

# EXCD-31

## SERVICE MANUAL

US Model  
Canadian Model



|                                    |             |
|------------------------------------|-------------|
| 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 |
| Signal-to- noise ratio | 90 dB                             |
| Frequency response     | 10 – 20,000 Hz                    |
| Wow and flutter        | Below measurable limit            |
| Laser Diode Properties |                                   |
| 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 200 mm from the objective lens surface on the Optical Pick-up Block.

#### Tuner section

##### FM

|                        |                                 |
|------------------------|---------------------------------|
| 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),<br>68 dB (mono) |

##### Harmonic distortion at 1 kHz

|                    |                                 |
|--------------------|---------------------------------|
|                    | 0.5 % (stereo),<br>0.3 % (mono) |
| Separation         | 33 dB at 1 kHz                  |
| Frequency response | 30 – 15,000 Hz                  |
| Capture ratio      | 2 dB                            |

##### AM

|                        |                            |
|------------------------|----------------------------|
| Tuning range           | 530 – 1,710 kHz            |
| Antenna terminal       | External antenna connector |
| Intermediate frequency | 450 kHz                    |
| Sensitivity            | 32 $\mu$ V                 |

#### Power amplifier section

|                      |                                           |
|----------------------|-------------------------------------------|
| Outputs              | Speaker outputs<br>(sure seal connectors) |
| Speaker impedance    | 4 – 8 ohms                                |
| Maximum power output | 20 W $\times$ 4 (at 4 ohms)               |

#### General

|                      |                                                                                                                               |
|----------------------|-------------------------------------------------------------------------------------------------------------------------------|
| Output lead          | Power antenna control/<br>Power amplifier control<br>lead                                                                     |
| Tone controls        | Bass $\pm$ 10 dB at 100 Hz<br>Treble $\pm$ 10 dB at 10 kHz                                                                    |
| Power requirements   | 12 V DC car battery<br>(negative ground)                                                                                      |
| Dimensions           | Approx. 188 $\times$ 58 $\times$ 180 mm<br>(7 $\frac{1}{2}$ $\times$ 2 $\times$ 7 $\frac{1}{8}$ in.)<br>(w/h/d)               |
| Mounting dimension   | Approx. 183 $\times$ 53 $\times$ 158 mm<br>(7 $\frac{1}{4}$ $\times$ 2 $\frac{1}{8}$ $\times$ 6 $\frac{1}{4}$ in.)<br>(w/h/d) |
| Mass                 | Approx. 1.3 kg (2 lb 14 oz.)                                                                                                  |
| Supplied accessories | Parts for installation and<br>connections (1 set)<br>Front panel case (1)                                                     |

Design and specifications are subject to change without notice.

FM/AM COMPACT DISC PLAYER  
**SONY**



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## 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.

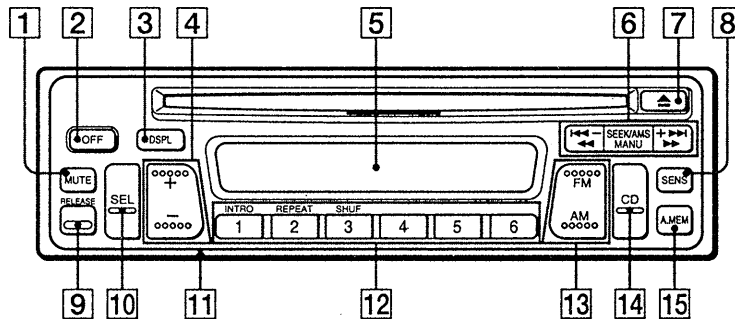
ATTENTION AU COMPOSANT AYANT RAPPORT  
À LA SÉCURITÉ!

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 MUTE button ●
- 2 OFF button ●●●●
- 3 DSPL (display mode change/time set) button ●●
- 4 +/- (volume/bass/treble/balance/fader control) buttons ●●
- 5 Display window
- 6 SEEK/AMS/MANU (automatic tuning/Automatic Music Sensor/preset search) button ●●●
- 7 ▲ (eject) button ●●
- 8 SENS (sensitivity adjust) button ●
- 9 RELEASE (front panel release) button ●●
- 10 SEL (control mode select) button ●●
- 11 Reset button (located on the front side of the unit hidden by the front panel) ●

- 12 During radio reception:  
Preset number buttons ●
- During CD playback:
  - 1 INTRO (intro scan) button ●
  - 2 REPEAT (repeat play) button ●
  - 3 SHUF (shuffle play) button ●
- 13 FM/AM (radio on/band select) button ●●
- 14 CD (CD play) button ●
- 15 A.MEM (Automatic Memory function) button ●

# 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°.

# Installation

## Précautions

- Ne pas toucher les quatre orifices sur le panneau supérieur de l'appareil. Ils servent aux réglages du tuner qui ne doivent être effectués que par un technicien.
- Choisir soigneusement l'emplacement de l'installation, pour que l'appareil ne gêne pas la conduite.
- Eviter d'installer l'appareil dans un endroit exposé à des températures élevées, comme en

- plein soleil ou à proximité d'une bouche d'air chaud, ou à de la poussière, saleté ou vibrations violentes.
- Pour garantir un montage sûr, n'utiliser que le matériel fourni.

## Réglage de l'angle de montage

Ajuster l'inclinaison à un angle inférieur à 20°.

## How to Detach and Attach the Front Panel

Before installing the unit, detach the front panel.

### To detach

Before detaching the front panel, be sure to press the OFF button first. Then press the RELEASE button to open up the front panel by pulling it towards you as illustrated.

### To attach

Align the parts ④ and ⑤, and push the front

## Retrait et pose du panneau avant

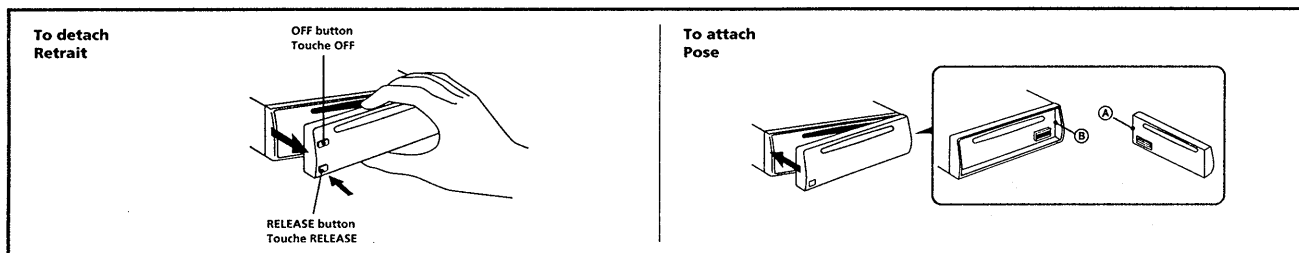
Avant d'installer l'appareil, déposer le panneau avant.

### Retrait

Avant de détacher la façade, appuyez sur la touche OFF. Appuyez ensuite sur la touche RELEASE pour ouvrir la façade. Enlevez-la en la tirant vers vous, comme indiqué sur l'illustration.

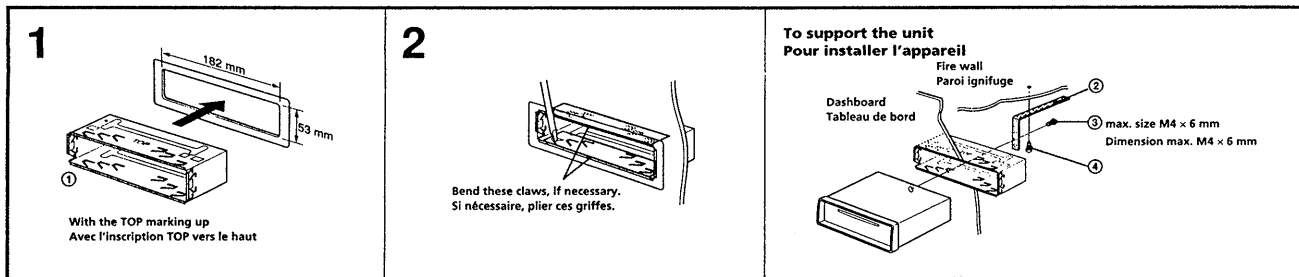
### Pose

Aligner les points ④ et ⑤, puis pousser l'appareil jusqu'au dé clic.



## Mounting Example

Installation in the dashboard



## Exemple de montage

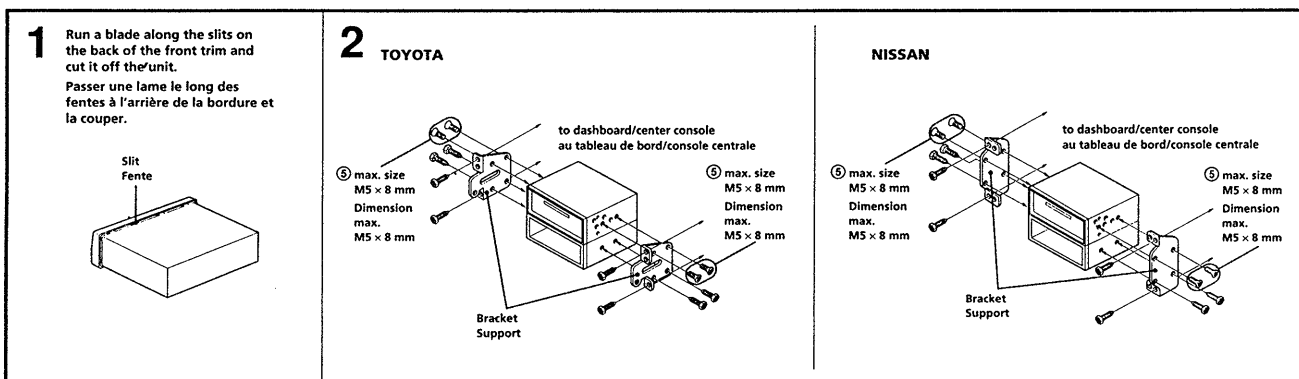
Installation dans le tableau de bord

## 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.

## Installation de l'appareil dans une voiture japonaise

Si vous ne pouvez pas installer l'appareil dans une voiture japonaise, consultez votre revendeur Sony.



**Note**  
To prevent malfunction, install only with the supplied screws ③ and use existing parts supplied to your car.

**Remarque**  
Pour éviter tout dysfonctionnement, utilisez uniquement les vis de montage fournies ③ ainsi que les composants existants de votre voiture.

## Connections

## Connexions

### 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.



Reset button  
Touche de réinitialisation

### Précautions

- Cet appareil est conçu pour fonctionner sur courant continu de 12 V avec masse négative.
- Avant d'effectuer les connexions, débrancher la borne de terre de la batterie du véhicule pour éviter tout court-circuit.
- Brancher les fils d'entrée d'alimentation jaune et rouge seulement après avoir terminé tous les autres branchements.
- Veiller à ne pas raccorder le fil rouge d'entrée d'alimentation à la borne positive de 12 V qui est alimentée quand la clé de contact est sur la position accessoires.
- Rassembler tous les fils de terre en un point de masse commun.

### Si la serrure de contact de votre voiture comporte une position accessoires — Fonction de sélection d'alimentation

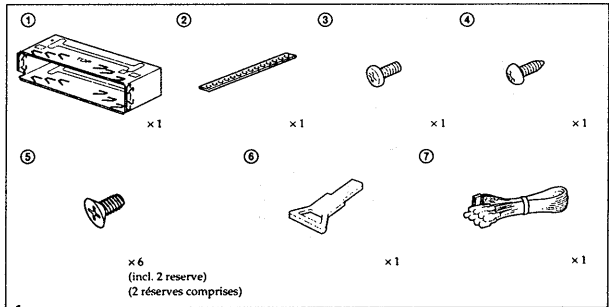
Pour activer la fonction de sélection d'alimentation Appuyez sur la touche OFF tout en maintenant la touche SEL enfoncée. Selon que vous activez (ON) ou que vous désactivez (OFF) la position accessoire, l'horloge est affichée ou ne l'est pas. Pour éviter que les piles ne s'épuisent, l'horloge ne s'affiche pas pendant l'initialisation de l'appareil.

### Touche de réinitialisation

Quand l'installation et les connexions sont terminées, appuyer sur la touche de réinitialisation avec un stylo bille ou un objet pointu.

### Parts for Installation and Connections

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



The release key ⑥ is used for dismantling the unit. See the operating instructions manual for details.

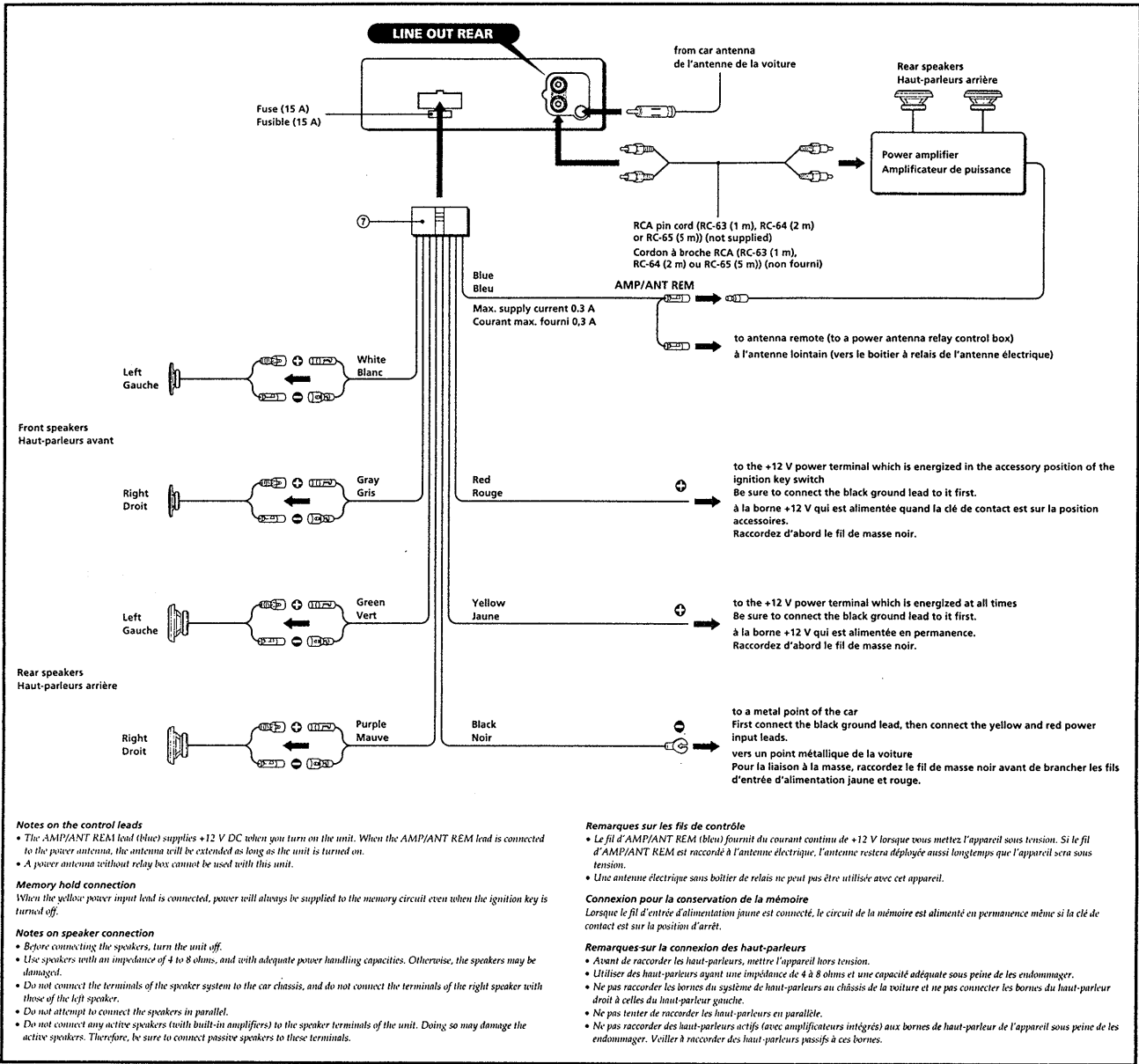
### Matériel de montage fourni

Les numéros de la liste correspondent à ceux des instructions.

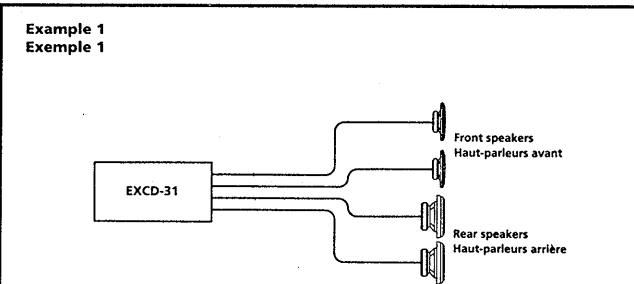
La clé de dégagement ⑥ est nécessaire pour démonter l'appareil. Consulter le mode d'emploi pour plus de détails.

