

CDP-790

SERVICE MANUAL

US Model



| | |
|------------------------------------|-------------|
| Model Name Using Similar Mechanism | CDP-190/390 |
| CD Transport Mechanism Type | CDM14-5BD1 |
| Optical Pick-Up Block Type | BU-5BD1 |

SPECIFICATIONS

Compact disc player

| | |
|-----------------------|----------------------------|
| Frequency response | 2 Hz - 20 kHz \pm 0.3 dB |
| Signal to noise ratio | More than 104 dB |
| Dynamic range | More than 97 dB |
| Harmonic distortion | Less than 0.003% |
| Channel separation | More than 98 dB |

Outputs

| | |
|---|--|
| LINE OUT (phono jacks) | Output level 2 V (at 50 kilohms) Load impedance over 10 kilohms |
| DIGITAL OUT (OPTICAL) (optical output connector) | Wave length 660 nm Output level - 18 dBm |
| PHONES (stereo phone jack) | Output level max. 15 mW Load impedance 32 ohms |

General

| | |
|---|--|
| Power requirements | 120 V AC, 60Hz |
| Power consumption | 14W |
| Dimensions (approx., including projections) | 430 \times 110 \times 280 mm (w/h/d) (17 \times 4 $\frac{2}{8}$ \times 11 $\frac{1}{8}$ inches) |
| Weight (approx.) | 3.8 kg (8 lbs 7oz) |

Supplied accessories


| | |
|------------------------|-----------------------------------|
| Audio cord | 1 (2 phono plugs - 2 phono plugs) |
| Remote commander | 1 |
| R6 (size AA) batteries | 2 |

Remote commander (RM-D290)

| | |
|-----------------------|---|
| Remote control system | Infrared control |
| Power requirements | 3 V DC with two R6 (size AA) batteries |
| Dimensions | Approx. 67 \times 18 \times 175 mm (w/h/d) (2 $\frac{3}{4}$ \times 2 $\frac{3}{32}$ \times 7 inches) |
| Weight | Approx. 150 g (5.3 oz) Including batteries |

Design and specifications subject to change without notice.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY SHADING AND MARK  ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

COMPACT DISC PLAYER
SONY®



SAFETY CHECK-OUT

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

Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microampers). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.

3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2V AC range are suitable. (See Fig. A)

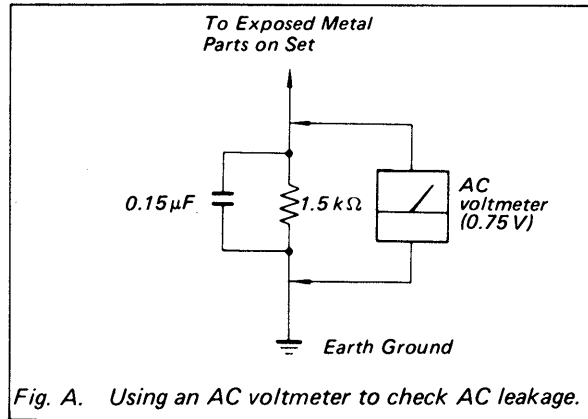


Fig. A. Using an AC voltmeter to check AC leakage.

PROTECTION OF EYES FROM LASER BEAM DURING SERVICING

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

CAUTION

Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

1. Laser Diode Properties

- Material: GaAlAs
- Wavelength: 780 nm
- Emission Duration: continuous
- Laser Output Power: less than 44.6 μW *

* This output is the value measured at a distance of 200 mm from the objective lens surface on the Optical Pick-up Block.

2. During service, do not take the Optical Pick-up Block apart, and do not adjust the APC circuit. If there is a breakdown in the APC circuit (including laser diode), replace the entire Optical Pick-up Block (including APC board).

SERVICING NOTE

NOTES ON HANDLING THE OPTICAL PICK-UP BLOCK OR BASE UNIT

The laser diode in the optical pick-up block may suffer electrostatic breakdown because of the potential difference generated by the charged electrostatic load, etc. on clothing and the human body.

During repair, pay attention to electrostatic breakdown and also use the procedure in the printed matter which is included in the repair parts.

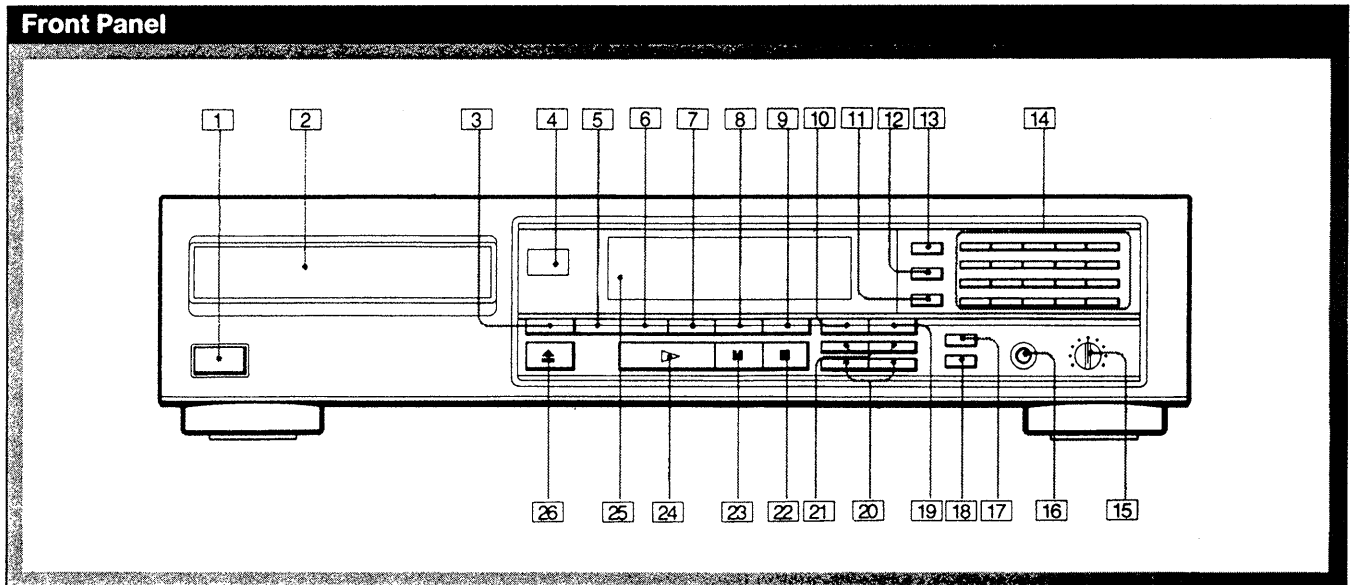
The flexible board is easily damaged and should be handled with care.

NOTES ON LASER DIODE EMISSION CHECK

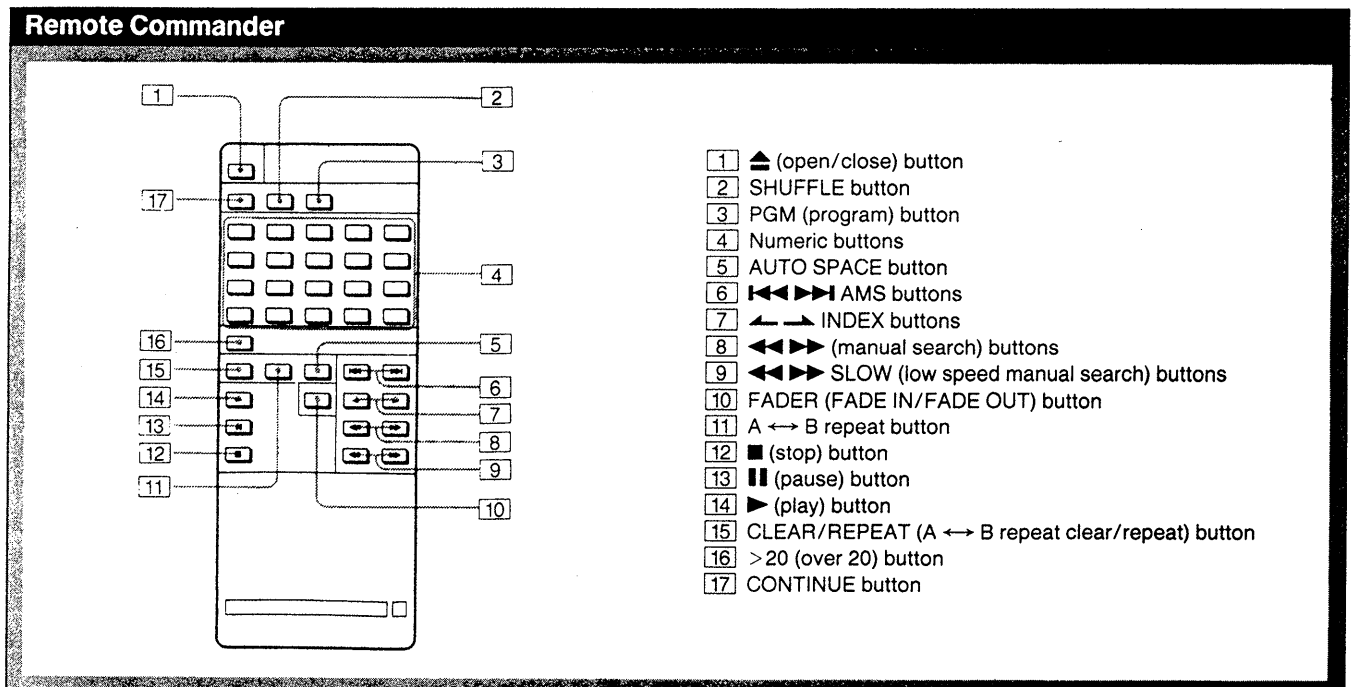
The laser beam on this model is concentrated so as to be focused on the disc reflective surface by the objective lens in the optical pick-up block. Therefore, when checking the laser diode emission, observe from more than 30cm away from the objective lens.

SECTION 1 GENERAL

1-1. LOCATION OF CONTROLS



- | | |
|---|---|
| <ul style="list-style-type: none"> 1 POWER switch 2 Disc tray 3 TIME button 4 Remote sensor 5 PEAK SEARCH button 6 REPEAT button 7 FADER (FADE IN/FADE OUT) button 8 CHECK (program check) button 9 CLEAR (program clear) button 10 MULTI PGM (multi-disc program) button 11 PROGRAM button 12 SHUFFLE button 13 CONTINUE button | <ul style="list-style-type: none"> 14 Numeric buttons 15 PHONE LEVEL control 16 PHONES jack 17 EDIT/TIME FADE button 18 TIME SET button 19 >20 (over 20) button 20 ◀◀▶▶ (AMS*) buttons 21 ◀▶▶▶ (manual search) buttons 22 ■ (stop) button 23 (pause) button 24 ▶ (play) button 25 Display window 26 ▲ (open/close) button <p>* AMS is an abbreviation of Automatic Music Sensor.</p> |
|---|---|



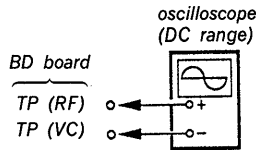
- | |
|---|
| <ul style="list-style-type: none"> 1 ▲ (open/close) button 2 SHUFFLE button 3 PGM (program) button 4 Numeric buttons 5 AUTO SPACE button 6 ◀◀▶▶ AMS buttons 7 ◀ → INDEX buttons 8 ◀◀▶▶ (manual search) buttons 9 ◀◀▶▶ SLOW (low speed manual search) buttons 10 FADER (FADE IN/FADE OUT) button 11 A ↔ B repeat button 12 ■ (stop) button 13 (pause) button 14 ▶ (play) button 15 CLEAR/REPEAT (A ↔ B repeat clear/repeat) button 16 >20 (over 20) button 17 CONTINUE button |
|---|

SECTION 2 ELECTRICAL ADJUSTMENT

1. Perform adjustments in the order given.
2. Use YEDS-18 disc (3-702-101-1) unless otherwise indicated.
3. Use the oscilloscope with more than 10MΩ impedance.

