

# M-440V/550V/660V

## SERVICE MANUAL

Ver 1.0 2000.12

with SUPPLEMENT 1 (9-955-640-81)

with SUPPLEMENT 2 (9-955-640-82)

with SUPPLEMENT 3 (9-955-640-83)

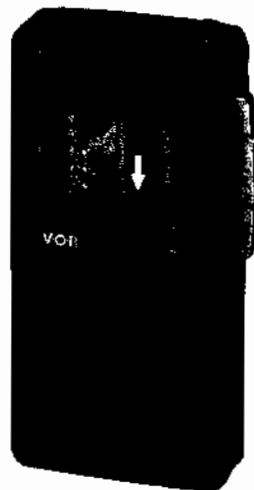


Photo: M-550V

*US Model*

*M-440V/550V/660V*

*Canadian Model*

*AEP Model*

*UK Model*

*E Model*

*M-550V*

### SPECIFICATIONS

Tape	(MICROCASSETTE) <sup>™</sup> (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 1/16 ips), 1.2 cm/s (1 1/32 ips)
Frequency response	250 - 4,000 Hz (at 2.4 cm position)
Input (M-550V/660V)	Microphone jack (minijack) (PLUG IN POWER) sensitivity 0.4 mV for 3 kilohm or lower impedance microphone
Output	Earphone jack (minijack) 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 Two Sony rechargeable batteries (NC-AA) . . . M-660V only DC IN 3V jack accepts: • Sony AC-D2M AC power adaptor (optional) available in US (M-440V/550V), 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 • Supplied AC power adaptor/battery charger for use on 120 V AC, 60 Hz (M-660V only) • 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	Handstrap (1) AC power adaptor/battery charger (1) (M-660V only) Rechargeable battery NC-AA (2) (M-660V only)

Design and specifications subject to change without notice.

Model Name Using Similar Mechanism	M-740, M-750V
Tape Transport Mechanism Type	(M-440V) . . . . MZ-330-14 (M-550V/660V) . . . MZ-550V-14

### FEATURES

- Compact size and easy operation
- VOR (voice operated recording) system economizes on tapes, batteries and your time.
- You can start recording directly from the playback mode. This function is convenient to correct a previously recorded portion.
- Automatic shut-off mechanism

#### What is VOR (voice operated recording) system?

With this system, recording starts only when sound is picked up and stops automatically when sound is no longer detected.

**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.



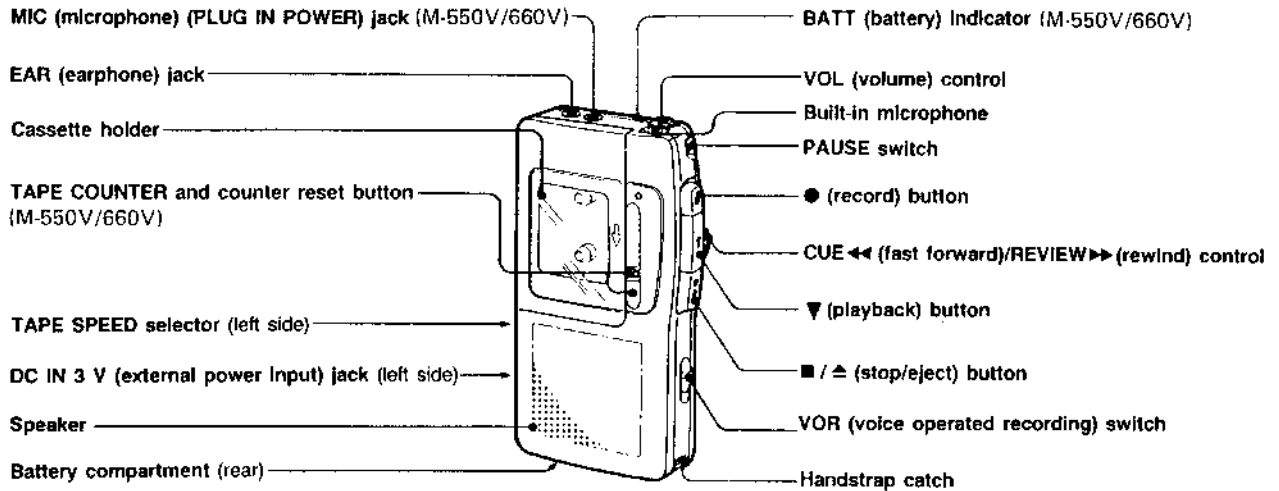
Polarity of the Sony plug



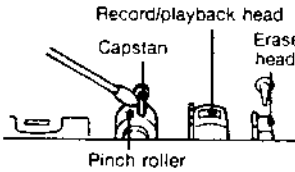
# MICROCASSETTE<sup>™</sup>-CORDER

# SONY<sup>®</sup>

## LOCATION OF CONTROLS



## 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.

## 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.

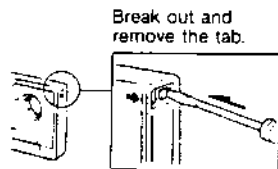
1/4W carbon resistor is supplied for the replacing part of the printed resistor.

### 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.

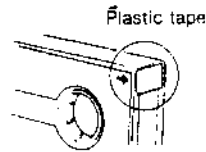
## NOTES ON MICROCASSETTE

### To protect cassettes from accidental erasure

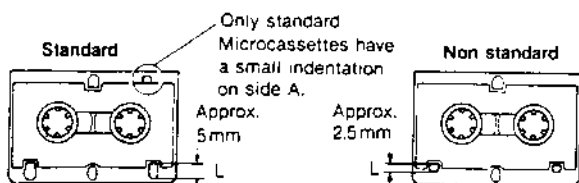


### To reuse a cassette

Cover the slot with plastic tape.



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



### 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 SCHEMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

## SECTION 1 ADJUSTMENTS

### 1-1. MECHANICAL ADJUSTMENT AND MEASUREMENT

#### PRECAUTION

1. Clean the following parts with a denatured-alcohol-moistened swab:
 

record/playback head	pinch roller
erase head	rubber belts
capstan	
2. Demagnetize the record/playback head with a head demagnetizer. (Do not bring the head demagnetizer close to the erase head.)
3. Do not use a magnetized screwdriver for the adjustments.
4. The adjustments should be performed with the rated power supply voltage unless otherwise noted.

Power supply voltage: 3 V dc  
TAPE SPEED switch: 2.4 cm

#### Torque Measurement

Torque	Meter Reading	Torque Meter
Forward	5 - 13g·cm (0.07 - 0.18oz·inch)	CQ-103M
Fast Forward	5 - 13g·cm (0.07 - 0.18oz·inch)	CQ-201M
Rewind	more than 15g·cm (more than 0.21oz·inch)	CQ-201M

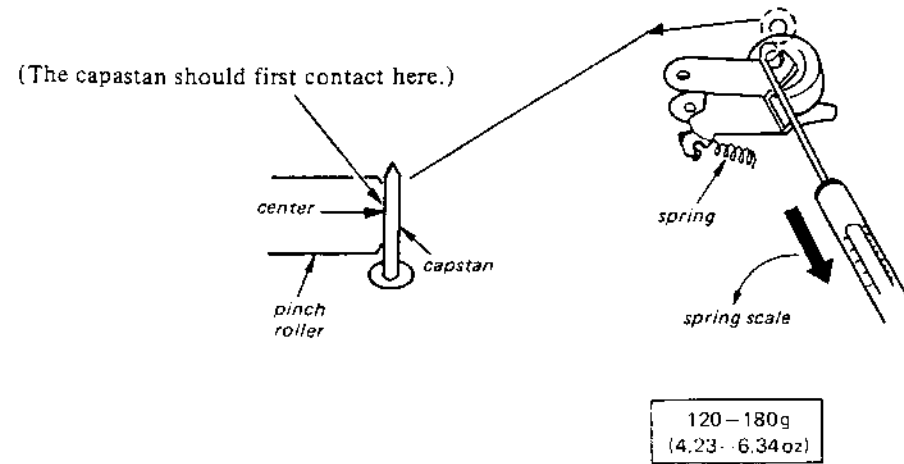
#### Tape Tension Measurement

Meter	Meter Reading
CQ-403M	more than 40g·cm (more than 0.56oz·inch)

