

# PS-LX110/LX295

## SERVICE MANUAL

*US Model*

REVISED

- PS-LX295: This set is the turntable system section in SEN-390.
- The model PS-LX110/LX295 is almost the same as the model PS-LX100/LX285 previously produced. Therefore, see the PS-LX100/LX285 service manual for the information not contained in this service manual.

### PARTS LIST (The difference between PS-LX100/LX285 and PS-LX110/LX295)

| Page | Part No.       |                |                |                | Description         |
|------|----------------|----------------|----------------|----------------|---------------------|
|      | PS-LX100       | PS-LX285       | PS-LX110       | PS-LX295       |                     |
| 8    | * 4-896-283-01 | * 4-896-282-01 | * 4-896-349-01 | * 4-896-350-01 | LABEL, MODEL NUMBER |
|      | * 4-896-330-01 | * 4-896-300-01 | * 4-896-353-01 | * 4-896-352-01 | CABINET, MAIN       |
|      | * 4-896-319-01 | —              | * 4-896-354-01 | * 4-896-355-01 | INDIVIDUAL CARTON   |
|      | 3-786-002-21   | —              | 3-750-147-21   | —              | MANUAL, INSTRUCTION |

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

STEREO TURNTABLE SYSTEM  
**SONY**®

# PS-LX100/LX285

## SERVICE MANUAL

*US Model  
Canadian Model  
AEP Model  
UK Model  
E Model*  
PS-LX100

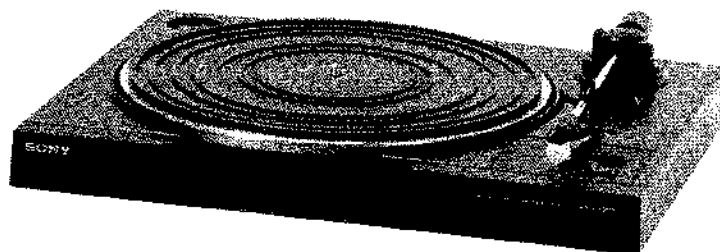


Photo: PS-LX285.

*US Model  
Canadian Model  
E Model  
Italian Model*  
PS-LX285

PS-LX285: This set is the turntable system section in SEN 280.

### SPECIFICATIONS

#### Turntable

|                       |  |
|-----------------------|--|
| Platter               | 30cm (12 in.)<br>US model: Plastics<br>Others: aluminium-alloy diecast |
| Motor                 | DC servo motor   |
| Drive system          | Belt-drive   |
| Speed                 | 33 1/3 rpm, 45 rpm   |
| Signal-to-noise ratio | 65dB (DIN-B)   |
| Automatic system      | Return, reject   |
| Tonearm type          | Statically balanced  |



#### Cartridge

|            |   |
|------------|---|
| Type       | Moving magnet type  |
| Stylus     | Sony ND-155G (0.6 mil diamond)  |
| Dimensions | US model:<br>Approx. 430x95x350mm (w/h/d)<br>(17x3 3/4 x 13 7/8 inches)<br>Others model:<br>Approx. 430x105x350mm (w/h/d)<br>(17x4 1/4 x 13 7/8 inches) |
| Weight     | US model:<br>Approx. 2.5 kg (5lb 9oz) net<br>Others model:<br>Approx. 3.3 kg (7lb 5oz) net  |


#### Power Requirement (PS-LX100 model only)

|                     |   |
|---------------------|---|
| US, Canadian model: | 120V AC, 60Hz                                 |
| AEP model:          | 220V AC, 50/60Hz                              |
| UK model:           | 240V AC, 50/60Hz                              |
| E model:            | 110-120 or 220-240V AC<br>adjustable, 50/60Hz |

#### SAFETY-RELATED COMPONENT WARNING!!

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

#### ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

LES COMPOSANTS IDENTIFIÉS PAR UNE MARQUE  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.



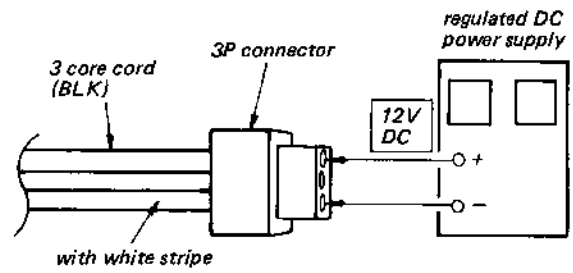
STEREO TURNTABLE SYSTEM  
**SONY**®

LX285 Model only

**REPAIRING PRECAUTION**

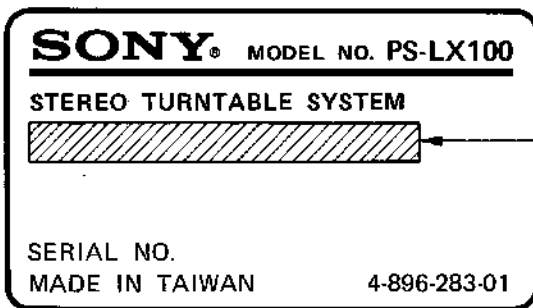
[To supply B+ voltage]

The power of this unit is fed from TA-AX285. Because of this, connect the regulated power supply as illustrated right when this unit alone operates.