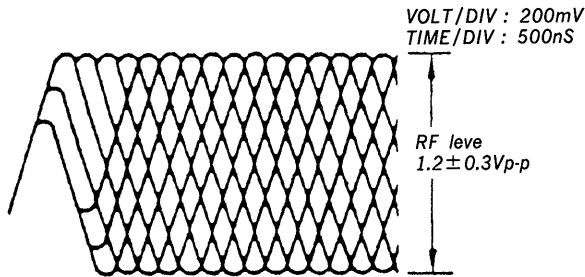
RF Level Check

Procedure :



1. Connect oscilloscope to test point TP (RF) and TP (VC) on BD board.
2. Turn POWER switch on.
3. Put disc (YEDS-18) in and play back.
4. Confirm that RF level and eye pattern is optimum. Optimum eye pattern means that shape "◇" can be clearly distinguished at the center of the wave form.

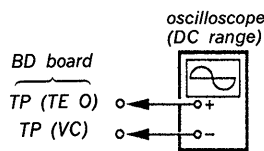
RF signal Reference Waveform (eye pattern)



REFERENCE

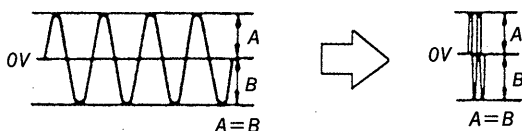
E-F Balance Check

Procedure :



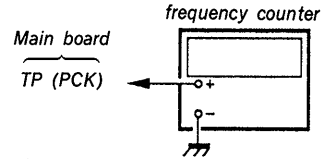
1. Connect test point TP (ADJ) and TP (TES) to ground with lead wire.
2. Connect oscilloscope to test point TP (TE O) and TP (VC) on BD board.
3. Turn POWER switch on.
4. Put disc (YEDS-18) in and play back.
5. Confirm that the oscilloscope waveform is symmetrical on the top and bottom in relation to 0V.
6. After check, remove the lead wire connected in step 1.

Note : Take sweep time as long as possible to obtain best waveform.



RF PLL Free-run Frequency Check

Procedure :



1. Turn POWER switch on.
2. Put disc (YEDS-18) in and play back.
3. Confirm that reading on frequency counter is 4.3218MHz.

Focus/Tracking Gain Adjustment

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

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

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

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

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

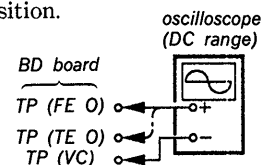
| | Gain | Focus | Tracking |
|---|------|-------|-------------|
| Symptoms | | | |
| • The time until music starts becomes longer for STOP →▷ PLAY or automatic selection. (◀◀, ▶▶ buttons pressed.) (Normally takes about 1 seconds.) | | low | low or high |
| • Music does not start and disc continues to rotate for STOP →▷ PLAY or automatic selection. (◀◀, ▶▶ buttons pressed.) | | — | low |
| • Sound is interrupted during PLAY. Or time counter display stops progressing. | | — | low |
| • More noise during 2-axis device operation. | high | high | high |

The following is a simple adjustment method.

—Primary Adjustment—

Note : Since exact adjustment cannot be performed, remember the positions of the controls before performing the adjustment.

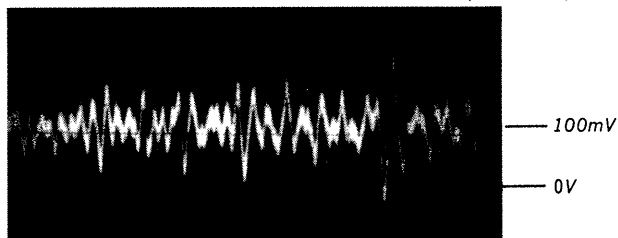
If the positions after the primary adjustment are only a little different, return the controls to the original position.



Procedure :

1. Keep the set horizontal.
(If the set is not horizontal, this adjustment cannot be performed due to the gravity against the 2-axis device.)
2. Insert disc (YEDS-18) and press ▷ PLAY button.
3. Connect oscilloscope to TP (FEO) and TP (VC) on BD board.
4. Adjustment RV101 on BD board so that the waveform is as shown in the figure below. (focus gain adjustment)

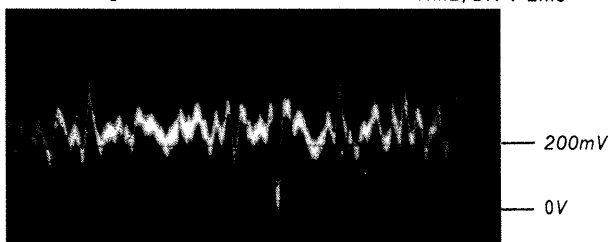
VOLT/DIV : 100mV
TIME/DIV : 2mS



• Inccornt Examples (DC level changes more than on adjusted waveform)

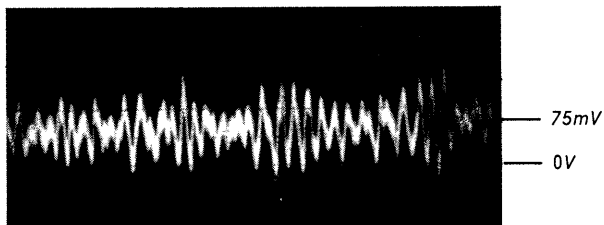
low focus gain

VOLT/DIV : 100mV
TIME/DIV : 2mS



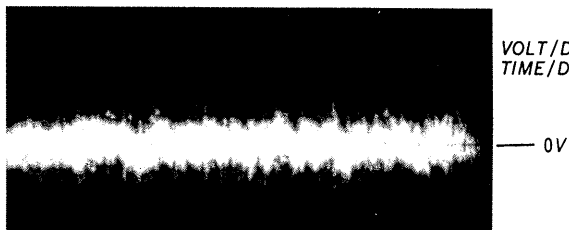
high focus gain

VOLT/DIV : 100mV
TIME/DIV : 2mS



5. Connect oscilloscope to TP (TEO) and TP (VC) on BD board.
6. Adjust RV102 on BD board so that the waveform is as shown the figure below. (tracking gain adjustment)

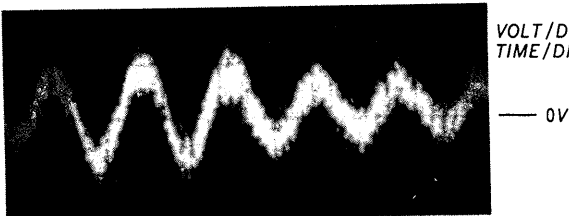
VOLT/DIV : 1V
TIME/DIV : 2mS



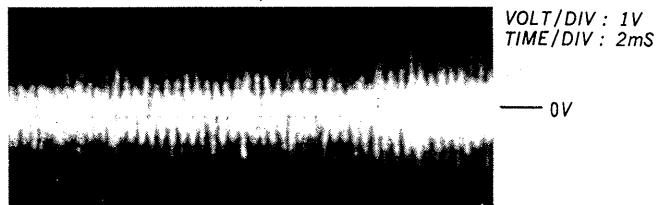
• Inccornt Examples (fundamentia wave appears)

low tracking gain

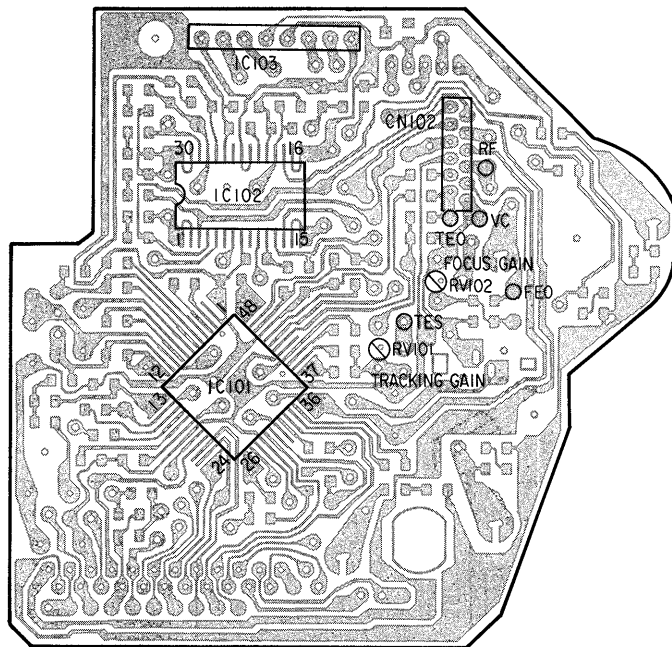
VOLT/DIV : 1V
TIME/DIV : 2mS



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

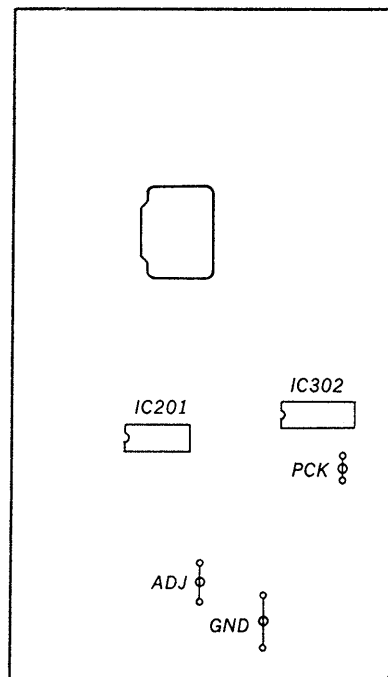


Adjustment Location :
[BD board]



[Main board]