#### 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

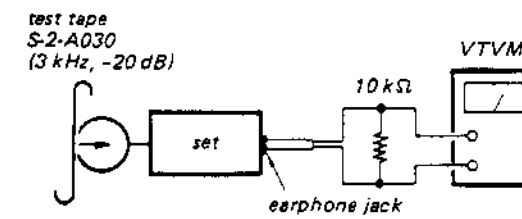
#### Record/playback Head Azimuth Adjustment

##### Setting:

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

##### Procedure:

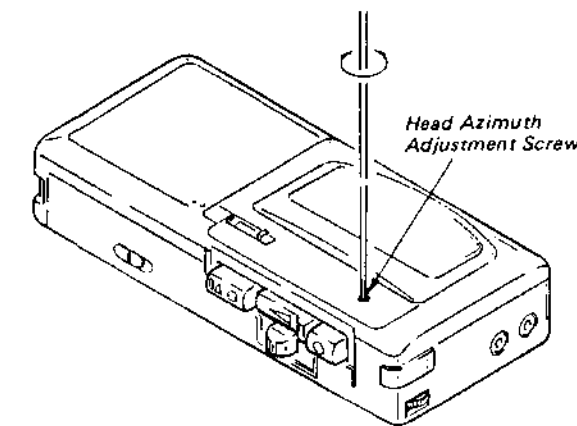
1. Mode: playback



2. 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

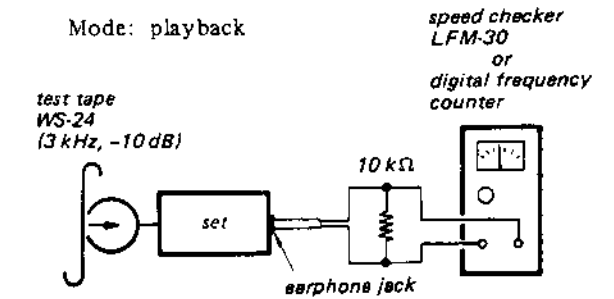
##### Setting:

VOLUME control: mechanical mid  
VOR switch: OFF

##### Procedure:

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

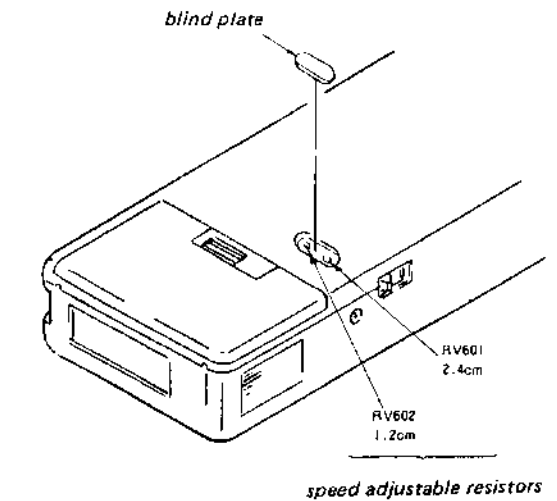
Mode: playback



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

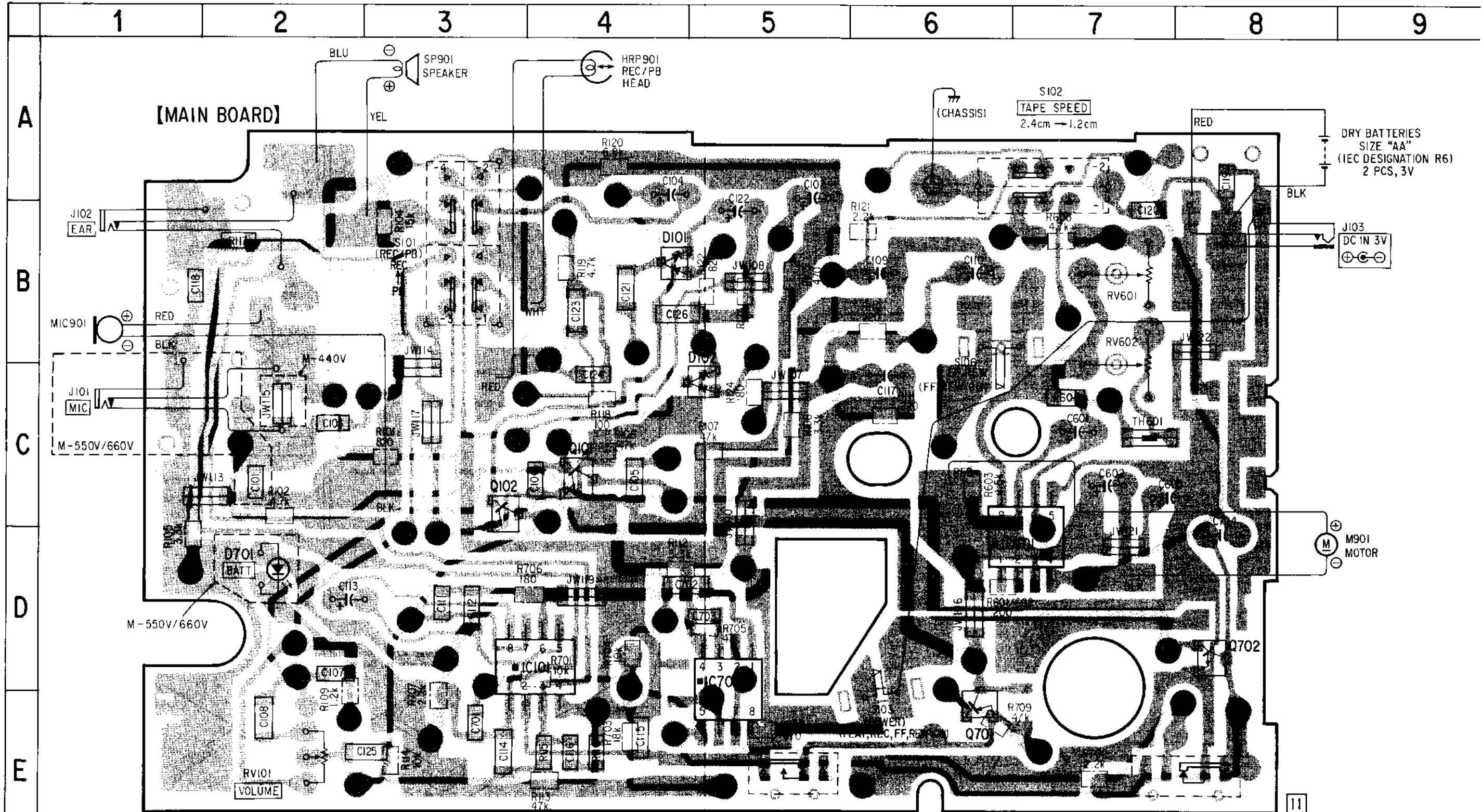
Frequency difference between the beginning and the end of the tape should be within 0.5%.  
2.4 cm/s (15 Hz)  
1.2 cm/s (7.5 Hz)