### Connections of Example

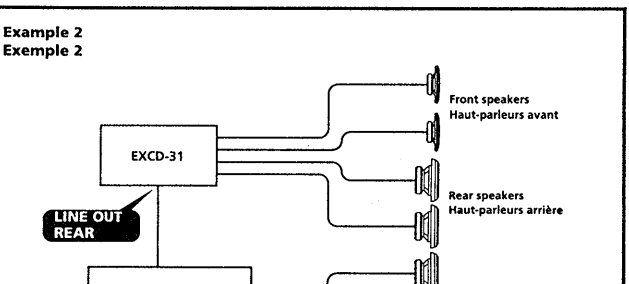
### Connexions de l'exemple



### Connection Diagram



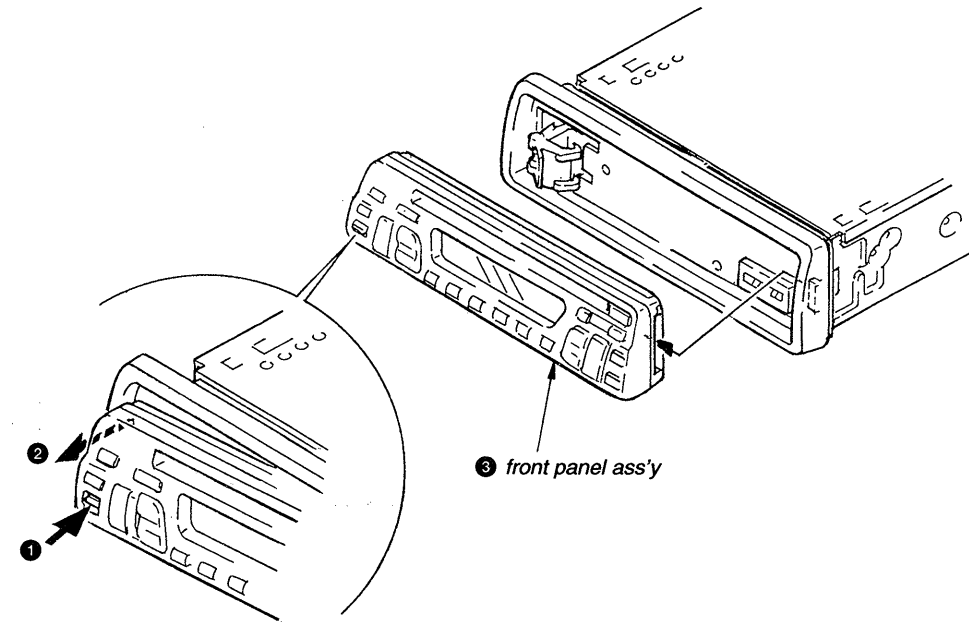
### Schémas de connexion



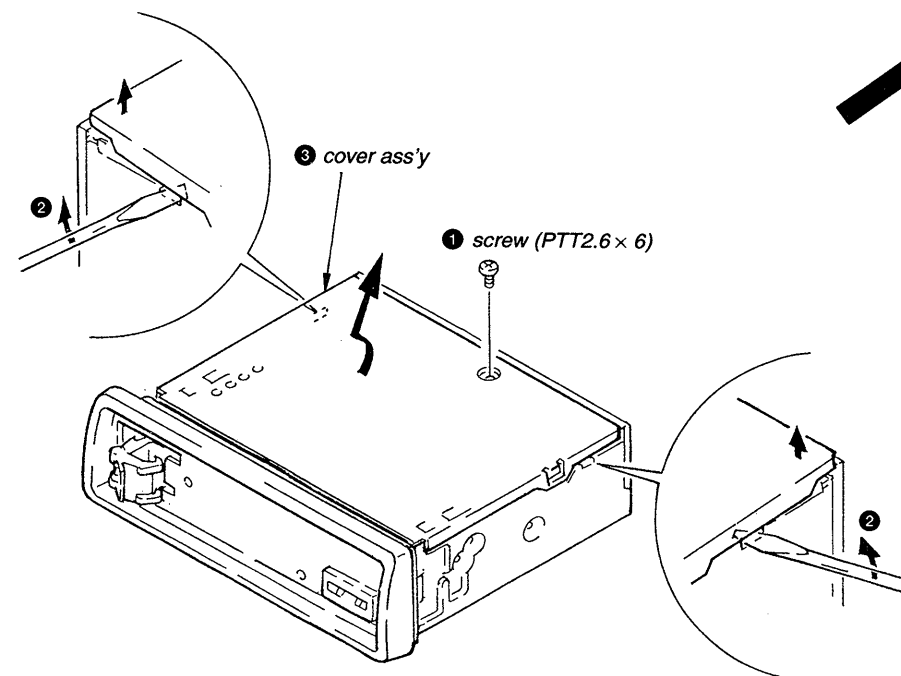
## SECTION 2 DISASSEMBLY

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

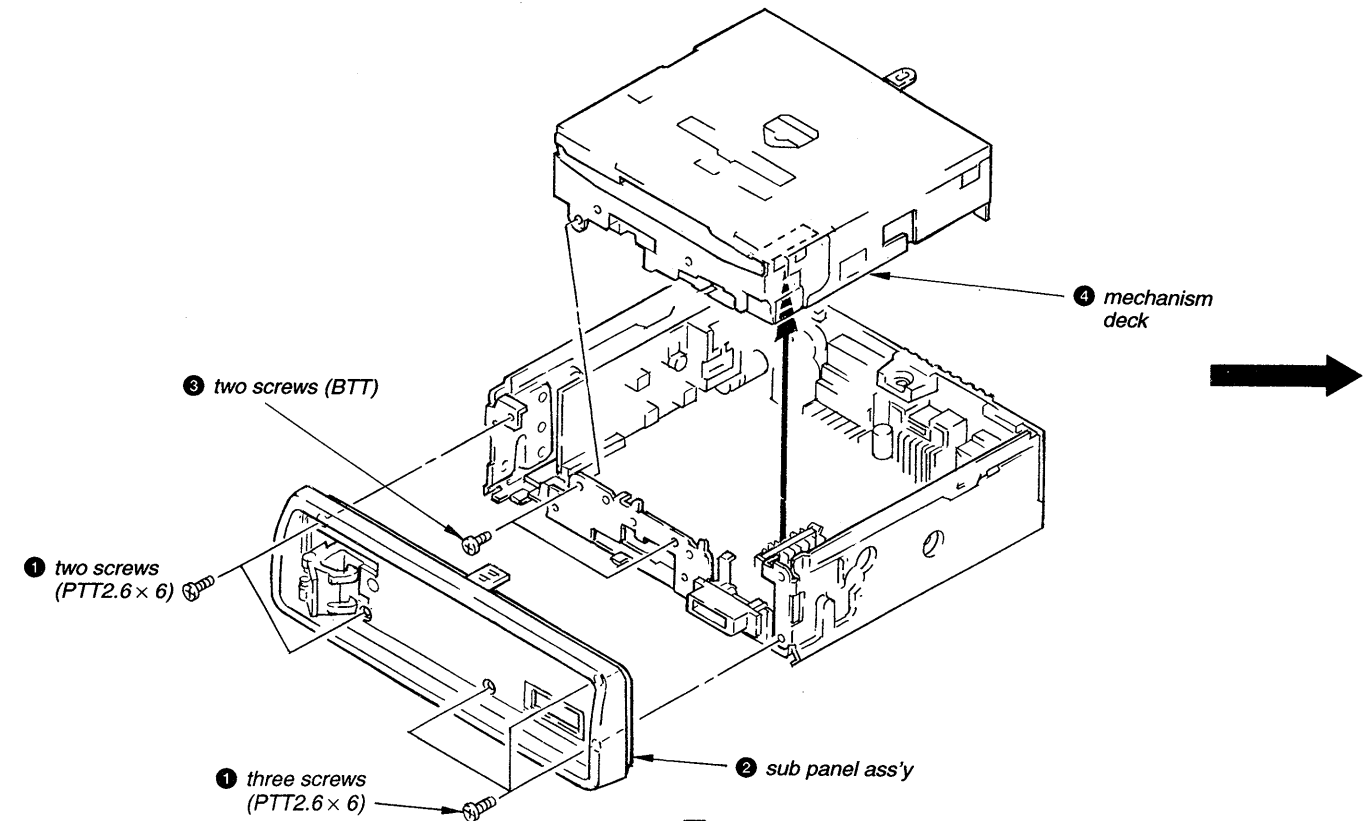
### FRONT PANEL ASS'Y



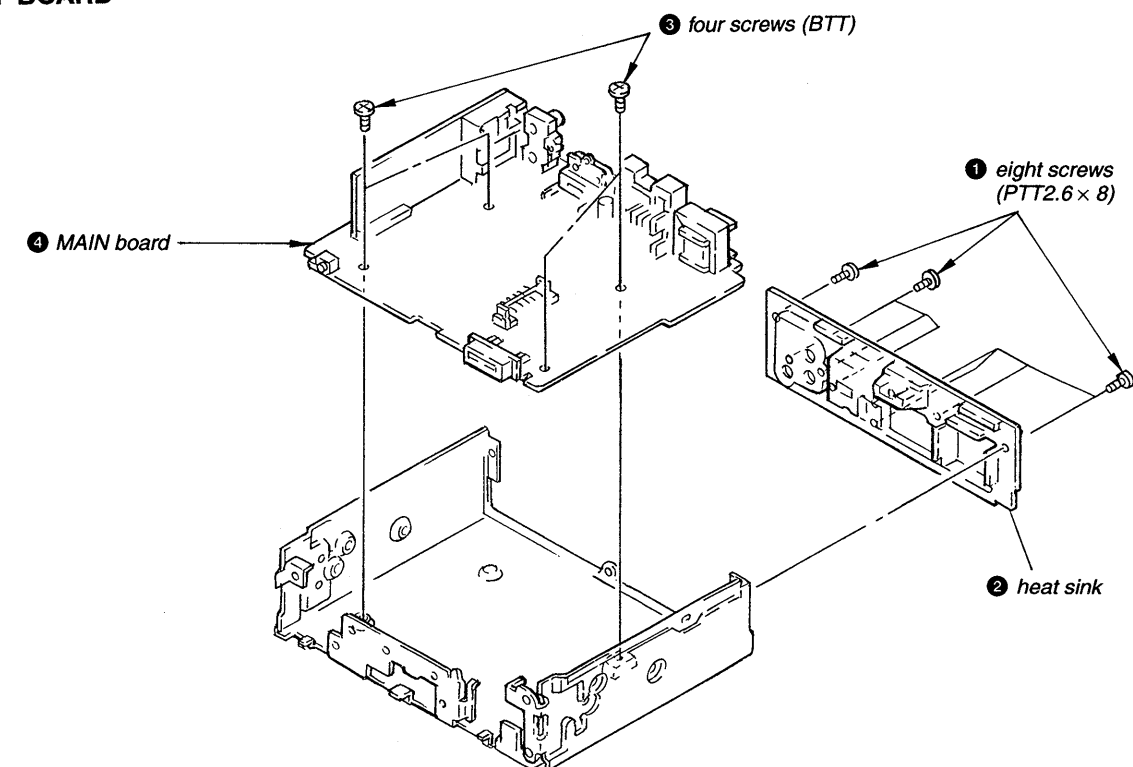
### COVER ASS'Y



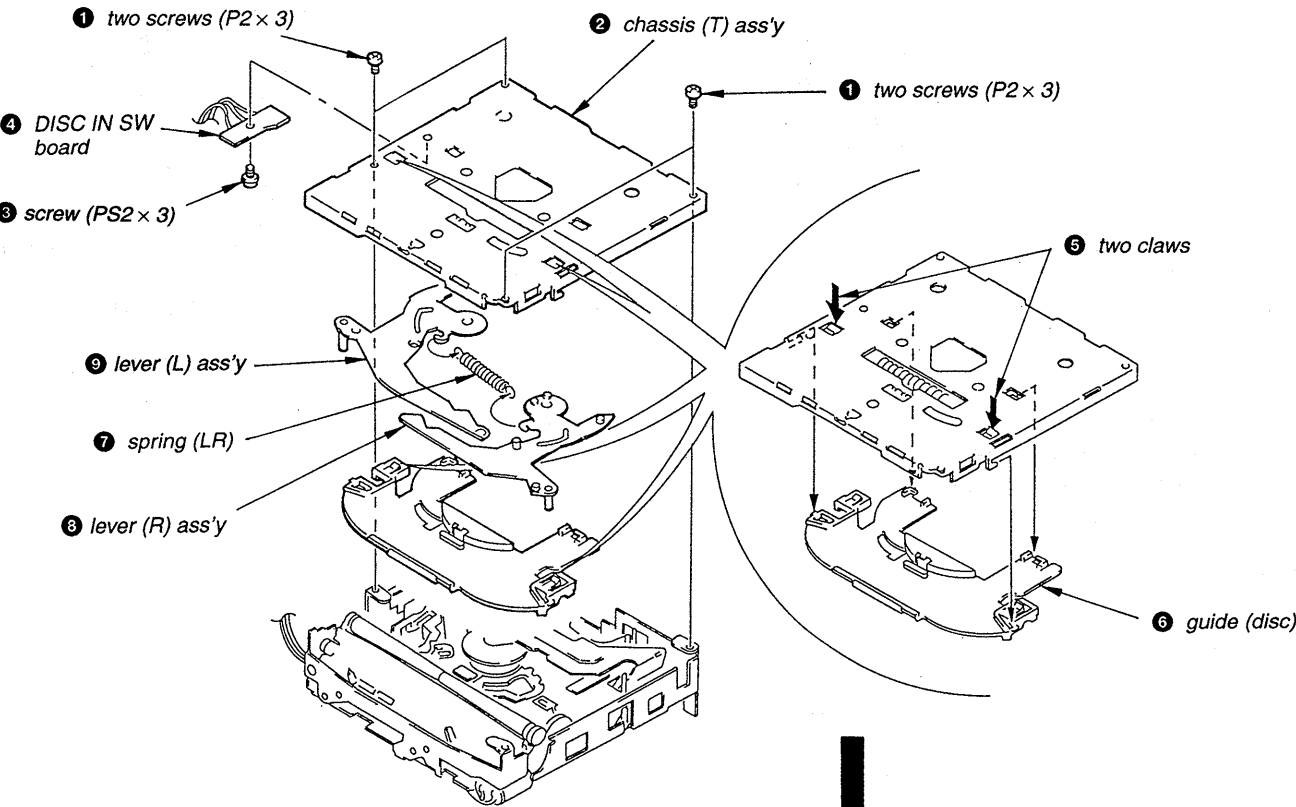
### PANEL (SUB) ASS'Y, MECHANISM DECK



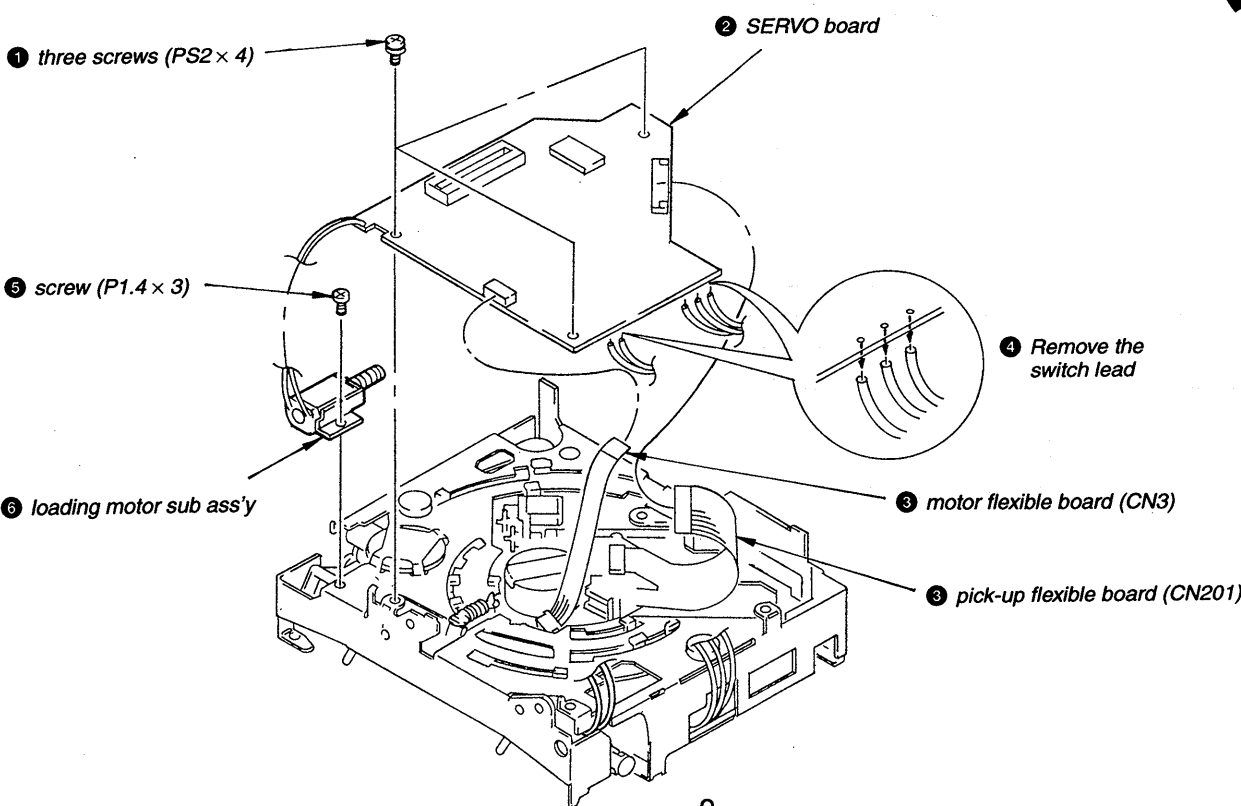
### MAIN BOARD



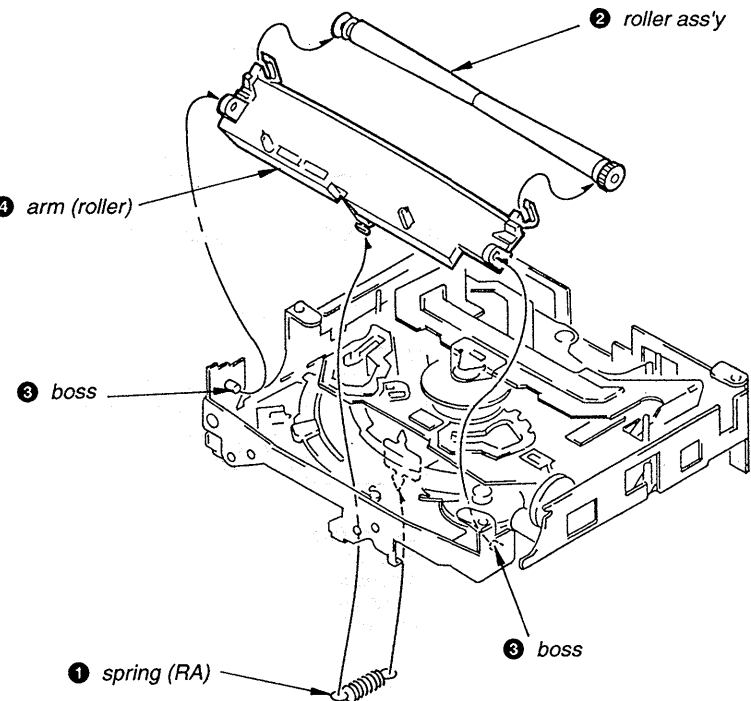
CHASSIS (T) ASS'Y



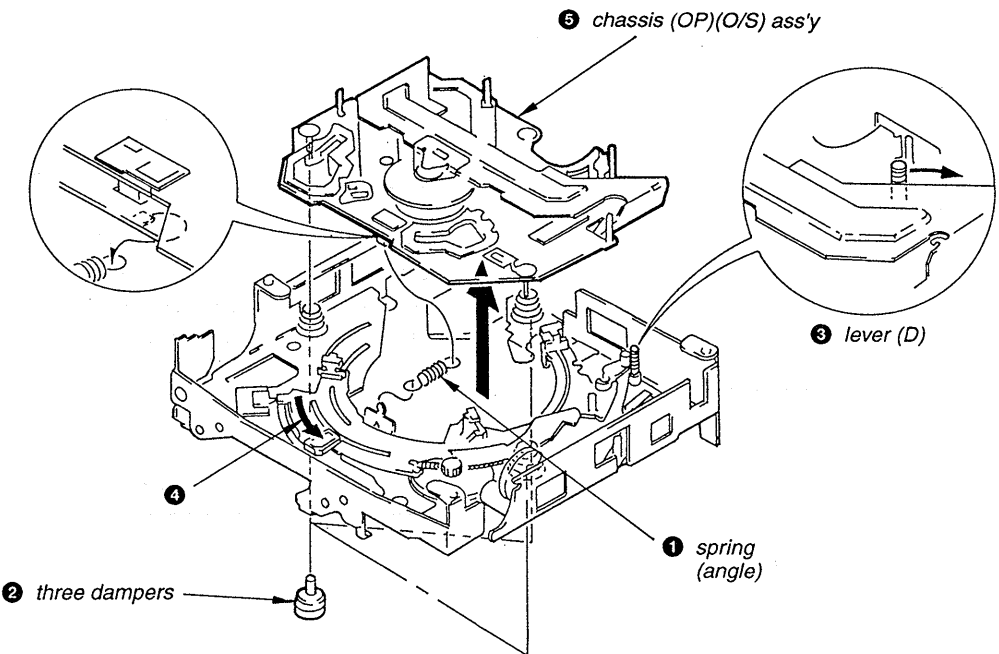
SERVO BOARD, LOADING MOTOR



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.

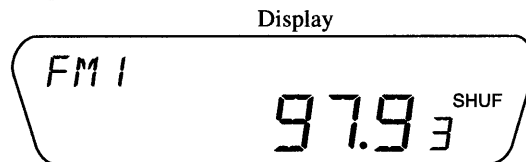
### Set the Test Mode

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.

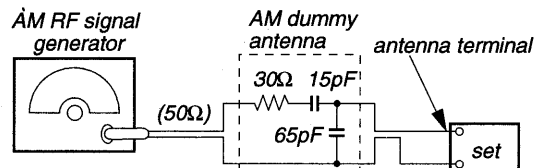
4. Adjust with the volume RV3 on TU101 so that the "FM" indication turns to "FM1" indication on the display window. But, in case of already indicated "FM1", turn the RV3 so that put out light "1" indication and adjustment.



### AM Auto Scan/Stop Level Adjustment

#### Setting:

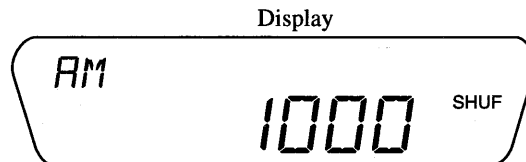
AM button: AM



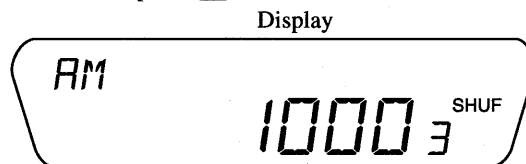
Carrier frequency : 1000kHz  
30% amplitude modulation by 1kHz signal  
Output level : 35dB (56.2  $\mu V$ )

#### Procedure:

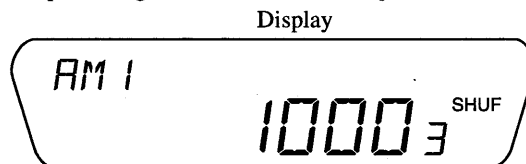
1. Set to the test mode.
2. Push the **[AM]** button and set to AM.



