

# WM-EX102/EX108

## SERVICE MANUAL

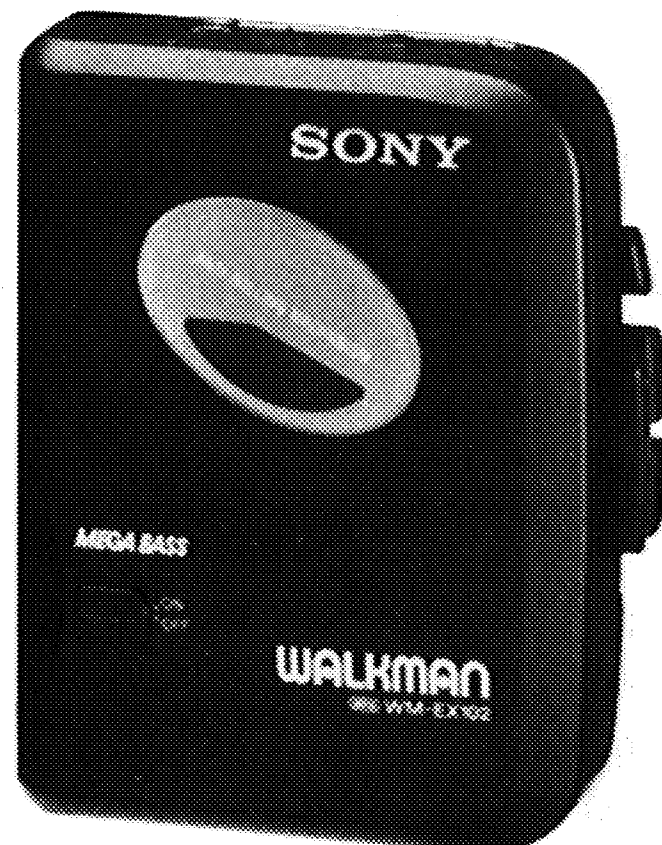


Photo : WM-EX102

*US Model*  
*AEP Model*  
*UK Model*  
*E Model*  
WM-EX102

*East European Model*  
WM-EX108

Model Name Using Similer Mechanism	NEW
Tape Transport Mechanism Type	MT-WMEX19-49

### SPECIFICATIONS

#### Power requirements

- 3 V DC batteries R6 (AA) x 2
- External DC 3 V power sources

#### Battery life (approximate hours)

Battery	Playback
Sony Alkaline AM3(N)	8 hours
Sony SUM-3(NS)	4 hours
Rechargeable battery (EX108) NC-AA(WM) (Full charge)	3.5 hours

#### Dimensions

88 x 111.5 x 35.9 mm (w/h/d)  
(3<sup>1</sup>/<sub>2</sub> x 4<sup>1</sup>/<sub>2</sub> x 1<sup>5</sup>/<sub>16</sub> in.) incl. projecting parts

#### Mass

185 g (6.6 oz) incl. batteries

#### Supplied accessories

- Stereo headphones (1)
- Belt clip (1)
- Rechargeable battery (2) (EX108)
- Battery charger (1) (EX108)

#### Optional accessories

- AC power adaptor AC-E30L
- Car battery cord DCC-E130L

Your dealer may not handle some of the above listed accessories.

Please ask the dealer for detailed information.

Design and specifications are subject to change without notice.

#### Note

This appliance conforms with EEC Directive 87/308/EEC regarding interference suppression.

Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation. "DOLBY" and the double-D symbol  $\square\square$  are trademarks of Dolby Laboratories Licensing Corporation.

#### Note

Use only the recommended AC-E30L AC power adaptor (not supplied). Do not use any other AC power adaptor.



Polarity of the plug

CASSETTE PLAYER  
**SONY**<sup>®</sup>



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### 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.