**MODEL IDENTIFICATION**

— Specification Label —



PS-LX100 Model only:

- US, Canadian model: AC 120V 60Hz 4W
- AEP model: AC 220V 50/60Hz 2W
- UK model: AC 240V 50/60Hz 2W
- E model: AC 110 – 120/220 – 240V 50/60Hz 4W

PS-LX100 Model only

**SAFETY CHECK-OUT (US, Canadian Model)**

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

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

**LEAKAGE TEST**

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

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

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

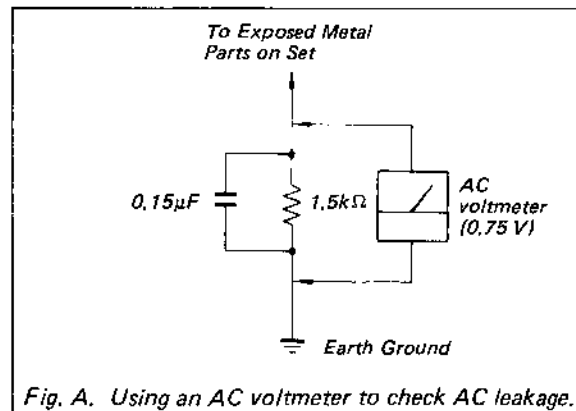
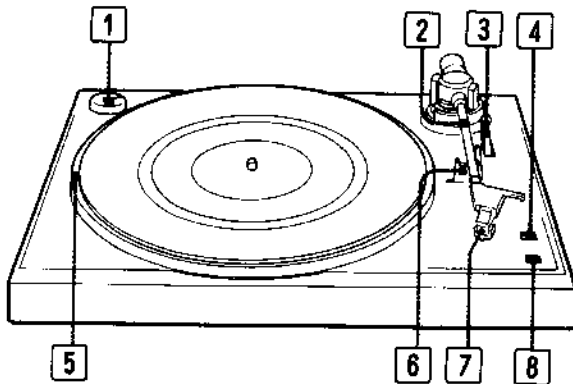


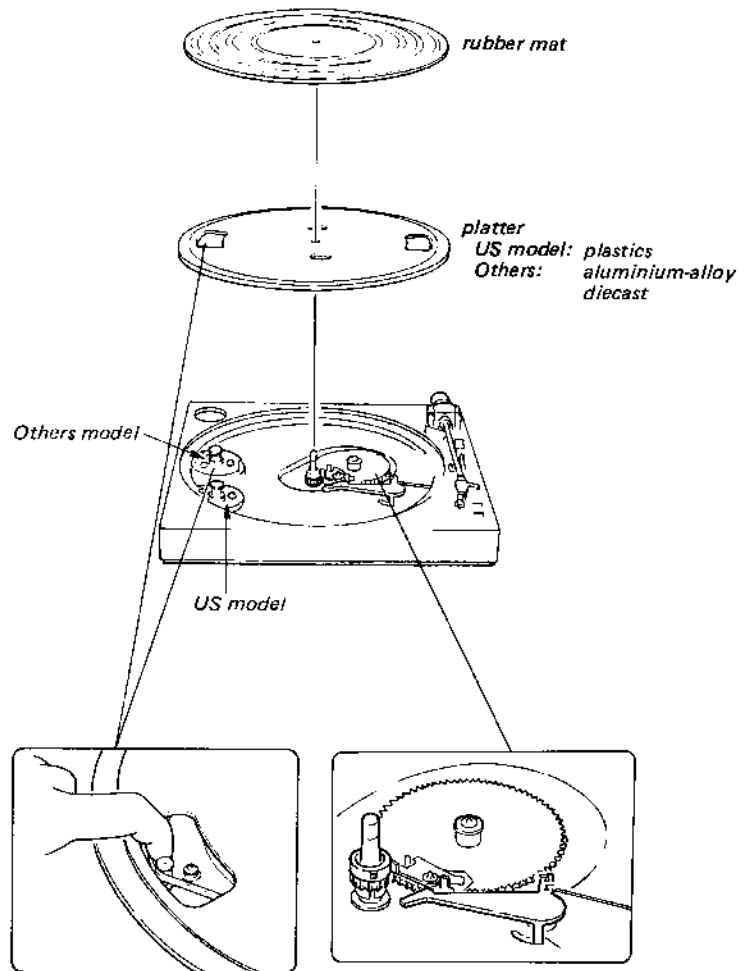
Fig. A. Using an AC voltmeter to check AC leakage.

