

# CDX-2100/EXCD-21

## SERVICE MANUAL

US Model

CDX-2100

Canadian Model

EXCD-21

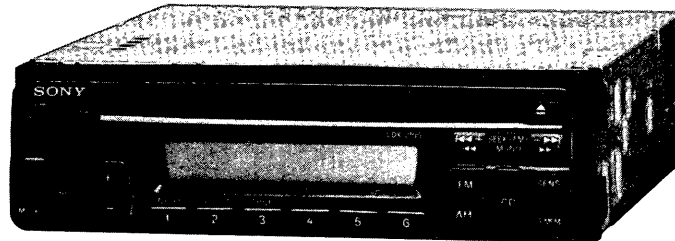


Photo: CDX-2100

SEE ADDITIONAL  
INFORMATION

|                                    |             |
|------------------------------------|-------------|
| Model Name Using Similar Mechanism | NEW         |
| CD Drive Mechanism Type            | MG-333X-121 |
| Optical Pick-Up Name               | KSS-520A    |

### SPECIFICATIONS

#### AUDIO POWER SPECIFICATIONS

##### POWER OUTPUT AND TOTAL HARMONIC DISTORTION

7 watts per channel minimum continuous average power into 4 ohms, 4 channels driven from 20 Hz to 20 kHz with no more than 1 % total harmonic distortion.

#### CD player section

|                        |                                   |                        |                            |                      |                                                                                                                                       |
|------------------------|-----------------------------------|------------------------|----------------------------|----------------------|---------------------------------------------------------------------------------------------------------------------------------------|
| System                 | Compact disc digital audio system | Separation             | 33 dB at 1 kHz             | Dimensions           | Approx. 178 × 50 × 180 mm (7 <sup>1</sup> / <sub>8</sub> × 2 × 7 <sup>1</sup> / <sub>8</sub> in.) (w/h/d)                             |
| Signal-to-noise ratio  | 90 dB                             | Frequency response     | 30 – 15,000 Hz             | Mounting dimension   | Approx. 183 × 53 × 159 mm (7 <sup>1</sup> / <sub>4</sub> × 2 <sup>1</sup> / <sub>8</sub> × 6 <sup>3</sup> / <sub>8</sub> in.) (w/h/d) |
| Frequency response     | 10 – 20,000 Hz                    | Capture ratio          | 2 dB                       | Mass                 | Approx. 1.2 Kg (2 lb 10 oz.)                                                                                                          |
| Wow and flutter        | Below measurable limit            | <b>AM</b>              |                            | Supplied accessories | Parts for installation and connections (1 set)                                                                                        |
| Laser Diode Properties |                                   | Tuning range           | 530 – 1,710 kHz            |                      |                                                                                                                                       |
| Material               | GaAlAs                            | Antenna terminal       | External antenna connector |                      |                                                                                                                                       |
| Wavelength             | 780 nm                            | Intermediate frequency | 450 kHz                    |                      |                                                                                                                                       |
| Emission Duration      | Continuous                        | Sensitivity            | 32 μV                      |                      |                                                                                                                                       |
| 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.

#### Power amplifier section

|                      |                                        |
|----------------------|----------------------------------------|
| Outputs              | Speaker outputs (sure seal connectors) |
| Speaker impedance    | 4 – 8 ohms                             |
| Maximum power output | 20 W × 4 (at 4 ohms)                   |

Design and specifications are subject to change without notice.

#### Tuner section

|                              |                              |
|------------------------------|------------------------------|
| <b>FM</b>                    |                              |
| Tuning range                 | 87.5 – 107.9 MHz             |
| Antenna terminal             | External antenna connector   |
| Intermediate frequency       | 10.7 MHz                     |
| Usable sensitivity           | 13 dBf                       |
| Selectivity                  | 70 dB at 400 kHz             |
| Signal-to-noise ratio        | 65 dB (stereo), 68 dB (mono) |
| Harmonic distortion at 1 kHz | 0.5 % (stereo), 0.3 % (mono) |

#### General

|                    |                                                        |
|--------------------|--------------------------------------------------------|
| Output lead        | Power antenna control/<br>Power amplifier control lead |
| Tone controls      | Bass ±10 dB at 100 Hz<br>Treble ±10 dB at 10 kHz       |
| Power requirements | 12 V DC car battery (negative ground)                  |

FM/AM COMPACT DISC PLAYER  
**SONY**®



## TABLE OF CONTENTS

|                                                         |    |
|---------------------------------------------------------|----|
| <b>1. GENERAL</b>                                       |    |
| Location of Controls .....                              | 3  |
| Installation .....                                      | 4  |
| Connections .....                                       | 5  |
| <b>2. DISASSEMBLY</b> .....                             | 7  |
| <b>3. TEST MODE</b> .....                               | 11 |
| <b>4. ELECTRICAL ADJUSTMENTS</b>                        |    |
| Tuner Section .....                                     | 11 |
| CD Section .....                                        | 13 |
| <b>5. DIAGRAMS</b>                                      |    |
| 5-1. IC Pin Function Description .....                  | 14 |
| 5-2. Printed Wiring Boards                              |    |
| – Mechanism Deck Section – .....                        | 16 |
| 5-3. Schematic Diagram – Mechanism Deck Section – ..... | 19 |
| 5-4. Schematic Diagram – Main, Key Section – .....      | 23 |
| 5-5. Printed Wiring Boards – Main, Key Section – .....  | 27 |
| <b>6. EXPLODED VIEWS</b> .....                          | 33 |
| <b>7. ELECTRICAL PARTS LIST</b> .....                   | 38 |

## SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK  $\triangle$  OR DOTTED LINE WITH MARK  $\triangle$  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.

## SERVICING NOTES

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.

## Laser Diode Properites

- Material: GaAlAs
- Wavelength: 780 nm
- Emission Duration: continuous
- Laser Output Power: less than 44.6  $\mu$ W\*

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

## CAUTION

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

## Flexible Circuit Board Repairing

- Keep the temperature of the soldering iron around 270 °C during repairing.
- Do not touch the soldering iron on the same conductor of the circuit board (within 3 times).
- Be careful not to apply force on the conductor when soldering or unsoldering.

## Notes on chip component replacement

- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

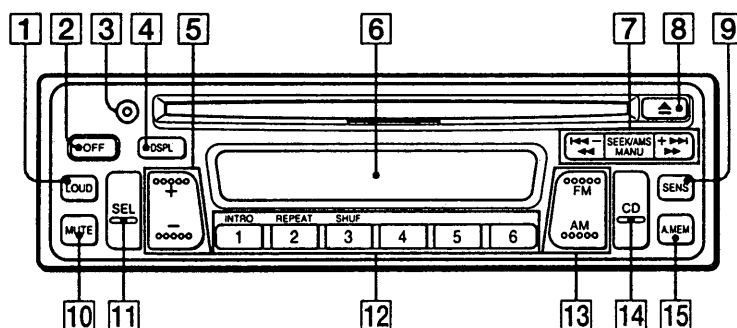
ATTENTION AU COMPOSANT AYANT RAPPORT  
À LA SÉCURITÉ!

LES COMPOSANTS IDENTIFIÉS PAR UNE MARQUE  $\triangle$  SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

## SECTION 1 GENERAL

This section is extracted from instruction manual.

### Location of Controls



Refer to the pages in ● for details.

- 1 LOUD (loudness) button 8
- 2 OFF button 5 8 9
- 3 Reset button 4
- 4 DSPL (display mode change/time set) button 5
- 5 +/- (volume/bass/treble/balance/fader control) button 5 8
- 6 Display window
- 7 SEEK/AMS/MANU (automatic tuning/Automatic Music Sensor/manual search) button 6 7
- 8 EJECT button 5 8
- 9 SENS (sensitivity adjust) button 7
- 10 MUTE button 8
- 11 SEL (control mode select) button 5 8 9
- 12 During radio reception:  
Preset number buttons 8
- During CD playback:
  - 1 INTRO (intro scan) button 6
  - 2 REPEAT (repeat play) button 6
  - 3 SHUF (shuffle play) button 6
- 13 FM/AM (radio on/band select) button 5 7
- 14 CD (CD play) button 5
- 15 A.MEM (Automatic Memory function) button 7

# Installation

## Precautions

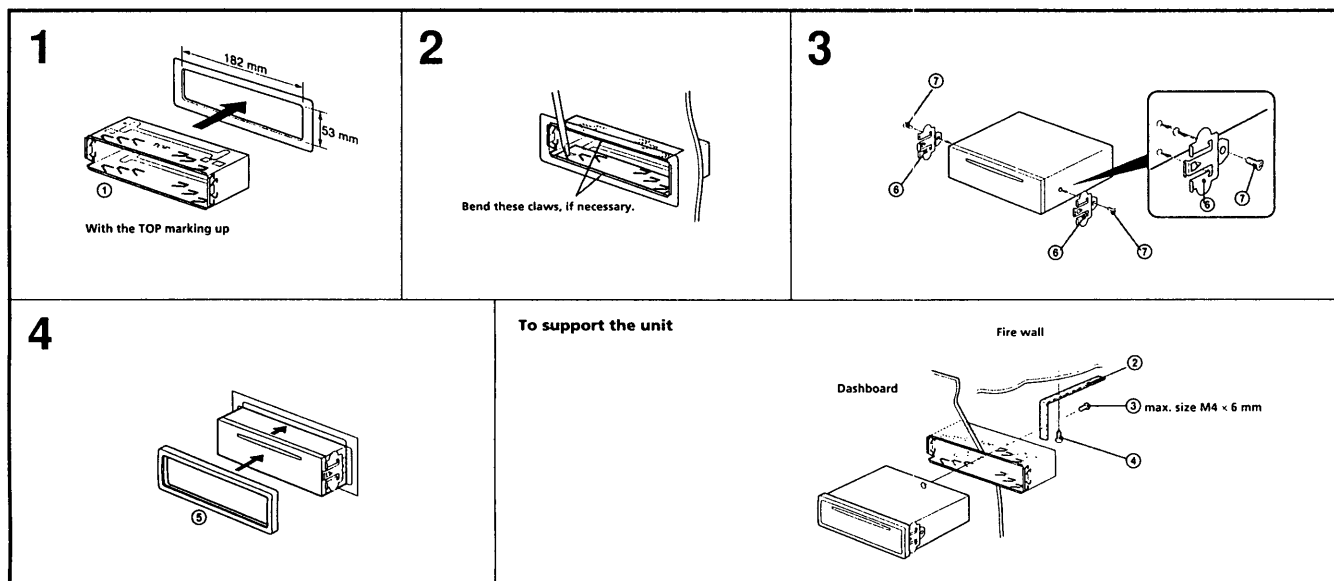
- Do not tamper with the four holes on the upper surface of the unit. They are for tuner adjustments to be done only by service technicians.
- Choose the installation location carefully so that the unit will not hamper the driver during driving.
- Avoid installing the unit where it would be subject to high temperatures, such as from direct sunlight or hot air from the heater, or where it would be subject to dust, dirt or excessive vibration.
- Use only the supplied mounting hardware for a safe and secure installation.

## Mounting angle adjustment

Adjust the mounting angle to less than 20°.

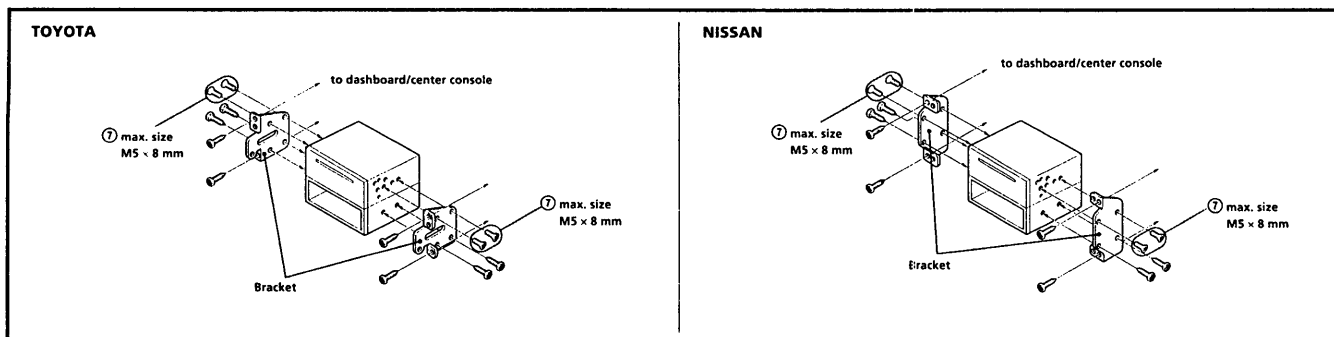
## Mounting Example

Installation in the dashboard



## Mounting the Unit in a Japanese Car

You may not be able to install this unit in some makes of Japanese cars. In such a case, consult your Sony dealer.



### Note

To prevent malfunction, install only with the supplied screws ⑦ and use existing parts supplied to your car.

Connections

Caution

- This unit is designed for negative ground 12 V DC operation only.
- Before making connections, disconnect the ground terminal of the car battery to avoid short circuits.
- Connect the yellow and red power input leads only after all other leads have been connected.
- Be sure to connect the red power input lead to the positive 12 V power terminal which is energized when the ignition key is in the accessory position.
- Run all ground wires to a common ground point.
- The use of optical instruments with this product will increase eye hazard.

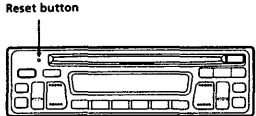
If Your Car has an Accessory Position on the Ignition Key Switch

— Power Select Function

To turn the Power Select Function on:  
Press the OFF button while pressing the SEL button.  
To turn the accessory position ON or OFF, the clock will be displayed or not.  
To avoid battery wear, the clock is not displayed when the unit is initialization.

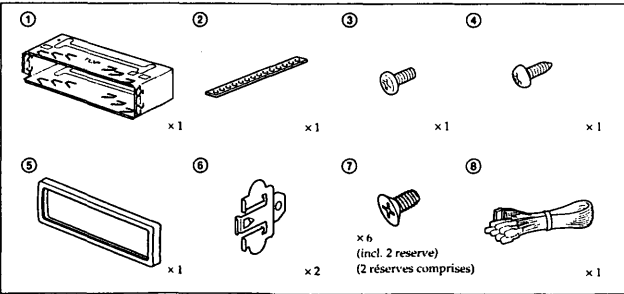
Reset Button

When the installation and connections are over, be sure to press the reset button with a ball-point pen etc.

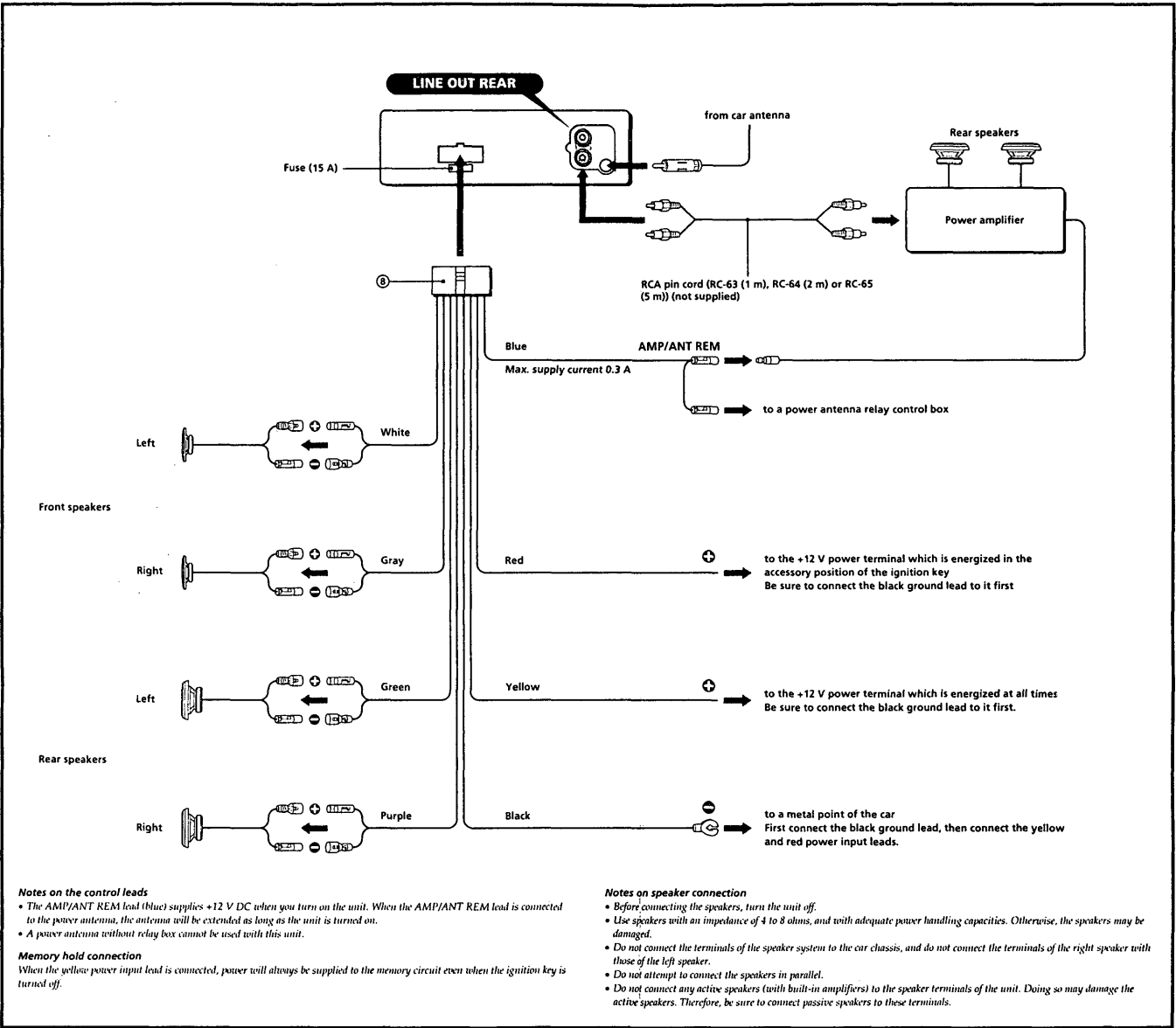


Parts for Installation and Connections

The numbers in the list are keyed to those in the instructions.



Connections of Example



Notes on the control leads

- The AMP/ANT REM lead (blue) supplies +12 V DC when you turn on the unit. When the AMP/ANT REM lead is connected to the power antenna, the antenna will be extended as long as the unit is turned on.
- A power antenna without relay box cannot be used with this unit.

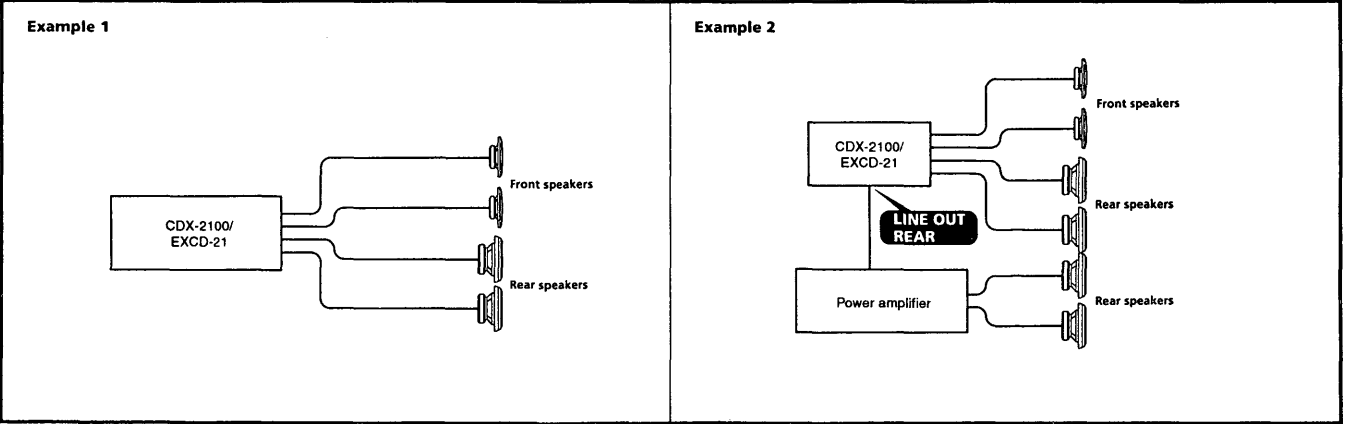
Memory hold connection

When the yellow power input lead is connected, power will always be supplied to the memory circuit even when the ignition key is turned off.

Notes on speaker connection

- Before connecting the speakers, turn the unit off.
- Use speakers with an impedance of 4 to 8 ohms, and with adequate power handling capacities. Otherwise, the speakers may be damaged.
- Do not connect the terminals of the speaker system to the car chassis, and do not connect the terminals of the right speaker with those of the left speaker.
- Do not attempt to connect the speakers in parallel.
- Do not connect any active speakers (with built-in amplifiers) to the speaker terminals of the unit. Doing so may damage the active speakers. Therefore, be sure to connect passive speakers to these terminals.

