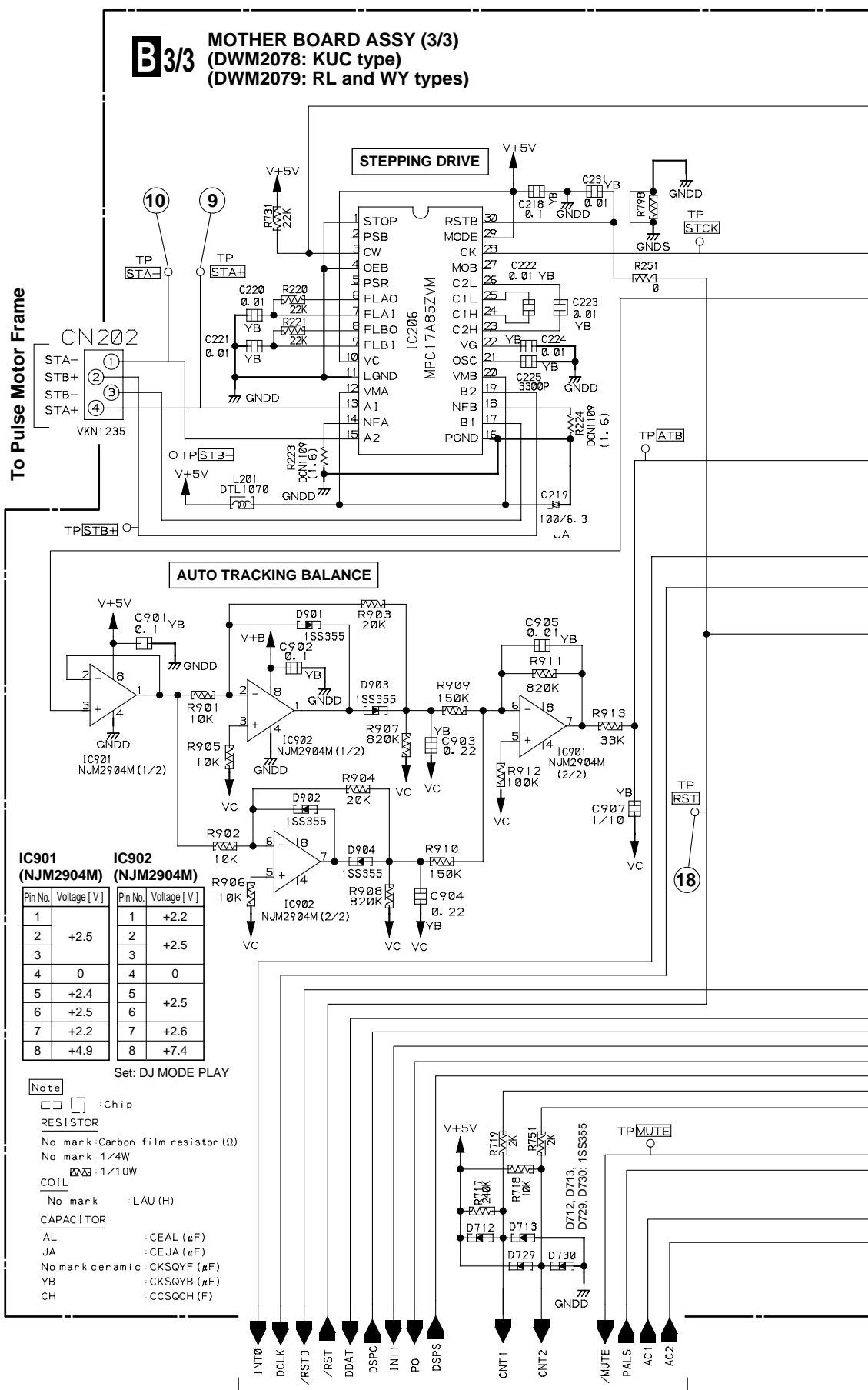
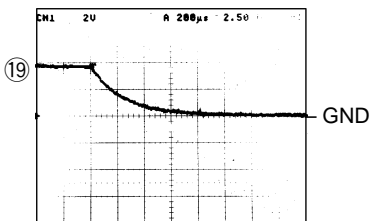
- ⑮ TP – RST : POWER OFF
2 V/div, 10 ms/div



- ⑲ TP – RST3 : POWER ON
2 V/div, 1 μ s/div



- ①9 TP – RST3 : POWER OFF
2 V/div, 200 ms/div



Note

Chip

RESISTOR

No mark: Carbon film resistor (Ω)

No mark : 1/4W

COL: 1/10W

COTE

No mark : LAU (H)

CAPACITOR

A1

| | |
|----|--------------------|
| AL | : CEAL (μ F) |
| IA | : CE IA (μ F) |

No mark ceramic : CKSQYF (μF)

YB : CKSQYB (μF)

CH : CCSQCH (F)

2.

2

Set: DJ MODE PLAY

B_{2/3}

IC206
(MPC17A85ZVM)

Set: DJ MODE PLAY

| Pin No. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|-------------|------|------|---------|------|------|-------|-------|------|
| Voltage [V] | 0 | +4.6 | +4.9 | 0 | +1.5 | +0.2 | +0.4 | +0.5 |
| Pin No. | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| Voltage [V] | +0.4 | +4.9 | 0 | +4.8 | +1.5 | +0.1 | +0.5 | 0 |
| Pin No. | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
| Voltage [V] | +3.2 | +0.2 | +0.5 | +4.8 | +1.4 | +19.3 | +11.9 | +7.2 |
| Pin No. | 25 | 26 | 27 | 28 | 29 | 30 | | |
| Voltage [V] | +2.5 | +4.9 | 0 to +5 | +4.9 | | | | |

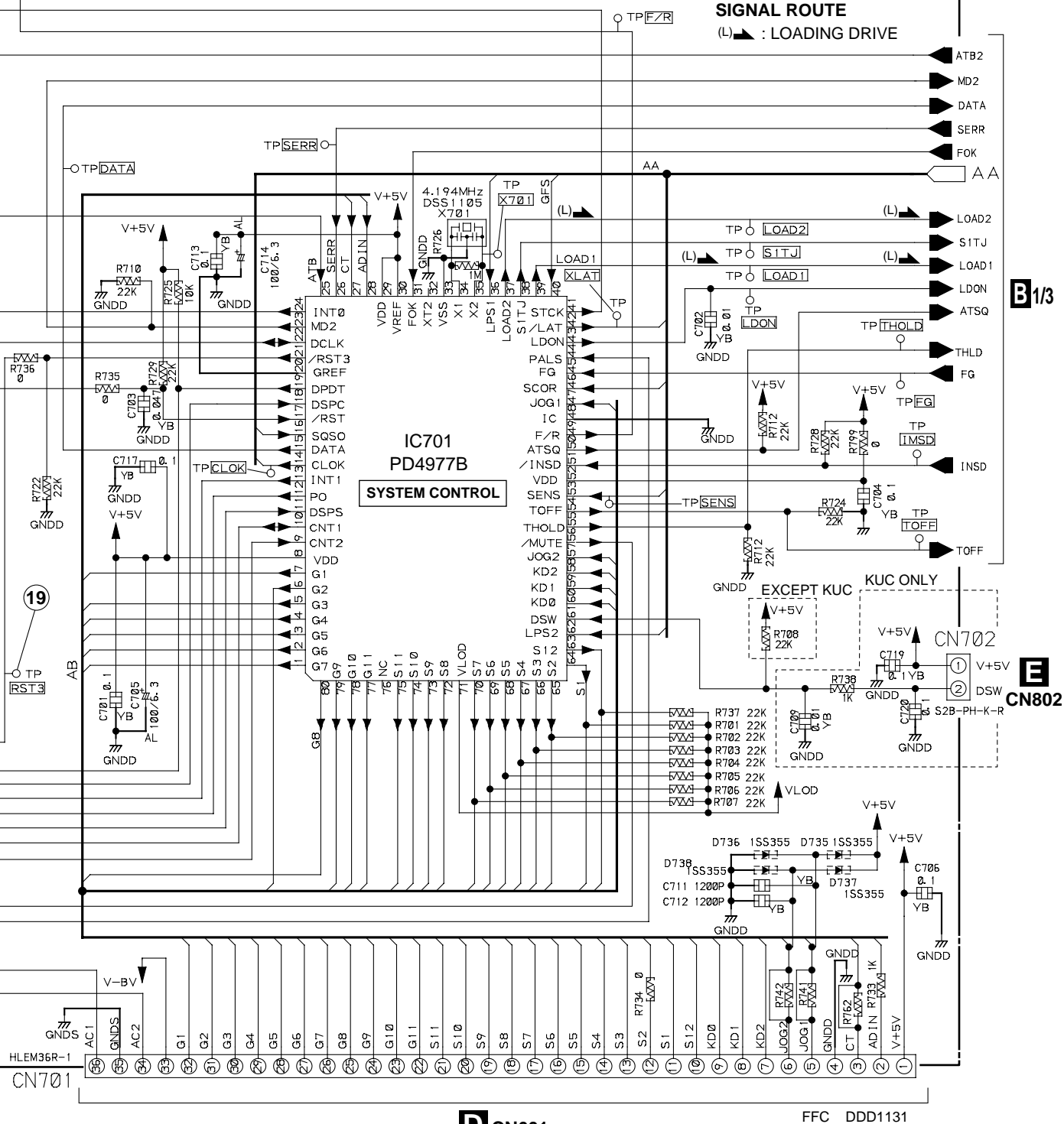
IC701 (PD4977B)

Set: DJ MODE PLAY

| Pin No. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
|-------------|------|---------|------|------|------|----|------|----|------|---------|----|----|------|---------|----|------|---------|------|------|----|
| Voltage [V] | | | | | | | | | +4.9 | +4.8 | | 0 | | 0 to +5 | | +4.9 | 0 to +5 | | 0 | |
| Pin No. | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 |
| Voltage [V] | +4.9 | 0 to +5 | 0 | +2.3 | +2.6 | | +2.5 | | +4.9 | | 0 | | +2.4 | +2.2 | 0 | +2.5 | 0 | +2.5 | +4.9 | |
| Pin No. | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 |
| Voltage [V] | +4.9 | 0 | +3.0 | | 0 | | +4.9 | 0 | +4.9 | 0 to +5 | 0 | | +4.9 | 0 | | | | | | |
| Pin No. | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 |
| Voltage [V] | +4.9 | 0 | | | | | | | | | | | | | | | | | | |