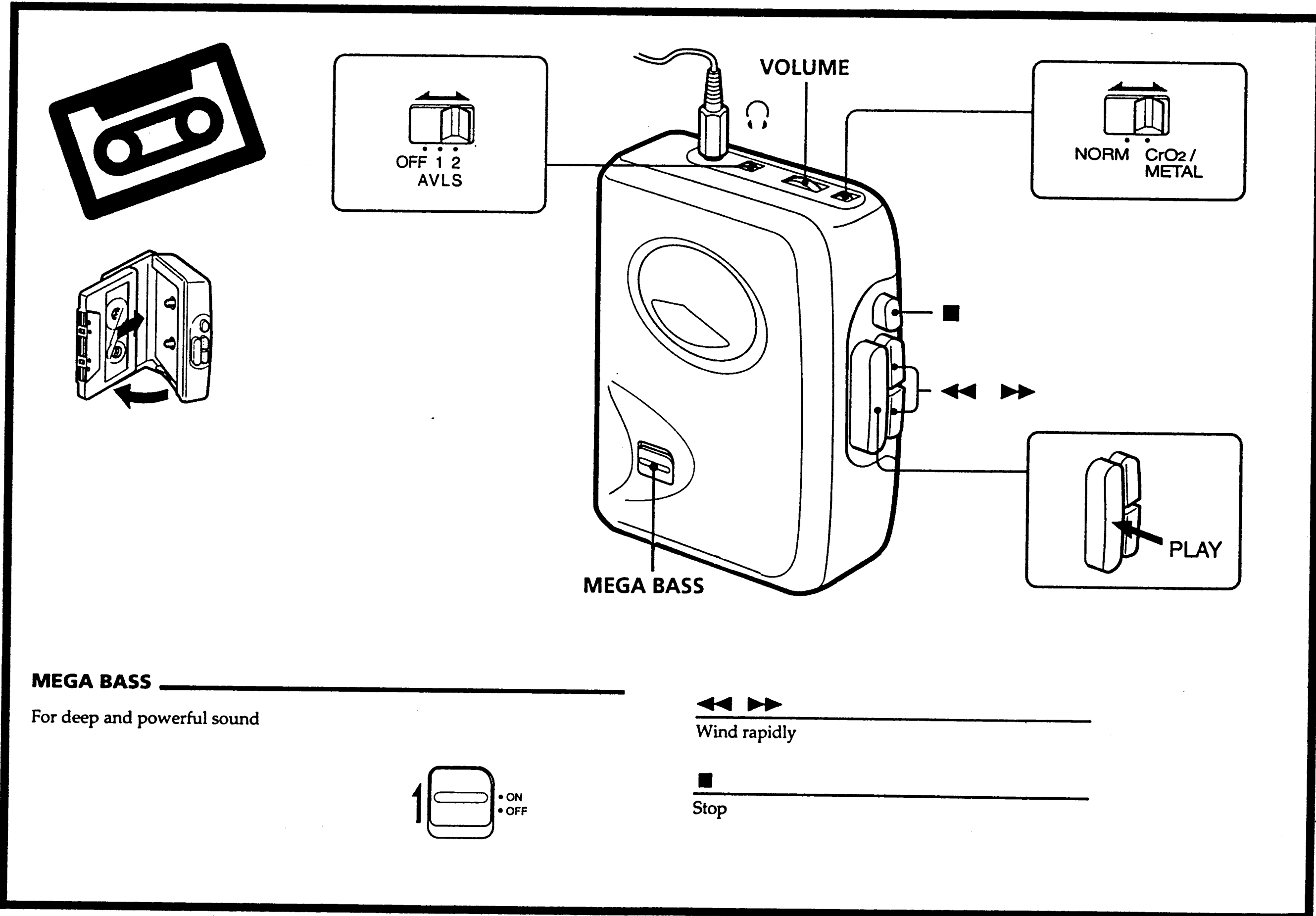
### Flexible Circuit Board Repairing

- 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.

# SECTION 1 GENERAL

This section is extracted from instruction manual.