LOCATION AND FUNCTION OF CONTROLS



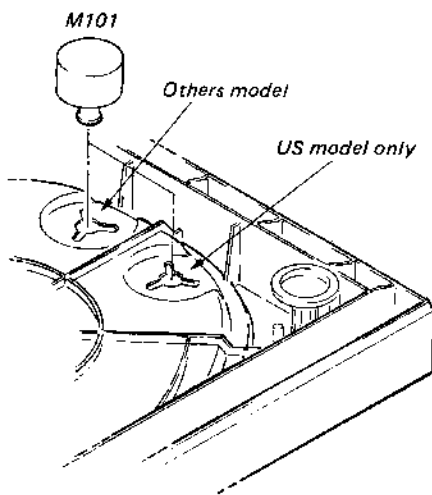
- 1** 45-rpm adaptor
- 2** Tonearm
- 3**  $\nabla/\nabla$  (cueing) lever  
Used to lift or lower the tonearm.
- 4** REJECT button  
To stop during play, press this button.
- 5** Turntable platter
- 6** Arm rest
- 7** Cartridge
- 8** SPEED selector  
For 45-rpm records, depress the selector. For 33-rpm records, press it again.

TURNTABLE ASSEMBLY



Hook the belt on the motor pulley.  
If the belt come off from the platter, replace it with the glossy side outward.

SERVICING NOTE



## SECTION 1 ADJUSTMENTS

### Speed Adjustment

**Note:** Be sure to perform 33-rpm adjustment before 45-rpm.

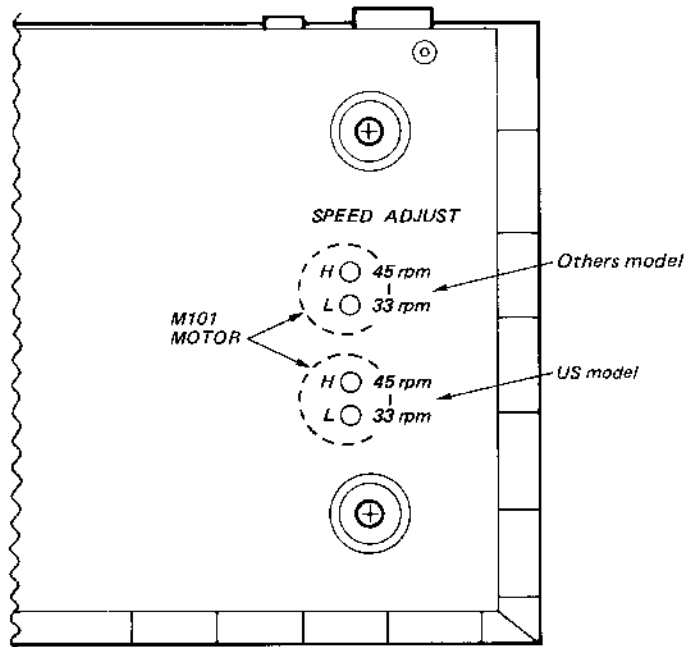
#### — Using a stroboscope board —

1. Put a stroboscope board on the mat.
2. Set the SPEED switch to 33.  
Depress the lifter knob to make a lift-up mode and move the arm above to the outer most groove of a record.  
Adjust M101(L) so that the striped pattern of stroboscope board is stationary.
3. Set the SPEED switch to 45.  
Adjust M101(H) in the same way.

#### — Using a test record —

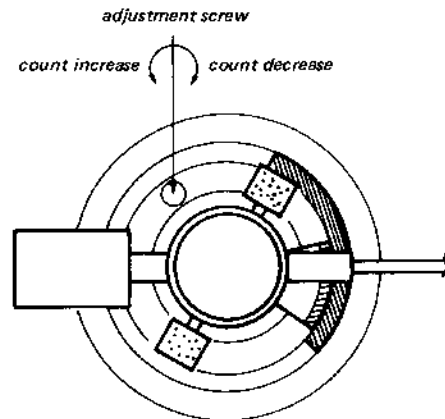
1. Put a test record (YFSC-16) on the mat.
2. Move the arm onto a-a-2 (3kHz) section and trace it.
3. Adjust M101(L) so that the frequency is 2,991 – 3,009 Hz.
4. Set the SPEED switch to 45.  
Adjust M101(H) so that the frequency is 4,038 – 4,062 Hz.