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 $\mu V$**

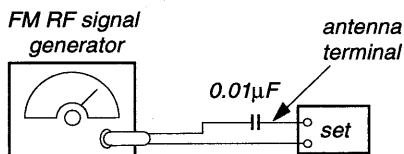
### Cautions during repair

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:

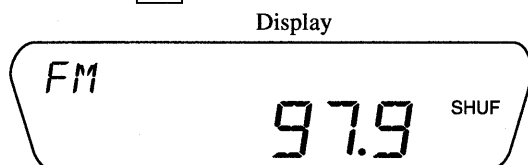
FM button: FM



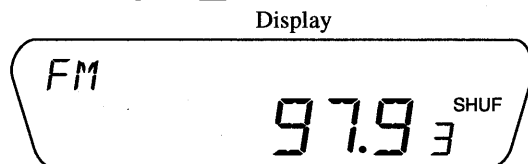
Carrier frequency : 97.9MHz  
Output level : 22dB(12.6  $\mu V$ )  
Mode : mono  
Modulation : 1kHz, 75kHz deviation

#### Procedure:

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



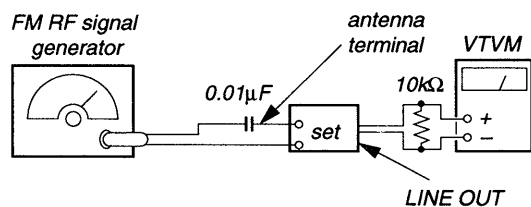
3. Push the preset **[3]** button.



## High Cut Control Effect Adjustment

### Setting:

FM button: FM

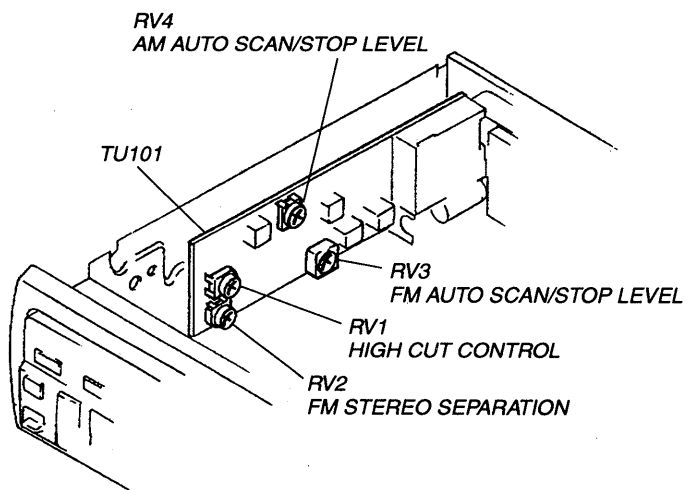


Carrier frequency : 97.9MHz  
Output level : 60dB(1mV)  
Mode : mono  
Modulation : 10kHz, 40kHz deviation

### 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.

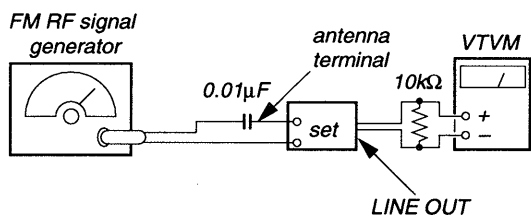
### Adjustment Location:



## 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

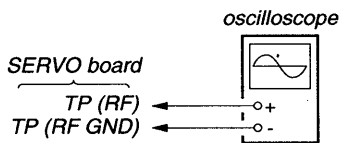
## CD SECTION

### 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 MΩ 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

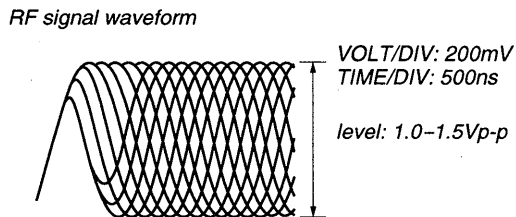
**Setting:** This adjustment is performed with the set placed horizontally.



### 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.



- 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:

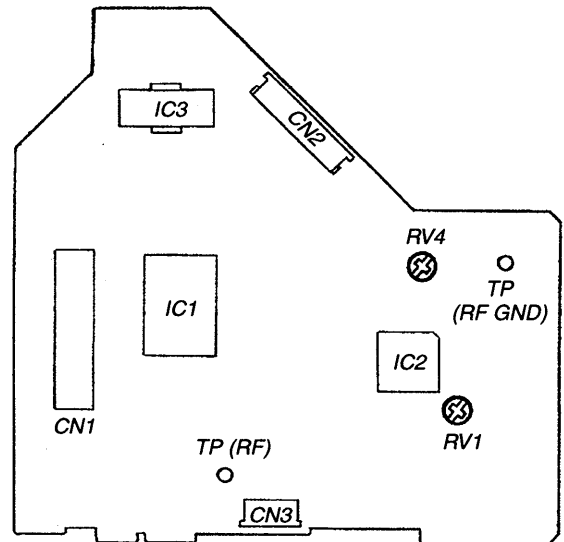
1. Set RV4 to the standard position. (mechanical center)
2. Check whether operation noise (while noise type) caused by the double-axis device (lens section of the optical block) is abnormally loud.

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-B13-3B9 (SYSTEM CONTROL)

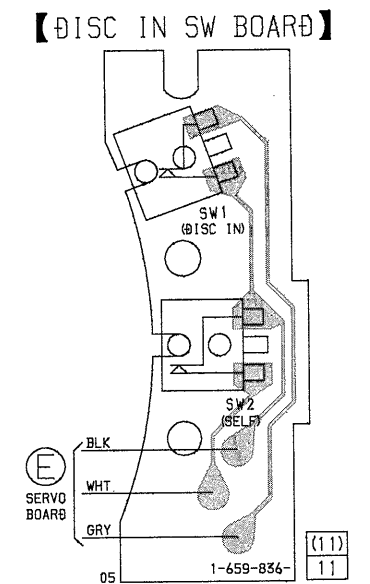
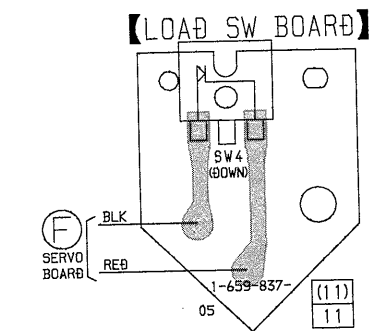
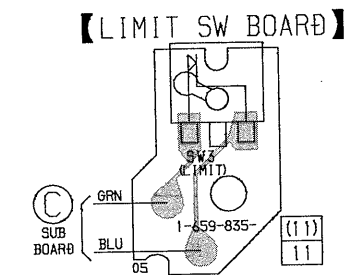
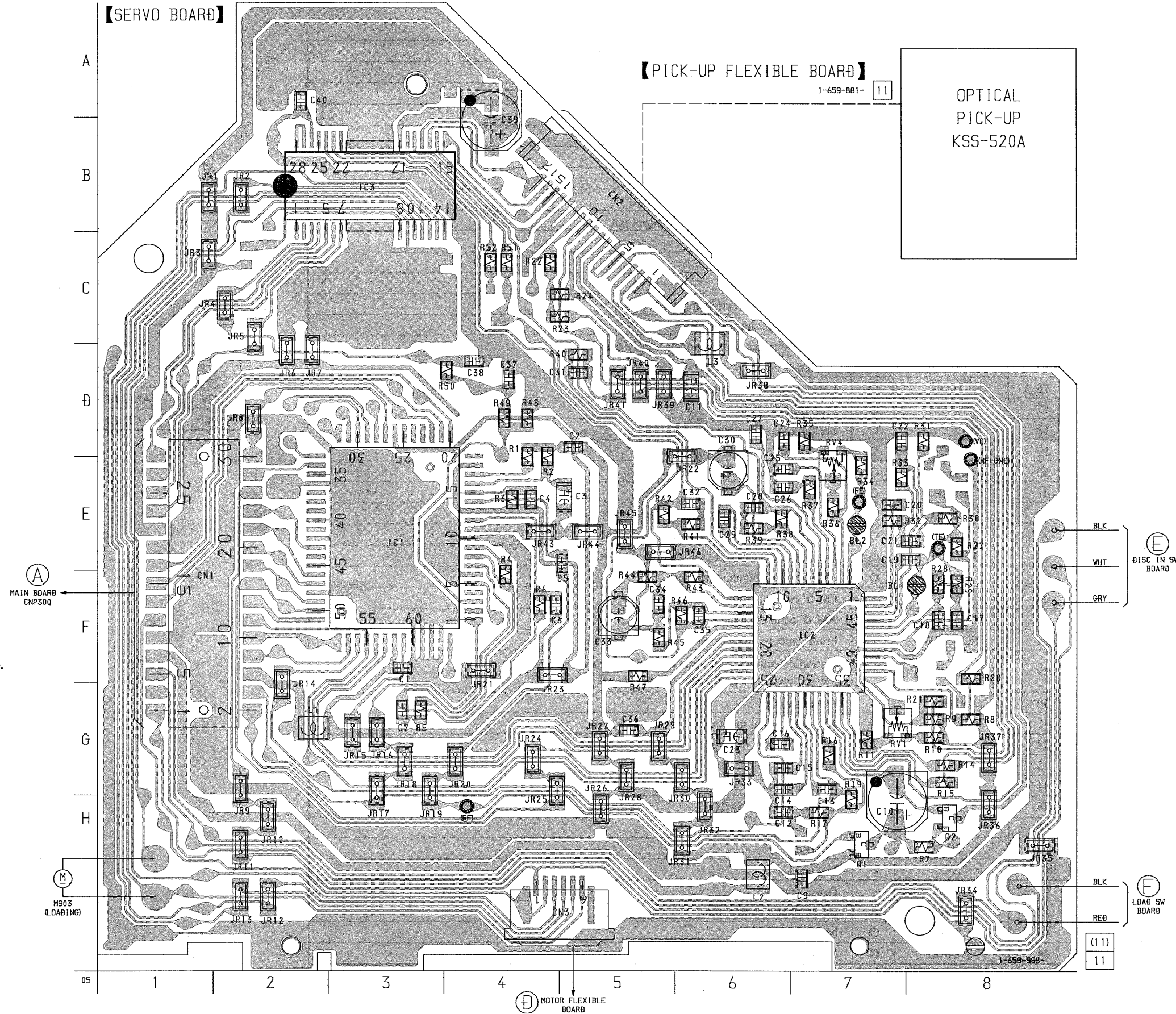
| Pin No. | Pin Name       | I/O | Function                                                                                                              |
|---------|----------------|-----|-----------------------------------------------------------------------------------------------------------------------|
| 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.                                                                       |
| 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            | O   | 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      | COM1           | O   | Not used.                                                                                                             |
| 44      | COM2           | O   | Not used.                                                                                                             |

| Pin No. | Pin Name   | I/O | Function                            |
|---------|------------|-----|-------------------------------------|
| 45      | LCDSO      | O   | LCD serial data output pin.         |
| 46      | LCDCKO     | O   | LCD serial clock output pin.        |
| 47      | LCDINH     | O   | LCD control signal output pin.      |
| 48      | LCDCE      | O   | LCD serial chip enable output pin.  |
| 49-64   | –          | –   | Not used.                           |
| 65      | TEST SW    | I   | TEST mode direct setting pin.       |
| 66      | –          | –   | Not used.                           |
| 67      | AREA2 SW   | I   | Destination setting pin.            |
| 68      | AREA1 SW   | I   | Destination setting pin.            |
| 69, 70  | –          | –   | Not used.                           |
| 71      | SELF SW    | I   | SELF switch input pin.              |
| 72      | IN SW      | I   | IN switch input pin.                |
| 73      | L SW       | I   | LIMIT switch input pin.             |
| 74      | D SW       | I   | Down switch input 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.         |

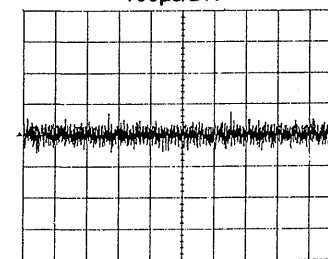
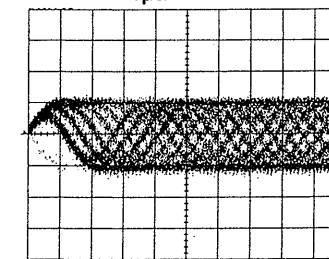
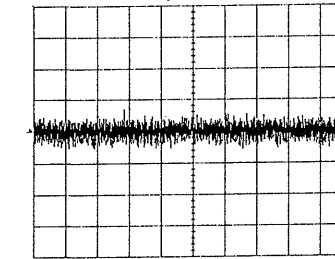
- 17 -

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

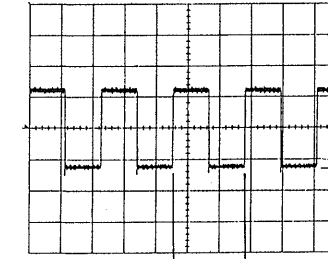
-  : parts extracted from the component side.
-  : parts extracted from the conductor side.



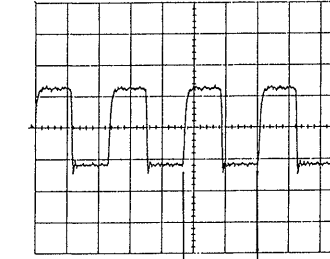
## • Waveforms

① IC2 ① 200mV/DIV  
100µs/DIV② IC1 ① 0.5V/DIV  
1µs/DIV③ IC1 ② 200mV/DIV  
100µs/DIV

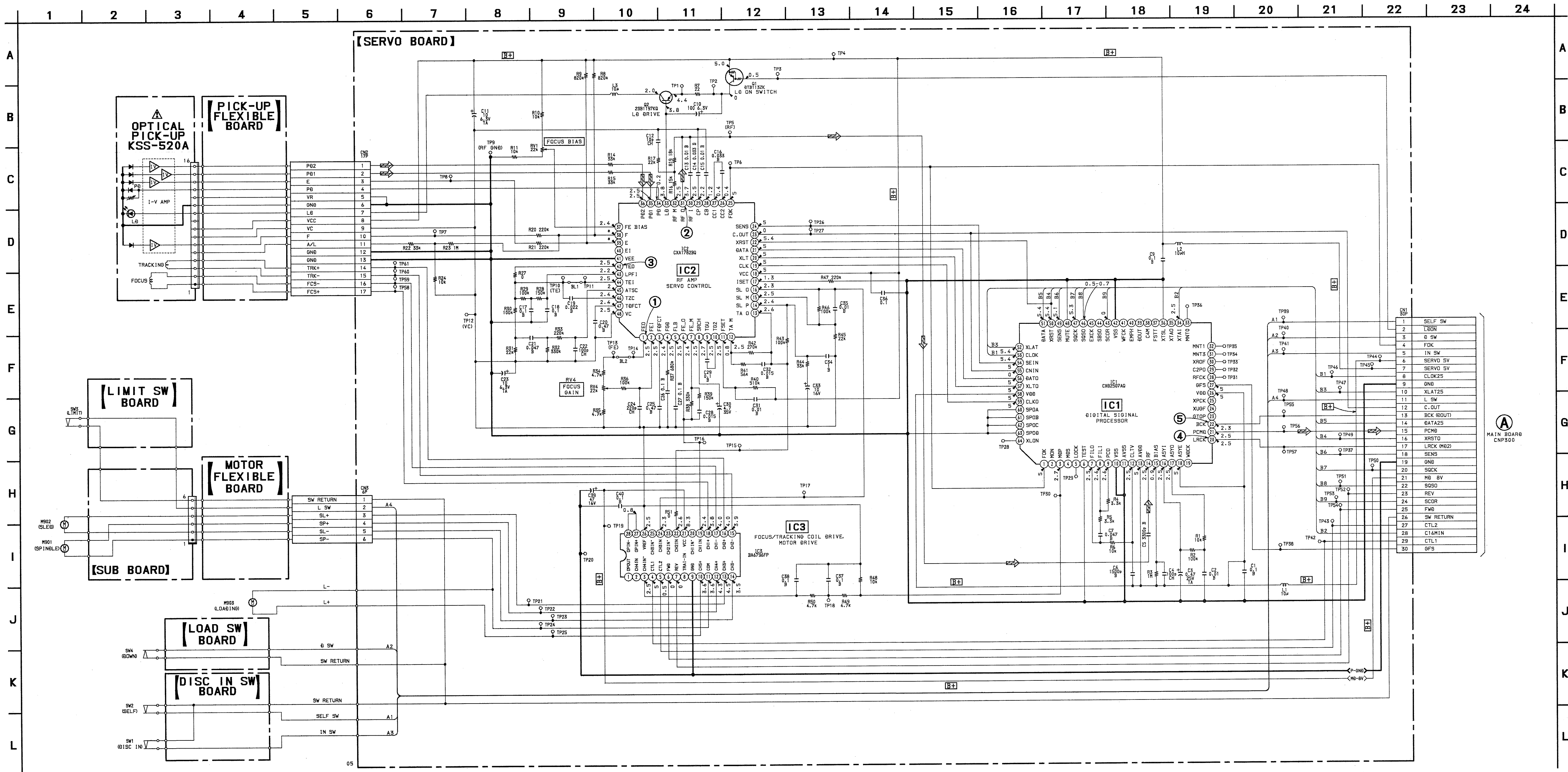
④ IC1 ③



⑤ IC1 ④



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



- Note:**
- All capacitors are in  $\mu\text{F}$  unless otherwise noted. pF:  $\mu\text{F}$  50 WV or less are not indicated except for electrolytics and tantalums.
  - All resistors are in  $\Omega$  and  $\frac{1}{4}\text{W}$  or less unless otherwise specified.

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

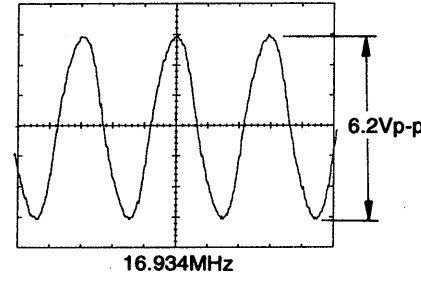
**Note:**  
Les composants identifiés par une marque  $\Delta$  sont critiques pour la sécurité. ne les remplacer que par une pièce portant le numéro spécifié.

- $\text{B}+$ : B+ Line.
- $\text{B}+$ : adjustment for repair.
- Power voltage is dc 14.4V 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 M $\Omega$ /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.
- $\Rightarrow$  : CD

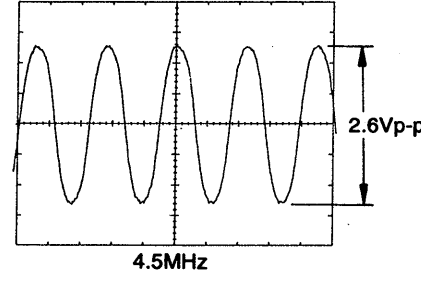
5-4. SCHEMATIC DIAGRAM - MAIN, DISPLAY Section - • See page 32 for IC Block Diagrams.