##### Adjustment Location:



# SECTION 2 DIAGRAMS

## 2-1. PRINTED WIRING BOARDS

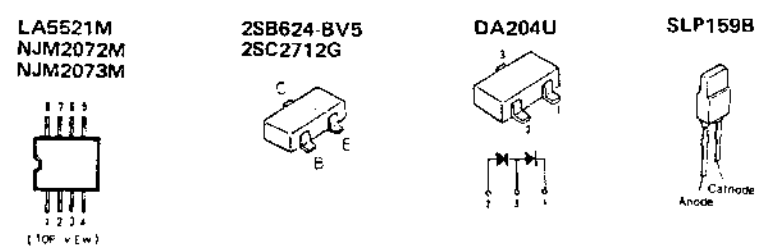


DRY BATTERIES  
SIZE "AA"  
(IEC DESIGNATION R6)  
2 PCS, 3V

J103  
DC IN 3V

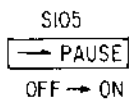
M901  
MOTOR

### Semiconductor Lead Layouts



### Semiconductor Locations

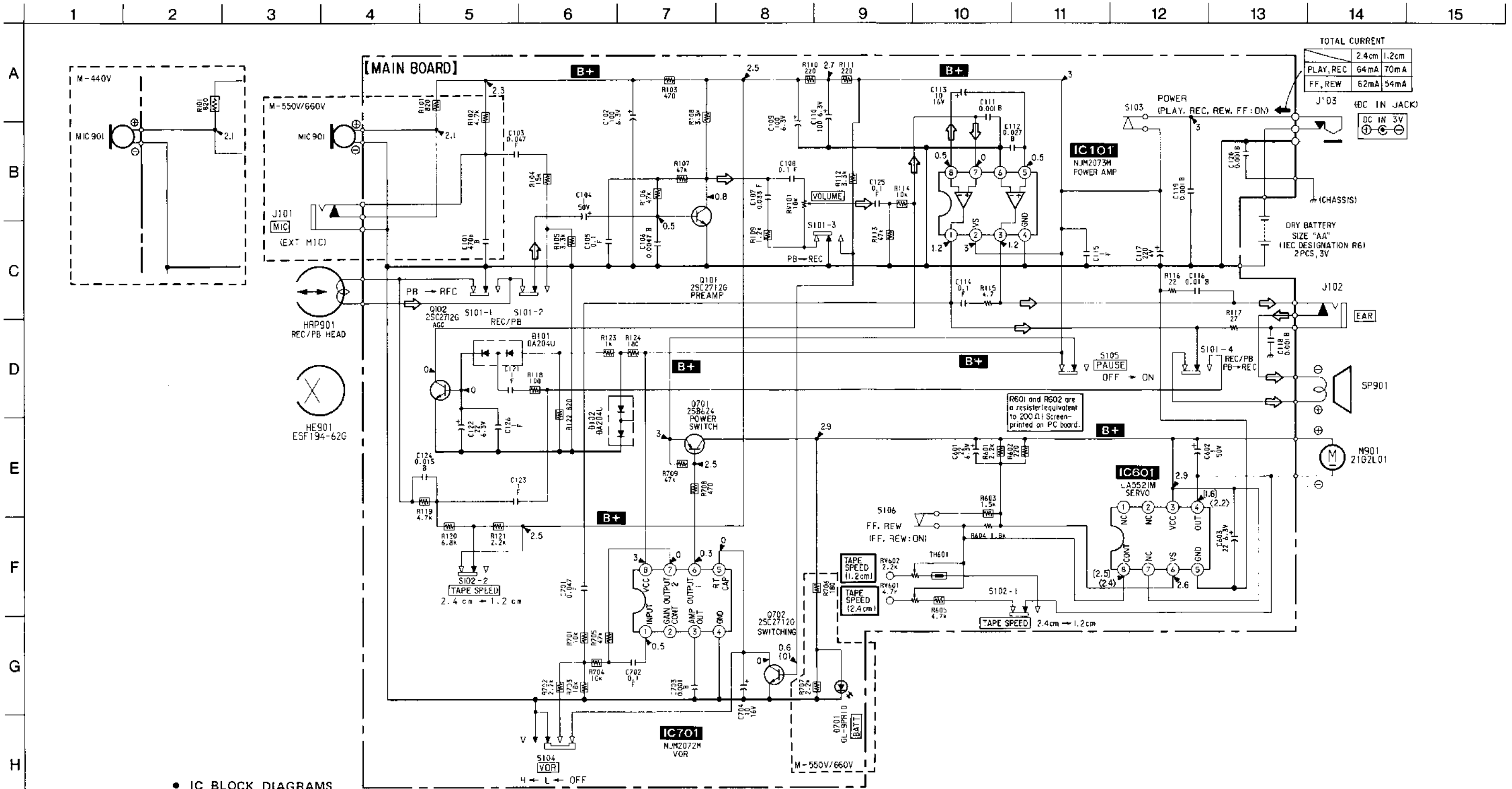
Ref. No.	Location	Ref. No.	Location
D101	B-4	IC701	D-5
D102	C-5	Q101	C-4
D701	D-2	Q102	C-3
IC101	D-4	Q701	E-6
IC601	D-6	Q702	D-8



Note:

- : part mounted on the conductor side.
- : Through hole.
- : pattern on the side which is seen.
- : printed resistor
- : Pattern of the rear side.
- : Printed resistor R102, R706 and R707 are unnecessary for M-440V.

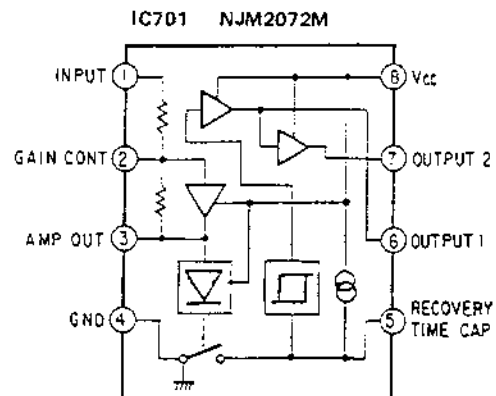
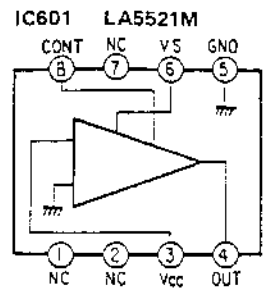
2.2. SCHEMATIC DIAGRAM



TOTAL CURRENT

	2.4cm	1.2cm
PLAY, REC	64mA	70mA
FF, REW	62mA	54mA

• IC BLOCK DIAGRAMS



Note:

- All capacitors are in  $\mu\text{F}$  unless otherwise noted,  $\text{pF}$ :  $\mu\text{F}$  50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in  $\Omega$  and  $\frac{1}{4}\text{W}$  or less unless otherwise specified.
- $\rightarrow$  : Playback signal path.
- **B+** : B+ line.
- $\square$  : adjustment for repair.
- Total current is measured with no cassette installed.

- Power voltage is 3V and fed with regulated dc power supply from DC IN 3V jack. Voltages are dc with respect to ground under no-signal conditions. Voltage variations may be noted due to normal production tolerances.
- no mark: PLAY  
( ): REC  
[ ]: 2.4 cm  
< >: 1.2 cm } PLAY
- $\square$  : printed resistor.