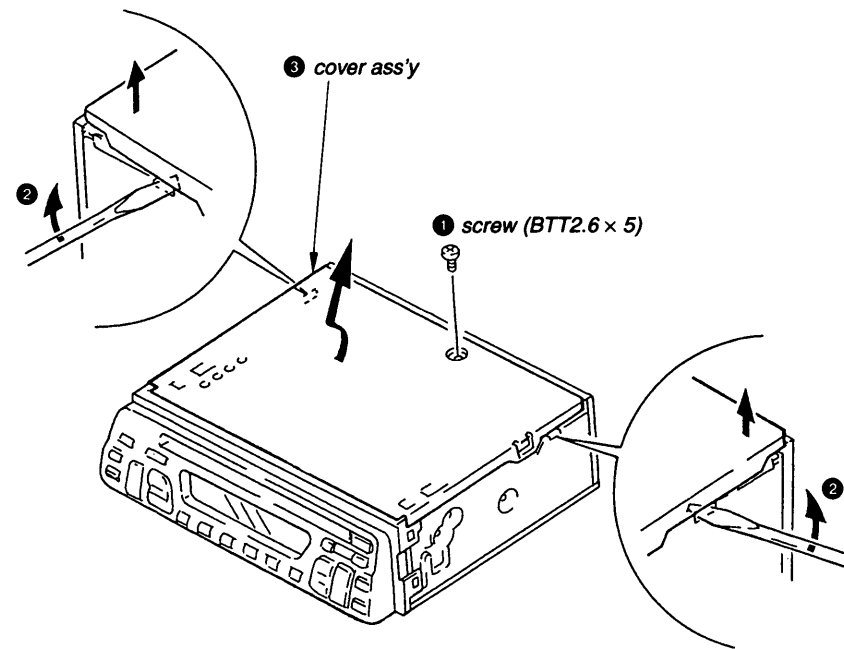
Connection Diagram



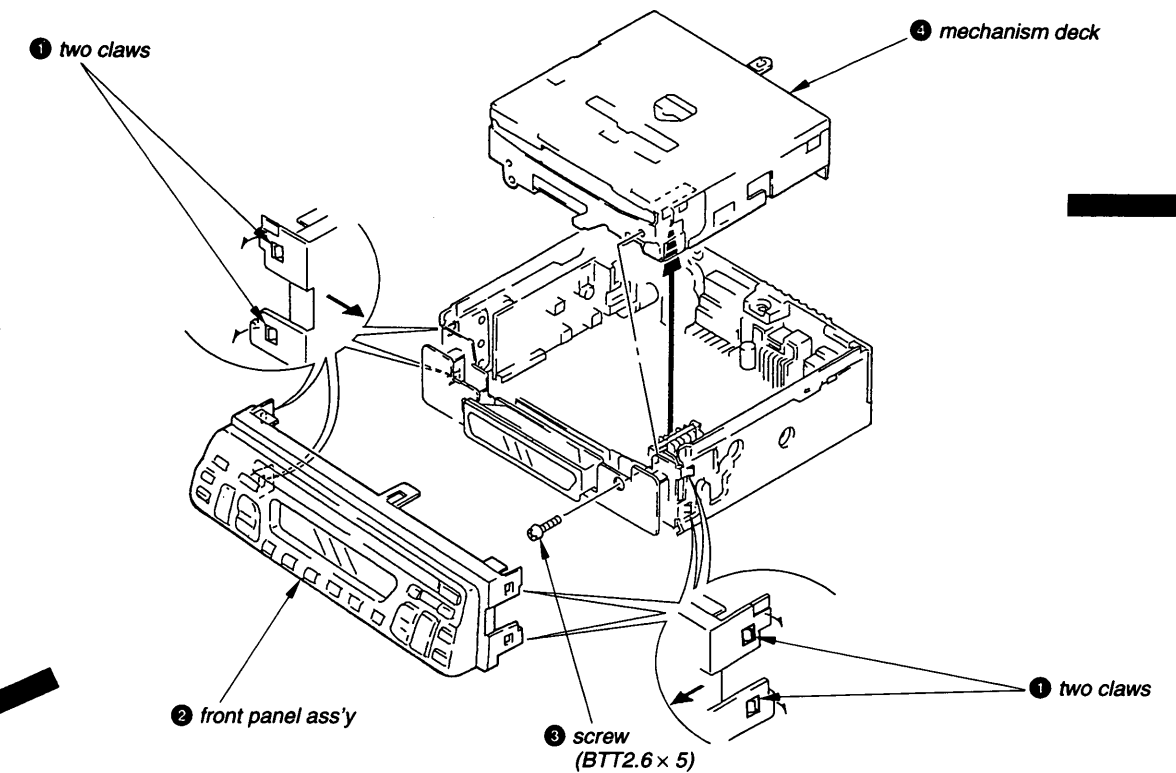
## SECTION 2 DISASSEMBLY

**Note:** Follow the disassembly procedure in the numerical order given.

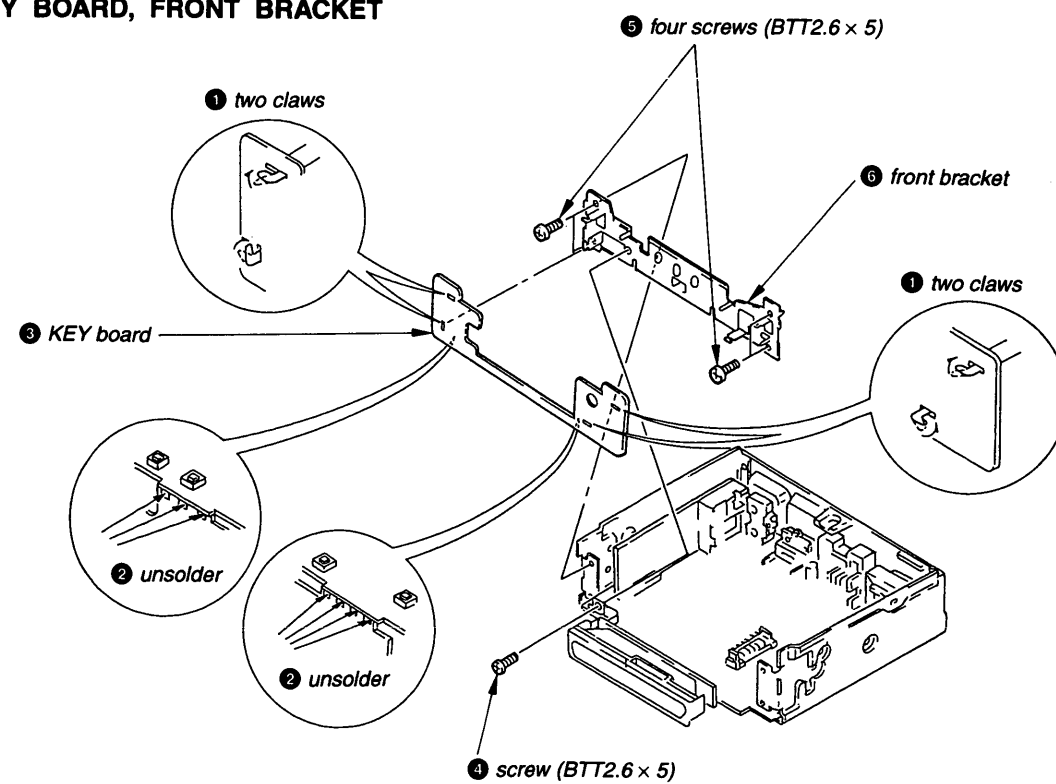
### COVER ASS'Y



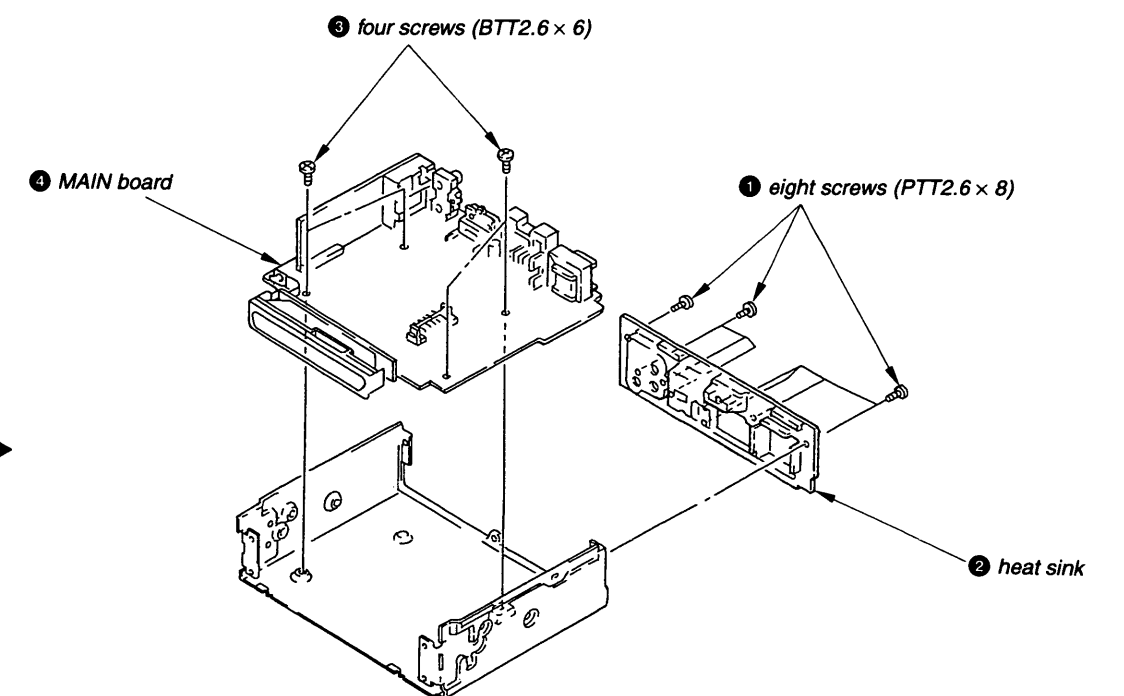
### FRONT PANEL ASS'Y, MECHANISM DECK



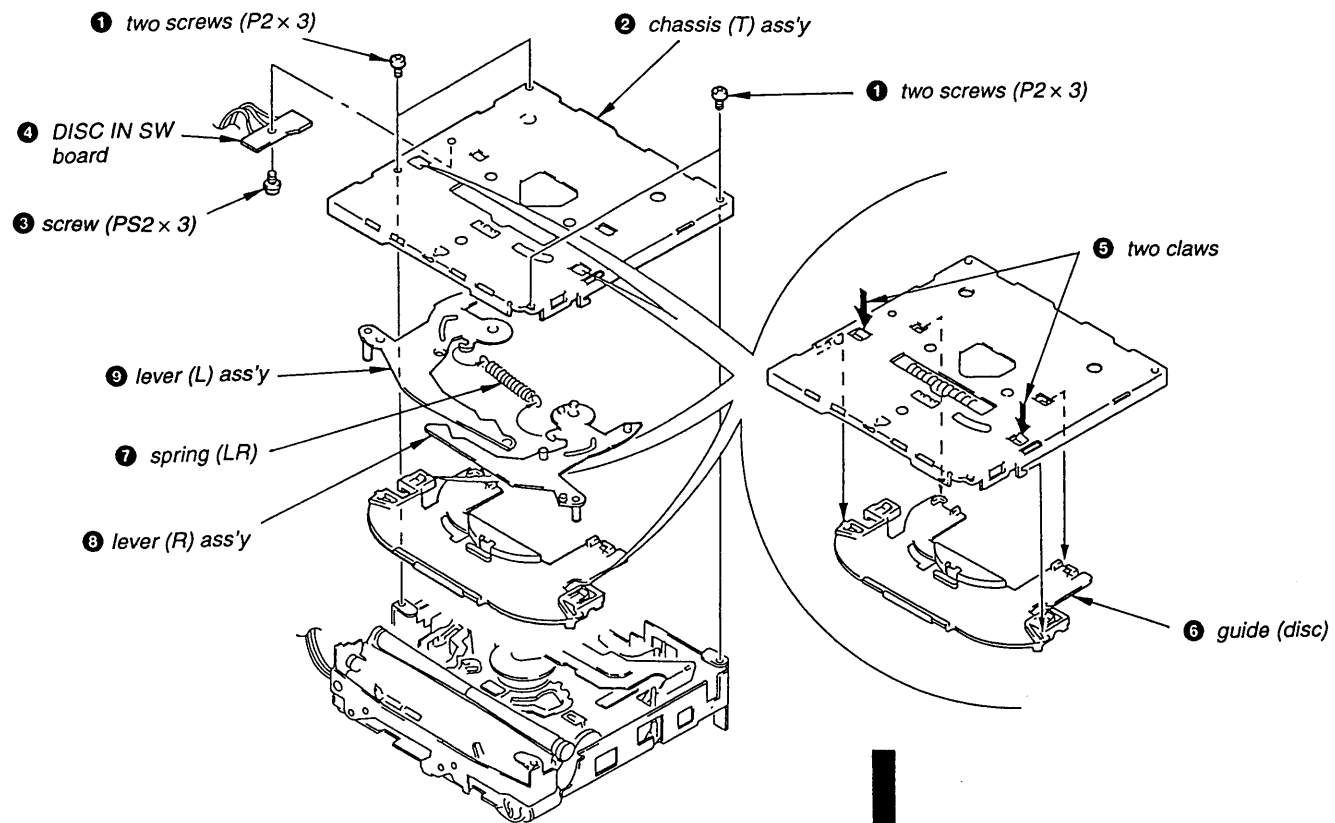
### KEY BOARD, FRONT BRACKET



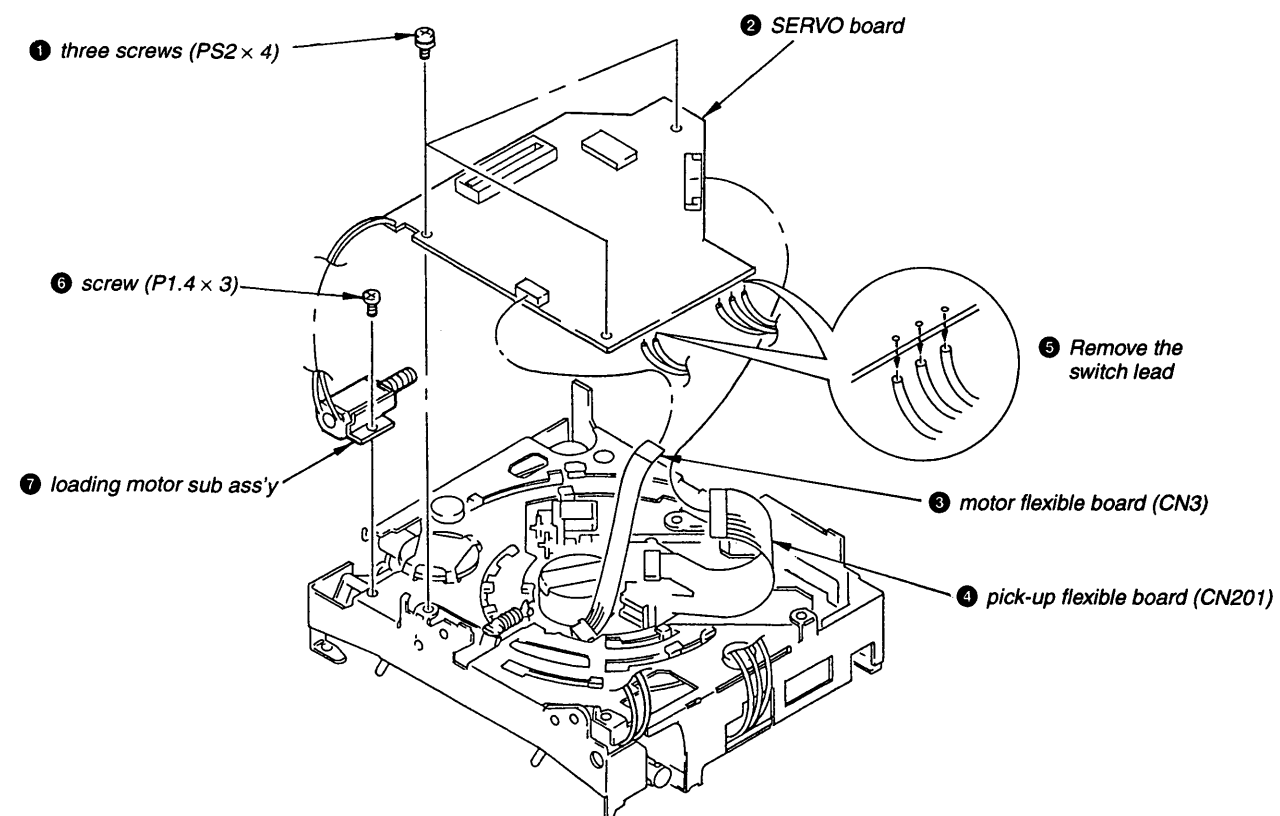
### MAIN BOARD



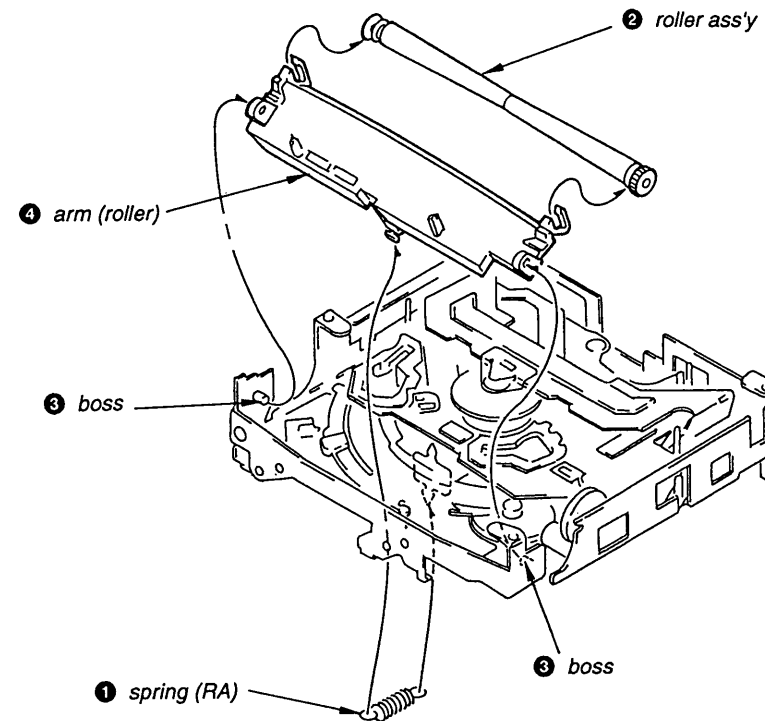
## CHASSIS (T) ASS'Y



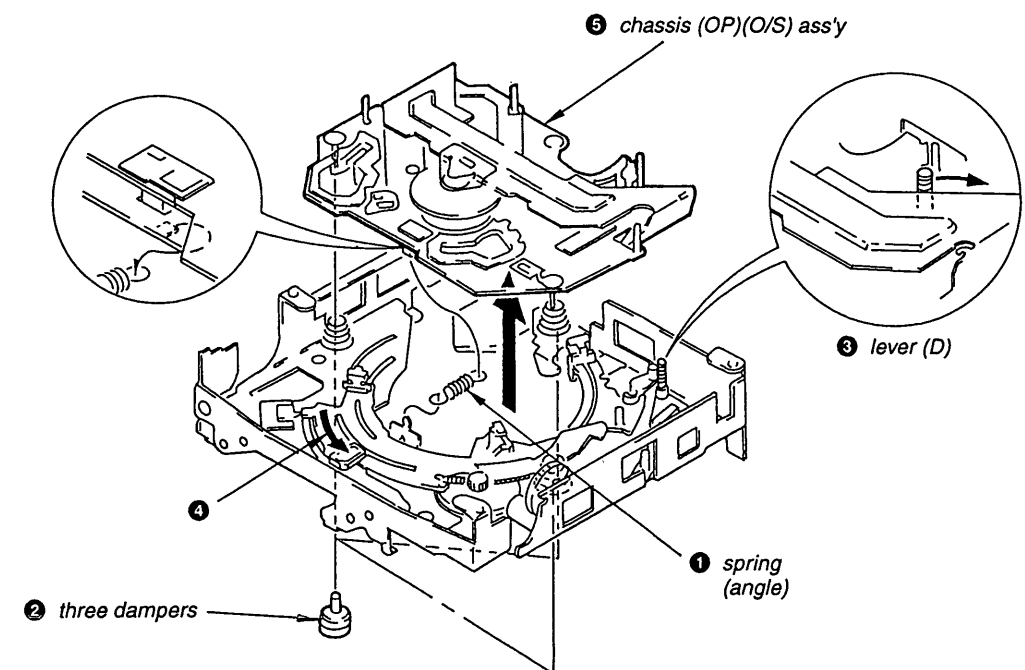
## SERVO BOARD, LOADING MOTOR



## ROLLER ASS'Y, ARM (ROLLER)



## CHASSIS (OP)(O/S) ASS'Y



## SECTION 3 TEST MODE

This set have the test mode function. In the test mode, FM Auto Scan/Stop Level and AM Auto Scan/Stop Level adjustments can be performed easier than it in ordinary procedure.

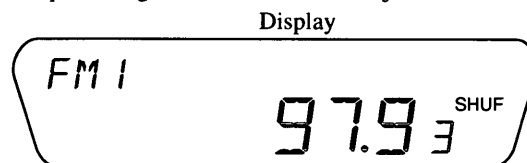
### Set the Test Mode

1. Set the "OFF" mode.
2. Push the preset [4] button.
3. Push the preset [5] button.
4. Press the preset [1] button for two seconds.
5. Then the display indicates all lights, the test mode is set.

### Release the Test Mode

1. Push the "OFF" button.

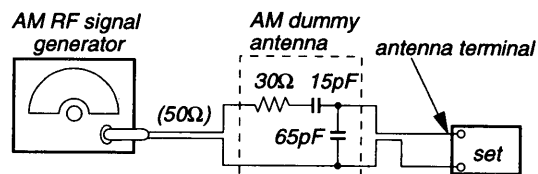
4. Adjust with the volume RV3 on TU101 so that the "FM" indication turns to "FM1" indication on the display window. But, in case of already indicated "FM1", turn the RV3 so that put out light "1" indication and adjustment.



### AM Auto Scan/Stop Level Adjustment

#### Setting:

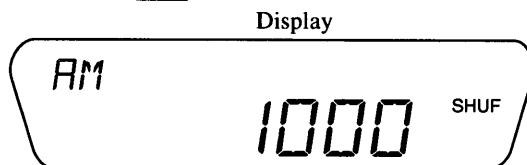
AM button: AM



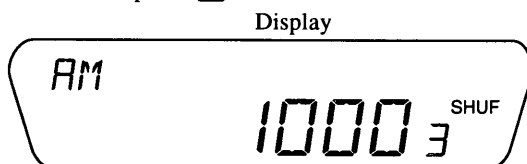
Carrier frequency : 1000kHz  
30% amplitude modulation by 1kHz signal  
Output level : 35dB (56.2  $\mu$ V)

#### Procedure:

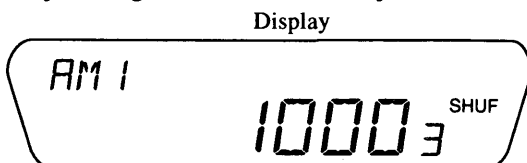
1. Set to the test mode.
2. Push the [AM] button and set to AM.



