

M-330

SERVICE MANUAL

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



Model Name Using Similar Mechanism	M-740
Tape Transport Mechanism Type	MZ-330-14

SPECIFICATIONS

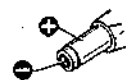
Tape	(MICROCASSETTE) [™] (normal position type)
Recording system	2-track 1-channel monaural
Speaker	Approx. 4 cm (1 5/8 inches) dia.
Tape speed	2.4 cm/s (1 5/16 ips), 1.2 cm/s (1 5/32 ips)
Frequency response	250 - 4,000 Hz (at 2.4 cm position)
Output	Earphone jack (mini-jack) for 8-300 ohm earphone
Power output	150 mW (at 10 % harmonic distortion)
Battery life (recording)	Sony SUM-3 (NS): Approx. 6 hours Sony AM3 (N): Approx. 18 hours
Power requirements	3 V DC, two size AA (R6) batteries DC IN 3V jack accepts: • Sony AC-D2M AC power adaptor (optional) available in US, Canadian models for use on 120V AC, 60Hz available in AEP model for use on 220V AC, 50Hz available in UK model for use on 240V AC, 50Hz available in E model for use on 120V AC, 60Hz or 220V AC, 50Hz • Sony DCC-70 car battery cord (optional) for use with 12V car battery
Dimensions	Approx. 67.5 x 124 x 27 mm (w/h/d) (2 3/4 x 5 x 1 1/8 inches) incl. projecting parts and controls
Weight	Approx. 180 g (6.4 oz.) incl. batteries
Accessory supplied	Microcassette tape MC-30 (1) (US model only) Handstrap (1) (AEP, E model)

Design and specifications subject to change without notice.

FEATURES

- Compact size and easy operation
- You can start recording directly from the playback mode. This function is convenient to correct a previously recorded portion.
- Automatic shut-off mechanism

Note: Use only the recommended AC power adaptor or car battery cord manufactured by Sony. Polarity of the plugs of other manufacturers may be different.

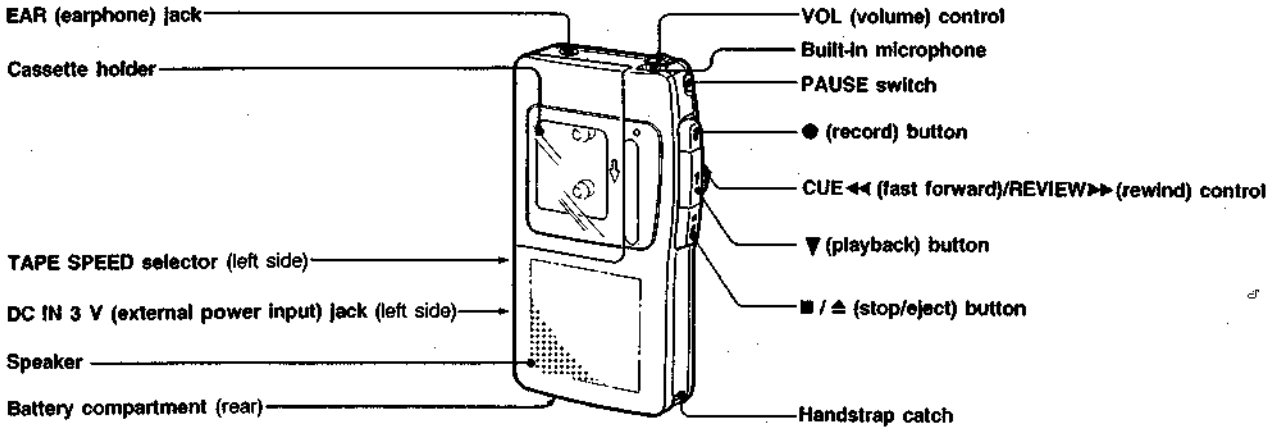


Polarity of the Sony plug



MICROCASSETTE™-CORDER
SONY®

LOCATION OF CONTROLS



NOTES ON MICROCASSETTE

<p>To protect cassettes from accidental erasure</p> <p>Break out and remove the lab.</p>	<p>To reuse a cassette</p> <p>Cover the slot with plastic tape.</p>
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SERVICING NOTE

Repairing printed resistor

Cut both sides of the resistor and solder the carbon resistor having same value in place of printed one of the conductor side.

