

TCM-AP10V

SERVICE MANUAL



*US Model
Canadian Model
AEP Model
E Model
Tourist Model*

Model Name Using Similar Mechanism	NEW
Tape Transport Mechanism Type	MT-AP10-30

SPECIFICATIONS

Recording system

2-track 1 channel monaural

Frequency range

150 - 8,000 Hz

Speaker

Approx. 3.6 cm (1 ⁷/₁₆ in.) dia.

Power output

330 mW (at 10 % harmonic distortion)

Input

Microphone input jack (minijack) sensitivity 0.21 mV for 3 kilohms or lower impedance microphone

Output

Earphone jack (minijack) for 8 - 300 ohms earphone

Variable range of the tape speed

from +100% to -50%

Variably range of the pitch

from 1 octave to ¹/₂ octave

Power requirements

3V DC

Two R6 (size AA) batteries

Dimensions (w/h/d) (incl. projecting parts and controls)

Approx. 88.7 × 113.0 × 38.5 mm
(3 ¹/₂ × 4 ¹/₂ × 1 ¹/₂ in.)

Mass (not incl. batteries)

Approx. 230 g (7.8 oz.)

Supplied accessory

Carrying case (1)

Design and specifications are subject to change without notice.

RADIO CASSETTE PLAYER

SONY®



TABLE OF CONTENTS

Specifications	1
1. GENERAL	
Location and Function of Controls	2
2. SERVICING NOTES	3
3. DISASSEMBLY	4
4. MECHANICAL ADJUSTMENTS	6
5. ELECTRICAL ADJUSTMENTS	6
6. DIAGRAMS	
6-1. Block Diagram	7
6-2. Printed Wiring Boards	10
6-3. Schematic Diagram	15
7. EXPLODED VIEWS	
7-1. Cabinet Section	20
7-2. Mechanism Deck Section (1)	21
7-3. Mechanism Deck Section (2)	22
8. ELECTRICAL PARTS LIST	23

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.

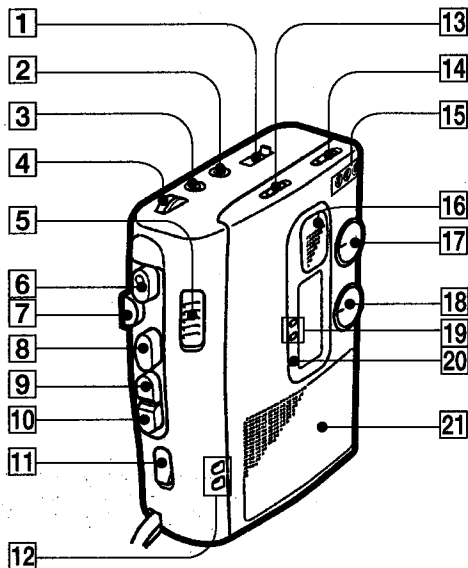
Notes on chip component replacement

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

SECTION 1 GENERAL

LOCATION AND FUNCTION OF CONTROLS

This section is extracted from instruction manual.



- | | |
|----|------------------------|
| 1 | TAPE counter |
| 2 | EARPHONE jack |
| 3 | MICROPHONE jack |
| 4 | VOLUME knob |
| 5 | PAUSE button |
| 6 | ● REC button |
| 7 | ■ STOP button |
| 8 | PLAY button |
| 9 | REW/REVIEW button |
| 10 | FF/CUE button |
| 11 | DIR → button |
| 12 | REV/FWD indicator |
| 13 | VOR switch |
| 14 | DPC switch |
| 15 | DPC POSITION indicator |
| 16 | FLAT MICROPHONE |
| 17 | SPEED CONTROL knob |
| 18 | PITCH CONTROL knob |
| 19 | BATT/REC lamp |
| 20 | BATT CHANGE lamp |
| 21 | SPEAKER |

SERVICING NOTES

This device senses S/T reel rotation with the PH701 (photo-reflector). The PH701 comes mounted on the main board and so cannot sense reel rotation when removed from the main board. Removing it will also trigger auto stop. Therefore use the procedure listed at right, when making operational checks and voltage checks with the main board removed.

REMOVING THE MAIN BOARD

- 1) Remove the 2 screws.
- 2) Remove the MIC-flexible board (W101).

FAST-FORWARD & REWIND MODES

- 1) Input a square wave at TP11. (See lower figure.)
- 2) Press the F-FWD and REW keys.
- 3) Set the S103 switch to ON.

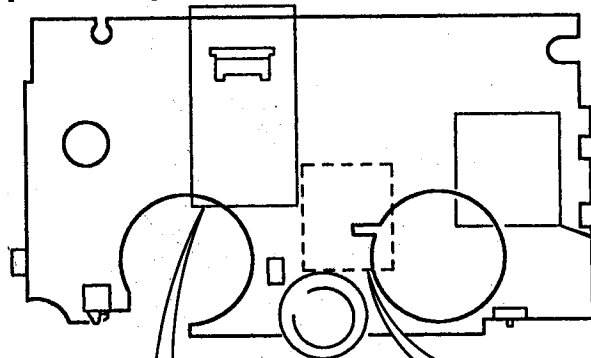
PLAY MODE

- 1) Input a square wave at TP11. (See lower figure.)
- 2) Press the PLAY key.
- 3) Switch S101 to play.
- 4) Set the S103 switch to ON.

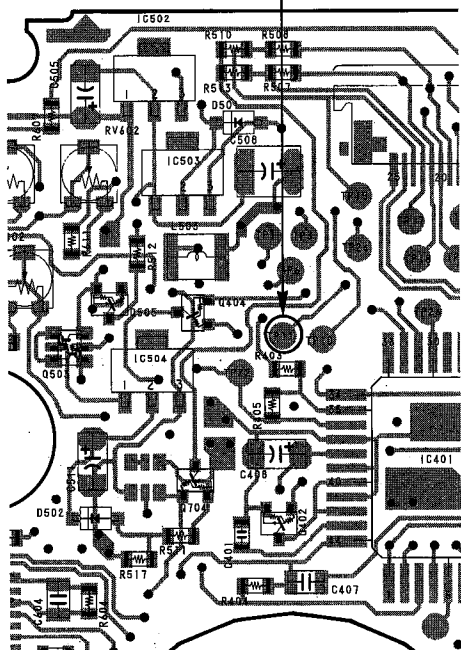
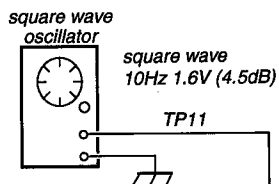
RECORD MODE

- 1) Input a square wave at TP11. (See lower figure.)
- 2) Press the RECORD key.
- 3) Switch S101 to record.
- 4) Set the S103 switch to ON.