3. Push the preset [3] button.



4. Adjust with the volume RV4 on TU101 so that the "AM" indication turns to "AM1" indication on the display win window. But, in case of already indicated "AM1", turn the RV4 so that put out light "1" indication and adjustment.



## SECTION 4 ELECTRICAL ADJUSTMENTS

**TUNER SECTION**    **0dB=1 $\mu$ V**

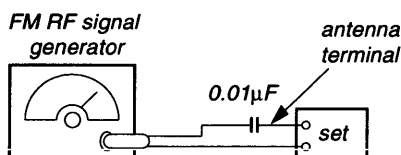
### Cautions during repair

When the front end is defective, replace it by a new one because its internal block is difficult to repair.

### FM Auto Scan/Stop Level Adjustment

#### Setting:

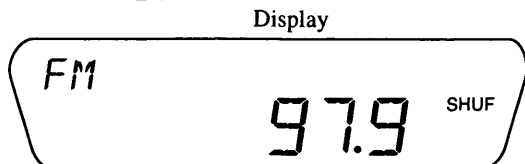
FM button: FM



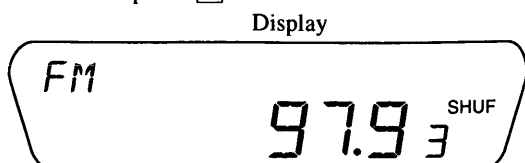
Carrier frequency : 97.9MHz  
Output level : 22dB(12.6  $\mu$ V)  
Mode : mono  
Modulation : 1kHz, 75kHz deviation

#### Procedure:

1. Set to the test mode.
2. Push the [FM] button and set to FM.



3. Push the preset [3] button.

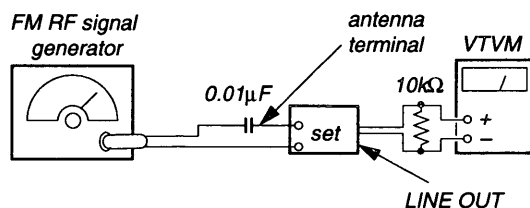




## High Cut Control Effect Adjustment

### Setting:

FM button: FM

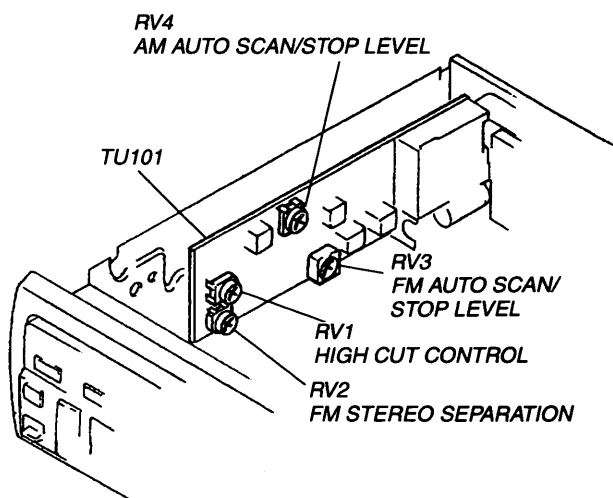


Carrier frequency : 97.9MHz  
Output level : 60dB(1mV)  
Mode : mono  
Modulation : 10kHz, 40kHz deviation

### Procedure:

1. Tune the 97.9 MHz.
2. The then output level is supposing that (A) dB.
3. Adjust with the volume RV1 on TU101 so that the output level is (A) -5dB then signal generator input set to 20dB.

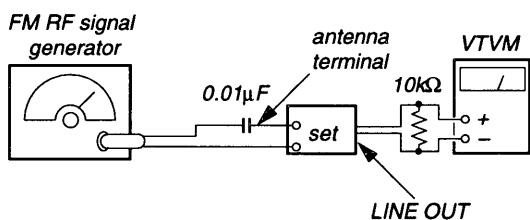
## Adjustment Location:



## FM Stereo Separation Adjustment

### Setting:

FM button: FM



Carrier frequency : 97.9MHz  
Output level : 60dB(1mV)  
Mode : stereo  
Modulation : main: 1kHz, 75kHz deviation (100%)  
19kHz pilot: 7.5kHz deviation (10%)

### Procedure:

| FM stereo signal generator output channel | VTVM connection | VTVM reading (dB)                             |
|-------------------------------------------|-----------------|-----------------------------------------------|
| L-CH                                      | L-CH            | Ⓐ                                             |
| R-CH                                      | L-CH            | Ⓑ<br>Adjust RV2 on TU101 for minimum reading. |
| R-CH                                      | R-CH            | Ⓒ                                             |
| L-CH                                      | R-CH            | Ⓓ<br>Adjust RV2 on TU101 for minimum reading. |

L-CH Stereo separation: Ⓐ-Ⓑ

R-CH Stereo separation: Ⓒ-Ⓓ

The separations of both channels should be equal.

**Specification:** Separation more than 28dB

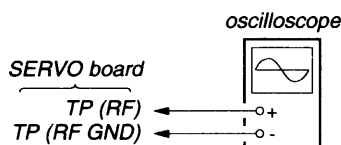
## CD SECTION

### Note:

1. CD Block basically constructed to operate without adjustment. Therefore, check each item in order given.
2. Use YEDS-18 disc (3-702-101-01) unless otherwise indicated.
3. Use the oscilloscope with more than 10 M $\Omega$  impedance.
4. Clean an objective lens by an applicator with neutral detergent when the signal level is low than specified value with the following checks.

### Focus Bias Adjustment

**Setting:** This adjustment is performed with the set placed horizontally.

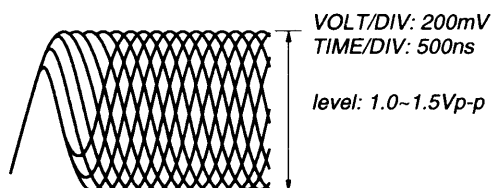


### Procedure:

1. Connect an oscilloscope between TP (RF) and TP (RF GND) on the SERVO board.
2. Connect the power supply.
3. Push the RESET button (S700) on the panel (sub).
4. Insert the disc (YEDS-18) and playback.
5. Adjust RV1 so that the oscilloscope waveform is clear and check RF signal level is correct or not.

**Note:** Clear RF signal waveform means that the sharp “◇” can be clearly distinguished at the center of the waveform.

RF signal waveform



- When observing the eye pattern, set the oscilloscope to AC range and raise the vertical sensitivity so that it may be easily seen.

### Focus Gain Adjustment (Coarse adjustment)

This adjustment is not required unless the following parts are replaced:

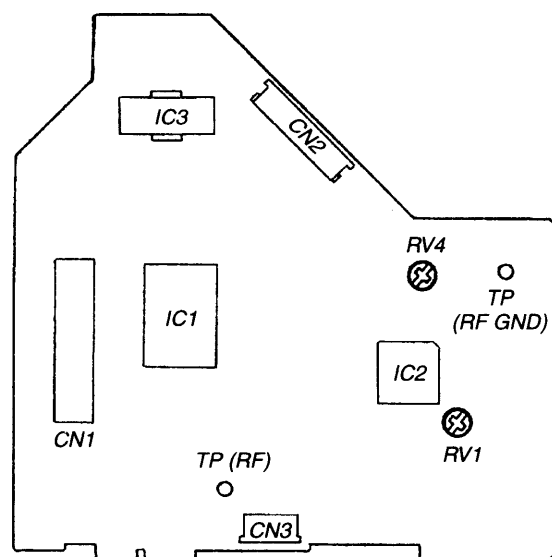
- Optical block
- RV4

### Adjustment:

1. Set RV4 to the standard position. (mechanical center)
  2. Check whether operation noise (while noise type) caused by the double-axis device (lens section of the optical block) is abnormally loud.  
If the operation noise is too loud, turn RV4 slightly counter-clockwise.
- If the gain is too low:  
Focus does not function and no music is selected.
  - If the gain is too high:  
Noise caused by scratches and dust is heard and the operation becomes unstable.

### Adjustment Location:

– SERVO BOARD –



## SECTION 5

### DIAGRAMS

#### 5-1. IC PIN FUNCTION DESCRIPTION

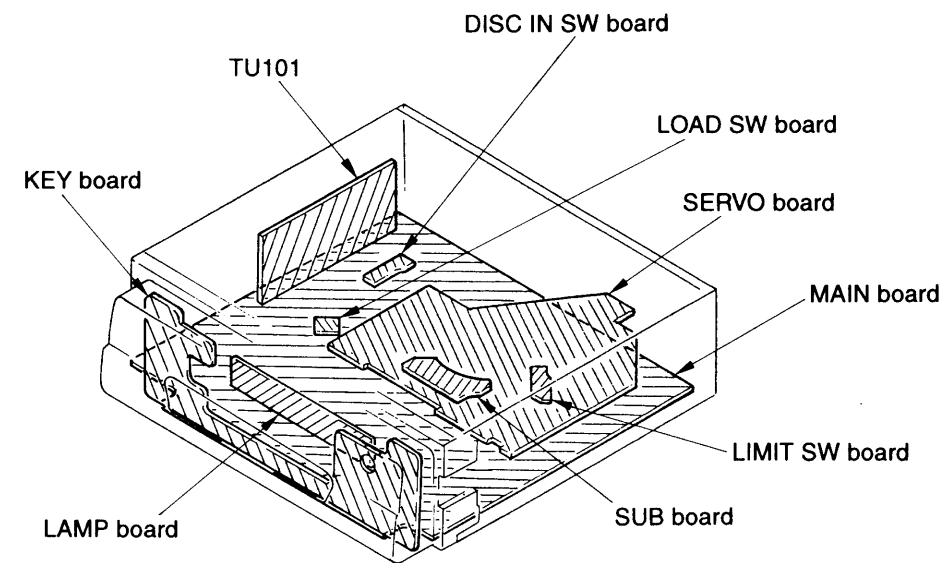
##### IC700 $\mu$ PD17017GF-B14-3B9 (SYSTEM CONTROL)

| Pin No. | Pin Name       | I/O | Function                                                                                                              |
|---------|----------------|-----|-----------------------------------------------------------------------------------------------------------------------|
| 1       | CD SO/VOL DATA | O   | CD serial data and electronic volume serial data output pin.                                                          |
| 2       | VOL CLK        | O   | Electronic volume serial clock output pin.                                                                            |
| 3       | SENS           | I   | CD sense signal input pin.                                                                                            |
| 4       | MONO           | O   | Forced monaural signal output pin.                                                                                    |
| 5       | ACC            | I   | ACC voltage detection pin.                                                                                            |
| 6       | FOK            | I   | Focus OK signal input pin.                                                                                            |
| 7       | CD LAT         | O   | CD latch signal output pin.                                                                                           |
| 8       | SQCKO          | O   | Sub-code Q data reading clock output pin.                                                                             |
| 9       | CD RST         | O   | CD reset signal output pin.                                                                                           |
| 10      | SQ SI          | I   | Sub-code Q data input pin.                                                                                            |
| 11      | NC             | –   | Not used.                                                                                                             |
| 12      | SCOR           | I   | Sub-code sync detection signal input pin.                                                                             |
| 13      | BU IN          | I   | BATT voltage detection pin.                                                                                           |
| 14      | CDMON          | O   | Mechanism deck section power supply control pin.                                                                      |
| 15      | ILL ON         | O   | Illumination power supply control pin.                                                                                |
| 16      | LD ON          | O   | Laser power on/off control pin.                                                                                       |
| 17      | FM/AM          | O   | FM/AM select pin.                                                                                                     |
| 18      | SEEKOUT        | O   | Seek out signal output pin.                                                                                           |
| 19      | PW-ON          | O   | System power supply control pin.                                                                                      |
| 20      | LCL/DX         | O   | Local/DX select pin.                                                                                                  |
| 21      | BEEP           | O   | Beep sound output pin.                                                                                                |
| 22      | VOL CE         | O   | Electronic volume serial chip enable output pin.                                                                      |
| 23      | LM EJ          | O   | Loading motor control pin. (eject direction)                                                                          |
| 24      | LM LOD         | O   | Loading motor control pin. (loading direction)                                                                        |
| 25      | MUTE           | O   | Audio muting signal output pin.                                                                                       |
| 26      | FM IF          | I   | FM IF counter signal input pin.                                                                                       |
| 27      | AM IF          | I   | AM IF counter signal input pin.                                                                                       |
| 28      | NOSE SW        | I   | Front panel removal or attaching detection pin. (not used)                                                            |
| 29      | SD(SEEK)/ST    | I   | Station detection signal input pin during seek operation.<br>Stereo detection signal input pin except seek operation. |
| 30      | VDD1           | –   | Power supply.                                                                                                         |
| 31      | VCOL           | I   | AM OSC signal input pin.                                                                                              |
| 32      | VCOH           | I   | FM OSC signal input pin.                                                                                              |
| 33      | GND            | –   | GND.                                                                                                                  |
| 34      | XOUT           | O   | System clock. (4.5MHz)                                                                                                |
| 35      | XIN            | I   | System clock. (4.5MHz)                                                                                                |
| 36      | EO0            | O   | Charge-pump output pin.                                                                                               |
| 37      | EO1            | –   | Not used.                                                                                                             |
| 38-40   | NC             | –   | Not used.                                                                                                             |
| 41      | VDD2           | –   | Power supply.                                                                                                         |
| 42      | EMPH O         | O   | De-emphasis control pin.                                                                                              |
| 43      | LCD COM1       | O   | LCD common signal output pin.                                                                                         |
| 44      | LCD COM2       | O   | LCD common signal output pin.                                                                                         |

| Pin No. | Pin Name       | I/O | Function                                                        |
|---------|----------------|-----|-----------------------------------------------------------------|
| 45-64   | LCD29-LCD10    | O   | LCD segment signal output pin.                                  |
| 65      | TEST SW(LCD9)  | I/O | TEST mode direct setting pin and LCD segment signal output pin. |
| 66      | LCD8           | O   | LCD segment signal output pin.                                  |
| 67      | AREA2 SW(LCD7) | I/O | Destination setting pin and LCD segment signal output pin.      |
| 68      | AREA1 SW(LCD6) | I/O | Destination setting pin and LCD segment signal output pin.      |
| 69      | LCD5           | O   | LCD segment signal output pin.                                  |
| 70      | LCD4           | O   | LCD segment signal output pin.                                  |
| 71      | SELF SW(LCD3)  | I/O | SELF switch input pin and LCD segment signal output pin.        |
| 72      | IN SW(LCD2)    | I/O | IN switch input pin and LCD segment signal output pin.          |
| 73      | L SW(LCD1)     | I/O | LIMIT switch input pin and LCD segment signal output pin.       |
| 74      | D SW(LCD0)     | I/O | Down switch input pin and LCD segment signal output pin.        |
| 75      | KEY-RETURN     | I   | Key return signal input pin.                                    |
| 76      | AD2            | I   | Key input pin. (A/D input)                                      |
| 77      | AD1            | I   | Key input pin. (A/D input)                                      |
| 78      | AD0            | I   | Key input pin. (A/D input)                                      |
| 79      | AMP MUTE       | O   | Power amp muting signal output pin.                             |
| 80      | CD CKO         | O   | CD serial clock output pin.                                     |

## 5-2. PRINTED WIRING BOARDS – MECHANISM DECK Section –

- **Circuit Boards Location**

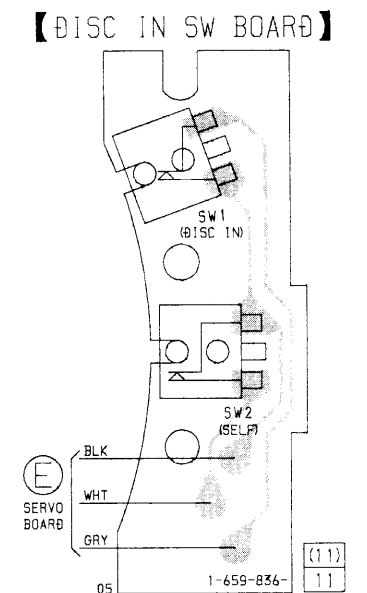
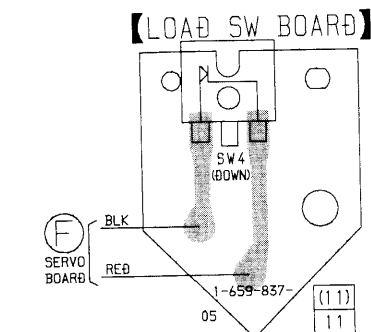
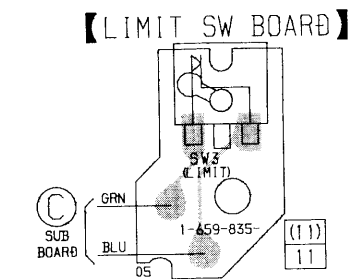
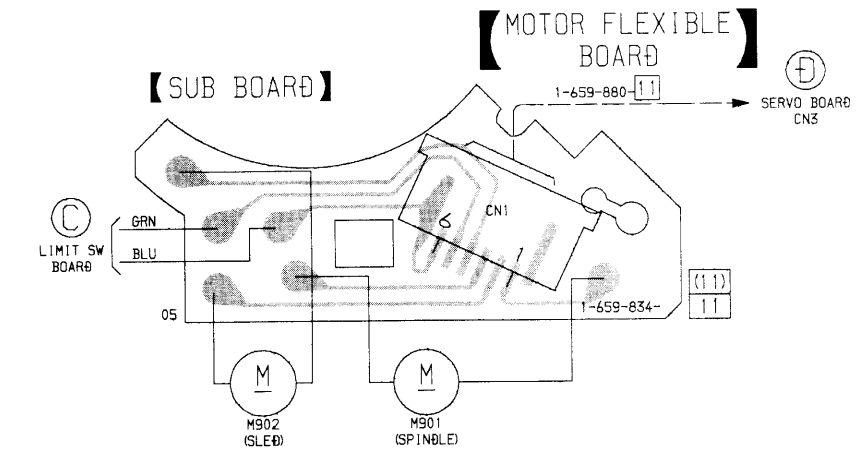
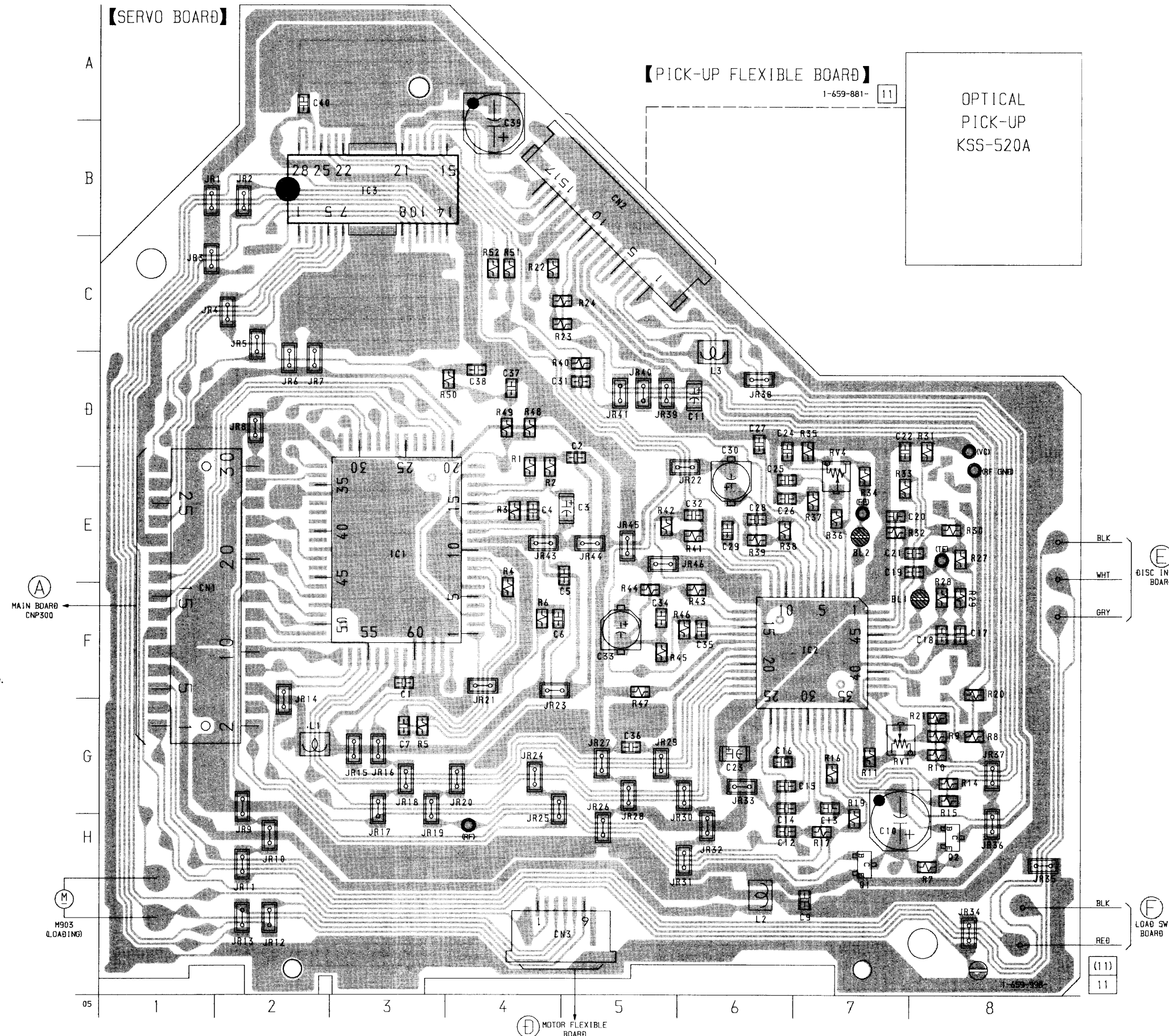


- **Semiconductor Location**

| Ref. No. | Location |
|----------|----------|
| IC1      | E-3      |
| IC2      | F-7      |
| IC3      | B-3      |
| Q1       | H-7      |
| Q2       | H-8      |

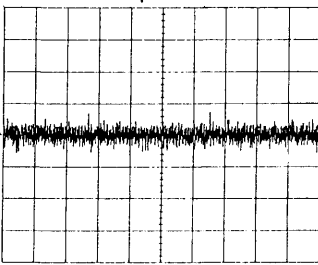
**Note:**

-  : parts extracted from the component side.
-  : parts extracted from the conductor side.