• Waveforms

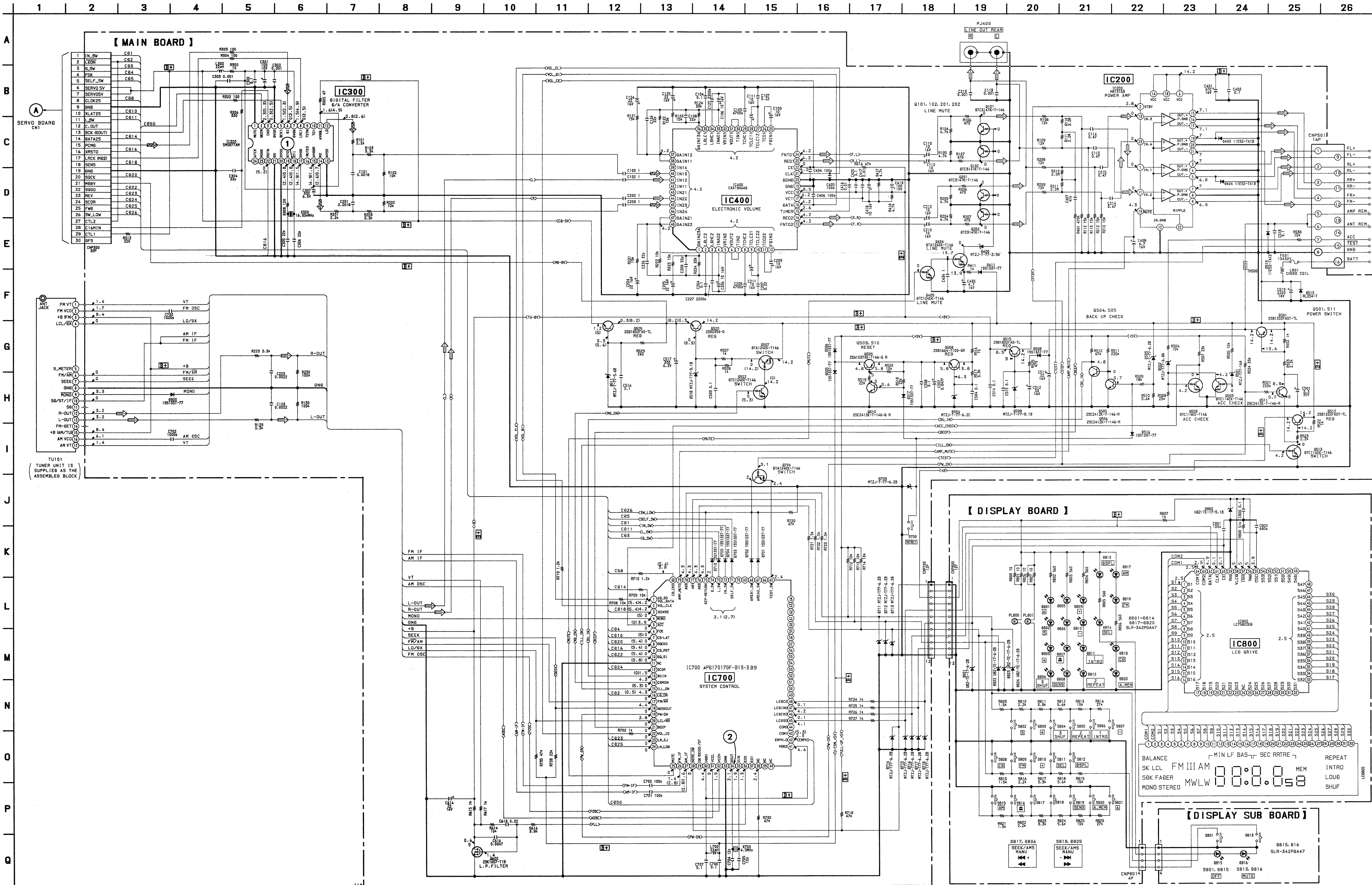
① IC300



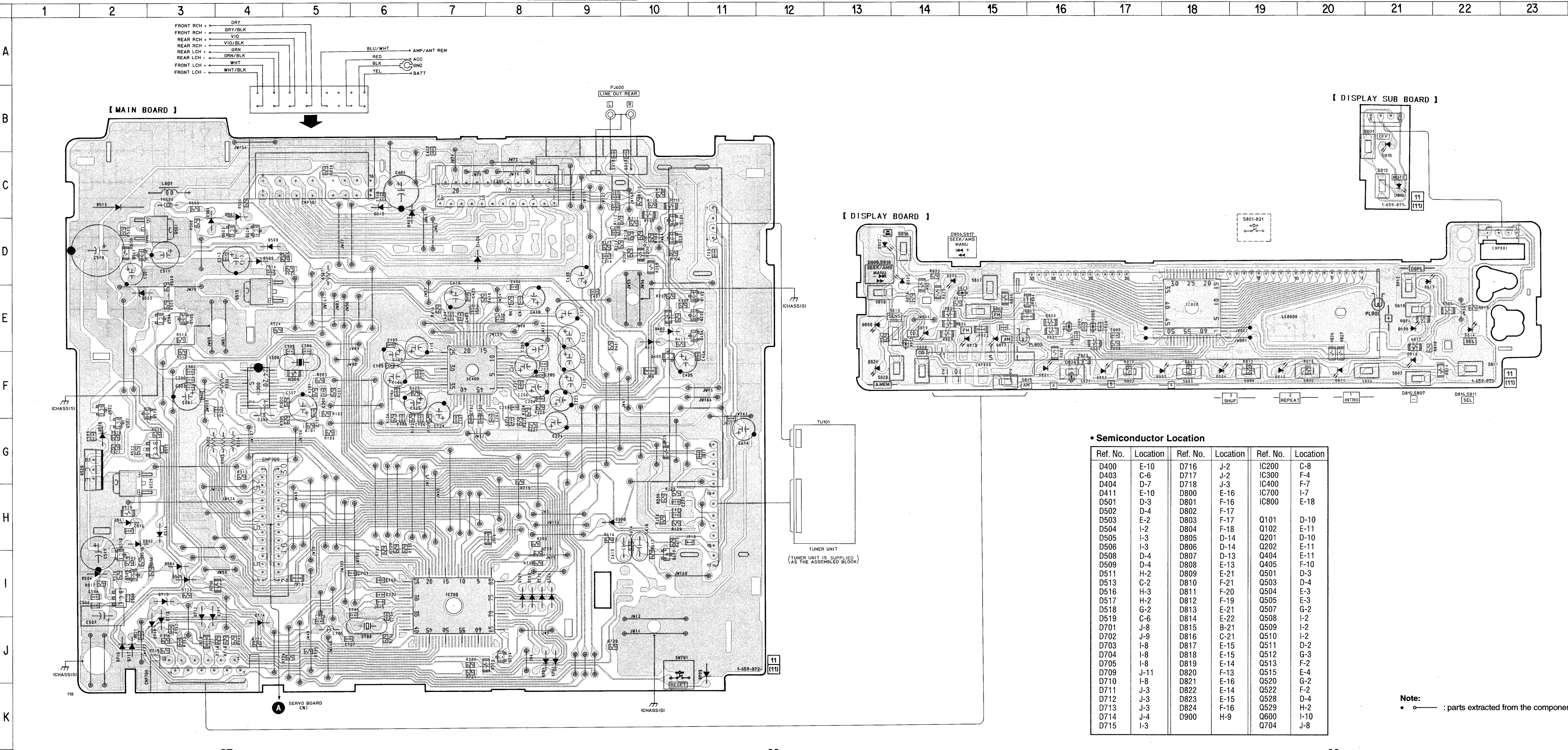
② IC700



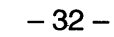
- Note:
- All capacitors are in  $\mu\text{F}$  unless otherwise noted.  $\text{pF}$ :  $\mu\text{F}$  50 WV or less are not indicated except for electrolytics and tantalums.
  - All resistors are in  $\Omega$  and  $\frac{1}{4}\text{W}$  or less unless otherwise specified.
  - [B+]: B+ Line.
  - [P]: panel designation.
  - 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 (detuned) conditions.
  - no mark: FM
  - ( ): CD
  - Voltages are taken with a VOM (10 M $\Omega$ /V). Voltage variations may be noted due to normal production tolerances.
  - Waveforms are taken with an oscilloscope. Voltage variations may be noted due to normal production tolerances.
  - Circled numbers refer to waveforms.
  - Signal path.
  - FM
  - CD



SEE ADDITIONAL INFORMATION



**IC1 CXD2507AQ**

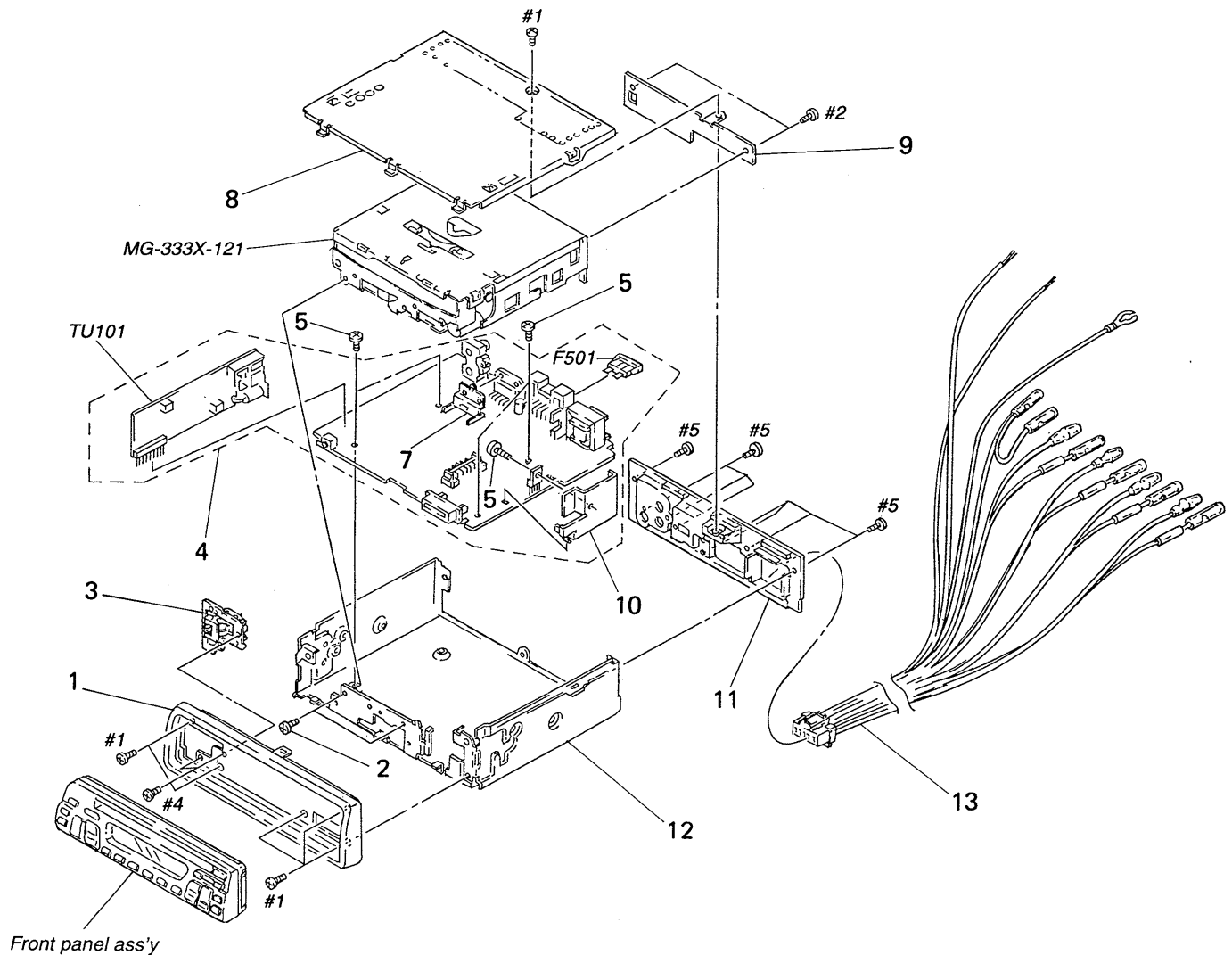


## EXPLODED VIEWS

**NOTE:**

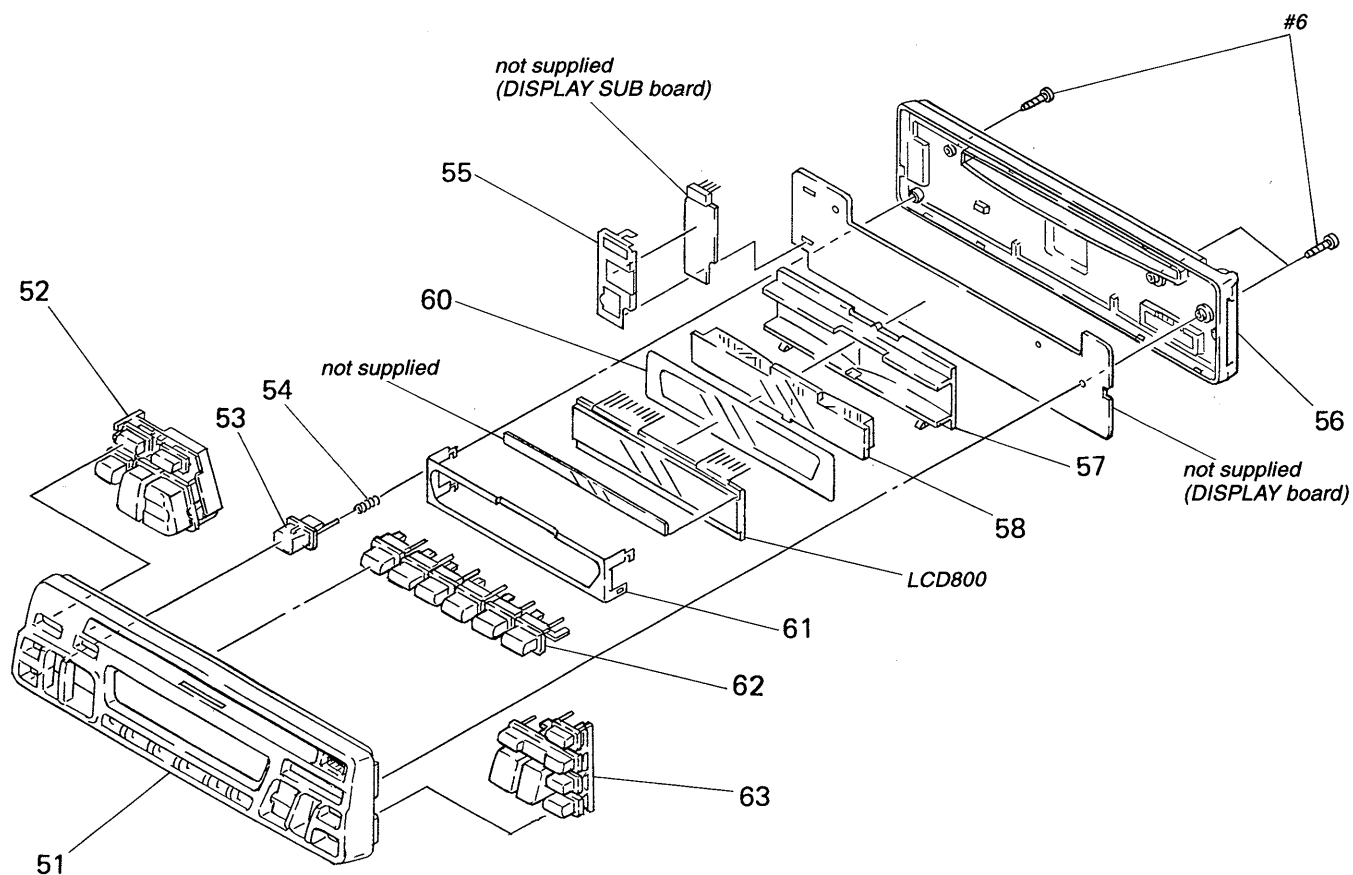
- Les composants identifiés par une  
marque  sont critiques pour la  
sécurité.  
Ne les remplacer que par une pièce  
portant le numéro spécifié.

## (1) GENERAL SECTION



| Ref. No. | Part No.     | Description          | Remark | Ref. No. | Part No.     | Description                              | Remark |
|----------|--------------|----------------------|--------|----------|--------------|------------------------------------------|--------|
| 1        | X-3371-528-1 | PANEL (1) ASSY, SUB  |        | * 9      | 3-932-397-01 | BRACKET (M/D)                            |        |
| 2        | 3-922-535-01 | SCREW (+BTT)         |        | * 10     | 3-920-529-01 | BRACKET (REG) (IC)                       |        |
| 3        | X-3367-636-1 | LOCK ASSY            |        | * 11     | 3-931-965-01 | HEAT SINK                                |        |
| * 4      | A-3294-010-A | MAIN BOARD, COMPLETE |        | * 12     | 3-931-286-01 | CHASSIS (MAIN)                           |        |
| 5        | 3-922-535-11 | SCREW (+BTT)         |        | 13       | 1-769-786-51 | CORD (WITH CONNECTOR) (POWER)            |        |
| * 7      | 3-931-260-01 | BRACKET (IC)         |        | F501     | 1-533-331-11 | FUSE (BLADE TYPE) (AUTO FUSE) (15A, 32V) |        |
| * 8      | X-3371-549-1 | COVER ASSY           |        | TU101    | A-3309-002-A | TUNER UNIT                               |        |

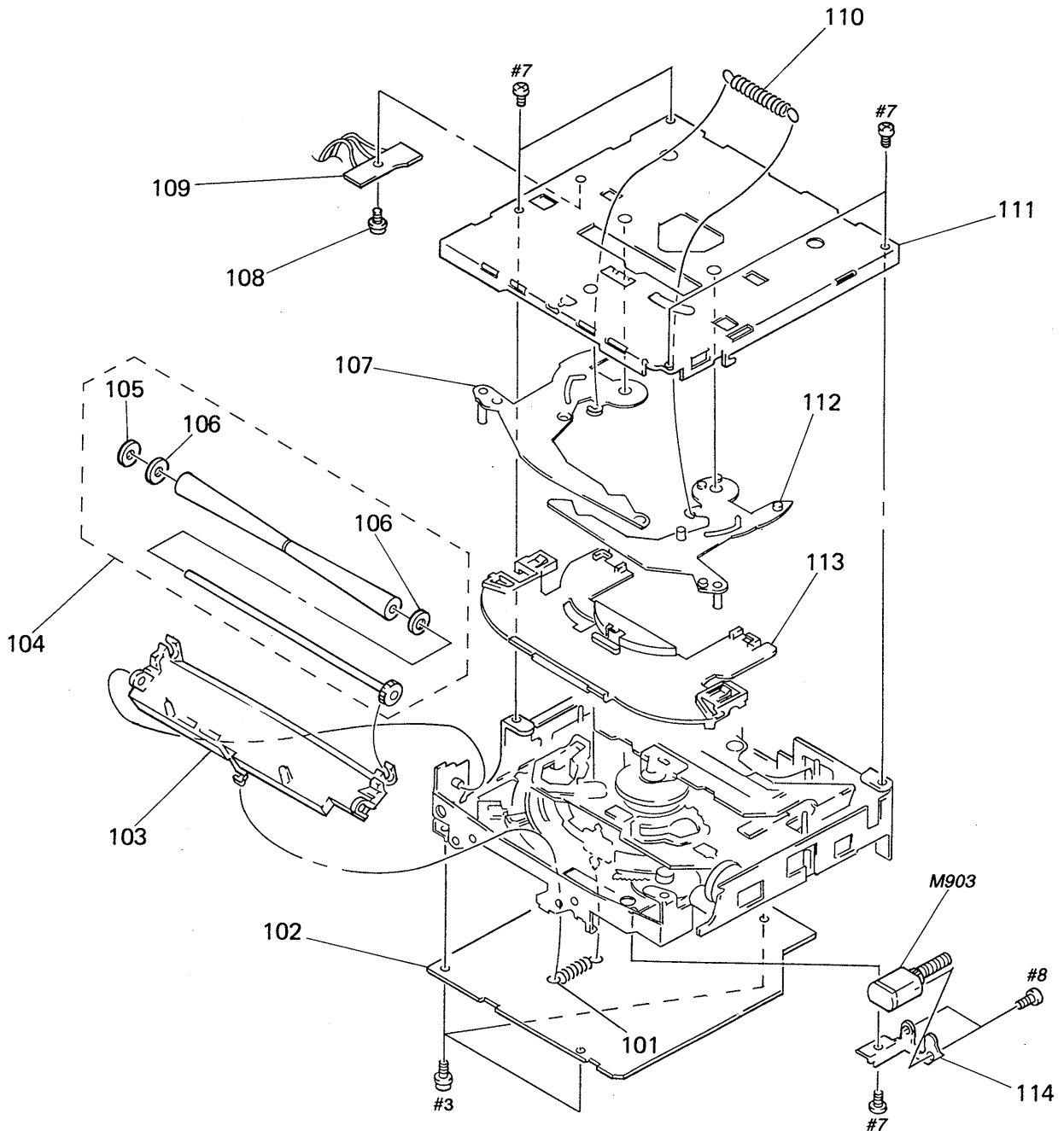
## (2) FRONT PANEL SECTION



| Ref. No. | Part No.     | Description                               | Remark |
|----------|--------------|-------------------------------------------|--------|
| 51       | X-3371-550-1 | PANEL SUB ASSY, FRONT                     |        |
| 52       | 3-932-021-01 | BUTTON (OFF) (OFF, DSPL. MUTE. SEL. +, -) |        |
| 53       | 3-931-969-01 | BUTTON (RELEASE)                          |        |
| 54       | 3-914-590-01 | SPRING (R2)                               |        |
| * 55     | 3-931-978-01 | BRACKET (DISPLAY PC BOARD)                |        |
| 56       | 3-931-967-01 | PANEL, FRONT BACK                         |        |
| * 57     | 3-931-972-01 | HOLDER (LCD)                              |        |

