PS-X6/X7
FULL AUTOMATIC STEREO TURNTABLE SYSTEM

US Model
Canadian Model
AEP Model
UK Model
E Model

SPECIFICATIONS

GENERAL
Power Requirements: 120V ac, 60 Hz (US, Canadian model)
110, 120, 220 or 240V ac, 50/60 Hz
(AEP, UK, E model)
Power Consumption: 8W (US, Canadian model)
12W (AEP, UK, E model)
Dimensions: Approx. 445 (w) x 150 (h) x 375 (d) mm
17 1/2 (w) x 5 3/8 (h) x 14 1/4 (d) inches
including projecting parts and controls
Weight: US, Canadian model
Approx. 10.3 kg, 22 lb 12 oz (net)
Approx. 12.1 kg, 26 lb 11 oz (in shipping carton)
AEP, UK, E model
Approx. 10.9 kg, 24 lb (net)
Approx. 12.7 kg, 28 lb (in shipping carton)

TURNTABLE
Platter: 31.7 cm (12 1/2 inches),
aluminum-alloy diecast
Motor: DC servo-controlled motor
(battery and slotless)
Drive System: Direct drive, crys- tals lock control system
Speed: 33 1/3 rpm, 45 rpm
Starting Characteristics: Comes to nominal speed within a third revolution (33 1/3 rpm)

Wow and Flutter: ± 0.045% (DIN)
0.025% (WRMS)
S/N Ratio: 73 dB (DIN-B)
Initial Drift: Within 0.0003%
Load Characteristics: At 150 g tracking force 0%
Speed Deviation: Within 0.003%

TONEMARM
Type: Statically balanced, universal pivot
Pivot to Stylus Length: 216.5 mm, 8 1/2 inches
Overall Arm Length: 300 mm, 11 3/4 inches
Overhang: 16.5 mm, 2 1/32 inches
Tracking Error: ± 3°, -1°
Tracking-force
Adjustment Range: 0–3 g
Shell Weight: 10.5 g
Cartridge Weight Range: 2.5–9.5 g
8–14.5 g (with extra weight)

SAFETY-RELATED COMPONENT WARNING!!
COMPONENTS IDENTIFIED BY SHADING 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.

SONY SERVICE MANUAL
CARTRIDGE (XL-15: E model)
Type: Moving magnet type
Frequency Range: 10—30,000 Hz
Channel Separation: 25 dB at 1 kHz
Output Voltage: 4 mV at 1 kHz, 5 cm/sec. 45°
Load Impedance: 50 kΩ
Tracking Force: 1.2—2.5 g (1.7 g recommended)
Stylus: Sony ND-15G (conical 0.6 mil diamond)
Weight: 5.2 g

MODEL IDENTIFICATION
— Specification Label —

PS-X6: US, Canadian model

SONY STEREO TURNTABLE SYSTEM
MODEL NO. PS-X6
AC 120V 60Hz 8 W
SERIAL NO.
MADE IN JAPAN

PS-X6: AEP, UK, E model

SONY STEREO TURNTABLE SYSTEM
MODEL NO. PS-X6
~ 110. 120. 220. 240V 50/60Hz 12 W
SERIAL NO.
MADE IN JAPAN 4-853-094-01

PS-X7: US, Canadian model

SONY STEREO TURNTABLE SYSTEM
MODEL NO. PS-X7
AC 120V 60Hz 8 W
SERIAL NO.
MADE IN JAPAN

PS-X7: AEP, UK, E model

SONY STEREO TURNTABLE SYSTEM
MODEL NO. PS-X7
~ 110. 120. 220. 240V 50/60Hz 12 W
SERIAL NO.
MADE IN JAPAN 4-853-092-01

— Power Cord of E model —

Euro-plug

Parallel-blade plug
SECTION 1
OUTLINE

1-1. MECHANICAL DESCRIPTION

Automatic Operation Mechanism

Fig. 1-1.
The PS-X6 and PS-X7 are a full-automatic turntable system, which means that the tonearm will move across the record and commence to play, and then return to the arm rest again after the completion of the record, simply by the operation of control buttons. This cycle of operations is performed by the transfer of a series of changes from the main gear cam to the main lever. This series of changes is described below.

Operations During Start of Play

1. The tonearm's horizontal movement

   1. When the metal part of the START/STOP button is touched by the hand, the system control circuit is activated, resulting in the motor commencing to rotate, and current flowing through the solenoid (PM).

   2. With current flowing through the solenoid, the kick lever is pulled in direction ①, resulting in tip A of the kick lever pushing against part B of the sub-gear (L). This sub-gear is thus pushed out in direction ② to engage the center gear mounted on the motor shaft. (See Fig. 1-2.)

   3. Once the revolving center gear engages the sub-gear (L), the main gear will commence to rotate in the counterclockwise direction due to the driving force supplied by the motor. It will stop again in the position shown in Fig. 1-7.