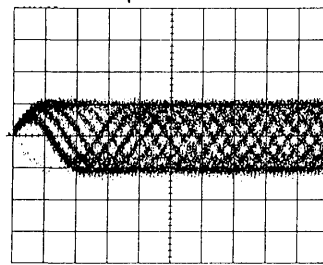


• Waveforms

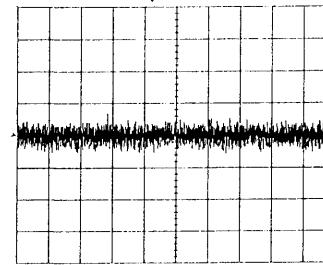
① IC2 ① 200mV/DIV  
100µs/DIV



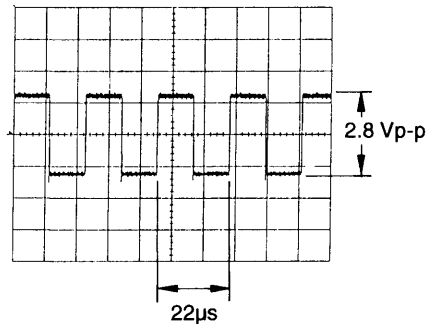
② IC1 ② 0.5V/DIV  
1µs/DIV



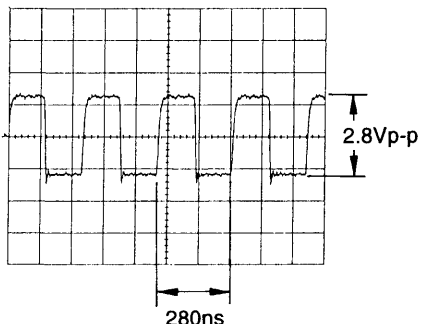
③ IC1 ③ 200mV/DIV  
100µs/DIV



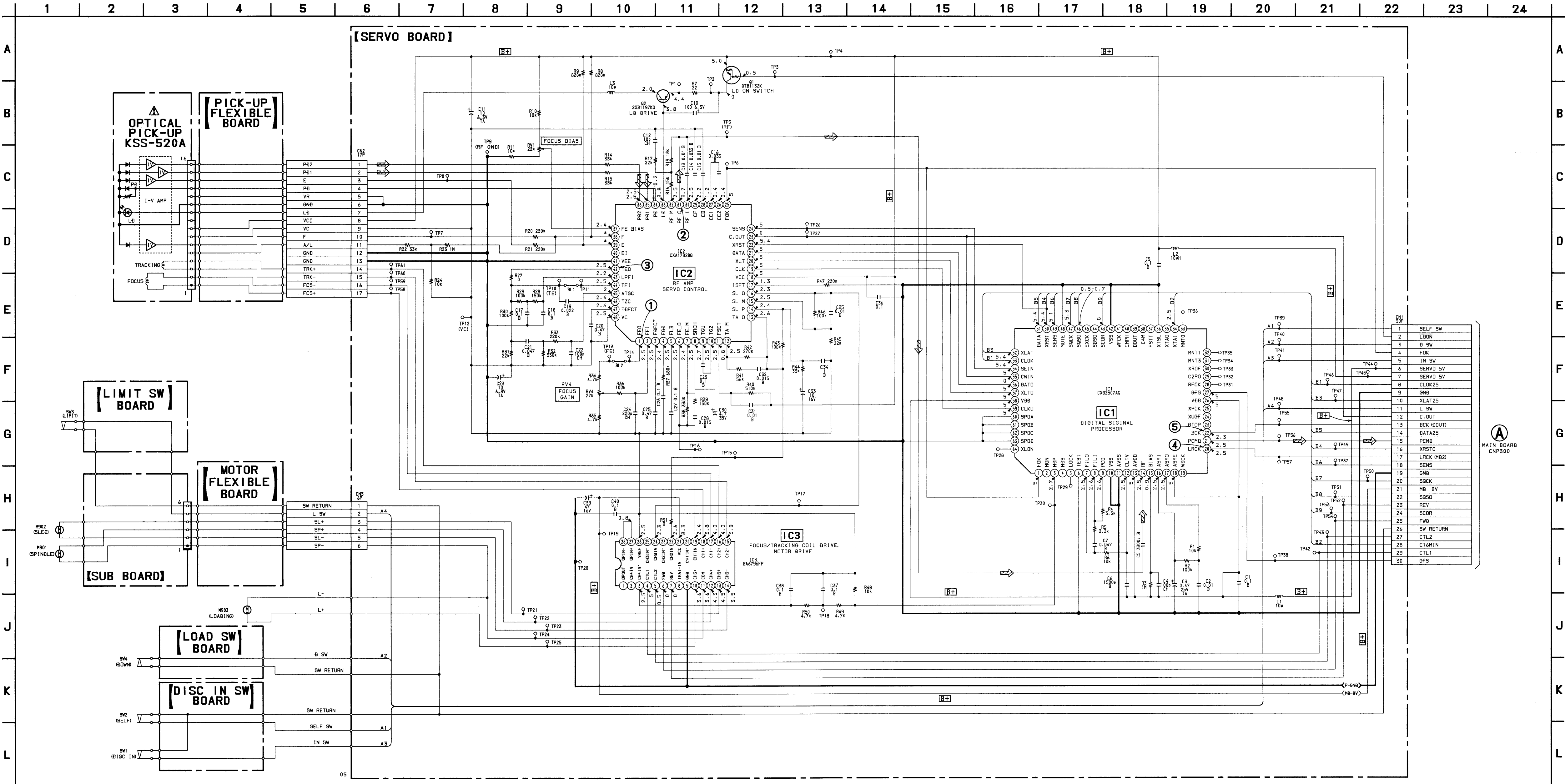
④ IC1 ④



⑤ IC1 ⑤



5-3. SCHEMATIC DIAGRAM - MECHANISM DECK Section - • See page 30 for IC Block Diagrams.



**Note:**

- All capacitors are in µF unless otherwise noted. pF: µF/100
- 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.

**Note:**

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

**Note:**

Les composants identifiés par une marque Δ sont critiques pour la sécurité. ne les remplacer que par une pièce portant le numéro spécifié.

• **B+** : B+ Line.

• **Δ** : adjustment for repair.

• Power voltage is dc 14.4 V and fed with regulated dc power supply from ACC and BATT terminals.

• Voltages and waveforms are dc with respect to ground under no-signal conditions.

• no mark : CD

• \* : Impossible to measure

• Voltages are taken with a VOM (10 MΩ/V). Voltage variations may be noted due to normal production tolerances.

• Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.

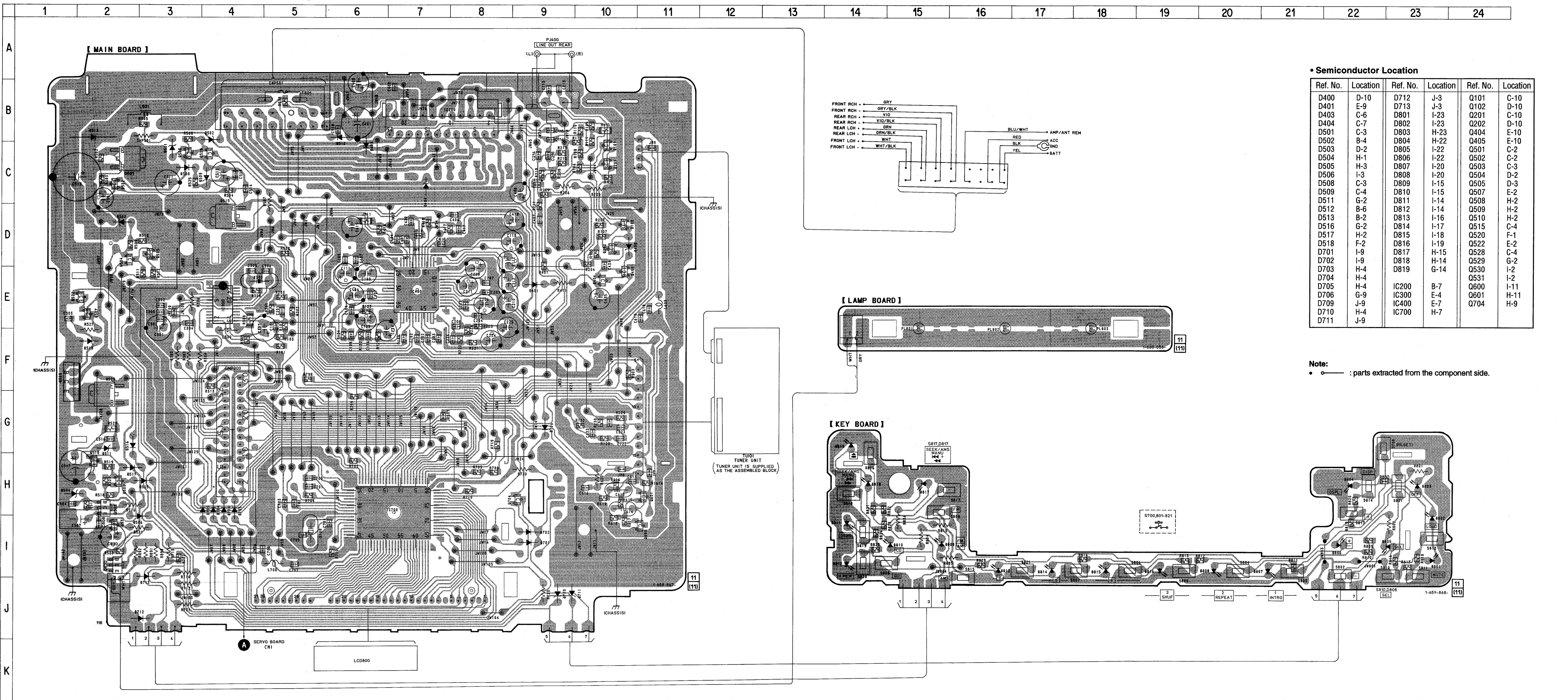
• Circled numbers refer to waveforms.

• Signal path.

• **CD** : CD



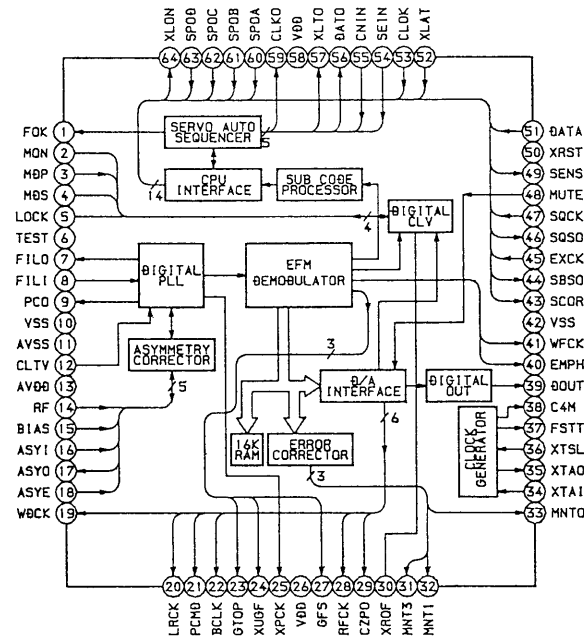




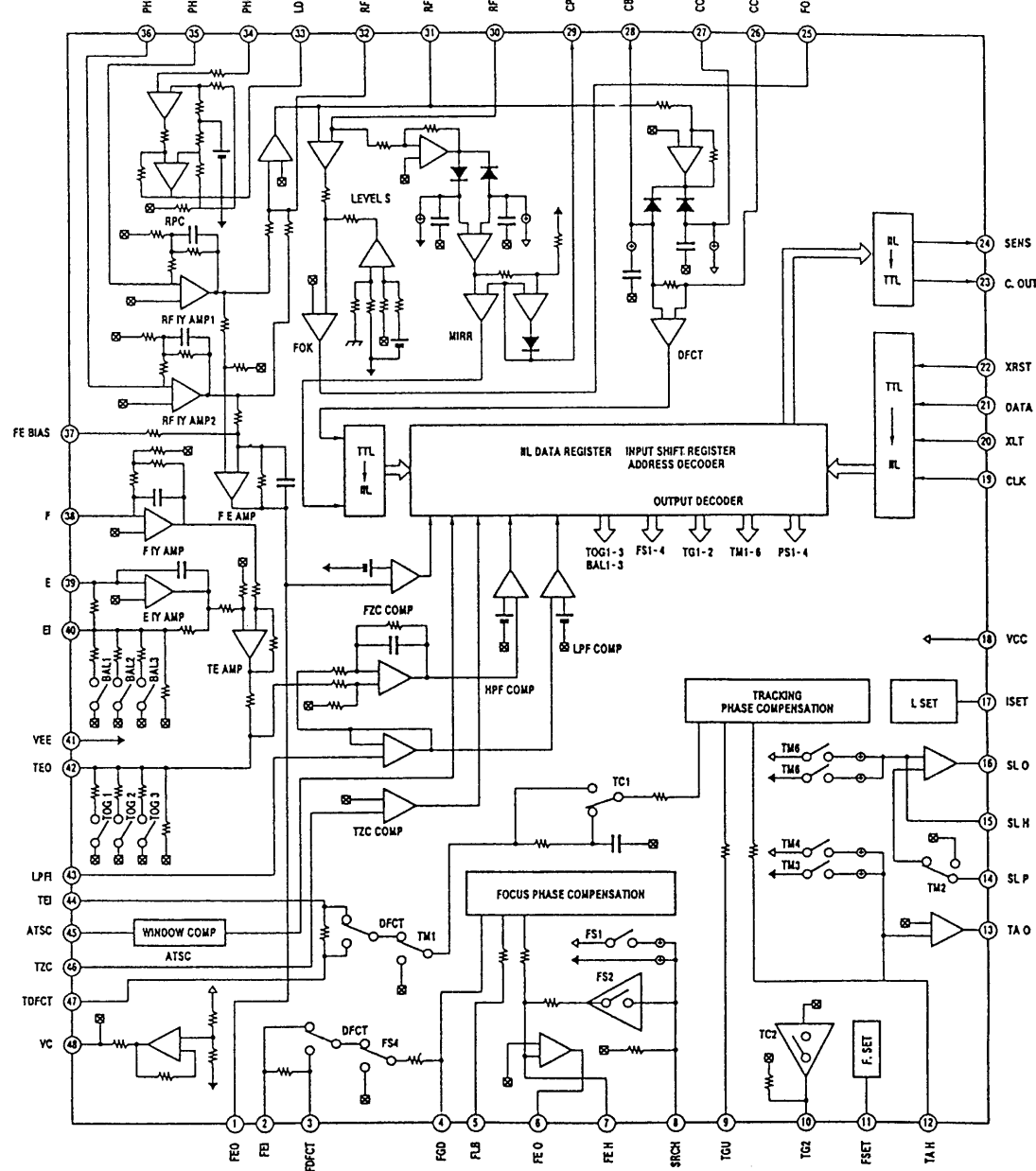


• IC Block Diagrams  
– MECHANISM DECK Section –

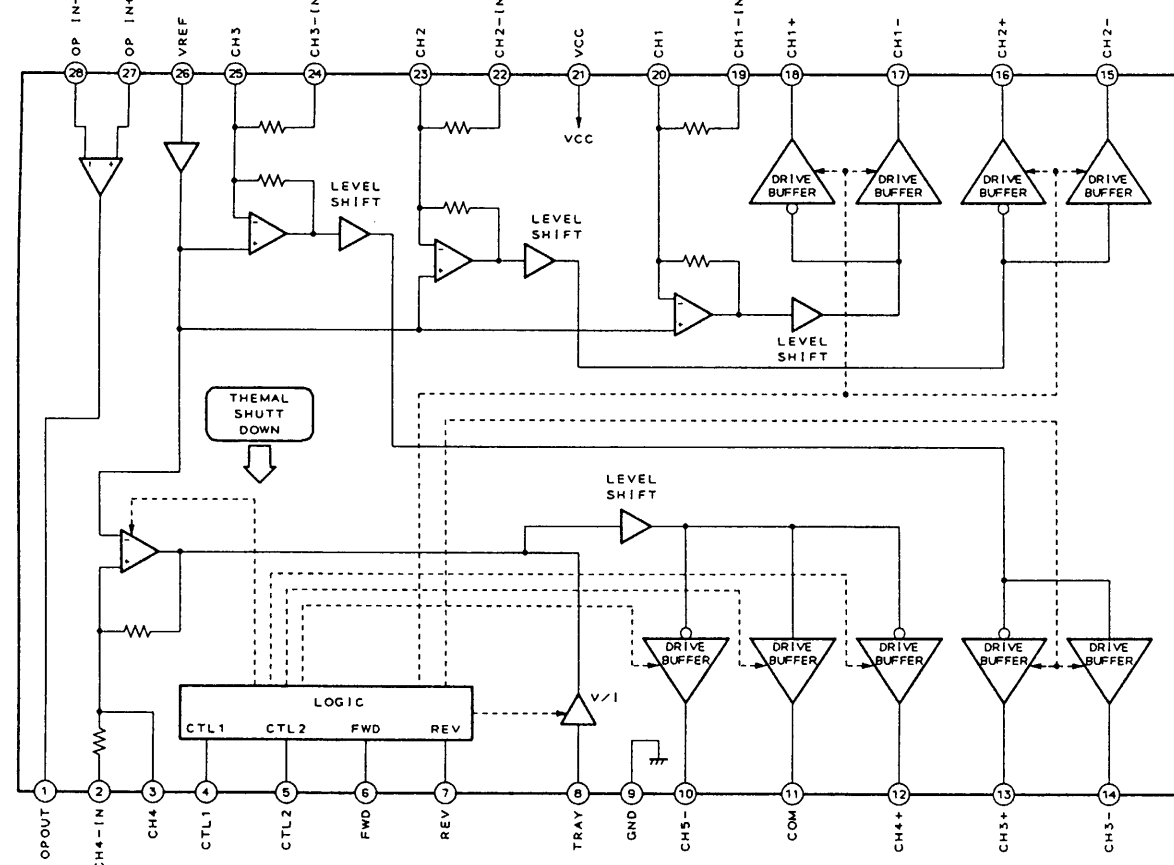
IC1 CXD2507AQ



IC2 CXA1782BQ

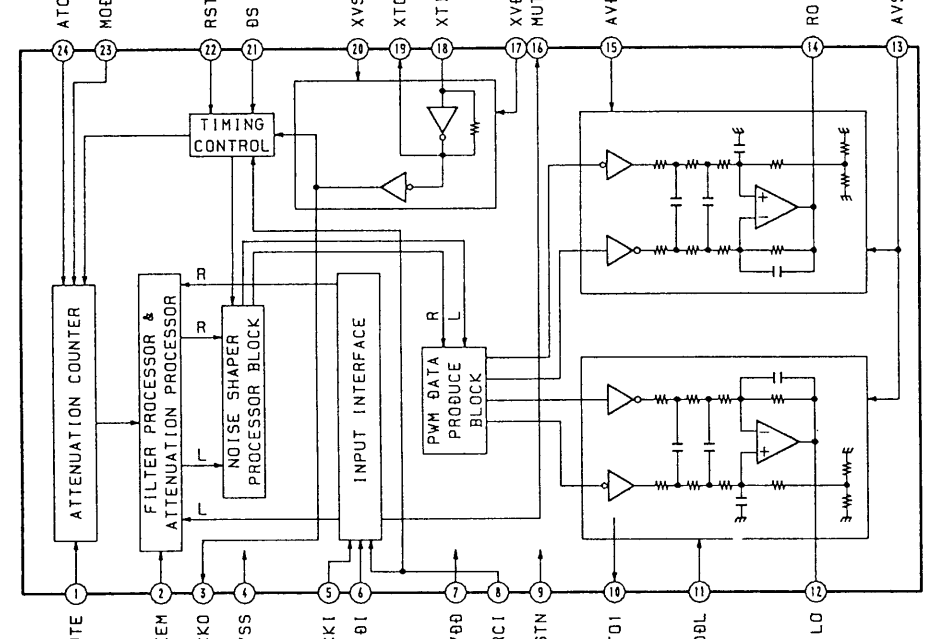


IC3 BA6995FP

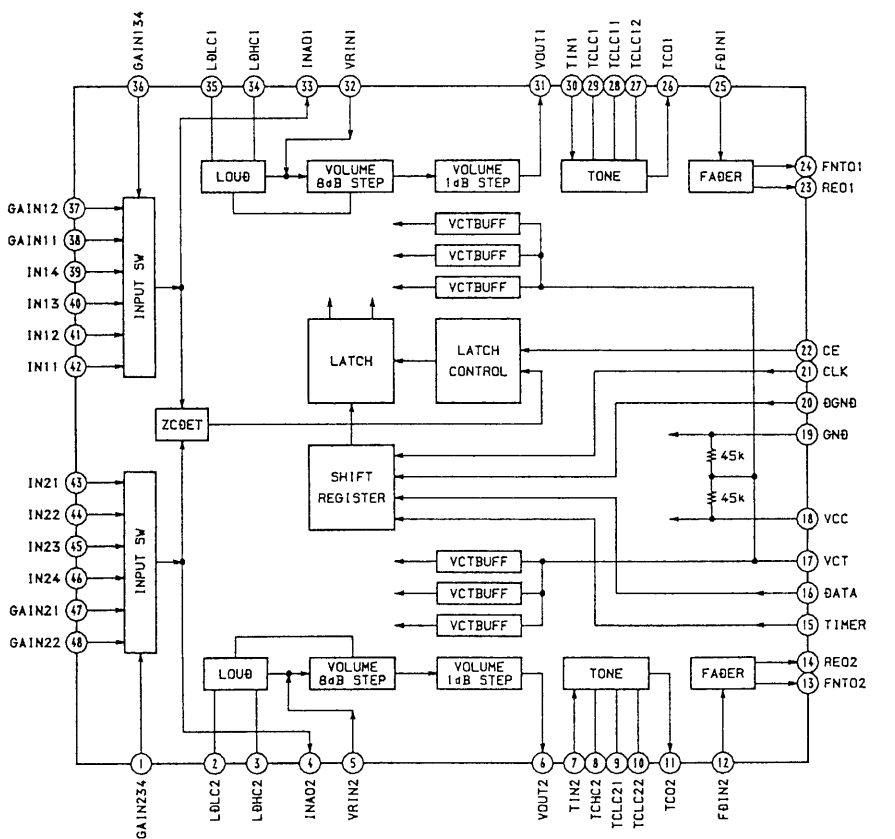


– MAIN, KEY Section –

IC300 SM5877AM



IC400 CXA1946AQ



## SECTION 6

### EXPLODED VIEWS

#### NOTE:

- -XX and -X mean standardized parts, so they may have some difference from the original one.