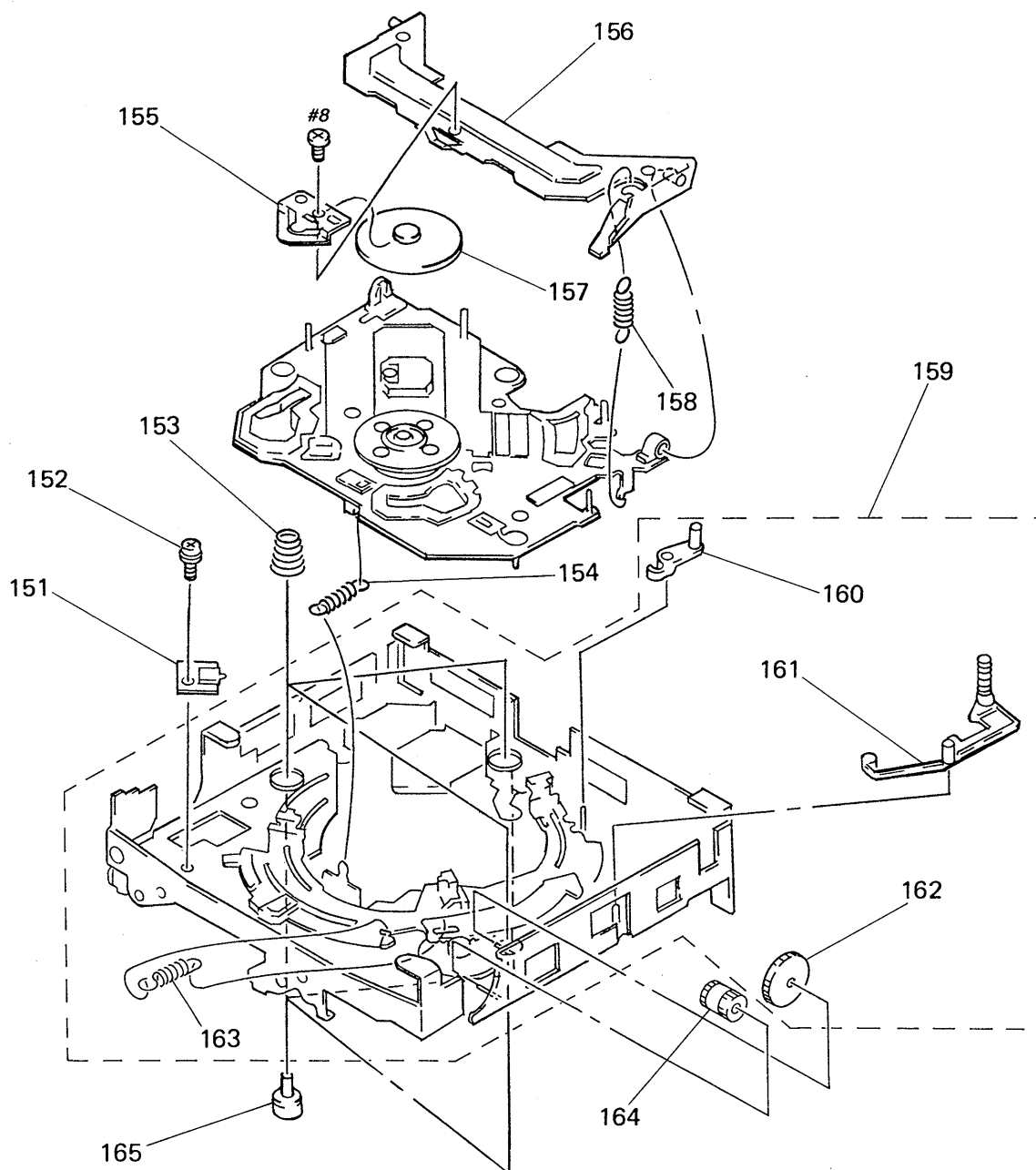
| Ref. No. | Part No.            | Description                            | Remark |
|----------|---------------------|----------------------------------------|--------|
| * 58     | 3-931-971-01        | PLATE (LCD), LIGHT GUIDE               |        |
| * 60     | 3-931-973-01        | SHEET (LCD)                            |        |
| * 61     | 3-932-018-01        | BLACKET (LCD)                          |        |
| 62       | 3-920-503-02        | BUTTON (1. 2. 3. 4. 5. 6)              |        |
| 63       | 3-931-961-01        | BUTTON (CD EJECT) (▲) +. SEEK/AMS. - ▢ |        |
|          |                     | ◀◀. MANU. ▶▶. FM. AM. CD. SENS. A MEM) |        |
|          | LCD800 1-801-182-11 | DISPLAY PANEL, LIQUID CRYSTAL          |        |

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



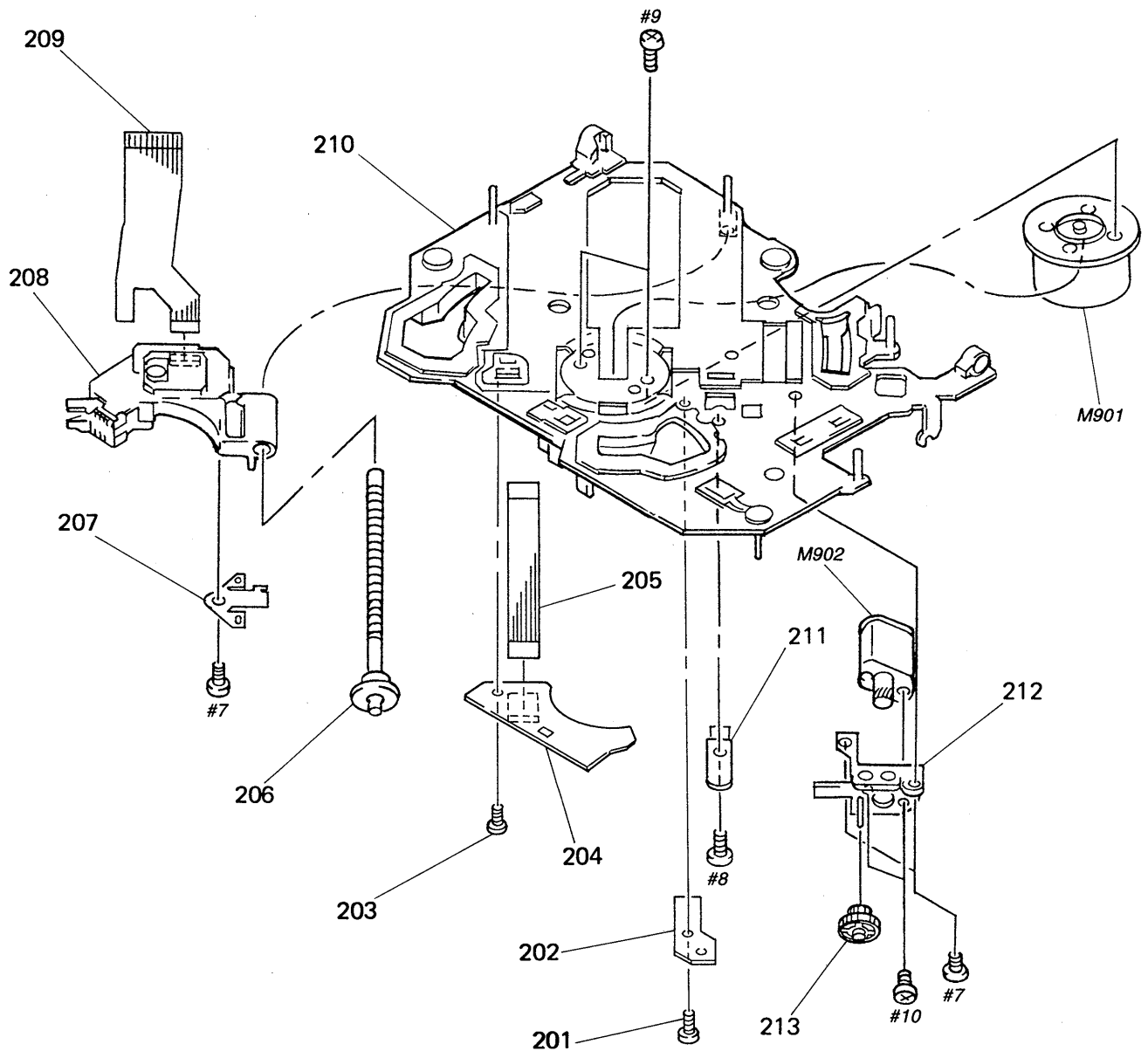
| Ref. No. | Part No.     | Description           | Remark | Ref. No. | Part No.     | Description                  | Remark |
|----------|--------------|-----------------------|--------|----------|--------------|------------------------------|--------|
| 101      | 3-931-916-01 | SPRING (RA), TENSION  |        | * 109    | 1-659-836-11 | DISC IN SW BOARD             |        |
| * 102    | A-3309-021-A | SERVO BOARD, COMPLETE |        | 110      | 3-931-909-02 | SPRING (LR), TENSION         |        |
| 103      | 3-931-902-01 | ARM (ROLLER)          |        | * 111    | 3-931-903-01 | CHASSIS (T)                  |        |
| 104      | A-3291-567-A | ROLLER ASSY           |        | * 112    | X-3371-502-1 | LEVER (R) ASSY               |        |
| 105      | 3-701-439-11 | WASHER                |        | * 113    | 3-931-908-01 | GUIDE (DISC)                 |        |
| * 106    | 3-322-413-01 | SPACER, INSULATING    |        | * 114    | 3-931-899-01 | BRACKET (MOTOR)              |        |
| * 107    | X-3371-501-1 | LEVER (L) ASSY        |        | M903     | A-3291-576-A | MOTOR SUB ASSY, LO (LOADING) |        |
| 108      | 3-338-737-01 | SCREW (2X3), +PS      |        |          |              |                              |        |

**(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)



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.

| Ref. No.     | Part No.     | Description                  | Remark | Ref. No. | Part No.     | Description             | Remark |
|--------------|--------------|------------------------------|--------|----------|--------------|-------------------------|--------|
| 201          | 3-338-737-01 | SCREW (2X3), +PS             |        | 209      | 1-659-881-11 | PICK-UP FLEXIBLE BOARD  |        |
| * 202        | 1-659-835-11 | LIMIT SW BOARD               |        | * 210    | X-3371-503-1 | CHASSIS (OP) (O/S) ASSY |        |
| 203          | 3-909-607-01 | SCREW                        |        | 211      | 3-931-829-01 | SPRING (SL), PLATE      |        |
| * 204        | 1-659-834-11 | SUB BOARD                    |        | 212      | X-3371-504-1 | BASE (DRIVING) ASSY     |        |
| 205          | 1-659-880-11 | MOTOR FLEXIBLE BOARD         |        | 213      | 3-931-832-01 | GEAR (SL MIDWAY)        |        |
| 206          | A-3291-571-A | SHAFT (FEED) ASSY            |        | M901     | X-3371-664-1 | MOTOR ASSY (SPINDLE)    |        |
| 207          | 3-931-834-01 | SPRING (FEED), PLATE         |        | M902     | A-3291-574-A | MOTOR ASSY, SLED        |        |
| $\Delta$ 208 | 8-848-402-03 | OPTICAL PICK-UP KSS-520A/J-N |        |          |              |                         |        |

# DISC IN SW

# DISPLAY

## SECTION 7 ELECTRICAL PARTS LIST

### NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -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

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

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.

| Ref. No. | Part No.     | Description                                           | Remark | Ref. No. | Part No.     | Description                   | Remark |
|----------|--------------|-------------------------------------------------------|--------|----------|--------------|-------------------------------|--------|
| *        | 1-659-836-11 | DISC IN SW BOARD<br>*****                             |        | D812     | 8-719-052-61 | DIODE SLR-342PGA47 (2/REPEAT) |        |
|          |              | < SWITCH >                                            |        | D813     | 8-719-052-61 | DIODE SLR-342PGA47 (DSPL)     |        |
| SW1      | 1-572-288-11 | SWITCH, PUSH (DISC IN)                                |        | D814     | 8-719-052-61 | DIODE SLR-342PGA47 (SEL)      |        |
| SW2      | 1-572-288-11 | SWITCH, PUSH (SELF)                                   |        | D817     | 8-719-052-61 | DIODE SLR-342PGA47 (AM)       |        |
| *****    |              | *****                                                 |        | D818     | 8-719-052-61 | DIODE SLR-342PGA47 (FM)       |        |
|          |              | DISPLAY BOARD                                         |        | D819     | 8-719-052-61 | DIODE SLR-342PGA47 (CD)       |        |
|          |              | *****                                                 |        | D820     | 8-719-052-61 | DIODE SLR-342PGA47 (A. MEM)   |        |
| *        | 3-931-971-01 | PLATE (LCD), LIGHT GUIDE                              |        | D821     | 8-719-105-99 | DIODE RD6. 2M-B1              |        |
| *        | 3-931-972-01 | HOLDER (LCD)                                          |        | D822     | 8-719-105-99 | DIODE RD6. 2M-B1              |        |
| *        | 3-931-973-01 | SHEET (LCD)                                           |        | D823     | 8-719-105-99 | DIODE RD6. 2M-B1              |        |
| *        | 3-931-978-01 | BRACKET (DISPLAY PC BOARD)                            |        | D824     | 8-719-105-99 | DIODE RD6. 2M-B1              |        |
| *        | 3-932-018-01 | BRACKET (LCD)                                         |        |          |              | < IC >                        |        |
|          |              | < CAPACITOR >                                         |        | IC800    | 8-759-369-90 | IC LC75822ED                  |        |
| C800     | 1-163-038-00 | CERAMIC CHIP 0.1uF 25V                                |        |          |              | < CHIP CONDUCTOR >            |        |
| C801     | 1-163-117-00 | CERAMIC CHIP 100PF 5% 50V                             |        | JR802    | 1-216-296-00 | CONDUCTOR, CHIP (3216)        |        |
| C802     | 1-163-137-00 | CERAMIC CHIP 680PF 5% 50V                             |        | JR804    | 1-216-296-00 | CONDUCTOR, CHIP (3216)        |        |
|          |              | < CONNECTOR >                                         |        | JR805    | 1-216-296-00 | CONDUCTOR, CHIP (3216)        |        |
| CNP800   | 1-764-423-11 | PIN, CONNECTOR 12P                                    |        | JR806    | 1-216-295-00 | CONDUCTOR, CHIP (2012)        |        |
| CNP801   | 1-774-798-11 | PIN, CONNECTOR (PC BOARD) 4P                          |        | JR807    | 1-216-295-00 | CONDUCTOR, CHIP (2012)        |        |
|          |              | < DIODE >                                             |        |          |              | < LIQUID CRYSTAL DISPLAY >    |        |
| D800     | 8-719-976-99 | DIODE DTZ5. 1B1                                       |        | LCD800   | 1-801-182-11 | DISPLAY PANEL, LIQUID CRYSTAL |        |
| D801     | 8-719-052-61 | DIODE SLR-342PGA47 (6)                                |        |          |              | < PILOT LAMP >                |        |
| D802     | 8-719-052-61 | DIODE SLR-342PGA47 (5)                                |        | PL800    | 1-517-534-11 | LAMP, PILOT                   |        |
| D803     | 8-719-052-61 | DIODE SLR-342PGA47 (4)                                |        | PL801    | 1-517-534-11 | LAMP, PILOT                   |        |
| D804     | 8-719-052-61 | DIODE SLR-342PGA47 (3/SHUF)                           |        |          |              | < RESISTOR >                  |        |
| D805     | 8-719-052-61 | DIODE SLR-342PGA47 (- $\Rightarrow$ / $\Rightarrow$ ) |        | R800     | 1-216-150-00 | METAL GLAZE 10 5% 1/8W        |        |
| D806     | 8-719-052-61 | DIODE SLR-342PGA47 ( $\Leftarrow$ + / $\Leftarrow$ )  |        | R801     | 1-216-150-00 | METAL GLAZE 10 5% 1/8W        |        |
| D807     | 8-719-052-61 | DIODE SLR-342PGA47 ( $\Delta$ )                       |        | R802     | 1-216-192-00 | METAL CHIP 560 5% 1/8W        |        |
| D808     | 8-719-052-61 | DIODE SLR-342PGA47 (SENS)                             |        | R803     | 1-216-192-00 | METAL CHIP 560 5% 1/8W        |        |
| D809     | 8-719-052-61 | DIODE SLR-342PGA47 (+)                                |        | R804     | 1-216-192-00 | METAL CHIP 560 5% 1/8W        |        |
| D810     | 8-719-052-61 | DIODE SLR-342PGA47 (-)                                |        | R805     | 1-216-192-00 | METAL CHIP 560 5% 1/8W        |        |
| D811     | 8-719-052-61 | DIODE SLR-342PGA47 (1/INTRO)                          |        | R806     | 1-216-192-00 | METAL CHIP 560 5% 1/8W        |        |
|          |              |                                                       |        | R807     | 1-216-198-00 | METAL GLAZE 1K 5% 1/8W        |        |

## DISPLAY

## DISPLAY SUB

## LIMIT SW

## LOAD SW

## MAIN

| Ref. No.          | Part No.     | Description                  | Remark        | Ref. No.      | Part No.     | Description                  | Remark            |
|-------------------|--------------|------------------------------|---------------|---------------|--------------|------------------------------|-------------------|
| R808              | 1-216-090-00 | METAL CHIP                   | 51K 5% 1/10W  | < SWITCH >    |              |                              |                   |
| R809              | 1-216-202-00 | METAL GLAZE                  | 1.5K 5% 1/8W  | S801          | 1-572-704-31 | SWITCH, KEY BOARD (OFF)      |                   |
| R810              | 1-216-057-00 | METAL CHIP                   | 2.2K 5% 1/10W | S813          | 1-572-704-31 | SWITCH, KEY BOARD (MUTE)     |                   |
| R811              | 1-216-061-00 | METAL CHIP                   | 3.3K 5% 1/10W | *****         |              |                              |                   |
| R812              | 1-216-067-00 | METAL CHIP                   | 5.6K 5% 1/10W | *             | 1-659-835-11 | LIMIT SW BOARD               |                   |
| R813              | 1-216-073-00 | METAL CHIP                   | 10K 5% 1/10W  | *****         |              |                              |                   |
| R814              | 1-216-232-00 | METAL GLAZE                  | 27K 5% 1/8W   | < SWITCH >    |              |                              |                   |
| R815              | 1-216-053-00 | METAL CHIP                   | 1.5K 5% 1/10W | SW3           | 1-572-688-11 | SWITCH, PUSH (1 KEY) (LIMIT) |                   |
| R816              | 1-216-206-00 | METAL GLAZE                  | 2.2K 5% 1/8W  | *****         |              |                              |                   |
| R817              | 1-216-210-00 | METAL GLAZE                  | 3.3K 5% 1/8W  | *             | 1-659-837-11 | LOAD SW BOARD                |                   |
| R818              | 1-216-067-00 | METAL CHIP                   | 5.6K 5% 1/10W | *****         |              |                              |                   |
| R819              | 1-216-073-00 | METAL CHIP                   | 10K 5% 1/10W  | < SWITCH >    |              |                              |                   |
| R821              | 1-216-202-00 | METAL GLAZE                  | 1.5K 5% 1/8W  | SW4           | 1-572-288-11 | SWITCH, PUSH (DOWN)          |                   |
| R822              | 1-216-057-00 | METAL CHIP                   | 2.2K 5% 1/10W | *****         |              |                              |                   |
| R823              | 1-216-210-00 | METAL GLAZE                  | 3.3K 5% 1/8W  | *             | A-3294-010-A | MAIN BOARD, COMPLETE         |                   |
| R824              | 1-216-067-00 | METAL CHIP                   | 5.6K 5% 1/10W | *****         |              |                              |                   |
| R825              | 1-216-073-00 | METAL CHIP                   | 10K 5% 1/10W  | < CAPACITOR > |              |                              |                   |
| R826              | 1-216-150-00 | METAL GLAZE                  | 10 5% 1/8W    | C101          | 1-163-211-00 | CERAMIC CHIP                 | 0.0018uF 5% 50V   |
| R827              | 1-216-150-00 | METAL GLAZE                  | 10 5% 1/8W    | C102          | 1-164-346-11 | CERAMIC CHIP                 | 1uF 16V           |
| R829              | 1-216-232-00 | METAL GLAZE                  | 27K 5% 1/8W   | C103          | 1-164-346-11 | CERAMIC CHIP                 | 1uF 16V           |
| < SWITCH >        |              |                              |               | C104          | 1-164-004-11 | CERAMIC CHIP                 | 0.1uF 10% 25V     |
| S802              | 1-572-704-31 | SWITCH, KEY BOARD (5)        |               | C105          | 1-163-017-00 | CERAMIC CHIP                 | 0.0047uF 5% 50V   |
| S803              | 1-572-704-31 | SWITCH, KEY BOARD (4)        |               | C106          | 1-126-157-11 | ELECT                        | 10uF 20% 16V      |
| S804              | 1-572-704-31 | SWITCH, KEY BOARD (3/SHUF)   |               | C107          | 1-164-489-11 | CERAMIC CHIP                 | 0.22uF 10% 16V    |
| S805              | 1-572-704-31 | SWITCH, KEY BOARD (2/REPEAT) |               | C108          | 1-163-235-11 | CERAMIC CHIP                 | 22PF 5% 50V       |
| S806              | 1-572-704-31 | SWITCH, KEY BOARD (1/INTRO)  |               | C109          | 1-126-157-11 | ELECT                        | 10uF 20% 16V      |
| S807              | 1-572-704-31 | SWITCH, KEY BOARD (-)        |               | C110          | 1-126-157-11 | ELECT                        | 10uF 20% 16V      |
| S808              | 1-572-704-31 | SWITCH, KEY BOARD (CD)       |               | C111          | 1-126-157-11 | ELECT                        | 10uF 20% 16V      |
| S809              | 1-572-704-31 | SWITCH, KEY BOARD (FM)       |               | C112          | 1-126-157-11 | ELECT                        | 10uF 20% 16V      |
| S810              | 1-572-704-31 | SWITCH, KEY BOARD (+)        |               | C113          | 1-163-009-11 | CERAMIC CHIP                 | 0.001uF 10% 50V   |
| S811              | 1-572-704-31 | SWITCH, KEY BOARD (SEL)      |               | C114          | 1-162-637-11 | CERAMIC CHIP                 | 0.47uF 16V        |
| S812              | 1-572-704-31 | SWITCH, KEY BOARD (DSPL)     |               | C115          | 1-162-637-11 | CERAMIC CHIP                 | 0.47uF 16V        |
| S815              | 1-572-704-31 | SWITCH, KEY BOARD (AM)       |               | C123          | 1-164-161-11 | CERAMIC CHIP                 | 0.0022uF 10% 100V |
| S816              | 1-572-704-31 | SWITCH, KEY BOARD (▲)        |               | C124          | 1-124-234-00 | ELECT                        | 22uF 20% 16V      |
| S817              | 1-572-704-31 | SWITCH, KEY BOARD (⏮ + / ⏭)  |               | C125          | 1-124-234-00 | ELECT                        | 22uF 20% 16V      |
| S818              | 1-572-704-31 | SWITCH, KEY BOARD (- ⏮ / ⏭)  |               | C126          | 1-163-235-11 | CERAMIC CHIP                 | 22PF 5% 50V       |
| S819              | 1-572-704-31 | SWITCH, KEY BOARD (SENS)     |               | C127          | 1-164-161-11 | CERAMIC CHIP                 | 0.0022uF 10% 100V |
| S820              | 1-572-704-31 | SWITCH, KEY BOARD (A. MEM)   |               | C201          | 1-163-211-00 | CERAMIC CHIP                 | 0.0018uF 5% 50V   |
| S821              | 1-572-704-31 | SWITCH, KEY BOARD (6)        |               | C202          | 1-164-346-11 | CERAMIC CHIP                 | 1uF 16V           |
| *****             |              |                              |               |               |              |                              |                   |
| DISPLAY SUB BOARD |              |                              |               |               |              |                              |                   |
| *****             |              |                              |               |               |              |                              |                   |
| < DIODE >         |              |                              |               |               |              |                              |                   |
| D815              | 8-719-052-61 | DIODE SLR-342PGA47 (OFF)     |               |               |              |                              |                   |
| D816              | 8-719-052-61 | DIODE SLR-342PGA47 (MUTE)    |               |               |              |                              |                   |