#### Adjustment Location:



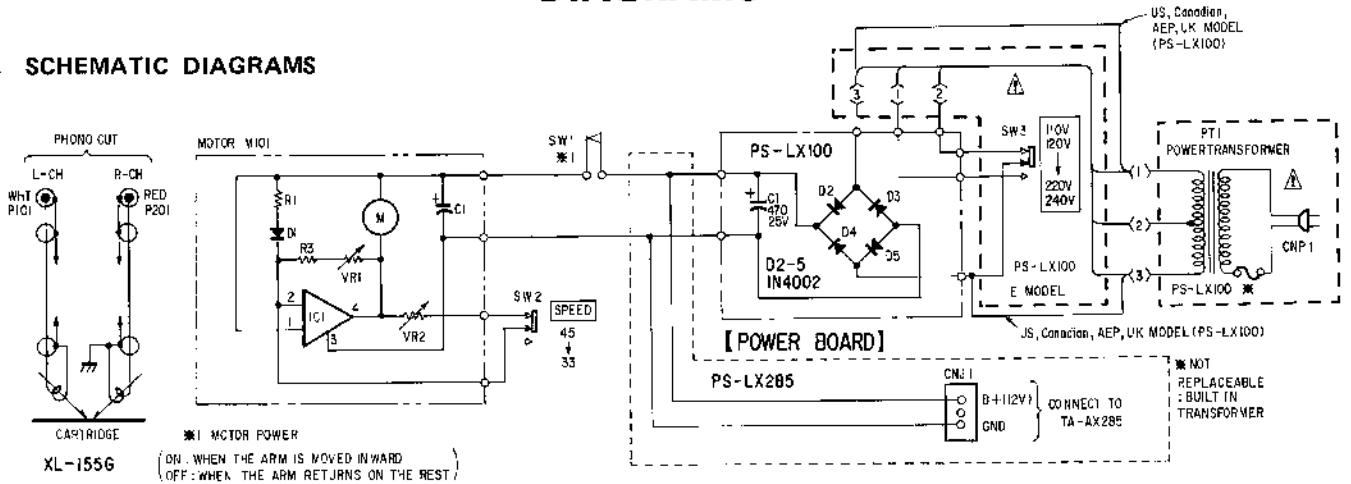
### Automatic Return Position Adjustment

1. Put a test record (YFSC-16) on the mat.
2. Set the SPEED switch to 33 and move the tonearm on a return check groove.
3. Turn the Adjustment screw so that the tonearm starts to return at count of 4 – 10.