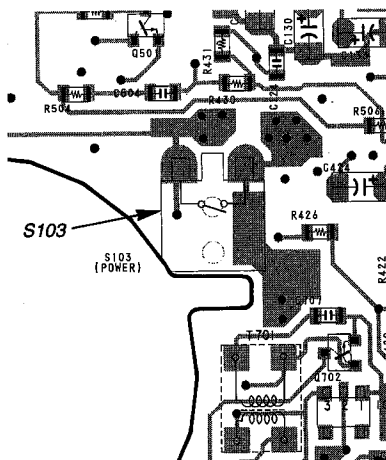
[MAIN BOARD] (SIDE A)



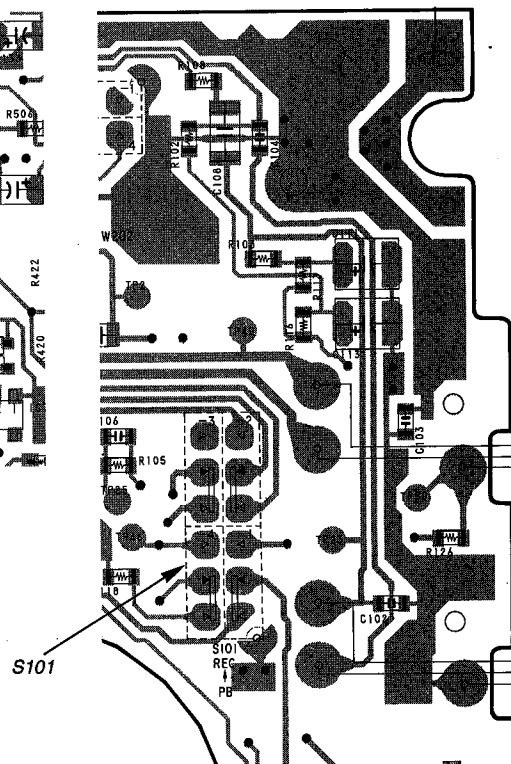
(SIDE B)



(SIDE A)



(SIDE B)



SECTION 3 DISASSEMBLY

- The equipment can be removed using the following procedure.

Set → Cabinet (Rear) → Cabinet (Front) assy

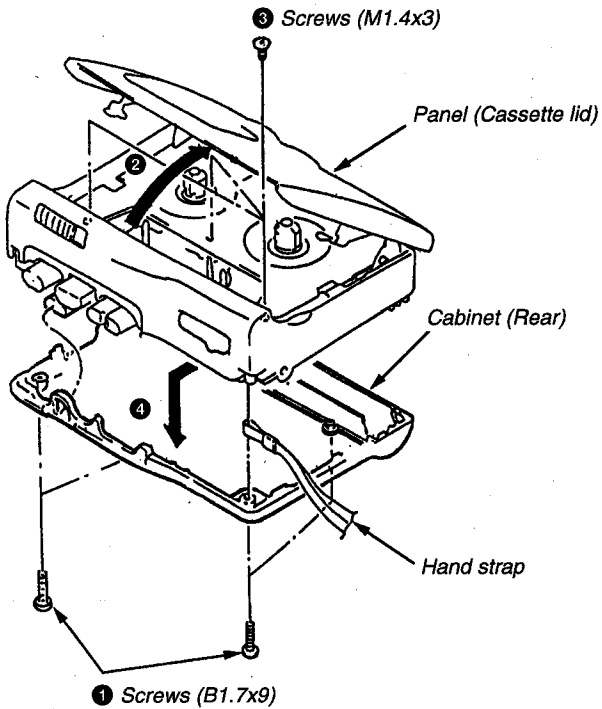
└ Main board

└ Mechanism deck

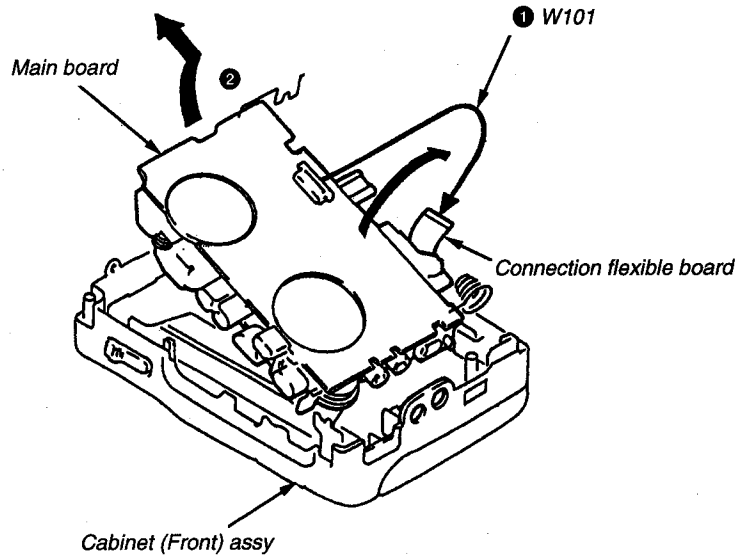
└ Panel (Cassette Lid) assy → LED board

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

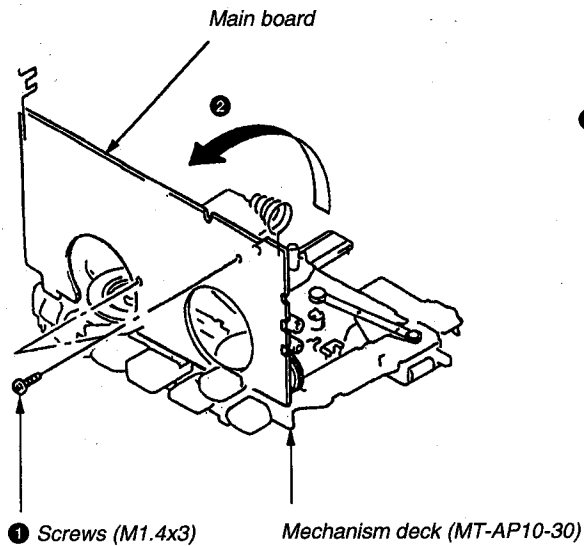
3-1. CABINET (REAR)



