

# M-100MC

## SERVICE MANUAL

Ver. 1.1 2005.05



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

Model Name Using Similar Mechanism	NEW
Tape Transport Mechanism Type	MZ-100MC-14

### SPECIFICATIONS

Tape	<b>MICROCASSETTE™</b> (normal position type)						
Recording system	2-track 1-channel monaural						
Speaker	Approx. 2.8cm (1 1/8 in.) dia.						
Tape speed	2.4cm/s (15/16 ips), 1.2cm/s (15/32 ips)						
Frequency range	High : 400 – 3,000Hz Normal, Low : 400 – 4,000Hz						
Output	Earphone jack (minijack) for 8 – 300ohms earphone						
Power output (at 10% harmonic distortion)	220mW						
Battery life (Approx. hours) (EIAJ*)							
<table border="1"><thead><tr><th>Batteries</th><th>Recording</th></tr></thead><tbody><tr><td>Sony alkaline LR6 (SG)</td><td>16.0</td></tr><tr><td>Sony R6P (SR)</td><td>5.5</td></tr></tbody></table>		Batteries	Recording	Sony alkaline LR6 (SG)	16.0	Sony R6P (SR)	5.5
Batteries	Recording						
Sony alkaline LR6 (SG)	16.0						
Sony R6P (SR)	5.5						

Power requirements	3V DC Two R6 (size AA) batteries
Dimensions (w/h/d)	Approx. 126.0 x 68.0 x 40.8 mm (5 x 2 3/4 x 1 5/8 in.) incl. projecting parts and controls
Mass	Approx. 180g (6.4 oz) incl. batteries
Supplied Accessories	Hand strap (attached to the unit) (1) Microcassette tape (1) (EXCEPT US, Canadian, AEP model) Wind screen (1) (US model) R6 (size AA) batteries (2) (Tourist model) Earphone (1) (Tourist model)

Design and specifications are subject to change without notice.

\* Measured value by the standard of EIAJ (Electronic Industries Association of Japan) (Using a Sony Microcassette MC-60)

## MICROCASSETTE™-CORDER

9-923-382-12  
2005E02-1  
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**Sony Corporation**  
Personal Audio Group  
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# SONY®

# SECTION 1 GENERAL

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## MODEL IDENTIFICATION



Indication of country of origin :  
 US, Canadian, AEP, E, Tourist model  
 No indication of country of origin : 1E model

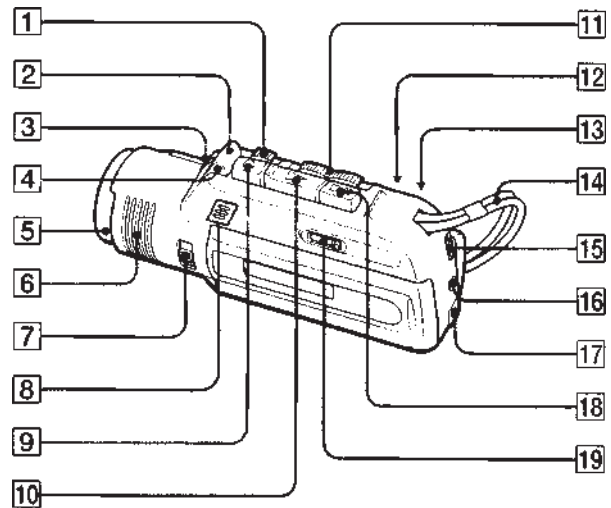
### Flexible Circuit Board Repairing

- 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.

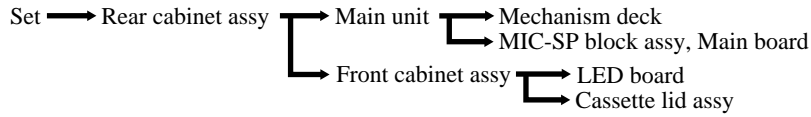
## LOCATION AND FUNCTION OF CONTROLS



- |    |   |
|----|---|
| 1  | ■ PAUSE switch  |
| 2  | ■ CUE MARKER button                                   |
| 3  | VOL control   |
| 4  | REC indicator   |
| 5  | Microphone  |
| 6  | Speaker   |
| 7  | SENSITIVITY selector                                  |
| 8  | BATT indicators and ⏻ indicator                       |
| 9  | ● (recording) button                                  |
| 10 | ▶ (playback) button                                   |
| 11 | ▶▶ (fast-forward)/(cue) • ◀◀ (rewind)/(review) switch |
| 12 | VOR switch  |
| 13 | FIRST PB switch                                       |
| 14 | Handstrap   |
| 15 | ⇄ TAPE SPEED switch                                   |
| 16 | EAR jack  |
| 17 | DC IN 3V jack   |
| 18 | ■◀ (stop/eject) button                                |
| 19 | TAPE COUNTER  |