## SECTION 2 DIAGRAMS

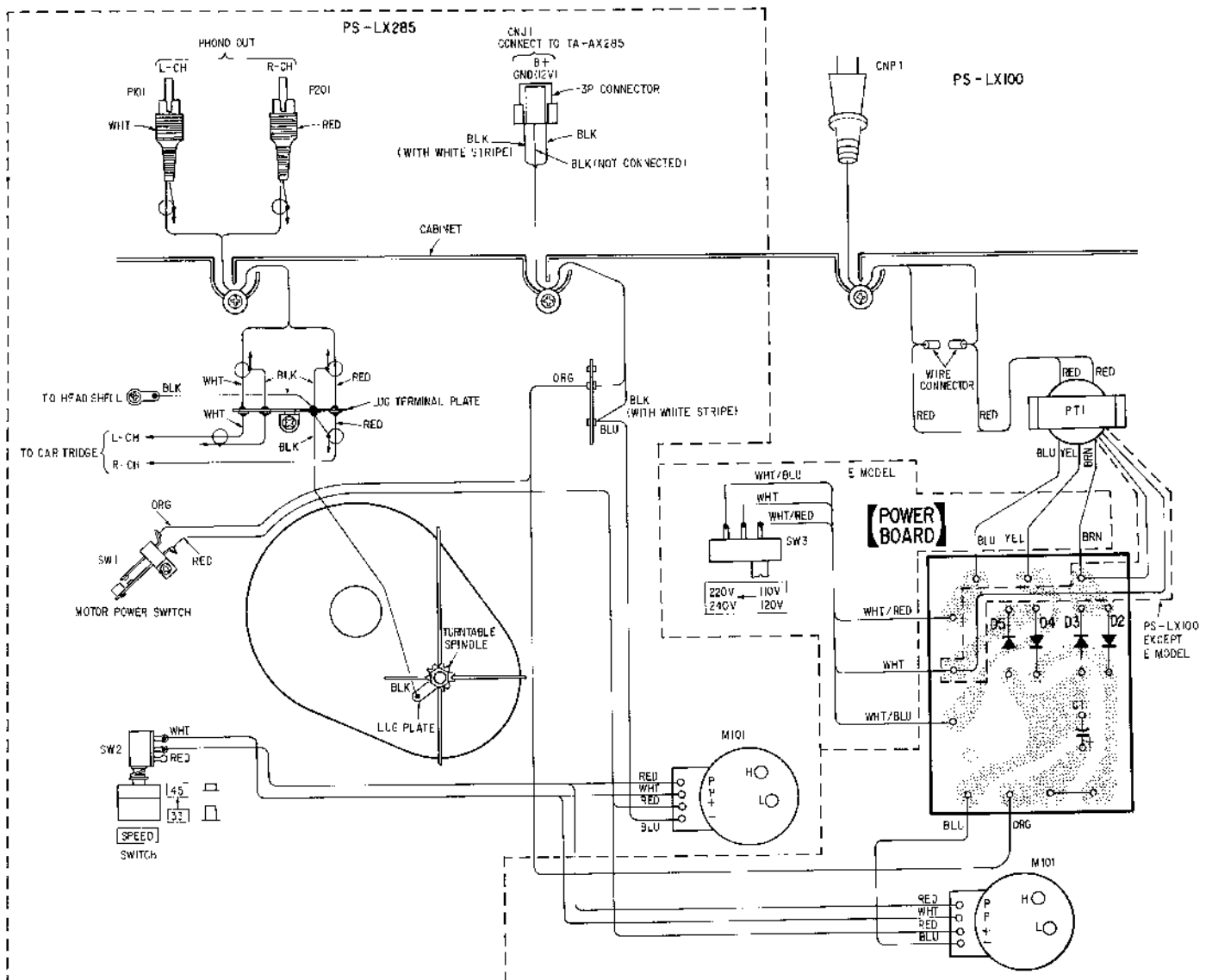
### 2-1. SCHEMATIC DIAGRAMS



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

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

### 2-2. PRINTED WIRING BOARDS



## SECTION 3 EXPLODED VIEW AND PARTS LIST

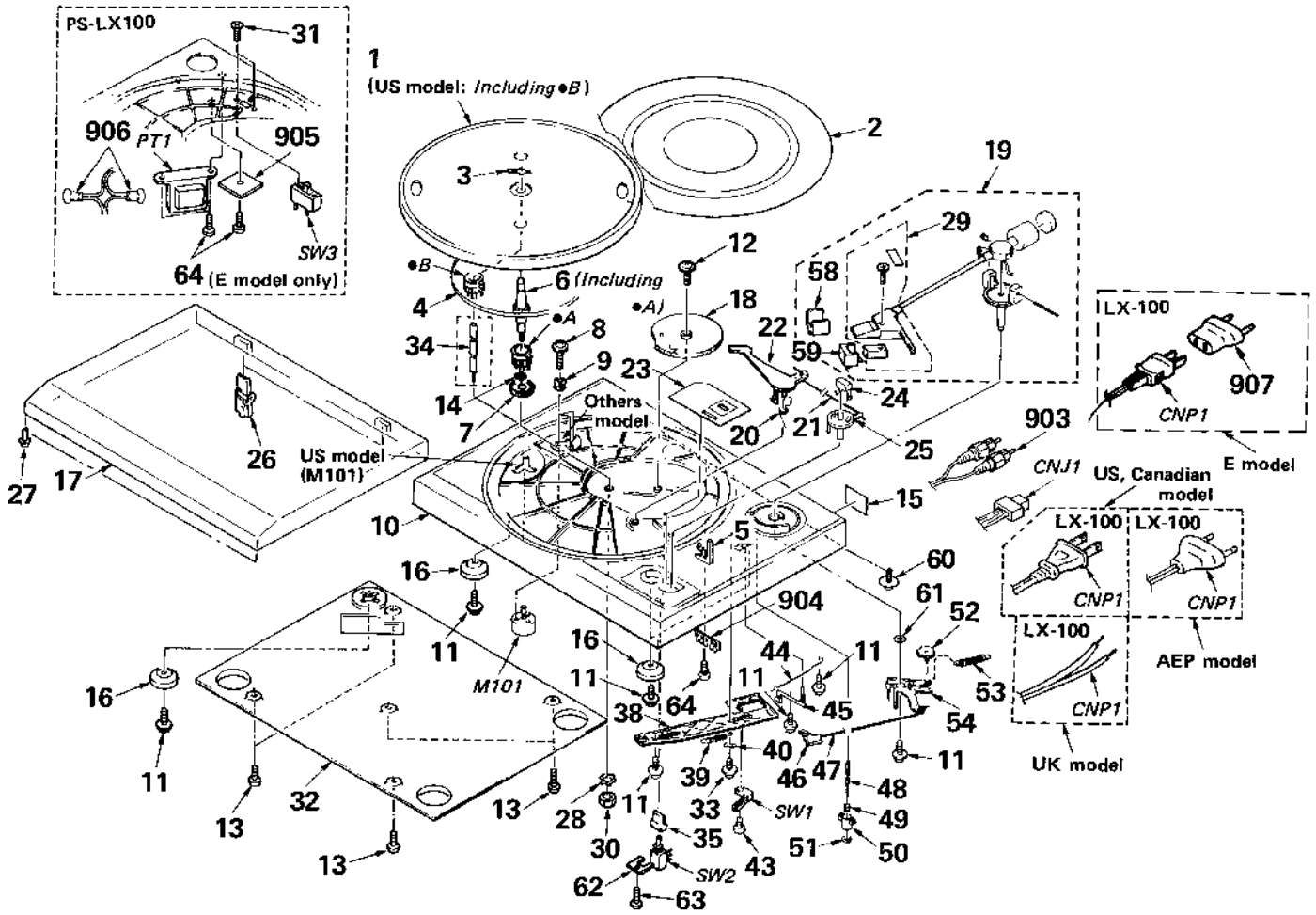
**NOTE:**

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

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

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

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



Note IT: Italian

| No. | Part No.                       | Description  | Remarks |
|-----|--------------------------------|--|---------|
| 1   | 4-909-060-01<br>4-895-491-01   | TURNTABLE<br>(US)...TURNTABLE, GEAR  |         |
| 2   | 4-877-807-11<br>4-895-496-01   | SHEET, TURNTABLE<br>(US)...MAT, TURNTABLE  |         |
| 3   | 4-895-490-01                   | (US)...CLIP, SPINDLE   |         |
| 4   | 4-895-492-01                   | BELT   |         |
| 5   | *4-896-298-01                  | REST, ARM  |         |
| 6   | 4-895-830-01                   | (EXCEPT US)...SPINDLE ASSY   |         |
| 7   | *4-895-404-01                  | SPINDLE WASHER   |         |
| 8   | 4-895-413-01                   | SCREW  |         |
| 9   | 4-895-414-01                   | GROMMET (A)  |         |
| 10  | *4-896-300-01<br>*4-896-330-01 | (LX285)...CABINET, MAIN<br>(LX100)...CABINET, MAIN   |         |
| 11  | 4-895-430-01                   | SCREW (7-BID 3008 ZN3A 12D)  |         |
| 12  | 4-896-294-01                   | SCREW (7-BID 3006 ZN3A 10D)  |         |
| 13  | 7-685-647-79                   | SCREW +BTP 3X10 TYPE2 N-S  |         |
| 14  | 4-895-024-01                   | (LX100,LX285:US)...POLY WASHER   |         |