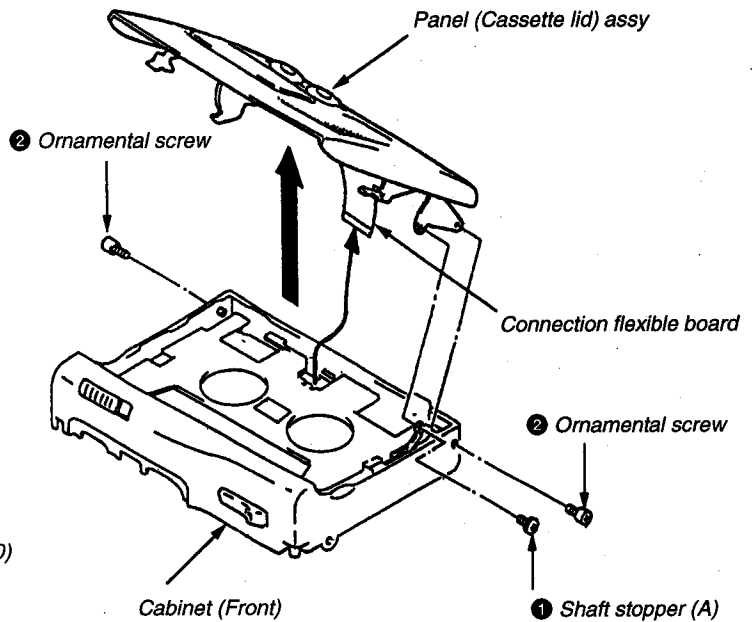
3-2. CABINET (FRONT) ASSY



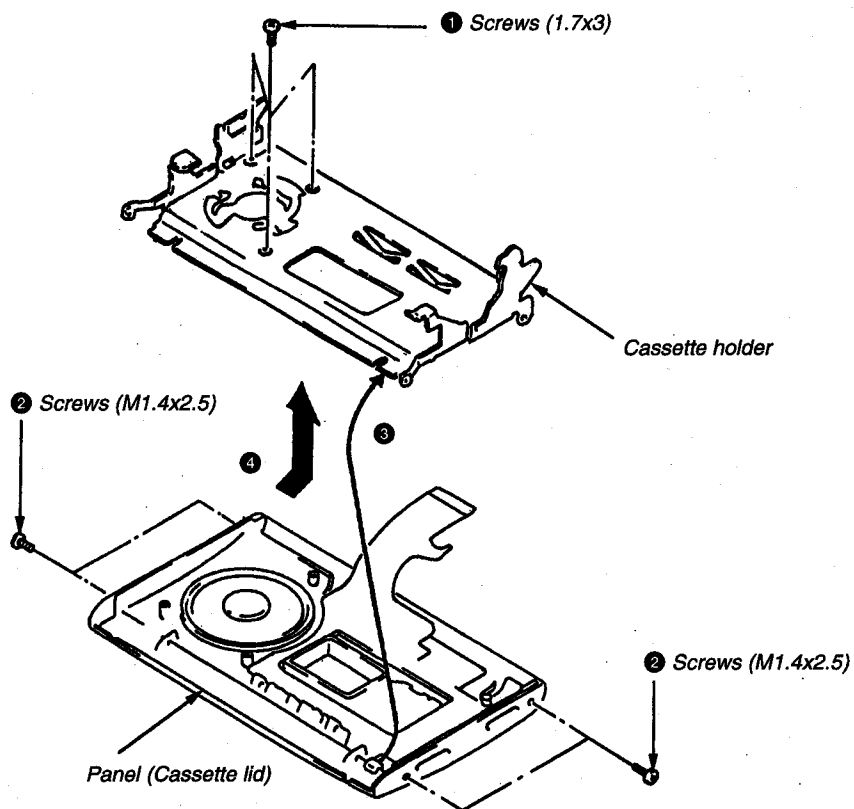
3-3. MAIN BOARD, MECHANISM DECK SECTION



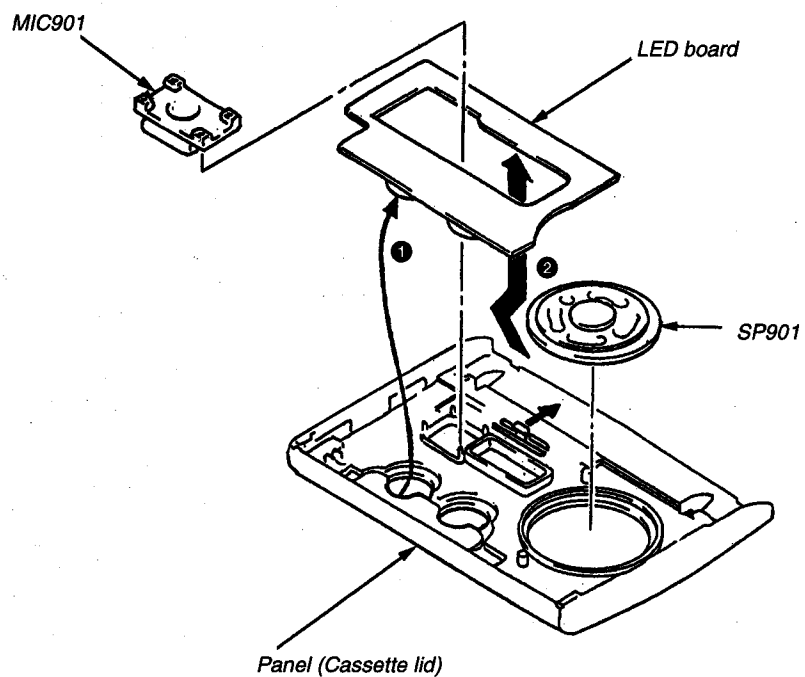
3-4. PANEL (CASSETTE LID) ASSY



3-5. CASSETTE HOLDER



3-6. LED BOARD



SECTION 4 MECHANICAL ADJUSTMENTS

PRECAUTION

- Clean the following parts with a denatured alcohol-moistened swab :
 - record/playback head pinch roller
 - erase head rubber belts
 - capstan
- Demagnetize the record/playback head with a head demagnetizer. (Do not bring the head demagnetizer close to the erase head.)
- Do not use a magnetized screwdriver for the adjustments.
- After the adjustments, apply suitable locking compound to the parts adjusted.
- The adjustments should be performed with the rated power supply voltage unless otherwise noted.
- Power supply voltage : 3V DC.

Torque Measurement

Mode	Torque Meter	Meter Reading
Forward	CQ-102C	20 – 35 g • cm (0.28 – 0.48 oz • inch)
Forward Back Tension	CQ-102C	0.5 – 5 g • cm (0.007 – 0.069 oz • inch)
Reverse	CQ-102RC	20 – 35 g • cm (0.28 – 0.48 oz • inch)
Reverse Back Tension	CQ-102RC	0.5 – 5 g • cm (0.007 – 0.069 oz • inch)
Fast Forward and Rewind	CQ-201B	more than 40 g • cm (0.56 oz • inch)

Tape Tension Measurement

Mode	Tension Meter	Meter Reading
Forward	CQ-403A	more than 60g
Reverse	CQ-403B	(2.12 oz)

SECTION 5 ELECTRICAL ADJUSTMENTS

● Standard Level

Input signal level	MIC	-60dBs
Output signal level	EARPHONE	10kΩ, -10dBs

● Test Tape

Type	Signal	Used for
WS-48A	3kHz, 0dB	tape speed adjustment

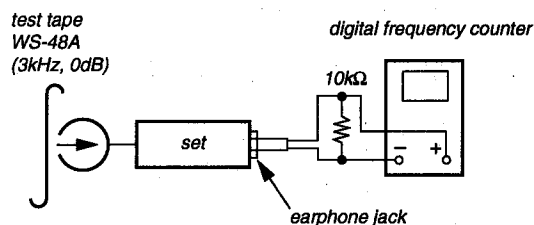
Setting :

VOLUME Control (RV101)	: mechanical mid
PAUSE (S701)	: OFF
VOR (S501)	: OFF
SPEED CONTROL (RV601)	: normal
PITCH CONTROL (RV401)	: normal

Tape speed adjustment

Procedure :

- First adjust the pitch control (manual). (1-3)
- Mode : playback
DPC SW (S401) : MANUAL

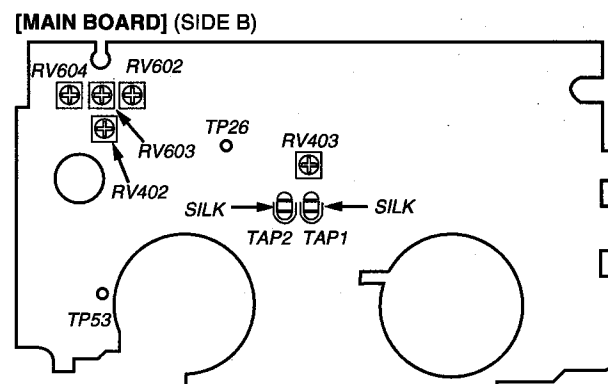


- Turn the speed control volume knob (RV601) fully in anticlockwise (fast) direction.
- Adjust RV604 so that the reading of the frequency counter becomes $6000 \pm 60\text{Hz}$.
- Turn the speed control volume knob (RV601) fully in clockwise (slow) direction.
- Adjust RV603 so that the reading of the frequency counter becomes $1500 \pm 15\text{Hz}$.
- Turn the speed control volume knob (RV601) to the center (normal) position.
- Adjust RV602 so that the reading of the frequency counter becomes $3000 \pm 30\text{Hz}$.
- After adjusting, switch to REV-PLAY and check it is within the correct value.
- Make the pitch control (auto) adjustment. (4-8)

Pitch Control Adjustment

- Set the DPC switch (S401) to manual mode.
- Activate the playback mode of the unit.
- Connect a digital voltmeter between TP26 and TP53 and adjust RV402 so that the reading of the digital voltmeter becomes $3.62 \pm 0.1\text{V}$.
- Set the DPC switch (S401) to the auto mode.
- Short the side of the lands not having silk, for both Tap1 and Tap2.
- Connect a digital voltmeter between TP26 and TP53 and adjust RV403 so that the reading of the digital voltmeter becomes $3.62 \pm 0.1\text{V}$.
- Join the side of the lands having silk, for both Tap1 and Tap2 together.
- After adjusting, switch to REV-PLAY and check it is within the correct value.