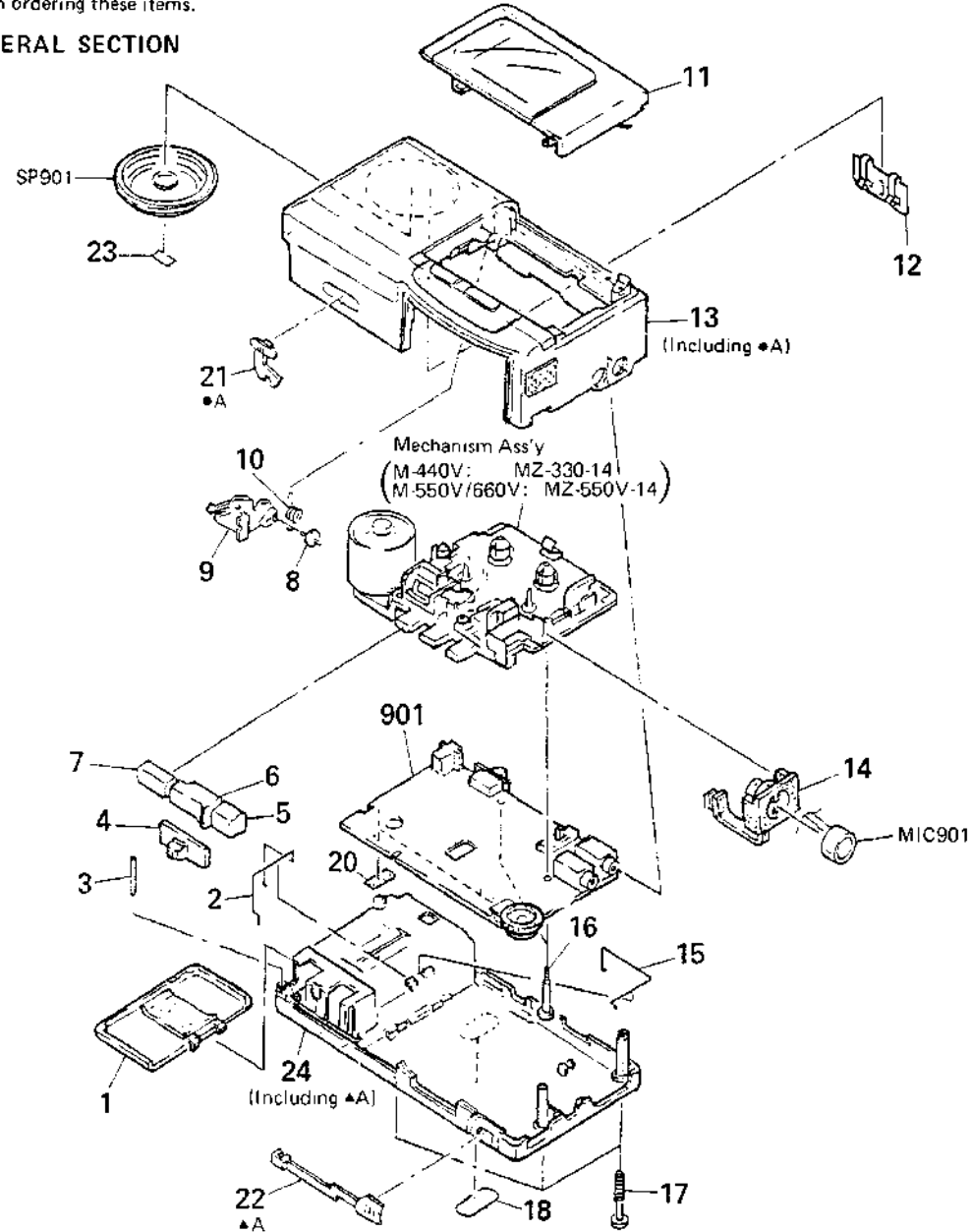
### SECTION 3 EXPLODED VIEWS

**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

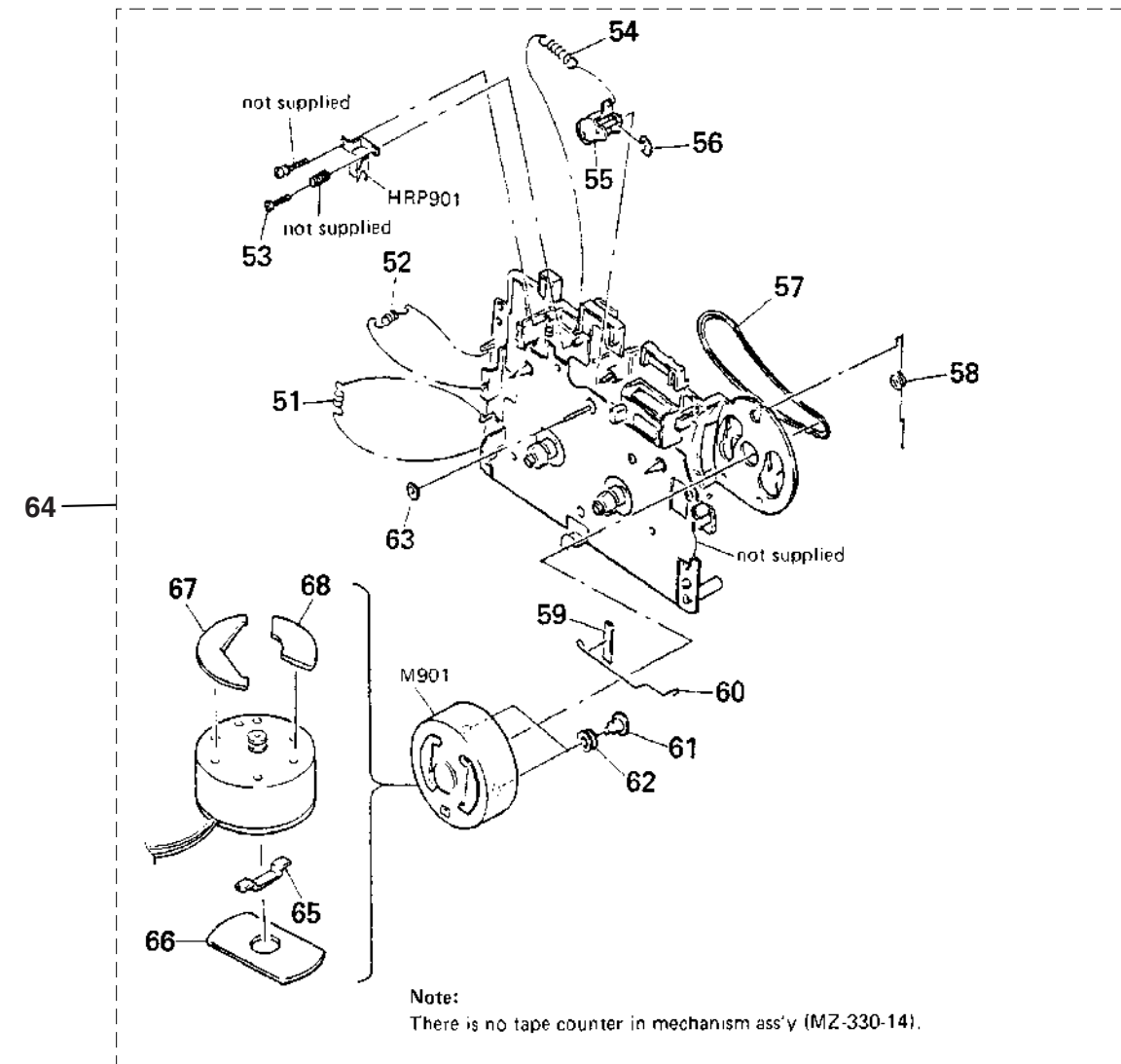
**3-1. GENERAL SECTION**



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	3-358-363-01	PLATE, BLIND	
6	3-343-958-01	BUTTON (PLAY)		20	3-831-441-11	CUSHION (B)	
7	3-343-957-01	BUTTON (STOP)		21	3-343-959-01	KNOB (VOR)	
8	3-358-333-01	SHAFT (EJECT), LEVER		22	3-343-954-01	KNOB (PAUSE)	
9	3-343-955-01	LEVER (EJECT)		23	*3-358-332-01	CUSHION	
10	3-343-949-01	SPRING, TORSION		24	X-3342-147-1	CABINET (REAR) ASSY	22
11	X-3342-143-1	LID ASSY, CASSETTE		901	A-3015-850-A	PC BOARD ASSY, MAIN	
12	3-576-074-00	SPRING		MIC901	1-542-136-11	MICROPHONE, BUILT-IN	
13	X-3342-142-1	(550V)...CABINET (FRONT) ASSY	21	SP901	1-503-761-11	SPEAKER	
	X-3342-144-1	(440V)...CABINET (FRONT) ASSY	21				
	X-3342-145-1	(660V)...CABINET (FRONT) ASSY	21				

**3-2. MECHANISM SECTION**

- M-440V: MZ-330-14 : (Supplied with ASSY)
- M-550V/660V: MZ-550V-14 : (Not supplied with ASSY)



Note:  
There is no tape counter in mechanism ass'y (MZ-330-14).