| 15  | *4-896-282-01<br>*4-896-283-01 | (LX285).....LABEL, MODEL NUMBER (U2)<br>(LX100:US,Canadian)<br>...LABEL, MODEL NUMBER (U2) |         |
|     | *4-896-284-01                  | (LX100:AE2)...LABEL, MODEL NUMBER (AE2)  |         |
|     | *4-896-285-01                  | (LX100:UK)...LABEL, MODEL NUMBER (UK)  |         |
|     | *4-896-286-01                  | (LX100:E).....LABEL, MODEL NUMBER (E)  |         |
|     | *4-896-287-01                  | (LX100:AE1)...LABEL, MODEL NUMBER (AE1)  |         |
| 16  | 4-895-435-01                   | FOOT   |         |
| 17  | X-4895-412-1                   | (LX100:Canadian,AEP,UK,E,<br>LX285:Canadian,E,IT)...COVER ASSY, DUST                       |         |
| 18  | 4-895-495-01                   | GEAR, CAM, CLUTCH  |         |
| 19  | X-4895-411-1                   | ARM ASSY   |         |
| 20  | 4-895-850-01                   | SPRING, REJECT   |         |
| 21  | *4-895-836-01                  | WIRE, REJECT   |         |
| 22  | *4-895-837-01                  | LEVER, REJECT  |         |
| 23  | 4-896-311-01                   | PANEL, FUNCTION  |         |
| 24  | 4-895-839-01                   | BUTTON, REJECT   |         |
| 25  | *4-895-840-01                  | HOLDER, REJECT   |         |
| 26  | 4-896-321-01                   | (LX100:Canadian,AEP,UK,E,LX285:Canadian,<br>E,IT)...HINGE ASSY                             |         |
| 27  | 4-896-322-01                   | (LX100:Canadian,AEP,UK,E,LX285:Canadian,<br>E,IT)...STOPPER, DUST COVER                    |         |
| 28  | 4-895-443-01                   | W GEAR 0003 ZN3A   |         |
| 29  | 4-896-320-01                   | HEAD ASSY, PU  |         |
| 30  | 4-895-445-01                   | NUT 50 ZN3A  |         |
| 31  | 7-621-773-95                   | (LX100:E)....SCREW +B 2.6X6  |         |
| 32  | *4-896-299-01                  | CABINET, LOWER   |         |