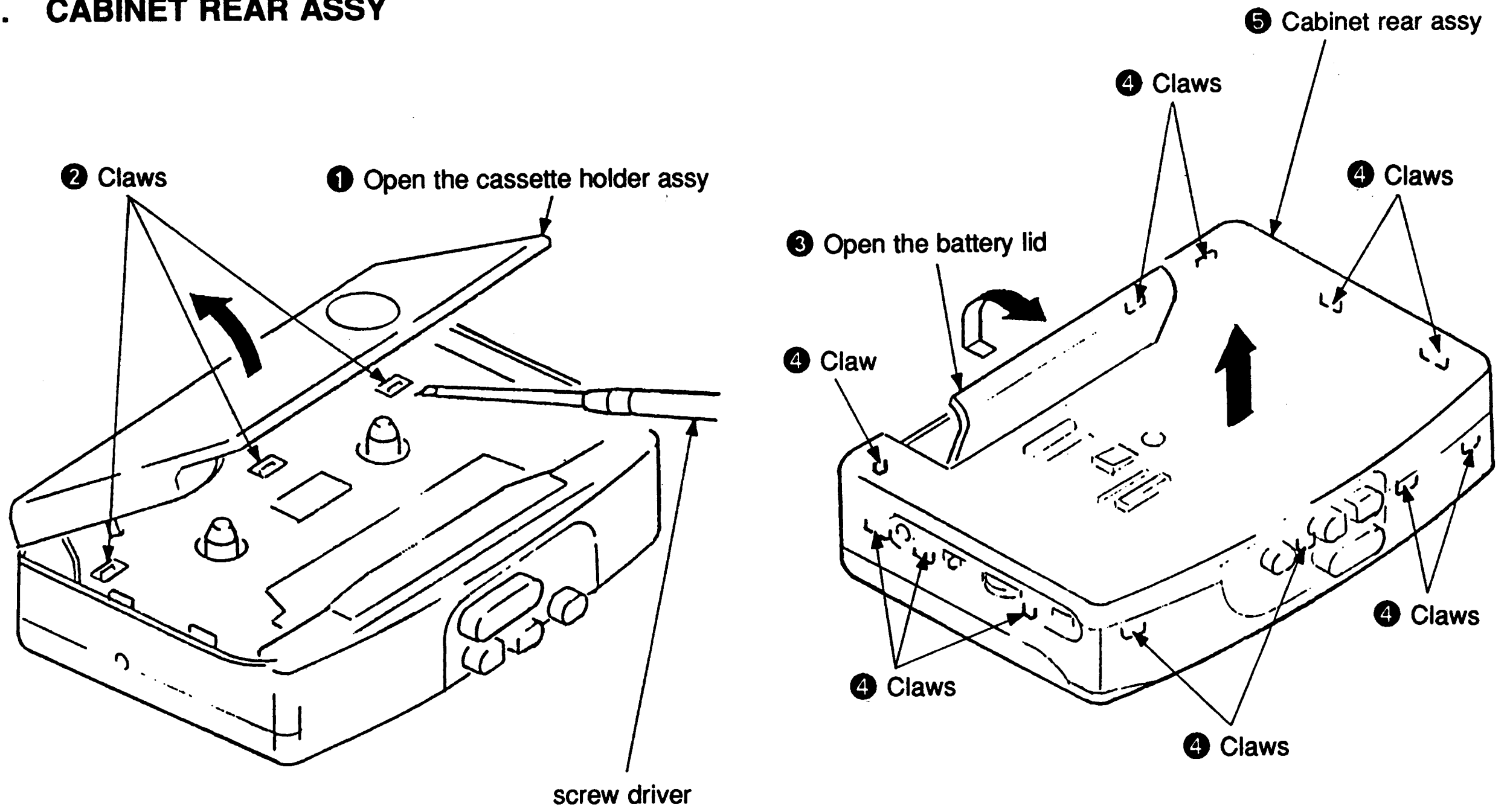
## Operating Instructions



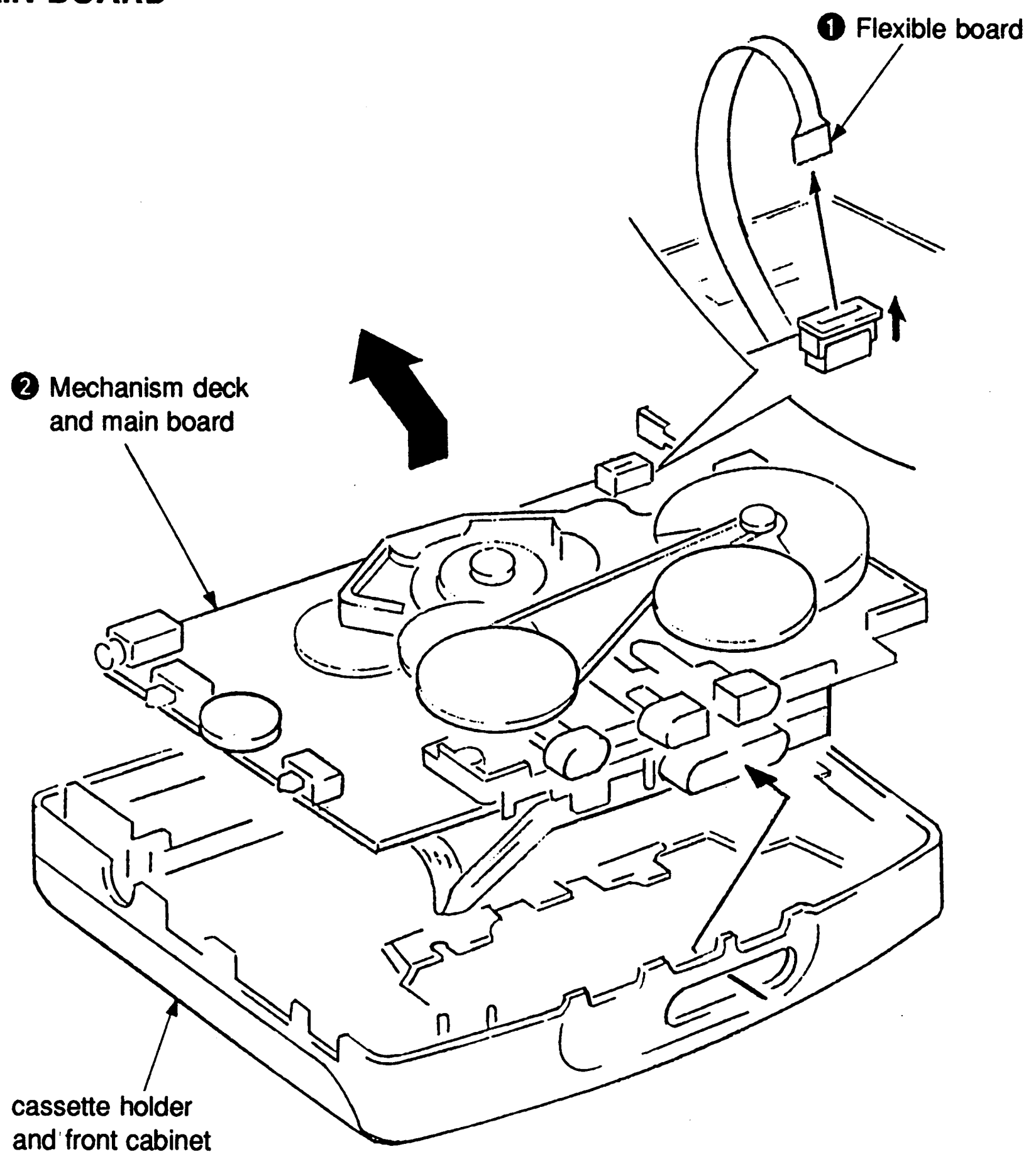
## SECTION 2 DISASSEMBLY

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

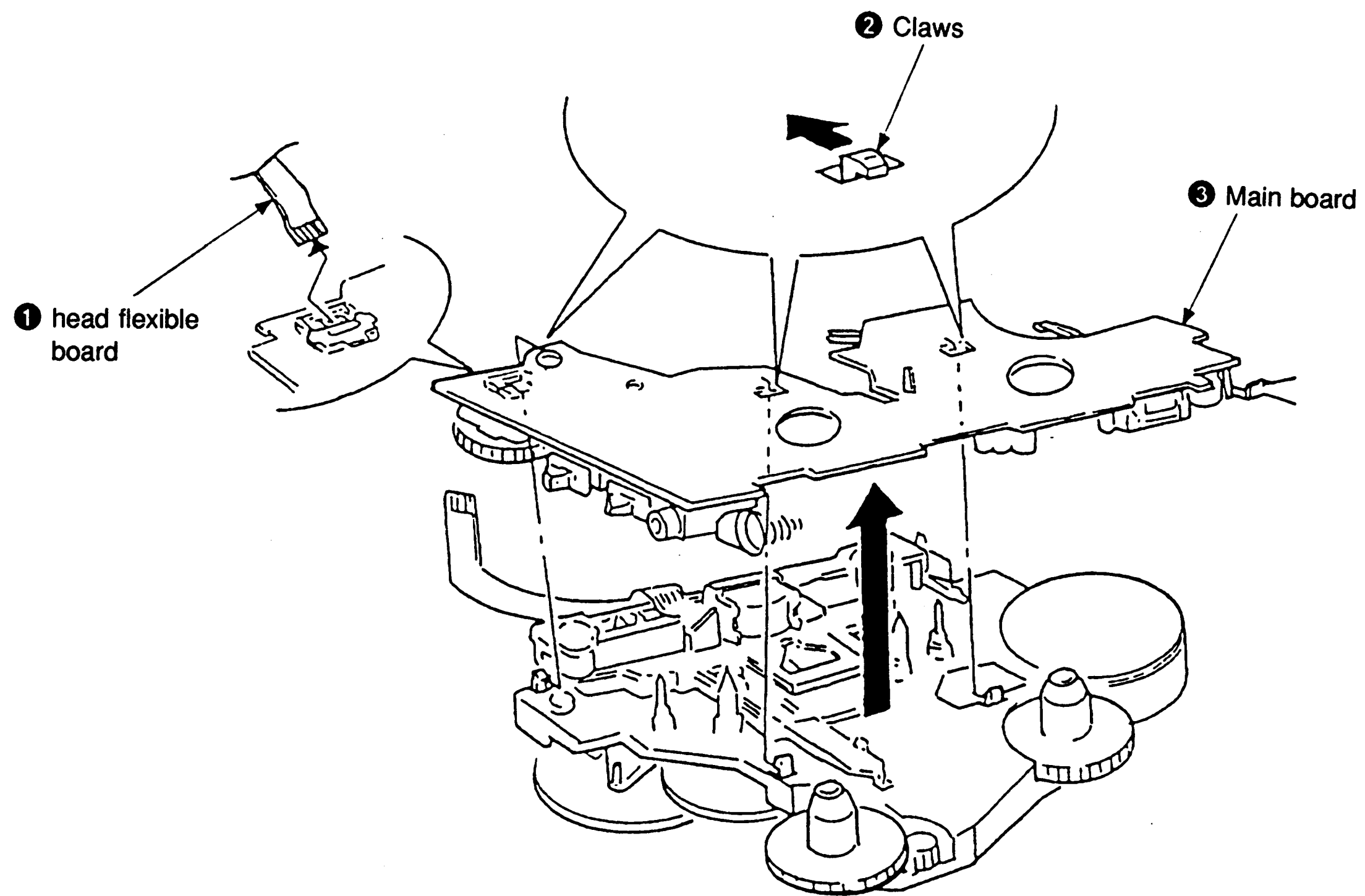
### 2-1. CABINET REAR ASSY



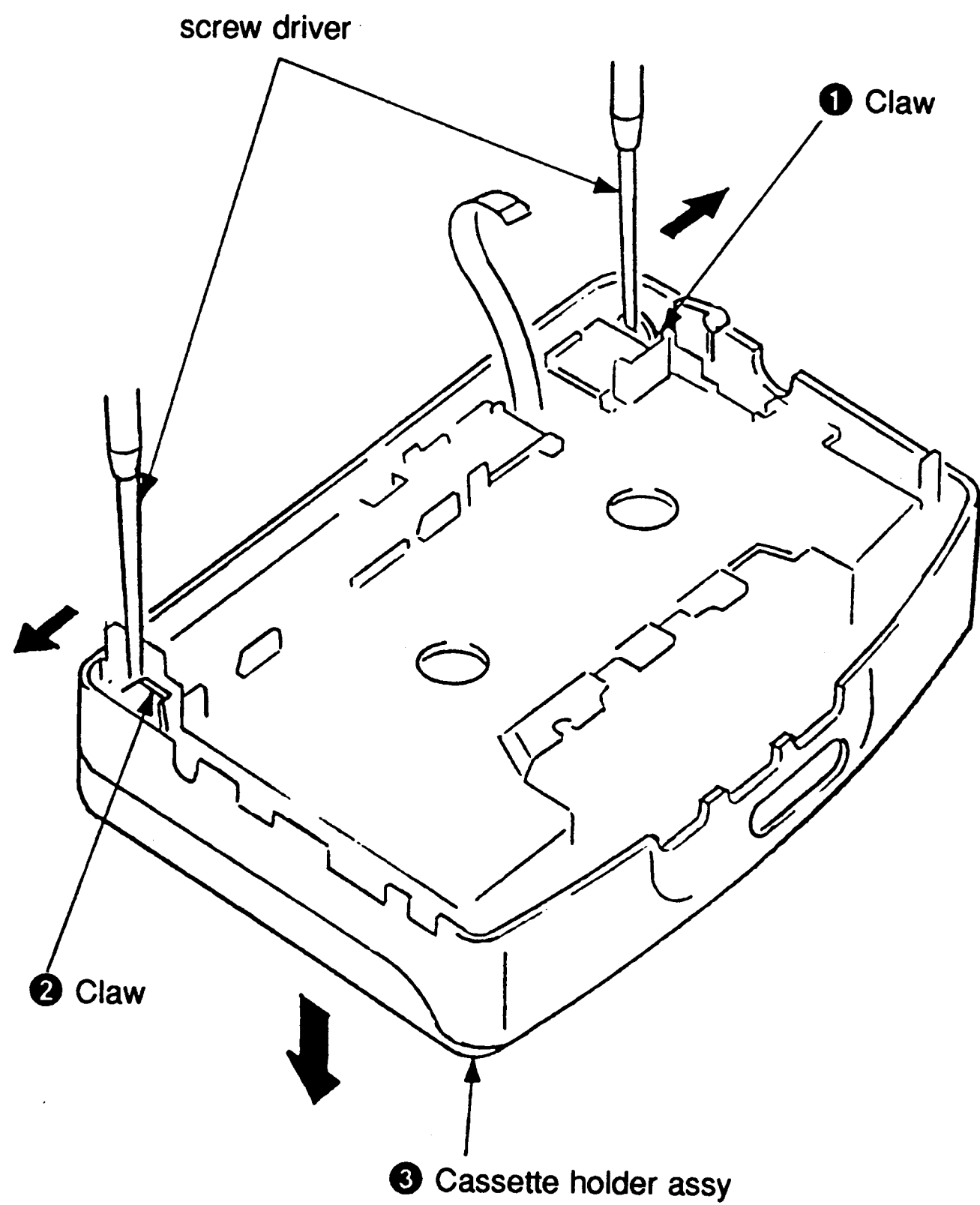
### 2-2. MECHANISM AND MAIN BOARD



## 2-3. MAIN BOARD



## 