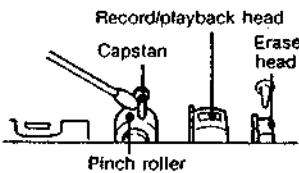
1/4W carbon resistor is supplied for the replacing part of the printed resistor.

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.

This unit uses only standard Microcassettes. Non standard cassettes cannot be used because their "L" dimension (see illustration) is different.

MAINTENANCE



Cleaning the head

Clean the tape head after every 10 hours of use to enjoy optimum sound. Moisten a cotton swab or a soft cloth with alcohol and wipe the parts shown in the illustration.

Cleaning the casing

Clean the casing with a soft cloth slightly moistened with water or a mild detergent solution. Do not use alcohol, benzine or thinner as they may mar the finish.

SECTION 1 ADJUSTMENTS

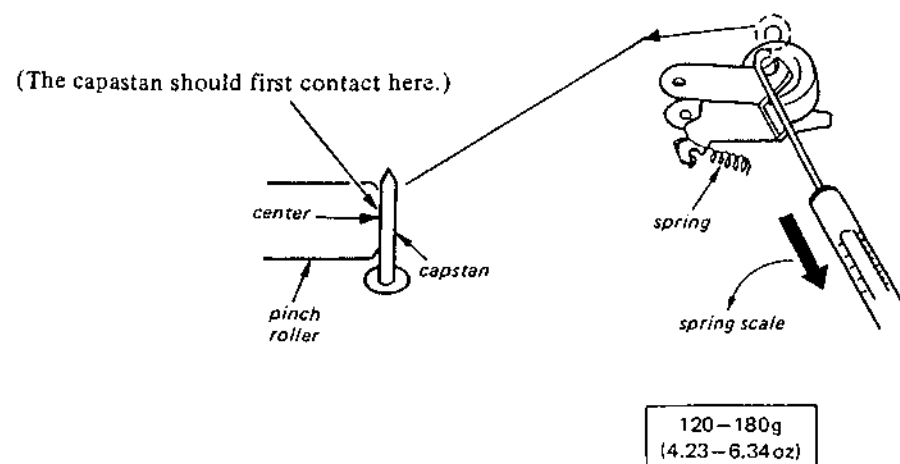
1-1. MECHANICAL ADJUSTMENT AND MEASUREMENT

PRECAUTION																	
<ol style="list-style-type: none"> Clean the following parts with a denatured-alcohol-moistened swab: <div style="display: flex; justify-content: space-between; margin-left: 20px;"> record/playback head pinch roller </div> <div style="display: flex; justify-content: space-between; margin-left: 20px;"> erase head rubber belts </div> <div style="display: flex; justify-content: space-between; margin-left: 20px;"> capstan </div> 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. The adjustments should be performed with the rated power supply voltage unless otherwise noted. 	<p>Power supply voltage: 3 V dc TAPE SPEED switch: 2.4 cm</p> <p>Torque Measurement</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Torque</th> <th>Meter Reading</th> <th>Torque Meter</th> </tr> </thead> <tbody> <tr> <td>Forward</td> <td>5 - 13g·cm (0.07 - 0.18oz·inch)</td> <td>CQ-193M</td> </tr> <tr> <td>Fast Forward</td> <td>5 - 13g·cm (0.07 - 0.18oz·inch)</td> <td>CQ-201M</td> </tr> <tr> <td>Rewind</td> <td>more than 15g·cm (more than 0.21oz·inch)</td> <td>CQ-201M</td> </tr> </tbody> </table> <p>Tape Tension Measurement</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Torque Meter</th> <th>Meter Reading</th> </tr> </thead> <tbody> <tr> <td>CQ-403M</td> <td>more than 40g·cm (more than 0.56oz·inch)</td> </tr> </tbody> </table>	Torque	Meter Reading	Torque Meter	Forward	5 - 13g·cm (0.07 - 0.18oz·inch)	CQ-193M	Fast Forward	5 - 13g·cm (0.07 - 0.18oz·inch)	CQ-201M	Rewind	more than 15g·cm (more than 0.21oz·inch)	CQ-201M	Torque Meter	Meter Reading	CQ-403M	more than 40g·cm (more than 0.56oz·inch)
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Pinch Roller Pressure Adjustment

— Playback Mode —

Slowly return the pinch roller and read the spring scale just when the pinch roller starts rotating.