- Color Indication of Appearance Parts Example:

KNOB, BALANCE (WHITE) . . . (RED)

↑
↑  
 Parts Color    Cabinet's Color

- Items marked "\*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

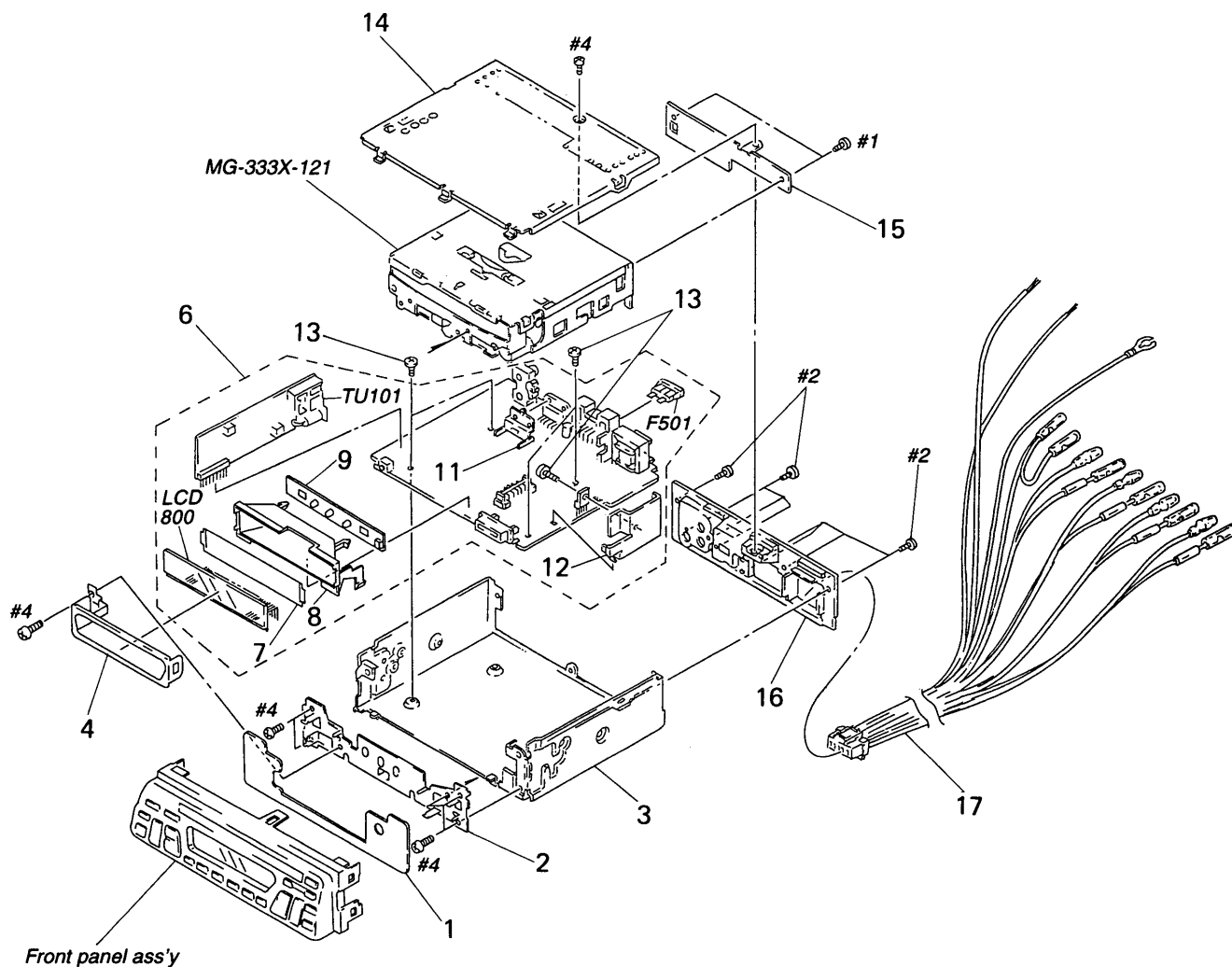
- The mechanical parts with no reference number in the exploded views are not supplied.

- Hardware (# mark) list and accessories and packing materials are given in the last of the electrical parts list.

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

Les composants identifiés par une marque  $\Delta$  sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

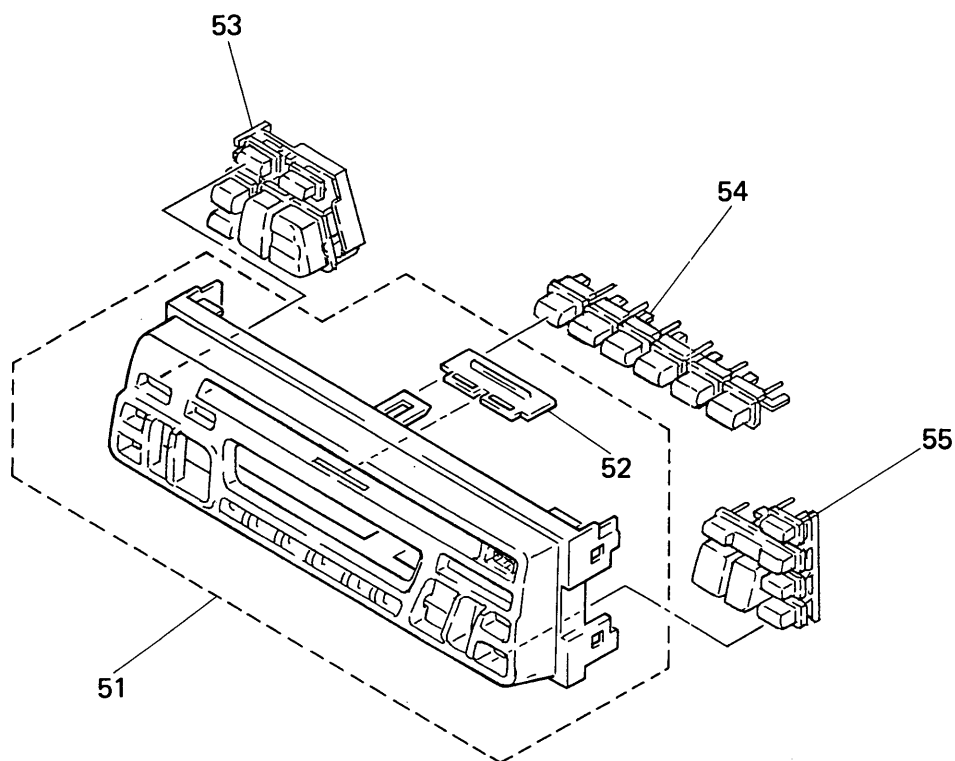
#### (1) GENERAL SECTION



| Ref. No. | Part No.     | Description          | Remark |
|----------|--------------|----------------------|--------|
| * 1      | A-3309-078-A | KEY BOARD, COMPLETE  |        |
| * 2      | 3-931-964-01 | BRACKET (FRONT)      |        |
| * 3      | 3-931-957-01 | CHASSIS (MAIN)       |        |
| * 4      | 3-931-962-01 | BRACKET (LCD)        |        |
| 5        | 3-922-535-01 | SCREW (+BTT)         |        |
| * 6      | A-3294-013-A | MAIN BOARD, COMPLETE |        |
| * 7      | 3-931-973-01 | SHEET (LCD)          |        |
| * 8      | 3-931-963-01 | HOLDER (LCD)         |        |
| * 9      | 1-660-056-11 | LAMP BOARD           |        |
| * 11     | 3-931-260-01 | BRACKET (IC)         |        |

| Ref. No. | Part No.     | Description                              | Remark |
|----------|--------------|------------------------------------------|--------|
| * 12     | 3-920-529-01 | BRACKET (REG) (IC)                       |        |
| 13       | 3-922-535-11 | SCREW (+BTT)                             |        |
| * 14     | 3-920-522-01 | COVER                                    |        |
| * 15     | 3-932-397-11 | BRACKET (M/D)                            |        |
| * 16     | 3-931-958-01 | HEAT SINK                                |        |
| 17       | 1-769-786-51 | CORD (WITH CONNECTOR) (POWER)            |        |
| F501     | 1-533-331-11 | FUSE (BLADE TYPE) (AUTO FUSE) (15A, 32V) |        |
| LCD800   | 1-801-183-11 | DISPLAY PANEL, LIQUID CRYSTAL            |        |
| TU101    | A-3309-002-A | TUNER UNIT                               |        |

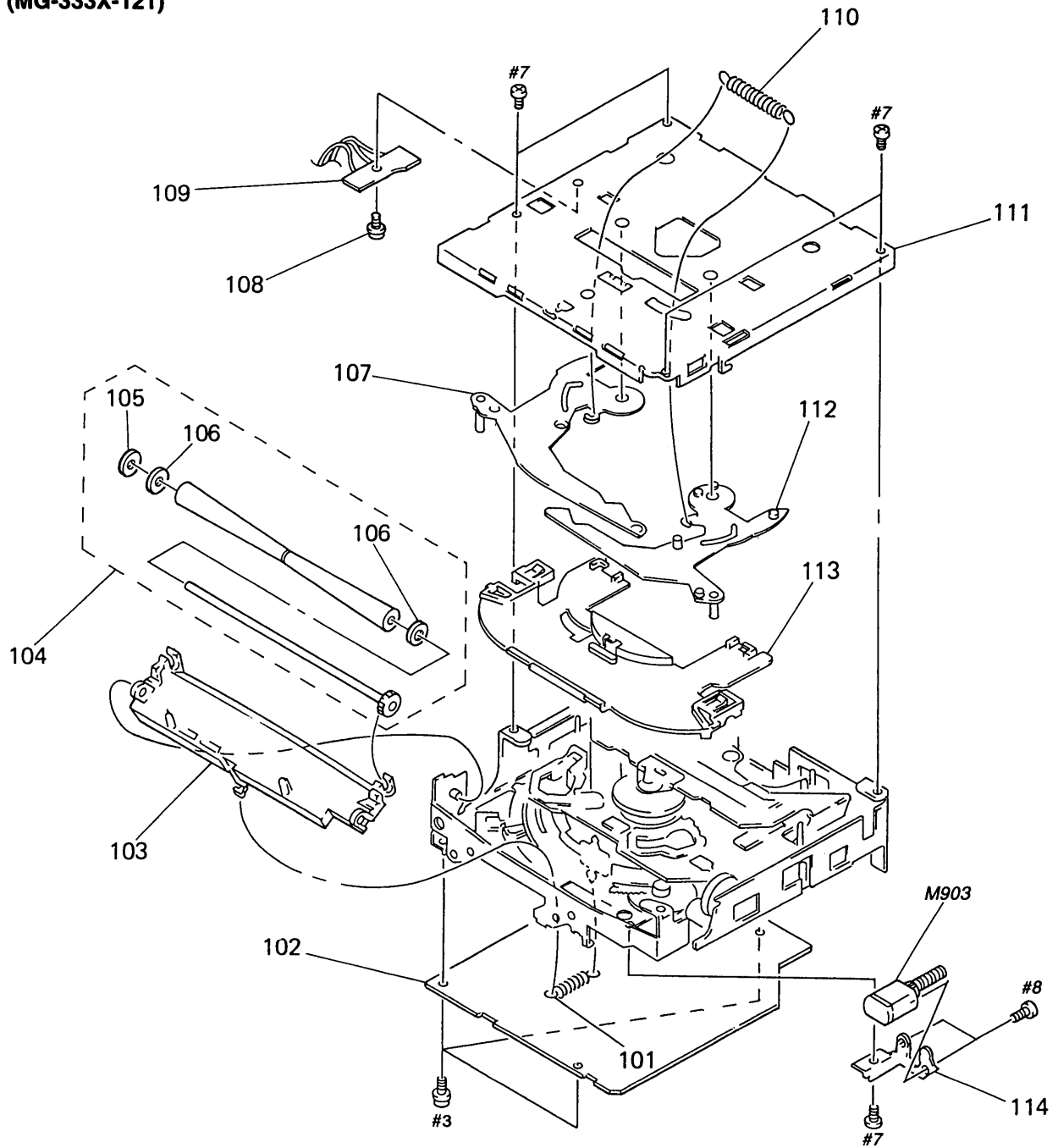
## (2) FRONT PANEL SECTION



| Ref. No. | Part No.     | Description                                     | Remark |
|----------|--------------|-------------------------------------------------|--------|
| 51       | X-3371-530-1 | PANEL SUB ASSY, FRONT (CDX-2100)                |        |
| 51       | X-3371-531-1 | PANEL SUB ASSY, FRONT (EXCD-21)                 |        |
| * 52     | 3-920-508-01 | PLATE (C), LIGHT GUIDE                          |        |
| 53       | 3-931-960-01 | BUTTON (OFF) (OFF. DSPL. LOUD. MUTE. SEL. +. -) |        |

| Ref. No. | Part No.     | Description                                                                       | Remark |
|----------|--------------|-----------------------------------------------------------------------------------|--------|
| 54       | 3-920-503-02 | BUTTON (1-6) (1. 2. 3. 4. 5. 6. )                                                 |        |
| 55       | 3-931-961-01 | BUTTON (CD EJECT) (▲◀◀ +. ◀◀ SEEK/AMS.<br>MANU. ▶▶. - ▶▶ FM. AM. CD. SENS. A MEM) |        |

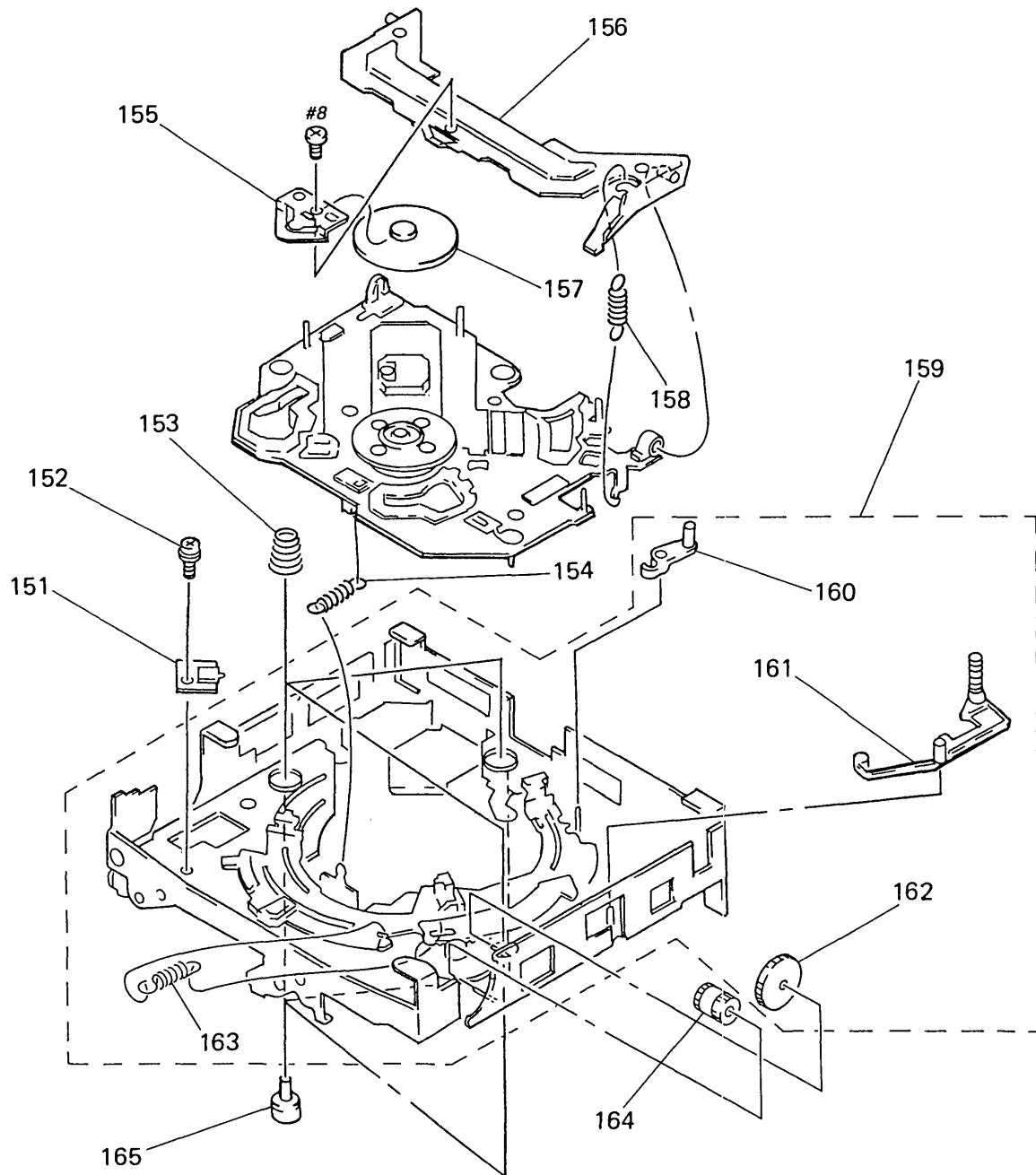
**(3) MECHANISM DECK SECTION-1**  
**(MG-333X-121)**



| Ref. No. | Part No.     | Description           | Remark |
|----------|--------------|-----------------------|--------|
| 101      | 3-931-916-01 | SPRING (RA), TENSION  |        |
| * 102    | A-3309-021-A | SERVO BOARD, COMPLETE |        |
| 103      | 3-931-902-01 | ARM (ROLLER)          |        |
| 104      | A-3291-567-A | ROLLER ASSY           |        |
| 105      | 3-701-439-11 | WASHER                |        |
| * 106    | 3-322-413-01 | SPACER, INSULATING    |        |
| * 107    | X-3371-501-1 | LEVER (L) ASSY        |        |
| 108      | 3-338-737-01 | SCREW (2X3), +PS      |        |

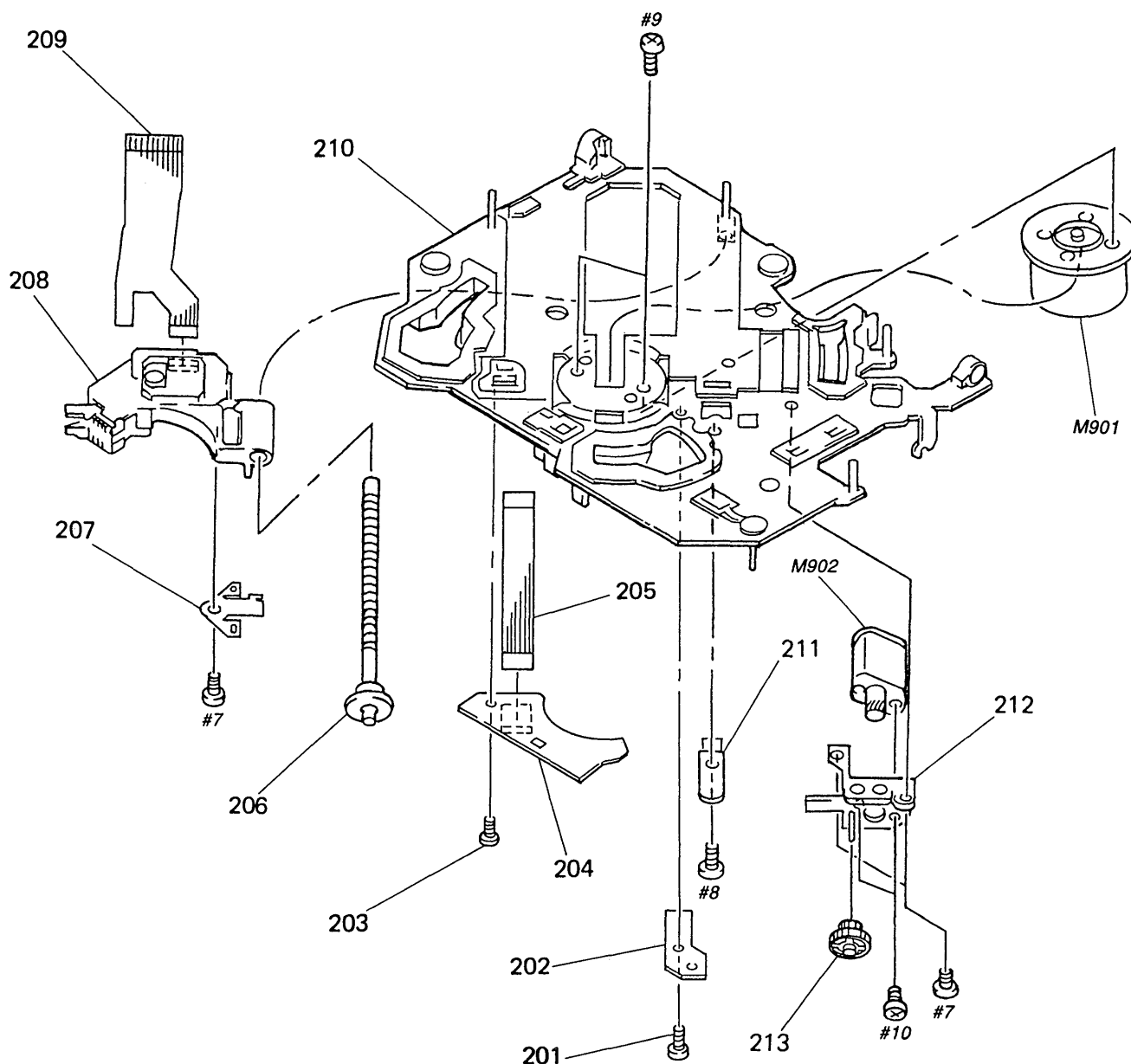
| Ref. No. | Part No.     | Description                  | Remark |
|----------|--------------|------------------------------|--------|
| * 109    | 1-659-836-11 | DISC IN SW BOARD             |        |
| 110      | 3-931-909-02 | SPRING (LR), TENSION         |        |
| * 111    | 3-931-903-01 | CHASSIS (T)                  |        |
| * 112    | X-3371-502-1 | LEVER (R) ASSY               |        |
| * 113    | X-931-908-01 | GUIDE (DISC)                 |        |
| * 114    | 3-931-899-01 | BRACKET (MOTOR)              |        |
| M903     | A-3291-576-A | MOTOR SUB ASSY, LO (LOADING) |        |