Adjustment Location :



SECTION 7 EXPLODED VIEWS

NOTE :

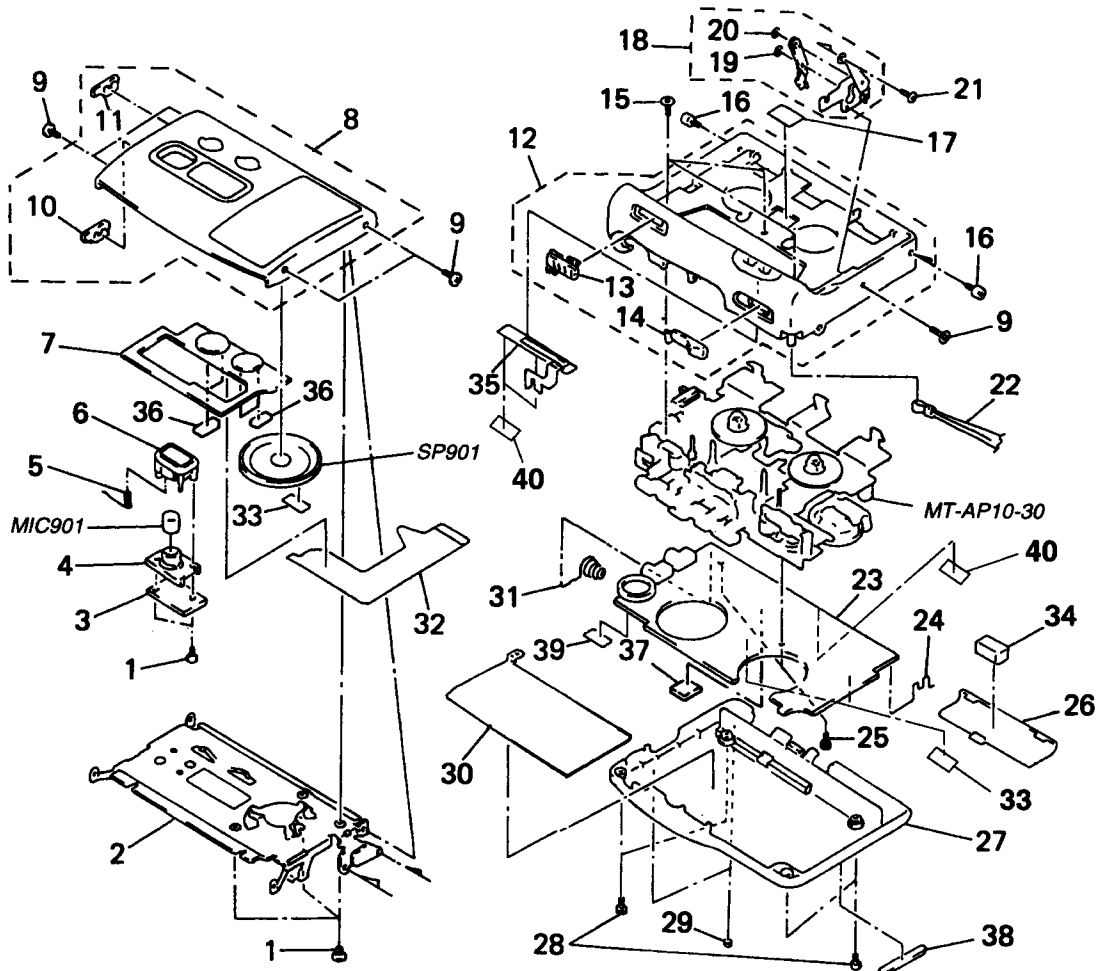
● -XX, -X mean standardized parts, so they may have some difference from the original one.

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

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

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

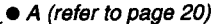
7-1. CABINET SECTION



Ref. No.	Part No.	Description	Remark
1	3-318-382-01	SCREW (1.7X3), TAPPING	
2	3-937-127-01	HOLDER (CASSETTE)	
* 3	3-937-133-01	RETAINER (MICROPHONE)	
* 4	3-937-132-01	CUSHION (MICROPHONE)	
5	3-937-134-01	SPRING (M GROUND), COMPRESSION	
6	X-3372-378-1	HOLDER ASSY, MICROPHONE	
* 7	1-662-421-11	LED BOARD	
8	X-3372-380-1	LID ASSY, CASSETTE	
9	3-704-197-21	SCREW (M1.4X2.5), LOCKING	
10	3-939-151-01	KNOB (VOR)	
11	3-937-128-01	KNOB (DPC)	
12	X-3372-377-1	CABINET (FRONT) ASSY	
13	3-925-249-01	KNOB (PAUSE)	
14	3-925-250-01	KNOB, DIR	
15	3-704-197-32	SCREW (M1.4X3.0)	
16	3-315-989-11	SCREW, ORNAMENTAL	
17	3-925-231-01	REFLECTOR	
* 18	X-3370-480-1	TOGGLE ASSY	
19	3-315-384-31	WASHER, STOPPER	
20	3-676-387-00	POLY-SLIDER (DIA.1.6)	
21	3-311-772-11	SHAFT (A), STOPPER	