SIGNAL ROUTE

(L) : LOADING DRIVE



D CN601

FFC DDD1131

3.5 TRANS BOARD ASSY

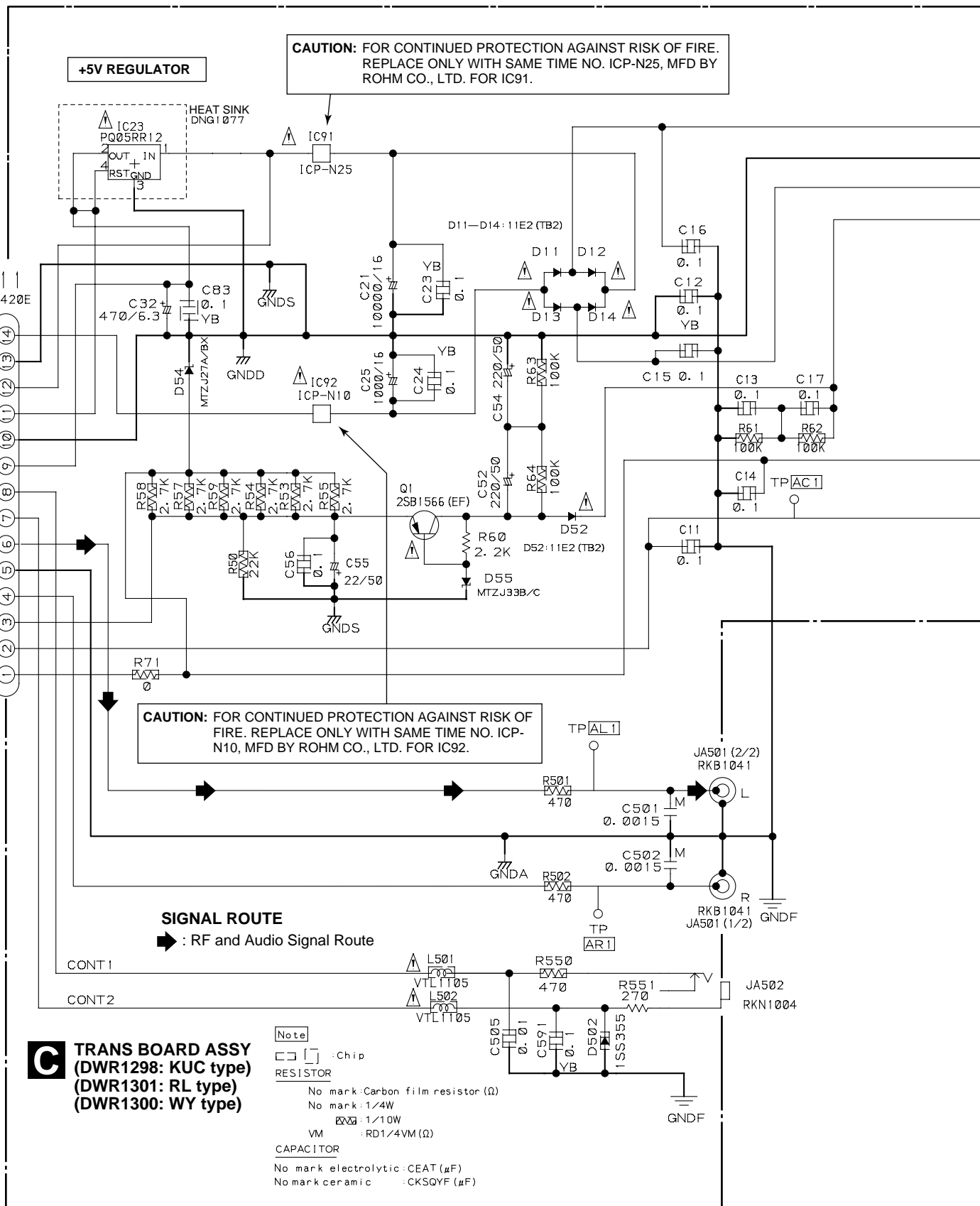
A

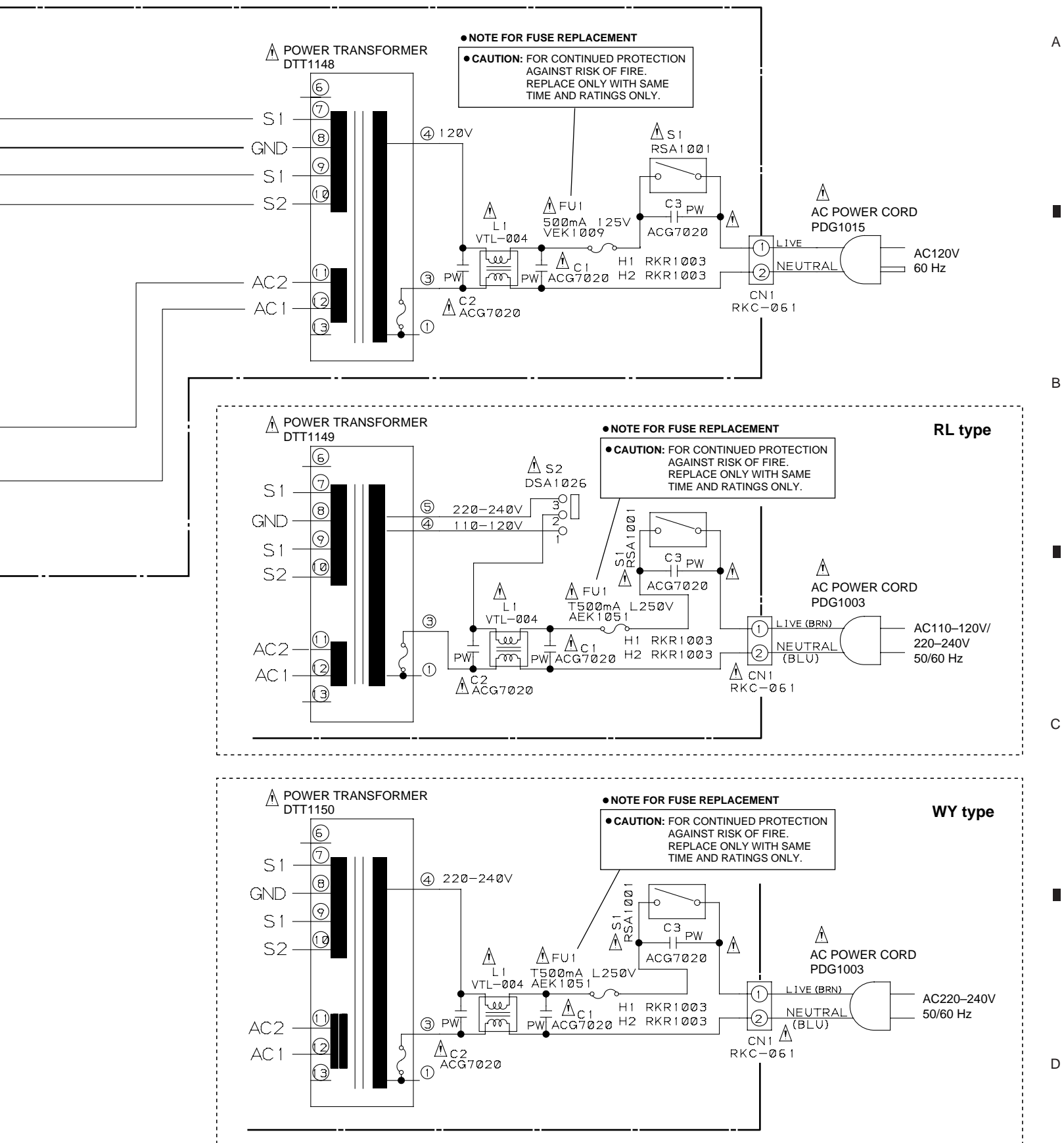
B

C

D

B2/3
CN705





3.6 DISPLAY BOARD and DIGITAL OUT BOARD ASSEMBLIES

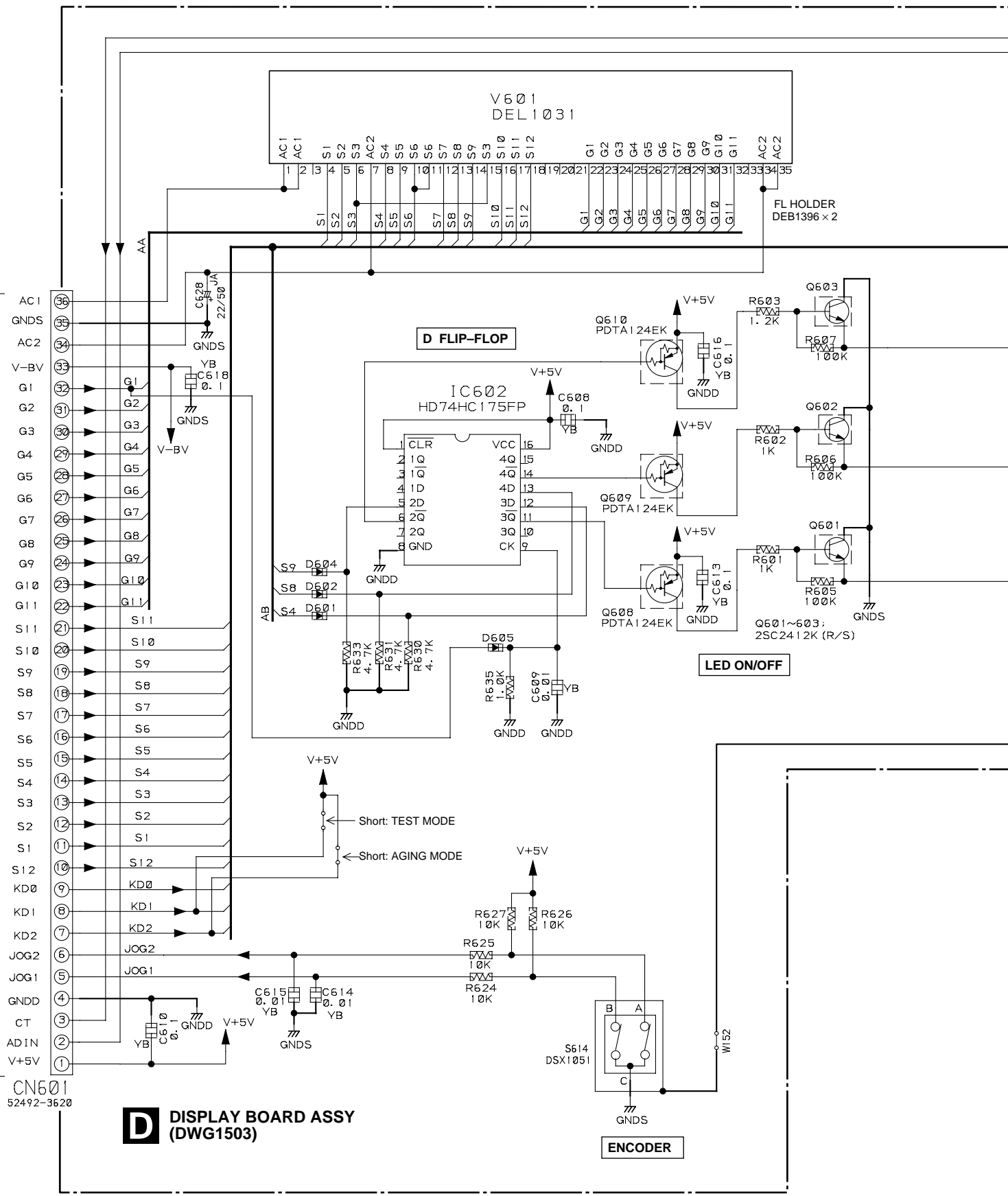
A

B

C

D

B3/3
CN701





4. PCB CONNECTION DIAGRAM

4.1 SL MECHA BOARD, MOTHER BOARD, TRANS BOARD and DIGITAL OUT BOARD ASSEMBLIES

SIDE A

MOTHER BOARD ASSY

SLOT-IN MECHANISM ASSY

Stepping Motor

Pickup Assy

Loading Motor Assy

SL MECHA BOARD ASSY

(DNP1873-C)

Spindle Motor Assy

VR101-VR104

VC301

IC206
IC203
Q103

IC303
IC302
IC301
IC106
IC107

IC103
IC104
IC105
IC201
IC110

IC101
Q101
Q102
IC902
IC901

IC405

IC109
Q403
Q404
Q401
Q402
IC401

IC402
IC701
IC108

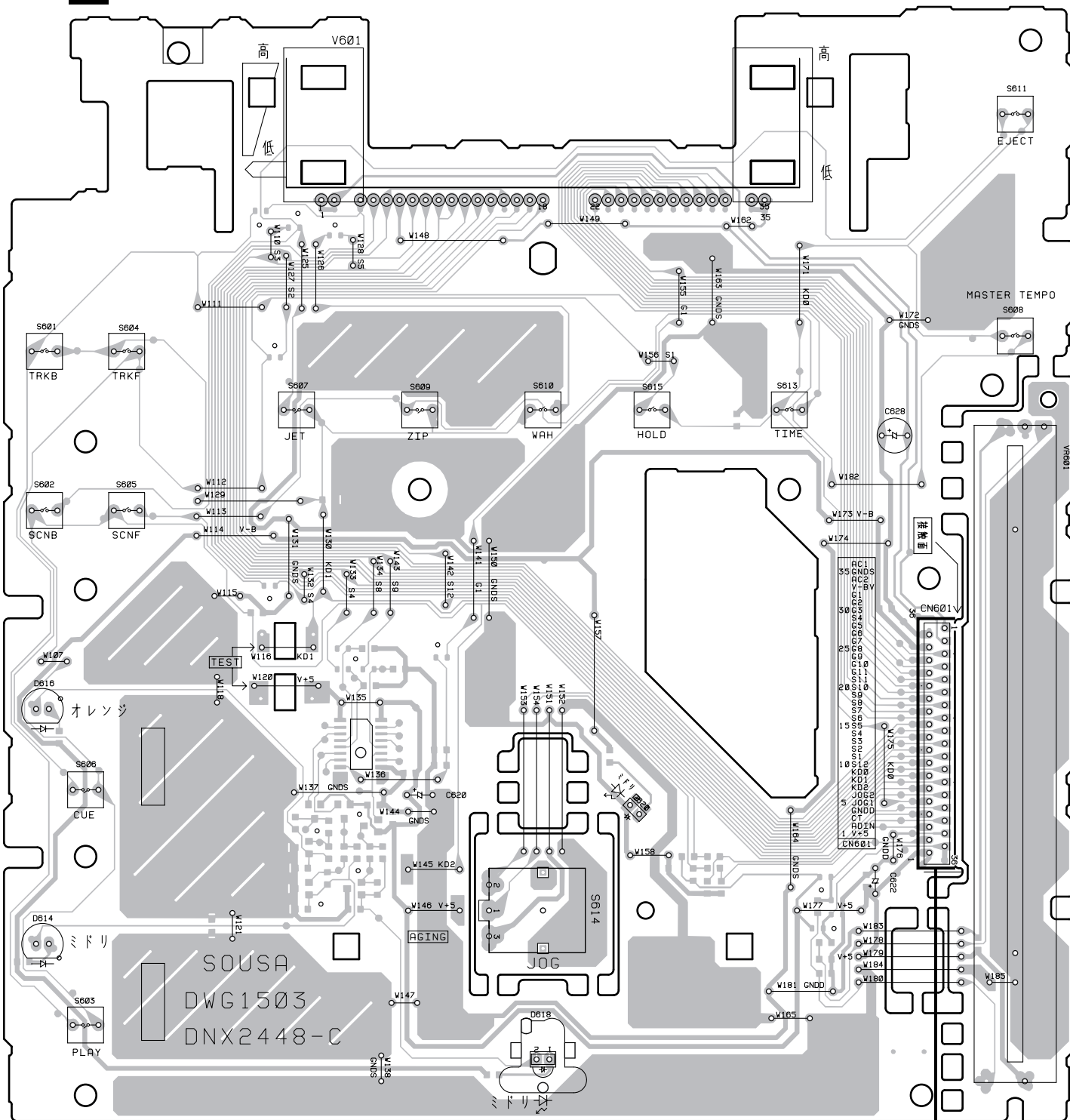
A

F



4.2 DISPLAY BOARD ASSEMBLY

SIDE A

D DISPLAY BOARD ASSY

(DNP1873-C)

B CN701

VR601

5. PCB PARTS LIST

- NOTES :
- Parts marked by “NSP” are generally unavailable because they are not in our Master Spare Parts List.
 - The \triangle 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.
 - 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 $\Omega \rightarrow 56 \times 10^1 \rightarrow 561$ RD1/4PU $\begin{matrix} 5 & 6 & 1 \\ \hline \end{matrix} J$
- 47k $\Omega \rightarrow 47 \times 10^3 \rightarrow 473$ RD1/4PU $\begin{matrix} 4 & 7 & 3 \\ \hline \end{matrix} J$
- 0.5 $\Omega \rightarrow R50$ RN2H $\begin{matrix} R & 5 & 0 \\ \hline \end{matrix} K$
- 1 $\Omega \rightarrow 1R0$ RS1P $\begin{matrix} 1 & R & 0 \\ \hline \end{matrix} K$
- Ex. 2 When there are 3 effective digits (such as in high precision metal film resistors).
- 5.62k $\Omega \rightarrow 562 \times 10^1 \rightarrow 5621$ RN1/4PC $\begin{matrix} 5 & 6 & 2 & 1 \\ \hline \end{matrix} F$

■ LIST OF WHOLE PCB ASSEMBLIES

| Mark | Symbol and Description | Part No. | | | Remarks |
|------|--------------------------|----------|----------|----------|---------|
| | | KUC type | RL type | WY type | |
| NSP | MOTHER BOARD ASSY | DWM2078 | DWM2079 | DWM2079 | |
| | SUB BOARD ASSY | DWX1892 | DWX1891 | DWX1898 | |
| | — DISPLAY BOARD ASSY | DWG1503 | DWG1503 | DWG1503 | |
| | — TRANS BOARD ASSY | DWR1298 | DWR1301 | DWR1300 | |
| NSP | — SL MECHA BOARD ASSY | DWS1294 | DWS1294 | DWS1294 | |
| NSP | — DIGITAL OUT BOARD ASSY | DWZ1082 | Not used | Not used | |

■ CONTRAST OF PCB ASSEMBLIES

B MOTHER BOARD ASSY

DWM2078 and DWM2079 are constructed the same except for the following:

| Mark | Symbol and Description | Part No. | | Remarks |
|------|------------------------|--------------|-------------|---------|
| | | DWM2078 | DWM2079 | |
| | C709 | CKSQYB103K50 | Not used | |
| | C719, C720 | CKSQYB104K25 | Not used | |
| | R319 | RS1/10S561J | Not used | |
| | R708 | Not used | RS1/10S223J | |
| | R738 | RS1/10S102J | Not used | |
| | CN302 | S3B-PH-K-Y | Not used | |
| | CN702 | S2B-PH-K-Y | Not used | |