1-2. ELECTRICAL ADJUSTMENTS

Standard Input Level

Type	Signal	Used for
WS-24	3kHz, -10dB	Tape Speed Adjustment
S-2-A030	3kHz, -20dB	Head Azimuth Adjustment

Record/playback Head Azimuth Adjustment

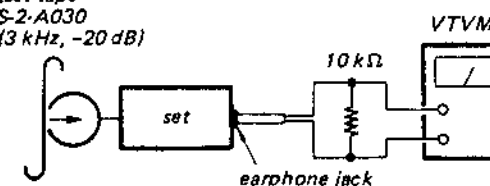
Setting:

VOLUME control: mechanical mid
TAPE SPEED switch: 2.4 cm/s

Procedure:

- Mode: playback

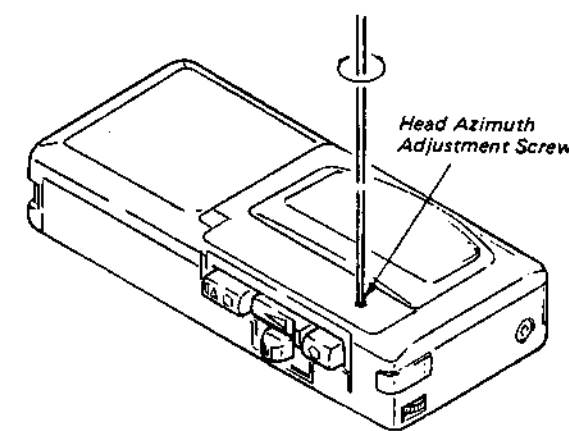
test tape
S-2-A030
(3 kHz, -20 dB)



- Turn the adjustment screw to obtain the maximum reading on VTVM.

Note: Several peaks may appear, but take the maximum.

Adjustment Location:



Tape Speed Adjustment

Setting:

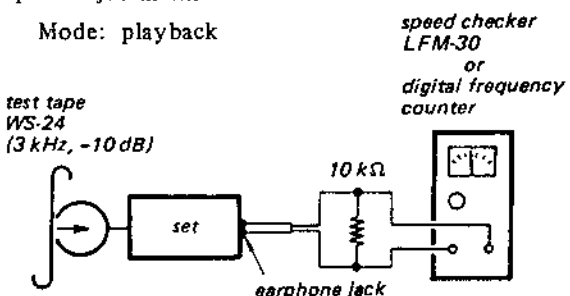
VOLUME control: mechanical mid

Procedure:

- Perform 2.4 cm/s speed adjustment before 1.2 cm/s speed adjustment.

Mode: playback

test tape
WS-24
(3 kHz, -10 dB)



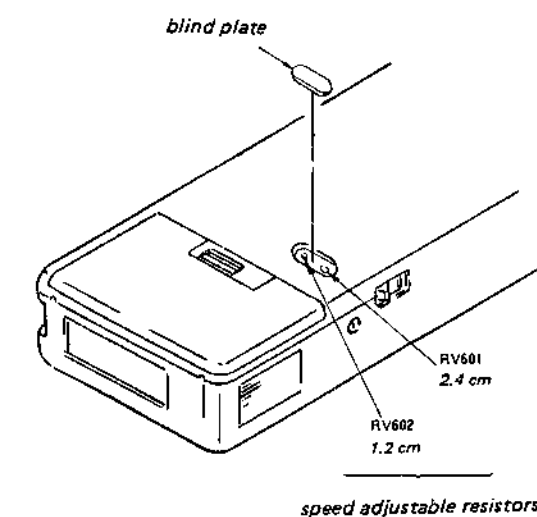
Tape speed	Speed checker	Digital frequency counter
2.4 cm/s	±4%	2,880 - 3,120 Hz
1.2 cm/s	±5%	1,425 - 1,575 Hz

Frequency difference between the beginning and the end of the tape should be within 0.5%.