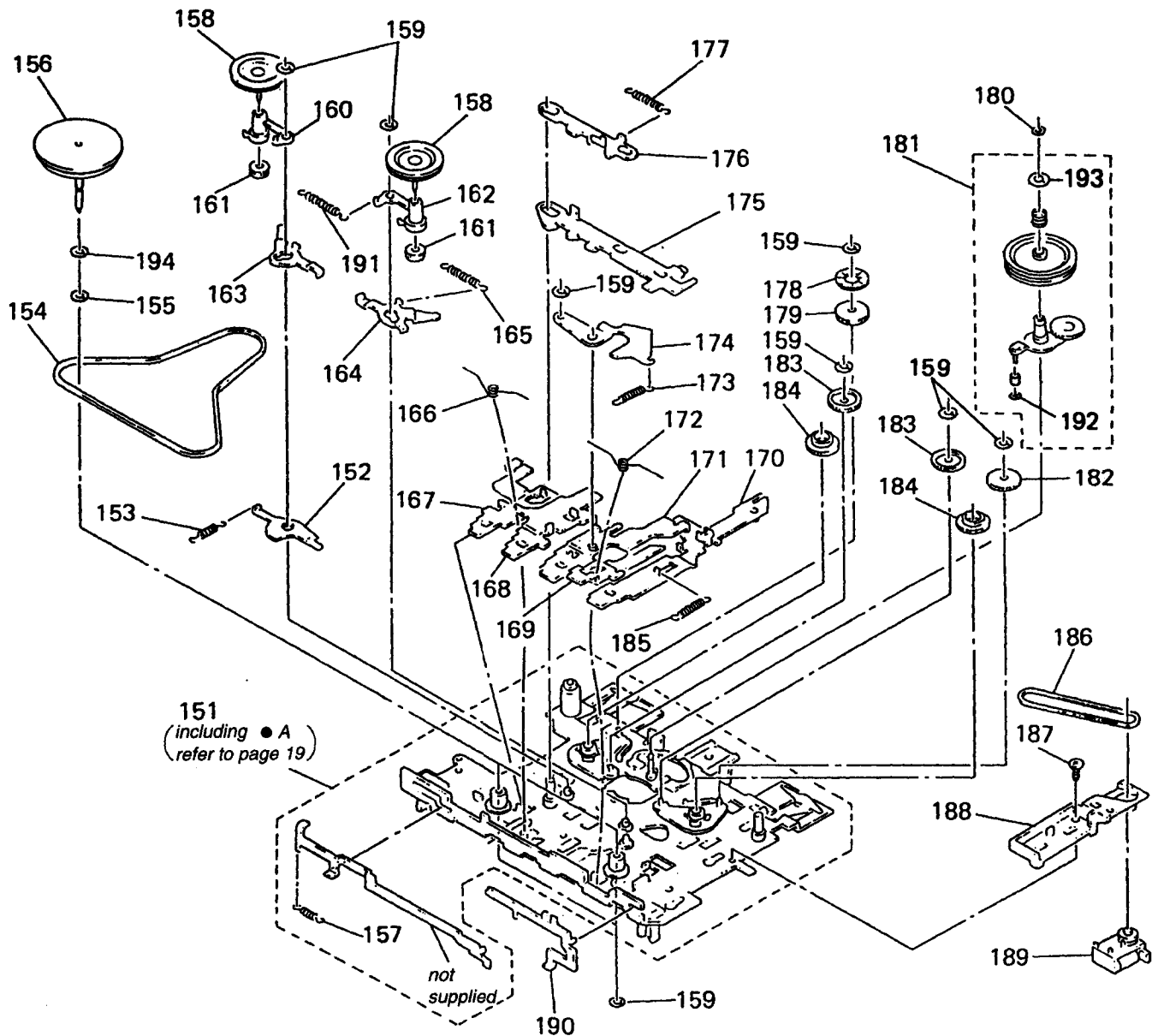
Ref. No.	Part No.	Description	Remark
22	3-328-319-01	STRAP, HAND	
* 23	A-3016-852-A	MAIN BOARD, COMPLETE	
24	3-925-229-01	TERMINAL, PLUS	
25	3-345-648-01	SCREW (M1.4), TOOTHED LOCK	
26	3-925-251-01	LID, BATTERY CASE	
27	3-937-126-11	CABINET (REAR)	
28	3-318-203-92	SCREW (B1.7X9), TAPPING	
29	3-331-603-01	FOOT	
* 30	3-939-152-01	PAPER, SHIELD	
31	3-925-230-01	SPRING, BATTERY COIL	
32	1-662-419-11	CONNECTION FLEXIBLE BOARD	
33	4-017-441-01	CUSHION (B)	
34	9-911-815-01	CUSHION	
* 35	X-3370-490-1	LEVER ASSY	
36	2-389-320-01	CUSHION	
* 37	1-663-620-11	BRAKE BOARD	
38	3-925-233-01	FOOT (A), RUBBER	
39	3-564-738-00	SPACER	
40	3-831-441-XX	SPACER, KNOB	
MIC901	1-542-298-11	MICROPHONE, ELECTRET CONDENSER	
SP901	1-504-688-11	SPEAKER (3.6cm)	

(MI-AP10-30)



- 21 -

7-3. MECHANISM SECTION-2
(MT-AP10-30)



Ref. No.	Part No.	Description	Remark
151	X-3370-373-1	CHASSIS ASSY	
* 152	3-924-537-01	LEVER (F/R)	
153	3-924-605-01	SPRING (FF), TENSION	
154	3-924-593-01	BELT (FLYWHEEL)	
155	3-932-023-01	WASHER (THRUST)	
156	X-3370-383-1	FLYWHEEL ASSY	
157	3-924-602-01	SPRING, TENSION	
158	3-924-558-01	PULLEY (T)	
159	3-321-483-11	RING, RETAINING	
160	3-924-548-01	ARM (T-N)	
161	3-924-557-01	GEAR (T)	
162	3-924-549-01	ARM (T-R)	
* 163	3-924-539-01	LEVER (REW-F)	
* 164	3-924-540-01	LEVER (REW-R)	
165	3-924-603-01	SPRING (F/R), TENSION	
166	3-924-597-01	SPRING (F/R), TORSION	
* 167	3-924-568-01	LEVER (FF)	
* 168	3-924-567-01	LEVER (REW)	
* 169	3-924-566-01	LEVER (STOP)	
* 170	X-3370-377-1	LEVER (REC) ASSY	
* 171	3-924-565-01	LEVER (PLAY)	
172	3-924-598-01	SPRING (P/S), TORSION	

Ref. No.	Part No.	Description	Remark
173	3-924-604-01	SPRING (PLAY), TENSION	
* 174	3-924-547-01	ARM (PLAY-SUB)	
* 175	3-924-545-01	LEVER (LOCK)	
* 176	3-924-546-01	LEVER (SW)	
177	3-924-606-01	SPRING (LOCK), TENSION	
178	3-924-725-01	REFLECTOR	
179	3-924-579-01	GEAR (REF)	
180	3-348-993-01	WASHER	
181	X-3370-376-1	LEVER (CENTER) ASSY	
182	3-924-556-01	GEAR (REW)	
183	3-924-562-01	GEAR (FF)	
184	3-924-560-01	GEAR (REEL)	
185	3-924-600-01	SPRING (REC), TENSION	
186	3-907-946-01	BELT (COUNTER)	
187	3-704-245-42	SCREW (1.4)	
* 188	3-924-664-01	BRACKET (COUNTER)	
189	1-548-582-11	COUNTER, TAPE (SMALL TYPE)	
* 190	3-924-574-01	LEVER (PAUSE)	
191	3-924-607-01	SPRING (ARM-T), TENSION	
192	3-315-414-21	WASHER	
193	3-386-150-01	RING (ROLLER), RETAINING	
194	3-932-023-11	WASHER (THRUST)	

SECTION 8 BRAKE ELECTRICAL PARTS LIST

CONNECTION FLEXIBLE

LED

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, -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 : μ , for example :
uA.... : μ A...., uPA.... : μ PA....
uPB.... : μ PB...., uPC.... : μ PC....
uPD.... : μ PD....

● CAPACITORS

uF : μ F

● COILS

uH : μ H

● Abbreviation

CND : Canadian

JEW : Tourist

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

Ref. No.	Part No.	Description	Remark
*	1-663-620-11	BRAKE BOARD *****	
		< CAPACITOR >	
C608	1-135-151-21	TANTALUM CHIP 4.7uF 20% 4V	
		< TRANSISTOR >	
Q606	8-729-402-96	TRANSISTOR UN5114	
		< RESISTOR >	
R622	1-216-833-11	METAL CHIP 10K 5% 1/16W	

	1-662-419-11	CONNECTION FLEXIBLE BOARD *****	

*	1-662-421-11	LED BOARD *****	
		< DIODE >	
D901	8-719-057-99	LED SML-211YT-T86 (C)	
D902	8-719-059-96	LED SML-210LT-T86 (REC)	
D903	8-719-059-96	LED SML-210LT-T86 (BATT)	
		< VARIABLE RESISTOR >	
RV401	1-223-600-11	RES, VAR, CARBON 100K (PITCH CONTROL)	
RV601	1-223-600-11	RES, VAR, CARBON 100K (SPEED CONTROL)	
		< SWITCH >	
S401	1-692-605-31	SWITCH, SLIDE (DPC)	
S501	1-692-605-31	SWITCH, SLIDE (V•O•R)	