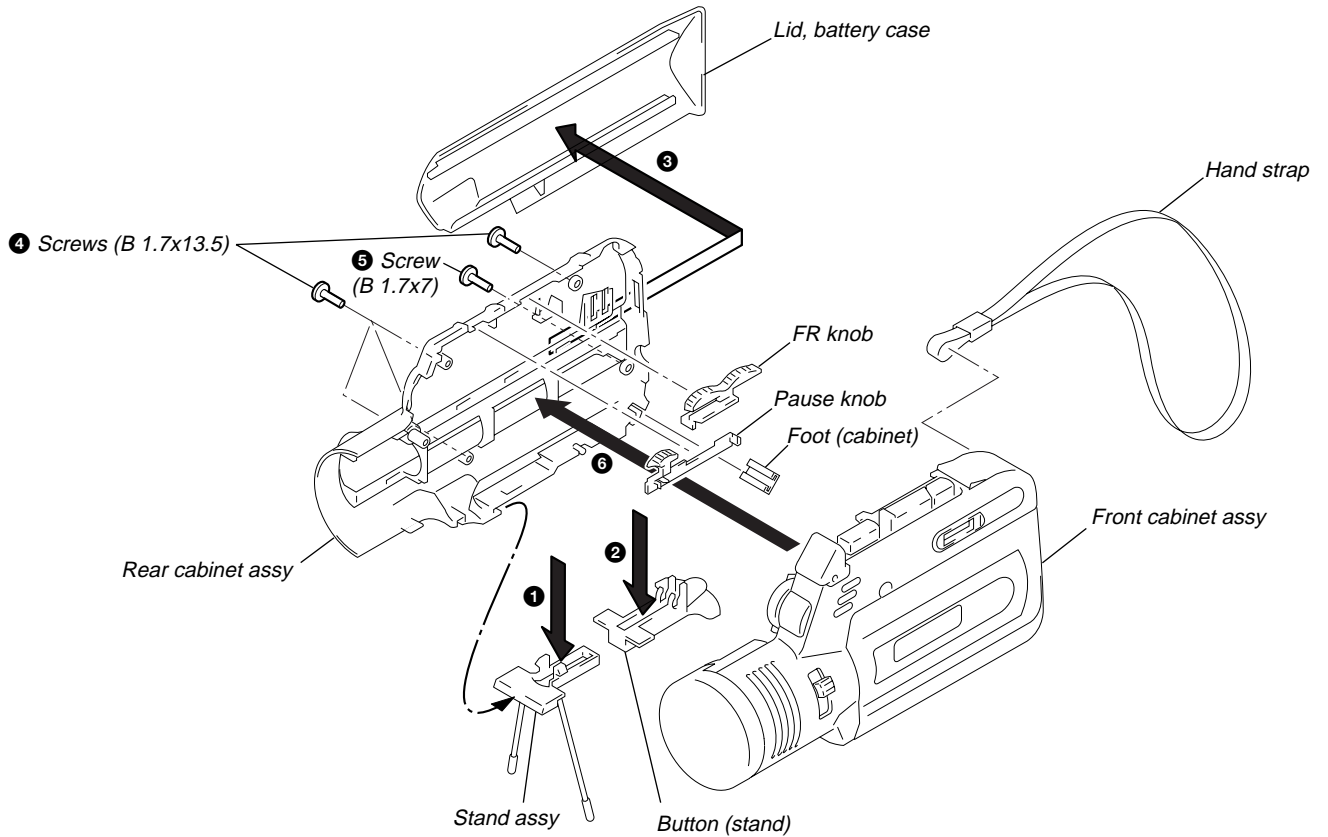
## SECTION 2 DISASSEMBLY

- The equipment can be removed using the following procedure.