**(4) MECHANISM DECK SECTION-2  
(MG-333X-121)**



| Ref. No. | Part No.     | Description              | Remark | Ref. No. | Part No.     | Description                      | Remark |
|----------|--------------|--------------------------|--------|----------|--------------|----------------------------------|--------|
| * 151    | 1-659-837-11 | LOAD SW BOARD            |        | 159      | A-3291-568-A | CHASSIS (M) ASSY BOARD, COMPLETE |        |
| 152      | 3-338-737-01 | SCREW (2X3), +PS         |        | 160      | 3-931-881-01 | LEVER (LOCK)                     |        |
| 153      | 3-931-898-01 | SPRING (FL), COMPRESSION |        | 161      | 3-931-879-02 | LEVER (D)                        |        |
| 154      | 3-931-914-01 | SPRING (ANGLE), TENSION  |        | 162      | 3-931-882-02 | GEAR (MDL)                       |        |
| 155      | 3-931-894-01 | BRACKET (CP)             |        | 163      | 3-931-883-01 | SPRING (TR), TENSION             |        |
| 156      | 3-931-893-01 | ARM, CHUCKING            |        | 164      | 3-934-879-01 | WHEEL (U), WORM                  |        |
| * 157    | 3-384-918-01 | RETAINER (DISC)          |        | 165      | 3-931-897-01 | DAMPER (T)                       |        |
| 158      | 3-931-895-01 | SPRING (CH), TENSION     |        |          |              |                                  |        |

**(5) MECHANISM DECK SECTION-3  
(MG-333X-121)**



| Ref. No. | Part No.     | Description                  | Remark |
|----------|--------------|------------------------------|--------|
| 201      | 3-338-737-01 | SCREW (2X3), +PS             |        |
| * 202    | 1-659-835-11 | LIMIT SW BOARD               |        |
| 203      | 3-909-607-01 | SCREW                        |        |
| * 204    | 1-659-834-11 | SUB BOARD                    |        |
| 205      | 1-659-880-11 | MOTOR FLEXIBLE BOARD         |        |
| 206      | A-3291-571-A | SHAFT (FEED) ASSY            |        |
| 207      | 3-931-834-01 | SPRING (FEED), PLATE         |        |
| △208     | 8-848-402-03 | OPTICAL PICK-UP KSS-520A/J-N |        |

| Ref. No. | Part No.     | Description             | Remark |
|----------|--------------|-------------------------|--------|
| 209      | 1-659-881-11 | PICK-UP FLEXIBLE BOARD  |        |
| * 210    | X-3371-503-1 | CHASSIS (OP) (O/S) ASSY |        |
| 211      | 3-931-829-01 | SPRING (SL), PLATE      |        |
| 212      | X-3371-504-1 | BASE (DRIVING) ASSY     |        |
| 213      | 3-931-832-01 | GEAR (SL MIDWAY)        |        |
| M901     | X-3371-664-1 | MOTOR ASSY (SPINDLE)    |        |
| M902     | A-3291-574-A | MOTOR ASSY, SLED        |        |

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

Les composants identifiés par une marque △ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

# SECTION 7

## ELECTRICAL PARTS LIST

DISC IN SW

KEY

### 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.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS  
All resistors are in ohms.  
METAL: Metal-film resistor.  
METAL OXIDE: Metal oxide-film resistor.  
F: nonflammable

- Items marked "\*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS  
In each case, u:  $\mu$ , for example:  
uA.:  $\mu$ A. uPA.:  $\mu$ PA.  
uPB.:  $\mu$ PB. uPC.:  $\mu$ PC. uPD.:  $\mu$ PD.
- CAPACITORS  
uF:  $\mu$ F
- COILS  
uH:  $\mu$ H

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

Les composants identifiés par une marque  $\Delta$  sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

When indicating parts by reference number, please include the board.

| Ref. No. | Part No.     | Description                                                           | Remark |
|----------|--------------|-----------------------------------------------------------------------|--------|
| *        | 1-659-836-11 | DISC IN SW BOARD<br>*****                                             |        |
|          |              | < SWITCH >                                                            |        |
| SW1      | 1-572-288-11 | SWITCH, PUSH (DISC IN)                                                |        |
| SW2      | 1-572-288-11 | SWITCH, PUSH (SELF)                                                   |        |
| *****    |              |                                                                       |        |
| *        | A-3309-078-A | KEY BOARD, COMPLETE<br>*****                                          |        |
|          |              | < DIODE >                                                             |        |
| D801     | 8-719-052-61 | DIODE SLR-342PGA47 (MUTE)                                             |        |
| D802     | 8-719-052-61 | DIODE SLR-342PGA47 (LOUD)                                             |        |
| D803     | 8-719-052-61 | DIODE SLR-342PGA47 (OFF)                                              |        |
| D804     | 8-719-052-61 | DIODE SLR-342PGA47 (DSPL)                                             |        |
| D805     | 8-719-052-61 | DIODE SLR-342PGA47 (SEL)                                              |        |
| D806     | 8-719-052-61 | DIODE SLR-342PGA47 (-) (+)                                            |        |
| D807     | 8-719-052-61 | DIODE SLR-342PGA47 (1/INTRO)                                          |        |
| D808     | 8-719-052-61 | DIODE SLR-342PGA47 (2/REPEAT)                                         |        |
| D809     | 8-719-052-61 | DIODE SLR-342PGA47 (FM) (AM)                                          |        |
| D810     | 8-719-052-61 | DIODE SLR-342PGA47 (CD)                                               |        |
| D811     | 8-719-052-61 | DIODE SLR-342PGA47 (SENS)                                             |        |
| D812     | 8-719-052-61 | DIODE SLR-342PGA47 (A. MEM)                                           |        |
| D813     | 8-719-052-61 | DIODE SLR-342PGA47 (6)                                                |        |
| D814     | 8-719-052-61 | DIODE SLR-342PGA47 (5)                                                |        |
| D815     | 8-719-052-61 | DIODE SLR-342PGA47 (4)                                                |        |
| D816     | 8-719-052-61 | DIODE SLR-342PGA47 (3/SHUF)                                           |        |
| D817     | 8-719-052-61 | DIODE SLR-342PGA47 ( $\blacktriangleleft$ + / $\blacktriangleleft$ )  |        |
| D818     | 8-719-052-61 | DIODE SLR-342PGA47 (- $\blacktriangleright$ / $\blacktriangleright$ ) |        |
| D819     | 8-719-052-61 | DIODE SLR-342PGA47 ( $\blacktriangle$ )                               |        |
|          |              | < RESISTOR >                                                          |        |
| R801     | 1-249-414-11 | CARBON 560 5% 1/4W                                                    |        |
| R802     | 1-249-414-11 | CARBON 560 5% 1/4W                                                    |        |
| R804     | 1-249-414-11 | CARBON 560 5% 1/4W                                                    |        |
| R805     | 1-249-414-11 | CARBON 560 5% 1/4W                                                    |        |
| R806     | 1-249-414-11 | CARBON 560 5% 1/4W                                                    |        |
| R809     | 1-216-053-00 | METAL CHIP 1.5K 5% 1/10W                                              |        |

| Ref. No. | Part No.     | Description                                                         | Remark |
|----------|--------------|---------------------------------------------------------------------|--------|
| R810     | 1-216-057-00 | METAL CHIP 2.2K 5% 1/10W                                            |        |
| R811     | 1-216-061-00 | METAL CHIP 3.3K 5% 1/10W                                            |        |
| R812     | 1-216-067-00 | METAL CHIP 5.6K 5% 1/10W                                            |        |
| R813     | 1-216-073-00 | METAL CHIP 10K 5% 1/10W                                             |        |
| R814     | 1-216-232-00 | METAL GLAZE 27K 5% 1/8W                                             |        |
| R815     | 1-216-053-00 | METAL CHIP 1.5K 5% 1/10W                                            |        |
| R816     | 1-216-057-00 | METAL CHIP 2.2K 5% 1/10W                                            |        |
| R817     | 1-216-061-00 | METAL CHIP 3.3K 5% 1/10W                                            |        |
| R818     | 1-216-067-00 | METAL CHIP 5.6K 5% 1/10W                                            |        |
| R819     | 1-216-073-00 | METAL CHIP 10K 5% 1/10W                                             |        |
| R820     | 1-216-232-00 | METAL GLAZE 27K 5% 1/8W                                             |        |
| R821     | 1-216-053-00 | METAL CHIP 1.5K 5% 1/10W                                            |        |
| R822     | 1-216-057-00 | METAL CHIP 2.2K 5% 1/10W                                            |        |
| R823     | 1-216-061-00 | METAL CHIP 3.3K 5% 1/10W                                            |        |
| R824     | 1-216-067-00 | METAL CHIP 5.6K 5% 1/10W                                            |        |
| R825     | 1-216-073-00 | METAL CHIP 10K 5% 1/10W                                             |        |
| R829     | 1-216-232-00 | METAL GLAZE 27K 5% 1/8W                                             |        |
| R830     | 1-216-295-00 | CONDUCTOR, CHIP (2012)                                              |        |
|          |              | < SWITCH >                                                          |        |
| S700     | 1-572-704-31 | SWITCH, KEY BOARD (RESET)                                           |        |
| S801     | 1-572-704-31 | SWITCH, KEY BOARD (OFF)                                             |        |
| S802     | 1-572-704-31 | SWITCH, KEY BOARD (-)                                               |        |
| S803     | 1-572-704-31 | SWITCH, KEY BOARD (1/INTRO)                                         |        |
| S804     | 1-572-704-31 | SWITCH, KEY BOARD (2/REPEAT)                                        |        |
| S805     | 1-572-704-31 | SWITCH, KEY BOARD (3/SHUF)                                          |        |
| S806     | 1-572-704-31 | SWITCH, KEY BOARD (4)                                               |        |
| S807     | 1-572-704-31 | SWITCH, KEY BOARD (5)                                               |        |
| S808     | 1-572-704-31 | SWITCH, KEY BOARD (CD)                                              |        |
| S809     | 1-572-704-31 | SWITCH, KEY BOARD (FM)                                              |        |
| S810     | 1-572-704-31 | SWITCH, KEY BOARD (SEL)                                             |        |
| S811     | 1-572-704-31 | SWITCH, KEY BOARD (MUTE)                                            |        |
| S812     | 1-572-704-31 | SWITCH, KEY BOARD (LOUD)                                            |        |
| S813     | 1-572-704-31 | SWITCH, KEY BOARD (+)                                               |        |
| S814     | 1-572-704-31 | SWITCH, KEY BOARD (DSPL)                                            |        |
| S815     | 1-572-704-31 | SWITCH, KEY BOARD (AM)                                              |        |
| S816     | 1-572-704-31 | SWITCH, KEY BOARD ( $\blacktriangle$ )                              |        |
| S817     | 1-572-704-31 | SWITCH, KEY BOARD ( $\blacktriangleleft$ + / $\blacktriangleleft$ ) |        |



## KEY

## LAMP

## LIMIT SW

## LOAD SW

## MAIN

| Ref. No. | Part No.     | Description                                               | Remark  |
|----------|--------------|-----------------------------------------------------------|---------|
| S818     | 1-572-704-31 | SWITCH, KEY BOARD (- ⏏ / ⏏)                               |         |
| S819     | 1-572-704-31 | SWITCH, KEY BOARD (SENS)                                  |         |
| S820     | 1-572-704-31 | SWITCH, KEY BOARD (A. MEM)                                |         |
| S821     | 1-572-704-31 | SWITCH, KEY BOARD (6)                                     |         |
| *****    |              |                                                           |         |
| *        | 1-660-056-11 | LAMP BOARD<br>(Included in MAIN BOARD, COMPLETE)<br>***** |         |
|          |              | < PILOT LAMP >                                            |         |
| PL801    | 1-517-534-11 | LAMP, PILOT                                               |         |
| PL802    | 1-517-534-11 | LAMP, PILOT                                               |         |
| PL803    | 1-517-534-11 | LAMP, PILOT                                               |         |
| *****    |              |                                                           |         |
| *        | 1-659-835-11 | LIMIT SW BOARD<br>*****                                   |         |
|          |              | < SWITCH >                                                |         |
| SW3      | 1-572-688-11 | SWITCH, PUSH (1 KEY) (LIMIT)                              |         |
| *****    |              |                                                           |         |
| *        | 1-659-837-11 | LOAD SW BOARD<br>*****                                    |         |
|          |              | < SWITCH >                                                |         |
| SW4      | 1-572-288-11 | SWITCH, PUSH (DOWN)                                       |         |
| *****    |              |                                                           |         |
| *        | A-3294-013-A | MAIN BOARD, COMPLETE<br>*****                             |         |
| *        | 3-920-529-01 | BRACKET (REG) (IC)                                        |         |
|          | 3-922-535-11 | SCREW (+BTT)                                              |         |
| *        | 3-931-260-01 | BRACKET (IC)                                              |         |
| *        | 3-931-963-01 | HOLDER (LCD)                                              |         |
| *        | 3-931-973-01 | SHEET (LCD)                                               |         |
|          |              | < CAPACITOR >                                             |         |
| C101     | 1-163-211-00 | CERAMIC CHIP 0.0018uF                                     | 5% 50V  |
| C102     | 1-164-346-11 | CERAMIC CHIP 1uF                                          | 16V     |
| C103     | 1-164-346-11 | CERAMIC CHIP 1uF                                          | 16V     |
| C104     | 1-164-004-11 | CERAMIC CHIP 0.1uF                                        | 10% 25V |
| C105     | 1-163-017-00 | CERAMIC CHIP 0.0047uF                                     | 5% 50V  |
| C106     | 1-126-157-11 | ELECT 10uF                                                | 20% 16V |
| C107     | 1-164-489-11 | CERAMIC CHIP 0.22uF                                       | 10% 16V |
| C108     | 1-163-235-11 | CERAMIC CHIP 22PF                                         | 5% 50V  |
| C109     | 1-126-157-11 | ELECT 10uF                                                | 20% 16V |
| C110     | 1-126-157-11 | ELECT 10uF                                                | 20% 16V |
| C111     | 1-126-157-11 | ELECT 10uF                                                | 20% 16V |

| Ref. No. | Part No.     | Description           | Remark   |
|----------|--------------|-----------------------|----------|
| C112     | 1-126-157-11 | ELECT 10uF            | 20% 16V  |
| C113     | 1-163-009-11 | CERAMIC CHIP 0.001uF  | 10% 50V  |
| C114     | 1-162-637-11 | CERAMIC CHIP 0.47uF   | 16V      |
| C115     | 1-162-637-11 | CERAMIC CHIP 0.47uF   | 16V      |
| C123     | 1-164-161-11 | CERAMIC CHIP 0.0022uF | 10% 100V |
| C124     | 1-124-234-00 | ELECT 22uF            | 20% 16V  |
| C125     | 1-124-234-00 | ELECT 22uF            | 20% 16V  |
| C126     | 1-163-235-11 | CERAMIC CHIP 22PF     | 5% 50V   |
| C127     | 1-164-161-11 | CERAMIC CHIP 0.0022uF | 10% 100V |
| C201     | 1-163-211-00 | CERAMIC CHIP 0.0018uF | 5% 50V   |
| C202     | 1-164-346-11 | CERAMIC CHIP 1uF      | 16V      |
| C203     | 1-164-346-11 | CERAMIC CHIP 1uF      | 16V      |
| C204     | 1-164-004-11 | CERAMIC CHIP 0.1uF    | 10% 25V  |
| C205     | 1-163-017-00 | CERAMIC CHIP 0.0047uF | 5% 50V   |
| C206     | 1-126-157-11 | ELECT 10uF            | 20% 16V  |
| C207     | 1-164-489-11 | CERAMIC CHIP 0.22uF   | 10% 16V  |
| C208     | 1-163-235-11 | CERAMIC CHIP 22PF     | 5% 50V   |
| C209     | 1-126-157-11 | ELECT 10uF            | 20% 16V  |
| C210     | 1-126-157-11 | ELECT 10uF            | 20% 16V  |
| C211     | 1-126-157-11 | ELECT 10uF            | 20% 16V  |
| C212     | 1-126-157-11 | ELECT 10uF            | 20% 16V  |
| C213     | 1-163-009-11 | CERAMIC CHIP 0.001uF  | 10% 50V  |
| C214     | 1-164-005-11 | CERAMIC CHIP 0.47uF   | 25V      |
| C215     | 1-162-637-11 | CERAMIC CHIP 0.47uF   | 16V      |
| C223     | 1-164-161-11 | CERAMIC CHIP 0.0022uF | 10% 100V |
| C224     | 1-124-234-00 | ELECT 22uF            | 20% 16V  |
| C225     | 1-124-234-00 | ELECT 22uF            | 20% 16V  |
| C226     | 1-163-235-11 | CERAMIC CHIP 22PF     | 5% 50V   |
| C227     | 1-164-161-11 | CERAMIC CHIP 0.0022uF | 10% 100V |
| C300     | 1-164-004-11 | CERAMIC CHIP 0.1uF    | 10% 25V  |
| C301     | 1-124-584-00 | ELECT 100uF           | 20% 10V  |
| C302     | 1-163-141-00 | CERAMIC CHIP 0.001uF  | 5% 50V   |
| C303     | 1-163-141-00 | CERAMIC CHIP 0.001uF  | 5% 50V   |
| C304     | 1-163-239-11 | CERAMIC CHIP 33PF     | 5% 50V   |
| C305     | 1-163-235-11 | CERAMIC CHIP 22PF     | 5% 50V   |
| C306     | 1-163-235-11 | CERAMIC CHIP 22PF     | 5% 50V   |
| C307     | 1-128-057-11 | ELECT 330uF           | 20% 6.3V |
| C401     | 1-126-935-11 | ELECT 470uF           | 20% 16V  |
| C402     | 1-163-038-00 | CERAMIC CHIP 0.1uF    | 25V      |
| C404     | 1-163-117-00 | CERAMIC CHIP 100PF    | 5% 50V   |
| C405     | 1-163-117-00 | CERAMIC CHIP 100PF    | 5% 50V   |
| C406     | 1-163-117-00 | CERAMIC CHIP 100PF    | 5% 50V   |
| C407     | 1-163-109-00 | CERAMIC CHIP 47PF     | 5% 50V   |
| C408     | 1-126-288-11 | ELECT 4.7uF           | 20% 16V  |
| C409     | 1-126-288-11 | ELECT 4.7uF           | 20% 16V  |
| C416     | 1-163-077-00 | CERAMIC CHIP 0.1uF    | 10% 25V  |
| C417     | 1-164-232-11 | CERAMIC CHIP 0.01uF   | 50V      |
| C418     | 1-126-157-11 | ELECT 10uF            | 20% 16V  |
| C419     | 1-124-584-00 | ELECT 100uF           | 20% 10V  |