Ref. No.	Part No.	Description	Remark
*	A-3016-852-A	MAIN BOARD, COMPLETE *****	
	3-831-441-XX	SPACER, KNOB	
		< CAPACITOR >	
C101	1-162-964-11	CERAMIC CHIP 0.001uF 10% 50V	
C102	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C103	1-162-964-11	CERAMIC CHIP 0.001uF 10% 50V	
C104	1-164-360-11	CERAMIC CHIP 0.1uF 16V	
C105	1-164-360-11	CERAMIC CHIP 0.1uF 16V	
C106	1-164-245-11	CERAMIC CHIP 0.015uF 10% 25V	
C107	1-163-014-00	CERAMIC CHIP 0.0027uF 5% 50V	
C108	1-163-077-00	CERAMIC CHIP 0.1uF 10% 25V	
C109	1-126-607-11	ELECT CHIP 47uF 20% 4V	
C110	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C111	1-104-908-11	TANTAL. CHIP 47uF 20% 2.5V	
C112	1-164-346-11	CERAMIC CHIP 1uF 16V	
C113	1-104-908-11	TANTAL. CHIP 47uF 20% 2.5V	
C114	1-162-964-11	CERAMIC CHIP 0.001uF 10% 50V	
C115	1-164-360-11	CERAMIC CHIP 0.1uF 16V	
C116	1-135-201-11	TANTALUM CHIP 10uF 20% 4V	
C117	1-135-201-11	TANTALUM CHIP 10uF 20% 4V	
C118	1-162-968-11	CERAMIC CHIP 0.0047uF 10% 50V	
C119	1-162-964-11	CERAMIC CHIP 0.001uF 10% 50V	
C120	1-135-201-11	TANTALUM CHIP 10uF 20% 4V	
C121	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C122	1-164-227-11	CERAMIC CHIP 0.022uF 10% 25V	
C123	1-107-823-11	CERAMIC CHIP 0.47uF 10% 16V	
C124	1-164-360-11	CERAMIC CHIP 0.1uF 16V	
C125	1-162-968-11	CERAMIC CHIP 0.0047uF 10% 50V	
C126	1-104-847-11	TANTAL. CHIP 22uF 20% 4V	
C127	1-162-964-11	CERAMIC CHIP 0.001uF 10% 50V	
C128	1-104-847-11	TANTAL. CHIP 22uF 20% 4V	
C129	1-135-201-11	TANTALUM CHIP 10uF 20% 4V	
C130	1-104-847-11	TANTAL. CHIP 22uF 20% 4V	
C131	1-164-360-11	CERAMIC CHIP 0.1uF 16V	

MAIN

Ref. No.	Part No.	Description	Remark
C132	1-164-360-11	CERAMIC CHIP 0.1uF	16V
C133	1-104-847-11	TANTAL. CHIP 22uF	20% 4V
C134	1-164-360-11	CERAMIC CHIP 0.1uF	16V
C135	1-162-966-11	CERAMIC CHIP 0.0022uF	10% 50V
C136	1-164-005-11	CERAMIC CHIP 0.47uF	25V
C137	1-162-964-11	CERAMIC CHIP 0.001uF	10% 50V
C138	1-135-201-11	TANTALUM CHIP 10uF	20% 4V
C139	1-135-201-11	TANTALUM CHIP 10uF	20% 4V
C140	1-126-246-11	ELECT CHIP 220uF	20% 4V
C141	1-126-207-11	ELECT CHIP 33uF	20% 4V
C142	1-164-360-11	CERAMIC CHIP 0.1uF	16V
C401	1-162-967-11	CERAMIC CHIP 0.0033uF	10% 50V
C402	1-162-921-11	CERAMIC CHIP 33PF	5% 50V
C403	1-162-927-11	CERAMIC CHIP 100PF	5% 50V
C404	1-162-927-11	CERAMIC CHIP 100PF	5% 50V
C405	1-104-908-11	TANTAL. CHIP 47uF	20% 2.5V
C406	1-135-201-11	TANTALUM CHIP 10uF	20% 4V
C407	1-164-005-11	CERAMIC CHIP 0.47uF	25V
C408	1-135-149-21	TANTALUM CHIP 2.2uF	20% 10V
C409	1-165-128-11	CERAMIC CHIP 0.22uF	16V
C410	1-165-128-11	CERAMIC CHIP 0.22uF	16V
C411	1-164-245-11	CERAMIC CHIP 0.015uF	10% 25V
C412	1-164-490-11	CERAMIC CHIP 0.068uF	16V
C413	1-107-826-11	CERAMIC CHIP 0.1uF	10% 16V
C414	1-162-969-11	CERAMIC CHIP 0.0068uF	10% 25V
C415	1-162-979-11	CERAMIC CHIP 0.0027uF	10% 50V
C416	1-162-962-11	CERAMIC CHIP 470PF	10% 50V
C417	1-164-346-11	CERAMIC CHIP 1uF	16V
C418	1-164-005-11	CERAMIC CHIP 0.47uF	25V
C419	1-164-346-11	CERAMIC CHIP 1uF	16V
C420	1-164-346-11	CERAMIC CHIP 1uF	16V
C421	1-107-826-11	CERAMIC CHIP 0.1uF	10% 16V
C422	1-107-826-11	CERAMIC CHIP 0.1uF	10% 16V
C423	1-115-467-11	CERAMIC CHIP 0.22uF	10% 10V
C424	1-135-170-21	TANTALUM CHIP 6.8uF	20% 4V
C425	1-107-823-11	CERAMIC CHIP 0.47uF	10% 16V
C426	1-162-927-11	CERAMIC CHIP 100PF	5% 50V
C501	1-164-360-11	CERAMIC CHIP 0.1uF	16V
C502	1-162-964-11	CERAMIC CHIP 0.001uF	10% 50V
C503	1-104-847-11	TANTAL. CHIP 22uF	20% 4V
C504	1-164-227-11	CERAMIC CHIP 0.022uF	10% 25V
C505	1-135-201-11	TANTALUM CHIP 10uF	20% 4V
C506	1-104-752-11	TANTAL. CHIP 33uF	20% 6.3V
C507	1-104-752-11	TANTAL. CHIP 33uF	20% 6.3V
C508	1-104-752-11	TANTAL. CHIP 33uF	20% 6.3V
C509	1-115-467-11	CERAMIC CHIP 0.22uF	10% 10V
C510	1-115-467-11	CERAMIC CHIP 0.22uF	10% 10V
C511	1-104-847-11	TANTAL. CHIP 22uF	20% 4V
C601	1-107-826-11	CERAMIC CHIP 0.1uF	10% 16V
C602	1-107-823-11	CERAMIC CHIP 0.47uF	10% 16V
C603	1-107-823-11	CERAMIC CHIP 0.47uF	10% 16V
C604	1-163-037-11	CERAMIC CHIP 0.022uF	10% 25V