   4. The gear guide axis at the tip of the main lever, is guided by the shaded section of the heart-shaped cam groove located on the main gear, moving across in a curved path ③ to position A. Therefore, the main lever moves in the direction of arrow ④. (See Fig. 1-3.)

   5. At this time, the lead-in lever moves in the direction of arrow ⑤, guided by the lead-in cam which moves together with the main lever. The tip B of the lead-in lever moves to position B, pushing against a pin on the brake drum in the direction of arrow ⑥. And since this brake drum moves in unison with the tonearm, the tonearm will moves across (horizontal movement) in the direction of arrow ⑦. (See Fig. 1-4.)

   Note:
   When current passes through the solenoid, the magnet exerts a force in the direction of the arrow. (Pleming's left hand rule.)
2. Lowering of tonearm onto record
   1. The central axis of the push rod resting against the tonearm lifter is on the position C in STOP mode. (See Fig. 1-5.)
2. During lead-in, the main lever moves across in the direction of arrow 3 (See Fig. 1-3), resulting in the position of the central axis of the push rod moving across as shown by arrow 7. (Fig. 1-5.)

3. The guide-push stops at the position determined by the surface G (Fig. 1-6) of the record size selector cam. The push rod consequently descends to the lower position E of the main lever (Fig. 1-5), resulting in the tonearm lowering onto the surface of the record for the commencement of play.

4. The position where the tonearm lowers (30 cm, 25 cm, 17 cm) is determined by the position of the record size selector cam shown in Fig. 1-6. The guide-push of the lead-in lever moves across in direction of arrow 5 during lead-in, and meets the size selector cam at surface C (for the 30 cm example shown), thus determining the drop point at the outer edge of a 30 cm record. That is, this position determines the distance moved by the lead-in lever, which consequently determines the rotational angle of the brake drum (and of the tonearm as well). With the record size selector knob set to the MANUAL position, the lead-in lever moves a little and the tonearm does not move.

5. The attaching shaft of the guide-push is not positioned at a center of the guide-push and the edge of the record size selector cam is formed a curve, so the fine adjustment of the stylus drop-point can be performed by turning the guide-push.

Operation During Return of Tonearm
   Although the return operation can be activated in 2 different ways, the operation itself is the same.
   - Tonearm made to return during playing of a record by touching the START/STOP button.
   - Automatic return as a result of the tonearm activating the record end detector mechanism (luminous sensor record end detector).
1. While the record is being played, the main gear and main lever are in the positions as shown in Fig. 1-7.
2. If the START/STOP button is touched during play, or if the record finishes playing, the systems control circuit is activated. A current flows through the solenoid (PM), and the kick lever moves in the same way as at the beginning of record play (see Fig. 1-2). This time, however, the sub-gear (R) is pushed back and engaged with the center gear, thus rotating the main gear again in the counterclockwise direction.
3. The gear guide axis at the tip of the main lever is moved across to position F by following the curved path G due to the guiding action
of the shaded portion of the groove in the heart-shaped cam positioned on the main gear. The main lever consequently moves across in the direction of the arrow ⑨ (see Fig. 1-7).

4. At this time, the push rod is forced back up onto the main lever, resulting in the tonearm lifting up from the record surface.

![Fig. 1-7.]

5. The return cam attached to the main lever (see Fig. 1-5) pushes against the pin of the brake drum, forcing the tonearm to move back (horizontally) towards the arm rest.

6. The return operation is completed when the tonearm arrives back at the arm rest. The main gear comes to a stop in the position shown in Fig. 1-3.

Brake Mechanism (Operation of brake lever)

A fixed amount of braking is applied to the brake drum in order to assure smooth travel of the tonearm during both lead-in and return.

Furthermore, a spring is also employed to exert pressure upon the main lever in the direction of arrow ⑩ (see Fig. 1-8), thus keeping the main gear in the stop position. (See Fig. 1-3.)

![Fig. 1-8.]

Record End Detector Mechanism (Luminous Sensor Record End Detector Mechanism)

(see Figs. 1-9 and 1-10)

This record end detector mechanism consists of a lamp, a photo-conductor (CdS), and a shutter connected to the shaft of the tonearm. Changes in position of the shutter (due to the gradual inward movement of the tonearm) results in changes in the amount of light received by the photosensitive element. When the stylus runs in the lead-out groove of the record, the tonearm suddenly moves across by a relatively larger amount, resulting in a sudden increase in the amount of light striking the photosensitive element, exceeding a preset value. An electronic circuit is consequently activated, resulting in current flowing through the solenoid.

![Fig. 1-9.]

![Fig. 1-10.]

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SECTION 2
DISASSEMBLY AND REPLACEMENT

2-1. REMOVAL
Remove the parts in the numerical order.