No.	Part No.	Description	Remarks	No.	Part No.	Description	Remarks
51	3-342-186-01	SPRING, TENSION		64	A-3013-430-A	(440V)...MECHANISM ASSY(MZ-330-14)	51-68
52	3-342-102-01	SPRING, TENSION		65	3-495-330-11	FELT	
53	3-318-203-31	SCREW (BT.7X8), TAPPING		66	3-342-050-11	RUBBER (A), VIBRATION	
54	3-342-173-01	SPRING, TENSION		67	3-342-075-01	SPACER, MOTOR	
55	X-3342-102-1	PINCH LEVER ASSY		68	3-352-476-01	SHEET (MOTOR)	
56	3-590-768-00	RING (A), E		HRP901	1-543-432-11	HEAD, MAGNETIC (REC/PB)	
57	3-343-966-01	BELT		M901	1-541-738-11	MOTOR	
58	3-358-324-01	SPRING, SW ARM					
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					
63	3-315-384-41	WASHER, STOPPER (t=0.35)					



## 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.

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

**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	Ref.No.	Part No.	Description
901	A-3015-850-A	PC BOARD ASSY, MAIN	JW106	1-216-296-00	METAL GLAZE 0 5% 1/8W
C101	1-163-005-11	(550V,660V) ...CERAMIC CHIP 470PF 10%	JW107	1-216-296-00	METAL GLAZE 0 5% 1/8W
C102	1-124-225-00	ELECT 100MF 20%	JW108	1-216-296-00	METAL GLAZE 0 5% 1/8W
C103	1-163-035-00	CERAMIC CHIP 0.047MF	JW110	1-216-296-00	METAL GLAZE 0 5% 1/8W
C104	1-126-160-11	ELECT 1MF 20%	JW113	1-216-296-00	METAL GLAZE 0 5% 1/8W
C105	1-163-077-00	CERAMIC CHIP 0.1MF	JW114	1-216-296-00	METAL GLAZE 0 5% 1/8W
C106	1-163-017-00	CERAMIC CHIP 0.0047MF 10%	JW115	1-216-296-00	(440V)...METAL GLAZE 0 5% 1/8W
C107	1-163-034-00	CERAMIC CHIP 0.033MF	JW117	1-216-296-00	METAL GLAZE 0 5% 1/8W
C108	1-163-077-00	CERAMIC CHIP 0.1MF	JW119	1-216-296-00	METAL GLAZE 0 5% 1/8W
C109	1-124-225-00	ELECT 100MF 20%	JW121	1-216-296-00	METAL GLAZE 0 5% 1/8W
C110	1-124-225-00	ELECT 100MF 20%	JW122	1-216-296-00	METAL GLAZE 0 5% 1/8W
C111	1-163-009-11	CERAMIC CHIP 0.001MF 10%	M90	1-541-738-11	MOTOR
C112	1-163-064-00	CERAMIC CHIP 0.027MF 10%	MIC901	1-542-136-11	MICROPHONE, BUILT-IN
C113	1-126-157-11	ELECT 10MF 20%	Q101	8-729-271-22	TRANSISTOR 2SC2712G
C114	1-163-077-00	CERAMIC CHIP 0.1MF	Q102	8-729-271-22	TRANSISTOR 2SC2712G
C115	1-162-638-11	CERAMIC CHIP 1MF	Q701	8-729-162-45	TRANSISTOR 2SB624-BV5
C116	1-164-232-11	CERAMIC CHIP 0.01MF 10%	Q702	8-729-271-22	TRANSISTOR 2SC2712G
C117	1-124-434-00	ELECT 220MF 20%	R101	1-249-416-11	CARBON 820 5% 1/4W
C118	1-163-009-11	CERAMIC CHIP 0.001MF 10%	R102	1-249-425-11	(550V,660V)...CARBON 4.7K 5% 1/4W
C119	1-163-009-11	CERAMIC CHIP 0.001MF 10%	R103	1-249-413-11	CARBON 470 5% 1/4W
C120	1-163-009-11	CERAMIC CHIP 0.001MF 10%	R104	1-249-431-11	CARBON 15K 5% 1/4W
C121	1-162-638-11	CERAMIC CHIP 1MF	R105	1-249-423-11	CARBON 3.3K 5% 1/4W
C122	1-126-153-11	ELECT 22MF 20%	R106	1-249-437-11	CARBON 47K 5% 1/4W
C123	1-162-638-11	CERAMIC CHIP 1MF	R107	1-249-437-11	CARBON 47K 5% 1/4W
C124	1-163-023-00	CERAMIC CHIP 0.015MF 10%	R108	1-249-423-11	CARBON 3.3K 5% 1/4W
C125	1-163-077-00	CERAMIC CHIP 0.1MF	R109	1-249-418-11	CARBON 1.2K 5% 1/4W
C126	1-162-638-11	CERAMIC CHIP 1MF	R110	1-249-409-11	CARBON 220 5% 1/4W
C601	1-126-153-11	ELECT 22MF 20%	R111	1-249-409-11	CARBON 220 5% 1/4W
C602	1-126-160-11	ELECT 1MF 20%	R112	1-249-423-11	CARBON 3.3K 5% 1/4W
C603	1-126-153-11	ELECT 22MF 20%	R113	1-249-437-11	CARBON 47K 5% 1/4W
C701	1-163-035-00	CERAMIC CHIP 0.047MF	R114	1-249-429-11	CARBON 10K 5% 1/4W
C702	1-163-077-00	CERAMIC CHIP 0.1MF	R115	1-216-308-00	METAL GLAZE 4.7 5% 1/10W
C703	1-163-009-11	CERAMIC CHIP 0.001MF 10%	R116	1-216-009-00	METAL GLAZE 22 5% 1/10W
C704	1-126-157-11	ELECT 10MF 20%	R117	1-216-011-00	METAL GLAZE 27 5% 1/10W
D101	8-719-941-23	DIODE DA204U	R118	1-249-405-11	CARBON 100 5% 1/4W
D102	8-719-941-23	DIODE DA204U	R119	1-249-425-11	CARBON 4.7K 5% 1/4W
D701	8-719-915-54	(550V,660V)...LED SLP159B	R120	1-249-427-11	CARBON 6.8K 5% 1/4W
HRP901	1-543-432-11	HEAD, MAGNETIC (REC/PB)	R121	1-249-421-11	CARBON 2.2K 5% 1/4W
IC101	8-759-701-02	IC NJM2073M	R122	1-249-416-11	CARBON 820 5% 1/4W
IC601	8-759-804-43	IC LA5521M	R123	1-249-417-11	CARBON 1K 5% 1/4W
IC701	8-759-701-51	IC NJM2072M	R124	1-249-408-11	CARBON 180 5% 1/4W
J101	1-569-215-21	(550V,660V)...JACK (MIC)	R601	1-249-421-11	CARBON 2.2K 5% 1/4W
J102	1-569-215-21	JACK (EAR)	R602	1-249-409-11	CARBON 220 5% 1/4W
J103	1-568-228-11	JACK, EXTERNAL POWER (DC IN 3V)	R603	1-249-419-11	CARBON 1.5K 5% 1/4W

**REVISED**



**SEE ADDITIONAL INFORMATION**


Ref.No.	Part No.	Description
R604	1-216-055-00	METAL GLAZE 1.8K 5% 1/10W
R605	1-249-425-11	CARBON 4.7K 5% 1/4W
R701	1-249-429-11	CARBON 10K 5% 1/4W
R702	1-249-421-11	CARBON 2.2K 5% 1/4W
R703	1-249-432-11	CARBON 18K 5% 1/4W
R704	1-249-429-11	CARBON 10K 5% 1/4W
R705	1-249-437-11	CARBON 47K 5% 1/4W
R706	1-249-408-11	(550V,660V)...CARBON 180 5%
R707	1-249-421-11	(550V,660V)...CARBON 2.2K 5%
R708	1-249-413-11	CARBON 470 5% 1/4W
R709	1-249-437-11	CARBON 47K 5% 1/4W
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	1-572-245-11	SWITCH, SLIDE (REC/PB)
S102	1-571-478-11	SWITCH, SLIDE (TAPE/SPEED)
S103	1-571-621-21	SWITCH, LEAF (POWER)
S104	1-571-506-11	SWITCH, SLIDE (VOR)
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