C TRANS BOARD ASSY

DWR1298, DWR1301 and DWR1300 are constructed the same except for the following:

| Mark | Symbol and Description | Part No. | | | Remarks |
|------|------------------------|----------|---------|----------|---------|
| | | DWR1298 | DWR1301 | DWR1300 | |
| | S2 Voltage Selector | Not used | DSA1026 | Not used | |

■ PARTS LIST FOR CDJ-100S/KUC

| Mark | No. | Description | Part No. |
|----------------------------|------------------------------|-------------|---------------|
| B MOTHER BOARD ASSY | | | |
| SEMICONDUCTORS | | | |
| | IC201 | | BA6849FP |
| | IC302 | | BA7042 |
| | IC101 | | CXA1782CQ |
| | IC301 | | CXD2500BQ |
| | IC102, IC108 | | LA6520 |
| | IC402 | | MB814800-70PJ |
| | IC401 | | MN19413A-P |
| | IC206 | | MPC17A85ZVM |
| | IC103, IC106 | | NJM2068M |
| | IC104, IC901, IC902 | | NJM2904M |
| | IC203, IC405 | | NJM4558MD |
| | IC701 | | PD4977B |
| | IC107 | | TC4W53F |
| | IC105 | | TC4W66F |
| | IC110 | | TC7S00F |
| | IC303 | | TC7SU04F |
| | Q102 | | 2SA1163 |
| | Q101 | | 2SA1515 |
| | Q103, Q401, Q402, Q405, Q406 | | 2SD2114K |
| | Q403 | | DTC124EK |
| | D712, D713, D729, D730 | | 1SS355 |
| | D735-D738, D901-D904 | | 1SS355 |
| COILS AND FILTERS | | | |
| | L201 (39 μ H) | | DTL1070 |
| | L401 | | LFA220J |
| △ | L309, L310 | | VTL1105 |
| CAPACITORS | | | |
| | C304, C305, C445, C446 | | CCSQCH150J50 |
| | C309 | | CCSQCH221J50 |
| | C148 | | CCSQCH240J50 |
| | C115 | | CCSQCH270J50 |
| | C453-C456 | | CCSQCH390J50 |
| | C451, C452 | | CCSQCH471J50 |
| | C121 | | CCSQCH680J50 |
| | C705, C714 | | CEAL101M6R3 |
| | C191, C192 | | CEAL330M25 |
| | C315, C415 | | CEAL470M6R3 |
| | C107 | | CEAL4R7M16 |
| | C91, C92 | | CEJA101M16 |
| | C219, C318, C401 | | CEJA101M6R3 |
| | C404 | | CEJA1R0M50 |
| | C405, C407, C463, C464 | | CEJA220M25 |
| | C119, C120 | | CEJA330M25 |
| | C316 | | CEJA3R3M50 |
| | C317 | | CFTLA474J50 |
| | C110, C116, C320 | | CKSQYB102K50 |
| | C104, C112, C118, C132, C133 | | CKSQYB103K50 |
| | C141, C188, C213, C220-C224 | | CKSQYB103K50 |
| | C231, C301, C307, C403, C421 | | CKSQYB103K50 |
| | C702, C709, C905 | | CKSQYB103K50 |
| | C102, C103, C105, C108, C113 | | CKSQYB104K25 |
| | C128, C135, C137, C151, C152 | | CKSQYB104K25 |

| Mark | No. | Description | Part No. |
|------------------|----------------------------------|-------------|---------------|
| | C157-C159, C161, C162 | | CKSQYB104K25 |
| | C171, C172, C181, C189 | | CKSQYB104K25 |
| | C193-C195, C202, C206-C210 | | CKSQYB104K25 |
| | C212, C218, C314, C319 | | CKSQYB104K25 |
| | C351-C354, C402, C406 | | CKSQYB104K25 |
| | C408-C412, C416, C433, C434 | | CKSQYB104K25 |
| | C481, C482, C701, C704, C706 | | CKSQYB104K25 |
| | C713, C717, C719, C720 | | CKSQYB104K25 |
| | C901, C902, C94 | | CKSQYB104K25 |
| | C907 | | CKSQYB105K10 |
| | C711, C712 | | CKSQYB122K50 |
| | C313 | | CKSQYB152K50 |
| | C106, C173, C311 | | CKSQYB222K50 |
| | C163, C903, C904 | | CKSQYB224K16 |
| | C225 | | CKSQYB332K50 |
| | C122 | | CKSQYB333K50 |
| | C111 | | CKSQYB473K25 |
| | C101, C312, C703 | | CKSQYB473K50 |
| | C129, C174, C308 | | CKSQYB474K16 |
| | C125 | | CKSQYB562K50 |
| | C117, C153 | | CKSQYB682K50 |
| | C127 | | CKSQYB683K25 |
| | C201 (100 μ F/16V) | | DCH1105 |
| | C93 (330 μ F/ 16V) | | DCH1108 |
| | C306 (470 μ F/ 10V) | | DCH1109 |
| | C109, C124, C126, C130 | | DCH1110 |
| | (100 μ F/6.3V) | | |
| | C114 (47 μ F/6.3V) | | DCH1111 |
| | VC301 (40 pF) | | VCM1010 |
| RESISTORS | | | |
| | R403, R404 (82 Ω) | | ACN7049 |
| | R223, R224 (1.6 Ω , 1/4W) | | DCN1109 |
| | R201 (1.8 Ω , 1/4W) | | DCN1120 |
| | R461, R462 | | RN1/10SE2202D |
| | R206, R207 | | RS1/10S1002F |
| | R142-R144, R146, R191-R194 | | RS1/10S1503F |
| | R108 | | RS1/10S2403F |
| | VR101-VR104 (22 k Ω) | | VCP1174 |
| | Other Resistors | | RS1/10S□□□□J |

OTHERS

| | | |
|-------|---------------------|-------------|
| CN201 | CONNECTOR (15P) | 52207-1590 |
| CN101 | CONNECTOR (17P) | 52207-1790 |
| CN104 | CONNECTOR POST (2P) | B2B-PH-K-S |
| CN103 | CONNECTOR POST (3P) | B3B-PH-K-S |
| CN102 | TOP POST (6P) | B6P-SHF-1AA |
| | P.C. BOARD | DNP1872 |
| X401 | (20 MHz) | DSS1104 |
| X701 | (4.19 MHz) | DSS1105 |
| CN701 | FFC CONNECTOR 36P | HLEM36R-1 |
| X301 | (16.9344 MHz) | PSS1008 |
| CN202 | FFC CONNECTOR 4P | VKN1235 |

| Mark | No. | Description | Part No. |
|------|-----|-------------|----------|
|------|-----|-------------|----------|

D DISPLAY BOARD ASSY

SEMICONDUCTORS

| | |
|-----------------------|-------------|
| IC602 | HD74HC175FP |
| Q601–Q603 | 2SC2412K |
| Q608–Q610 | PDTA124EK |
| D601, D602, D604–D608 | 1SS355 |
| D610–D613, D625, D691 | 1SS355 |
| D620 | GL3EG43 |
| D618 | MPG4361F |
| D614 | SLP3118C51H |
| D616 | SLP4118C51H |

SWITCHES AND RELAYS

| | |
|------------------------|---------|
| S603, S606 | DSG1063 |
| S614 | DSX1051 |
| S601, S602, S604, S605 | VSG1008 |
| S607–S611, S613, S615 | VSG1008 |

CAPACITORS

| | |
|------------------------------|--------------|
| C628 | CEJA220M50 |
| C602–C604, C609, C614, C615 | CKSQYB103K50 |
| C608, C610, C613, C616, C618 | CKSQYB104K25 |

RESISTORS

| | |
|--------------------------|--------------|
| VR601 (10 k Ω –B) | DCV1009 |
| Other Resistors | RS1/10S □□□J |

OTHERS

| | | |
|-------|-------------------|------------|
| CN601 | FFC CONNECTOR 36P | 52492-3620 |
| | FL HOLDER | DEB1396 |
| V601 | FL INDICATOR TUBE | DEL1031 |

C TRANS BOARD ASSY

SEMICONDUCTORS

| | |
|--------------------------|------------|
| \triangle IC92 | ICP-N10 |
| \triangle IC91 | ICP-N25 |
| \triangle IC23 | PQ05RR12 |
| \triangle Q1 | 2SB1566 |
| \triangle D11–D14, D52 | 11E2 (TB2) |
| D502 | 1SS355 |
| D54 | MTZJ27A |
| D55 | MTZJ33B |

COILS AND FILTERS

| | |
|------------------------|---------|
| \triangle L1 | VTL-004 |
| \triangle L501, L502 | VTL1105 |

SWITCHES AND RELAYS

| | |
|----------------|---------|
| \triangle S1 | RSA1001 |
|----------------|---------|

CAPACITORS

| | |
|-------------------------------------|------------|
| \triangle C1–C3 (10000 pF/AC250V) | ACG7020 |
| C25 | CEAT102M16 |
| C21 | CEAT103M16 |
| C55 | CEAT220M50 |
| C52, C54 | CEAT221M50 |

| Mark | No. | Description | Part No. |
|------|-----|-------------|----------|
|------|-----|-------------|----------|

| | |
|--------------------------|--------------|
| C32 | CEAT471M6R3 |
| C12, C23, C24, C591, C83 | CKSQYB104K25 |
| C505 | CKSQYF103Z50 |
| C11, C13–C17, C56 | CKSQYF104Z50 |
| C501, C502 | CQMA152J50 |

RESISTORS

| | |
|-----------------|--------------|
| R60 | RD1/4VM222J |
| R551 | RD1/4VM271J |
| Other Resistors | RS1/10S □□□J |

OTHERS

| | | |
|-------------|-------------------|-------------|
| J11 | 14P PARALLEL WIRE | D20PWY1420E |
| | HEAT SINK | DNG1077 |
| JA501 | PIN JACK 2P | RKB1041 |
| \triangle | TERMINAL 2P | RKC-061 |
| JA502 | JACK (REMOTE) | RKN1004 |
| H1, H2 | FUSE HOLDER | RKR1003 |
| | PCB BINDER | VEF1040 |

A SL MECHA BOARD ASSY

SWITCHES AND RELAYS

| | |
|------------|---------|
| S901, S902 | DSG1017 |
|------------|---------|

OTHERS

| | | |
|-------|-----------------|------------|
| CN901 | KR CONNECTOR 3P | S3B-PH-K-S |
|-------|-----------------|------------|

E DIGITAL OUT BOARD ASSY

SEMICONDUCTORS

| | |
|-------|-------------|
| IC801 | TC74HCU04AF |
|-------|-------------|

COILS AND FILTERS

| | |
|------|---------|
| L801 | PTL1003 |
|------|---------|

SWITCHES AND RELAYS

| | |
|------|---------|
| S801 | VSH1009 |
|------|---------|

CAPACITORS

| | |
|------------------|--------------|
| C806 | CEJA101M6R3 |
| C805 | CEJA470M35 |
| C804, C807 | CKSQYB103K50 |
| C801, C808, C809 | CKSQYB104K25 |

RESISTORS

| | |
|---------------|--------------|
| All Resistors | RS1/10S □□□J |
|---------------|--------------|




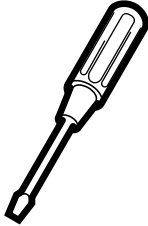


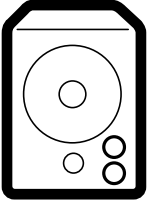
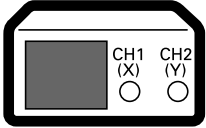
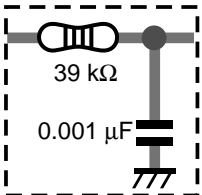
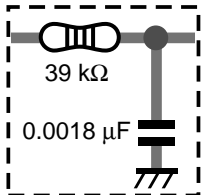
OTHERS

| | | |
|-------|-------------|---------|
| JA801 | PIN JACK 1P | PKB1028 |
|-------|-------------|---------|

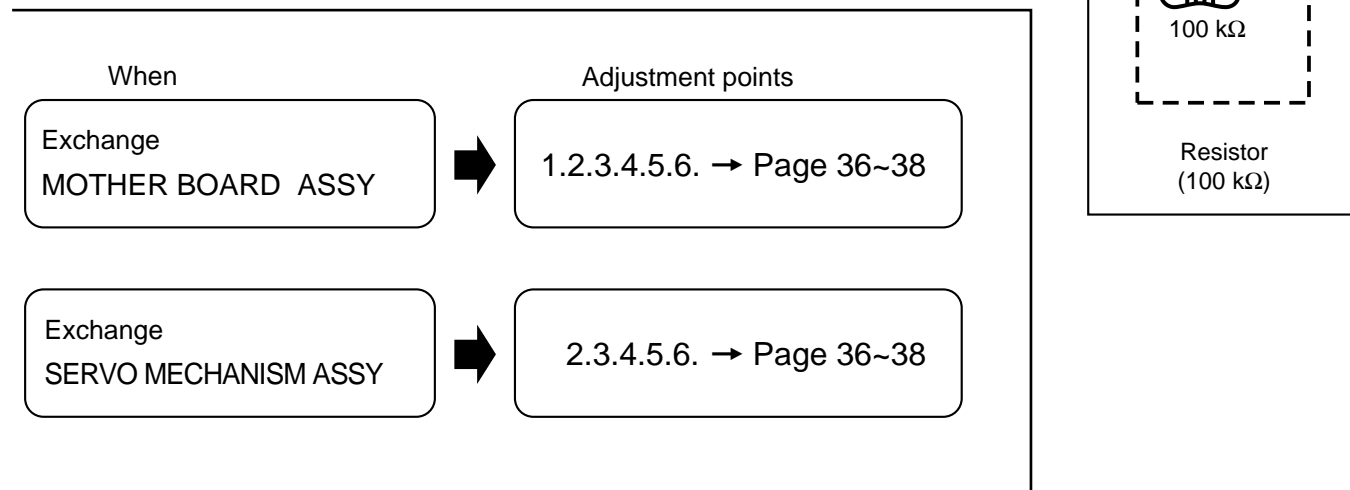
6. ADJUSTMENT

6.1 PREPARATIONS

6.1.1 Jigs and Measuring Instruments

| | | | | |
|---|---|---|---|--|
|  <p>8-cm DISC (With at least about 20 minutes recording)</p> |  <p>CD TEST DISC</p> |  <p>⊖ Precise screwdriver</p> |  <p>⊖ screwdriver (small)</p> |  <p>⊕ screwdriver (medium)</p> |
|  <p>⊕ screwdriver (large)</p> |  <p>Low-frequency oscillator</p> |  <p>Dual-trace oscilloscope (10 : 1 probe)</p> |  <p>Low pass filter ① (39 kΩ + 0.001 μF)</p> |  <p>Low pass filter ② (39 kΩ + 0.0018 μF)</p> |