Cover (top) Removal

1. rubber mat
2. turntable
3. TA, B 3x10
4. cover (top)

Motor Removal

1. PSW 3x14
2. PS 3x6
3. Unsolder nine lead wires of the motor from the servo amp/system control circuit board and remove the motor.
(Refer to the mounting diagram on page 23.)

Power Supply/PLL Circuit Board Removal

1. TA, B 3x10
2. Power supply/PLL circuit board

Bottom Cover Removal

1. insulator
2. bottom cover
3. TA, B 3x10
**PS-X6/X7**

**Serve Amp/System Control Circuit Board Removal**

1. TA, B 3x10
2. servo amp/system control circuit board

3. TA, P 3x30
4. TA, B 3x10

**Control Panel Removal**

5. Control panel, touch switch circuit board, power switch, record size selector lever can be removed.

**Sub-frame Removal**

6. PSW 3x14
7. return switch (S4)

8. PS 3x14
9. TA, B 3x10

10. P 3x8
11. shield plate

12. P 3x8
13. TA, B 3x10

14. servo amp/system control circuit board

15. size selector lever

**Sub-frame**

- sub-frame
- main lever
- kick lever
- solenoid (PM)

**Brake Drum**

- brake drum
- SC M 3x6, hexagon socket
- 1.5 mm

**Unsolder five lead-wires.**

- phono circuit board
SPEED Switch (S2) Removal

1. Insulator
2. Speed selector base
3. TA, 8.3 x 10

SPEED switch (S2) can be removed.

Arm Lifter Shaft Removal

4. Push
5. Push-rod
6. Cueing lever
7. Ring spring
8. Lift base
9. SC M3 x 3 hexagon socket
10. Lift stopper
11. Ornament screw

1. Ornament screw

Note:
- When installing the cueing lever, take care to the direction of the ring spring.
- After installing the cueing lever, make sure that the push-rod is smoothly moved up and down by the cueing lever.

Tonearm Removal

1. Remove the brake drum and five lead wires. (Refer to Sub-frame Removal — 5 and 11.)
2. TA, 8.3 x 10 (black)
3. Tonearm
2-2. CAUTION FOR INSTALLATION

Lateral Balancer Weight Installation

Anti-skating Compensator Lever Installation

1. Set the anti-skating force compensator knob to 0.
2. Turn the arm base fully clockwise.
3. Install the anti-skating force compensator lever so that the clearance between the cam (B) and cam (C) is 1 mm.

Record Size Selector Lever Installation

1. Set the record size selector knob to the 25 (10) position.
2. Install and set the record size selector lever as shown below.
3. Set the record size selector knob to the MANUAL position and, when touching the start/stop switch, make sure that the tonearm does not move.

Lift Base Installation

Install the lift base so that the clearance between the arm base and lift base is 3.5 mm.
Brake Drum Installation

1. Install the brake drum at the tonearm shaft and set the tonearm on the tonearm rest.
2. Move the shutter to align the face (C) of the shutter and the face (D) of the lamp holder as shown below.

![Diagram showing brake drum installation steps and parts](image)

Note: Make sure that the shutter does not touch the lamp holder and the CdS holder.

Brake Magnet Installation

1. Remove the solenoid as shown below.
2. Apply the Sony bond master G580 to the brake magnet.
3. Install the brake magnet as shown below.

![Diagram showing brake magnet installation](image)

Cartridge Installation

Install the cartridge into the shell with the mounting screws so that the distance between the shell end and the stylus tip is 49 mm (1 15/32 inches).

Fasten the screws lightly so that the cartridge can slide for adjustment.

![Diagram showing cartridge installation](image)

Lead Wires Connection

- Blue (LE or G) - left channel ground
- White (L) - left channel signal
- Green (RE or G) - right channel ground
- Red (R) - right channel signal

![Diagram showing lead wires connection](image)
3-1. MECHANICAL ADJUSTMENTS

Brake Lever (1) Position Adjustment

1. Set the tonearm on the tonearm rest and turn the adjustment screw as shown below.
2. Make sure that the tonearm moves smoothly.

![Brake Lever Diagram]

Arm Lifter Height Adjustment

1. Set the record size selector lever to the 30 (12") position and make sure that the stylus gets down on the specified point of the test record.

   test record: YFSC-16

<table>
<thead>
<tr>
<th>Record size selector lever position</th>
<th>Count of drop-point</th>
</tr>
</thead>
<tbody>
<tr>
<td>30 (12&quot;)</td>
<td>4 to 16</td>
</tr>
<tr>
<td>25 (10&quot;)</td>
<td>6 to 24</td>
</tr>
<tr>
<td>17 (7&quot;)</td>
<td>7 to 25</td>
</tr>
</tbody>
</table>

2. If necessary, insert the screwdriver into the hole and adjust the drop-point by turning the adjustment screw.

   To change the drop-point inward:
   
   Turn the adjustment screw slightly counterclockwise (A)

   To change the drop-point outward:
   
   Turn the adjustment screw slightly clockwise (B)

3. Once it is properly adjusted with a 30 cm (12") record, the drop-point will be correct for 17 cm (7") and 25 cm (10") records as well.