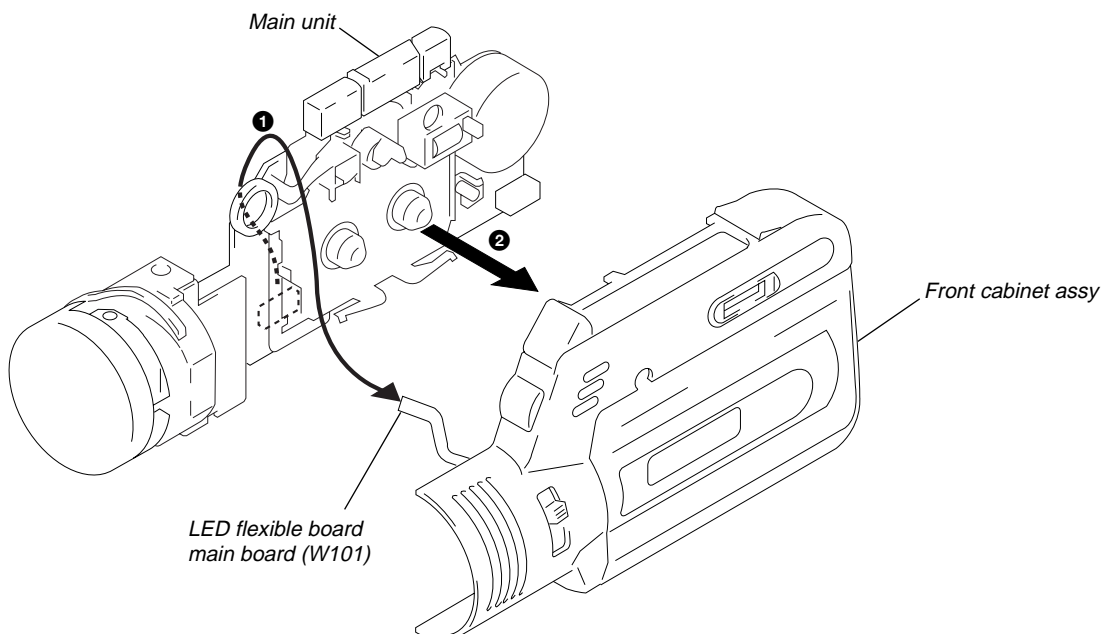


**Note :** Follow the disassembly procedure in the numerical order given.

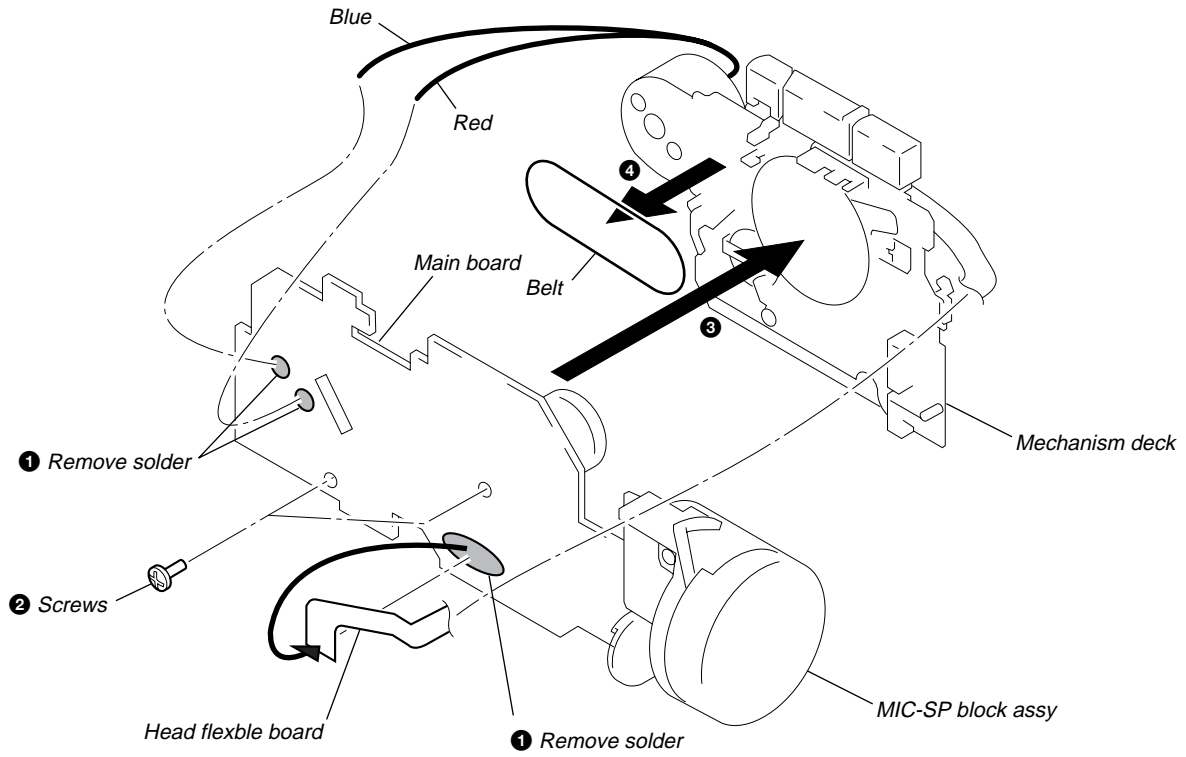
### 2-1. REAR CABINET ASSY REMOVAL



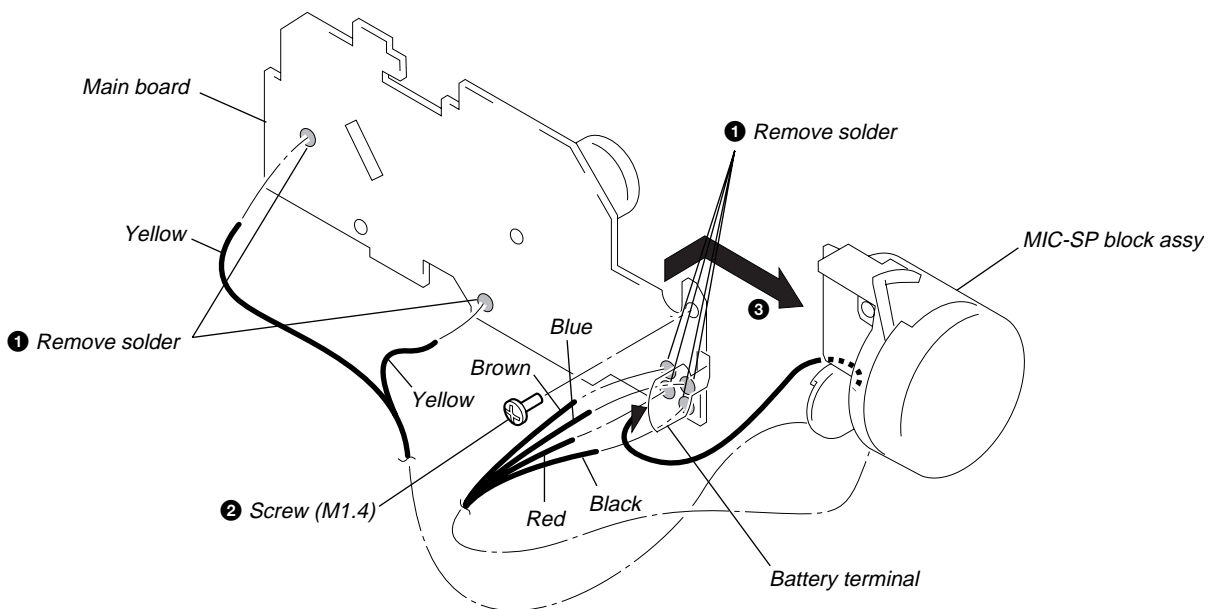
### 2-2. FRONT CABINET ASSY, MAIN UNIT REMOVAL