Ref. No.	Part No.	Description	Remark
C605	1-164-360-11	CERAMIC CHIP 0.1uF	16V
C606	1-164-360-11	CERAMIC CHIP 0.1uF	16V
C607	1-135-201-11	TANTALUM CHIP 10uF	20% 4V
C701	1-135-201-11	TANTALUM CHIP 10uF	20% 4V
C702	1-162-970-11	CERAMIC CHIP 0.01uF	10% 25V
C703	1-162-970-11	CERAMIC CHIP 0.01uF	10% 25V
C704	1-109-982-11	CERAMIC CHIP 1uF	10% 10V
C705	1-107-823-11	CERAMIC CHIP 0.47uF	10% 16V
C706	1-135-151-21	TANTALUM CHIP 4.7uF	20% 4V
C707	1-164-360-11	CERAMIC CHIP 0.1uF	16V
C710	1-164-360-11	CERAMIC CHIP 0.1uF	16V
< JACK >			
CN101	1-580-372-41	JACK,DC(POLARITY UNIFIED TYPE) (DC IN 3V)	
< DIODE >			
D101	8-719-977-03	DIODE DTZ5.6B	
D401	8-719-988-62	DIODE 1SS355	
D402	8-719-988-62	DIODE 1SS355	
D403	8-719-988-62	DIODE 1SS355	
D501	8-719-049-09	DIODE 1SS367-T3SONY	
D502	8-719-049-09	DIODE 1SS367-T3SONY	
D601	8-719-049-09	DIODE 1SS367-T3SONY	
D602	8-719-049-09	DIODE 1SS367-T3SONY	
D603	8-719-049-09	DIODE 1SS367-T3SONY	
D701	8-719-988-62	DIODE 1SS355	
< IC >			
IC101	8-752-036-38	IC CXA1347N	
IC401	8-759-424-75	IC FB1056	
IC402	8-759-184-64	IC TC4W66FU	
IC403	8-759-710-79	IC NJM2107F	
IC501	8-759-701-51	IC NJM2072M	
IC502	8-759-432-30	IC S-81337HG-KE-T1	
IC503	8-759-092-54	IC RH5RH501A	
IC504	8-759-177-44	IC S-80715AN-DC-T1	
IC601	8-759-275-47	IC LB1674V-TLM	
IC602	8-759-082-60	IC TC7S66FU	
IC603	8-759-184-64	IC TC4W66FU	
IC604	8-759-280-84	IC S-81211SG-QA-T1	
IC701	8-759-280-84	IC S-81211SG-QA-T1	
IC702	8-759-424-76	IC TB2004FN-018-ER	
< JACK >			
J101	1-563-319-21	JACK (MIC (PLUG IN POWER))	
J102	1-563-319-21	JACK (EAR)	
< COIL >			
L401	1-412-030-11	INDUCTOR CHIP 22uH	
L501	1-412-030-11	INDUCTOR CHIP 22uH	
L502	1-414-222-11	INDUCTOR 120uH	
L503	1-412-030-11	INDUCTOR CHIP 22uH	

Ref. No.	Part No.	Description	Remark
< PHOTO INTERRUPTER >			
PH701	8-749-925-05	REFLECTOR NJL5183KA-F20-TE1 (ROTATION DET)	
< TRANSISTOR >			
Q101	8-729-230-63	TRANSISTOR 2SC4116-YG	
Q102	8-729-230-63	TRANSISTOR 2SC4116-YG	
Q103	8-729-402-96	TRANSISTOR UN5114	
Q401	8-729-426-31	TRANSISTOR XP1214	
Q402	8-729-402-93	TRANSISTOR UN5214-TX	
Q403	8-729-030-46	TRANSISTOR XP4314-TX	
Q404	8-729-402-93	TRANSISTOR UN5214-TX	
Q405	8-729-402-96	TRANSISTOR UN5114	
Q406	8-729-402-93	TRANSISTOR UN5214-TX	
Q407	8-729-402-93	TRANSISTOR UN5214-TX	
Q501	8-729-230-63	TRANSISTOR 2SC4116-YG	
Q502	8-729-429-44	TRANSISTOR XP1501	
Q503	8-729-427-19	TRANSISTOR XP4114-TXE	
Q505	8-729-402-96	TRANSISTOR UN5114	
Q506	8-729-823-86	TRANSISTOR 2SA1745	
Q507	8-729-402-93	TRANSISTOR UN5214-TX	
Q601	8-729-030-46	TRANSISTOR XP4314-TX	
Q602	8-729-823-86	TRANSISTOR 2SA1745	
Q603	8-729-823-86	TRANSISTOR 2SA1745	
Q604	8-729-402-96	TRANSISTOR UN5114	
Q605	8-729-402-96	TRANSISTOR UN5114	
Q701	8-729-402-93	TRANSISTOR UN5214-TX	
Q702	8-729-230-63	TRANSISTOR 2SC4116-YG	
Q703	8-729-426-31	TRANSISTOR XP1214	
Q704	8-729-402-96	TRANSISTOR UN5114	
Q705	8-729-425-88	TRANSISTOR XP1114-TXE	
Q706	8-729-402-93	TRANSISTOR UN5214-TX	
Q707	8-729-230-63	TRANSISTOR 2SC4116-YG	
Q710	8-729-420-24	TRANSISTOR 2SB1218A-QRS	
< RESISTOR >			
R101	1-216-807-11	METAL CHIP 68	5% 1/16W
R102	1-216-821-11	METAL CHIP 1K	5% 1/16W
R103	1-216-830-11	METAL CHIP 5.6K	5% 1/16W
R104	1-216-829-11	METAL CHIP 4.7K	5% 1/16W
R105	1-216-827-11	METAL CHIP 3.3K	5% 1/16W
R106	1-216-798-11	METAL GLAZE 12	5% 1/16W
R107	1-216-828-11	METAL CHIP 3.9K	5% 1/16W
R108	1-216-821-11	METAL CHIP 1K	5% 1/16W
R109	1-216-845-11	METAL CHIP 100K	5% 1/16W
R110	1-216-828-11	METAL CHIP 3.9K	5% 1/16W
R111	1-216-833-11	METAL CHIP 10K	5% 1/16W
R112	1-216-823-11	METAL CHIP 1.5K	5% 1/16W
R113	1-216-831-11	METAL CHIP 6.8K	5% 1/16W
R114	1-216-845-11	METAL CHIP 100K	5% 1/16W
R115	1-216-835-11	METAL CHIP 15K	5% 1/16W

Ref. No.	Part No.	Description	Remark
R116	1-216-815-11	METAL CHIP 330	5% 1/16W
R117	1-216-815-11	METAL CHIP 330	5% 1/16W
R118	1-216-813-11	METAL CHIP 220	5% 1/16W
R119	1-216-792-11	METAL GLAZE 3.9	5% 1/16W
R120	1-216-792-11	METAL GLAZE 3.9	5% 1/16W
R121	1-216-828-11	METAL CHIP 3.9K	5% 1/16W
R122	1-216-833-11	METAL CHIP 10K	5% 1/16W
R123	1-216-821-11	METAL CHIP 1K	5% 1/16W
R124	1-216-828-11	METAL CHIP 3.9K	5% 1/16W
R125	1-216-845-11	METAL CHIP 100K	5% 1/16W
R126	1-216-801-11	METAL CHIP 22	5% 1/16W
R128	1-216-851-11	METAL CHIP 330K	5% 1/16W
R401	1-216-839-11	METAL CHIP 33K	5% 1/16W
R402	1-216-845-11	METAL CHIP 100K	5% 1/16W
R403	1-216-830-11	METAL CHIP 5.6K	5% 1/16W
R404	1-216-845-11	METAL CHIP 100K	5% 1/16W
R405	1-216-857-11	METAL CHIP 1M	5% 1/16W
R406	1-216-833-11	METAL CHIP 10K	5% 1/16W
R407	1-216-833-11	METAL CHIP 10K	5% 1/16W
R408	1-216-855-11	METAL CHIP 680K	5% 1/16W
R409	1-216-833-11	METAL CHIP 10K	5% 1/16W
R410	1-216-821-11	METAL CHIP 1K	5% 1/16W
R411	1-216-833-11	METAL CHIP 10K	5% 1/16W
R412	1-216-833-11	METAL CHIP 10K	5% 1/16W
R413	1-216-821-11	METAL CHIP 1K	5% 1/16W
R414	1-216-855-11	METAL CHIP 680K	5% 1/16W
R415	1-216-833-11	METAL CHIP 10K	5% 1/16W
R416	1-216-833-11	METAL CHIP 10K	5% 1/16W
R417	1-216-833-11	METAL CHIP 10K	5% 1/16W
R418	1-216-845-11	METAL CHIP 100K	5% 1/16W
R419	1-216-833-11	METAL CHIP 10K	5% 1/16W
R420	1-216-845-11	METAL CHIP 100K	5% 1/16W
R421	1-216-845-11	METAL CHIP 100K	5% 1/16W
R422	1-216-833-11	METAL CHIP 10K	5% 1/16W
R423	1-216-833-11	METAL CHIP 10K	5% 1/16W
R424	1-216-845-11	METAL CHIP 100K	5% 1/16W
R425	1-216-838-11	METAL CHIP 27K	5% 1/16W
R426	1-216-833-11	METAL CHIP 10K	5% 1/16W
R427	1-216-834-11	METAL CHIP 12K	5% 1/16W
R428	1-216-833-11	METAL CHIP 10K	5% 1/16W
R429	1-216-833-11	METAL CHIP 10K	5% 1/16W
R430	1-216-821-11	METAL CHIP 1K	5% 1/16W
R431	1-216-845-11	METAL CHIP 100K	5% 1/16W
R432	1-216-833-11	METAL CHIP 10K	5% 1/16W
R433	1-216-833-11	METAL CHIP 10K	5% 1/16W
R501	1-216-809-11	METAL CHIP 100	5% 1/16W
R502	1-216-845-11	METAL CHIP 100K	5% 1/16W
R503	1-216-833-11	METAL CHIP 10K	5% 1/16W
R504	1-216-809-11	METAL CHIP 100	5% 1/16W
R505	1-216-828-11	METAL CHIP 3.9K	5% 1/16W
R506	1-216-827-11	METAL CHIP 3.3K	5% 1/16W
R507	1-216-823-11	METAL CHIP 1.5K	5% 1/16W