   **Note:** The stylus drop-point is changed to about 12 mm (½") by one turn of the adjustment screw.
3-2. ELECTRICAL ADJUSTMENTS

B+ (14 V) Adjustment

Adjust RV101 for 14 V reading on VOM.

Note: Wait a few seconds for warm-up after the power switch is turned on.

Speed Detecting Head Output Level Adjustment

Before this adjustment, set the speed detecting head on the head holder as shown below.

1. Adjust the position of the head holder so that the VTVM reading is more than 30 mV ac at 33⅓ rpm.
2. Make sure that the head does not touch the turntable and tighten the screws securely.

Adjustment Location:

Note: The clearance between the magnet coated rim and the speed detecting head is more than 0.3 mm.
Automatic Return Adjustment

1. Move the tonearm into the turntable center by hand so that the shutter keeps apart from the CdS and lamp holder.

2. With the play switch (S3) pushed, adjust RV401 for 1.6V ±0.2V reading on VOM.

3. Set the position of the stylus as shown below and turn the adjustment screw for 5.1V ±0.1V reading on VOM with the play switch (S3) pushed.

4. When playing the band 2 of the test record, make sure that the tonearm returns from the count 14 to 18 of the test record.
   If necessary, readjust the adjustment screw.

5. When playing the band 3 of the test record, make sure that the tonearm returns from the position of 1 kHz signal.
   If necessary, readjust RV401 and repeat above steps 4 and 5.

Adjustment Location:
- servo amp/system control board -

control panel side

VOM (range: dc)

Step 2: 1.6V ±0.2V
Step 3: 5.1V ±0.1V

RV401

Note: When replacing the pilot lamp (PL1), this adjustment should be performed.
Turntable Speed Adjustment

1. Disconnect the white lead wire and adjust RV201 so that the stroboscope pattern appears stationary.

2. Connect the white lead wire and make sure that the stroboscope pattern appears stationary after changing the turntable speed by hand.

Hall Device Gain Adjustment (33 1/3 rpm)

1. Disconnect the white lead wire and connect the regulated power supply as shown below.
2. Connect VTVM to H1 and adjust RV202 for 1.9V ac reading on VTVM.

3. Connect VTVM to H2 and adjust RV203 for 1.9V ac reading on VTVM.

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**Motor Amp Offset Adjustment (33 1/2 rpm)**

1. Disconnect the white lead wire and connect the regulated power supply as shown below.

- **Regulated dc power supply (variable)**
- **1.5 V dc**

   ![Diagram of power supply and lead wire]

   **Disconnect the white lead wire.**

2. Connect VTVM or oscilloscope to H1 and adjust RV204 for 0V dc VTVM reading or the waveform on oscilloscope as shown below.

3. Connect VTVM or oscilloscope to H2 and adjust RV205 for 0V dc VTVM reading or the waveform on oscilloscope as shown below.

   **Waveform on Oscilloscope:**

   **Note:** Set the sweep time to longer for easy checking the waveform.

   ![Waveform diagrams]

   - **A = B**
   - **A = B**

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**Adjustment Location**

- **RV401 RETURN POSITION**
- **RV205 (H2) RV204 (H)**
- **OFFSET**
- **RV201 SPEED**
- **RV202 (H1) RV203 (H2)**
- **GAIN**

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**Transistor circuit board**

- **H2**
- **H1**
- **VTVM**
- **10E2**
- **10 kΩ**
- **1 kΩ**
- **1000 μF 16 V**
- **0 V dc oscilloscope**
Replacement Semiconductors
For replacement, use semiconductors except in ( ).

Q106: 2SC926A
Q102, 103: 2SC634A
Q301–303: (2SC633A)
IC2: MSM5811

Q104: 2SA678 (2SA677)
D101–104: 10E2 (GP08 D)

Q101: 2SC1061 (2SC1419)
D301, 302: 1S1555 (1T40)

Q105: 2SA684 (2SA773)
D106: 10D6 (S101-06)

IC3: M53293P (SN7493AN)
IC4: M53200P (SN7400N)

D105: EQB01-06 (EQA01-06)

Note:
- : parts extracted from the component side.
- : parts extracted from the conductor side.
- : B+ pattern.
- : B- pattern.
- : nonflammable resistor.
- : fusible resistor.
- : Readings are taken with a VOM (20 kΩ/V).
  - : 33 rpm
  no mark: with POWER switch set to ON and tonearm on arm rest
- : Color code of sleeving over the end of the jacket.