## MAIN

| Ref. No. | Part No.     | Description  |           | Remark    |
|----------|--------------|--------------|-----------|-----------|
| 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   |
| 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   |
| 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   |

| Ref. No. | Part No.     | Description  |           | Remark    |
|----------|--------------|--------------|-----------|-----------|
| 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     | 1-124-234-00 | ELECT        | 22uF      | 20% 16V   |
| C616     | 1-130-479-00 | CERAMIC CHIP | 0. 0047uF | 5% 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     | 1-163-141-00 | CERAMIC CHIP | 0. 001uF  | 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       |

## &lt; CONNECTOR &gt;

CNP300 1-764-617-12 PIN, CONNECTOR (PC BOARD) 30P  
 CNP501 1-774-701-11 PIN, CONNECTOR 16P  
 CNP700 1-764-422-11 PLUG, CONNECTOR 12P

## &lt; DIODE &gt;

|      |              |       |               |
|------|--------------|-------|---------------|
| D400 | 8-719-109-71 | DIODE | RD3. 9ESB1    |
| D403 | 8-719-200-82 | DIODE | 11ES2         |
| D404 | 8-719-200-82 | DIODE | 11ES2         |
| D411 | 8-719-991-33 | DIODE | 1SS133T-77    |
| D501 | 8-719-923-91 | DIODE | MTZJ-T-77-16A |
| D502 | 8-719-109-97 | DIODE | RD6. 8ESB2    |
| 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    |
| 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    |
| D519 | 8-719-200-82 | DIODE | 11ES2         |
| 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    |
| D709 | 8-719-109-93 | DIODE | RD6. 2ESB2    |
| D710 | 8-719-991-33 | DIODE | 1SS133T-77    |

| Ref. No.           | Part No.     | Description                              | Remark |
|--------------------|--------------|------------------------------------------|--------|
| D711               | 8-719-109-93 | DIODE RD6. 2ESB2                         |        |
| D712               | 8-719-109-93 | DIODE RD6. 2ESB2                         |        |
| D713               | 8-719-109-93 | DIODE RD6. 2ESB2                         |        |
| D714               | 8-719-109-93 | DIODE RD6. 2ESB2                         |        |
| D715               | 8-719-109-93 | DIODE RD6. 2ESB2                         |        |
| D716               | 8-719-109-93 | DIODE RD6. 2ESB2                         |        |
| D717               | 8-719-109-93 | DIODE RD6. 2ESB2                         |        |
| D718               | 8-719-109-93 | DIODE RD6. 2ESB2                         |        |
| D900               | 8-719-991-33 | DIODE 1SS133T-77                         |        |
| < 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              | 8-759-395-51 | IC uPD17017GF-B15-3B9                    |        |
| < CHIP CONDUCTOR > |              |                                          |        |
| JR8                | 1-216-296-00 | CONDUCTOR, CHIP (3216)                   |        |
| JR10               | 1-216-295-00 | CONDUCTOR, CHIP (2012)                   |        |
| JR11               | 1-216-296-00 | CONDUCTOR, CHIP (3216)                   |        |
| JR13               | 1-216-295-00 | CONDUCTOR, CHIP (2012)                   |        |
| JR15               | 1-216-295-00 | CONDUCTOR, CHIP (2012)                   |        |
| JR16               | 1-216-296-00 | CONDUCTOR, CHIP (3216)                   |        |
| JR17               | 1-216-295-00 | CONDUCTOR, CHIP (2012)                   |        |
| JR18               | 1-216-296-00 | CONDUCTOR, CHIP (3216)                   |        |
| JR19               | 1-216-296-00 | CONDUCTOR, CHIP (3216)                   |        |
| JR21               | 1-216-296-00 | CONDUCTOR, CHIP (3216)                   |        |
| JR25               | 1-216-296-00 | CONDUCTOR, CHIP (3216)                   |        |
| < COIL >           |              |                                          |        |
| L300               | 1-410-513-11 | INDUCTOR 22uH                            |        |
| L700               | 1-410-513-11 | INDUCTOR 22uH                            |        |
| L801               | 1-411-823-21 | COIL, CHOKE                              |        |
| < JACK >           |              |                                          |        |
| PJ400              | 1-764-424-11 | JACK, PIN 2P (LINE OUT REAR)             |        |
| < 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                   |        |

| Ref. No.     | Part No.     | Description                 | Remark |
|--------------|--------------|-----------------------------|--------|
| 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     |        |
| Q511         | 8-729-920-74 | TRANSISTOR 2SC2412K-QR      |        |
| Q512         | 8-729-822-84 | TRANSISTOR 2SB1202FAST      |        |
| Q513         | 8-729-900-53 | TRANSISTOR DTC114EK         |        |
| 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      |        |
| Q600         | 8-729-021-94 | TRANSISTOR 2SK1657-T1B      |        |
| 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         | 1-216-061-00 | METAL CHIP 3. 3K 5% 1/10W   |        |
| 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         | 1-216-226-00 | METAL GLAZE 15K 5% 1/8W     |        |
| 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   |        |
| R202         | 1-216-073-00 | METAL CHIP 10K 5% 1/10W     |        |
| R203         | 1-216-061-00 | METAL CHIP 3. 3K 5% 1/10W   |        |
| R204         | 1-216-065-00 | METAL CHIP 4. 7K 5% 1/10W   |        |
| R205         | 1-216-065-00 | METAL CHIP 4. 7K 5% 1/10W   |        |
| R206         | 1-216-041-00 | METAL CHIP 470 5% 1/10W     |        |
| 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   |        |

## MAIN

## SERVO

SEE ADDITIONAL  
INFORMATION

| Ref. No. | Part No.     | Description | Remark |    |       |
|----------|--------------|-------------|--------|----|-------|
| 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     | 1-216-049-11 | METAL GLAZE | 1K     | 5% | 1/10W |
| 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 |
| R502     | 1-216-049-11 | METAL GLAZE | 1K     | 5% | 1/10W |
| R503     | 1-216-057-00 | METAL CHIP  | 2.2K   | 5% | 1/10W |
| R505     | 1-216-073-00 | METAL CHIP  | 10K    | 5% | 1/10W |
| R506     | 1-216-073-00 | METAL CHIP  | 10K    | 5% | 1/10W |
| R507     | 1-249-435-11 | CARBON      | 33K    | 5% | 1/4W  |
| 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     | 1-216-005-00 | METAL CHIP  | 15     | 5% | 1/10W |
| 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 |
| R521     | 1-216-105-00 | METAL GLAZE | 220K   | 5% | 1/10W |
| R522     | 1-216-049-11 | METAL GLAZE | 1K     | 5% | 1/10W |
| R523     | 1-216-057-00 | METAL CHIP  | 2.2K   | 5% | 1/10W |
| R524     | 1-216-085-00 | METAL CHIP  | 33K    | 5% | 1/10W |
| R525     | 1-216-041-00 | METAL CHIP  | 470    | 5% | 1/10W |
| R527     | 1-216-049-11 | METAL GLAZE | 1K     | 5% | 1/10W |
| R528     | 1-216-049-11 | METAL GLAZE | 1K     | 5% | 1/10W |
| R529     | 1-216-183-00 | METAL GLAZE | 240    | 5% | 1/8W  |
| R538     | 1-216-073-00 | METAL CHIP  | 10K    | 5% | 1/10W |
| R614     | 1-216-073-00 | METAL CHIP  | 10K    | 5% | 1/10W |
| R615     | 1-216-049-11 | METAL GLAZE | 1K     | 5% | 1/10W |
| R617     | 1-216-049-11 | METAL GLAZE | 1K     | 5% | 1/10W |

| Ref. No.       | Part No.     | Description                   | Remark   |     |        |
|----------------|--------------|-------------------------------|----------|-----|--------|
| R702           | 1-216-049-11 | METAL GLAZE                   | 1K       | 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           | 1-216-073-00 | METAL CHIP                    | 10K      | 5%  | 1/10W  |
| R713           | 1-216-073-00 | METAL CHIP                    | 10K      | 5%  | 1/10W  |
| R714           | 1-216-073-00 | METAL CHIP                    | 10K      | 5%  | 1/10W  |
| R718           | 1-216-089-00 | METAL GLAZE                   | 47K      | 5%  | 1/10W  |
| R719           | 1-249-418-11 | CARBON                        | 1.2K     | 5%  | 1/4W   |
| R720           | 1-216-073-00 | METAL CHIP                    | 10K      | 5%  | 1/10W  |
| R721           | 1-216-053-00 | METAL CHIP                    | 1.5K     | 5%  | 1/10W  |
| R722           | 1-216-053-00 | METAL CHIP                    | 1.5K     | 5%  | 1/10W  |
| R723           | 1-216-202-00 | METAL GLAZE                   | 1.5K     | 5%  | 1/8W   |
| R724           | 1-216-049-11 | METAL GLAZE                   | 1K       | 5%  | 1/10W  |
| R725           | 1-216-049-11 | METAL GLAZE                   | 1K       | 5%  | 1/10W  |
| R726           | 1-216-049-11 | METAL GLAZE                   | 1K       | 5%  | 1/10W  |
| R727           | 1-216-049-11 | METAL GLAZE                   | 1K       | 5%  | 1/10W  |
| R728           | 1-216-081-00 | METAL CHIP                    | 22K      | 5%  | 1/10W  |
| R730           | 1-216-089-00 | METAL GLAZE                   | 47K      | 5%  | 1/10W  |
| R732           | 1-216-295-00 | CONDUCTOR, CHIP               |          |     | (2012) |
| R733           | 1-216-295-00 | CONDUCTOR, CHIP               |          |     | (2012) |
| R735           | 1-216-089-00 | METAL GLAZE                   | 47K      | 5%  | 1/10W  |
| < SWITCH >     |              |                               |          |     |        |
| S700           | 1-762-638-11 | SWITCH, TACTILE (RESET)       |          |     |        |
| < THERMISTOR > |              |                               |          |     |        |
| TH500          | 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)    |          |     |        |
| *****          |              |                               |          |     |        |
| *              | 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    |

| Ref. No.           | Part No.     | Description                       | Remark  |        |      |
|--------------------|--------------|-----------------------------------|---------|--------|------|
| 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                 |         |        |      |
| < 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) |      |

| Ref. No. | Part No.     | Description     | Remark |
|----------|--------------|-----------------|--------|
| 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) |
| 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   |

# SERVO

# SUB

| Ref. No.       | Part No.     | Description               | Remark |
|----------------|--------------|---------------------------|--------|
| L2             | 1-412-058-11 | INDUCTOR CHIP 10uH        |        |
| L3             | 1-412-058-11 | INDUCTOR CHIP 10uH        |        |
| < TRANSISTOR > |              |                           |        |
| Q1             | 8-729-904-60 | TRANSISTOR DTB113ZK       |        |
| Q2             | 8-729-904-86 | TRANSISTOR 2SB1197K-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  |        |
| 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   |        |

| Ref. No.              | Part No.     | Description                       | Remark |
|-----------------------|--------------|-----------------------------------|--------|
| 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         |              |                                   |        |
| *****                 |              |                                   |        |
| 13                    | 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                    | 7-621-773-95 | SCREW +PTT 2.6X6 (S)              |        |
| #2                    | 7-685-782-01 | SCREW +PTT 2X5 (S)                |        |
| #3                    | 7-628-253-00 | SCREW +PS 2X4                     |        |
| #4                    | 7-621-772-10 | SCREW +B 2X4                      |        |
| #5                    | 7-621-770-XX | SCREW +PTT 2.6X8 (S)              |        |
| #6                    | 7-658-106-19 | SCREW +P 2X10 TYPE 2 NON-SLIT     |        |
| #7                    | 7-627-553-37 | PRECISION SCREW +P 2X3 TYPE 3     |        |
| #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         |        |
| *****                 |              |                                   |        |

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.

SEE ADDITIONAL INFORMATION

| Ref. No. | Part No. | Description | Remark |
|----------|----------|-------------|--------|
|----------|----------|-------------|--------|

ACCESSORIES & PACKING MATERIALS

\*\*\*\*\*

- 3-810-609-11 MANUAL, INSTRUCTION (ENGLISH)
- 3-810-609-21 MANUAL, INSTRUCTION (FRENCH) (Canadian)
- 3-810-610-11 MANUAL, INSTRUCTION, INSTALL (ENGLISH, FRENCH)

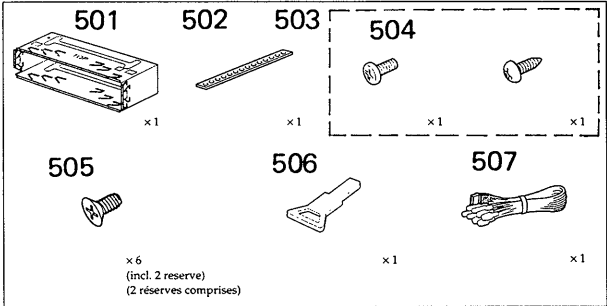
\* X-3371-377-1 CASE ASSY (for FRONT PANEL)

\*\*\*\*\*

MOUNTING HARDWARE

\*\*\*\*\*

- 501 3-931-986-11 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 3-932-020-01 SCREW (+K) (5X8) (TP)
- 506 3-388-078-01 KEY
- 507 1-769-786-51 CORD (WITH CONNECTOR) (POWER)





## SONY SERVICE MANUAL

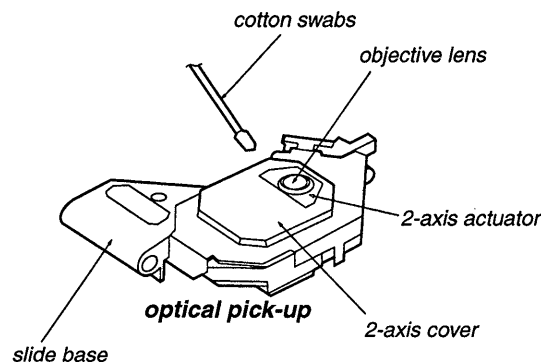
US Model  
Canadian Model

### SUPPLEMENT-1

File this supplement with the service manual.

Subject : Notes on Cleaning The Objective Lens

#### 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.

# EXCD-31

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**SONY®**

## SERVICE MANUAL

*US Model  
Canadian Model*

### SUPPLEMENT-2

File this supplement with the service manual.

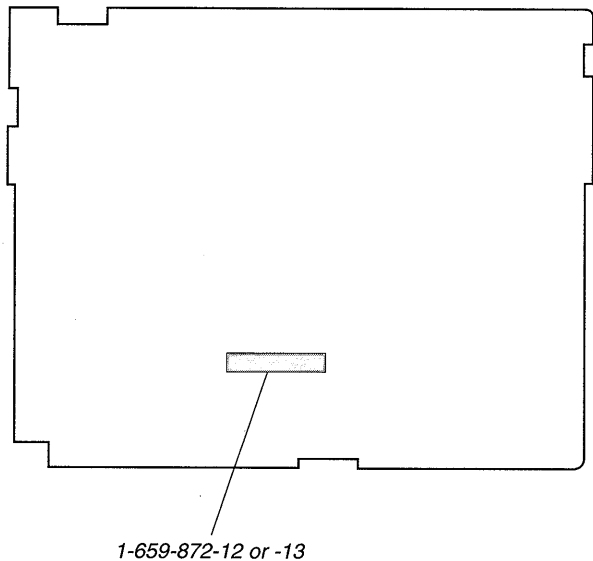
|                               |
|-------------------------------|
| Subject: Change of Main Board |
|-------------------------------|

(SPM-98040)

MAIN board has been modified in the middle of producton.  
This supplement-2 contains the printed wiring board, the sche-  
matic diagram and the electrical parts list for the new type.