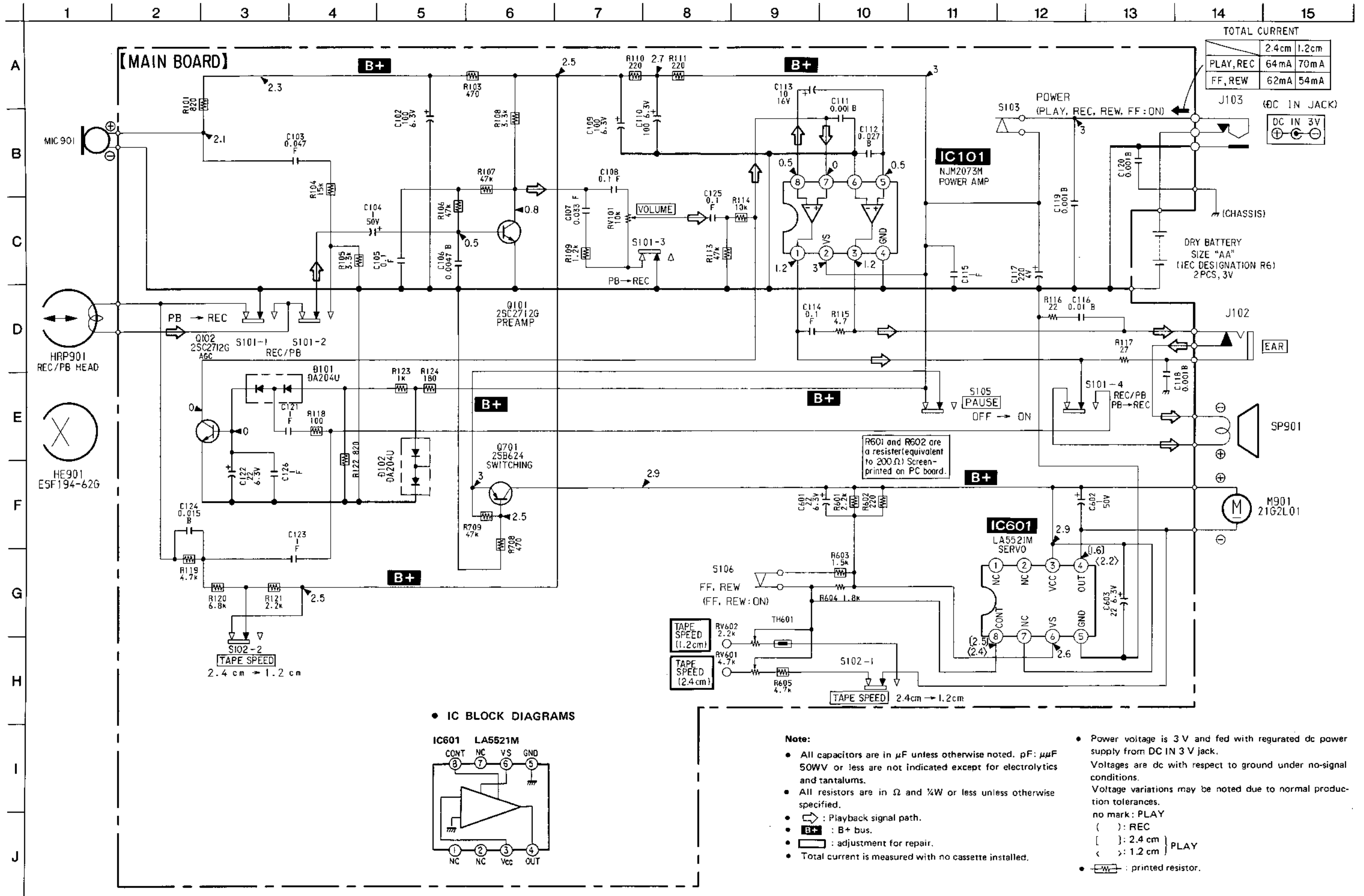
2.4 cm/s (15 Hz)

1.2 cm/s (7.5 Hz)

Adjustment Location:



2-2. SCHEMATIC DIAGRAM



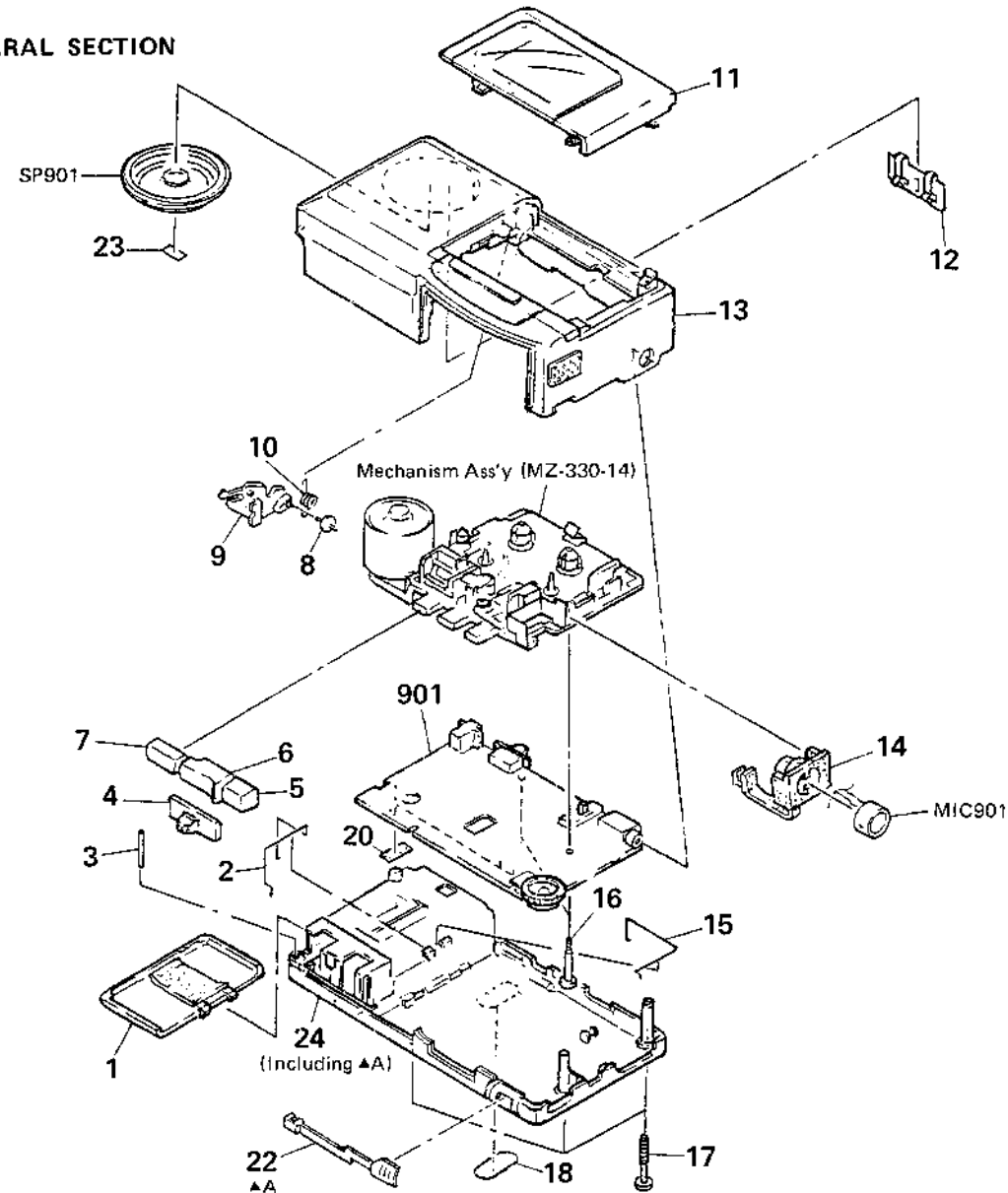
SECTION 3 EXPLODED VIEWS

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.