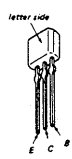
Component side



SECTION 3
DIAGRAMS

3-1. SEMICONDUCTOR LEAD LAYOUTS

BA1L3Z-K
2SA1175-HFE



DTA114ES
DTC114ES
DTC144ES
2SC2458-YGR



DTC114EF



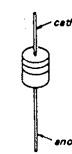
2SB1094-L



2SD774-34



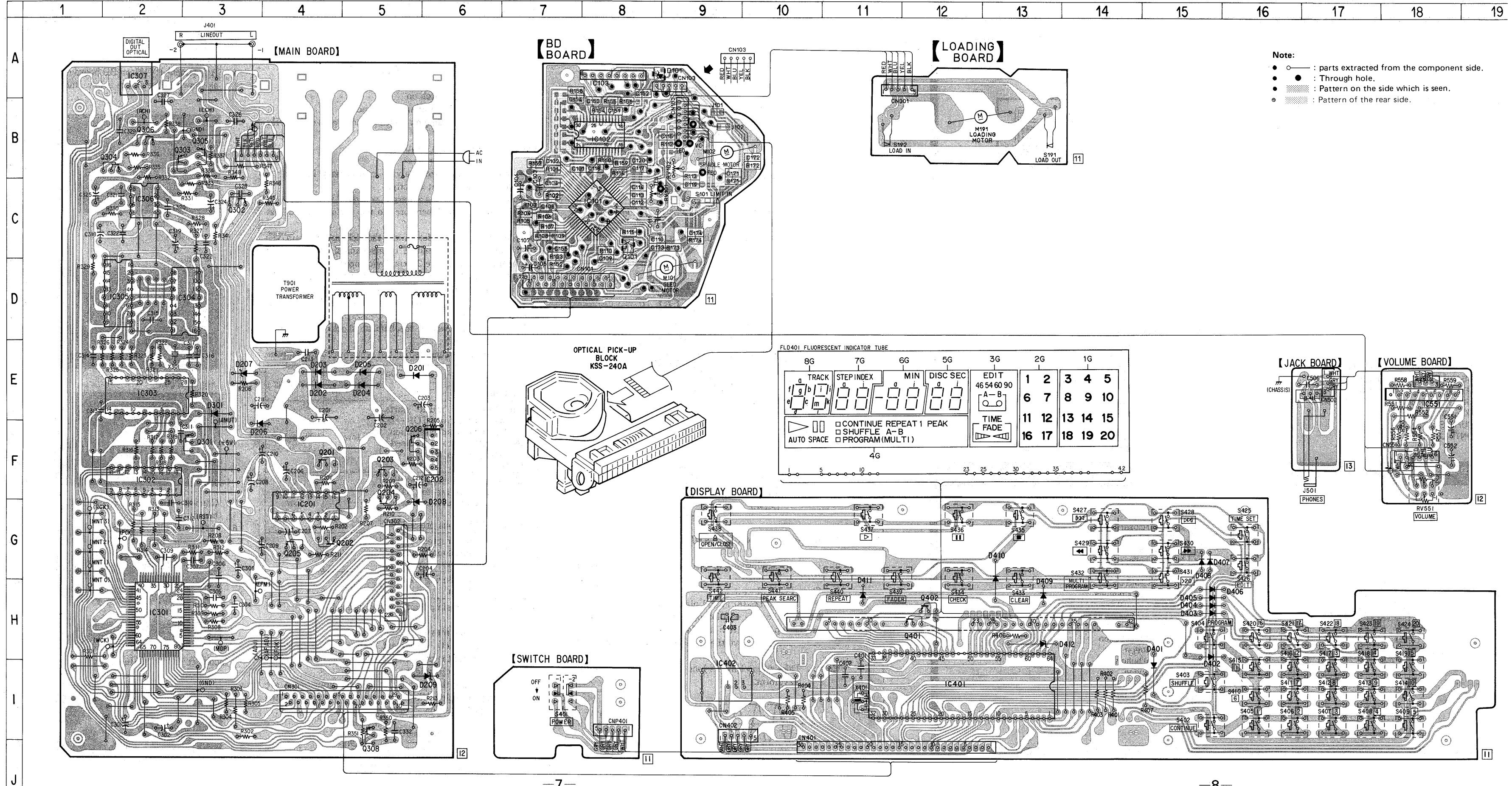
RD5.1ES-B2
RD8.2ES-B2
RD9.1ES-B2
1SS202-1
11ES2



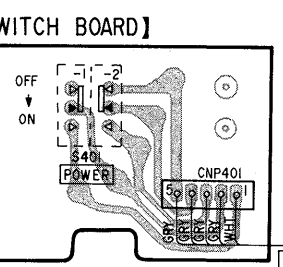
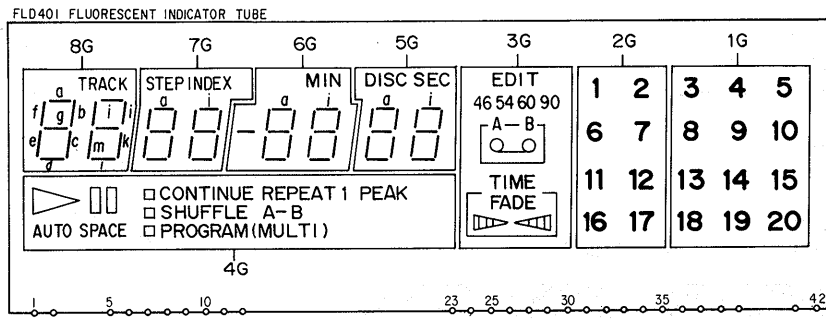
• Semiconductor Location

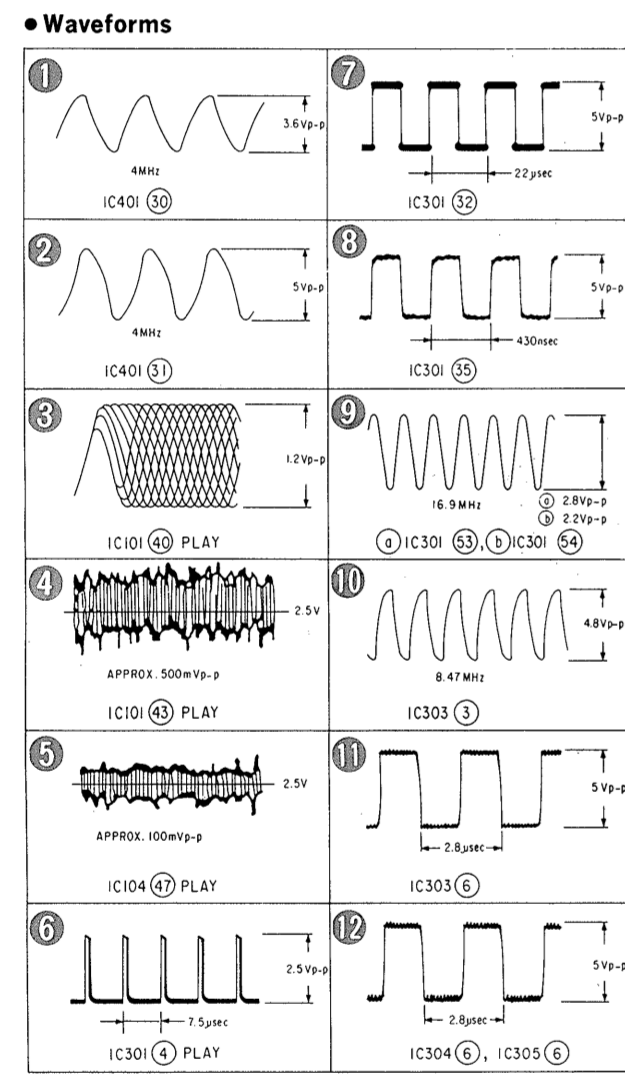
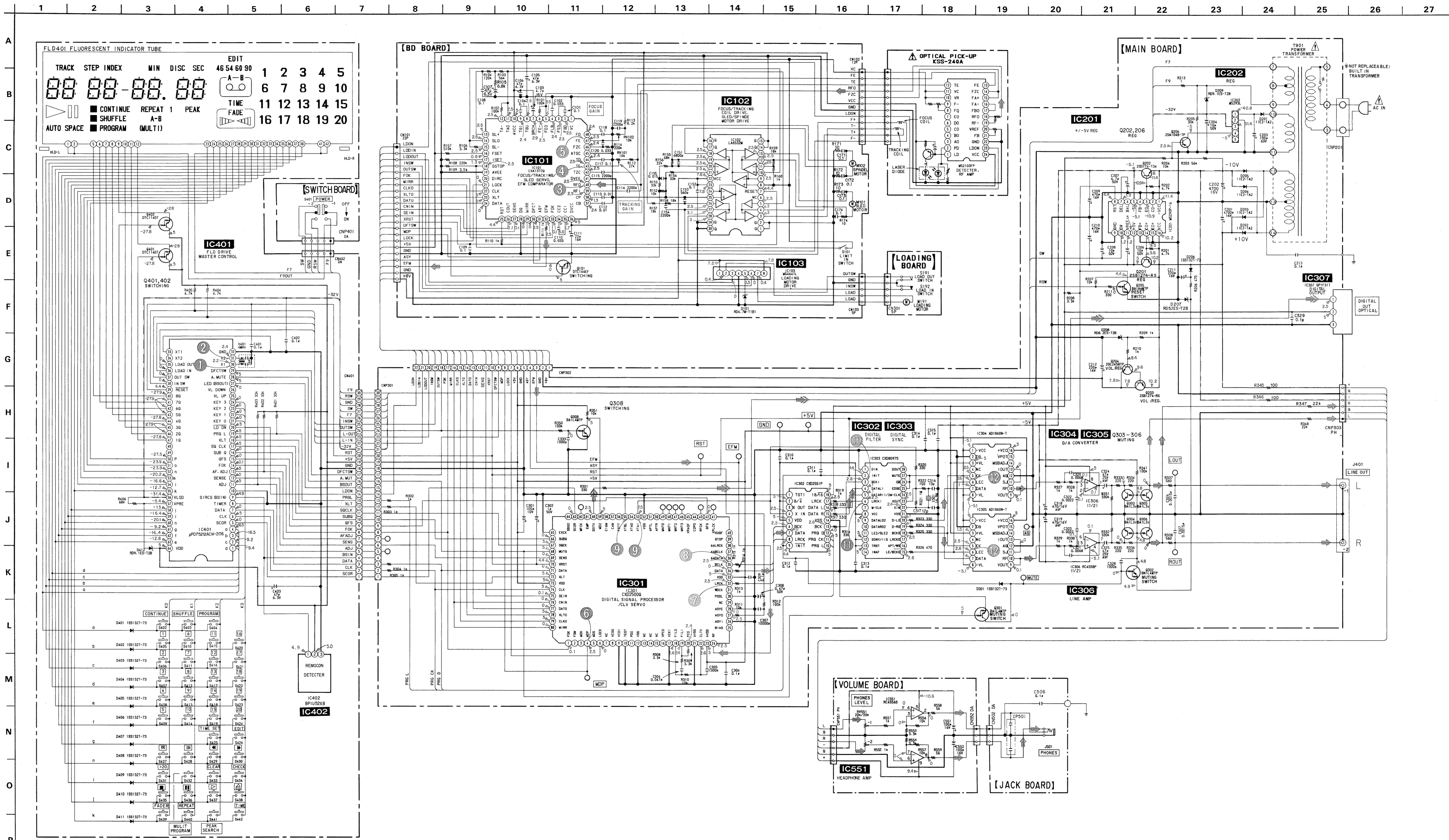
| Ref. No. | Location |
|----------|----------|
| D101 | A-9 |
| D201 | E-5 |
| D202 | E-4 |
| D203 | E-4 |
| D204 | E-5 |
| D205 | E-5 |
| D206 | F-3 |
| D207 | E-3 |
| D208 | G-5 |
| D209 | I-6 |
| D301 | E-3 |
| D401 | H-15 |
| D402 | H-15 |
| D403 | H-15 |
| D404 | H-15 |
| D405 | H-15 |
| D406 | H-15 |
| D407 | G-15 |
| D408 | G-15 |
| D409 | H-13 |
| D410 | G-13 |
| D411 | H-11 |
| D412 | H-13 |
| IC101 | C-8 |
| IC102 | B-8 |
| IC103 | A-8 |
| IC201 | G-4 |
| IC202 | F-6 |
| IC301 | H-2 |
| IC302 | F-2 |
| IC303 | F-2 |
| IC304 | D-3 |
| IC305 | D-2 |
| IC306 | C-2 |
| IC306 | C-2 |
| IC307 | A-2 |
| IC401 | I-12 |
| IC402 | I-9 |
| IC551 | E-19 |
| Q101 | C-8 |
| Q201 | F-4 |
| Q202 | G-4 |
| Q203 | F-5 |
| Q204 | G-5 |
| Q205 | G-4 |
| Q206 | F-5 |
| Q301 | F-3 |
| Q302 | C-3 |
| Q303 | B-2 |
| Q304 | B-2 |
| Q305 | B-3 |
| Q306 | B-2 |
| Q308 | I-5 |
| Q401 | H-12 |
| Q402 | H-12 |

3-2. PRINTED WIRING BOARDS



Note:
 ○ — : parts extracted from the component side.
 ● : Through hole.
 ○ (with dot) : Pattern on the side which is seen.
 ○ (with cross-hatch) : Pattern of the rear side.