2-4. CASSETTE HOLDER ASSY



## SECTION 3 ADJUSTMENTS

### 3-1. MECHANICAL ADJUSTMENTS

#### PRECAUTION

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

playback head	pinch roller
capstan	rubber belts
2. Demagnetize the playback head with a head demagnetizer.
3. Do not use a magnetized screwdriver for the adjustments.
4. After the adjustments, apply suitable locking compound to the parts adjusted.
5. The adjustments should be performed with the rated power supply voltage (2.5V) unless otherwise noted.

#### Torque Measurement

Mode	Torque meter	Meter reading
FWD	CQ-102C	20 — 42 g • cm (0.28 — 0.58 oz • inch)
FWD Back Tension		less than 2 g • cm (less than 0.03 oz • inch)
REV	CQ-102RC	20 — 42 g • cm (0.28 — 0.58 oz • inch)
REV Back Tension		less than 2 g • cm (less than 0.03 oz • inch)
FF, REW	CQ-201B	more than 60 g • cm (more than 0.83 oz • inch)

### 3-2. ELECTRICAL ADJUSTMENTS

#### PRECAUTION

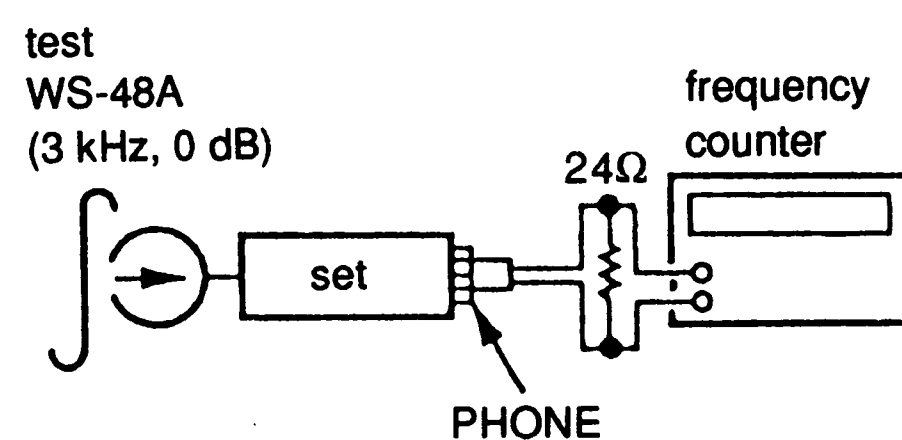
- Supplied voltage : 2.5V
- Switch and control position  
 TAPE switch : NORM  
 MEGA BASS switch : OFF  
 VOLUME control : maximum  
 AVLS switch : OFF