6.1.2 Necessary Adjustment Points



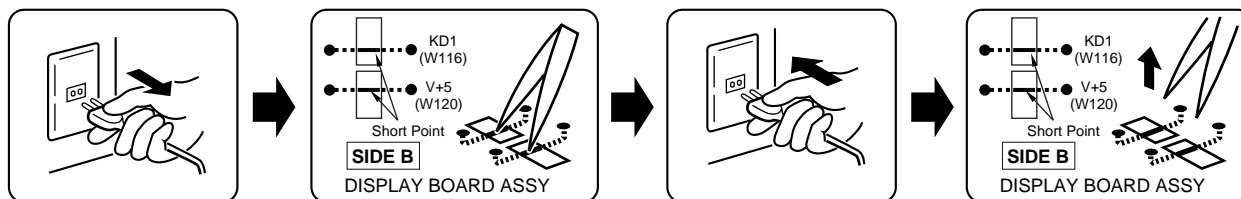
6.2 ADJUSTMENT

6.2.1 How to Start/Cancel Test Mode

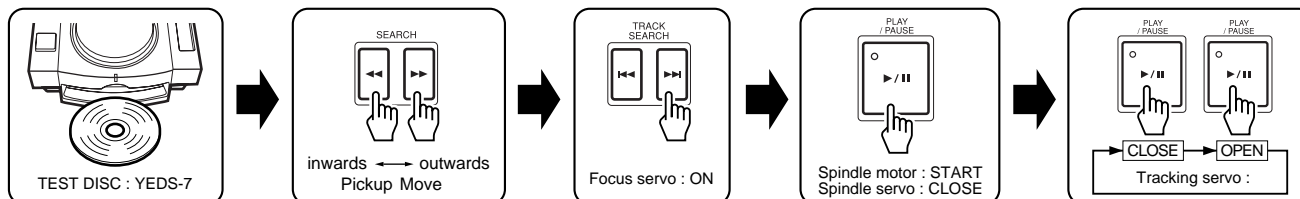
[Precautions for Test Mode]

- (1) If a soiled or damaged disc is played back and a GFS error is generated, the system may not perform a STOP operation and may run out of control, although muting ON/OFF will be performed. If the system does run out of control, press the CUE key to switch the power OFF.
- (2) Do NOT press any key while an OPEN/CLAMP, SPINDLE KICK, or FOCUS SEARCH operation is in progress. Be sure to wait until the operation is completed before calling the next operation.