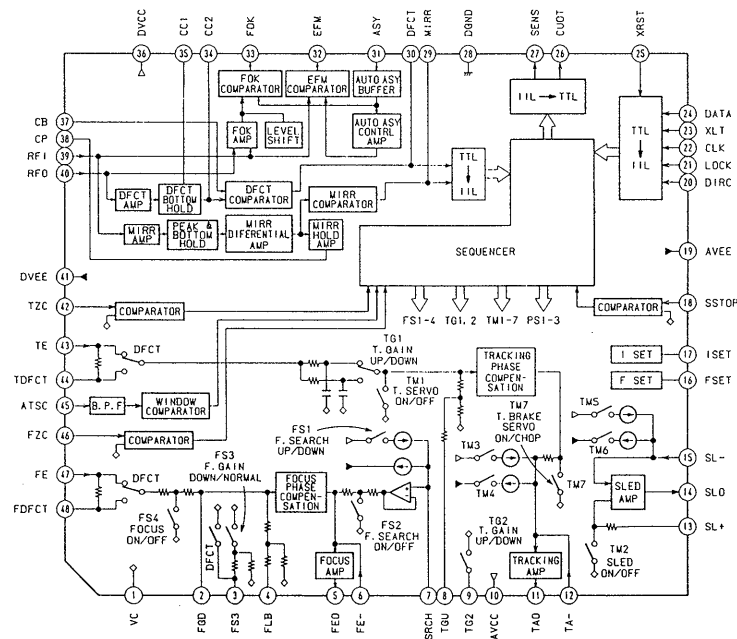
Note:

- All capacitors are in μF unless otherwise noted. pF: μF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and $\frac{1}{2}\text{W}$ or less unless otherwise specified.

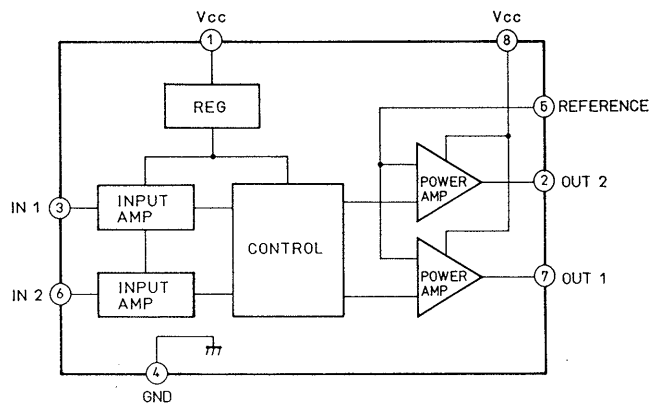
Note: The components identified by mark Δ or dotted line with mark Δ are critical for safety. Replace only with part number specified.

- : B+ Line
- : B- Line
- : adjustment for repair.
- Voltage and waveforms are dc with respect to ground under no-signal conditions. no mark: STOP
- Voltages are taken with a VOM (Input Impedance 10M Ω) Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with an oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
- CD
- digital out