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4-1. MOUNTING DIAGRAM – Power Supply/PLL Board –

- Conductor Side -

US, Canadian model

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**SECTION 4
DIAGRAMS**
AEP, UK, E model

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[Diagram of a circuit board with labels and components]

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[Part of the circuit board labeled as 'POWER SUPPLY/PLL BOARD']

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[Components and connections detailed on the board]
CAUTION ON NEON LAMP

Apply higher dc voltage to the terminal marked by ● (● side is equivalent to + side shown in diagram.)

Note:
- ●: parts extracted from the component side.
- ●●: parts extracted from the conductor side.
- •: B+ pattern.
- ▲: B- pattern.
- K: nonflammable resistor.
- R: fusible resistor.
- Readings are taken with a VOM (20 kΩ/V).
  ( ) : 33 rpm
  no mark: with POWER switch set to ON and tonearm on arm rest
- Color code of sleeving over the end of the jacket.
Replacing Semiconductors

For replacement, use semiconductors except in ( ).

Q102, 103, 201—204  2SC926A
Q206, 209, 210  2SC634A
Q301—303, 401—406  (2SC633A)
Q408—420
Q421: 2SC1173  (2SC1760)

Q104, 205  2SA678
Q207, 208  (2SA677)

IC1: µPC324C
IC3: M53293P (SN7493AN)
IC4: M53200P (SN7400N)

Q101, 211, 213: 2SC1061  (2SC1419)

Q105: 2SA684  (2SA773)

Q212, 214: 2SA671  (2SA755)

Q407: 2SC1475

D101—104: 10E2  (GP90-D)

D201—203: 1S1555  (1T40)
D301, 302  D401—415

H1, 2: 5GF-MS-07F

D106: 10D6  (S1801-06)
D105, 416: EQB01-06  (EQA01-06)

Notations may be noted due to normal production.

**Table:**

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<td>START</td>
<td>OFF</td>
</tr>
<tr>
<td>REPEAT</td>
<td>OFF</td>
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Components identified by shading are critical for operation. Replace only with part number specified.
Note: The components identified by shading are critical for safety. Replace only with part number specified.
SECTION 6
ELECTRICAL PARTS LIST

Note: Circed letters (A to Z) are applicable to European models only.

<table>
<thead>
<tr>
<th>Ref. No.</th>
<th>Part No.</th>
<th>Description</th>
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**SEMICONDUCTORS**

**Transistors**

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<td>C 2SA678</td>
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<td>Q201–204</td>
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**ICs**

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<td>IC3</td>
<td>K M53293P</td>
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<td>E M53200P</td>
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**Diodes**

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<tr>
<td>D101–104</td>
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<tr>
<td>D105</td>
<td>B EQBO1-06</td>
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<tr>
<td>D106</td>
<td>B 10D6</td>
<td></td>
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<tr>
<td>D201–203</td>
<td>B IS1555</td>
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<tr>
<td>D301,302</td>
<td>B IS1555</td>
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⇒ D401–415  [B IS1555]
⇒ D416       [B EQBO1-06]

**TRANSFORMERS**

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<tr>
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<td>Power (US, Canadian model)</td>
</tr>
<tr>
<td>PT1</td>
<td>1-442-878-11</td>
<td>Power (AEP, UK, E model)</td>
</tr>
<tr>
<td>PT2</td>
<td>1-442-879-11</td>
<td>Boost (AEP, UK, E model)</td>
</tr>
</tbody>
</table>

**CAPACITORS**

All capacitors are in μF and ceramic unless otherwise noted.
500V or less are not indicated except for electrolytics. μF = μmF, elect = electrolytic

<table>
<thead>
<tr>
<th>Ref. No.</th>
<th>Part No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>C100,101</td>
<td>1-108-750-11</td>
<td>[B 0.03] 300V mylar (AEP, UK, E model)</td>
</tr>
<tr>
<td>C101</td>
<td>1-108-750-11</td>
<td>[C 0.03] 125V mylar (US model)</td>
</tr>
<tr>
<td>C101</td>
<td>1-130-098-11</td>
<td>[C 0.022] 125V polystyrol (Canadian model)</td>
</tr>
<tr>
<td>C102,103</td>
<td>1-123-047-11</td>
<td>[C 2200] 32V elect</td>
</tr>
<tr>
<td>C104,105</td>
<td>1-123-193-11</td>
<td>[B 100] 16V elect</td>
</tr>
<tr>
<td>C106</td>
<td>1-123-027-11</td>
<td>[B 2.2] 250V elect</td>
</tr>
<tr>
<td>C201</td>
<td>1-101-925-11</td>
<td>[A 0.047]</td>
</tr>
<tr>
<td>C202</td>
<td>1-121-651-11</td>
<td>[A 10] 16V elect</td>
</tr>
<tr>
<td>C203</td>
<td>1-102-074-11</td>
<td>[A 0.001]</td>
</tr>
<tr>
<td>C204</td>
<td>1-108-246-12</td>
<td>[A 0.047] mylar</td>
</tr>
<tr>
<td>C205</td>
<td>1-131-212-11</td>
<td>[B 0.33] 35V</td>
</tr>
<tr>
<td>C206</td>
<td>1-121-951-11</td>
<td>[A 0.47] 50V</td>
</tr>
<tr>
<td>C207</td>
<td>1-101-925-11</td>
<td>[A 0.047]</td>
</tr>
<tr>
<td>C208</td>
<td>1-123-191-11</td>
<td>[A 22] 16V elect</td>
</tr>
<tr>
<td>C209,210</td>
<td>1-108-251-12</td>
<td>[A 0.1] mylar</td>
</tr>
<tr>
<td>C301,302</td>
<td>1-102-491-11</td>
<td>[A 51p]</td>
</tr>
<tr>
<td>C303</td>
<td>1-121-391-11</td>
<td>[A 1] 50V elect</td>
</tr>
<tr>
<td>C304</td>
<td>1-121-952-11</td>
<td>[A 1] 50V elect</td>
</tr>
<tr>
<td>C305</td>
<td>1-101-925-11</td>
<td>[A 0.047]</td>
</tr>
<tr>
<td>C307,308</td>
<td>1-102-959-11</td>
<td>[A 22p]</td>
</tr>
</tbody>
</table>