TEST MODE : ON

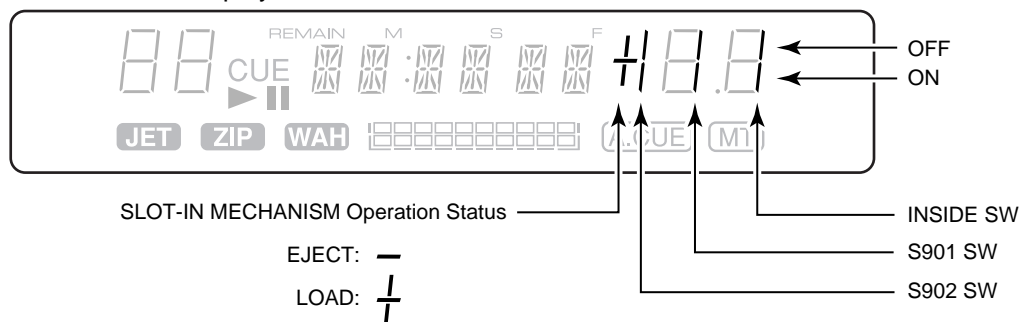


TEST MODE : PLAY

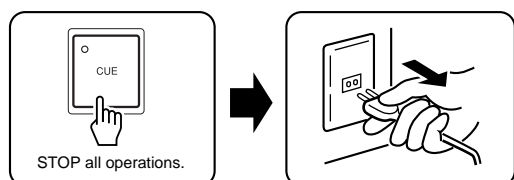


TEST MODE : DISPLAY

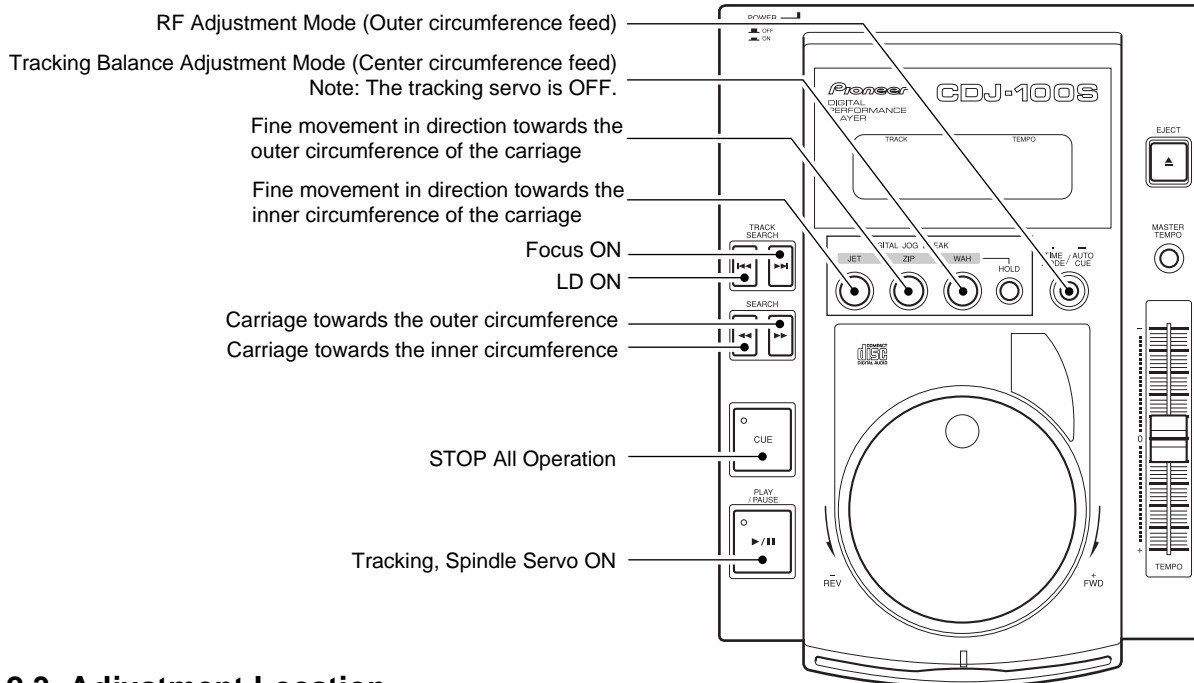
Switch Status Display



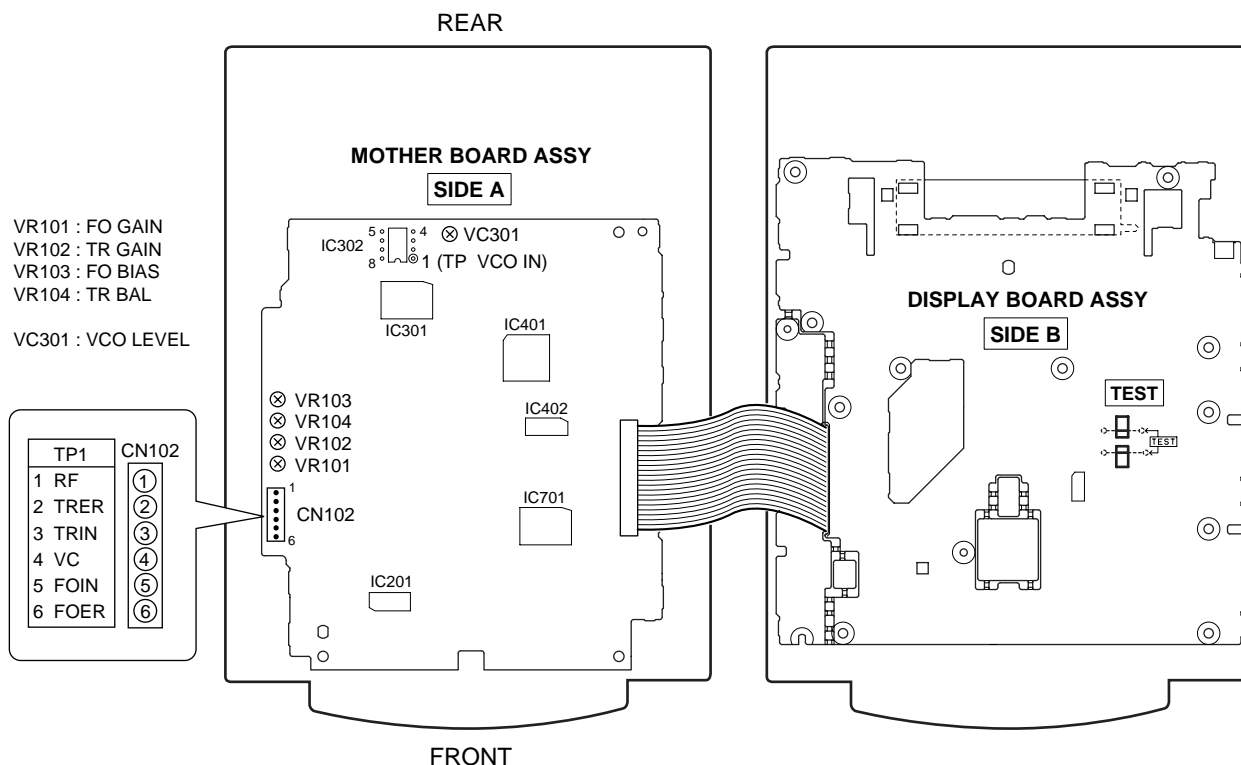
TEST MODE : STOP → CANCEL



6.2.2 Test Mode Key Locations



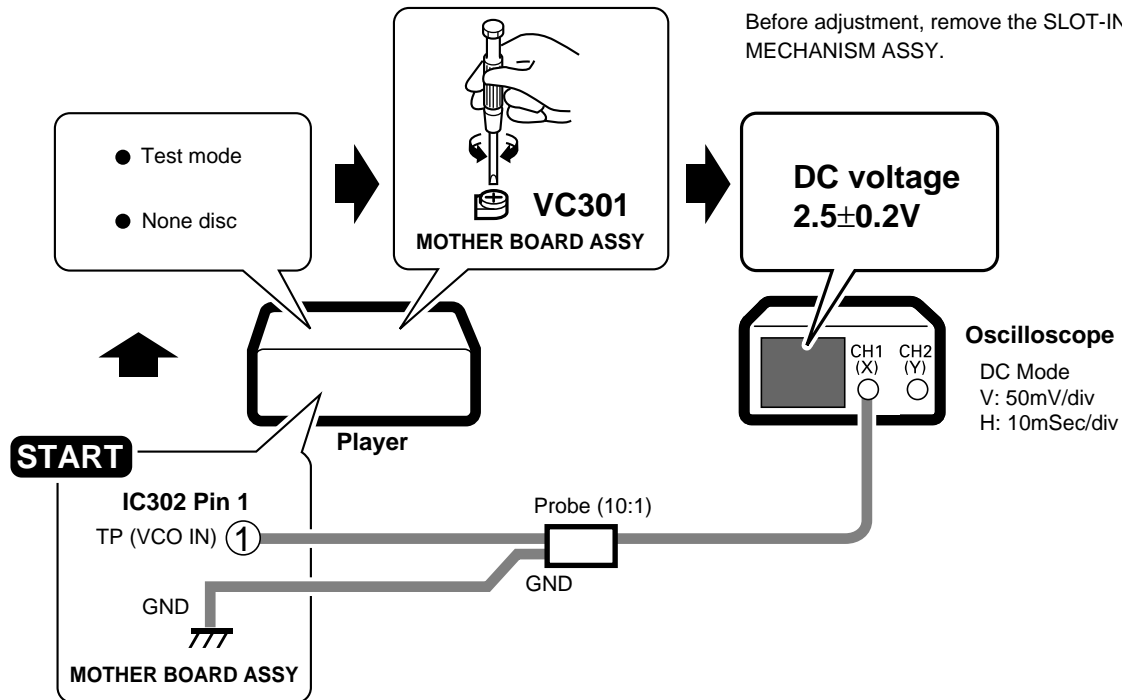
6.2.3 Adjustment Location



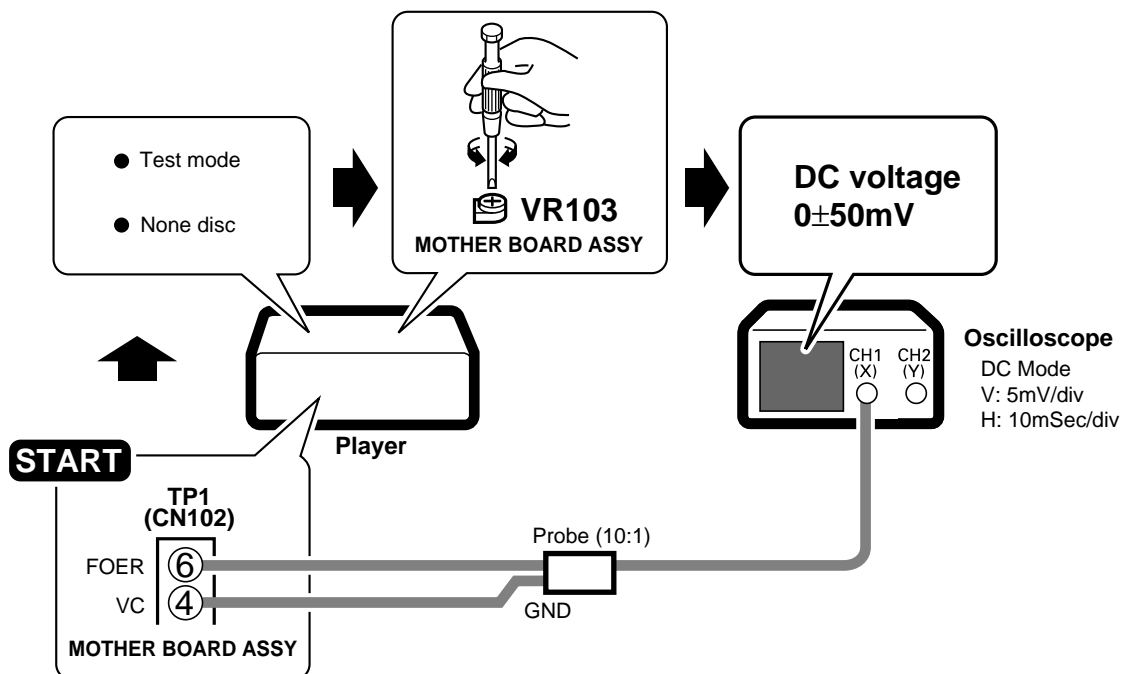
6.2.4 Check and Adjustment

1. VCO Adjustment

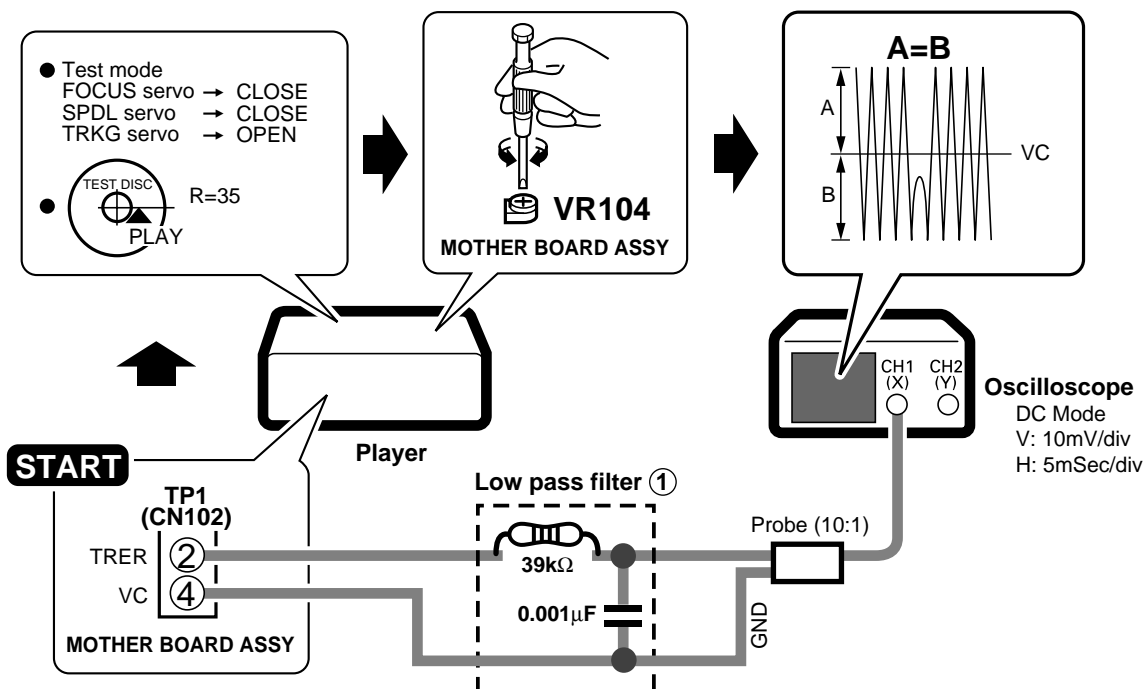
Note: Adjustment of VC301 may not be made if the SLOT-IN MECHANISM ASSY is installed. Before adjustment, remove the SLOT-IN MECHANISM ASSY.



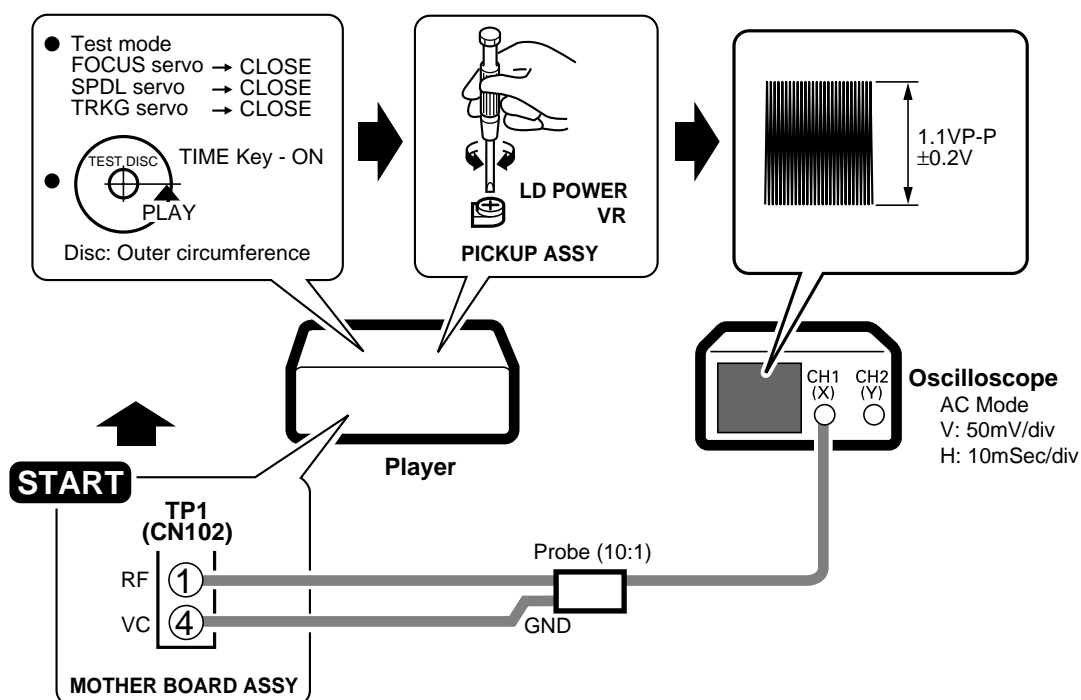
2. Focus BIAS Adjustment



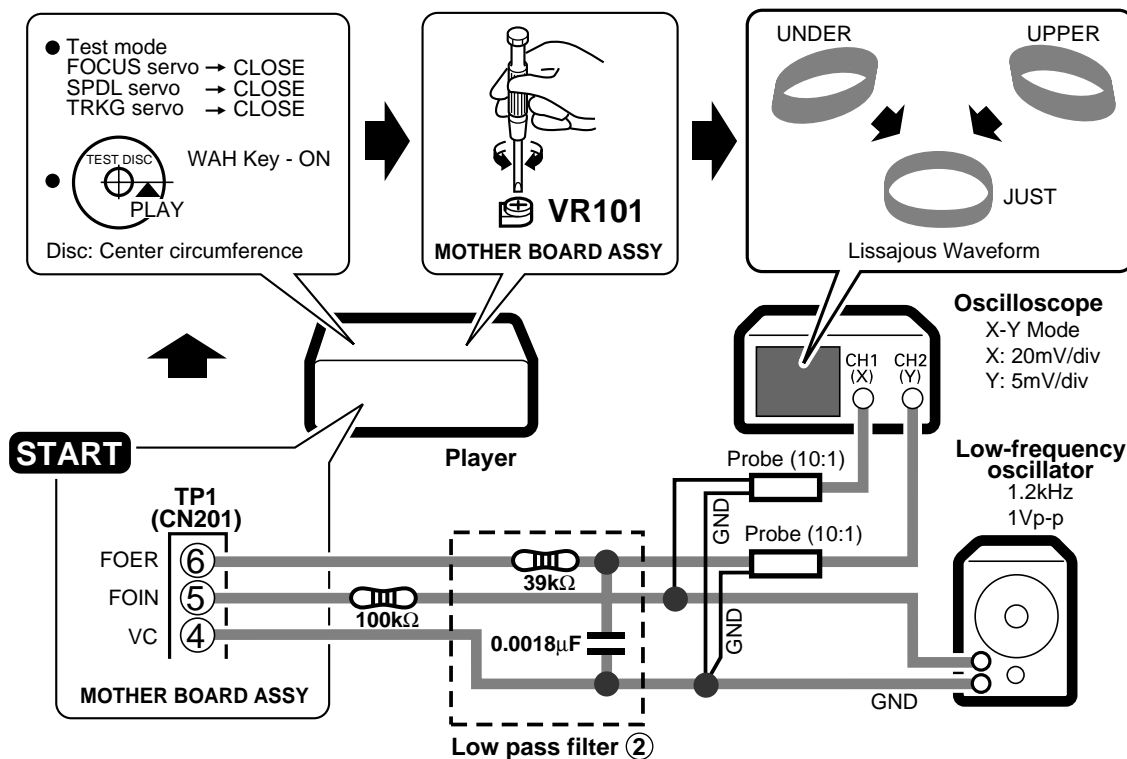
3. Tracking Error Barance Adjustment



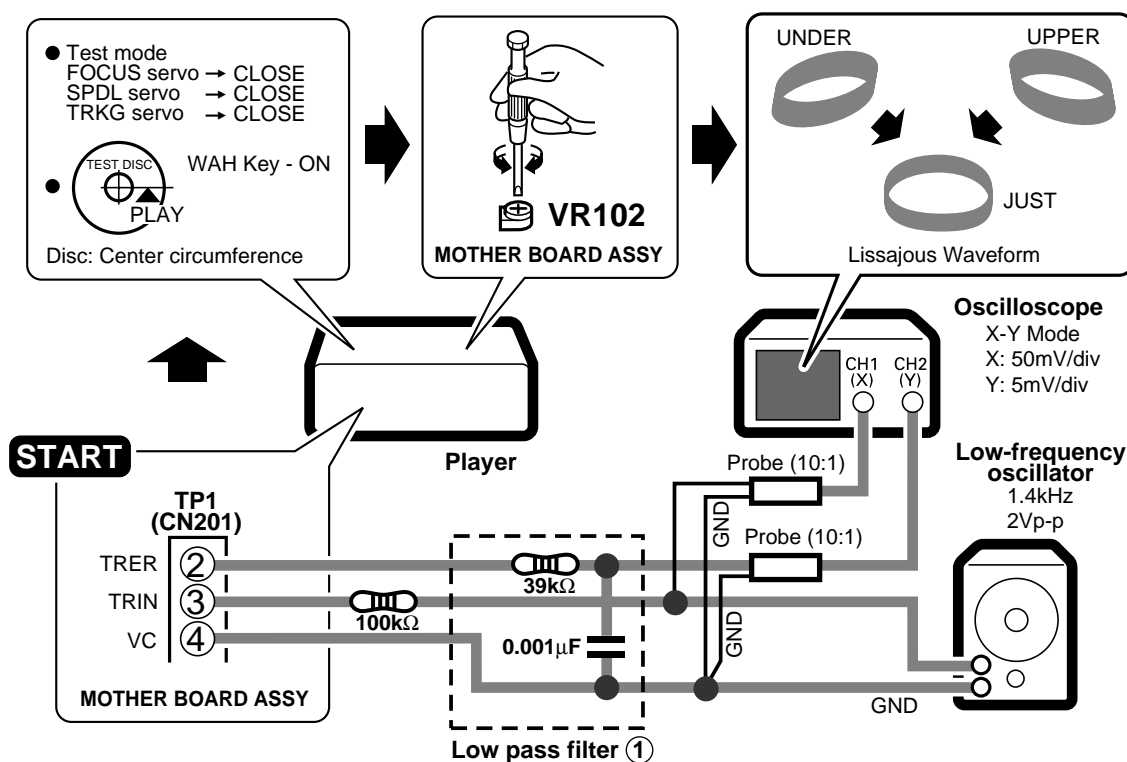
4. RF Level Adjustment



5. Focus Servo Loop Gain Adjustment



6. Tracking Servo Loop Gain Adjustment



7. GENERAL INFORMATION

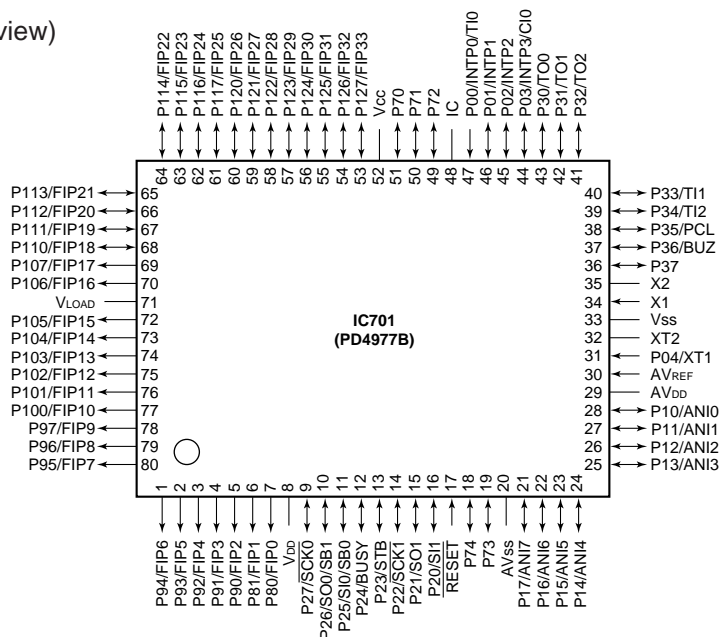
7.1 PARTS

7.1.1 IC

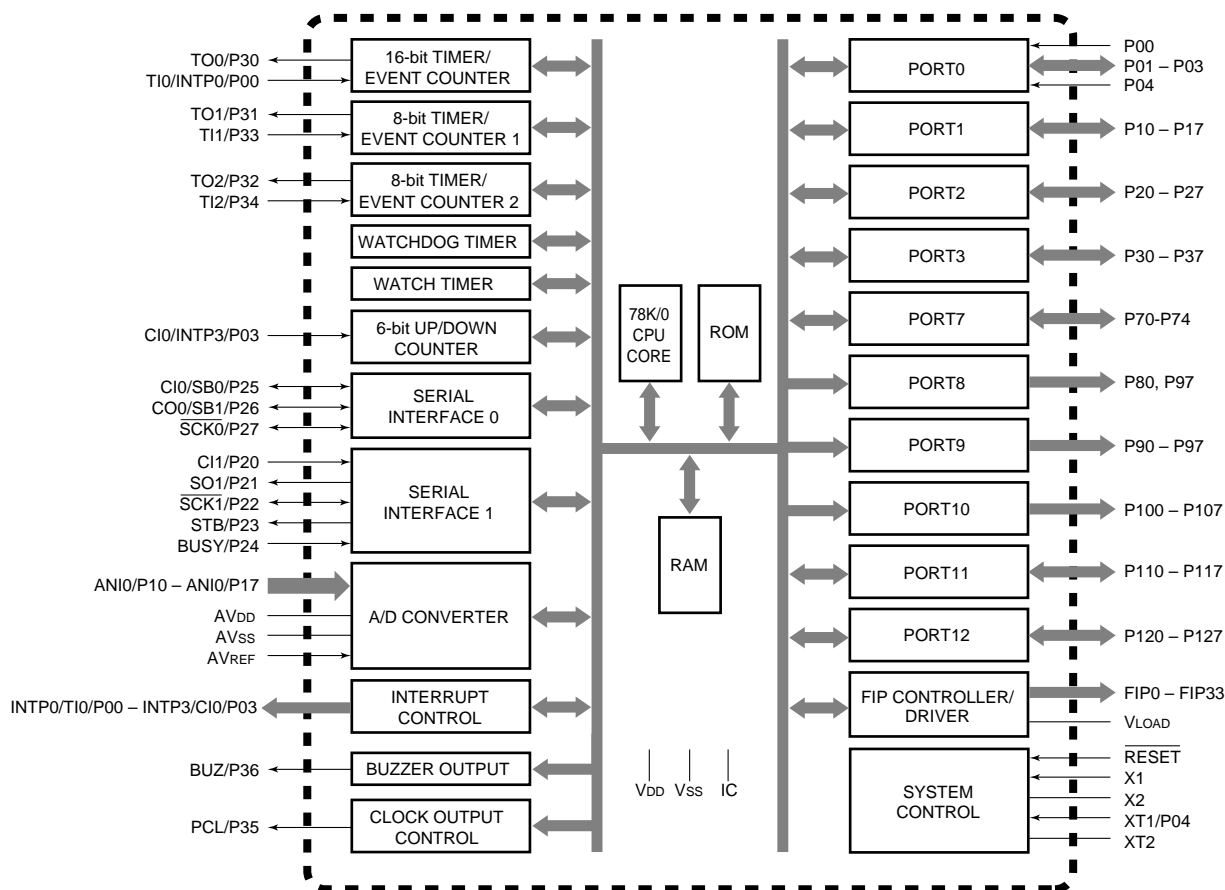
■ PD4977B (IC701: MOTHER BOARD ASSY)