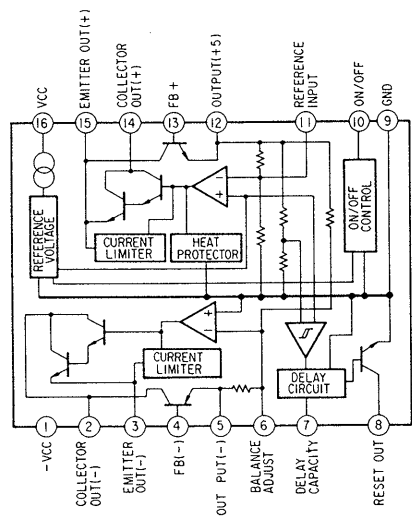
IC101 CXA1372Q



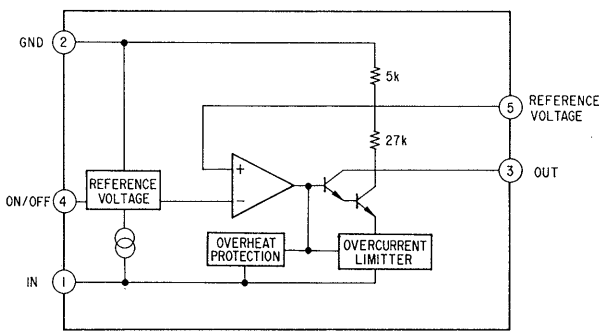
IC103 M54641L



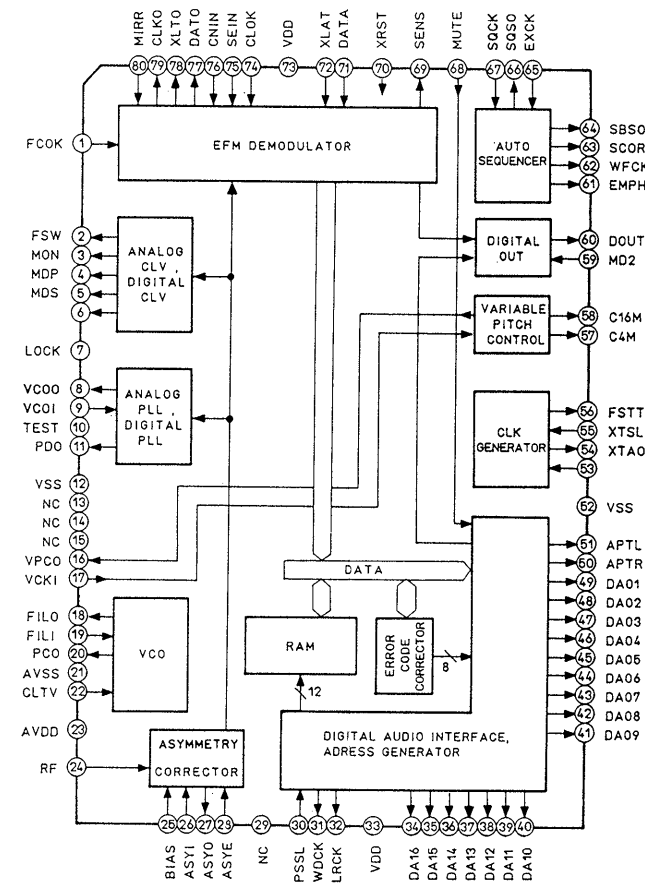
IC201 M5290P-16



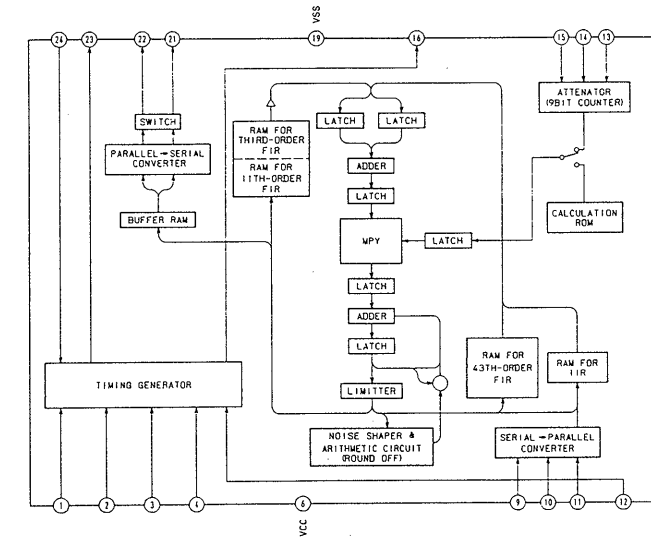
IC202 M5293L



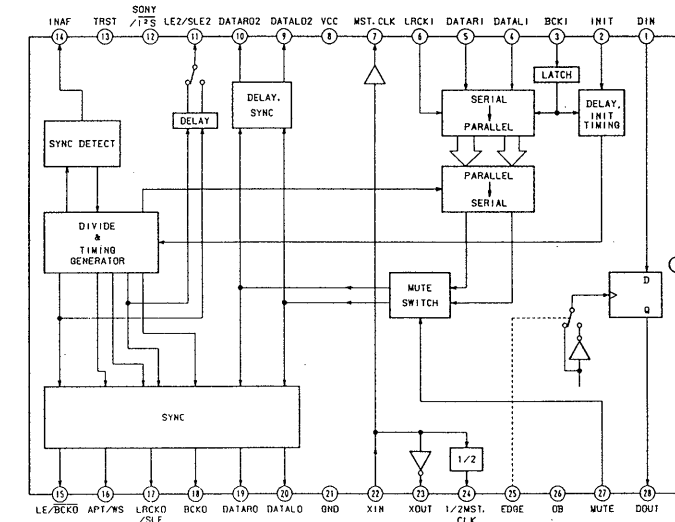
IC301 CXD2500Q



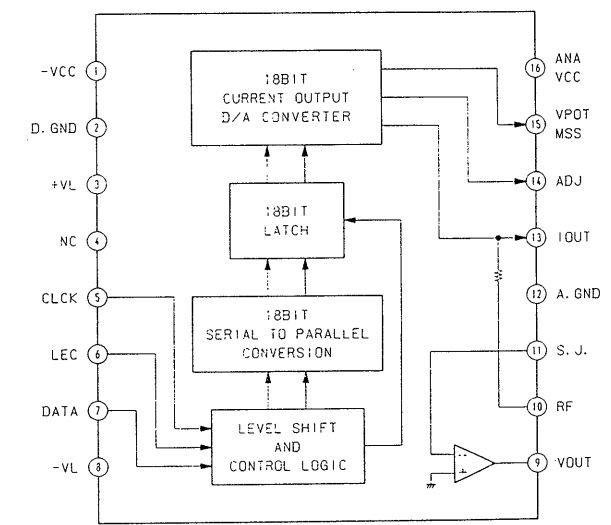
IC302 CXD2551P



IC303 CXD8097S



IC304, 305 AD1860N



SECTION 4 EXPLODED VIEWS

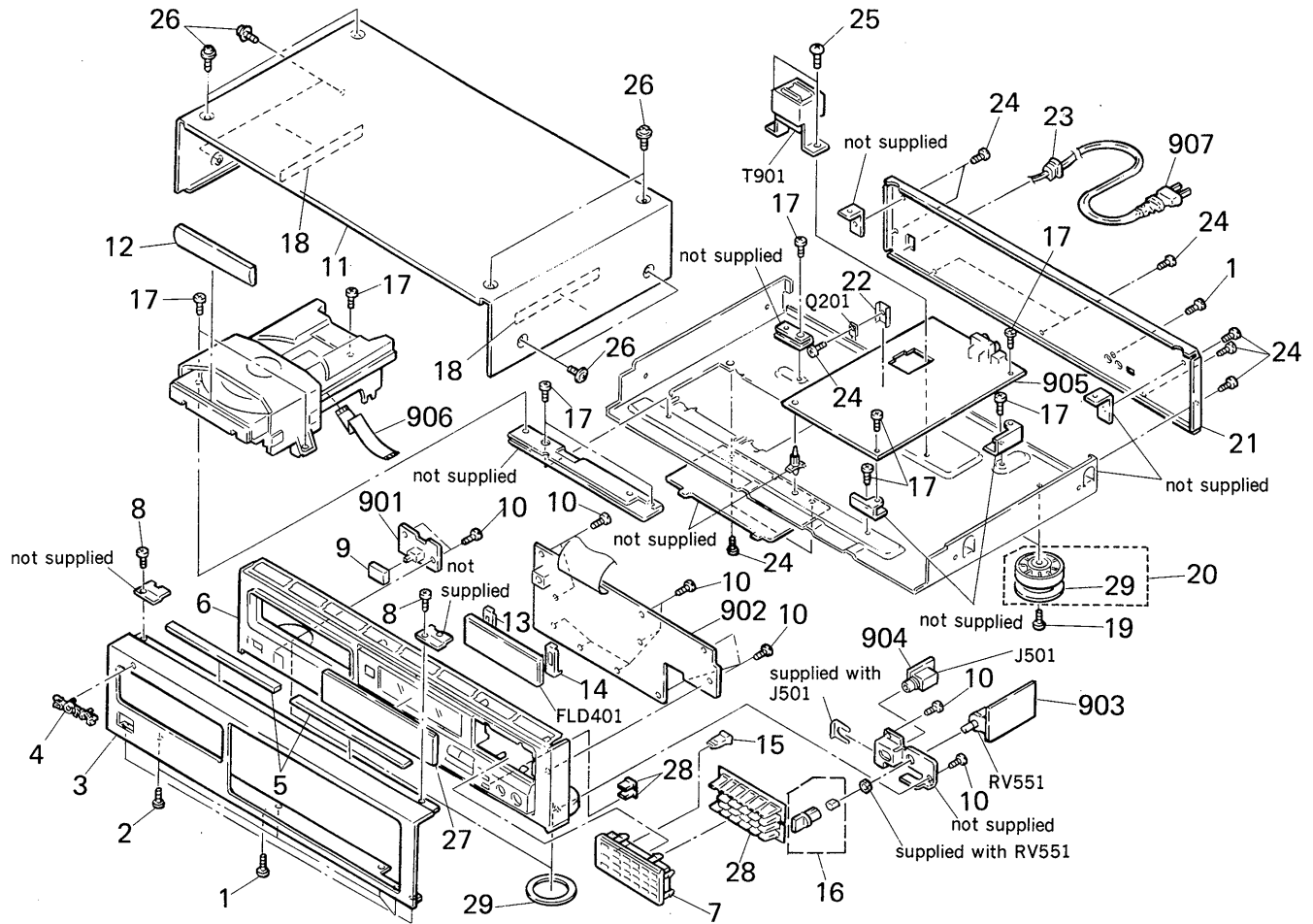
NOTE:

- The mechanical parts with no reference number in the exploded views are not supplied.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked "★" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

- Due to standardization, parts with part number suffix -XX and -X may be different from the parts specified in the components used on the set.
- Color Indication of Appearance Parts
Example:
(RED) ... KNOB, BALANCE (WHITE)
↑ Cabinet's Color ↑ Parts Color

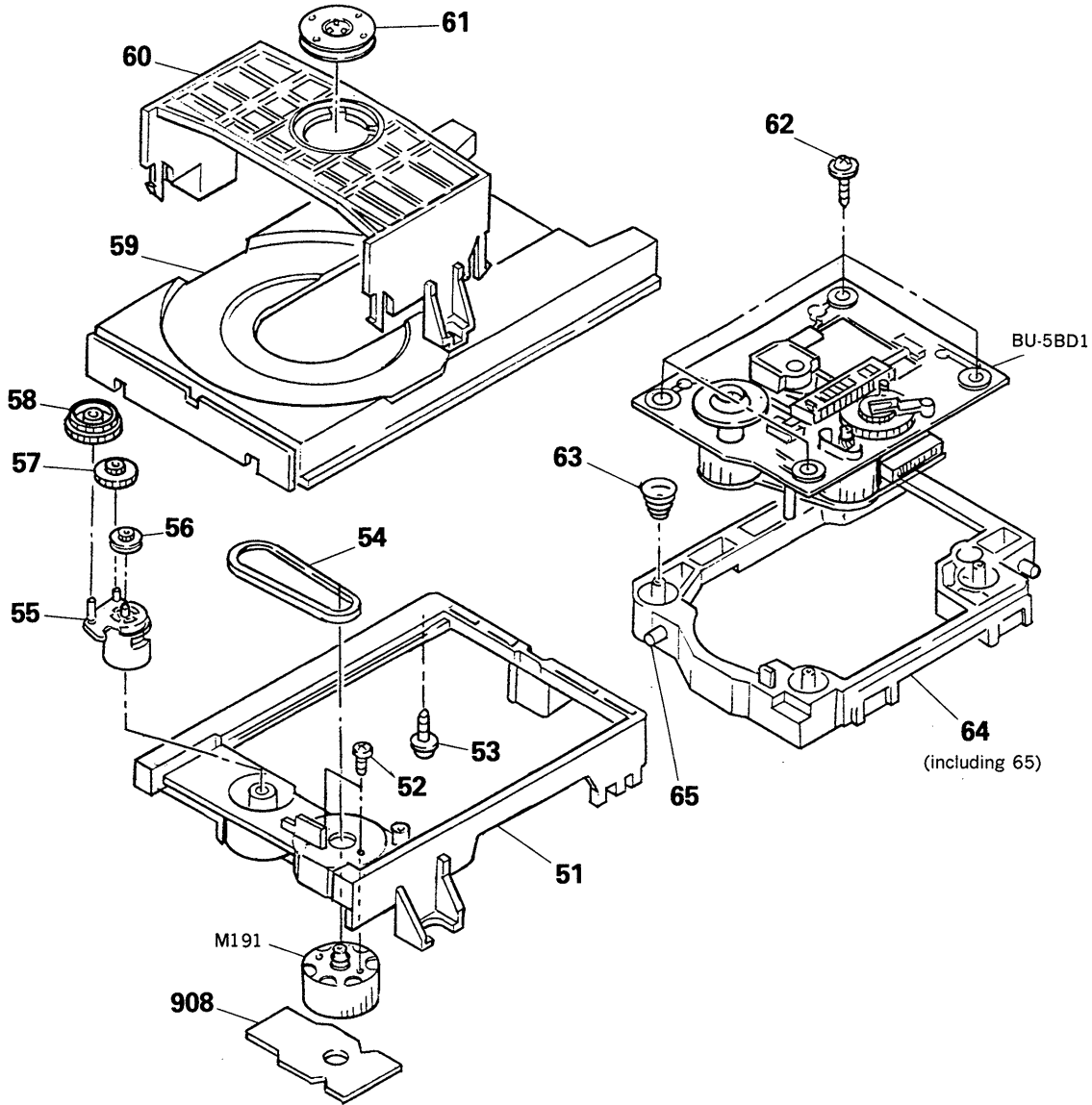
The components identified by mark or dotted line with mark are critical for safety. Replace only with part number specified.

4-1. CHASSIS BLOCK



| Ref.No | Part No. | Description | Remarks | Ref.No | Part No. | Description | Remarks |
|--------|---------------|----------------------------|---------|--------|---------------|--|---------|
| 1 | 7-685-646-79 | SCREW +BVTP 3X8 TYPE2 N-S | | 22 | 4-902-345-01 | HEAT SINK | |
| 2 | 3-703-685-21 | SCREW (+BV 3X8) | | 23 | ★3-703-244-00 | BUSHING (2104), CORD | |
| 3 | 4-929-515-12 | PANEL (FRONT) | | 24 | 7-682-547-09 | SCREW +BVTT 3X6 (S) | |
| 4 | 4-908-848-01 | EMBLEM, SONY | | 25 | 4-886-821-11 | SCREW, S TIGHT, +PTTW3 3X6 | |
| 5 | ★4-929-557-01 | CUSHION (PANEL) | | 26 | 3-704-366-31 | SCREW (CASE) (M3X6) | |
| 6 | X-4922-927-1 | PANEL (SUB) ASSY | | 27 | 4-929-522-01 | PLATE, INDICATION | |
| 7 | 4-929-528-01 | ESCUTCHEON (23) | | 28 | 4-929-527-01 | BUTTON (M/C) | |
| 8 | 7-685-645-79 | SCREW +BVTP 3X6 TYPE2 N-S | | 29 | 4-923-836-11 | CUSHION | |
| 9 | 4-922-921-01 | BUTTON (POWER) | | 901 | ★1-632-491-11 | PC BOARD, SWITCH | |
| 10 | 7-685-134-19 | SCREW +BTP 2.6X8 TYPE2 N-S | | 902 | ★A-4617-453-A | MOUNTED PCB, DISP | |
| 11 | 4-929-529-01 | CASE | | 903 | ★1-632-492-11 | PC BOARD, VOLUME | |
| 12 | 4-929-521-11 | PANEL, LOADING | | 904 | ★1-632-490-11 | PC BOARD, JACK | |
| 13 | ★4-922-524-01 | HOLDER (LEFT) | | 905 | ★A-4617-301-A | MOUNTED PCB, MAIN | |
| 14 | ★4-922-523-01 | HOLDER (RIGHT) | | 906 | 1-575-002-11 | WIRE, FLAT TYPE (22 CORE) | |
| 15 | 4-929-531-01 | BUTTON (C) | | 907 | △1-575-105-11 | CORD, POWER | |
| 16 | A-4675-298-A | KNOB (HP) ASSY | | FLD401 | 1-519-555-11 | INDICATOR TUBE, FLUORESCENT | |
| 17 | 7-682-547-04 | SCREW +BVTT 3X6 (S) | | J501 | 1-568-519-21 | JACK, LARGE TYPE (PHONES) | |
| 18 | ★4-929-561-01 | CUSHION (CASE) | | Q201 | 8-729-111-67 | TRANSISTOR 2SB1094-L | |
| 19 | 7-682-548-09 | SCREW +BVTT 3X8 (S) | | RV551 | 1-238-487-11 | RES, VAR, CARBON 20K/20K (PHONE LEVEL) | |
| 20 | X-4885-950-1 | FOOT ASSY | 29 | T901 | △1-449-921-11 | TRANSFORMER, POWER | |
| 21 | ★4-929-513-21 | PANEL, BACK | | | | | |