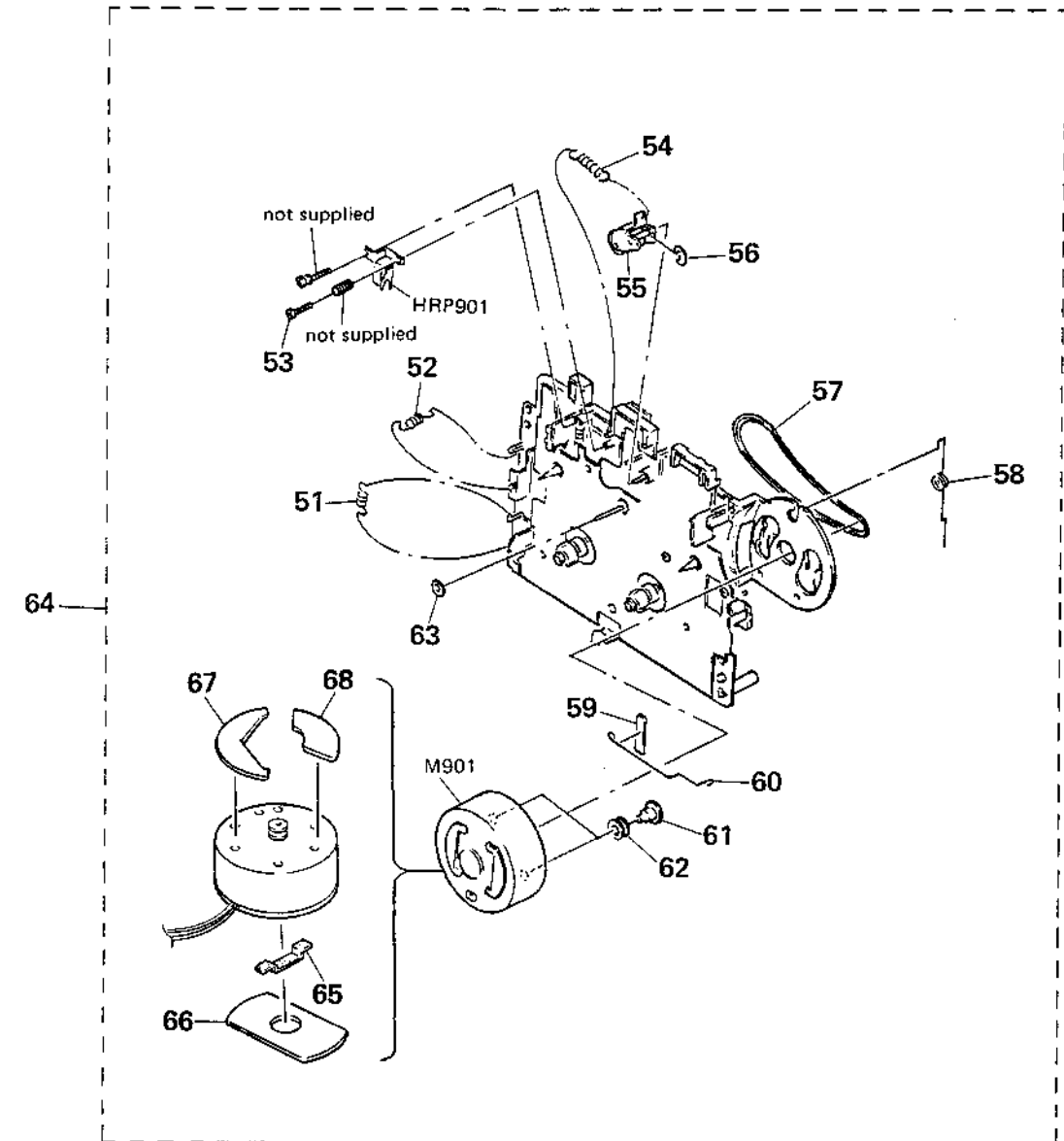
- Due to standardization, parts with part number suffix -XX and -X may be different from the parts specified in the components used on the set.
- Color Indication of Appearance Parts
Example:
(RED) ... KNOB, BALANCE (WHITE)
↑ Cabinet's Color ↑ Parts' Color