1/4W  
1/4W

ACCESSORY & PACKING MATERIAL

Part No.	Description
*1-465-449-11	(660V)...AC ADAPTOR/BATTERY CHARGER
1-528-179-11	(660V)...BATTERY, STORAGE, NI-CD
*3-343-905-01	(550V:Canadian,AEP,UK,E)...CUSHION, 2 GANG
3-343-906-01	(550V:Canadian,UK,E)...SPACER
*3-343-987-01	(440V/550V/660V: US)...CUSHION (UPPER)
*3-343-988-01	(440V/550V/660V: US)...CUSHION (LOWER)
*3-358-308-01	(550V:Canadian,UK,E)...INDIVIDUAL CARTON
*3-358-311-01	(550V:AEP)...INDIVIDUAL CARTON
3-358-325-01	(550V:AEP)...CASE, CARRYING
X-3336-703-1	STRAP ASSY
3-751-346-11	(550V:AEP,E)...MANUAL, INSTRUCTION (ENGLISH/FRENCH/SPANISH/PORTUGUESE)
3-751-346-21	(440V/550V:US)...MANUAL, INSTRUCTION (ENGLISH)
3-751-346-31	(550V:Canadian,UK)...MANUAL, INSTRUCTION (ENGLISH/FRENCH)
3-751-346-41	(550V:AEP)...MANUAL, INSTRUCTION (GERMAN/DUTCH/SWEDISH/ITALIAN)
3-751-585-21	(660V)...MANUAL, INSTRUCTION (ENGLISH)

**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.



# M-440V/550V/660V

## SONY<sup>®</sup> SERVICE MANUAL

2000.12

*US Model*  
M-440V

*Canadian Model*  
*AEP Model*  
*UK Model*  
*E Model*  
M-550V

## SUPPLEMENT-1

File this supplement with the service manual.



*US Model*  
*Canadian Model*  
M-660V

As only difference from Canadian model of M-660V is described in this manual, please refer M-660V (US model) service manual for the other sections.


### Original Parts

3-343-905-01	CUSHION, 2 GANG
*3-358-373-01	INDIVIDUAL CARTON
3-751-585-31	MANUAL, INSTRUCTION (ENGLISH/FRENCH)
△1-465-531-11	AC ADAPTOR

**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.

# M-440V/550V/660V

## SONY SERVICE MANUAL

2000.12

*US Model*  
M-440V

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

M-550V

## SUPPLEMENT-2

File this Supplement with the Service Manual.

1. Printed wiring boards changed.  
(1-633-577-11 → 1-635-436-11)
2. AEP and UK models are added in M-660V.  
As only difference from US model and Canadian model of M-660V is described in this manual, please refer to M-660V (US, Canadian model) service manual for the other sections.

*US Model*  
*Canadian Model*  
*AEP Model*  
*UK Model*  
M-660V

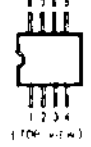
CHANGED PARTS LIST (Service Manual Page 9, 11, 12)

Ref. No.	Former Parts		New Parts		Remarks
	Discription (Part No.)		Part No.	Description	
14	3-343-953-01		3-363-108-01	HOLDER, MICROPHONE	Changed
902	—————		* 1-635-437-11	PC BOARD, BATT TERMINAL	Added
C103	CERAMIC CHIP 0,047MF 50V		1-163-033-00	CERAMIC CHIP 0,022HF 50V	Changed
CNJ301	—————		* 1-563-703-11	SOKET, CONNECTOR 2P	Added
CNP301	—————		* 1-564-495-11	PIN, CONNECTOR 2P	Added
JW105	—————		* 1-216-296-00	METAL GLAZE 0 5% 1/8W	Added
R120	CARBON 6,8K 5% 1/4W		1-215-448-00	CARBON 13K 5% 1/4W	Changed
ACCE- SSORY	—————		△ 1-465-722-11 (660V : UK) .....	ADAPTOR, AC (AC-330)	Added
	—————		△ 1-465-723-11 (660V : AEP) .....	ADAPTOR, AC (AC-330)	Added
	—————		* 3-343-987-01 (660V) .....	CUSHION UPPER	Correct
	—————		* 3-343-987-01 (660V : Canadian) ...	CUSHION UPPER	
	—————		* 3-343-988-01 (660V) .....	CUSHION LOWER	Correct
	—————		* 3-343-988-01 (660V : Canadian) ...	CUSHION LOWER	
	—————		* 3-358-368-01 (660V : US) .....	INDIVIDUAL CARTON	Added
	—————		* 3-367-045-01 (660V : AEP, UK) ...	CASE, ACCESSORY	Added
	—————		* 3-367-185-01 (660V : AEP) .....	INDIVIDUAL CARTON	Added
	—————		* 3-367-187-01 (660V : UK) .....	INDIVIDUAL CARTON	Added
	—————		3-751-585-11 (660V : AEP, UK) ...	MANUAL, INSTRUCTION (ENGLISH/FRENCH/SPANISH /PORTUGUESE)	Added
	—————		3-343-905-01 (660V) .....	CUSHION, 2 GANG	Correct
	—————		3-343-905-01 (660V : Canadian) ...	CUSHION, 2 GANG	
—————		3-751-585-11 (660V : AEP) .....	MANUAL, INSTRUCTION (GERMAN/DUTCH/SWEDISH /ITALIAN)	Added	
—————		* 3-338-735-01 (660V) .....	BAG, PROTECTION	Added	