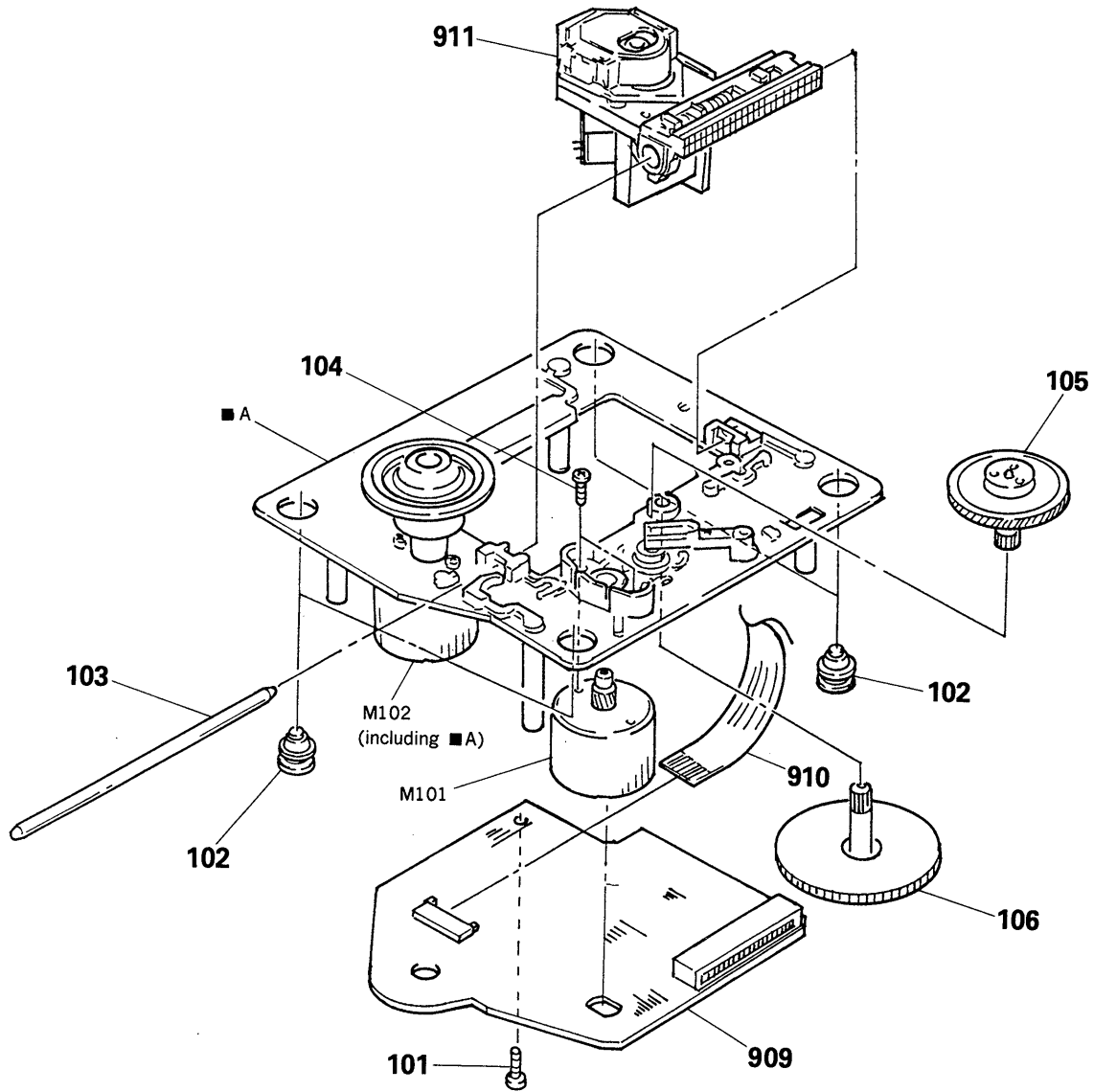
4-2. MD BLOCK (CDM14-5BD1)






| Ref.No | Part No. | Description | Remarks |
|--------|---------------|----------------|---------|
| 51 | 4-933-111-01 | CHASSIS (MD) | |
| 52 | 7-621-775-10 | SCREW +B 2.6X4 | |
| 53 | *4-917-583-21 | BRACKET, YOKE | |
| 54 | 4-927-649-01 | BELT | |
| 55 | 4-933-109-01 | CAM | |
| 56 | 4-927-651-01 | PULLEY (S) | |
| 57 | 4-927-628-01 | GEAR (C) | |
| 58 | 4-933-107-01 | GEAR (PL) | |
| 59 | 4-933-112-01 | TABLE, DISK | |

| Ref.No | Part No. | Description | Remarks |
|--------|---------------|-----------------------|---------|
| 60 | 4-933-110-01 | HOLDER (MG) | |
| 61 | A-4675-347-A | MG ASSY | |
| 62 | 4-933-134-01 | SCREW (+PTPWH M2.6X6) | |
| 63 | 4-917-541-01 | SPRING (B) | |
| 64 | 4-933-129-01 | HOLDER (BU) | |
| 65 | 4-933-108-01 | SHAFT (CAM) | |
| 908 | *1-632-202-11 | PC BOARD, LOADING | |
| M191 | A-4604-363-A | MOTOR (L) ASSY | |

4-3. OPTICAL PICK-UP BLOCK
(BU-5BD1)



Note: The components identified by mark  or dotted line with mark  are critical for safety. Replace only with part number specified.

| Ref.No | Part No. | Description | Remarks | Ref.No | Part No. | Description | Remarks |
|--------|--------------|----------------------------|---------|--------|--|---------------------------|---------|
| 101 | 7-685-134-19 | SCREW +BTP 2.6X8 TYPE2 N-S | | 909 | *A-4617-161-A | MOUNTED PCB, BD | |
| 102 | 4-933-126-01 | INSULATOR (A) | | 910 | 1-575-001-11 | WIRE, FLAT TYPE (12 CORE) | |
| 103 | 4-917-565-01 | SHAFT, SLED | | 911 |  8-848-144-11 | DEVICE, OPTICAL KSS-240A | |
| 104 | 7-621-255-15 | SCREW +P 2X3 | | M101 | X-4917-504-1 | MOTOR ASSY (SLED) | |
| 105 | 4-917-567-01 | GEAR (M) | | M102 | X-4917-523-1 | MOTOR ASSY (SPINDLE) | |
| 106 | 4-917-564-01 | GEAR (P), FLATNESS | | | | | |

SECTION 5 ELECTRICAL PARTS LIST

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- Items marked "★" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- If there are two or more same circuits in a set such as a stereophonic machine, only typical circuit parts may be indicated and capacitors and resistors in other same circuits may be omitted.

CAPACITORS:

MF: μ F, PF: μ PF.

RESISTORS

- All resistors are in ohms.
- F: nonflammable

COILS

- MMH: mH, UH: μ H

SEMICONDUCTORS

In each case, U: μ , for example:
 UA....: μ A...., UPA....: μ PA....,
 UPC....: μ PC, UPD....: μ PD....



The components identified by mark Δ or dotted line with mark Δ are critical for safety. Replace only with part number specified.

| Ref.No | Part No. | Description | Remarks | Ref.No | Part No. | Description | Remarks |
|------------------|-----------------------|---------------------------|------------------|--------|----------------|--------------------------------|------------------|
| 901 | * 1-632-491-11 | PC BOARD, SWITCH | | C301 | 1-124-994-11 | ELECT | 100MF 20% 10V |
| 902 | * A-4617-453-A | MOUNTED PCB, DISP | | C302 | 1-126-301-11 | ELECT | 1MF 20% 50V |
| 903 | * 1-632-492-11 | PC BOARD, VOLUME | | C304 | 1-136-161-00 | FILM | 0.047MF 5% 50V |
| 904 | * 1-632-490-11 | PC BOARD, JACK | | C305 | 1-161-374-11 | CERAMIC | 0.0015MF 30% 16V |
| 905 | * A-4617-301-A | MOUNTED PCB, MAIN | | C306 | 1-164-159-11 | CERAMIC | 0.1MF 50V |
| 906 | 1-575-002-11 | WIRE, FLAT TYPE (22 CORE) | | C307 | 1-162-306-11 | CERAMIC | 0.01MF 20% 16V |
| 907 | Δ 1-575-105-11 | CORD, POWER | | C308 | 1-126-300-11 | ELECT | 0.47MF 20% 50V |
| 908 | * 1-632-202-11 | PC BOARD, LOADING | | C309 | 1-164-159-11 | CERAMIC | 0.1MF 50V |
| 909 | * A-4617-161-A | MOUNTED PCB, BD | | C310 | 1-164-159-11 | CERAMIC | 0.1MF 50V |
| 910 | 1-575-001-11 | WIRE, FLAT TYPE (12 CORE) | | C311 | 1-164-159-11 | CERAMIC | 0.1MF 50V |
| 911 | Δ 8-848-144-11 | DEVICE, OPTICAL KSS-240A | | C312 | 1-164-159-11 | CERAMIC | 0.1MF 50V |
| CAPACITOR | | | | C313 | 1-164-159-11 | CERAMIC | 0.1MF 50V |
| C101 | 1-163-038-00 | CERAMIC CHIP | 0.1MF 25V | C314 | 1-164-159-11 | CERAMIC | 0.1MF 50V |
| C102 | 1-163-989-11 | CERAMIC CHIP | 0.033MF 10% 25V | C315 | 1-164-159-11 | CERAMIC | 0.1MF 50V |
| C103 | 1-126-094-11 | ELECT | 4.7MF 20% 16V | C316 | 1-162-202-31 | CERAMIC | 13PF 5% 50V |
| C104 | 1-163-038-00 | CERAMIC CHIP | 0.1MF 25V | C317 | 1-162-201-31 | CERAMIC | 12PF 5% 50V |
| C105 | 1-126-154-11 | ELECT | 47MF 20% 6.3V | C318 | 1-126-103-11 | ELECT | 470MF 20% 16V |
| C106 | 1-126-154-11 | ELECT | 47MF 20% 6.3V | C319 | 1-126-103-11 | ELECT | 470MF 20% 16V |
| C107 | 1-126-154-11 | ELECT | 47MF 20% 6.3V | C320 | 1-130-481-00 | MYLAR | 0.0068MF 5% 50V |
| C108 | 1-163-038-00 | CERAMIC CHIP | 0.1MF 25V | C321 | 1-130-481-00 | MYLAR | 0.0068MF 5% 50V |
| C109 | 1-163-038-00 | CERAMIC CHIP | 0.1MF 25V | C322 | 1-130-475-00 | MYLAR | 0.0022MF 5% 50V |
| C110 | 1-163-989-11 | CERAMIC CHIP | 0.033MF 10% 25V | C323 | 1-130-475-00 | MYLAR | 0.0022MF 5% 50V |
| C111 | 1-131-367-00 | TANTALUM | 22MF 20% 16V | C324 | 1-123-332-00 | ELECT | 47MF 20% 25V |
| C112 | 1-164-232-11 | CERAMIC CHIP | 0.01MF 10% 50V | C325 | 1-123-332-00 | ELECT | 47MF 20% 25V |
| C113 | 1-164-232-11 | CERAMIC CHIP | 0.01MF 10% 50V | C326 | 1-130-473-00 | MYLAR | 0.0015MF 5% 50V |
| C114 | 1-164-161-11 | CERAMIC CHIP | 0.0022MF 10% 50V | C327 | 1-130-473-00 | MYLAR | 0.0015MF 5% 50V |
| C115 | 1-164-161-11 | CERAMIC CHIP | 0.0022MF 10% 50V | C328 | 1-162-294-31 | CERAMIC | 0.001MF 10% 50V |
| C117 | 1-163-038-00 | CERAMIC CHIP | 0.1MF 25V | C329 | 1-164-159-11 | CERAMIC | 0.1MF 50V |
| C118 | 1-163-038-00 | CERAMIC CHIP | 0.1MF 25V | C333 | 1-162-294-31 | CERAMIC | 0.001MF 10% 50V |
| C119 | 1-164-161-11 | CERAMIC CHIP | 0.0022MF 10% 50V | C401 | 1-164-159-11 | CERAMIC | 0.1MF 50V |
| C120 | 1-163-989-11 | CERAMIC CHIP | 0.033MF 10% 25V | C402 | 1-164-159-11 | CERAMIC | 0.1MF 50V |
| C151 | 1-163-019-00 | CERAMIC CHIP | 0.0068MF 10% 50V | C506 | 1-164-159-11 | CERAMIC | 0.1MF 50V |
| C152 | 1-163-038-00 | CERAMIC CHIP | 0.1MF 25V | C551 | 1-126-023-11 | ELECT | 100MF 20% 16V |
| C153 | 1-163-006-11 | CERAMIC CHIP | 560PF 10% 50V | C552 | 1-126-023-11 | ELECT | 100MF 20% 16V |
| C154 | 1-164-161-11 | CERAMIC CHIP | 0.0022MF 10% 50V | CN101 | 1-568-796-11 | SOCKET, CONNECTOR 22P | |
| C155 | 1-163-023-00 | CERAMIC CHIP | 0.015MF 10% 50V | CN102 | 1-568-795-11 | SOCKET, CONNECTOR 12P | |
| C171 | 1-163-038-00 | CERAMIC CHIP | 0.1MF 25V | CN103 | * 1-564-721-11 | PIN, CONNECTOR (SMALL TYPE) 5P | |
| C172 | 1-163-038-00 | CERAMIC CHIP | 0.1MF 25V | CN301 | * 1-564-707-11 | PIN, CONNECTOR (SMALL TYPE) 5P | |
| C173 | 1-163-038-00 | CERAMIC CHIP | 0.1MF 25V | CN401 | 1-535-799-11 | JUMPER, FILM (WITH TERMINAL) | |
| C174 | 1-163-038-00 | CERAMIC CHIP | 0.1MF 25V | CNP201 | * 1-564-321-00 | PIN, CONNECTOR 2P | |
| C201 | 1-126-842-11 | ELECT | 4700MF 20% 16V | CNP301 | * 1-568-933-11 | SOCKET, CONNECTOR 30P | |
| C202 | 1-126-842-11 | ELECT | 4700MF 20% 16V | CNP302 | * 1-568-822-11 | SOCKET, CONNECTOR 22P | |
| C203 | 1-126-880-11 | ELECT | 100MF 20% 63V | CNP303 | * 1-564-708-11 | PIN, CONNECTOR (SMALL TYPE) 6P | |
| C204 | 1-126-059-11 | ELECT | 10MF 20% 50V | CNP401 | * 1-564-339-00 | PIN, CONNECTOR 5P | |
| C206 | 1-126-059-11 | ELECT | 10MF 20% 50V | CNP551 | * 1-564-708-11 | PIN, CONNECTOR (SMALL TYPE) 6P | |
| C207 | 1-124-045-00 | ELECT | 4.7MF 20% 50V | CP501 | 1-233-202-11 | COMPOSITION CIRCUIT BLOCK | |
| C208 | 1-126-059-11 | ELECT | 10MF 20% 50V | D101 | 8-719-105-72 | DIODE RD4.7M-B1 | |
| C209 | 1-126-012-11 | ELECT | 470MF 20% 16V | D201 | 8-719-200-82 | DIODE 11ES2 | |
| C210 | 1-126-012-11 | ELECT | 470MF 20% 16V | D202 | 8-719-200-82 | DIODE 11ES2 | |
| C211 | 1-126-024-11 | ELECT | 220MF 20% 16V | D203 | 8-719-200-82 | DIODE 11ES2 | |
| C212 | 1-126-024-11 | ELECT | 220MF 20% 16V | D204 | 8-719-200-82 | DIODE 11ES2 | |
| C213 | 1-164-159-11 | CERAMIC | 0.1MF 50V | D205 | 8-719-200-82 | DIODE 11ES2 | |