#### Test Tape

Type	Signal	Used for
WS-48A	3 kHz, 0 db	Tape Speed Adjustment

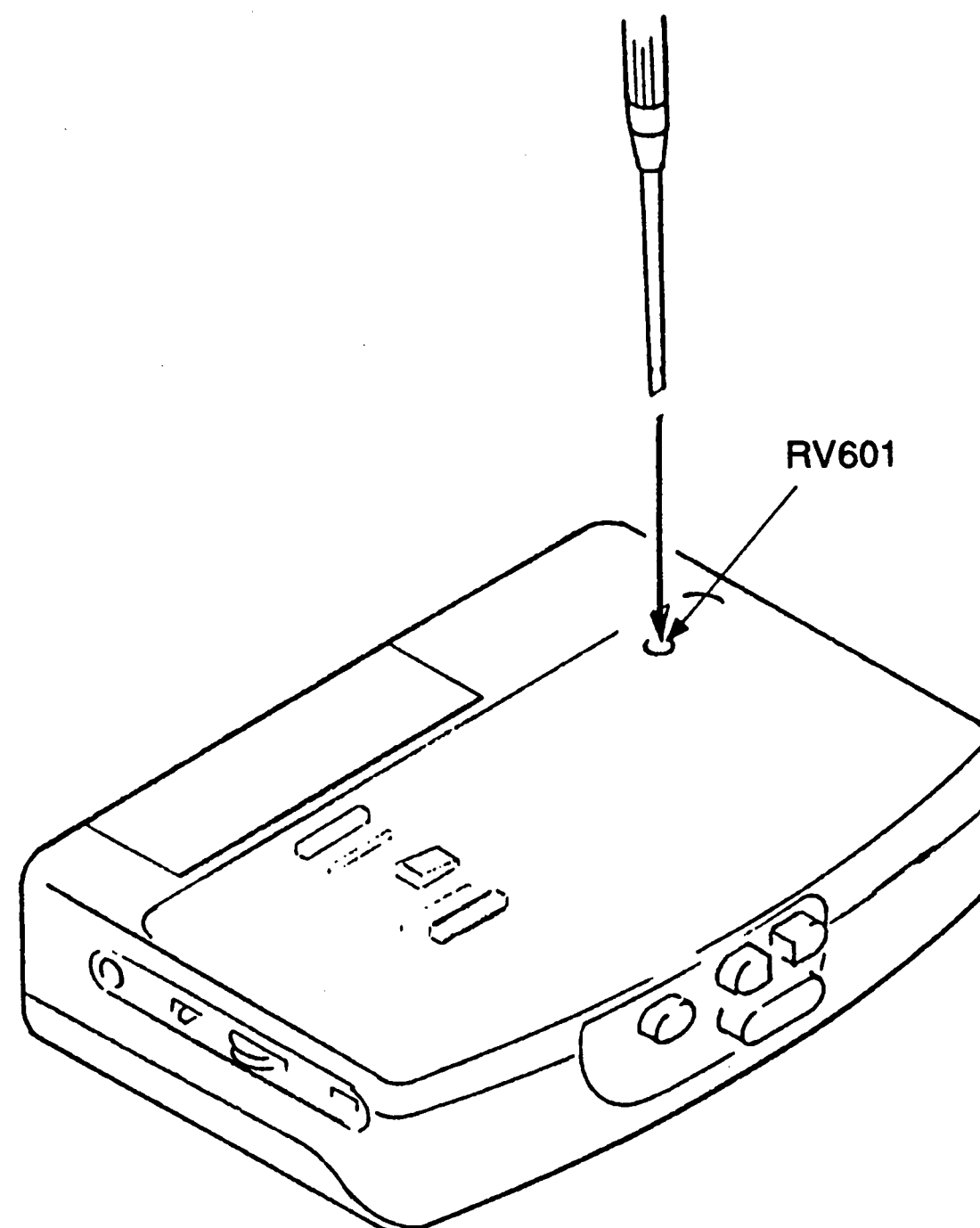
#### Tape speed adjustment

##### Procedure :



1. Play back WS-48A (tape center portion) in reverse mode. Adjust the RV601 so that the frequency counter reads 3,000Hz ± 10 Hz.