● System Control Micro-computer

- Pin Assignment (Top view)



- Block Diagram



● Pin Function

| No. | Name | I/O | Description |
|-------------|-----------------------|-----|--|
| 1 7 | GRID 7 GRID 1 | O | FL grid output 7 FL grid output 1 |
| 8 | VDD | — | Connected to VDD. |
| 9 | CNT2 | I | External control input |
| 10 | CNT1 | I/O | External control input/output |
| 11 | DSPS | I | DSP memory sampling. (During sampling: H) |
| 12 | P0 | O | Not used |
| 13 | INT1 | O | |
| 14 | CLOCK | O | Serial clock [for IC301 (CXD2500BQ)] |
| 15 | DATA | O | Serial data output [for IC301 (CXD2500BQ)] |
| 16 | SQSO | I | Sub-code Q serial data input. |
| 17 | RST | I | CPU reset. (L : reset) |
| 18 | DSPC | I | DSP data compare input. (H: comparing) |
| 19 | DPDT | I/O | DSP data output |
| 20 | GND ref | — | Ground potential for the A/D converter. |
| 21 | RST3 | O | DSP reset output (L : reset) |
| 22 | DPCK | O | DSP clock output |
| 23 | MD2 | O | IC301 (CXD2500BQ) Digital out control terminal (L: OFF, H: ON) |
| 24 | INT0 | O | Not used |
| 25 | ATB | I | A/D input for ATB. (above 0.5 V : ATB, below : no ATB) |
| 26 | SERR | I | A/D input to control the stepping motor. |
| 27 | CT | I | Slider center tap voltage input. |
| 28 | ADIN | I | Slider voltage input. |
| 29 | VDD | — | Analog power for the A/D converter. |
| 30 | VDD ref | — | Standard voltage input for the A/D converter. |
| 31 | FCOK | I | Focus OK input. (H : OK, L : NG) |
| 32 | XT2 | — | Not used |
| 33 | GND | — | Connected to GND. |
| 34 | X1 | — | Oscillator pulses for the main system. (4.194304 MHz) |
| 35 | X2 | | |
| 36 | LPS1 | I | Load position SW1 input (Switch ON: L/ OFF: H) |
| 37 | LOAD2 | I/O | Slot-in motor output 2 |
| 38 | S1TJ | O | Servo control output (1 Track Jump: H) |
| 39 | LOAD | I/O | Slot-in motor output 2 |
| 40 | GFS | I | Frame sync lock input. (H : OK, L : NG) |

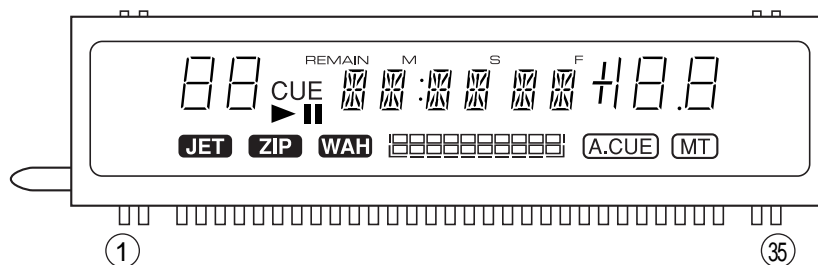
| No. | Name | I/O | Description |
|---------------|----------------------|-----|---|
| 41 | STCK | O | Stepping motor control output |
| 42 | XLAT | O | LSI control data latch pulse |
| 43 | LDON | O | Laser diode output (L: OFF, H: ON) |
| 44 | PALS | I | Interrupt input for RAM-internal display pulses. |
| 45 | FG | I | FG pulse input |
| 46 | SCOR | I | Interrupt input for sub-code sync |
| 47 | JOG1 | I | Interrupt input for jog dial pulses |
| 48 | IC | — | Connected to GND. |
| 49 | F/R | O | Stepping motor forward/reverse output |
| 50 | ATSQ | O | Auto focus output (During auto focus: H) |
| 51 | INSD | I | Slider inside switch input. (L : inside) |
| 52 | VDD | O | Connected to VDD. |
| 53 | SENS | I | LSI operation status input |
| 54 | TOFF | O | Switching analog switch output (Tracking ON/OFF: H/L, Track count search: H) |
| 55 | THOLD | O | Switching analog switch output (1, 10 and 100 track jump: H) |
| 56 | MUTE | O | Muting output (L: ON, H: OFF) |
| 57 | JOG2 | I | Jog dial pulse input |
| 58 60 | KD2 KD0 | I | Key-scan data input |
| 61 | DSW | I | Digital out ON/OFF input switch (L: ON, H: OFF) |
| 62 | LPS2 | I | Load position SW2 input (Switch ON: L/ OFF: H) |
| 63 | SEG12 | O | FL segment output 12 |
| 64 70 | SEG1 SEG7 | O | FL segment output 1 FL segment output 7 |
| 71 | VLOAD | — | Connected to FIP controller/driver pull-down resistance. (–31V) |
| 72 75 | SEG8 SEG11 | O | FL segment output 8 FL segment output 11 |
| 76 | NC | O | Not used |
| 77 80 | GRID11 GRID8 | O | FL grid output 11 FL grid output 8 |

7.1.2 DISPLAY

■ DEL1031 (V601: DISPLAY BOARD ASSY)

● FL Tube

● Pin Assignment

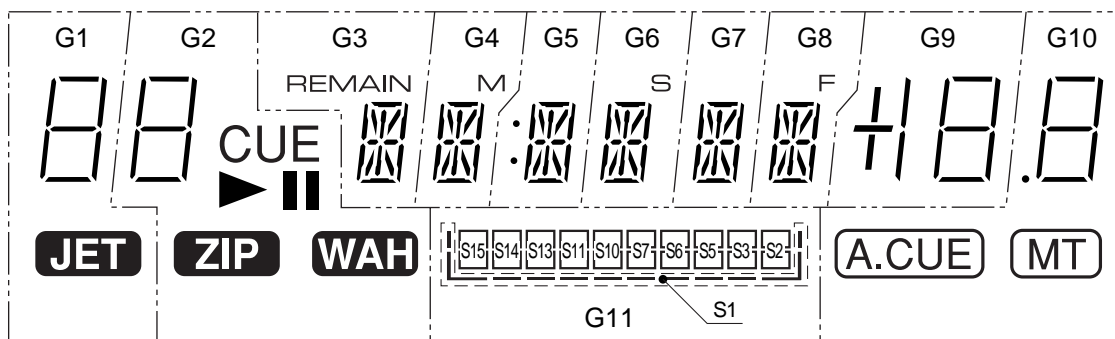


Note) F1, F2: Filament
S1 to S15: Anode
NL: No Lead
G1 to G11: Grid
NP: No pin

● Pin Connection

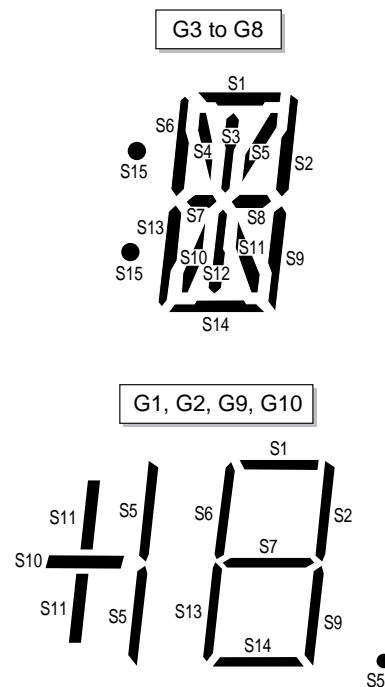
| Pin No. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 |
|------------|----|----|----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|----|----|----|----|----|-----|-----|----|----|----|
| Assignment | F1 | F1 | NP | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | S11 | S12 | S13 | S14 | S15 | NL | NL | NL | G1 | G2 | G3 | G4 | G5 | G6 | G7 | G8 | G9 | G10 | G11 | NP | F2 | F2 |

● Anode and Grid Assignment (1/2)



● Anode and Grid Assignment (2/2)

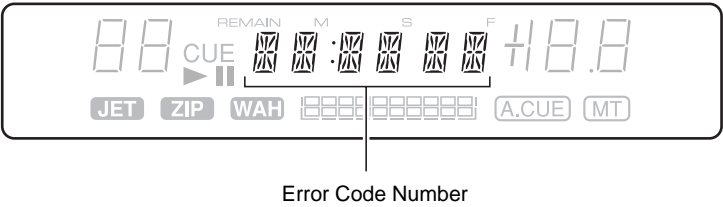
| | G1 | G2 | G3 | G4 | G5 | G6 | G7 | G8 | G9 | G10 | G11 |
|-----|-----|-----|--------|-----|-----|-----|-----|-----|-----|-------|-----|
| S1 | S1 | S1 | S1 | S1 | S1 | S1 | S1 | S1 | S1 | S1 | S1 |
| S2 | S2 | S2 | S2 | S2 | S2 | S2 | S2 | S2 | S2 | S2 | S2 |
| S3 | JET | WAH | S3 | S3 | S3 | S3 | S3 | S3 | | | S3 |
| S4 | | | S4 | S4 | S4 | S4 | S4 | S4 | | | |
| S5 | | ZIP | S5 | S5 | S5 | S5 | S5 | S5 | S5 | S5 | S5 |
| S6 | S6 | S6 | S6 | S6 | S6 | S6 | S6 | S6 | S6 | S6 | S6 |
| S7 | S7 | S7 | S7 | S7 | S7 | S7 | S7 | S7 | S7 | S7 | S7 |
| S8 | | | S8 | S8 | S8 | S8 | S8 | S8 | | | |
| S9 | S9 | S9 | S9 | S9 | S9 | S9 | S9 | S9 | S9 | S9 | |
| S10 | | CUE | S10 | S10 | S10 | S10 | S10 | S10 | S10 | A.CUE | S10 |
| S11 | | | S11 | S11 | S11 | S11 | S11 | S11 | S11 | MT | S11 |
| S12 | | | S12 | S12 | S12 | S12 | S12 | S12 | | | |
| S13 | S13 | S13 | S13 | S13 | S13 | S13 | S13 | S13 | S13 | S13 | S13 |
| S14 | S14 | S14 | S14 | S14 | S14 | S14 | S14 | S14 | S14 | S14 | S14 |
| S15 | | ▶ | REMAIN | M | S15 | S | | F | | | S15 |



7.2 DIAGNOSIS

7.2.1 ERROR DISPLAY

When the player detects an error during operation, it will immediately stop and display an error code in the display window.



| Displayed Error Code Number | Type of Error | Error Contents | Possible Cause → Remedy |
|-----------------------------|--------------------------|--|---|
| E - 7201 | TOC READ ERROR | TOC data cannot be read after 20 seconds. | The disc is soiled. |
| E - 7202 | FG PULSE ERROR | Disc is rotating, but rotation cannot be ascertained. | Either IC201 (spindle driver IC) or Pin 45 of IC701 (system control micro-computer) is damaged. |
| E - 8301 | PLAYER ERROR | Disc loaded cannot be played properly (GFS NG). | <ul style="list-style-type: none">• The disc is soiled.• The disc is scarred. |
| E - 8302 | PLAYER ERROR | Disc loaded cannot be played properly (FOCUS NG) | <ul style="list-style-type: none">• The disc is soiled.• The disc is scarred. |
| E - 9101 | S901 SW MECHANICAL ERROR | The servo mechanism is not clamped even after the max. operation time has passed. | <ul style="list-style-type: none">• The slot-in mechanism is defective.• S901 SW is damaged. |
| E - 9103 | MECHANICAL TIME OUT | The pickup does not return to the inside even after the max. operation time has passed. (INSIDE: 5s) | The servo mechanism is defective. |

7.2.2 DISASSEMBLY

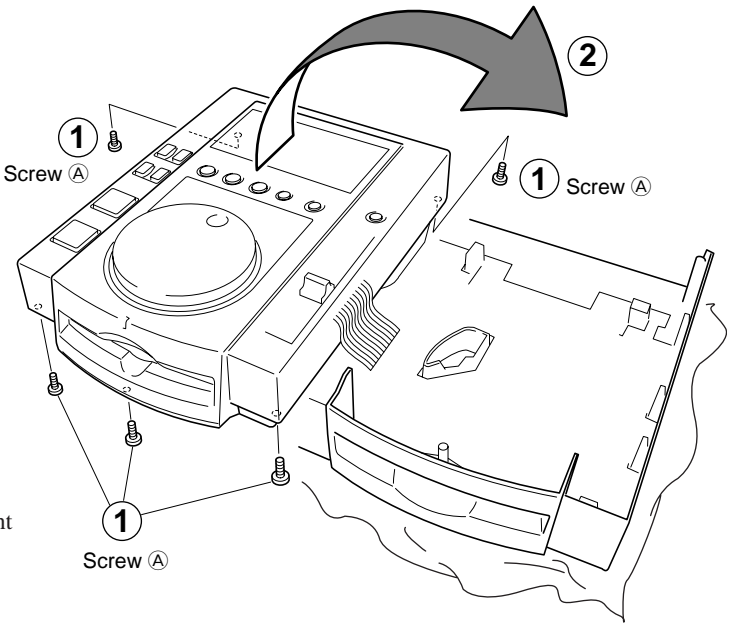
<< PRECAUTIONS >>

Be sure to disconnect the power cable from the AC outlet whenever removing the card flexible cable from the connector for maintenance, etc. Hold the both sides of the card flexible cable with both hands to disconnect the cable straight. (Even if the power has been switched OFF, previously charged voltage may remain in the capacitor, etc. If the electrodes of the card flexible cable and those of the connector come in contact by accident, a malfunction may occur.)