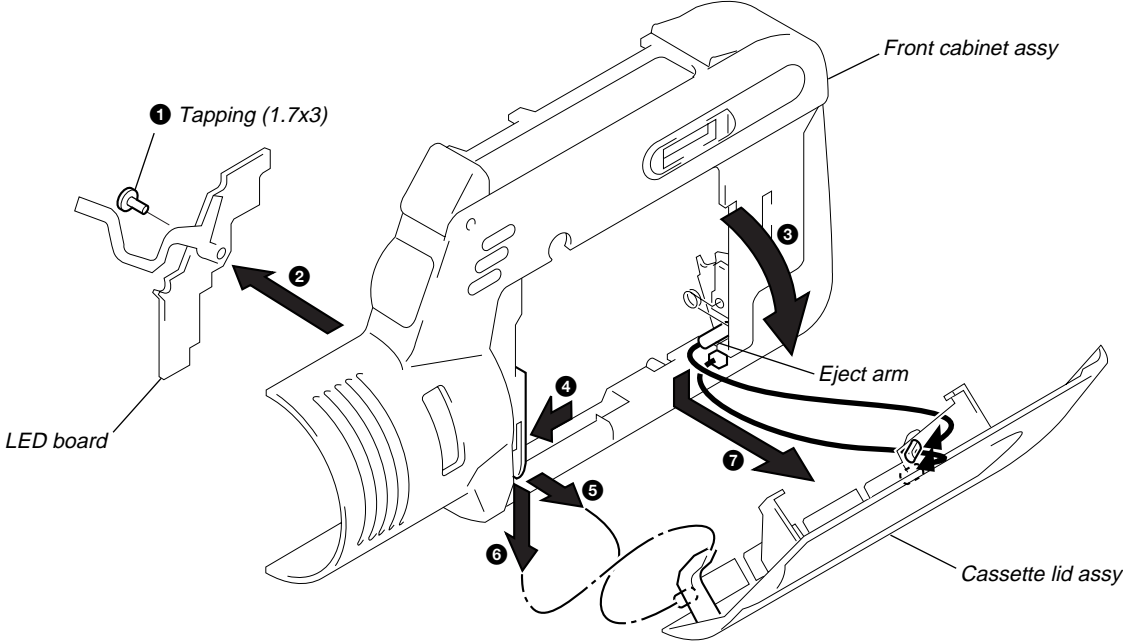
### 2-3. MECHANISM DECK REMOVAL



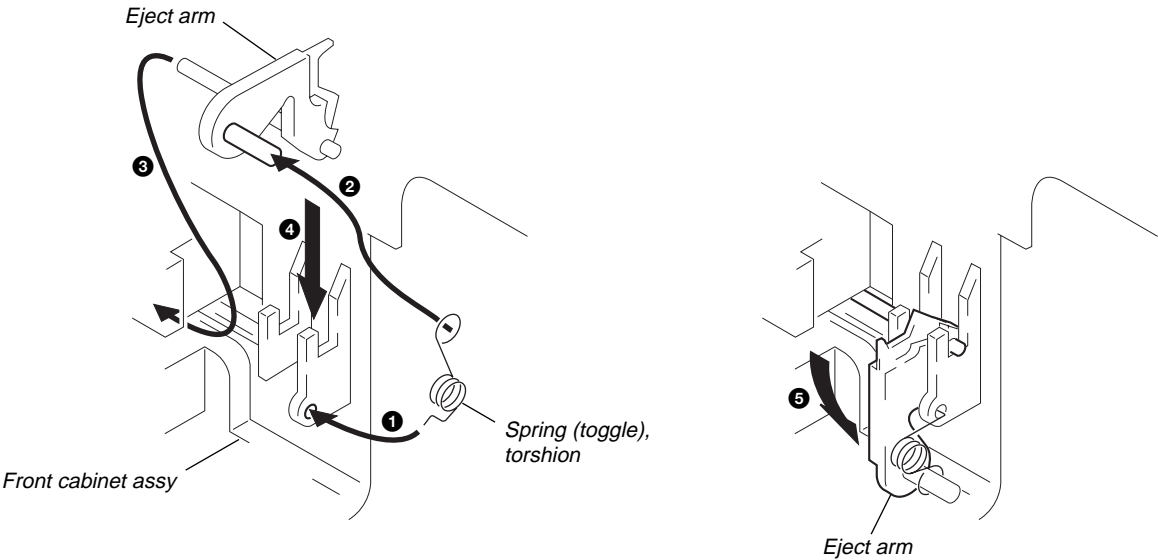
### 2-4. MIC-SP BLOCK ASSY, MAIN BOARD REMOVAL



**2-5. LED BOARD, CASSETTE LID ASSY REMOVAL**



**2-6. EJECT ARM INSTALLATION**



# SECTION 3 ADJUSTMENTS

## 3-1. MECHANICAL ADJUSTMENTS

### PRECAUTION

1. Before adjusting, clean the following parts with a piece of cotton moistened with alcohol.
 

record/playback/erase head	pinch roller
rubber belt	capstan
2. Demagnetize the record/playback/erase head using a head demagnetizer.
3. Do not use a magnetized screwdriver for adjustments.
4. After adjusting, apply screw-locking compound to the adjusted parts.
5. Unless specified otherwise, use a specified voltage (3V DC) to perform the adjustments.

### Torque Measurement

Tape Speed switch : 2.4cm

Mode	Torque Meter	Meter Reading
Forward	CQ-103M	5 – 13 g • cm (0.07 to 0.180 oz • inch)
Fast Forward	CQ-201M	5 – 13 g • cm (0.07 to 0.180 oz • inch)
Rewind	CQ-201M	more than 20 g • cm (more than 0.28 oz • inch)

### Tape Tension Measurement

Tape Speed switch : 2.4cm/s

Mode	Torque Meter	Meter Reading
FWD	CQ-403M	more than 30 g (more than 1.06 oz)

## 3-2. ELECTRICAL ADJUSTMENTS

### Standard Output Level

Output terminal	EAR
Load impedance	10kΩ
Output level	78mV (–20dB)

### Test Tape

Type	Signal	Used for	Tape speed (cm/s)
S-2-A030A	3kHz, –20dB	Azimuth Adjustment	2.4
WS-24	3kHz, –10dB	Tape Speed Adjustment	2.4
WS-12			1.2

0dB=0.775V

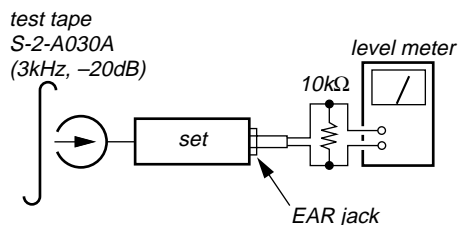
### Record/Playback/Erase Head Azimuth Adjustment

Switch position

- |                   |                     |
|-------------------|---------------------|
| VOL control       | : Mechanical center |
| TAPE SPEED switch | : 2.4cm             |
| VOR switch        | : OFF               |