⇒: Due to standardization, interchangeable replacements may be substituted for parts specified in the diagrams.

Note: The components identified by shading are critical for safety. Replace only with part number specified.

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- 31 -
### Resistors

All resistors are in ohms. Common 1/4W carbon resistors are omitted. Check schematic diagram for values.

<table>
<thead>
<tr>
<th>Ref. No.</th>
<th>Part No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>R109</td>
<td>1-213-154-11</td>
<td>8.2 k 1W metal oxide</td>
</tr>
<tr>
<td>R240,241</td>
<td>1-206-453-11</td>
<td>3.9 2W metal oxide  (US model)</td>
</tr>
<tr>
<td>R240,241</td>
<td>1-217-429-11</td>
<td>3.9 2W fusible  (E, AEP, UK, Canadian model)</td>
</tr>
<tr>
<td>R313</td>
<td>1-217-401-11</td>
<td>150 ¼W fusible  (E, AEP, UK, Canadian model)</td>
</tr>
<tr>
<td>R448</td>
<td>1-206-642-11</td>
<td>120 2W metal oxide</td>
</tr>
<tr>
<td>RV101</td>
<td>1-224-644-XX</td>
<td>4.7 k, adjustable</td>
</tr>
<tr>
<td>RV201</td>
<td>1-224-635-00</td>
<td>22 k, adjustable</td>
</tr>
<tr>
<td>RV202,203</td>
<td>1-224-644-XX</td>
<td>4.7 k, adjustable</td>
</tr>
<tr>
<td>RV204,205</td>
<td>1-224-645-XX</td>
<td>10 k, adjustable</td>
</tr>
<tr>
<td>RV401</td>
<td>1-224-636-00</td>
<td>47 k, adjustable</td>
</tr>
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</table>

### Switches

<table>
<thead>
<tr>
<th>Ref. No.</th>
<th>Part No.</th>
<th>Description</th>
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<tbody>
<tr>
<td>S1</td>
<td>1-552-018-11</td>
<td>Push, POWER  (US, Canadian model)</td>
</tr>
<tr>
<td>S1</td>
<td>1-552-206-00</td>
<td>Push, POWER  (AEP, UK, E model)</td>
</tr>
<tr>
<td>S2</td>
<td>1-516-288-00</td>
<td>Slide, SPEED</td>
</tr>
<tr>
<td>S3</td>
<td>1-514-723-XX</td>
<td>Miniature, play</td>
</tr>
<tr>
<td>S4</td>
<td>1-516-657-21</td>
<td>Micro, return</td>
</tr>
</tbody>
</table>