■ Removal of the Servo Mechanism Assy

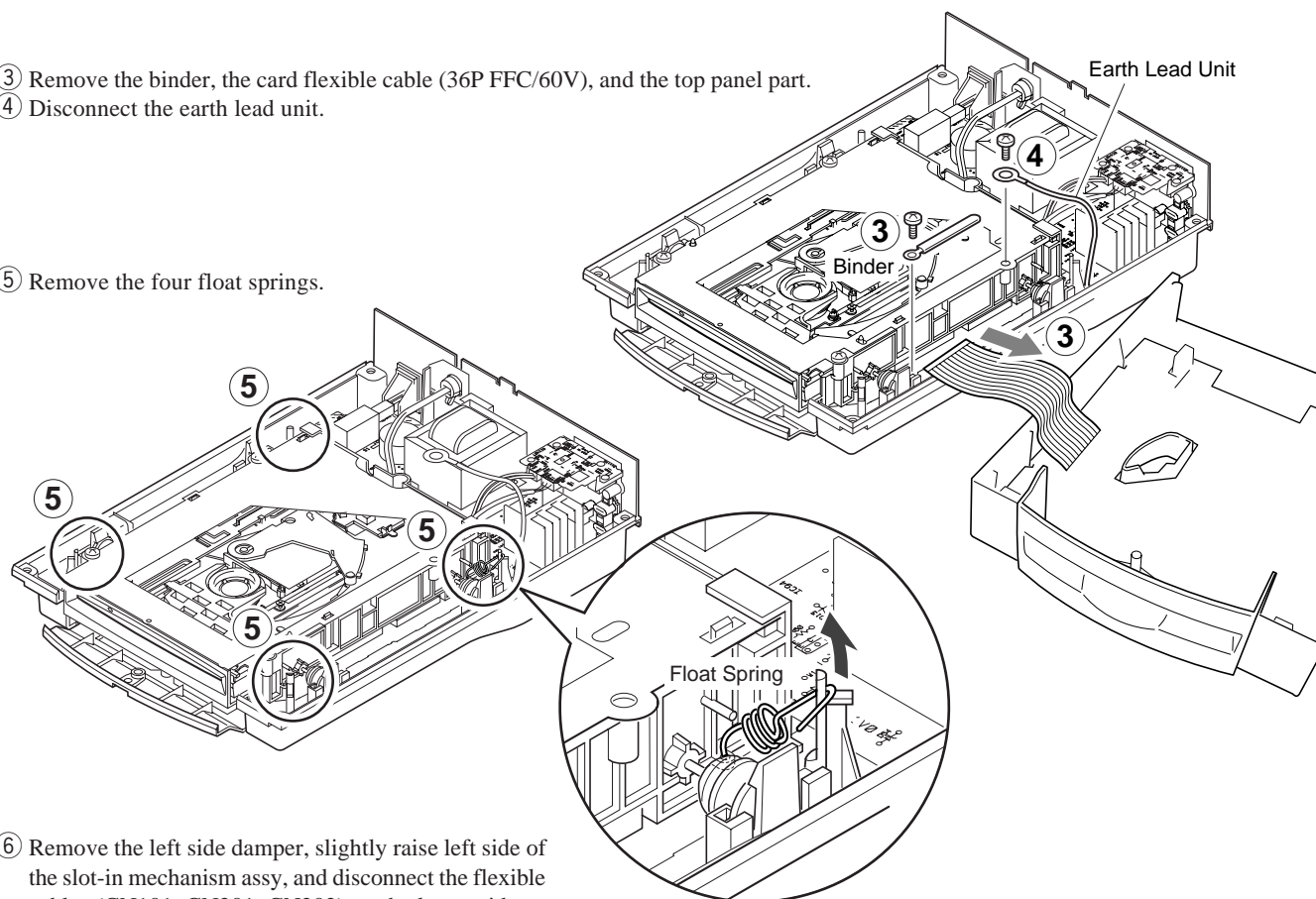
- ① Remove the five screws (A) at the bottom of the body.
- ② Open the top panel part as shown in the figure.

Note: Perform the work after spreading a cloth or similar to prevent damage to the top panel.

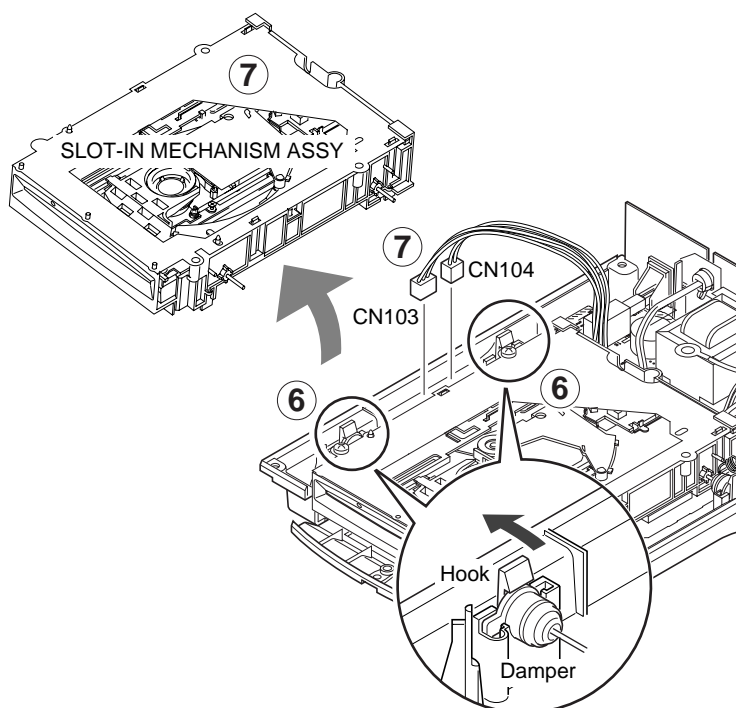


- ③ Remove the binder, the card flexible cable (36P FFC/60V), and the top panel part.
- ④ Disconnect the earth lead unit.

- ⑤ Remove the four float springs.

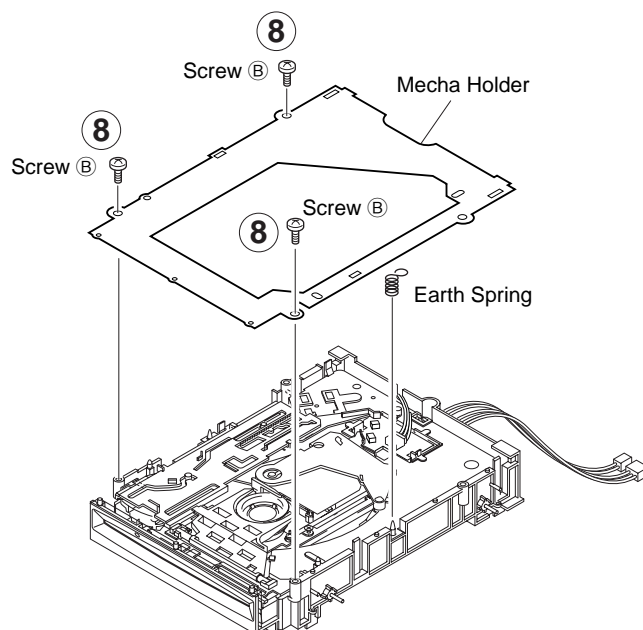


- ⑥ Remove the left side damper, slightly raise left side of the slot-in mechanism assy, and disconnect the flexible cables (CN101, CN201, CN202) on the lower side.
- ⑦ Disconnect the connectors (CN103, CN104), and slide the slot-in mechanism assy to the side on which the damper has been removed.

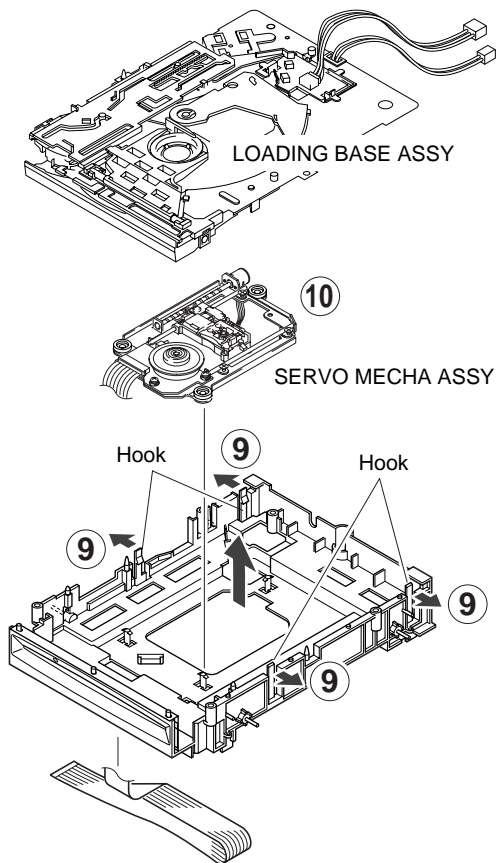


- ⑧ Remove the three screws (B), and then remove the mecha holder.

Note: An earth spring is located between the mecha holder and the mechanism assy (right side). Take care not to lose this spring.



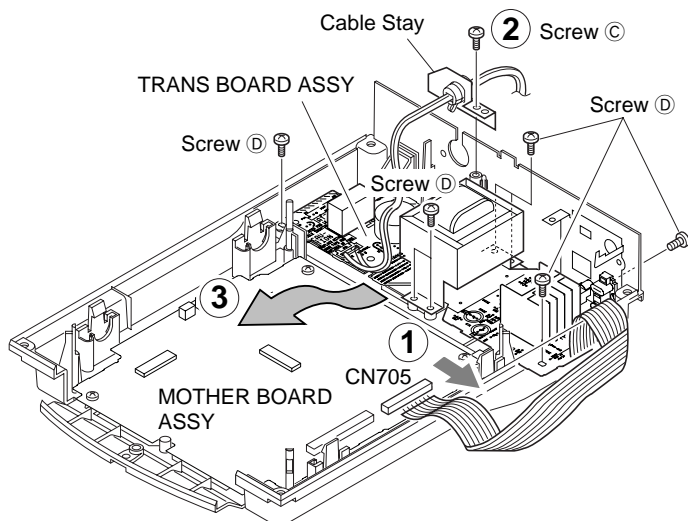
- ⑨ Disengage the hooks on the left and right side (2 each), and remove the loading base assy.
- ⑩ Remove the servo mechanism assy.



■ Removal of the Each P. C. Boards

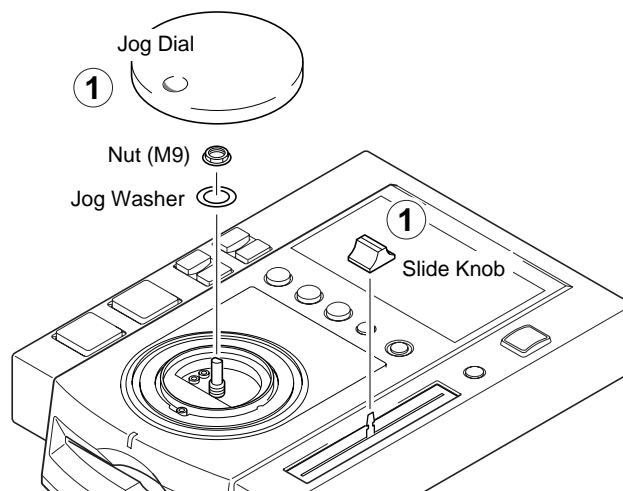
● TRANS BOARD Assy

- ① With the slot-in Mechanism Assy removed, disconnect the connector (CN705).
- ② Remove the screw ③ and disconnect the cable stay.
- ③ Remove the seven screws ④, raise front side of the TRANS BOARD assy, and remove it.

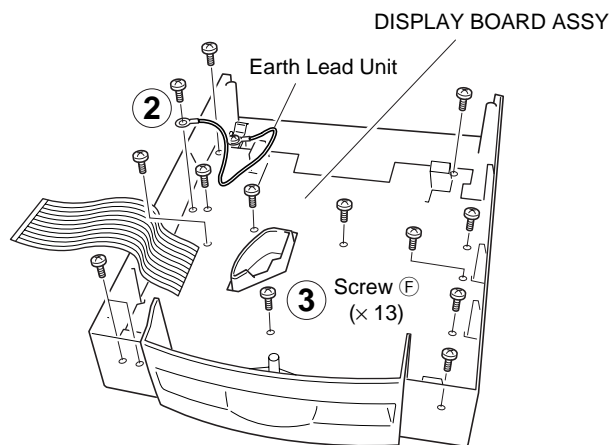


● DISPLAY BOARD Assy

- ① Remove the jog dial and the slide knob at the top of the body, and then remove the nut (M9) and jog washer.



- ② Disconnect the earth lead unit.
- ③ Remove the 13 screws ④.



Caution for the time of assembly

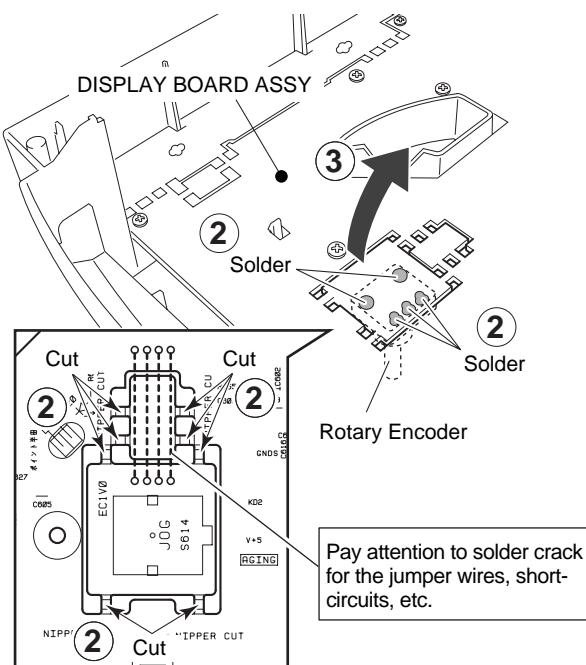
Turn the jog dial and check for abnormalities like uneven turning etc.