#### Procedure :

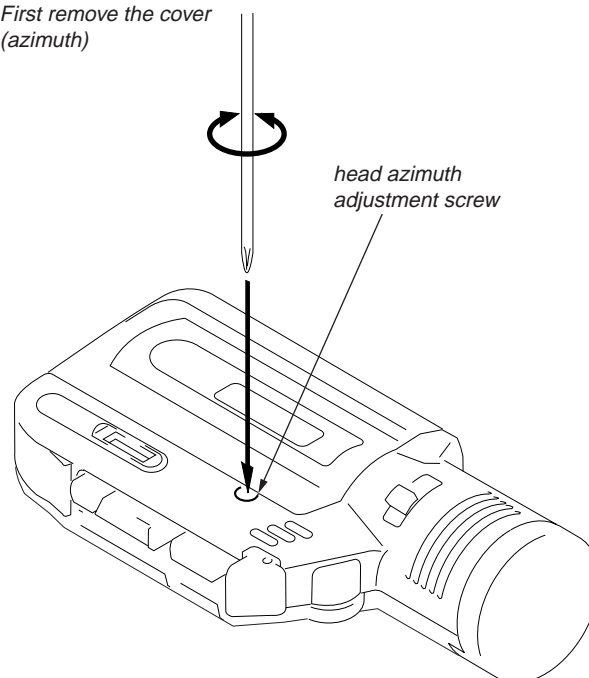
– FWD/REV playback –



- Rotate the screw to adjust level meter reading to the maximum.
- Note :** Adjust to the maximum peak though there may be two or three peaks

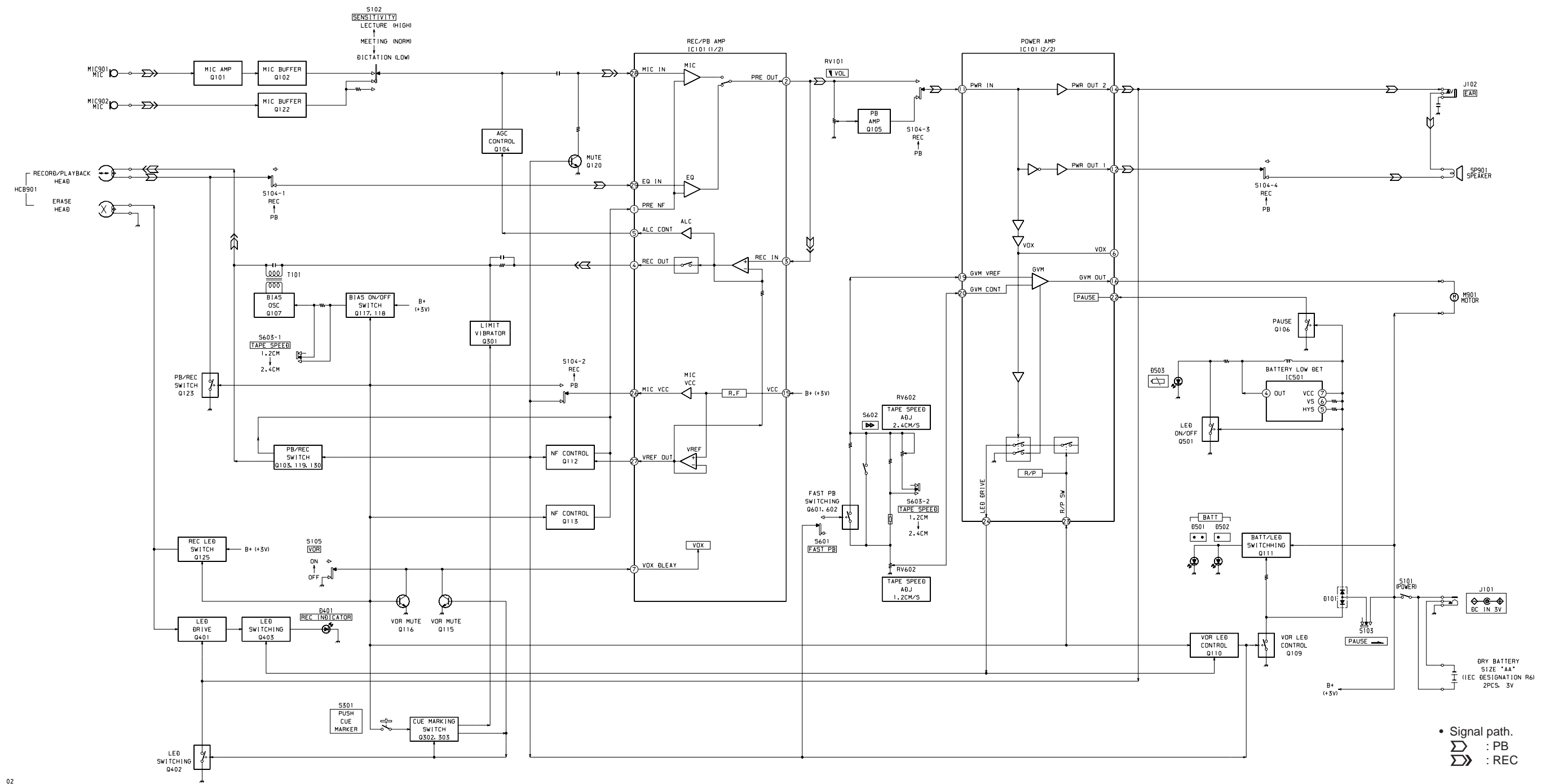
#### Adjustment Location :

First remove the cover (azimuth)



SECTION 4  
DIAGRAMS

4-1. BLOCK DIAGRAM

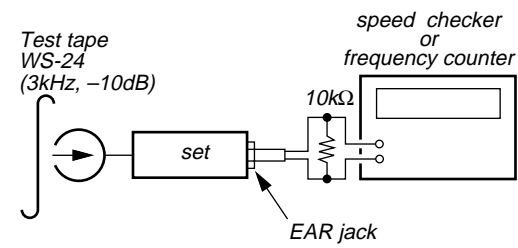


02

Tape Speed Adjustment

Switch position  
VOL control : Mechanical center  
VOR switch : OFF

Procedure:  
After adjusting the 1.2cm/s speed, adjust the 2.4cm/s speed.  
- Playback -