- **New/Formrer Discrimination**

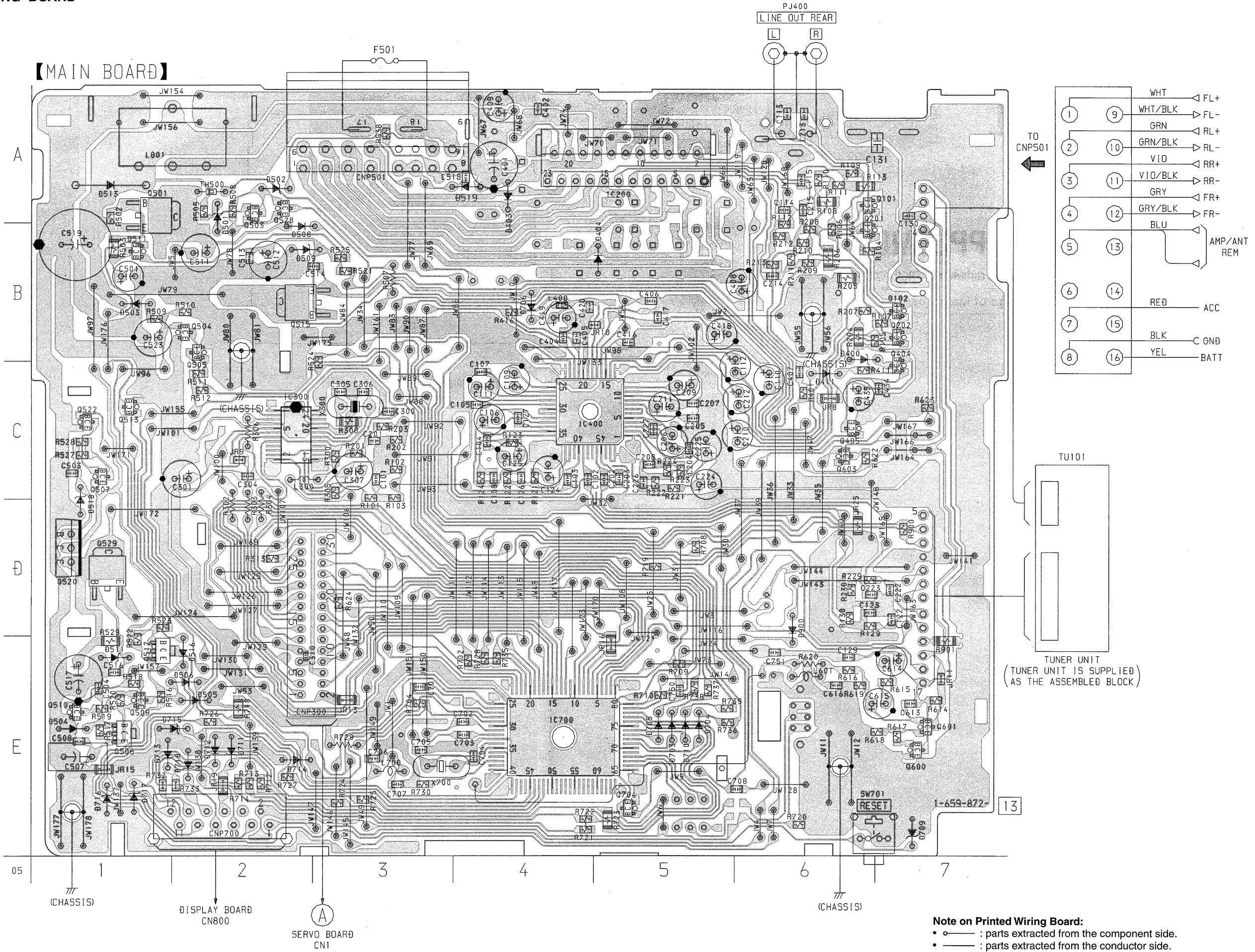
**[MAIN BOARD]** (Componet Side)



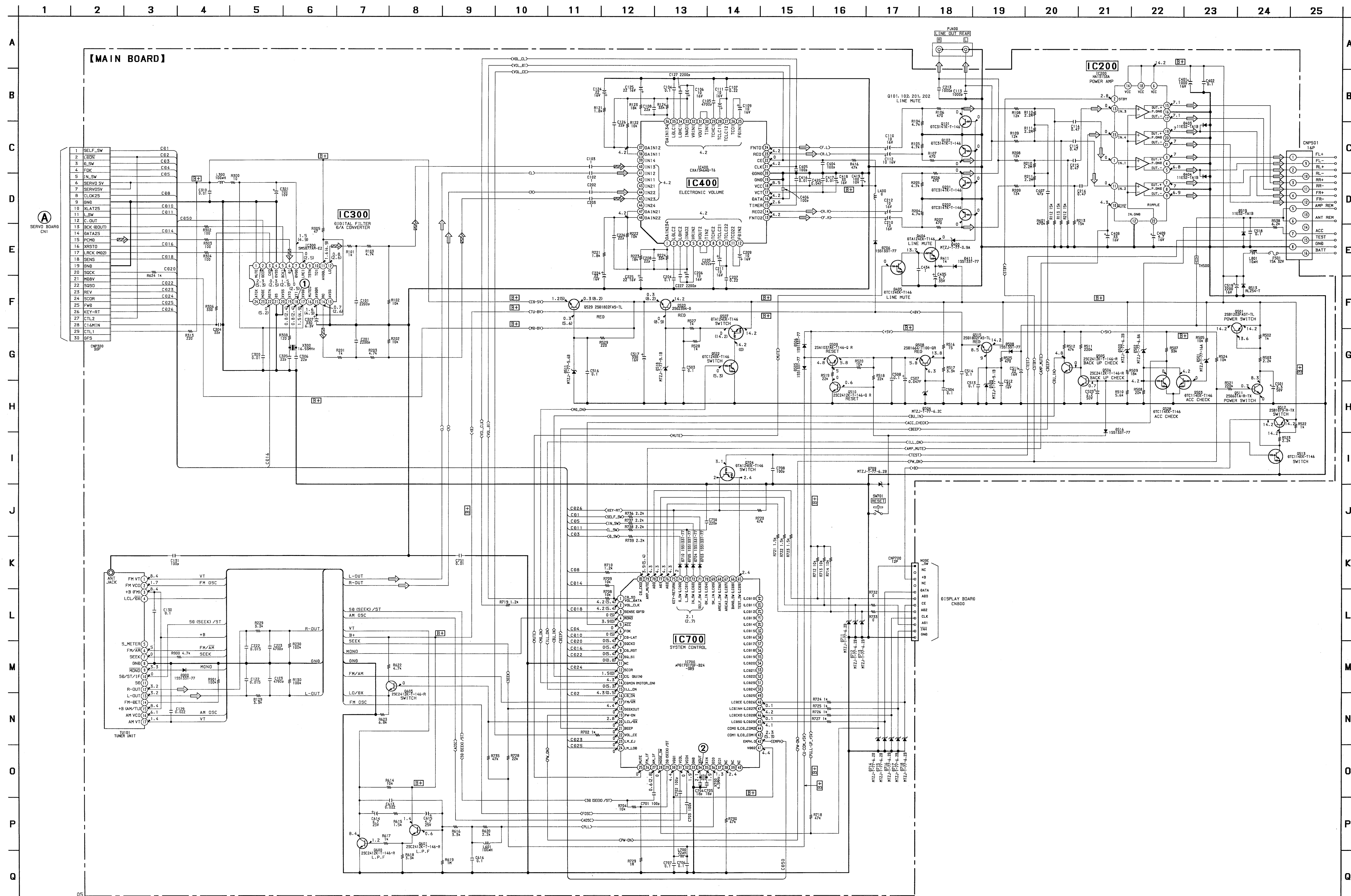
1. PRINTED WIRING BOARD

- Semiconductor Location

| Ref. No. | Location |
|----------|----------|
| D400     | B-6      |
| D403     | A-4      |
| D404     | B-5      |
| D411     | C-6      |
| D501     | A-2      |
| D502     | A-2      |
| D503     | B-1      |
| D504     | E-1      |
| D505     | E-2      |
| D506     | E-2      |
| D508     | B-2      |
| D509     | B-2      |
| D511     | E-1      |
| D513     | A-1      |
| D516     | E-2      |
| D518     | D-1      |
| D519     | A-4      |
| D703     | E-5      |
| D704     | E-5      |
| D705     | E-5      |
| D706     | B-4      |
| D709     | E-7      |
| D710     | E-5      |
| D711     | E-2      |
| D712     | E-2      |
| D713     | E-1      |
| D714     | E-2      |
| D715     | E-1      |
| D716     | E-1      |
| D717     | E-1      |
| D718     | E-2      |
| D900     | D-6      |
| IC200    | A-5      |
| IC300    | C-2      |
| IC400    | C-4      |
| IC700    | E-4      |
| Q101     | A-6      |
| Q102     | B-7      |
| Q201     | B-6      |
| Q202     | B-7      |
| Q404     | C-7      |
| Q405     | C-6      |
| Q501     | A-1      |
| Q503     | A-2      |
| Q504     | B-2      |
| Q505     | B-2      |
| Q507     | C-1      |
| Q508     | E-1      |
| Q509     | E-1      |
| Q510     | E-1      |
| Q511     | B-1      |
| Q512     | E-1      |
| Q513     | C-1      |
| Q515     | B-2      |
| Q520     | D-1      |
| Q522     | C-1      |
| Q528     | A-2      |
| Q529     | D-1      |
| Q600     | E-7      |
| Q601     | E-7      |
| Q603     | C-6      |
| Q704     | E-5      |



## 2. SCHEMATIC DIAGRAM



3. ELECTRICAL PARTS LIST

MAIN

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

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

| Ref. No. | Part No.     | Description                   | Remark   |     |      | Ref. No. | Part No.     | Description   | Remark   |     |      |
|----------|--------------|-------------------------------|----------|-----|------|----------|--------------|---------------|----------|-----|------|
| *        | A-3294-010-A | MAIN BOARD, COMPLETE<br>***** |          |     |      | C214     | 1-164-005-11 | CERAMIC CHIP  | 0.47uF   |     | 25V  |
|          |              |                               |          |     |      | C215     | 1-164-005-11 | CERAMIC CHIP  | 0.47uF   |     | 25V  |
|          |              |                               |          |     |      | C222     | 1-163-023-00 | CERAMIC CHIP  | 0.015uF  | 5%  | 50V  |
| *        | 3-931-260-01 | BRACKET (IC)                  |          |     |      | C223     | 1-163-017-00 | CERAMIC CHIP  | 0.0047uF | 5%  | 50V  |
|          | 7-685-792-09 | SCREW +PTT 2.6X6 (S)          |          |     |      | C224     | 1-124-234-00 | ELECT         | 22uF     | 20% | 16V  |
|          |              | < CAPACITOR >                 |          |     |      | C225     | 1-124-234-00 | ELECT         | 22uF     | 20% | 16V  |
|          |              |                               |          |     |      | C226     | 1-163-235-11 | CERAMIC CHIP  | 22PF     | 5%  | 50V  |
| C101     | 1-164-161-11 | CERAMIC CHIP                  | 0.0022uF | 10% | 100V | C227     | 1-164-161-11 | CERAMIC CHIP  | 0.0022uF | 10% | 100V |
| C102     | 1-164-346-11 | CERAMIC CHIP                  | 1uF      |     | 16V  |          |              |               |          |     |      |
| C103     | 1-164-346-11 | CERAMIC CHIP                  | 1uF      |     | 16V  | C300     | 1-164-232-11 | CERAMIC CHIP  | 0.01uF   |     | 50V  |
| C104     | 1-164-004-11 | CERAMIC CHIP                  | 0.1uF    | 10% | 25V  | C301     | 1-124-584-00 | ELECT         | 100uF    | 20% | 10V  |
| C105     | 1-163-017-00 | CERAMIC CHIP                  | 0.0047uF | 5%  | 50V  | C304     | 1-163-239-11 | CERAMIC CHIP  | 33PF     | 5%  | 50V  |
|          |              |                               |          |     |      | C305     | 1-163-235-11 | CERAMIC CHIP  | 22PF     | 5%  | 50V  |
| C106     | 1-126-157-11 | ELECT                         | 10uF     | 20% | 16V  | C306     | 1-163-235-11 | CERAMIC CHIP  | 22PF     | 5%  | 50V  |
| C107     | 1-164-489-11 | CERAMIC CHIP                  | 0.22uF   | 10% | 16V  |          |              |               |          |     |      |
| C108     | 1-163-235-11 | CERAMIC CHIP                  | 22PF     | 5%  | 50V  | C307     | 1-128-057-11 | ELECT         | 330uF    | 20% | 6.3V |
| C109     | 1-126-157-11 | ELECT                         | 10uF     | 20% | 16V  | C310     | 1-162-970-11 | CERAMIC CHIP  | 0.01uF   | 10% | 25V  |
| C110     | 1-126-157-11 | ELECT                         | 10uF     | 20% | 16V  | C401     | 1-126-767-11 | ELECT         | 1000uF   | 20% | 16V  |
|          |              |                               |          |     |      | C402     | 1-163-038-00 | CERAMIC CHIP  | 0.1uF    |     | 25V  |
| C111     | 1-126-157-11 | ELECT                         | 10uF     | 20% | 16V  | C404     | 1-163-117-00 | CERAMIC CHIP  | 100PF    | 5%  | 50V  |
| C112     | 1-126-157-11 | ELECT                         | 10uF     | 20% | 16V  |          |              |               |          |     |      |
| C113     | 1-163-009-11 | CERAMIC CHIP                  | 0.001uF  | 10% | 50V  | C405     | 1-163-117-00 | CERAMIC CHIP  | 100PF    | 5%  | 50V  |
| C114     | 1-164-005-11 | CERAMIC CHIP                  | 0.47uF   |     | 25V  | C406     | 1-163-117-00 | CERAMIC CHIP  | 100PF    | 5%  | 50V  |
| C115     | 1-164-005-11 | CERAMIC CHIP                  | 0.47uF   |     | 25V  | C407     | 1-163-109-00 | CERAMIC CHIP  | 47PF     | 5%  | 50V  |
|          |              |                               |          |     |      | C408     | 1-124-242-00 | ELECT         | 33uF     | 20% | 25V  |
| C122     | 1-163-023-00 | CERAMIC CHIP                  | 0.015uF  | 5%  | 50V  | C409     | 1-124-259-11 | ELECT         | 4.7uF    | 20% | 16V  |
| C123     | 1-163-017-00 | CERAMIC CHIP                  | 0.0047uF | 5%  | 50V  |          |              |               |          |     |      |
| C124     | 1-124-234-00 | ELECT                         | 22uF     | 20% | 16V  | C416     | 1-164-232-11 | CERAMIC CHIP  | 0.01uF   |     | 50V  |
| C125     | 1-124-234-00 | ELECT                         | 22uF     | 20% | 16V  | C417     | 1-164-232-11 | CERAMIC CHIP  | 0.01uF   |     | 50V  |
| C126     | 1-163-235-11 | CERAMIC CHIP                  | 22PF     | 5%  | 50V  | C418     | 1-124-242-00 | ELECT         | 33uF     | 20% | 25V  |
|          |              |                               |          |     |      | C419     | 1-124-584-00 | ELECT         | 100uF    | 20% | 10V  |
| C127     | 1-164-161-11 | CERAMIC CHIP                  | 0.0022uF | 10% | 100V | C420     | 1-163-809-11 | CERAMIC CHIP  | 0.047uF  | 10% | 25V  |
| C129     | 1-163-037-11 | CERAMIC CHIP                  | 0.022uF  | 10% | 25V  |          |              |               |          |     |      |
| C130     | 1-164-004-11 | CERAMIC CHIP                  | 0.1uF    | 10% | 25V  | C434     | 1-164-346-11 | CERAMIC CHIP  | 1uF      |     | 16V  |
| C131     | 1-163-181-00 | CERAMIC CHIP                  | 100PF    | 5%  | 50V  | C435     | 1-126-163-11 | ELECT         | 4.7uF    | 20% | 50V  |
| C201     | 1-164-161-11 | CERAMIC CHIP                  | 0.0022uF | 10% | 100V | C501     | 1-115-873-11 | ELECT         | 3.3uF    | 20% | 50V  |
|          |              |                               |          |     |      | C503     | 1-164-004-11 | CERAMIC CHIP  | 0.1uF    | 10% | 25V  |
| C202     | 1-164-346-11 | CERAMIC CHIP                  | 1uF      |     | 16V  | C504     | 1-164-004-11 | CERAMIC CHIP  | 0.1uF    | 10% | 25V  |
| C203     | 1-164-346-11 | CERAMIC CHIP                  | 1uF      |     | 16V  |          |              |               |          |     |      |
| C204     | 1-164-004-11 | CERAMIC CHIP                  | 0.1uF    | 10% | 25V  | C507     | 1-110-654-11 | ELECT (BLOCK) | 0.047F   |     |      |
| C205     | 1-163-017-00 | CERAMIC CHIP                  | 0.0047uF | 5%  | 50V  | C508     | 1-163-038-00 | CERAMIC CHIP  | 0.1uF    |     | 25V  |
| C206     | 1-126-157-11 | ELECT                         | 10uF     | 20% | 16V  | C511     | 1-126-514-11 | ELECT         | 22uF     | 20% | 16V  |
|          |              |                               |          |     |      | C512     | 1-124-242-00 | ELECT         | 33uF     | 20% | 25V  |
| C207     | 1-164-489-11 | CERAMIC CHIP                  | 0.22uF   | 10% | 16V  | C513     | 1-164-004-11 | CERAMIC CHIP  | 0.1uF    | 10% | 25V  |
| C208     | 1-163-235-11 | CERAMIC CHIP                  | 22PF     | 5%  | 50V  |          |              |               |          |     |      |
| C209     | 1-126-157-11 | ELECT                         | 10uF     | 20% | 16V  | C514     | 1-164-004-11 | CERAMIC CHIP  | 0.1uF    | 10% | 25V  |
| C210     | 1-126-157-11 | ELECT                         | 10uF     | 20% | 16V  | C516     | 1-163-038-00 | CERAMIC CHIP  | 0.1uF    |     | 25V  |
| C211     | 1-126-157-11 | ELECT                         | 10uF     | 20% | 16V  | C517     | 1-104-661-00 | ELECT         | 330uF    | 20% | 16V  |
|          |              |                               |          |     |      | C518     | 1-164-004-11 | CERAMIC CHIP  | 0.1uF    | 10% | 25V  |
| C212     | 1-126-157-11 | ELECT                         | 10uF     | 20% | 16V  | C519     | 1-126-768-11 | ELECT         | 2200uF   | 20% | 16V  |
| C213     | 1-163-009-11 | CERAMIC CHIP                  | 0.001uF  | 10% | 50V  |          |              |               |          |     |      |