| Ref.No | Part No. | Description | Remarks | Ref.No | Part No. | Description | Remarks |
|-----------------|--------------|-----------------------------------|---------|--------|--------------|------------------|----------|
| D206 | 8-719-107-94 | DIODE ISS202-1 | | R106 | 1-216-061-00 | METAL GLAZE 3.3K | 5% 1/10W |
| D207 | 8-719-109-85 | DIODE RD5.1ES-B2 | | R107 | 1-216-114-00 | METAL GLAZE 510K | 5% 1/10W |
| D208 | 8-719-110-08 | DIODE RD8.2ES-B2 | | R108 | 1-216-105-00 | METAL GLAZE 220K | 5% 1/10W |
| D209 | 8-719-110-13 | DIODE RD9.1ES-B2 | | R109 | 1-216-061-00 | METAL GLAZE 3.3K | 5% 1/10W |
| D301 | 8-719-107-94 | DIODE ISS202-1 | | R110 | 1-216-049-00 | METAL GLAZE 1K | 5% 1/10W |
| D401 | 8-719-107-94 | DIODE ISS202-1 | | R111 | 1-216-049-00 | METAL GLAZE 1K | 5% 1/10W |
| D402 | 8-719-107-94 | DIODE ISS202-1 | | R112 | 1-216-083-00 | METAL GLAZE 27K | 5% 1/10W |
| D403 | 8-719-107-94 | DIODE ISS202-1 | | R113 | 1-216-071-00 | METAL GLAZE 8.2K | 5% 1/10W |
| D404 | 8-719-107-94 | DIODE ISS202-1 | | R114 | 1-216-105-00 | METAL GLAZE 220K | 5% 1/10W |
| D405 | 8-719-107-94 | DIODE ISS202-1 | | R152 | 1-216-073-00 | METAL GLAZE 10K | 5% 1/10W |
| D406 | 8-719-107-94 | DIODE ISS202-1 | | R153 | 1-216-085-00 | METAL GLAZE 33K | 5% 1/10W |
| D407 | 8-719-107-94 | DIODE ISS202-1 | | R154 | 1-216-085-00 | METAL GLAZE 33K | 5% 1/10W |
| D408 | 8-719-107-94 | DIODE ISS202-1 | | R155 | 1-216-093-00 | METAL GLAZE 68K | 5% 1/10W |
| D409 | 8-719-107-94 | DIODE ISS202-1 | | R156 | 1-216-081-00 | METAL GLAZE 22K | 5% 1/10W |
| D410 | 8-719-107-94 | DIODE ISS202-1 | | R157 | 1-216-079-00 | METAL GLAZE 18K | 5% 1/10W |
| D411 | 8-719-107-94 | DIODE ISS202-1 | | R158 | 1-216-079-00 | METAL GLAZE 18K | 5% 1/10W |
| D412 | 8-719-110-13 | DIODE RD9.1ES-B2 | | R159 | 1-216-079-00 | METAL GLAZE 18K | 5% 1/10W |
| FLD401 | 1-519-555-11 | INDICATOR TUBE, FLUORESCENT | | R160 | 1-216-049-00 | METAL GLAZE 1K | 5% 1/10W |
| IC101 | 8-752-037-33 | IC CXA1372Q | | R171 | 1-216-001-00 | METAL GLAZE 10 | 5% 1/10W |
| IC102 | 8-759-821-94 | IC LA6532M | | R172 | 1-216-001-00 | METAL GLAZE 10 | 5% 1/10W |
| IC103 | 8-759-633-65 | IC M54641L | | R173 | 1-216-001-00 | METAL GLAZE 10 | 5% 1/10W |
| IC201 | 8-759-630-21 | IC M5290P-16 | | R174 | 1-216-001-00 | METAL GLAZE 10 | 5% 1/10W |
| IC202 | 8-759-633-42 | IC M5293L | | R201 | 1-249-425-11 | CARBON 4.7K | 5% 1/4W |
| IC301 | 8-752-333-31 | IC CXD2500Q | | R202 | 1-249-425-11 | CARBON 4.7K | 5% 1/4W |
| IC302 | 8-752-334-06 | IC CXD2551P | | R203 | 1-249-438-11 | CARBON 56K | 5% 1/4W |
| IC303 | 8-759-990-80 | IC CXD8097S | | R204 | 1-249-429-11 | CARBON 10K | 5% 1/4W |
| IC304 | 8-759-990-58 | IC AD1860N-T | | R205 | 1-249-435-11 | CARBON 33K | 5% 1/4W |
| IC305 | 8-759-990-58 | IC AD1860N-T | | R206 | 1-249-413-11 | CARBON 470 | 5% 1/4W |
| IC306 | 8-759-945-58 | IC RC4558P | | R207 | 1-249-429-11 | CARBON 10K | 5% 1/4W |
| IC307 | 8-759-977-71 | IC GP-1F31T (DIGITAL OUT OPTICAL) | | R208 | 1-249-423-11 | CARBON 3.3K | 5% 1/4W |
| IC401 | 8-759-150-28 | IC UPD75212ACW-206 | | R209 | 1-249-417-11 | CARBON 1K | 5% 1/4W |
| IC402 | 8-749-920-83 | IC GP1U52XB | | R210 | 1-249-417-11 | CARBON 1K | 5% 1/4W |
| IC551 | 8-759-981-89 | IC RC4556S | | R211 | 1-249-411-11 | CARBON 330 | 5% 1/4W |
| J101 | 1-216-295-00 | METAL GLAZE 0 5% 1/10W | | R213 | 1-249-381-11 | CARBON 1 | 5% 1/4W |
| J102 | 1-216-295-00 | METAL GLAZE 0 5% 1/10W | | R301 | 1-249-411-11 | CARBON 330 | 5% 1/4W |
| J401 | 1-566-921-11 | JACK, PIN 2P (LINE OUT) | | R302 | 1-249-417-11 | CARBON 1K | 5% 1/4W |
| J501 | 1-568-519-21 | JACK, LARGE TYPE (PHONES) | | R303 | 1-249-417-11 | CARBON 1K | 5% 1/4W |
| M101 | X-4917-504-1 | MOTOR ASSY (SLED) | | R304 | 1-249-417-11 | CARBON 1K | 5% 1/4W |
| M102 | X-4917-523-1 | MOTOR ASSY (SPINDLE) | | R305 | 1-249-417-11 | CARBON 1K | 5% 1/4W |
| M191 | A-4604-363-A | MOTOR (L) ASSY | | R308 | 1-249-423-11 | CARBON 3.3K | 5% 1/4W |
| Q101 | 8-729-901-01 | TRANSISTOR DTC144EK | | R309 | 1-249-423-11 | CARBON 3.3K | 5% 1/4W |
| Q201 | 8-729-111-67 | TRANSISTOR 2SB1094-L | | R310 | 1-249-429-11 | CARBON 10K | 5% 1/4W |
| Q202 | 8-729-140-96 | TRANSISTOR 2SD774-34 | | R311 | 1-249-429-11 | CARBON 10K | 5% 1/4W |
| Q203 | 8-729-111-67 | TRANSISTOR 2SB1094-L | | R312 | 1-249-441-11 | CARBON 100K | 5% 1/4W |
| Q204 | 8-729-230-45 | TRANSISTOR 2SC2458-YGR | | R313 | 1-249-417-11 | CARBON 1K | 5% 1/4W |
| Q205 | 8-729-900-80 | TRANSISTOR DTC114ES | | R314 | 1-249-417-11 | CARBON 1K | 5% 1/4W |
| Q206 | 8-729-119-76 | TRANSISTOR 2SA1175-HFE | | R315 | 1-249-417-11 | CARBON 1K | 5% 1/4W |
| Q301 | 8-729-115-77 | TRANSISTOR DTC144ES | | R316 | 1-249-411-11 | CARBON 330 | 5% 1/4W |
| Q302 | 8-729-900-65 | TRANSISTOR DTA144ES | | R317 | 1-249-411-11 | CARBON 330 | 5% 1/4W |
| Q303 | 8-729-115-88 | TRANSISTOR BAIL3Z-K | | R318 | 1-249-411-11 | CARBON 330 | 5% 1/4W |
| Q304 | 8-729-115-88 | TRANSISTOR BAIL3Z-K | | R319 | 1-249-417-11 | CARBON 1K | 5% 1/4W |
| Q305 | 8-729-115-88 | TRANSISTOR BAIL3Z-K | | R320 | 1-249-411-11 | CARBON 330 | 5% 1/4W |
| Q306 | 8-729-115-88 | TRANSISTOR BAIL3Z-K | | R321 | 1-247-903-00 | CARBON 1M | 5% 1/4W |
| Q308 | 8-729-115-77 | TRANSISTOR DTC144ES | | R322 | 1-249-407-11 | CARBON 150 | 5% 1/4W |
| Q401 | 8-729-900-45 | TRANSISTOR DTC114EF | | R323 | 1-249-411-11 | CARBON 330 | 5% 1/4W |
| Q402 | 8-729-900-45 | TRANSISTOR DTC114EF | | R324 | 1-249-411-11 | CARBON 330 | 5% 1/4W |
| <u>RESISTOR</u> | | | | R325 | 1-249-411-11 | CARBON 330 | 5% 1/4W |
| R101 | 1-216-097-00 | METAL GLAZE 100K 5% 1/10W | | R326 | 1-249-413-11 | CARBON 470 | 5% 1/4W |
| R102 | 1-216-097-00 | METAL GLAZE 100K 5% 1/10W | | R327 | 1-249-417-11 | CARBON 1K | 5% 1/4W |
| R103 | 1-216-091-00 | METAL GLAZE 56K 5% 1/10W | | R328 | 1-249-417-11 | CARBON 1K | 5% 1/4W |
| R104 | 1-216-099-00 | METAL GLAZE 120K 5% 1/10W | | R329 | 1-249-417-11 | CARBON 1K | 5% 1/4W |
| R105 | 1-216-069-00 | METAL GLAZE 6.8K 5% 1/10W | | R330 | 1-249-417-11 | CARBON 1K | 5% 1/4W |
| | | | | R331 | 1-247-891-00 | CARBON 330K | 5% 1/4W |
| | | | | R332 | 1-247-891-00 | CARBON 330K | 5% 1/4W |
| | | | | R333 | 1-249-409-11 | CARBON 220 | 5% 1/4W |