MAIN

Ref. No.	Part No.	Description			Remark
R508	1-216-821-11	METAL CHIP	1K	5%	1/16W
R509	1-216-861-11	METAL CHIP	2.2M	5%	1/16W
R510	1-216-817-11	METAL CHIP	470	5%	1/16W
R511	1-216-831-11	METAL CHIP	6.8K	5%	1/16W
R512	1-216-820-11	METAL CHIP	820	5%	1/16W
R513	1-216-816-11	METAL CHIP	390	5%	1/16W
R514	1-216-861-11	METAL CHIP	2.2M	5%	1/16W
R515	1-216-837-11	METAL CHIP	22K	5%	1/16W
R516	1-216-837-11	METAL CHIP	22K	5%	1/16W
R517	1-216-837-11	METAL CHIP	22K	5%	1/16W
R519	1-216-809-11	METAL CHIP	100	5%	1/16W
R601	1-216-821-11	METAL CHIP	1K	5%	1/16W
R602	1-216-839-11	METAL CHIP	33K	5%	1/16W
R604	1-216-840-11	METAL CHIP	39K	5%	1/16W
R605	1-216-813-11	METAL CHIP	220	5%	1/16W
R606	1-216-831-11	METAL CHIP	6.8K	5%	1/16W
R607	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R608	1-216-809-11	METAL CHIP	100	5%	1/16W
R609	1-216-809-11	METAL CHIP	100	5%	1/16W
R610	1-216-845-11	METAL CHIP	100K	5%	1/16W
R611	1-216-841-11	METAL CHIP	47K	5%	1/16W
R612	1-216-845-11	METAL CHIP	100K	5%	1/16W
R613	1-216-809-11	METAL CHIP	100	5%	1/16W
R614	1-216-845-11	METAL CHIP	100K	5%	1/16W
R615	1-216-845-11	METAL CHIP	100K	5%	1/16W
R616	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R617	1-216-818-11	METAL CHIP	560	5%	1/16W
R618	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R619	1-216-823-11	METAL CHIP	1.5K	5%	1/16W
R620	1-216-835-11	METAL CHIP	15K	5%	1/16W
R621	1-216-833-11	METAL CHIP	10K	5%	1/16W
R701	1-218-295-11	METAL GLAZE	43K	5%	1/16W
R702	1-216-833-11	METAL CHIP	10K	5%	1/16W
R705	1-216-833-11	METAL CHIP	10K	5%	1/16W
R706	1-216-833-11	METAL CHIP	10K	5%	1/16W
R707	1-216-833-11	METAL CHIP	10K	5%	1/16W
R708	1-216-833-11	METAL CHIP	10K	5%	1/16W
R709	1-216-841-11	METAL CHIP	47K	5%	1/16W
R710	1-216-810-11	METAL CHIP	120	5%	1/16W
< VARIABLE RESISTOR >					
RV101	1-223-510-11	RES, VAR, CARBON 10K/10K (VOL)			
RV402	1-223-591-11	RES, ADJ, CARBON 470K (PITCH CONTROL (MANUAL))			
RV403	1-241-596-11	RES, ADJ, METAL GRAZE 47K (PITCH CONTROL (AUTO))			
RV602	1-223-589-11	RES, ADJ, CARBON 100K (TAPE SPEED(MAX))			
RV603	1-223-583-11	RES, ADJ, CARBON 1K (TAPE SPEED(MID))			
RV604	1-223-583-11	RES, ADJ, CARBON 1K (TAPE SPEED(MIN))			
< SWITCH >					
S101	1-692-896-11	SWITCH, SLIDE (PB/REC)			

Ref. No.	Part No.	Description	Remark
S102	1-692-896-11	SWITCH, SLIDE (REV/FWD)	
S103	1-762-594-11	SWITCH, PUSH (1 KEY) (POWER)	
S701	1-572-922-11	SWITCH, SLIDE (← PAUSE)	
S702	1-572-688-11	SWITCH, PUSH (1 KEY) (FWD RETURN)	
S703	1-572-288-11	SWITCH, PUSH (DIR→)	
S704	1-572-288-11	SWITCH, PUSH (FF/REW)	
< TRANSFORMER >			
T101	1-433-286-11	TRANSFORMER, BIAS OSCILLATION	
T701	1-450-667-11	TRANSFORMER, DC-DC CONVERTER	
< THERMISTOR >			
TH601	1-801-410-11	THERMISTOR (1608) 2.2K	
< THERMISTOR(POSITIVE) >			
THP601	1-801-526-11	THERMISTOR, POSITIVE 2.2K	
< CONNECTOR >			
W101	1-573-365-21	CONNECTOR, FFC/FPC 25P	
< VIBRATOR >			
X401	1-760-227-11	VIBRATOR, CERAMIC (768kHz)	

MISCELLANEOUS			

123	1-663-326-11	PC BOARD, MOTOR FLEXIBLE	
189	1-548-582-11	COUNTER, TAPE (SMALL TYPE)	
HE901	1-500-247-11	HEAD, MAGNETIC (ERASE)	
HRP901	1-500-246-11	HEAD, MAGNETIC (RECORD/PLAYBACK)	
M901	1-698-804-11	MOTOR, DC	
MIC901	1-542-298-11	MICROPHONE, ELECTRET CONDENSER	
SP901	1-504-688-11	SPEAKER (3.6cm)	

ACCESSORIES & PACKING MATERIALS			

	3-926-629-02	PORCH, CARRYING	
*	3-013-551-01	INDIVIDUAL CARTON (JEW)	
*	3-938-593-01	INDIVIDUAL CARTON (US, E)	
*	3-938-594-01	INDIVIDUAL CARTON (CND, AEP)	
	3-800-626-01	MANUAL, INSTRUCTION (JAPANESE) (JEW)	
	3-856-977-03	MANUAL, INSTRUCTION (JAPANESE, ENGLISH) (JEW)	
	3-856-977-11	MANUAL, INSTRUCTION (ENGLISH) (US)	
	3-856-977-21	MANUAL, INSTRUCTION (ENGLISH, FRENCH) (CND, AEP, E)	
	3-856-977-31	MANUAL, INSTRUCTION (SPANISH, PORTUGUESE, ITALIAN) (AEP, E)	
	3-856-977-41	MANUAL, INSTRUCTION (GERMAN, DUTCH, SWEDISH) (AEP)	