1. PRINTED WIRING BOARDS (Service Manual Page 5, 6)

• Semiconductor Lead Layouts

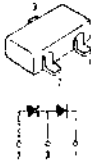
LA5521M  
NJM2072M  
NJM2073M



2SB624-BV5  
2SC2712G



DA204U

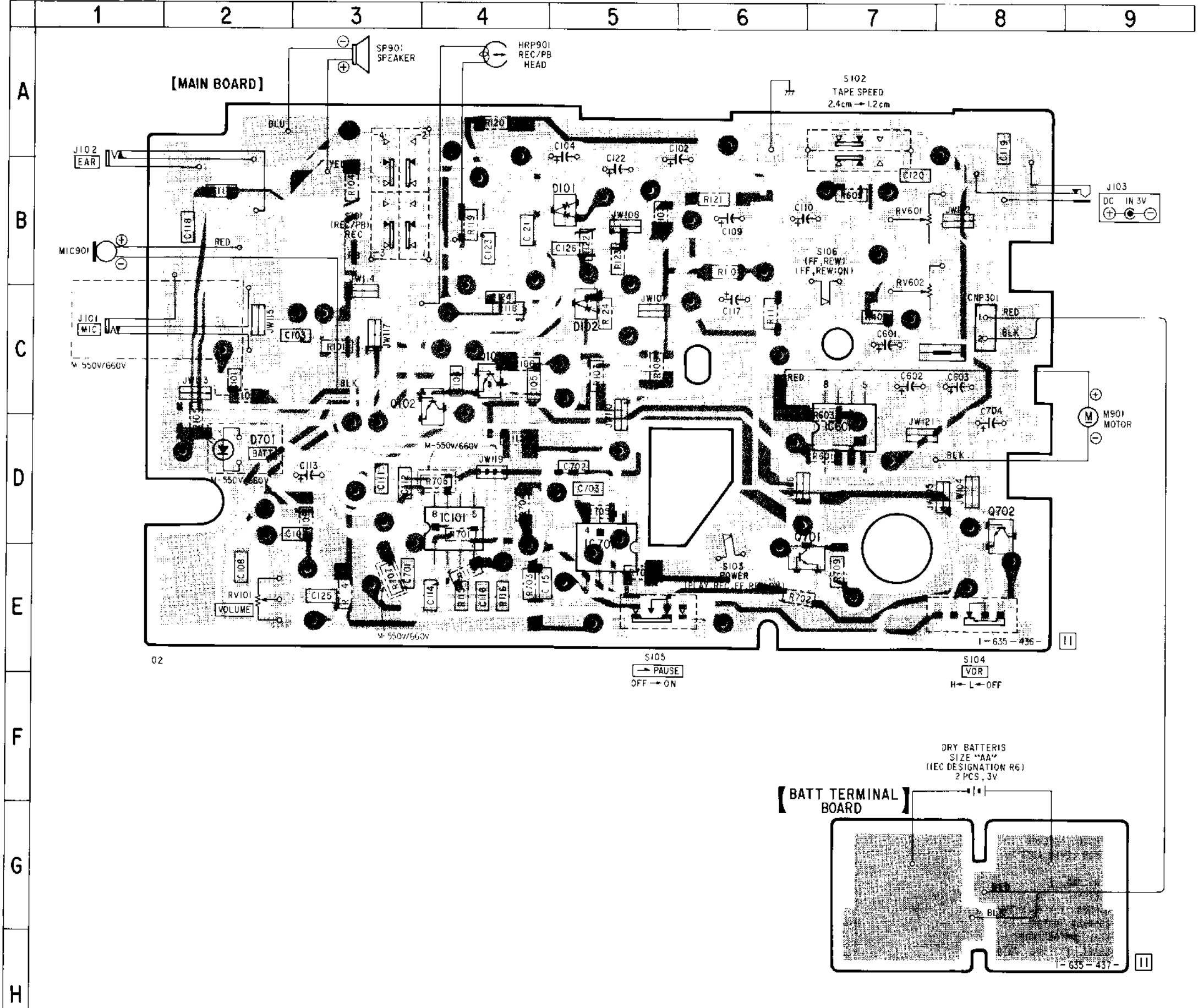


SLP159B



• SEMICONDUCTOR LOCATION

Ref. No.	Location
D101	B-5
D102	C-5
D701	D-2
IC101	E-4
IC601	D-7
IC701	E-5
Q101	C-4
Q102	D-4
Q701	E-7
Q702	E-8



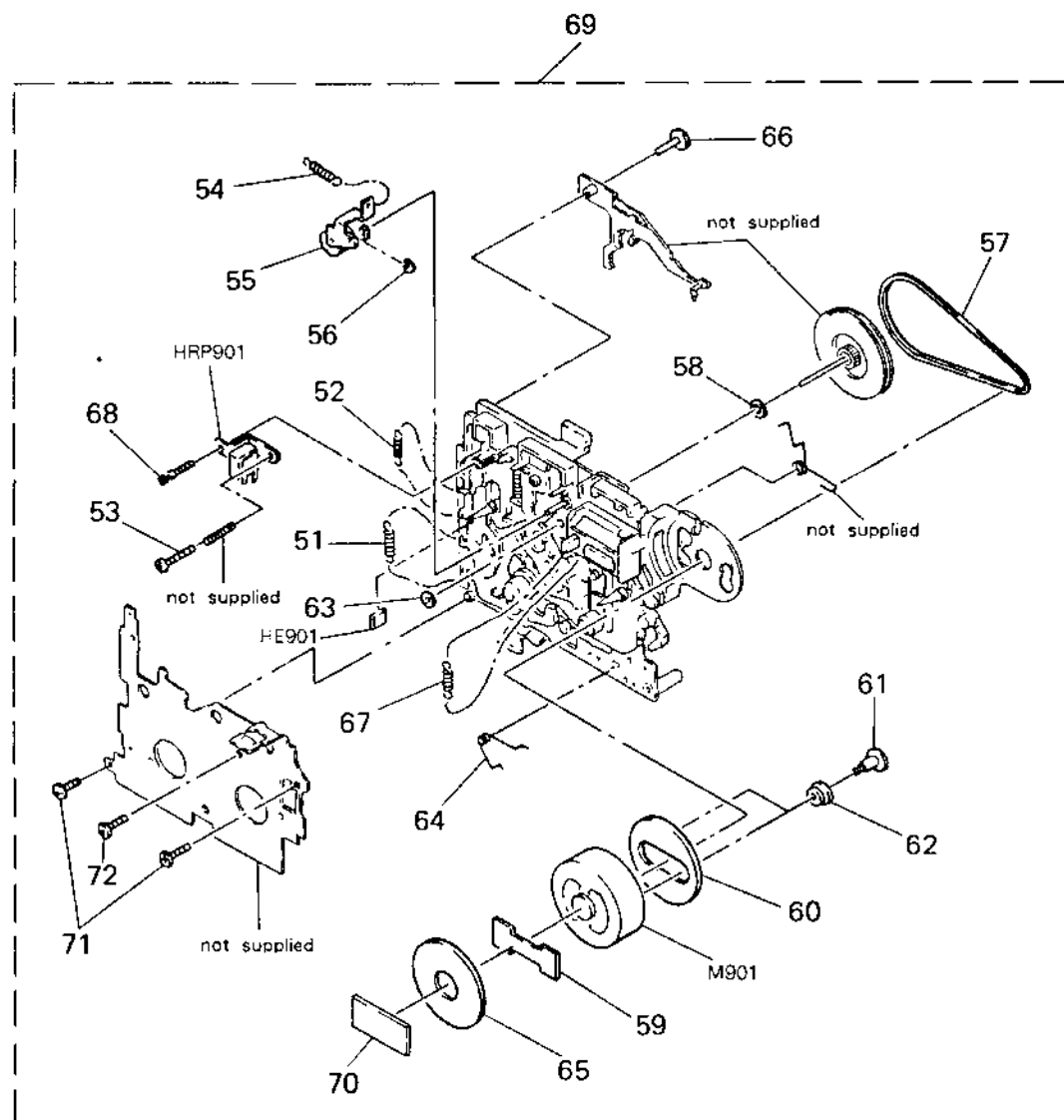
Note :

- ■ : parts mounted on the conductor side.
- ● : Through hole.
- [Pattern] : Pattern on the side which is seen.
- [Box] : printed resistor.
- [Pattern] : Pattern of the rear side.

2. MECHANISM SECTION (Service Manual Page 10)

M-440V : MZ-330-14

550V/660V : MZ-550V-14



Note : There is no tape counter in mechanism ass'y (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	
52	3-342-102-01	SPRING, TENSION		64	3-342-187-01	SPRING	
53	3-318-203-31	SCREW (Ø1.7X8), TAPPING		65	3-362-322-01	SEAL (MOTOR REAR)	
54	3-342-173-01	SPRING, TENSION		66	3-318-324-01	BUSHING, IDLER LEVER	
55	X-3342-102-1	PINCH LEVER ASSY		67	3-342-101-01	SPRING, TENSION	
56	3-590-758-00	RING (A), E		68	3-342-181-11	SCREW, AZ	
57	3-343-966-01	BELT		69	A-3013-430-A (440V).....	MO ASSY MZ-330-14	51-70
58	3-701-436-11	WASHER, 1.5 POLYETHYLENE			A-3013-431-A (550V/660V)....	MO ASSY MZ-550V-14	51-70
59	3-831-441-11	CUSHION (MOTOR)		70	9-911-815-01	CUSHION, DRUM	
60	3-362-321-01	SEAL (MOTOR FRONT)		71	7-627-850-67	SCREW, PRECISION +P 1.4 X 3.5	
61	3-309-836-01	SHAFT, FITTING, MOTOR		72	7-627-551-67	SCREW, PRECISION +P 1.4 X 4	
62	3-570-770-00	CUSHION (A), MOTOR		HE901	8-825-772-01	ESF194-62G (ERASE HEAD)	
				HRP901	1-543-432-11	HEAD (RECORD PLAYBACK)	
				M901	1-541-738-11	MOTOR	

CORRECTION (Service Manual Page 4)

Corrected Portion

### Tape Speed Adjustment

**Setting:**  
 VOLUME control: mechanical mid  
 VOR switch: OFF

**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)

speed checker LFM-30 or digital frequency counter

Tape speed	Speed checker	Digital frequency counter
2.4cm/s	±0.5%	2,985-3,015Hz
1.2cm/s	±0.5%	1,442-1,508Hz

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:**

Sony Corporation  
 General Audio Group

English  
 91C0265-1  
 Printed in Japan  
 ©1991.3

# M-440V/550V/660V

## SONY SERVICE MANUAL

2000.12

### SUPPLEMENT-3

File this Supplement with the Service Manual.