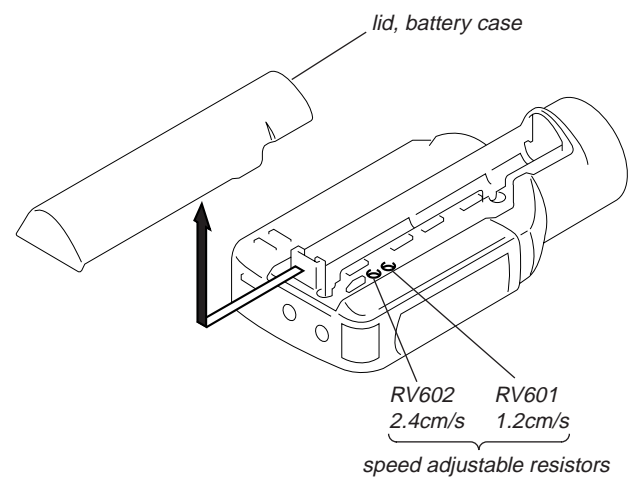
Adjustment Value :

Adjustment Part	Speed	Speed checker	Frequency counter
RV601	1.2cm/s	- 3% ~ + 3%	1,455 - 1,545Hz
RV602	2.4cm/s	- 3% ~ + 3%	2,910 - 3,090Hz

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

Adjustment Location :

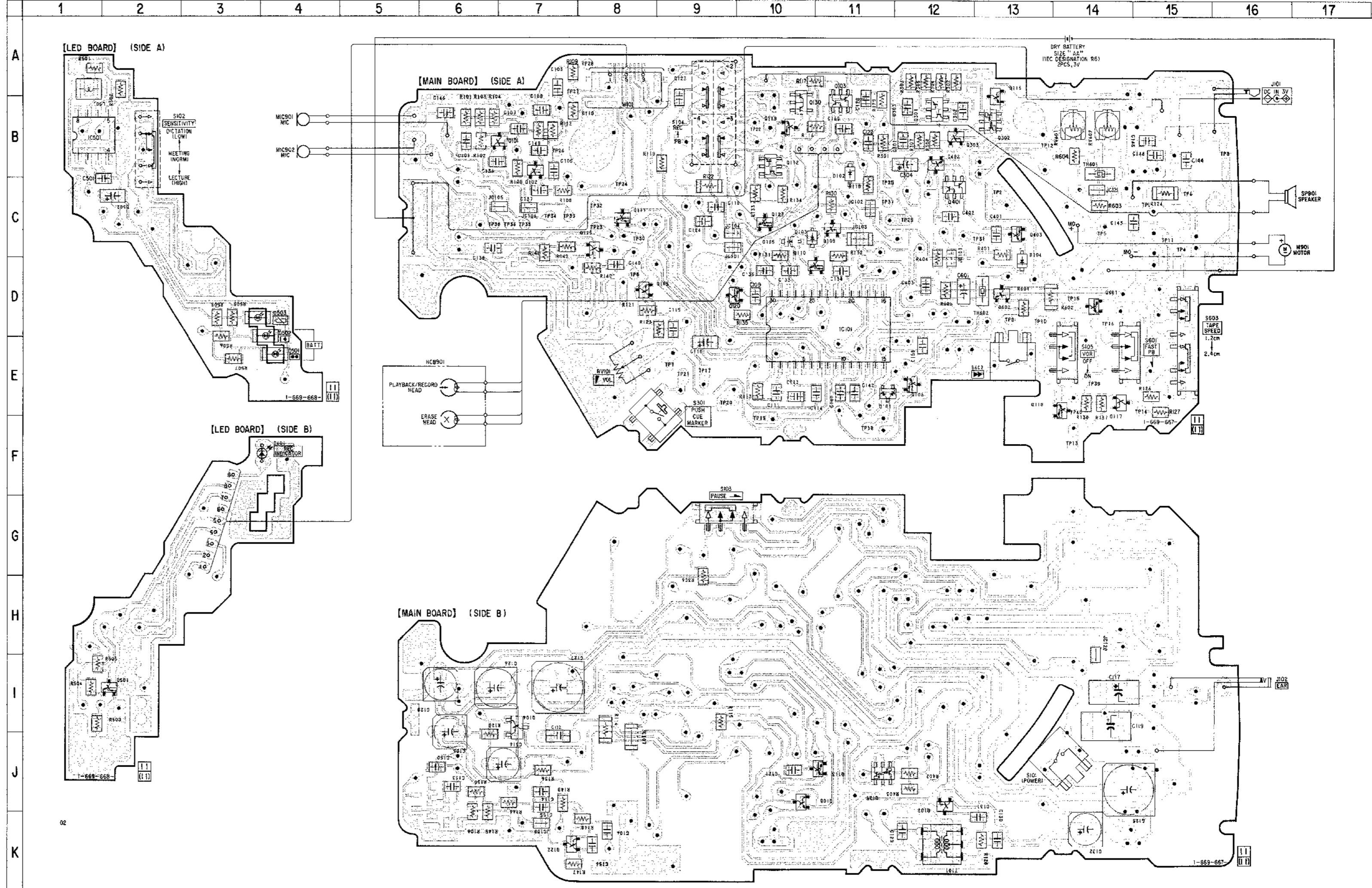
- Back view -



4-2. PRINTED WIRING BOARDS

• SEMICONDUCTOR LOCATION

Ref. No.	Location
D101	E-11
D102	B-11
D103	C-10
D104	C-13
D105	C-10
D401	F-4
D501	E-4
D502	D-4
D503	D-4
IC101	D-11
IC501	B-1
Q101	B-7
Q102	B-7
Q103	B-11
Q104	I-7
Q105	D-8
Q106	E-12
Q107	J-12
Q108	J-10
Q109	C-11
Q110	D-10
Q111	C-8
Q112	B-10
Q113	J-11
Q115	C-8
Q116	A-13
Q117	E-14
Q118	E-14
Q119	B-10
Q120	D-9
Q122	K-7
Q123	C-10
Q125	J-11
Q130	B-10
Q301	B-12
Q302	B-13
Q303	B-12
Q401	C-12
Q402	B-12
Q403	C-13
Q501	I-2
Q601	D-14
Q602	D-13