3-1. GENERAL SECTION



No.	Part No.	Description	Remarks	No.	Part No.	Description	Remarks
1	X-3339-382-1	LID ASSY, BATTERY CASE		14	3-343-953-01	HOLDER, MICROPHONE	
2	3-357-510-01	TERMINAL (+), BATTERY		15	3-357-511-01	TERMINAL (-), BATTERY	
3	3-576-082-00	PIN, PARALLEL		16	3-342-156-31	SCREW PWH 1.4X9.8	
4	3-343-960-01	BUTTON (F/R)		17	3-357-509-01	SCREW (+1.7), TAPPING	
5	3-343-956-01	BUTTON (REC)		18	3-342-155-11	PLATE, BLIND	
6	3-343-958-01	BUTTON (PLAY)		20	3-831-441-11	CUSHION (B)	
7	3-343-957-01	BUTTON (STOP)		22	3-343-954-01	KNOB (PAUSE)	
8	3-358-333-01	SHAFT (EJECT), LEVER		23	*3-358-332-01	CUSHION	
9	3-343-955-01	LEVER (EJECT)		24	X-3342-147-1	CABINET (REAR) ASSY	22
10	3-343-949-01	SPRING, TORSION		901	A-3015-851-A	PC BOARD ASSY, MAIN	
11	X-3342-136-1	LID ASSY, CASSETTE		MIC901	1-542-136-11	MICROPHONE, BUILT-IN	
12	3-576-074-00	SPRING		SP901	1-503-761-11	SPEAKER	
13	X-3342-135-1	CABINET (FRONT) ASSY					

3-2. MECHANISM SECTION (MZ-330-14)



No.	Part No.	Description	Remarks	No.	Part No.	Description	Remarks
51	3-342-186-01	SPRING, TENSION		63	3-315-384-41	WASHER, STOPPER (t=0.35)	
52	3-342-102-01	SPRING, TENSION		64	A-3013-430-A	MECHANISM ASSY (MZ-330-14)	51-68
53	3-318-203-31	SCREW (B1.7X8), TAPPING		65	3-485-330-11	FELT	
54	3-342-173-01	SPRING, TENSION		66	3-342-050-11	RUBBER (A), VIBRATION PROOF	
55	X-3342-102-1	PINCH LEVER ASSY		67	3-342-075-01	SPACER, MOTOR	
56	3-590-768-00	RING (A), E		68	3-352-476-01	SHEET (MOTOR)	
57	3-343-966-01	BELT		HRP901	1-543-432-11	HEAD, MAGNETIC (REC/PB)	
58	3-358-324-01	SPRING, SW ARM		M901	1-541-738-11	MOTOR	
59	3-485-330-11	FELT					
60	3-357-512-01	SPRING, M GROUND					
61	3-309-836-01	SHAFT, FITTING, MOTOR					
62	3-570-770-00	CUSHION (A), MOTOR					

Ref.No.	Part No.	Description
RV101	1-237-731-21	RES, VAR, CARBON 10K (VOLUME)
RV601	1-228-993-00	RES, ADJ, CARBON 4.7K (2.4CM)
RV602	1-228-991-00	RES, ADJ, CARBON 2.2K (1.2CM)
S101	1-572-246-11	SWITCH, SLIDE (REC/PB)
S102	1-571-478-11	SWITCH, SLIDE (TAPE SPEED)
S103	1-571-621-21	SWITCH, LEAF (POWER)
S105	1-571-275-11	SWITCH, SLIDE (PAUSE)
S106	1-571-986-11	SWITCH, LEAF (FF/REW)
SP901	1-503-761-11	SPEAKER
TH601	1-808-956-11	THERMISTOR, POSITIVE

ACCESSORY & PACKING MATERIAL

X-3338-703-1	(AEP,E)...STRAP ASSY
*3-343-905-01	(EXCEPT US)...CUSHION
*3-343-906-01	(EXCEPT US)...SPACER
*3-358-316-01	(EXCEPT US)...INDIVIDUAL CARTON
*3-343-987-01	(US)...CUSHION (UPPER)
*3-343-988-01	(US)...CUSHION (LOWER)
3-751-346-11	(AEP,E)...MANUAL, INSTRUCTION (ENGLISH/FRENCH/SPANISH/PORTUGUESE)
3-751-346-21	(US).....MANUAL, INSTRUCTION (ENGLISH)
3-751-346-31	(UK,Canadian)...MANUAL, INSTRUCTION (ENGLISH/FRENCH)
3-751-346-41	(AEP)....MANUAL, INSTRUCTION (GERMAN/DUTCH/SWEDISH/ITALIAN)