Nut Tightening Torque: 8 kg · cm or less

■ Exchange Methods for Rotary Encoder (S614: DSX1051) and Slide Volume (VR601: DCV1009)

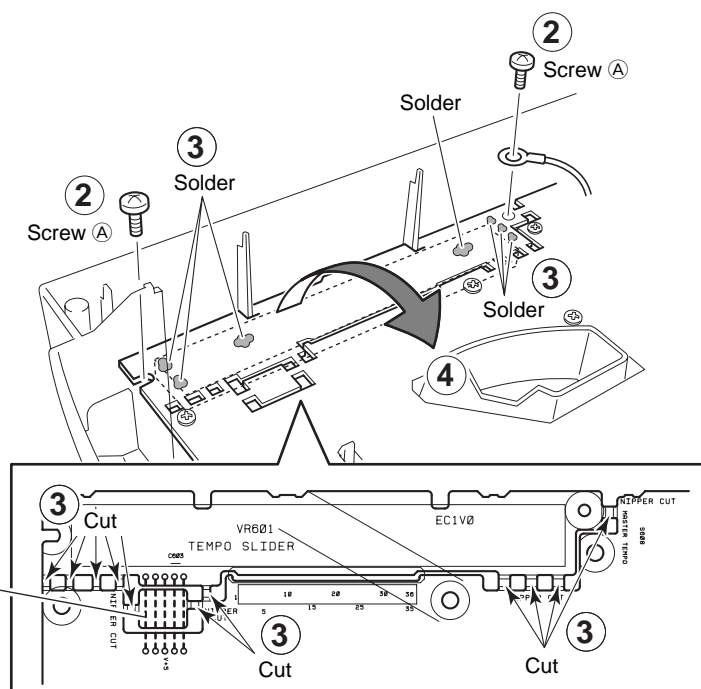
● Rotary Encoder (S614: DSX1051)

- ① Remove the jog dial, the nut (M9) and the jog washer at the top of the unit. (Refer to "Removal of the DISPLAY BOARD Assy".)
- ② Unsolder the rotary encoder and cut the 8 locations shown in the figure with nippers or similar.
- ③ Raise the P.C. board while paying attention to the jumper wires and remove the rotary encoder.



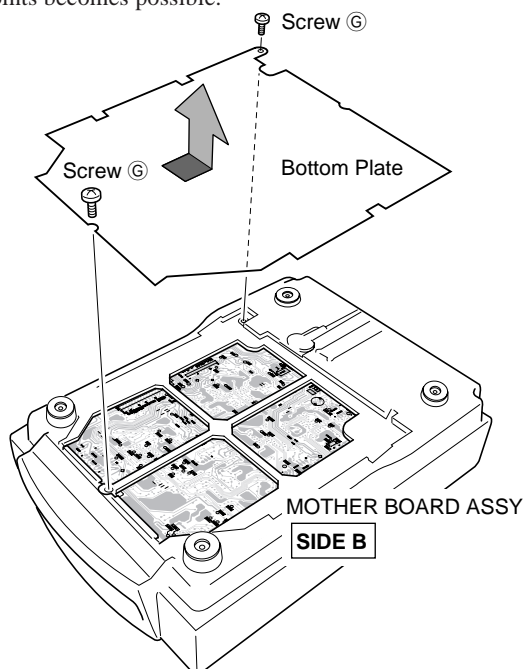
● Slide Volume (VR601: DCV1009)

- ① Remove the slide knob from the top of the unit. (Refer to "Removal of the DISPLAY BOARD Assy".)
- ② Remove the two screws (A).
- ③ Unsolder the slide volume and cut the 11 locations shown in the figure with nippers or similar.
- ④ Raise the circuit board while paying attention to the jumper wires and remove the slide volume.

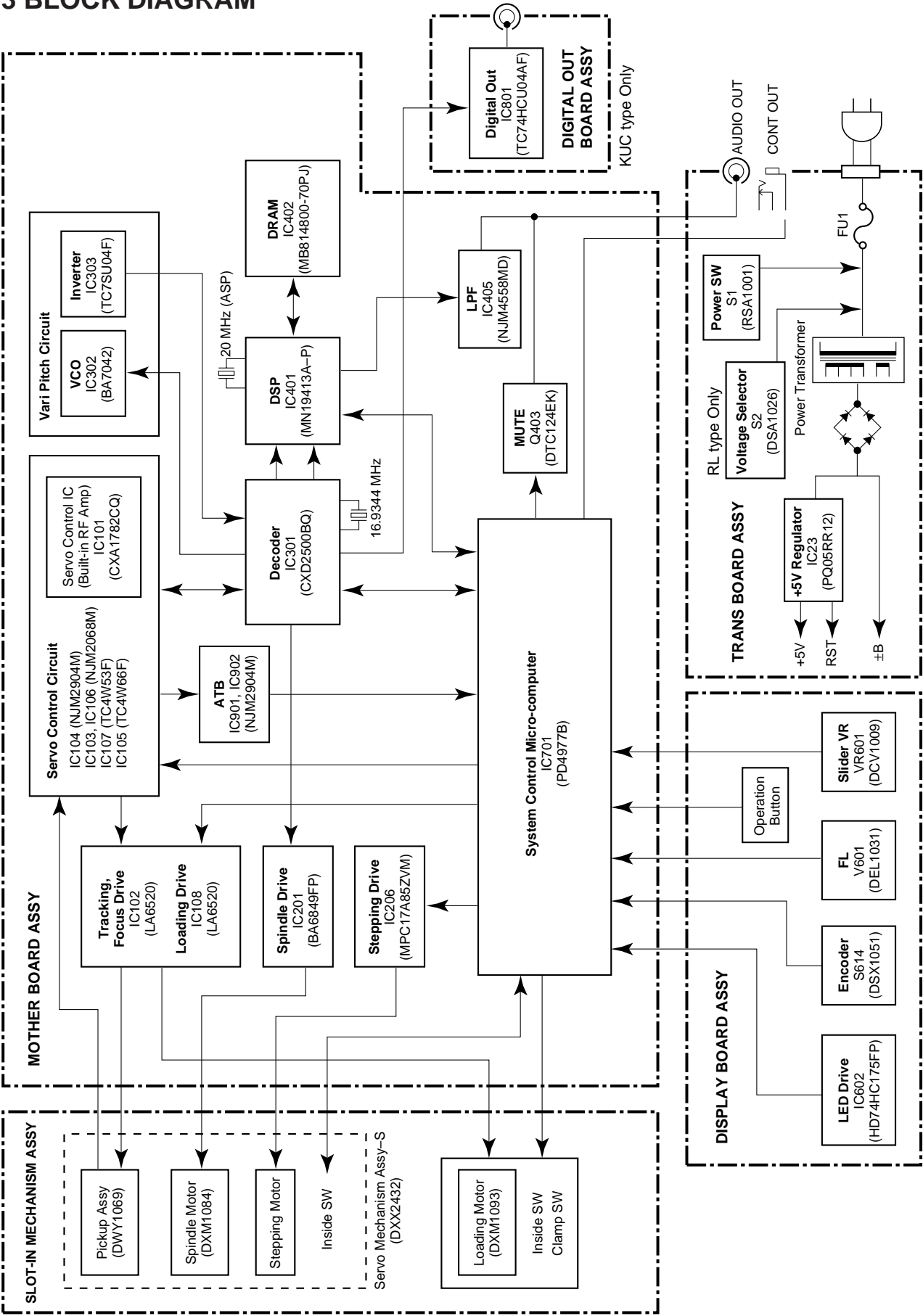


■ Measuring Points (TP) for Diagnosis

Remove the two screws (G) at the bottom plate. Then measuring at the each points becomes possible.

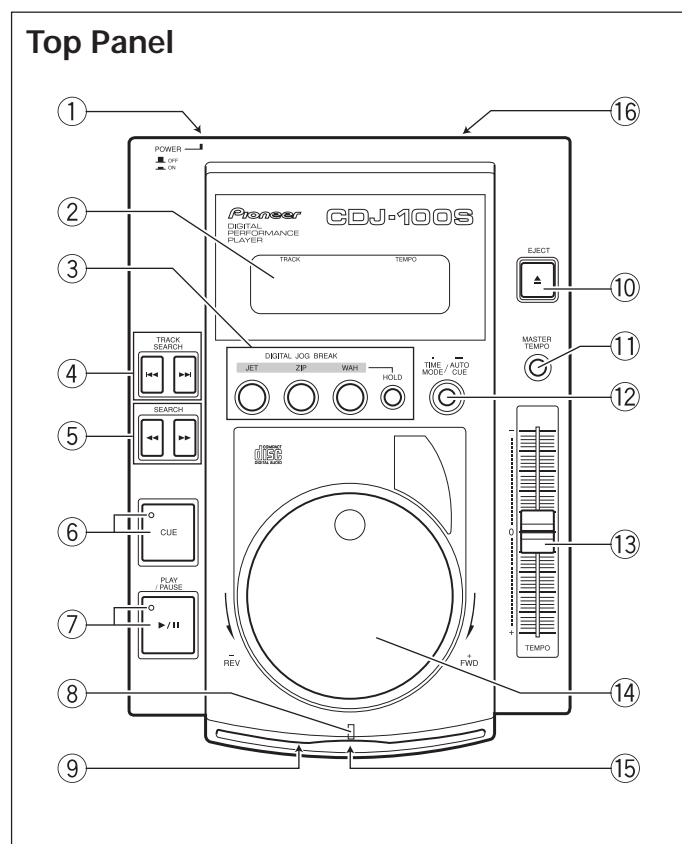


7.3 BLOCK DIAGRAM



8. PANEL FACILITIES AND SPECIFICATIONS

■ PANEL FACILITIES



- ① **POWER switch**
(Located on rear panel)
Provides electrical power to the player.
- ② **Display window**
- ③ **DIGITAL JOG BREAK buttons**
(JET, ZIP, WAH, HOLD)
- ④ **TRACK SEARCH buttons** (◀◀, ▶▶)
- ⑤ **SEARCH buttons** (◀◀, ▶▶)
- ⑥ **CUE button/indicator**
- ⑦ **PLAY/PAUSE button/indicator** (▶/||)
- ⑧ **Loading indicator**
Flashes while disc is being loaded or removed through loading slot, and lights steadily when a disc is loaded in the player.
- ⑨ **Force ejection hole**
- ⑩ **EJECT button**
When this button is pressed, disc rotation stops and the disc is ejected from the player's loading slot.

- ⑪ **MASTER TEMPO button**
 - The master tempo function is turned ON/OFF.
 - If the button is held depressed for 2 seconds or more, the tempo adjust dial's variable range is changed ($\pm 10\%$ or $+10\%$ to -16%). When the variable range is changed, the newly selected numerical range is displayed for about 2 seconds (10.0 / 16.0).
 - The variable range is set by default to the ± 10 setting whenever power is first turned on.

⑫ **TIME MODE/AUTO CUE button**

Two functions are available.

[Time display]

Each time this button is pressed, the time display changes between the elapsed playback time of the track and the remaining playback time of the track (REMAIN).

- The REMAIN display appears when power is turned ON.

[Auto Cue function]

When a disc is initially loaded or when performing track search, this function automatically sets the cue point (the point immediately preceding actual sound output).

- The Auto Cue function defaults to OFF when power is first turned on.

⑬ **TEMPO control knob**

The playback tempo can be changed with this knob. The center clicked position is for normal playback tempo. If you slide the knob (down) towards you (+ side), the music tempo quickens. If the knob is away from you (- side), the music tempo slows.

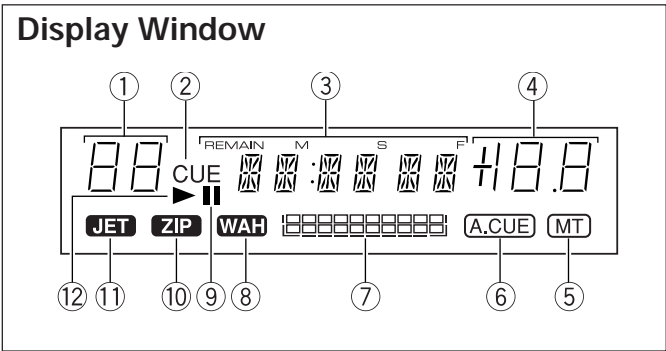
⑭ **Jog dial (+ FWD/- REV)**

⑮ **Disc loading slot**

Insert discs with label side up.

- When playing 8 cm (3-inch) discs, insert the disc in a commercially available CD adapter before loading it in the CD player.

⑯ **DIGITAL OUT switch** (Located on rear panel)



- ① **TRACK number display**
Displays the current number of the track playing.
- ② **CUE indicator**
Flashes when it is possible to input cue point, and lights steadily after the completion of input.
- ③ **Time display (REMAIN)**
The elapsed playback time of the track being played (when the REMAIN indicator is off) or the remaining playback time of the track being played (when the REMAIN indicator is on) is displayed in minutes (M) and seconds (S), or frames (F).
- ④ **Playback tempo display**
Tempo changes made with the TEMPO control knob are performed in 0.1% steps in the $\pm 10\%$ range. 0 to +10% in the +10% to -16% range is indicated in 0.1% steps and 0.2% steps from 0 to -16%.

- ⑤ **MT indicator**
Lights when the MASTER TEMPO function is used.
- ⑥ **A.CUE indicator**
Lights when the AUTO CUE function is used.
- ⑦ **Playback address display**
The elapsed playback time or remaining playback time of the track playing is roughly indicated with the full-scaled bar graph.
 - When no disc is in the disc compartment off
 - When displaying elapsed playback time lights up from the left side
 - When displaying remaining playback time turns off from the left side
 - When remaining playback time is less than 30 seconds blinks
- ⑧ **WAH indicator**
Lights or blinks when WAH function is active.
- ⑨ **Pause indicator (||)**
Blinks during pause mode.
- ⑩ **ZIP indicator**
Lights or blinks when ZIP function is active.
- ⑪ **JET indicator**
Lights or blinks when JET function is active.
- ⑫ **Play indicator (▷)**
Lights during playback.

■ SPECIFICATIONS

1. General

| | |
|--|---|
| System | Compact disc digital audio system |
| Power requirements | AC 120 V, 60 Hz |
| Power consumption | 12 W |
| Operating temperature | +5°C – +35°C (+41°F – +95°F) |
| Operating humidity | 5% – 85% |
| (There should be no condensation of moisture.) | |
| Weight | 2.2 kg (4 lbs 14 oz) |
| Dimensions | 217.7 (W) × 310.7 (D) × 94.5 (H) mm |
| | 8-9/16 (W) × 12-1/4 (D) × 3-3/4 (H) in. |

2. Audio section

| | |
|-----------------------------|----------------------|
| Frequency response | 4 Hz – 20 kHz (EIAJ) |
| Signal-to-noise ratio | 96 dB or more (EIAJ) |
| Output level | 2.0 V |
| Channels | 2-channel (stereo) |

3. Accessories

| | |
|--------------------------------|---|
| • Operating instructions | 1 |
| • Audio cable | 1 |
| • Limited warranty | 1 |

NOTE:
Specifications and design are subject to possible modification without notice.

Maintenance:

We recommend regular maintenance to ensure the safe and proper function of this unit.
Extended service life can be expected if the unit maintained properly.