| No.  | Part No.      | Description   | Remarks |
|------|---------------|---|---------|
| 33   | 7-685-648-79  | (LX100)...SCREW +BTP 3X12 TYPE 2                        | N-S     |
| 34   | 4-895-493-01  | (US)...SPINDLE  |         |
| 35   | 4-895-802-01  | BUTTON, SPEED   |         |
| 38   | *4-895-804-01 | ARM, SLIDE  |         |
| 39   | 4-896-302-01  | SPRING, SLIDE   |         |
| 40   | 4-895-807-01  | WASHER  |         |
| 43   | 7-685-104-19  | SCREW +P 2X6 TYPE2 SLIT                                 |         |
| 44   | *4-895-808-01 | ROD, CUE  |         |
| 45   | 4-895-809-01  | LEVER, CUE  |         |
| 46   | *4-896-304-01 | LEVER, TRIP   |         |
| 47   | *4-896-305-01 | ROD, TRIP   |         |
| 48   | *4-895-812-01 | SHAFT, LIFT   |         |
| 49   | 4-895-813-01  | SPRING, LIFT  |         |
| 50   | 4-895-814-01  | FORK, LIFT  |         |
| 51   | 7-624-104-04  | STOP RING 2.0, TYPE -E                                  |         |
| 52   | 4-895-818-01  | CAM, ADJUSTMENT   |         |
| 53   | 4-895-819-01  | SPRING, ADJUSTMENT                                      |         |
| 54   | 4-895-817-01  | LINK, RETURN  |         |
| 58   | 4-895-474-01  | CARTRIDGE COVER   |         |
| 59   | 1-549-132-11  | STYLUS (ND-155D)  |         |
| 60   | 4-896-293-01  | SCREW ASSY  |         |
| 61   | 4-896-296-01  | WASHER, POLYETHYLENE                                    |         |
| 62   | *4-896-297-01 | HOLDER, SWITCH  |         |
| 63   | 7-685-535-19  | SCREW +BTP 2.6X10 TYPE2 N-S                             |         |
| 64   | 7-685-646-79  | SCREW +BTP 3X8 TYPE2 N-S                                |         |
| 903  | 1-558-596-11  | CORD, CONNECTION (P101,P201)                            |         |
| 904  | 7-623-512-01  | LUG TERMINAL 1L4P                                       |         |
| 905  | *4-896-325-01 | (LX100)...PC BOARD, POWER                               |         |
| 906  | *4-896-338-01 | (LX100)...WIRE, CONNECTOR<br>(AC CONNECTION)            |         |
| 907  | *4-896-325-01 | (LX100:E)...AC PLUG ADAPTOR                             |         |
| CNJ1 | 1-558-596-11  | (LX285)...CORD, CONNECTION (3 CORE)<br>(SYSTEM CONTROL) |         |
| CNP1 | *4-896-325-01 | (LX100:US,Canadian)...CORD, POWER                       |         |
| CNP1 | *4-896-325-01 | (LX100:AEP).....CORD, POWER                             |         |
| CNP1 | *4-896-325-01 | (LX100:UK).....CORD, POWER                              |         |
| CNP1 | *4-896-325-01 | (LX100:E).....CORD, POWER                               |         |
| M101 | 4-896-306-01  | CASE, MOTOR   |         |
| PT1  | *4-896-325-01 | (LX100:US,Canadian)...POWER TRANSFORMER                 |         |
| PT1  | *4-896-325-01 | (LX100:AEP).....POWER TRANSFORMER                       |         |
| PT1  | *4-896-325-01 | (LX100:UK).....POWER TRANSFORMER                        |         |
| PT1  | *4-896-325-01 | (LX100:E).....POWER TRANSFORMER                         |         |
| SW1  | 4-896-303-01  | SELECTION, LEAF (POWER)                                 |         |
| SW2  | 4-896-301-01  | SELECTION, PUSH (SPEED 33/45)                           |         |
| SW3  | *4-896-303-01 | (LX100:E)...SLIDE (VOLT SELECTION)                      |         |

**Note:**

The components identified by mark  $\Delta$  or dotted 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.



## SECTION 4 ELECTRICAL PARTS LIST

**NOTE:**

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

**CAPACITORS:**  
MF:  $\mu$ F, PF:  $\mu$  $\mu$ F.

**RESISTORS**  
• All resistors are in ohms.  
• F: nonflammable

**COILS**  
• MMH: mH, UH:  $\mu$ H

**SEMICONDUCTORS**  
In each case, U:  $\mu$ , for example:  
UA...:  $\mu$ A..., UPA...:  $\mu$ PA...,  
UPC...:  $\mu$ PC, UPD...:  $\mu$ PD...