# MAIN

| Ref. No.      | Part No.     | Description                   | Remark     |
|---------------|--------------|-------------------------------|------------|
| C420          | 1-164-004-11 | CERAMIC CHIP 0.1uF            | 10% 25V    |
| C434          | 1-164-346-11 | CERAMIC CHIP 1uF              | 16V        |
| C435          | 1-126-288-11 | ELECT 4.7uF                   | 20% 16V    |
| C501          | 1-126-162-11 | ELECT 3.3uF                   | 20% 50V    |
| C503          | 1-164-004-11 | CERAMIC CHIP 0.1uF            | 10% 25V    |
| C504          | 1-164-004-11 | CERAMIC CHIP 0.1uF            | 10% 25V    |
| C507          | 1-110-654-11 | DOUBLE LAYER 0.047F           |            |
| C508          | 1-163-038-00 | CERAMIC CHIP 0.1uF            | 25V        |
| C511          | 1-124-234-00 | ELECT 22uF                    | 20% 16V    |
| C512          | 1-104-663-11 | ELECT 33uF                    | 20% 16V    |
| C513          | 1-164-004-11 | CERAMIC CHIP 0.1uF            | 10% 25V    |
| C514          | 1-164-004-11 | CERAMIC CHIP 0.1uF            | 10% 25V    |
| C516          | 1-163-038-00 | CERAMIC CHIP 0.1uF            | 25V        |
| C517          | 1-128-057-11 | ELECT 330uF                   | 20% 6.3V   |
| C518          | 1-164-004-11 | CERAMIC CHIP 0.1uF            | 10% 25V    |
| C519          | 1-124-556-11 | ELECT 2200uF                  | 20% 16V    |
| C613          | 1-163-037-11 | CERAMIC CHIP 0.022uF          | 10% 25V    |
| C614          | 1-126-163-11 | ELECT 4.7uF                   | 20% 50V    |
| C615          | 1-126-163-11 | ELECT 4.7uF                   | 20% 50V    |
| C616          | 1-163-037-11 | CERAMIC CHIP 0.022uF          | 10% 25V    |
| C618          | 1-163-222-11 | CERAMIC CHIP 5PF              | 0.25PF 50V |
| C619          | 1-163-009-11 | CERAMIC CHIP 0.001uF          | 10% 50V    |
| C700          | 1-163-117-00 | CERAMIC CHIP 100PF            | 5% 50V     |
| C701          | 1-163-181-00 | CERAMIC CHIP 100PF            | 5% 50V     |
| C702          | 1-163-141-00 | CERAMIC CHIP 0.001uF          | 5% 50V     |
| C703          | 1-163-109-00 | CERAMIC CHIP 47PF             | 5% 50V     |
| C704          | 1-163-229-11 | CERAMIC CHIP 12PF             | 5% 50V     |
| C705          | 1-163-229-11 | CERAMIC CHIP 12PF             | 5% 50V     |
| C706          | 1-163-038-00 | CERAMIC CHIP 0.1uF            | 25V        |
| C707          | 1-163-038-00 | CERAMIC CHIP 0.1uF            | 25V        |
| < CONNECTOR > |              |                               |            |
| CNP300        | 1-764-617-12 | PIN, CONNECTOR (PC BOARD) 30P |            |
| CNP501        | 1-774-701-11 | PIN, CONNECTOR 16P            |            |
| < DIODE >     |              |                               |            |
| D400          | 8-719-109-71 | DIODE RD3. 9ES-B1             |            |
| D401          | 8-719-991-33 | DIODE 1SS133T-77              |            |
| D403          | 8-719-200-82 | DIODE 11ES2                   |            |
| D404          | 8-719-200-82 | DIODE 11ES2                   |            |
| D501          | 8-719-923-91 | DIODE MTZJ-T-77-16A           |            |
| D502          | 8-719-109-97 | DIODE RD6. 8ES-B2             |            |
| D503          | 8-719-109-93 | DIODE RD6. 2ESB2              |            |
| D504          | 8-719-109-93 | DIODE RD6. 2ESB2              |            |
| D505          | 8-719-991-33 | DIODE 1SS133T-77              |            |
| D506          | 8-719-991-33 | DIODE 1SS133T-77              |            |
| D508          | 8-719-991-33 | DIODE 1SS133T-77              |            |
| D509          | 8-719-110-13 | DIODE RD9. 1ESB2              |            |
| D511          | 8-719-109-89 | DIODE RD5. 6ESB2              |            |

| Ref. No.                   | Part No.     | Description                              | Remark |
|----------------------------|--------------|------------------------------------------|--------|
| D512                       | 8-719-200-82 | DIODE 11ES2                              |        |
| D513                       | 8-719-989-62 | DIODE RL254                              |        |
| D516                       | 8-719-991-33 | DIODE 1SS133T-77                         |        |
| D517                       | 8-719-991-33 | DIODE 1SS133T-77                         |        |
| D518                       | 8-719-110-13 | DIODE RD9. 1ESB2                         |        |
| D701                       | 8-719-991-33 | DIODE 1SS133T-77                         |        |
| D702                       | 8-719-991-33 | DIODE 1SS133T-77                         |        |
| D703                       | 8-719-991-33 | DIODE 1SS133T-77                         |        |
| D704                       | 8-719-991-33 | DIODE 1SS133T-77                         |        |
| D705                       | 8-719-991-33 | DIODE 1SS133T-77                         |        |
| D706                       | 8-719-991-33 | DIODE 1SS133T-77                         |        |
| D709                       | 8-719-109-93 | DIODE RD6. 2ESB2                         |        |
| D710                       | 8-719-991-33 | DIODE 1SS133T-77                         |        |
| D711                       | 8-719-109-93 | DIODE RD6. 2ESB2                         |        |
| D712                       | 8-719-109-93 | DIODE RD6. 2ESB2                         |        |
| D713                       | 8-719-109-93 | DIODE RD6. 2ESB2                         |        |
| < FUSE >                   |              |                                          |        |
| F501                       | 1-533-331-11 | FUSE (BLADE TYPE) (AUTO FUSE) (15A, 32V) |        |
| < IC >                     |              |                                          |        |
| IC200                      | 8-759-369-42 | IC HA13153                               |        |
| IC300                      | 8-759-364-34 | IC SM5877AM                              |        |
| IC400                      | 8-752-075-48 | IC CXA1946AQ-T6                          |        |
| IC700                      | 8-759-395-50 | IC uPD17017GF-B14-3B9                    |        |
| < CHIP CONDUCTOR >         |              |                                          |        |
| JR7                        | 1-216-295-00 | CONDUCTOR, CHIP                          | (2012) |
| JR8                        | 1-216-296-00 | CONDUCTOR, CHIP                          | (3216) |
| JR9                        | 1-216-295-00 | CONDUCTOR, CHIP                          | (2012) |
| JR10                       | 1-216-295-00 | CONDUCTOR, CHIP                          | (2012) |
| JR11                       | 1-216-296-00 | CONDUCTOR, CHIP                          | (3216) |
| JR100                      | 1-216-295-00 | CONDUCTOR, CHIP                          | (2012) |
| JR501                      | 1-216-295-00 | CONDUCTOR, CHIP                          | (2012) |
| JR574                      | 1-216-295-00 | CONDUCTOR, CHIP                          | (2012) |
| < COIL >                   |              |                                          |        |
| L300                       | 1-410-513-11 | INDUCTOR 22uH                            |        |
| L501                       | 1-411-823-21 | COIL, CHOKE                              |        |
| L603                       | 1-410-312-11 | INDUCTOR 0.22uH                          |        |
| L700                       | 1-410-513-11 | INDUCTOR 22uH                            |        |
| < LIQUID CRYSTAL DISPLAY > |              |                                          |        |
| LCD800                     | 1-801-183-11 | DISPLAY PANEL, LIQUID CRYSTAL            |        |
| < JACK >                   |              |                                          |        |
| PJ400                      | 1-764-424-11 | JACK, PIN 2P (LINE OUT REAR)             |        |

| Ref. No.       | Part No.     | Description                 | Remark |
|----------------|--------------|-----------------------------|--------|
| < TRANSISTOR > |              |                             |        |
| Q101           | 8-729-920-21 | TRANSISTOR DTC314TKH04      |        |
| Q102           | 8-729-920-21 | TRANSISTOR DTC314TKH04      |        |
| Q201           | 8-729-920-21 | TRANSISTOR DTC314TKH04      |        |
| Q202           | 8-729-920-21 | TRANSISTOR DTC314TKH04      |        |
| Q404           | 8-729-901-05 | TRANSISTOR DTA124EK         |        |
| Q405           | 8-729-901-00 | TRANSISTOR DTC124EK         |        |
| Q501           | 8-729-822-84 | TRANSISTOR 2SB1202FAST      |        |
| Q502           | 8-729-920-74 | TRANSISTOR 2SC2412K-QR      |        |
| Q503           | 8-729-900-53 | TRANSISTOR DTC114EK         |        |
| Q504           | 8-729-920-74 | TRANSISTOR 2SC2412K-QR      |        |
| Q505           | 8-729-920-74 | TRANSISTOR 2SC2412K-QR      |        |
| Q507           | 8-729-901-05 | TRANSISTOR DTA124EK         |        |
| Q508           | 8-729-920-85 | TRANSISTOR 2SD1664-QR       |        |
| Q509           | 8-729-026-49 | TRANSISTOR 2SA1037AK-T146-R |        |
| Q510           | 8-729-120-28 | TRANSISTOR 2SC1623-L5L6     |        |
| Q515           | 8-729-820-68 | TRANSISTOR 2SD1802FA-S      |        |
| Q520           | 8-729-019-00 | TRANSISTOR 2SD2394-G        |        |
| Q522           | 8-729-901-00 | TRANSISTOR DTC124EK         |        |
| Q528           | 8-729-900-53 | TRANSISTOR DTC114EK         |        |
| Q529           | 8-729-820-68 | TRANSISTOR 2SD1802FA-S      |        |
| Q530           | 8-729-822-84 | TRANSISTOR 2SB1202FAST      |        |
| Q531           | 8-729-900-53 | TRANSISTOR DTC114EK         |        |
| Q600           | 8-729-920-74 | TRANSISTOR 2SC2412K-QR      |        |
| Q601           | 8-729-920-74 | TRANSISTOR 2SC2412K-QR      |        |
| Q704           | 8-729-901-05 | TRANSISTOR DTA124EK         |        |
| < RESISTOR >   |              |                             |        |
| R101           | 1-216-057-00 | METAL CHIP 2.2K 5% 1/10W    |        |
| R102           | 1-216-073-00 | METAL CHIP 10K 5% 1/10W     |        |
| R103           | 1-216-295-00 | CONDUCTOR, CHIP (2012)      |        |
| R104           | 1-216-214-00 | METAL GLAZE 4.7K 5% 1/8W    |        |
| R105           | 1-216-214-00 | METAL GLAZE 4.7K 5% 1/8W    |        |
| R106           | 1-216-041-00 | METAL CHIP 470 5% 1/10W     |        |
| R107           | 1-216-041-00 | METAL CHIP 470 5% 1/10W     |        |
| R108           | 1-216-224-00 | METAL GLAZE 12K 5% 1/8W     |        |
| R109           | 1-216-075-00 | METAL CHIP 12K 5% 1/10W     |        |
| R110           | 1-216-129-00 | METAL CHIP 2.2M 5% 1/10W    |        |
| R111           | 1-216-129-00 | METAL CHIP 2.2M 5% 1/10W    |        |
| R112           | 1-216-077-00 | METAL CHIP 15K 5% 1/10W     |        |
| R113           | 1-216-077-00 | METAL CHIP 15K 5% 1/10W     |        |
| R121           | 1-216-077-00 | METAL CHIP 15K 5% 1/10W     |        |
| R122           | 1-216-073-00 | METAL CHIP 10K 5% 1/10W     |        |
| R123           | 1-216-077-00 | METAL CHIP 15K 5% 1/10W     |        |
| R124           | 1-216-085-00 | METAL CHIP 33K 5% 1/10W     |        |
| R129           | 1-216-061-00 | METAL CHIP 3.3K 5% 1/10W    |        |
| R130           | 1-216-097-00 | METAL GLAZE 100K 5% 1/10W   |        |
| R201           | 1-216-057-00 | METAL CHIP 2.2K 5% 1/10W    |        |

| Ref. No. | Part No.     | Description               | Remark |
|----------|--------------|---------------------------|--------|
| R202     | 1-216-073-00 | METAL CHIP 10K 5% 1/10W   |        |
| R203     | 1-216-295-00 | CONDUCTOR, CHIP (2012)    |        |
| R204     | 1-216-065-00 | METAL CHIP 4.7K 5% 1/10W  |        |
| R205     | 1-249-425-11 | CARBON 4.7K 5% 1/4W       |        |
| R206     | 1-249-413-11 | CARBON 470 5% 1/4W        |        |
| R207     | 1-216-041-00 | METAL CHIP 470 5% 1/10W   |        |
| R208     | 1-216-224-00 | METAL GLAZE 12K 5% 1/8W   |        |
| R209     | 1-216-224-00 | METAL GLAZE 12K 5% 1/8W   |        |
| R210     | 1-216-129-00 | METAL CHIP 2.2M 5% 1/10W  |        |
| R211     | 1-216-129-00 | METAL CHIP 2.2M 5% 1/10W  |        |
| R212     | 1-216-077-00 | METAL CHIP 15K 5% 1/10W   |        |
| R213     | 1-216-077-00 | METAL CHIP 15K 5% 1/10W   |        |
| R221     | 1-249-431-11 | CARBON 15K 5% 1/4W        |        |
| R222     | 1-216-073-00 | METAL CHIP 10K 5% 1/10W   |        |
| R223     | 1-216-077-00 | METAL CHIP 15K 5% 1/10W   |        |
| R224     | 1-216-085-00 | METAL CHIP 33K 5% 1/10W   |        |
| R229     | 1-216-061-00 | METAL CHIP 3.3K 5% 1/10W  |        |
| R230     | 1-216-097-00 | METAL GLAZE 100K 5% 1/10W |        |
| R300     | 1-216-150-00 | METAL GLAZE 10 5% 1/8W    |        |
| R302     | 1-247-807-11 | CARBON 100 5% 1/4W        |        |
| R303     | 1-247-807-11 | CARBON 100 5% 1/4W        |        |
| R304     | 1-247-807-11 | CARBON 100 5% 1/4W        |        |
| R305     | 1-216-017-00 | METAL GLAZE 47 5% 1/10W   |        |
| R306     | 1-249-411-11 | CARBON 330 5% 1/4W        |        |
| R308     | 1-216-027-00 | METAL CHIP 120 5% 1/10W   |        |
| R313     | 1-216-033-00 | METAL CHIP 220 5% 1/10W   |        |
| R401     | 1-216-113-00 | METAL CHIP 470K 5% 1/10W  |        |
| R411     | 1-249-417-11 | CARBON 1K 5% 1/4W         |        |
| R416     | 1-216-089-00 | METAL GLAZE 47K 5% 1/10W  |        |
| R417     | 1-216-065-00 | METAL CHIP 4.7K 5% 1/10W  |        |
| R418     | 1-216-065-00 | METAL CHIP 4.7K 5% 1/10W  |        |
| R500     | 1-216-234-00 | METAL GLAZE 33K 5% 1/8W   |        |
| R502     | 1-216-049-11 | METAL GLAZE 1K 5% 1/10W   |        |
| R503     | 1-216-057-00 | METAL CHIP 2.2K 5% 1/10W  |        |
| R504     | 1-216-105-00 | METAL GLAZE 220K 5% 1/10W |        |
| R505     | 1-216-073-00 | METAL CHIP 10K 5% 1/10W   |        |
| R507     | 1-216-085-00 | METAL CHIP 33K 5% 1/10W   |        |
| R508     | 1-216-080-00 | METAL CHIP 20K 5% 1/10W   |        |
| R509     | 1-216-079-00 | METAL CHIP 18K 5% 1/10W   |        |
| R510     | 1-216-067-00 | METAL CHIP 5.6K 5% 1/10W  |        |
| R511     | 1-216-105-00 | METAL GLAZE 220K 5% 1/10W |        |
| R512     | 1-216-089-00 | METAL GLAZE 47K 5% 1/10W  |        |
| R516     | 1-249-417-11 | CARBON 15 5% 1/4W         |        |
| R517     | 1-216-061-00 | METAL CHIP 3.3K 5% 1/10W  |        |
| R518     | 1-216-081-00 | METAL CHIP 22K 5% 1/10W   |        |
| R519     | 1-216-081-00 | METAL CHIP 22K 5% 1/10W   |        |
| R520     | 1-216-073-00 | METAL CHIP 10K 5% 1/10W   |        |
| R525     | 1-216-041-00 | METAL CHIP 470 5% 1/10W   |        |
| R527     | 1-249-418-11 | CARBON 1.2K 5% 1/4W       |        |

# MAIN

# SERVO

| Ref. No.       | Part No.     | Description                   | Remark |    |       |
|----------------|--------------|-------------------------------|--------|----|-------|
| R528           | 1-216-049-11 | METAL GLAZE                   | 1K     | 5% | 1/10W |
| R529           | 1-216-183-00 | METAL CHIP                    | 240    | 5% | 1/8W  |
| R530           | 1-216-049-11 | METAL GLAZE                   | 1K     | 5% | 1/10W |
| R531           | 1-249-421-11 | CARBON                        | 2.2K   | 5% | 1/4W  |
| R538           | 1-216-073-00 | METAL CHIP                    | 10K    | 5% | 1/10W |
| R614           | 1-216-073-00 | METAL CHIP                    | 10K    | 5% | 1/10W |
| R615           | 1-216-053-00 | METAL CHIP                    | 1.5K   | 5% | 1/10W |
| R616           | 1-216-077-00 | METAL CHIP                    | 15K    | 5% | 1/10W |
| R617           | 1-216-049-11 | METAL GLAZE                   | 1K     | 5% | 1/10W |
| R618           | 1-216-061-00 | METAL CHIP                    | 3.3K   | 5% | 1/10W |
| R619           | 1-216-121-00 | METAL GLAZE                   | 1M     | 5% | 1/10W |
| R620           | 1-249-421-11 | CARBON                        | 2.2K   | 5% | 1/4W  |
| R702           | 1-216-049-11 | METAL GLAZE                   | 1K     | 5% | 1/10W |
| R704           | 1-216-073-00 | METAL CHIP                    | 10K    | 5% | 1/10W |
| R708           | 1-216-073-00 | METAL CHIP                    | 10K    | 5% | 1/10W |
| R709           | 1-216-073-00 | METAL CHIP                    | 10K    | 5% | 1/10W |
| R710           | 1-216-051-00 | METAL CHIP                    | 1.2K   | 5% | 1/10W |
| R712           | 1-249-429-11 | CARBON                        | 10K    | 5% | 1/4W  |
| R713           | 1-249-429-11 | CARBON                        | 10K    | 5% | 1/4W  |
| R714           | 1-249-429-11 | CARBON                        | 10K    | 5% | 1/4W  |
| R719           | 1-249-418-11 | CARBON                        | 1.2K   | 5% | 1/4W  |
| R720           | 1-249-437-11 | CARBON                        | 47K    | 5% | 1/4W  |
| R721           | 1-249-419-11 | CARBON                        | 1.5K   | 5% | 1/4W  |
| R722           | 1-216-053-00 | METAL CHIP                    | 1.5K   | 5% | 1/10W |
| R723           | 1-249-419-11 | CARBON                        | 1.5K   | 5% | 1/4W  |
| R730           | 1-216-089-00 | METAL GLAZE                   | 47K    | 5% | 1/10W |
| R798           | 1-216-085-00 | METAL CHIP                    | 33K    | 5% | 1/10W |
| R799           | 1-216-089-00 | METAL GLAZE                   | 47K    | 5% | 1/10W |
| R890           | 1-249-395-11 | CARBON                        | 15     | 5% | 1/4W  |
| R891           | 1-249-395-11 | CARBON                        | 15     | 5% | 1/4W  |
| R892           | 1-249-395-11 | CARBON                        | 15     | 5% | 1/4W  |
| R900           | 1-216-295-00 | CONDUCTOR, CHIP               | (2012) |    |       |
| < THERMISTOR > |              |                               |        |    |       |
| THP501         | 1-809-148-11 | THERMISTOR PTH8L07AR2ROM1B510 |        |    |       |
| < TUNER >      |              |                               |        |    |       |
| TU101          | A-3309-002-A | TUNER UNIT                    |        |    |       |
| < VIBRATOR >   |              |                               |        |    |       |
| X300           | 1-579-345-11 | VIBRATOR, CERAMIC (16.934MHz) |        |    |       |
| X700           | 1-760-223-11 | VIBRATOR, CRYSTAL (4.5MHz)    |        |    |       |

\*\*\*\*\*

| Ref. No. | Part No.                           | Description                      | Remark   |       |      |
|----------|------------------------------------|----------------------------------|----------|-------|------|
| *        | A-3309-021-A SERVO BOARD, COMPLETE |                                  |          |       |      |
|          | *****                              |                                  |          |       |      |
|          | < CAPACITOR >                      |                                  |          |       |      |
| C1       | 1-164-004-11                       | CERAMIC CHIP                     | 0.1uF    | 10%   | 25V  |
| C2       | 1-164-232-11                       | CERAMIC CHIP                     | 0.01uF   |       | 50V  |
| C3       | 1-135-145-11                       | TANTALUM CHIP                    | 0.47uF   | 10%   | 35V  |
| C4       | 1-163-251-11                       | CERAMIC CHIP                     | 100PF    | 5%    | 50V  |
| C5       | 1-164-182-11                       | CERAMIC CHIP                     | 0.0033uF | 10%   | 50V  |
| C6       | 1-163-011-11                       | CERAMIC CHIP                     | 0.0015uF | 10%   | 50V  |
| C7       | 1-163-809-11                       | CERAMIC CHIP                     | 0.047uF  | 10%   | 25V  |
| C9       | 1-164-004-11                       | CERAMIC CHIP                     | 0.1uF    | 10%   | 25V  |
| C10      | 1-126-206-11                       | ELECT CHIP                       | 100uF    | 20%   | 6.3V |
| C11      | 1-135-259-11                       | TANTAL. CHIP                     | 10uF     | 20%   | 6.3V |
| C12      | 1-163-227-11                       | CERAMIC CHIP                     | 10PF     | 0.5PF | 50V  |
| C13      | 1-164-232-11                       | CERAMIC CHIP                     | 0.01uF   |       | 50V  |
| C14      | 1-163-989-11                       | CERAMIC CHIP                     | 0.033uF  | 10%   | 25V  |
| C15      | 1-164-232-11                       | CERAMIC CHIP                     | 0.01uF   |       | 50V  |
| C16      | 1-163-989-11                       | CERAMIC CHIP                     | 0.033uF  | 10%   | 25V  |
| C17      | 1-164-004-11                       | CERAMIC CHIP                     | 0.1uF    | 10%   | 25V  |
| C18      | 1-164-004-11                       | CERAMIC CHIP                     | 0.1uF    | 10%   | 25V  |
| C19      | 1-163-037-11                       | CERAMIC CHIP                     | 0.022uF  | 10%   | 25V  |
| C20      | 1-107-823-11                       | CERAMIC CHIP                     | 0.47uF   | 10%   | 16V  |
| C21      | 1-163-809-11                       | CERAMIC CHIP                     | 0.047uF  | 10%   | 25V  |
| C22      | 1-163-251-11                       | CERAMIC CHIP                     | 100PF    | 5%    | 50V  |
| C23      | 1-135-259-11                       | TANTAL. CHIP                     | 10uF     | 20%   | 6.3V |
| C24      | 1-163-125-00                       | CERAMIC CHIP                     | 220PF    | 5%    | 50V  |
| C25      | 1-107-823-11                       | CERAMIC CHIP                     | 0.47uF   | 10%   | 16V  |
| C26      | 1-164-004-11                       | CERAMIC CHIP                     | 0.1uF    | 10%   | 25V  |
| C27      | 1-164-004-11                       | CERAMIC CHIP                     | 0.1uF    | 10%   | 25V  |
| C28      | 1-163-023-00                       | CERAMIC CHIP                     | 0.015uF  | 5%    | 50V  |
| C29      | 1-164-004-11                       | CERAMIC CHIP                     | 0.1uF    | 10%   | 25V  |
| C30      | 1-126-603-11                       | ELECT CHIP                       | 4.7uF    | 20%   | 35V  |
| C31      | 1-164-232-11                       | CERAMIC CHIP                     | 0.01uF   |       | 50V  |
| C32      | 1-163-023-00                       | CERAMIC CHIP                     | 0.015uF  | 5%    | 50V  |
| C33      | 1-124-779-00                       | ELECT CHIP                       | 10uF     | 20%   | 16V  |
| C34      | 1-109-982-11                       | CERAMIC CHIP                     | 1uF      | 10%   | 10V  |
| C35      | 1-164-232-11                       | CERAMIC CHIP                     | 0.01uF   |       | 50V  |
| C36      | 1-164-004-11                       | CERAMIC CHIP                     | 0.1uF    | 10%   | 25V  |
| C37      | 1-164-004-11                       | CERAMIC CHIP                     | 0.1uF    | 10%   | 25V  |
| C38      | 1-164-004-11                       | CERAMIC CHIP                     | 0.1uF    | 10%   | 25V  |
| C39      | 1-126-204-11                       | ELECT CHIP                       | 47uF     | 20%   | 16V  |
| C40      | 1-164-004-11                       | CERAMIC CHIP                     | 0.1uF    | 10%   | 25V  |
|          | < CONNECTOR >                      |                                  |          |       |      |
| CN1      | 1-764-616-12                       | HOUSING, CONNECTOR(PC BOARD) 30P |          |       |      |
| CN2      | 1-565-728-11                       | CONNECTOR, FPC 17P               |          |       |      |
| CN3      | 1-770-347-21                       | CONNECTOR, FPC 6P                |          |       |      |