# MAIN

| Ref. No. | Part No.     | Description                           | Remark          | Ref. No. | Part No.     | Description                  | Remark           |
|----------|--------------|---------------------------------------|-----------------|----------|--------------|------------------------------|------------------|
| C523     | 1-115-872-11 | ELECT                                 | 2.2uF 20% 50V   |          |              | < IC >                       |                  |
| C613     | 1-163-037-11 | CERAMIC CHIP                          | 0.022uF 10% 25V |          |              |                              |                  |
| C614     | 1-126-163-11 | ELECT                                 | 4.7uF 20% 50V   | IC200    | 8-759-426-49 | IC HA13153A                  |                  |
| C615     | 1-126-163-11 | ELECT                                 | 4.7uF 20% 50V   | IC300    | 8-759-364-34 | IC SM5877AM                  |                  |
| C616     | 1-164-004-11 | CERAMIC CHIP                          | 0.1uF 10% 25V   | IC400    | 8-752-075-48 | IC CXA1946AQ-T6              |                  |
|          |              |                                       |                 | IC700    | 8-759-438-46 | IC uPD17017GF-B24-3B9        |                  |
| C701     | 1-163-117-00 | CERAMIC CHIP                          | 100PF 5% 50V    |          |              | < JUMPER RESISTOR >          |                  |
| C702     | 1-163-117-00 | CERAMIC CHIP                          | 100PF 5% 50V    |          |              |                              |                  |
| C703     | 1-163-117-00 | CERAMIC CHIP                          | 100PF 5% 50V    | JR8      | 1-216-296-00 | SHORT                        | 0                |
| C704     | 1-163-099-00 | CERAMIC CHIP                          | 18PF 5% 50V     | JR9      | 1-216-295-00 | SHORT                        | 0                |
| C705     | 1-163-099-00 | CERAMIC CHIP                          | 18PF 5% 50V     | JR10     | 1-216-295-00 | SHORT                        | 0                |
| C706     | 1-163-038-00 | CERAMIC CHIP                          | 0.1uF 25V       | JR11     | 1-216-295-00 | SHORT                        | 0                |
| C707     | 1-163-038-00 | CERAMIC CHIP                          | 0.1uF 25V       | JR13     | 1-216-296-00 | SHORT                        | 0                |
| C708     | 1-163-117-00 | CERAMIC CHIP                          | 100PF 5% 50V    |          |              |                              |                  |
| C750     | 1-163-125-00 | CERAMIC CHIP                          | 220PF 5% 50V    | JR15     | 1-216-296-00 | SHORT                        | 0                |
| C751     | 1-164-232-11 | CERAMIC CHIP                          | 0.01uF 50V      | JR16     | 1-216-296-00 | SHORT                        | 0                |
|          |              | < CONNECTOR >                         |                 | JR19     | 1-216-296-00 | SHORT                        | 0                |
| CNP300   | 1-764-617-12 | PIN, CONNECTOR (PC BOARD) 30P         |                 | JR25     | 1-216-296-00 | SHORT                        | 0                |
| CNP501   | 1-774-701-11 | PIN, CONNECTOR 16P                    |                 |          |              | < COIL >                     |                  |
| CNP700   | 1-764-422-11 | PLUG, CONNECTOR 12P                   |                 |          |              |                              |                  |
|          |              | < DIODE >                             |                 | L300     | 1-410-521-11 | INDUCTOR                     | 100uH            |
| D400     | 8-719-109-71 | DIODE RD3.9ES-B1                      |                 | L400     | 1-216-295-00 | SHORT                        | 0                |
| D403     | 8-719-200-82 | DIODE 11ES2                           |                 | L601     | 1-410-521-11 | INDUCTOR                     | 100uH            |
| D404     | 8-719-200-82 | DIODE 11ES2                           |                 | L700     | 1-410-513-11 | INDUCTOR                     | 22uH             |
| D411     | 8-719-991-33 | DIODE 1SS133T-77                      |                 | L801     | 1-411-823-21 | INDUCTOR                     | 0uH              |
| D501     | 8-719-923-91 | DIODE MTZJ-T-77-16A                   |                 |          |              | < JACK >                     |                  |
|          |              |                                       |                 | PJ400    | 1-764-424-11 | JACK, PIN 2P (LINE OUT REAR) |                  |
| D502     | 8-719-109-97 | DIODE RD6.8ES-B2                      |                 |          |              | < TRANSISTOR >               |                  |
| D503     | 8-719-109-93 | DIODE RD6.2ESB2                       |                 |          |              |                              |                  |
| D504     | 8-719-109-93 | DIODE RD6.2ESB2                       |                 | Q101     | 8-729-920-21 | TRANSISTOR                   | DTC314TKH04      |
| D505     | 8-719-991-33 | DIODE 1SS133T-77                      |                 | Q102     | 8-729-920-21 | TRANSISTOR                   | DTC314TKH04      |
| D506     | 8-719-991-33 | DIODE 1SS133T-77                      |                 | Q201     | 8-729-920-21 | TRANSISTOR                   | DTC314TKH04      |
|          |              |                                       |                 | Q202     | 8-729-920-21 | TRANSISTOR                   | DTC314TKH04      |
| D508     | 8-719-991-33 | DIODE 1SS133T-77                      |                 | Q404     | 8-729-901-05 | TRANSISTOR                   | DTA124EK         |
| D509     | 8-719-929-15 | DIODE MTZJ-T-77-9.1B                  |                 |          |              |                              |                  |
| D511     | 8-719-109-89 | DIODE RD5.6ESB2                       |                 | Q405     | 8-729-027-52 | TRANSISTOR                   | DTC124EKA-T146   |
| D513     | 8-719-989-62 | DIODE RL254                           |                 | Q501     | 8-729-822-84 | TRANSISTOR                   | 2SB1202FAST      |
| D516     | 8-719-991-33 | DIODE 1SS133T-77                      |                 | Q503     | 8-729-027-43 | TRANSISTOR                   | DTC114EKA-T146   |
|          |              |                                       |                 | Q504     | 8-729-620-06 | TRANSISTOR                   | 2SC3052-EF       |
| D518     | 8-719-929-15 | DIODE MTZJ-T-77-9.1B                  |                 | Q505     | 8-729-620-06 | TRANSISTOR                   | 2SC3052-EF       |
| D519     | 8-719-200-82 | DIODE 11ES2                           |                 |          |              |                              |                  |
| D703     | 8-719-991-33 | DIODE 1SS133T-77                      |                 | Q507     | 8-729-901-05 | TRANSISTOR                   | DTA124EK         |
| D704     | 8-719-991-33 | DIODE 1SS133T-77                      |                 | Q508     | 8-729-920-85 | TRANSISTOR                   | 2SD1664-QR       |
| D705     | 8-719-991-33 | DIODE 1SS133T-77                      |                 | Q509     | 8-729-026-49 | TRANSISTOR                   | 2SA1037AK-T146-R |
|          |              |                                       |                 | Q510     | 8-729-120-28 | TRANSISTOR                   | 2SC1623-L5L6     |
| D706     | 8-719-991-33 | DIODE 1SS133T-77                      |                 | Q511     | 8-729-422-29 | TRANSISTOR                   | 2SD601A-S        |
| D709     | 8-719-109-93 | DIODE RD6.2ESB2                       |                 |          |              |                              |                  |
| D710     | 8-719-991-33 | DIODE 1SS133T-77                      |                 | Q512     | 8-729-422-87 | TRANSISTOR                   | 2SB1073-R        |
| D711     | 8-719-109-93 | DIODE RD6.2ESB2                       |                 | Q513     | 8-729-027-43 | TRANSISTOR                   | DTC114EKA-T146   |
| D712     | 8-719-109-93 | DIODE RD6.2ESB2                       |                 | Q515     | 8-729-015-11 | TRANSISTOR                   | 2SD1802FAST-TL   |
|          |              |                                       |                 | Q520     | 8-729-019-00 | TRANSISTOR                   | 2SD2394-G        |
| D713     | 8-719-109-93 | DIODE RD6.2ESB2                       |                 | Q522     | 8-729-027-52 | TRANSISTOR                   | DTC124EKA-T146   |
| D714     | 8-719-109-93 | DIODE RD6.2ESB2                       |                 |          |              |                              |                  |
| D715     | 8-719-109-93 | DIODE RD6.2ESB2                       |                 | Q528     | 8-729-027-43 | TRANSISTOR                   | DTC114EKA-T146   |
| D716     | 8-719-109-93 | DIODE RD6.2ESB2                       |                 | Q529     | 8-729-015-11 | TRANSISTOR                   | 2SD1802FAST-TL   |
| D717     | 8-719-109-93 | DIODE RD6.2ESB2                       |                 | Q600     | 8-729-620-06 | TRANSISTOR                   | 2SC3052-EF       |
|          |              |                                       |                 | Q601     | 8-729-620-06 | TRANSISTOR                   | 2SC3052-EF       |
| D718     | 8-719-109-93 | DIODE RD6.2ESB2                       |                 | Q603     | 8-729-120-28 | TRANSISTOR                   | 2SC1623-L5L6     |
| D900     | 8-719-991-33 | DIODE 1SS133T-77                      |                 |          |              |                              |                  |
|          |              | < FUSE >                              |                 | Q704     | 8-729-901-05 | TRANSISTOR                   | DTA124EK         |
| F501     | 1-533-331-11 | FUSE (BLADE TYPE)(AUTO FUSE)(15A/32V) |                 |          |              | < RESISTOR >                 |                  |
|          |              |                                       |                 |          |              |                              |                  |
|          |              |                                       |                 | R101     | 1-216-049-11 | RES, CHIP                    | 1K 5% 1/10W      |

| Ref. No. | Part No.     | Description |      |    | Remark | Ref. No.   | Part No.     | Description             |      |    | Remark |
|----------|--------------|-------------|------|----|--------|------------|--------------|-------------------------|------|----|--------|
| R102     | 1-216-073-00 | METAL CHIP  | 10K  | 5% | 1/10W  | R517       | 1-216-061-00 | METAL CHIP              | 3.3K | 5% | 1/10W  |
| R103     | 1-216-065-00 | RES, CHIP   | 4.7K | 5% | 1/10W  | R518       | 1-216-081-00 | METAL CHIP              | 22K  | 5% | 1/10W  |
| R104     | 1-216-065-00 | RES, CHIP   | 4.7K | 5% | 1/10W  | R519       | 1-216-081-00 | METAL CHIP              | 22K  | 5% | 1/10W  |
| R105     | 1-216-065-00 | RES, CHIP   | 4.7K | 5% | 1/10W  | R520       | 1-216-073-00 | METAL CHIP              | 10K  | 5% | 1/10W  |
| R106     | 1-216-041-00 | METAL CHIP  | 470  | 5% | 1/10W  | R521       | 1-216-105-00 | RES, CHIP               | 220K | 5% | 1/10W  |
| R107     | 1-216-041-00 | METAL CHIP  | 470  | 5% | 1/10W  | R522       | 1-216-049-11 | RES, CHIP               | 1K   | 5% | 1/10W  |
| R108     | 1-216-224-00 | RES, CHIP   | 12K  | 5% | 1/8W   | R523       | 1-216-057-00 | METAL CHIP              | 2.2K | 5% | 1/10W  |
| R109     | 1-216-075-00 | METAL CHIP  | 12K  | 5% | 1/10W  | R524       | 1-216-073-00 | METAL CHIP              | 10K  | 5% | 1/10W  |
| R110     | 1-216-129-00 | METAL CHIP  | 2.2M | 5% | 1/10W  | R525       | 1-216-041-00 | METAL CHIP              | 470  | 5% | 1/10W  |
| R111     | 1-216-129-00 | METAL CHIP  | 2.2M | 5% | 1/10W  | R527       | 1-216-049-11 | RES, CHIP               | 1K   | 5% | 1/10W  |
| R112     | 1-216-077-00 | METAL CHIP  | 15K  | 5% | 1/10W  | R528       | 1-216-049-11 | RES, CHIP               | 1K   | 5% | 1/10W  |
| R113     | 1-216-226-00 | RES, CHIP   | 15K  | 5% | 1/8W   | R529       | 1-216-182-00 | RES, CHIP               | 220  | 5% | 1/8W   |
| R121     | 1-216-055-00 | METAL CHIP  | 1.8K | 5% | 1/10W  | R538       | 1-216-068-00 | METAL CHIP              | 6.2K | 5% | 1/10W  |
| R122     | 1-216-073-00 | METAL CHIP  | 10K  | 5% | 1/10W  | R614       | 1-216-073-00 | METAL CHIP              | 10K  | 5% | 1/10W  |
| R123     | 1-216-079-00 | METAL CHIP  | 18K  | 5% | 1/10W  | R615       | 1-216-053-00 | METAL CHIP              | 1.5K | 5% | 1/10W  |
| R124     | 1-216-085-00 | METAL CHIP  | 33K  | 5% | 1/10W  | R616       | 1-216-061-00 | METAL CHIP              | 3.3K | 5% | 1/10W  |
| R129     | 1-216-061-00 | METAL CHIP  | 3.3K | 5% | 1/10W  | R617       | 1-216-049-11 | RES, CHIP               | 1K   | 5% | 1/10W  |
| R130     | 1-216-097-00 | RES, CHIP   | 100K | 5% | 1/10W  | R618       | 1-216-061-00 | METAL CHIP              | 3.3K | 5% | 1/10W  |
| R201     | 1-216-049-11 | RES, CHIP   | 1K   | 5% | 1/10W  | R619       | 1-216-121-00 | RES, CHIP               | 1M   | 5% | 1/10W  |
| R202     | 1-216-073-00 | METAL CHIP  | 10K  | 5% | 1/10W  | R620       | 1-249-421-11 | CARBON                  | 2.2K | 5% | 1/4W   |
| R203     | 1-216-065-00 | RES, CHIP   | 4.7K | 5% | 1/10W  | R622       | 1-216-065-00 | RES, CHIP               | 4.7K | 5% | 1/10W  |
| R204     | 1-216-214-00 | RES, CHIP   | 4.7K | 5% | 1/8W   | R623       | 1-216-069-00 | METAL CHIP              | 6.8K | 5% | 1/10W  |
| R205     | 1-216-214-00 | RES, CHIP   | 4.7K | 5% | 1/8W   | R624       | 1-216-049-11 | RES, CHIP               | 1K   | 5% | 1/10W  |
| R206     | 1-216-190-00 | RES, CHIP   | 470  | 5% | 1/8W   | R702       | 1-216-049-11 | RES, CHIP               | 1K   | 5% | 1/10W  |
| R207     | 1-216-041-00 | METAL CHIP  | 470  | 5% | 1/10W  | R704       | 1-216-073-00 | METAL CHIP              | 10K  | 5% | 1/10W  |
| R208     | 1-216-075-00 | METAL CHIP  | 12K  | 5% | 1/10W  | R708       | 1-216-073-00 | METAL CHIP              | 10K  | 5% | 1/10W  |
| R209     | 1-216-075-00 | METAL CHIP  | 12K  | 5% | 1/10W  | R709       | 1-216-073-00 | METAL CHIP              | 10K  | 5% | 1/10W  |
| R210     | 1-216-129-00 | METAL CHIP  | 2.2M | 5% | 1/10W  | R710       | 1-216-051-00 | METAL CHIP              | 1.2K | 5% | 1/10W  |
| R211     | 1-216-129-00 | METAL CHIP  | 2.2M | 5% | 1/10W  | R712       | 1-216-073-00 | METAL CHIP              | 10K  | 5% | 1/10W  |
| R212     | 1-216-077-00 | METAL CHIP  | 15K  | 5% | 1/10W  | R713       | 1-216-073-00 | METAL CHIP              | 10K  | 5% | 1/10W  |
| R213     | 1-216-077-00 | METAL CHIP  | 15K  | 5% | 1/10W  | R714       | 1-216-073-00 | METAL CHIP              | 10K  | 5% | 1/10W  |
| R221     | 1-216-055-00 | METAL CHIP  | 1.8K | 5% | 1/10W  | R718       | 1-216-238-00 | RES, CHIP               | 47K  | 5% | 1/8W   |
| R222     | 1-216-073-00 | METAL CHIP  | 10K  | 5% | 1/10W  | R719       | 1-216-051-00 | METAL CHIP              | 1.2K | 5% | 1/10W  |
| R223     | 1-216-079-00 | METAL CHIP  | 18K  | 5% | 1/10W  | R720       | 1-216-089-00 | RES, CHIP               | 47K  | 5% | 1/10W  |
| R224     | 1-216-085-00 | METAL CHIP  | 33K  | 5% | 1/10W  | R721       | 1-216-053-00 | METAL CHIP              | 1.5K | 5% | 1/10W  |
| R229     | 1-216-061-00 | METAL CHIP  | 3.3K | 5% | 1/10W  | R722       | 1-216-053-00 | METAL CHIP              | 1.5K | 5% | 1/10W  |
| R230     | 1-216-097-00 | RES, CHIP   | 100K | 5% | 1/10W  | R723       | 1-216-202-00 | RES, CHIP               | 1.5K | 5% | 1/8W   |
| R300     | 1-216-001-00 | METAL CHIP  | 10   | 5% | 1/10W  | R724       | 1-216-049-11 | RES, CHIP               | 1K   | 5% | 1/10W  |
| R302     | 1-247-807-31 | CARBON      | 100  | 5% | 1/4W   | R725       | 1-216-049-11 | RES, CHIP               | 1K   | 5% | 1/10W  |
| R303     | 1-247-807-31 | CARBON      | 100  | 5% | 1/4W   | R726       | 1-216-049-11 | RES, CHIP               | 1K   | 5% | 1/10W  |
| R304     | 1-247-807-31 | CARBON      | 100  | 5% | 1/4W   | R727       | 1-216-049-11 | RES, CHIP               | 1K   | 5% | 1/10W  |
| R305     | 1-216-017-00 | RES, CHIP   | 47   | 5% | 1/10W  | R728       | 1-216-081-00 | METAL CHIP              | 22K  | 5% | 1/10W  |
| R306     | 1-249-411-11 | CARBON      | 330  | 5% | 1/4W   | R729       | 1-247-903-00 | CARBON                  | 1M   | 5% | 1/4W   |
| R308     | 1-216-176-11 | RES, CHIP   | 120  | 5% | 1/8W   | R730       | 1-216-089-00 | RES, CHIP               | 47K  | 5% | 1/10W  |
| R313     | 1-216-033-00 | METAL CHIP  | 220  | 5% | 1/10W  | R732       | 1-216-295-00 | SHORT                   | 0    |    |        |
| R401     | 1-216-113-00 | METAL CHIP  | 470K | 5% | 1/10W  | R733       | 1-216-295-00 | SHORT                   | 0    |    |        |
| R411     | 1-216-049-11 | RES, CHIP   | 1K   | 5% | 1/10W  | R735       | 1-216-089-00 | RES, CHIP               | 47K  | 5% | 1/10W  |
| R416     | 1-216-089-00 | RES, CHIP   | 47K  | 5% | 1/10W  | R736       | 1-216-057-00 | METAL CHIP              | 2.2K | 5% | 1/10W  |
| R502     | 1-216-049-11 | RES, CHIP   | 1K   | 5% | 1/10W  | R737       | 1-216-057-00 | METAL CHIP              | 2.2K | 5% | 1/10W  |
| R503     | 1-216-206-00 | RES, CHIP   | 2.2K | 5% | 1/8W   | R738       | 1-216-057-00 | METAL CHIP              | 2.2K | 5% | 1/10W  |
| R505     | 1-216-073-00 | METAL CHIP  | 10K  | 5% | 1/10W  | R739       | 1-216-057-00 | METAL CHIP              | 2.2K | 5% | 1/10W  |
| R507     | 1-249-435-11 | CARBON      | 33K  | 5% | 1/4W   | R900       | 1-216-065-00 | RES, CHIP               | 4.7K | 5% | 1/10W  |
| R508     | 1-216-080-00 | METAL CHIP  | 20K  | 5% | 1/10W  | R901       | 1-216-246-00 | RES, CHIP               | 100K | 5% | 1/8W   |
| R509     | 1-216-079-00 | METAL CHIP  | 18K  | 5% | 1/10W  | < SWITCH > |              |                         |      |    |        |
| R510     | 1-216-067-00 | METAL CHIP  | 5.6K | 5% | 1/10W  | SW701      | 1-762-638-11 | SWITCH, TACTILE (RESET) |      |    |        |
| R511     | 1-216-105-00 | RES, CHIP   | 220K | 5% | 1/10W  |            |              |                         |      |    |        |
| R512     | 1-216-089-00 | RES, CHIP   | 47K  | 5% | 1/10W  |            |              |                         |      |    |        |
| R516     | 1-216-005-00 | METAL CHIP  | 15   | 5% | 1/10W  |            |              |                         |      |    |        |

MAIN

| <u>Ref. No.</u> | <u>Part No.</u> | <u>Description</u>            | <u>Remark</u> |
|-----------------|-----------------|-------------------------------|---------------|
|                 |                 | < THERMISTOR >                |               |
| TH500           | 1-809-148-11    | THERMISTOR PTH8L07AR2R0M1B510 |               |
|                 |                 | < TUNER >                     |               |
| TU101           | A-3309-002-A    | TUNER UNIT                    |               |
|                 |                 | < VIBRATOR >                  |               |
| X300            | 1-760-793-11    | VIBRATOR, CERAMIC (16.93MHz)  |               |
| X700            | 1-760-223-11    | VIBRATOR, CRYSTAL (4.5MHz)    |               |

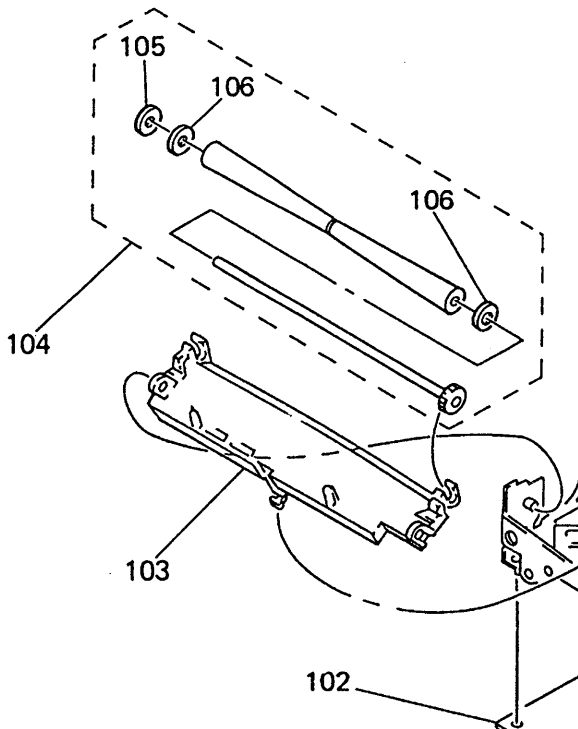
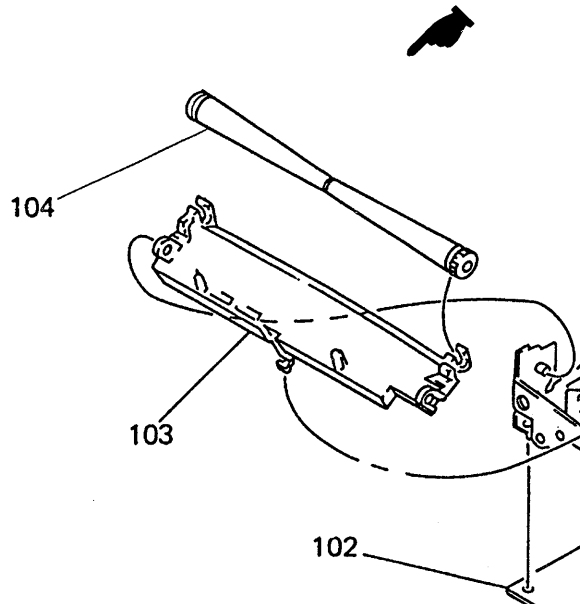
## SONY SERVICE MANUAL

US Model  
Canadian Model

### 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)

**SONY®**

*US Model  
Canadian Model*

## SERVICE MANUAL

### 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> |
| 45   | 501        | 3-931-986-11    | FRAME, FITTING     | 501        | <u>3-931-986-41</u>  | FRAME, FITTING     |

(ENG-97010)