Subject : MAIN board change

New tape	Serial No.
<b>M-550V</b>	
US Model	95,301 and later
Canadian Model	106,301 and later
AEP Model	107,301 and later
UK Model	113,101 and later
E Model	90,801 and later
<b>M-440V</b>	
US Model	61,001 and later
<b>M-660V</b>	
US Model	15,001 and later
Canadian Model	28,101 and later
AEP Model	68,001 and later
UK Model	70,501 and later

*US Model*  
M-440V

*US Model*  
*Canadian Model*  
*AEP Model*  
*UK Model*  
*E Model*  
M-550V

*US Model*  
*Canadian Model*  
*AEP Model*  
*UK Model*  
M-660V

## SECTION 3 EXPLODED VIEWS

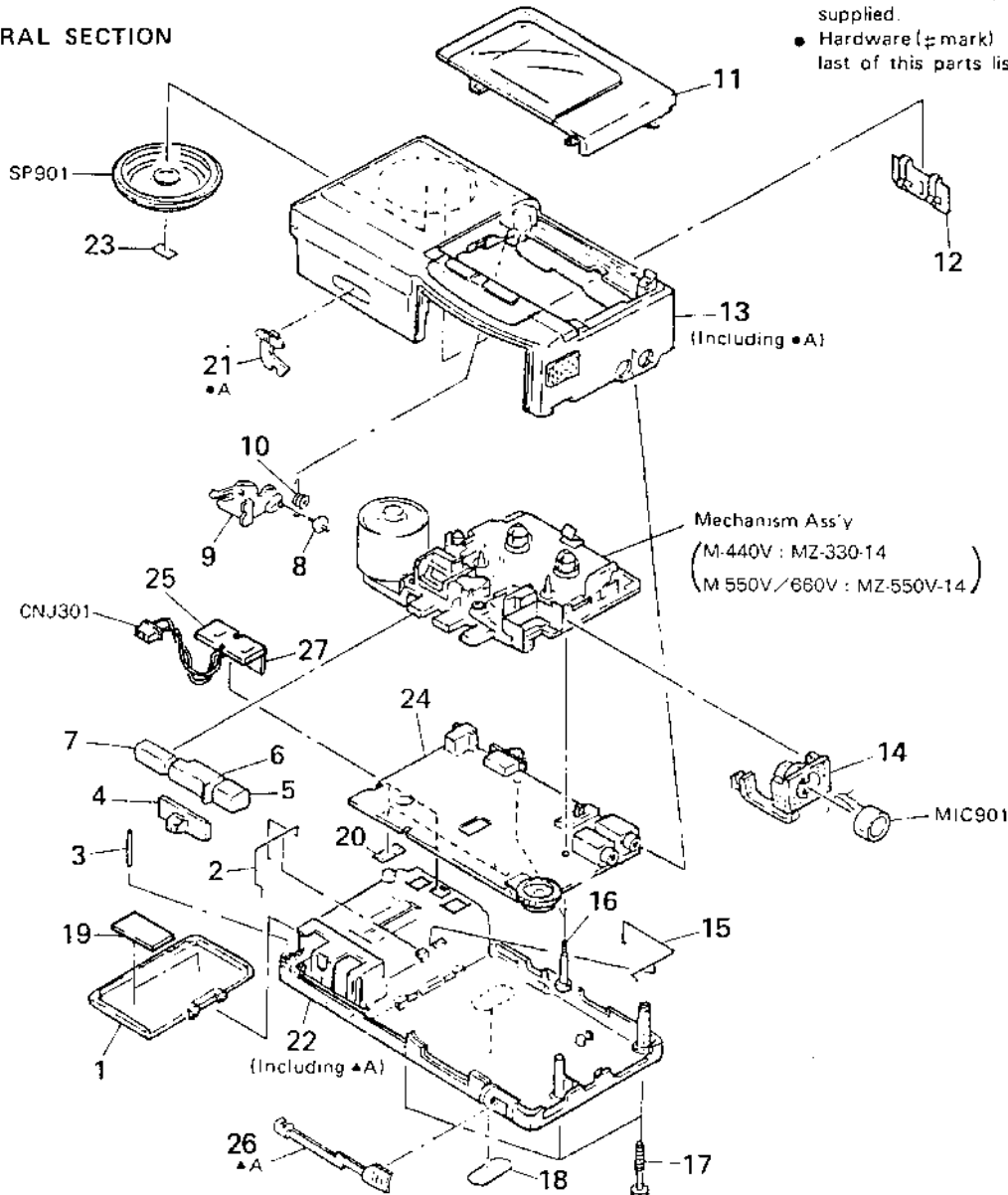
**NOTE:**

- -XX, -X mean standardized parts, so they may have some differences from the original one.
- The construction parts of an assembled part are indicated with a collation number in the remark column.

- Color indication of Appearance Parts  
Example:  
KNOB, BALANCE (WHITE)...(RED)  
                          ↑                  ↑  
                          Parts color Cabinet's color

- 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 is given in the last of this parts list.

**3-1. GENERAL SECTION**



Ref. No.	Part No.	Description	Remark
1	X-3363-688-1 (NEW)	LID ASSY, BATTERY CASE	19
	X-3339-382-1 (FORMER)	LID ASSY, BATTERY CASE	
2	3-357-510-01 (FORMER)	TERMINAL (+), BATTERY	
3	3-576-082-00	PIN, PARALLEL	
4	3-343-960-01	BUTTON (F/R)	
5	3-343-956-02	BUTTON (REC)	
6	3-343-958-02	BUTTON (PLAY)	
7	3-343-957-01	BUTTON (STOP)	
8	3-358-333-01	SHAFT (EJECT). LEVER	
9	3-343-955-01	LEVER (EJECT)	
10	3-343-949-01	SPRING, TORSION	
11	X-3347-143-1	LID ASSY, CASSETTE	
12	3-576-074-00	SPRING	
13	X-3342-142-1 (550V)....	CABINET (FRONT) ASSY	
	X-3342-144-1 (440V)....	CABINET (FRONT) ASSY	
	X-3342-145-1 (660V)....	CABINET (FRONT) ASSY	
14	3-363-108-01	HOLDER, MICROPHONE	

Ref. No.	Part No.	Description	Remark
15	3-357-511-01 (FORMER)	TERMINAL (-), BATTERY	
16	3-342-156-31	SCREW	
17	3-357-509-01	SCREW (+B) (1.7), TAPPING	
18	3-358-363-01 (NEW)	PLATE BLIND	
	3-342-155-11 (FORMER)	PLATE, BLIND	
19	9-911-815-01	CUSHION, DRUM	
20	3-831-441-11	CUSHION (B)	
21	3-343-959-01	KNOB (VOR)	
22	X-3363-687-1 (NEW)	CABINET (REAR) ASSY	
	X-3342-147-1 (FORMER)	CABINET (REAR) ASSY	
23	* 3-358-332-01	CUSHION	
24	A-3015-850-A (550V/650V)....	MAIN BOARD, COMPLETE	
	A-3015-871-A (440V)....	MAIN BOARD, COMPLETE	
25	* 1-635-437-11 (NEW)	PC BOARD, BATT TERM:HAL	
26	3-343-954-01	KNOB (PAUSE)	
27	3-362-243-01 (NEW)	TERMINAL, BATTERY	
SP901	1-503-761-11	SPEAKER	
CNJ301 *	1-563-703-11 (NEW)	SOCKET, CONNECTOR 2P	
MIC901	1-542-136-11	MICROPHONE, ELECTRET CONDENSER	