| Ref. No.           | Part No.     | Description     | Remark |
|--------------------|--------------|-----------------|--------|
| < IC >             |              |                 |        |
| IC1                | 8-752-372-94 | IC CXD2507AQ    |        |
| IC2                | 8-752-069-56 | IC CXA1782BQ    |        |
| IC3                | 8-759-354-16 | IC BA6796FP-T1  |        |
| < CHIP CONDUCTOR > |              |                 |        |
| JR1                | 1-216-296-00 | CONDUCTOR, CHIP | (3216) |
| JR2                | 1-216-296-00 | CONDUCTOR, CHIP | (3216) |
| JR3                | 1-216-296-00 | CONDUCTOR, CHIP | (3216) |
| JR4                | 1-216-296-00 | CONDUCTOR, CHIP | (3216) |
| JR5                | 1-216-296-00 | CONDUCTOR, CHIP | (3216) |
| JR6                | 1-216-296-00 | CONDUCTOR, CHIP | (3216) |
| JR7                | 1-216-296-00 | CONDUCTOR, CHIP | (3216) |
| JR8                | 1-216-296-00 | CONDUCTOR, CHIP | (3216) |
| JR9                | 1-216-296-00 | CONDUCTOR, CHIP | (3216) |
| JR10               | 1-216-296-00 | CONDUCTOR, CHIP | (3216) |
| JR11               | 1-216-296-00 | CONDUCTOR, CHIP | (3216) |
| JR12               | 1-216-296-00 | CONDUCTOR, CHIP | (3216) |
| JR13               | 1-216-296-00 | CONDUCTOR, CHIP | (3216) |
| JR14               | 1-216-296-00 | CONDUCTOR, CHIP | (3216) |
| JR15               | 1-216-296-00 | CONDUCTOR, CHIP | (3216) |
| JR16               | 1-216-296-00 | CONDUCTOR, CHIP | (3216) |
| JR17               | 1-216-296-00 | CONDUCTOR, CHIP | (3216) |
| JR18               | 1-216-296-00 | CONDUCTOR, CHIP | (3216) |
| JR19               | 1-216-296-00 | CONDUCTOR, CHIP | (3216) |
| JR20               | 1-216-296-00 | CONDUCTOR, CHIP | (3216) |
| JR21               | 1-216-296-00 | CONDUCTOR, CHIP | (3216) |
| JR22               | 1-216-296-00 | CONDUCTOR, CHIP | (3216) |
| JR23               | 1-216-296-00 | CONDUCTOR, CHIP | (3216) |
| JR24               | 1-216-296-00 | CONDUCTOR, CHIP | (3216) |
| JR25               | 1-216-296-00 | CONDUCTOR, CHIP | (3216) |
| JR26               | 1-216-296-00 | CONDUCTOR, CHIP | (3216) |
| JR27               | 1-216-296-00 | CONDUCTOR, CHIP | (3216) |
| JR28               | 1-216-296-00 | CONDUCTOR, CHIP | (3216) |
| JR29               | 1-216-296-00 | CONDUCTOR, CHIP | (3216) |
| JR30               | 1-216-296-00 | CONDUCTOR, CHIP | (3216) |
| JR31               | 1-216-296-00 | CONDUCTOR, CHIP | (3216) |
| JR32               | 1-216-296-00 | CONDUCTOR, CHIP | (3216) |
| JR33               | 1-216-296-00 | CONDUCTOR, CHIP | (3216) |
| JR34               | 1-216-296-00 | CONDUCTOR, CHIP | (3216) |
| JR35               | 1-216-296-00 | CONDUCTOR, CHIP | (3216) |
| JR36               | 1-216-296-00 | CONDUCTOR, CHIP | (3216) |
| JR37               | 1-216-296-00 | CONDUCTOR, CHIP | (3216) |
| JR38               | 1-216-296-00 | CONDUCTOR, CHIP | (3216) |
| JR39               | 1-216-296-00 | CONDUCTOR, CHIP | (3216) |
| JR40               | 1-216-296-00 | CONDUCTOR, CHIP | (3216) |
| JR41               | 1-216-296-00 | CONDUCTOR, CHIP | (3216) |

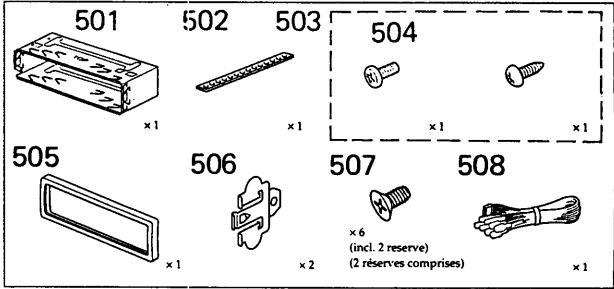
| Ref. No.       | Part No.     | Description     | Remark           |
|----------------|--------------|-----------------|------------------|
| JR42           | 1-216-296-00 | CONDUCTOR, CHIP | (3216)           |
| JR43           | 1-216-296-00 | CONDUCTOR, CHIP | (3216)           |
| JR44           | 1-216-296-00 | CONDUCTOR, CHIP | (3216)           |
| JR45           | 1-216-296-00 | CONDUCTOR, CHIP | (3216)           |
| JR46           | 1-216-296-00 | CONDUCTOR, CHIP | (3216)           |
| JR47           | 1-216-296-00 | CONDUCTOR, CHIP | (3216)           |
| JR48           | 1-216-296-00 | CONDUCTOR, CHIP | (3216)           |
| JR49           | 1-216-296-00 | CONDUCTOR, CHIP | (3216)           |
| JR50           | 1-216-296-00 | CONDUCTOR, CHIP | (3216)           |
| < COIL >       |              |                 |                  |
| L1             | 1-412-058-11 | INDUCTOR CHIP   | 10uH             |
| L2             | 1-412-058-11 | INDUCTOR CHIP   | 10uH             |
| L3             | 1-412-058-11 | INDUCTOR CHIP   | 10uH             |
| < TRANSISTOR > |              |                 |                  |
| Q1             | 8-729-904-60 | TRANSISTOR      | DTB113ZK-T-146   |
| Q2             | 8-729-904-86 | TRANSISTOR      | 2SB1197K-T-146-Q |
| < RESISTOR >   |              |                 |                  |
| R1             | 1-216-073-00 | METAL CHIP      | 10K 5% 1/10W     |
| R2             | 1-216-097-00 | METAL GLAZE     | 100K 5% 1/10W    |
| R3             | 1-216-121-00 | METAL GLAZE     | 1M 5% 1/10W      |
| R4             | 1-216-061-00 | METAL CHIP      | 3.3K 5% 1/10W    |
| R5             | 1-216-061-00 | METAL CHIP      | 3.3K 5% 1/10W    |
| R6             | 1-216-073-00 | METAL CHIP      | 10K 5% 1/10W     |
| R7             | 1-216-009-00 | METAL CHIP      | 22 5% 1/10W      |
| R8             | 1-216-119-00 | METAL CHIP      | 820K 5% 1/10W    |
| R9             | 1-216-119-00 | METAL CHIP      | 820K 5% 1/10W    |
| R10            | 1-216-073-00 | METAL CHIP      | 10K 5% 1/10W     |
| R11            | 1-216-073-00 | METAL CHIP      | 10K 5% 1/10W     |
| R14            | 1-216-085-00 | METAL CHIP      | 33K 5% 1/10W     |
| R15            | 1-216-085-00 | METAL CHIP      | 33K 5% 1/10W     |
| R16            | 1-216-077-00 | METAL CHIP      | 15K 5% 1/10W     |
| R17            | 1-216-081-00 | METAL CHIP      | 22K 5% 1/10W     |
| R19            | 1-216-079-00 | METAL CHIP      | 18K 5% 1/10W     |
| R20            | 1-216-105-00 | METAL GLAZE     | 220K 5% 1/10W    |
| R21            | 1-216-105-00 | METAL GLAZE     | 220K 5% 1/10W    |
| R22            | 1-216-085-00 | METAL CHIP      | 33K 5% 1/10W     |
| R23            | 1-216-121-00 | METAL GLAZE     | 1M 5% 1/10W      |
| R24            | 1-216-073-00 | METAL CHIP      | 10K 5% 1/10W     |
| R27            | 1-216-295-00 | CONDUCTOR, CHIP | (2012)           |
| R28            | 1-216-101-00 | METAL CHIP      | 150K 5% 1/10W    |
| R29            | 1-216-097-00 | METAL GLAZE     | 100K 5% 1/10W    |
| R30            | 1-216-097-00 | METAL GLAZE     | 100K 5% 1/10W    |
| R31            | 1-216-081-00 | METAL CHIP      | 22K 5% 1/10W     |
| R32            | 1-216-109-00 | METAL CHIP      | 330K 5% 1/10W    |
| R33            | 1-216-105-00 | METAL GLAZE     | 220K 5% 1/10W    |
| R34            | 1-216-065-00 | METAL CHIP      | 4.7K 5% 1/10W    |

SEE ADDITIONAL  
INFORMATION

SERVO SUB

| Ref. No. | Part No.     | Description                   | Remark        |
|----------|--------------|-------------------------------|---------------|
| R35      | 1-216-065-00 | METAL CHIP                    | 4.7K 5% 1/10W |
| R36      | 1-216-097-00 | METAL GLAZE                   | 100K 5% 1/10W |
| R37      | 1-216-117-00 | METAL CHIP                    | 680K 5% 1/10W |
| R38      | 1-216-109-00 | METAL CHIP                    | 330K 5% 1/10W |
| R39      | 1-216-101-00 | METAL CHIP                    | 150K 5% 1/10W |
| R40      | 1-216-114-00 | METAL GLAZE                   | 510K 5% 1/10W |
| R41      | 1-216-091-00 | METAL CHIP                    | 56K 5% 1/10W  |
| R42      | 1-216-107-00 | METAL CHIP                    | 270K 5% 1/10W |
| R43      | 1-216-097-00 | METAL GLAZE                   | 100K 5% 1/10W |
| R44      | 1-216-085-00 | METAL CHIP                    | 33K 5% 1/10W  |
| R45      | 1-216-081-00 | METAL CHIP                    | 22K 5% 1/10W  |
| R46      | 1-216-097-00 | METAL GLAZE                   | 100K 5% 1/10W |
| R47      | 1-216-105-00 | METAL GLAZE                   | 220K 5% 1/10W |
| R48      | 1-216-073-00 | METAL CHIP                    | 10K 5% 1/10W  |
| R49      | 1-216-065-00 | METAL CHIP                    | 4.7K 5% 1/10W |
| R50      | 1-216-065-00 | METAL CHIP                    | 4.7K 5% 1/10W |
| R51      | 1-216-295-00 | CONDUCTOR, CHIP               | (2012)        |
|          |              | < VARIABLE RESISTOR >         |               |
| RV1      | 1-238-091-11 | RES, ADJ, CERMET              | 22K           |
| RV4      | 1-238-091-11 | RES, ADJ, CERMET              | 22K           |
| *****    |              |                               |               |
| *        | 1-659-834-11 | SUB BOARD                     |               |
|          |              | *****                         |               |
|          |              | < CONNECTOR >                 |               |
| CN1      | 1-770-347-21 | CONNECTOR, FPC 6P             |               |
| *****    |              |                               |               |
|          |              | MISCELLANEOUS                 |               |
|          |              | *****                         |               |
| 17       | 1-769-786-51 | CORD (WITH CONNECTOR) (POWER) |               |
| 205      | 1-659-880-11 | MOTOR FLEXIBLE BOARD          |               |
| △208     | 8-848-402-03 | OPTICAL PICK-UP KSS-520A/J-N  |               |
| 209      | 1-659-881-11 | PICK-UP FLEXIBLE BOARD        |               |
| M901     | X-3371-664-1 | MOTOR ASSY (SPINDLE)          |               |
| M902     | A-3291-574-A | MOTOR ASSY, SLED              |               |
| M903     | A-3291-576-A | MOTOR SUB ASSY, LO (LOADING)  |               |
| *****    |              |                               |               |
|          |              | *****                         |               |
|          |              | HARDWARE LIST                 |               |
|          |              | *****                         |               |
| #1       | 7-685-782-01 | SCREW +PTT 2X5 (S)            |               |
| #2       | 7-621-770-XX | SCREW +PTT 2.6X8 (S)          |               |
| #3       | 7-628-253-00 | SCREW +PS 2X4                 |               |
| #4       | 7-621-770-87 | SCREW +BTT 2.6X5              |               |
| #7       | 7-627-553-37 | PRECISION SCREW +P 2X3 TYPE 3 |               |

| Ref. No. | Part No.     | Description                             | Remark                       |
|----------|--------------|-----------------------------------------|------------------------------|
| #8       | 7-627-553-17 | PRECISION SCREW +P 2X2 TYPE 3           |                              |
| #9       | 7-627-000-00 | SCREW, PRECISION +P 1.7X2.2 TYPE3       |                              |
| #10      | 7-627-850-28 | SCREW, PRECISION +P 1.4X3               |                              |
| *****    |              |                                         |                              |
|          |              | ACCESSORIES & PACKING MATERIALS         |                              |
|          |              | *****                                   |                              |
|          | 3-810-607-11 | MANUAL, INSTRUCTION (ENGLISH, FRENCH)   | (CDX-2100)                   |
|          | 3-810-608-11 | MANUAL, INSTRUCTION, INSTALL            | (ENGLISH, FRENCH) (CDX-2100) |
|          | 3-810-611-11 | MANUAL, INSTRUCTION (ENGLISH) (EXCD-21) |                              |
|          | 3-810-612-11 | MANUAL, INSTRUCTION, INSTALL            | (ENGLISH) (EXCD-21)          |
| *****    |              |                                         |                              |
|          |              | *****                                   |                              |
|          |              | MOUNTING HARDWARE                       |                              |
|          |              | *****                                   |                              |
| 501      | 3-931-986-01 | FRAME, FITTING                          |                              |
| 502      | 3-916-012-01 | BRACKET (ND), FITTING ASSIST            |                              |
| 503      | X-3368-725-1 | SCREW ASSY, FITTING                     |                              |
| 504      | 7-682-560-04 | SCREW +P 4X6                            |                              |
| 505      | 3-931-976-01 | COLLAR                                  |                              |
| 506      | 3-931-977-01 | PLATE, LOCK                             |                              |
| 507      | 3-932-020-01 | SCREW (+K) (5X8) (TP)                   |                              |
| 508      | 1-769-786-51 | CORD (WITH CONNECTOR) (POWER)           |                              |



|                                                                                                                                  |                                                                                                                                            |
|----------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|
| The components identified by mark △ or dotted line with mark △ are critical for safety. Replace only with part number specified. | Les composants identifiés par une marque △ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié. |
|----------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|

# CDX-2100/EXCD-21

## SONY SERVICE MANUAL

*US Model*  
EXCD-21  
*Canadian Model*  
CDX-2100

### SUPPLEMENT-1

File this supplement with the service manual.

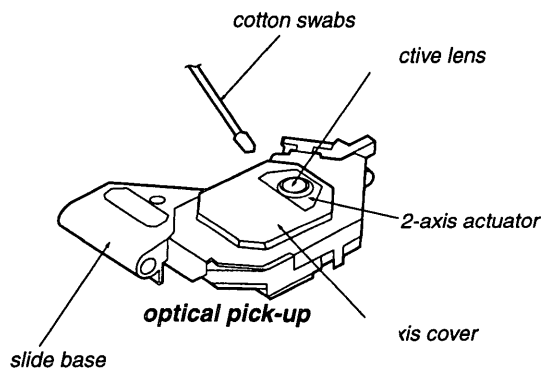
Subject : 1. Correction  
2. Notes on Cleaning The Objective Lens

#### 1. CORRECTION

 : indicates corrected portion.

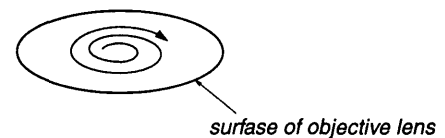
| Page | INCORRECT                                                       | CORRECT                                                                                                                                                                                                                                     |
|------|-----------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1    | <i>US Model</i><br>CDX-2100<br><i>Canadian Model</i><br>EXCD-21 | <i>US Model</i><br>EXCD-21 <br><i>Canadian Model</i><br>CDX-2100  |

#### 2. NOTES ON CLEANING THE OBJECTIVE LENS



Apply CD lens cleaner B-4 (Part No.: J-2501-000-A) to cotton swabs (narrow type) (Part No.: J-2501-023-A) to be lightly wet. Use a force (about 5 g (0.18 oz)) to make the objective lens in contact with the

bottom lightly, and clean the lens by spirals as following below.  
Replace the cotton swab and repeat this cleaning two or three times.



#### Notes:

Do not force to push the objective lens. Otherwise, the plate spring supporting the objective lens will be bent, causing a deteriorated RF waveform.

Never touch anything other than the objective lens. Otherwise, a significant deterioration occurs in the RF waveform.

# CDX-2100/EXCD-21

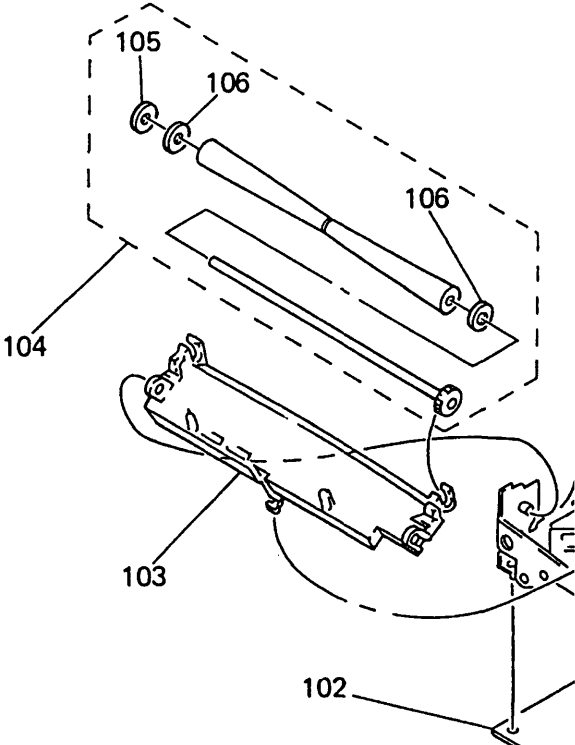
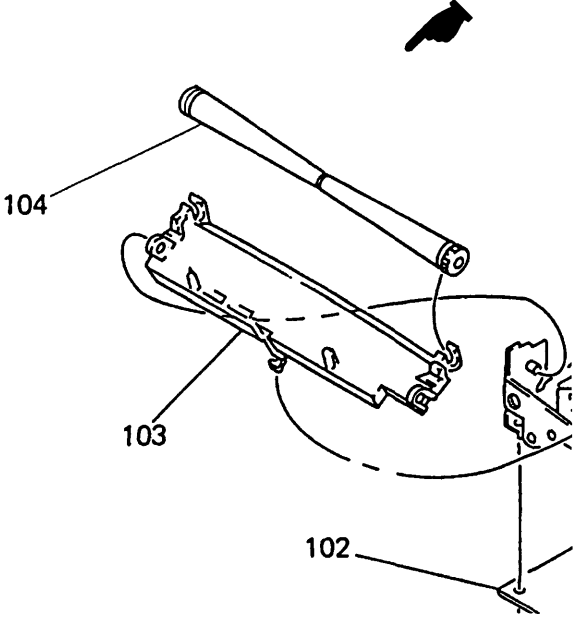
## SONY SERVICE MANUAL

US Model  
EXCD-21  
Canadian Model  
CDX-2100

### CORRECTION-1

Correct your service manual as shown below.

 : indicates corrected portion.

| Page | INCORRECT                                                                           |                 |                    | CORRECT                                                                              |                 |                    |
|------|-------------------------------------------------------------------------------------|-----------------|--------------------|--------------------------------------------------------------------------------------|-----------------|--------------------|
| 35   | <u>No.</u>                                                                          | <u>Part No.</u> | <u>Description</u> | <u>No.</u>                                                                           | <u>Part No.</u> | <u>Description</u> |
|      | 105                                                                                 | 3-701-439-11    | WASHER             |                                                                                      |                 |                    |
|      | *106                                                                                | 3-322-413-01    | SPACER, INSULATING |                                                                                      |                 |                    |
|      |  |                 |                    |  |                 |                    |

(SPM-96051)



# CDX-2100/EXCD-21

**SONY®**

## SERVICE MANUAL

*US Model*

*EXCD-21*

*Canadian Model*

*CDX-2100*

## CORRECTION-2

Correct your service manual as shown below.

 : indicates corrected portion.

| Page | INCORRECT  |                 |                    | CORRECT    |                                                                                                          |                    |
|------|------------|-----------------|--------------------|------------|----------------------------------------------------------------------------------------------------------|--------------------|
|      | <u>No.</u> | <u>Part No.</u> | <u>Description</u> | <u>No.</u> | <u>Part No.</u>                                                                                          | <u>Description</u> |
| 44   | 501        | 3-931-986-01    | FRAME, FITTING     | 501        | <u>3-931-986-41</u>  | FRAME, FITTING     |

(ENG-97010)