### Miscellaneous

<table>
<thead>
<tr>
<th>Ref. No.</th>
<th>Part No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>F1</td>
<td>1-532-066-11</td>
<td>Fuse, T400 mA  (AEP, UK, E model)</td>
</tr>
<tr>
<td>MGH</td>
<td>1-543-066-00</td>
<td>Head, speed detector</td>
</tr>
<tr>
<td>NL1</td>
<td>1-519-152-00</td>
<td>Neon Lamp, DC 150V 10 mA</td>
</tr>
<tr>
<td>PL1</td>
<td>1-518-234-00</td>
<td>Lamp, pilot; 6V 100 mA</td>
</tr>
<tr>
<td>PM</td>
<td>1-454-155-00</td>
<td>Solenoid, plunger; detector lever</td>
</tr>
<tr>
<td></td>
<td>1-452-059-00</td>
<td>Magnet, brake</td>
</tr>
<tr>
<td></td>
<td>1-508-897-00</td>
<td>Plug, voltage selector  (AEP, UK, E model)</td>
</tr>
<tr>
<td></td>
<td>1-509-547-11</td>
<td>Socket, 3-p; AC IN  (AEP, UK, E model)</td>
</tr>
<tr>
<td></td>
<td>1-509-550-00</td>
<td>Connector, head shell (PS-X6)</td>
</tr>
<tr>
<td></td>
<td>1-509-649-11</td>
<td>Connector with screw collar (PS-X7)</td>
</tr>
<tr>
<td></td>
<td>1-527-304-00</td>
<td>Crystal 7.864320 MHz</td>
</tr>
<tr>
<td></td>
<td>1-533-051-XX</td>
<td>Holder, lamp</td>
</tr>
<tr>
<td></td>
<td>1-534-538-XX</td>
<td>Cord, power (US model)</td>
</tr>
<tr>
<td></td>
<td>1-534-986-XX</td>
<td>Cord, power (Canadian model)</td>
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<td></td>
<td>1-551-063-00</td>
<td>Phono Cord</td>
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<td>1-551-283-11</td>
<td>Lead with Ground Plate (PS-X6)</td>
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<tr>
<td></td>
<td>1-800-343-00</td>
<td>Cds</td>
</tr>
<tr>
<td>A-4608-019-A</td>
<td></td>
<td>Motor Ass’y</td>
</tr>
<tr>
<td>X-2089-618-1</td>
<td></td>
<td>(red) Lead Ass’y,</td>
</tr>
<tr>
<td>X-2089-618-2</td>
<td></td>
<td>(green) cartridge</td>
</tr>
<tr>
<td>X-2089-618-3</td>
<td></td>
<td>(white)</td>
</tr>
<tr>
<td>X-2089-618-4</td>
<td></td>
<td>(blue)</td>
</tr>
</tbody>
</table>

Note: The components identified by shading are critical for safety. Replace only with part number specified.
### ACCESSORIES & PACKING MATERIALS

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Description</th>
<th>Part No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A-4504-003-A</td>
<td>Cartridge Ass'y, XL-15 (E model)</td>
<td>3-701-616-00</td>
<td>A Bag, plastic; shell</td>
</tr>
<tr>
<td>A-4587-009-A</td>
<td>Stylus Ass'y</td>
<td>3-701-630-00</td>
<td>A Bag, plastic; printed matters</td>
</tr>
<tr>
<td>A-4587-009-A</td>
<td>Stylus Ass'y (E model)</td>
<td>3-701-806-01</td>
<td>A Adaptor, 45 rpm</td>
</tr>
<tr>
<td>X-2227-304-0</td>
<td>Stylus Cover Ass'y</td>
<td>3-770-314-11</td>
<td>E Manual, instruction (AEP, UK model)</td>
</tr>
<tr>
<td></td>
<td>(AEP, UK, US, Canadian model)</td>
<td>3-794-124-11</td>
<td></td>
</tr>
<tr>
<td>3-701-614-00</td>
<td>A Bag, plastic</td>
<td>3-770-314-21</td>
<td>Manual, instruction (US model)</td>
</tr>
<tr>
<td>2-054-625-00</td>
<td>A Screw (C), cartridge</td>
<td>3-794-103-31</td>
<td>Manual, instruction (Canadian model)</td>
</tr>
<tr>
<td>2-056-532-00</td>
<td>B Screw (A), cartridge</td>
<td>3-793-395-11</td>
<td>B Gauge, tracking error check</td>
</tr>
<tr>
<td>2-224-081-0</td>
<td>A Screw (E), cartridge</td>
<td>3-793-867-11</td>
<td>A Leaflet, caution; power cord</td>
</tr>
<tr>
<td>2-227-313-00</td>
<td>A Spacer</td>
<td>3-793-867-11</td>
<td>A Leaflet, caution; rubber sheet (PS-X7)</td>
</tr>
<tr>
<td>4-815-655-01</td>
<td>A Nut (A), cartridge</td>
<td>4-847-092-00</td>
<td>C Screwdriver</td>
</tr>
<tr>
<td>4-853-038-0</td>
<td>C Holder, screw (01: PS-X6, 11: PS-X7)</td>
<td>4-847-314-00</td>
<td>C Bag, plastic</td>
</tr>
<tr>
<td>X-4853-018-0</td>
<td>C Sub-counterweight Ass'y</td>
<td>4-848-002-00</td>
<td>A Cushion, arm-pipe</td>
</tr>
<tr>
<td>1-534-754-00</td>
<td>Cord, power; parallel-blade plug (E model)</td>
<td>4-848-005-00</td>
<td>C Box, accessories</td>
</tr>
<tr>
<td>1-534-819-00</td>
<td>Cord, power (UK model)</td>
<td>4-848-006-00</td>
<td>B Bag, accessories</td>
</tr>
<tr>
<td>1-551-216-00</td>
<td>Cord, power; euro-plug (E model)</td>
<td>4-848-012-00</td>
<td>A Board, protection</td>
</tr>
<tr>
<td>2-227-313-00</td>
<td>Spacer (E model)</td>
<td>4-849-790-00</td>
<td>A Bag, protection</td>
</tr>
<tr>
<td>3-550-734-00</td>
<td>Cord, Holder, euro-plug (E model)</td>
<td>4-853-065-00</td>
<td>Q Sheet, protection (PS-X7)</td>
</tr>
<tr>
<td>3-701-613-00</td>
<td>A Bag, plastic; sub-counterweight</td>
<td>4-853-838-00</td>
<td>F Carton (PS-X6)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1-534-839-00</td>
<td>C Frame</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4-853-840-00</td>
<td>F Carton (PS-X7)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4-853-847-00</td>
<td>B Board, protection (PS-X7)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4-853-836-00</td>
<td>C Cushion</td>
</tr>
</tbody>
</table>