#### Adjustment Location :



Ref. No.	Part No.	Description	Remark
R106	1-216-044-00	METAL CHIP	620 5% 1/10W
R107	1-216-295-00	METAL CHIP	0 5% 1/10W (EX102:US, AEP, MX/EX108)
R107	1-216-313-00	METAL CHIP	8.2 5% 1/10W (EX102:UK, E)
R108	1-216-295-00	METAL CHIP	0 5% 1/10W
R109	1-216-095-00	METAL CHIP	82K 5% 1/10W (EX102:UK, E)
R109	1-216-107-00	METAL CHIP	270K 5% 1/10W (EX102:US, AEP, MX/EX108)
R201	1-216-689-11	METAL CHIP	39K 0.5% 1/10W
R203	1-216-079-00	METAL CHIP	18K 5% 1/10W
R204	1-216-075-00	METAL CHIP	12K 5% 1/10W
R205	1-216-117-00	METAL CHIP	680K 5% 1/10W
R206	1-216-044-00	METAL CHIP	620 5% 1/10W
R207	1-216-295-00	METAL CHIP	0 5% 1/10W (EX102:US, AEP, MX/EX108)
R207	1-216-313-00	METAL CHIP	8.2 5% 1/10W (EX102:UK, E)
R208	1-216-295-00	METAL CHIP	0 5% 1/10W
R209	1-216-095-00	METAL CHIP	82K 5% 1/10W (EX102:UK, E)
R209	1-216-107-00	METAL CHIP	270K 5% 1/10W (EX102:US, AEP, MX/EX108)
R304	1-216-105-00	METAL CHIP	220K 5% 1/10W (EX102:UK, E)
R304	1-216-112-00	METAL GLAZE	430K 5% 1/10W (EX102:US, AEP, MX/EX108)
R305	1-216-081-00	METAL CHIP	22K 5% 1/10W
R306	1-216-077-00	METAL CHIP	15K 5% 1/10W
R309	1-216-112-00	METAL GLAZE	430K 5% 1/10W
R601	1-216-298-00	METAL CHIP	2.2 5% 1/10W
R602	1-217-907-11	METAL GLAZE	1.8 5% 1/10W
R603	1-216-046-00	METAL CHIP	750 5% 1/10W
< VARIABLE RESISTOR >			
RV301	1-223-609-21	RES, VAR, CARBON 10K/10K (VOLUME)	
RV601	1-241-028-11	RES, ADJ, CARBON 330	
< SWITCH >			
S302	1-571-986-11	SWITCH, LEAF (POWER)	
S303	1-692-298-12	SWITCH, SLIDE (NORM, CrO2/METAL)	
S305	1-692-898-11	SWITCH, SLIDE (AVLS)	
< THERMISTOR >			
TH601	1-809-279-11	THERMISTOR, POSITIVE	
TH602	1-809-029-11	THERMISTOR, POSITIVE	

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Ref. No.	Part No.	Description	Remark
		MISCELLANEOUS	
		*****	
10	1-467-600-11	MEGA BASS UNIT (SW)	
HP901	1-543-783-11	HEAD, MAGNETIC (PLAYBACK)	
M901	1-541-841-11	MOTOR	
*****			
ACCESSORIES & PACKING MATERIALS			
*****			
	1-504-228-11	HEADPHONE (MDR-013)	
		(EX102:US, AEP, MX/EX108)	
	1-528-179-11	BATTERY, STORAGE, NI-CD (EX108)	
	1-528-406-11	BATTERY CHARGER (BC-800Y) (EX108)	
	3-346-518-01	CLIP, BELT	
	3-758-254-11	MANUAL, INSTRUCTION	
		(ENGLISH, FRENCH, GERMAN, DUTCH, SWEDISH, ITALIAN, PORTUGUESE) (EX102:UK, E, AEP)	
	3-758-254-21	MANUAL, INSTRUCTION (ENGLISH)	
		(EX102:US, MX)	
	3-758-254-41	MANUAL, INSTRUCTION	
		(ENGLISH, GERMAN, POLISH, RUSSIAN, HUNGARIAN, CZECHOSLOVAK) (EX108)	
	3-910-200-01	CUSHION (EX102:AEP/EX108)	*
	3-910-312-01	CUSHION (EX102:UK, E)	*
	3-910-313-01	INDIVIDUAL CARTON (EX102:AEP)	*
	3-910-314-01	INDIVIDUAL CARTON (EX102:UK)	*
	3-910-315-01	INDIVIDUAL CARTON (EX102:E)	*
	3-910-494-01	INDIVIDUAL CARTON (EX108)	*
	3-913-541-01	HOLDER, CHARGER (EX108)	
	8-953-538-90	HEADPHONE MDR-E741//K SET (EX102:UK)	
	8-953-546-90	HEADPHONE MDR-E741V SET (EX102:E)	
	X-3329-657-1	ATTACHMENT ASSY (EX102:UK, E)	

△

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