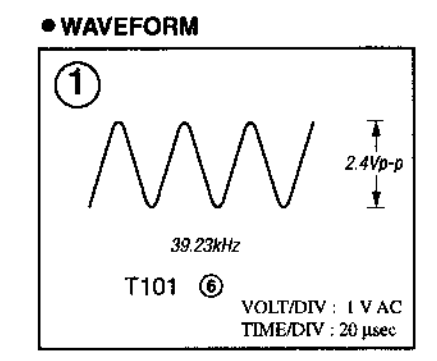
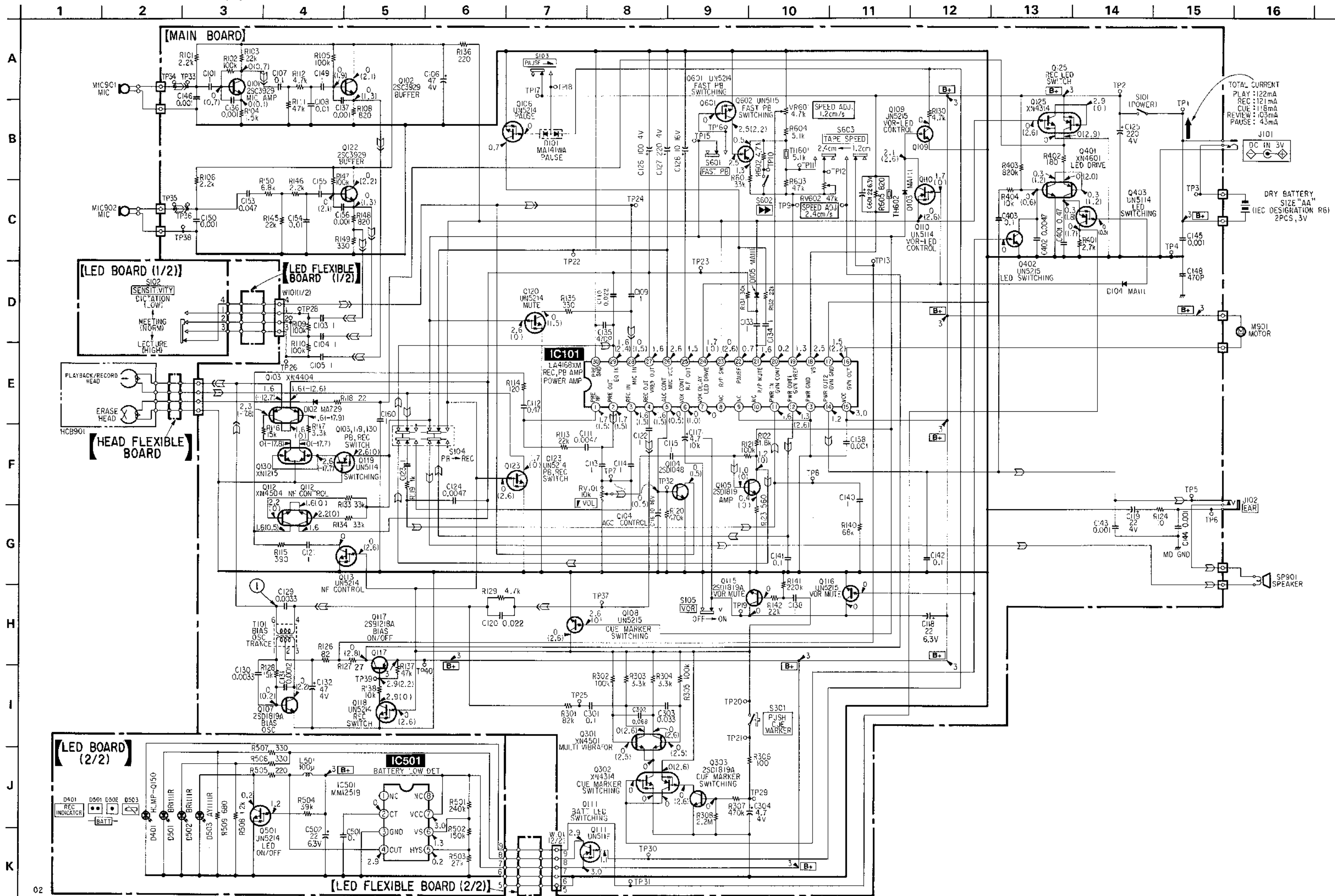
**Note:**

- : parts extracted from the component side.
- : Through hole.
- ▨ : Pattern from the side which enables seeing. (The other layers' patterns are not indicated.)

**Caution:**

Pattern face side: Parts on the pattern face side seen from the pattern face are indicated.  
 Parts face side: Parts on the parts face side seen from the parts face are indicated.