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  |
|---------|------------------------|--|
| 903     | 1-558-595-11           | CORD, CONNECTION (P101,P201)                         |
| 904     | 7-623-512-01           | LUG TERMINAL 1L4P                                    |
| 905     | *4-896-325-01          | (LX100)...PC BOARD, POWER                            |
| 906     | $\Delta$ *4-896-338-01 | (LX100)...WIRE, CONNECTOR (AC CONNECTION)            |
| 907     | $\Delta$ .1-526-565-12 | (LX100:E)...AC PLUG ADAPTOR                          |
| C1      | 1-124-480-51           | (LX100)...ELECT 470MF 25V                            |
| CN1     | 1-558-596-11           | (LX285)...CORD, CONNECTION (3 CORE) (SYSTEM CONTROL) |
| CNP1    | $\Delta$ .1-558-945-11 | (LX100:US,Canadian)...CORD, POWER                    |
| CNP1    | $\Delta$ .1-558-944-11 | (LX100:AEP).....CORD, POWER                          |
| CNP1    | $\Delta$ .1-558-946-11 | (LX100:UK).....CORD, POWER                           |
| CNP1    | $\Delta$ .1-551-472-23 | (LX100:E).....CORD, POWER                            |
| D2      | 8-719-200-02           | (LX100)...DIODE 10E2                                 |
| D3      | 8-719-200-02           | (LX100)...DIODE 10E2                                 |
| D4      | 8-719-200-02           | (LX100)...DIODE 10E2                                 |
| D5      | 8-719-200-02           | (LX100)...DIODE 10E2                                 |
| M101    | 4-896-306-01           | CASE, MOTOR  |
| PT1     | $\Delta$ .1-449-392-11 | (LX100:US,Canadian)...POWER TRANSFORMER              |
| PT1     | $\Delta$ .1-449-393-11 | (LX100:AEP).....POWER TRANSFORMER                    |
| PT1     | $\Delta$ .1-449-394-11 | (LX100:UK).....POWER TRANSFORMER                     |
| PT1     | $\Delta$ .1-449-395-11 | (LX100:E).....POWER TRANSFORMER                      |
| SW1     | 4-896-303-01           | SELECTION, LEAF (POWER)                              |
| SW2     | 4-896-301-01           | SELECTION, PUSH (SPEED 33/45)                        |
| SW3     | $\Delta$ .1-571-083-11 | (LX100:E)...SLIDE (VOLT SELECTION)                   |

**ACCESSORY & PACKING MATERIAL**

|               |  |
|---------------|--|
| 3-550-458-01  | (LX100:E)...LABEL, CAUTION, POWER SELECTOR A         |
| 3-703-450-01  | (LX100:US)...INSTRUCTION                             |
| 3-703-079-21  | (LX100:UK)...LABEL, CAUTION (BACK)                   |
| 3-786-002-11  | (LX100:AEP,UK,E).....MANUAL, INSTRUCTION             |
| 3-786-002-21  | (LX100:US,Canadian)...MANUAL, INSTRUCTION            |
| 3-786-002-31  | (LX100:Canadian).....MANUAL, INSTRUCTION             |
| 3-786-002-41  | (LX100:AEP).....MANUAL, INSTRUCTION                  |
| *4-895-829-01 | PLATE, CONTROL, SPEED                                |
| 4-895-846-01  | POLYETHYLENE BAG                                     |
| 4-895-847-01  | HOLDER, TURNTABLE                                    |
| 4-895-848-01  | PLATE, TOP   |
| 4-895-481-01  | (LX100)...ADAPTOR, 45                                |
| *4-896-307-01 | (LX100:Canadian,AEP,UK,E,LX285:E) ...CUSHION (RIGHT) |
| *4-896-309-01 | (LX100:US,LX285:US)...CUSHION (RIGHT)                |
| *4-896-308-01 | (LX100:Canadian,AEP,UK,E,LX285:E) ...CUSHION (LEFT)  |
| *4-896-310-01 | (LX100:US,LX285:US)...CUSHION (LEFT)                 |


# PS-LX100/285

## SONY<sup>®</sup> SERVICE MANUAL

*US Model  
Canadian Model  
AEP Model  
UK Model  
E Model*

### CORRECTION-1

Correct your service manual as shown below.

 : indicates corrected portion.

|   | INCORRECT       |                 |                    |                 | CORRECT         |                     |                    |                 |
|---|-----------------|-----------------|--------------------|-----------------|-----------------|---------------------|--------------------|-----------------|
|   | <u>Ref. No.</u> | <u>Part No.</u> | <u>Description</u> | <u>Remarks</u>  | <u>Ref. No.</u> | <u>Part No.</u>     | <u>Description</u> | <u>Remarks</u>  |
| 7 | ⋮               | ⋮               | ⋮                  | ⋮               | ⋮               | ⋮                   | ⋮                  | ⋮               |
|   | 905             | 4-896-325-01    | (LX100)...         | PC BOARD, POWER | 905             | <u>4-896-339-01</u> | (LX100)...         | PC BOARD, POWER |