| Ref.No | Part No. | Description | Remarks |
|--------|--------------|---|---------|
| R334 | 1-249-409-11 | CARBON 220 5% | 1/4W |
| R335 | 1-249-409-11 | CARBON 220 5% | 1/4W |
| R336 | 1-249-409-11 | CARBON 220 5% | 1/4W |
| R337 | 1-249-414-11 | CARBON 560 5% | 1/4W |
| R338 | 1-249-414-11 | CARBON 560 5% | 1/4W |
| R341 | 1-249-441-11 | CARBON 100K 5% | 1/4W |
| R345 | 1-249-405-11 | CARBON 100 5% | 1/4W |
| R346 | 1-249-405-11 | CARBON 100 5% | 1/4W |
| R347 | 1-249-433-11 | CARBON 22K 5% | 1/4W |
| R348 | 1-249-433-11 | CARBON 22K 5% | 1/4W |
| R350 | 1-249-441-11 | CARBON 100K 5% | 1/4W |
| R351 | 1-249-429-11 | CARBON 10K 5% | 1/4W |
| R401 | 1-249-435-11 | CARBON 33K 5% | 1/4W |
| R402 | 1-249-435-11 | CARBON 33K 5% | 1/4W |
| R403 | 1-249-435-11 | CARBON 33K 5% | 1/4W |
| R404 | 1-249-425-11 | CARBON 4.7K 5% | 1/4W |
| R405 | 1-249-425-11 | CARBON 4.7K 5% | 1/4W |
| R406 | 1-249-439-11 | CARBON 68K 5% | 1/4W |
| R551 | 1-249-417-11 | CARBON 1K 5% | 1/4W |
| R552 | 1-249-417-11 | CARBON 1K 5% | 1/4W |
| R553 | 1-249-423-11 | CARBON 3.3K 5% | 1/4W |
| R554 | 1-249-423-11 | CARBON 3.3K 5% | 1/4W |
| R556 | 1-249-429-11 | CARBON 10K 5% | 1/4W |
| R557 | 1-249-429-11 | CARBON 10K 5% | 1/4W |
| R558 | 1-249-402-11 | CARBON 56 5% | 1/4W |
| R559 | 1-249-402-11 | CARBON 56 5% | 1/4W |
| RV101 | 1-238-016-11 | RES, ADJ, CARBON 10K | |
| RV102 | 1-238-016-11 | RES, ADJ, CARBON 10K | |
| RV551 | 1-238-487-11 | RES, VAR, CARBON 20K/20K (PHONES LEVEL) | |
| S101 | 1-572-085-11 | SWITCH, LEAF (LIMIT IN) | |
| S191 | 1-572-086-11 | SWITCH, LEAF (LOAD OUT) | |
| S192 | 1-572-086-11 | SWITCH, LEAF (LOAD IN) | |
| S401 | 1-571-305-11 | SWITCH, PUSH (1 KEY) (POWER) | |
| S402 | 1-554-303-21 | SWITCH, KEY BOARD (CONTINUE) | |
| S403 | 1-554-303-21 | SWITCH, KEY BOARD (SHUFFLE) | |
| S404 | 1-554-303-21 | SWITCH, KEY BOARD (PROGRAM) | |
| S405 | 1-554-303-21 | SWITCH, KEY BOARD (1) | |
| S406 | 1-554-303-21 | SWITCH, KEY BOARD (2) | |
| S407 | 1-554-303-21 | SWITCH, KEY BOARD (3) | |
| S408 | 1-554-303-21 | SWITCH, KEY BOARD (4) | |
| S409 | 1-554-303-21 | SWITCH, KEY BOARD (5) | |
| S410 | 1-554-303-21 | SWITCH, KEY BOARD (6) | |
| S411 | 1-554-303-21 | SWITCH, KEY BOARD (7) | |
| S412 | 1-554-303-21 | SWITCH, KEY BOARD (8) | |
| S413 | 1-554-303-21 | SWITCH, KEY BOARD (9) | |
| S414 | 1-554-303-21 | SWITCH, KEY BOARD (10) | |
| S415 | 1-554-303-21 | SWITCH, KEY BOARD (11) | |
| S416 | 1-554-303-21 | SWITCH, KEY BOARD (12) | |
| S417 | 1-554-303-21 | SWITCH, KEY BOARD (13) | |
| S418 | 1-554-303-21 | SWITCH, KEY BOARD (14) | |
| S419 | 1-554-303-21 | SWITCH, KEY BOARD (15) | |
| S420 | 1-554-303-21 | SWITCH, KEY BOARD (16) | |
| S421 | 1-554-303-21 | SWITCH, KEY BOARD (17) | |
| S422 | 1-554-303-21 | SWITCH, KEY BOARD (18) | |
| S423 | 1-554-303-21 | SWITCH, KEY BOARD (19) | |
| S424 | 1-554-303-21 | SWITCH, KEY BOARD (20) | |
| S425 | 1-554-303-21 | SWITCH, KEY BOARD (TIME SET) | |
| S426 | 1-554-303-21 | SWITCH, KEY BOARD (EDIT) | |
| S427 | 1-554-303-21 | SWITCH, KEY BOARD (<K>) | |
| S428 | 1-554-303-21 | SWITCH, KEY BOARD (>X) | |
| S429 | 1-554-303-21 | SWITCH, KEY BOARD (<<<) | |
| S430 | 1-554-303-21 | SWITCH, KEY BOARD (>>>) | |
| S431 | 1-554-303-21 | SWITCH, KEY BOARD (>20) | |
| S432 | 1-554-303-21 | SWITCH, KEY BOARD (MULTI PROGRAM) | |

| Ref.No | Part No. | Description | Remarks |
|--|----------------|---------------------------------|---------|
| S433 | 1-554-303-21 | SWITCH, KEY BOARD (CLEAR) | |
| S434 | 1-554-303-21 | SWITCH, KEY BOARD (CHECK) | |
| S435 | 1-554-303-21 | SWITCH, KEY BOARD (■) | |
| S436 | 1-554-303-21 | SWITCH, KEY BOARD (■) | |
| S437 | 1-554-303-21 | SWITCH, KEY BOARD (▷) | |
| S438 | 1-554-303-21 | SWITCH, KEY BOARD (▲) | |
| S439 | 1-554-303-21 | SWITCH, KEY BOARD (FADER) | |
| S440 | 1-554-303-21 | SWITCH, KEY BOARD (REPEAT) | |
| S441 | 1-554-303-21 | SWITCH, KEY BOARD (PEAK SEARCH) | |
| S442 | 1-554-303-21 | SWITCH, KEY BOARD (TIME) | |
| T901 | △.1-449-921-11 | TRANSFORMER, POWER | |
| X301 | 1-567-926-11 | VIBRATOR, CRYSTAL (16.9344MHz) | |
| X401 | 1-577-082-11 | VIBRATOR, CERAMIC (4MHz) | |
| ACCESSORIES AND PACKING MATERIALS ***** | | | |
| 1-465-280-11 | | REMOTE COMMANDER (RM-D290) | |
| 1-559-533-11 | | CORD, CONNECTION | |
| 3-750-846-21 | | MANUAL, INSTRUCTION | |
| 4-923-540-01 | | CUSHION | |
| 4-925-788-01 | | COVER, BATTERY (FOR RM-D290) | |
| *4-929-558-21 | | INDIVIDUAL CARTON | |

Note: The components identified by mark  or dotted line with mark  are critical for safety. Replace only with part number specified.

CDP-790

SONY SERVICE MANUAL

US Model

CORRECTION-1

Correct your service manual as shown below.

 : indicates corrected portion.

| Page | INCORRECT | CORRECT |
|------|--|--|
| 4 | E-F Balance Check Procedure : 2. Connect test point TP (ADJ) and TP (TES) to ground with lead wire. | E-F Balance Check Procedure : 2. Connect test point <u>TP (ADJ)</u> to ground and <u>TP (TES)</u> to <u>TP (VC)</u> with lead wire. |
| 5 | Focus/Tracking Adjustment 4. Adjustment RV101 on BD board so that the waveform is as shown in the figure below. (focus gain adjustment) 6. Adjust RV102 on BD board so that the waveform is as shown the figure below. (tracking gain adjustment) | Focus/Tracking Adjustment 4. <u>Adjust RV102</u> on BD board so that the waveform is as shown in the figure below. (focus gain adjustment) 6. Adjust <u>RV101</u> on BD board so that the waveform is as shown <u>in</u> the figure below. (tracking gain adjustment) |