Note: The components identified by shading are critical for safety. Replace only with part number specified.
### HARDWARE NOMENCLATURE

**Screw:**

- **L:** Length in mm
- **D:** Diameter in mm
- Type of head
  - Indicated slotted-head or hexagonal-head.
  - Unless otherwise indicated, it means cross-recessed head (Phillips type).

**Nut, Washer, Retaining ring:**

- **N:** Diameter of usable screw or shaft
- Reference designation

####表格

<table>
<thead>
<tr>
<th>Reference Designation</th>
<th>Shape</th>
<th>Description</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>P</td>
<td>⬤</td>
<td>pan-head screw</td>
<td>binding-head (B) screw for replacement</td>
</tr>
<tr>
<td>PWH</td>
<td>⬤</td>
<td>pan-head screw with washer</td>
<td>binding-head (B) screw and flat washer for replacement</td>
</tr>
<tr>
<td>PS</td>
<td>⬤</td>
<td>pan-head screw with spring washer</td>
<td>binding-head (B) screw and spring washer for replacement</td>
</tr>
<tr>
<td>PSW</td>
<td>⬤</td>
<td>pan-head screw with spring and flat washers</td>
<td>binding-head (B) screw and spring and flat washers for replacement</td>
</tr>
<tr>
<td>R</td>
<td>⬤</td>
<td>round-head screw</td>
<td>binding-head (B) screw for replacement</td>
</tr>
<tr>
<td>K</td>
<td>⬤</td>
<td>flat-countersunk-head screw</td>
<td></td>
</tr>
<tr>
<td>RK</td>
<td>⬤</td>
<td>oval-countersunk-head screw</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>⬤</td>
<td>binding-head screw</td>
<td></td>
</tr>
<tr>
<td>T</td>
<td>⬤</td>
<td>truss-head screw</td>
<td>binding-head (B) screw for replacement</td>
</tr>
<tr>
<td>F</td>
<td>⬤</td>
<td>flat-fillister-head screw</td>
<td></td>
</tr>
<tr>
<td>RF</td>
<td>⬤</td>
<td>fillister-head screw</td>
<td></td>
</tr>
<tr>
<td>BV</td>
<td>⬤</td>
<td>brazier-head screw</td>
<td></td>
</tr>
</tbody>
</table>

####表格（继续）

<table>
<thead>
<tr>
<th>Reference Designation</th>
<th>Shape</th>
<th>Description</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>TA</td>
<td>⬤</td>
<td>self-tapping screw</td>
<td>ex: TA P 3 x 10</td>
</tr>
<tr>
<td>PTP</td>
<td>⬤</td>
<td>pan-head self-tapping screw</td>
<td>binding-head self-tapping (TA, B) screw for replacement</td>
</tr>
<tr>
<td>PTPWH</td>
<td>⬤</td>
<td>pan-head self-tapping screw with washer face</td>
<td>binding-head self-tapping (TA, B) screw and flat washer for replacement</td>
</tr>
<tr>
<td>PTTWH</td>
<td>⬤</td>
<td>pan-head thread rolling screw with washer face</td>
<td>binding-head (B) screw and flat washer for replacement</td>
</tr>
</tbody>
</table>

####表格（继续）

<table>
<thead>
<tr>
<th>Reference Designation</th>
<th>Shape</th>
<th>Description</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>SC</td>
<td>⬤</td>
<td>set screw</td>
<td></td>
</tr>
<tr>
<td>SC</td>
<td>⬤</td>
<td>hexagon-socket set screw</td>
<td>ex: SC 2 6 x 4, hexagon socket</td>
</tr>
</tbody>
</table>

#### NUT

- **N:** nut

#### WASHERS

- **W:** flat washer
- **SW:** spring washer
- **LW:** internal-tooth lock washer
- **LW3:** internal lock washer

#### RETAINING RINGS

- **E:** retaining ring
- **G:** grip-type retaining ring

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*Sony Corporation*

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