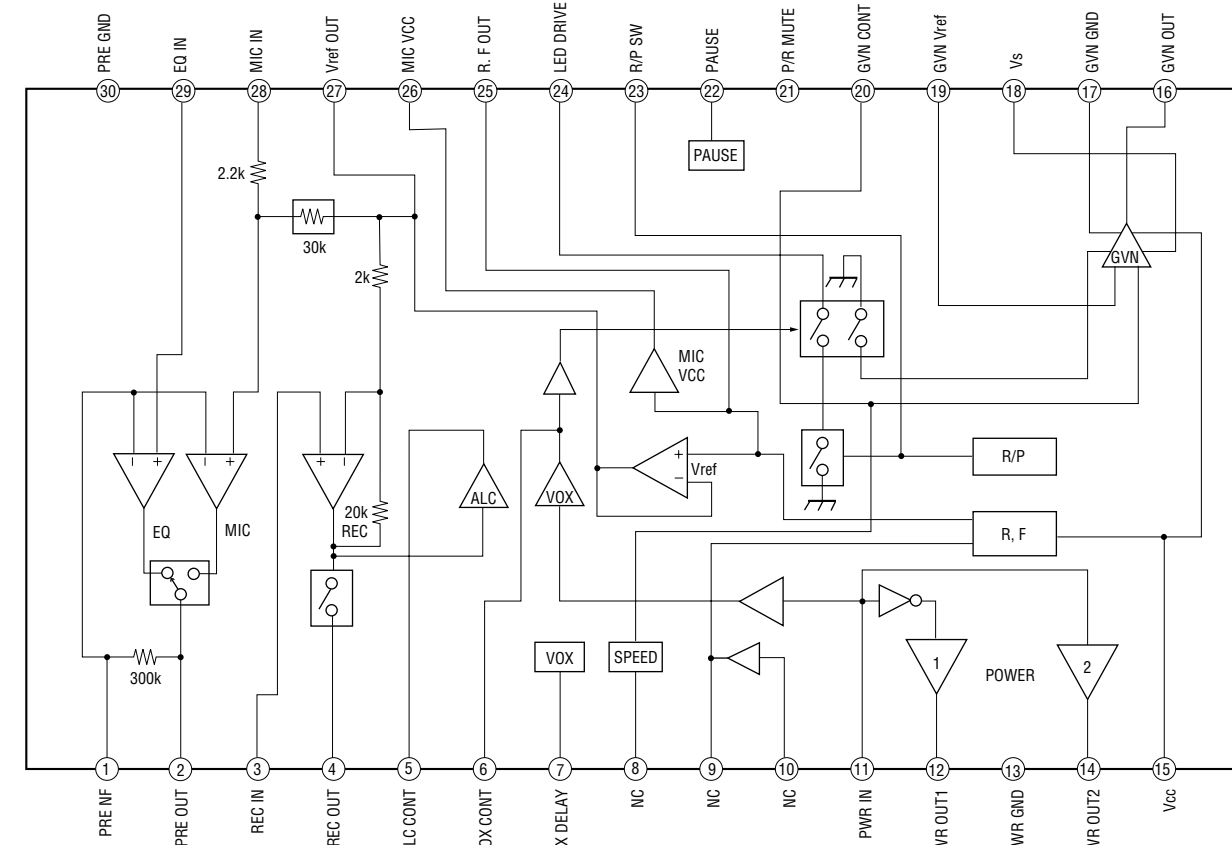


**Note:**

- All capacitors are in  $\mu\text{F}$  unless otherwise noted.  $\text{pF}$ :  $\mu\text{F}$  50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in  $\Omega$  and  $1/4\text{ W}$  or less unless otherwise specified.
- [B+]: B+ Line.
- [ ]: adjustment for repair.
- Power voltage is dc 3V and fed with regulated dc power supply from external power voltage jack (J101).
- Voltages and waveforms are dc with respect to ground under no-signal conditions.
- ( ) : PLAY
- ( ) : REC
- Voltages are taken with a VOM (Input impedance 10 M $\Omega$ ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with an oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
- [ ] : PB
- [ ] : REC

● IC BLOCK DIAGRAM

IC101 LA4168ML-TE-L



Ver. 1.1

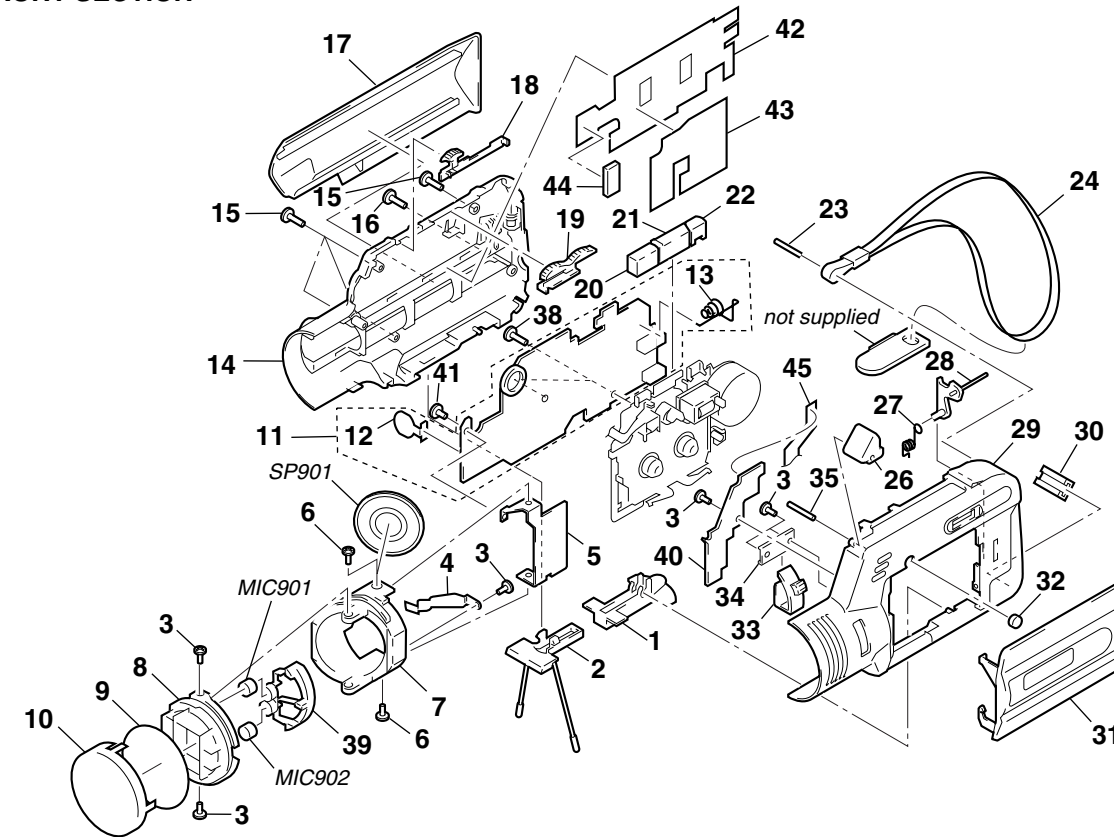
SECTION 5  
EXPLODED VIEWS

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.

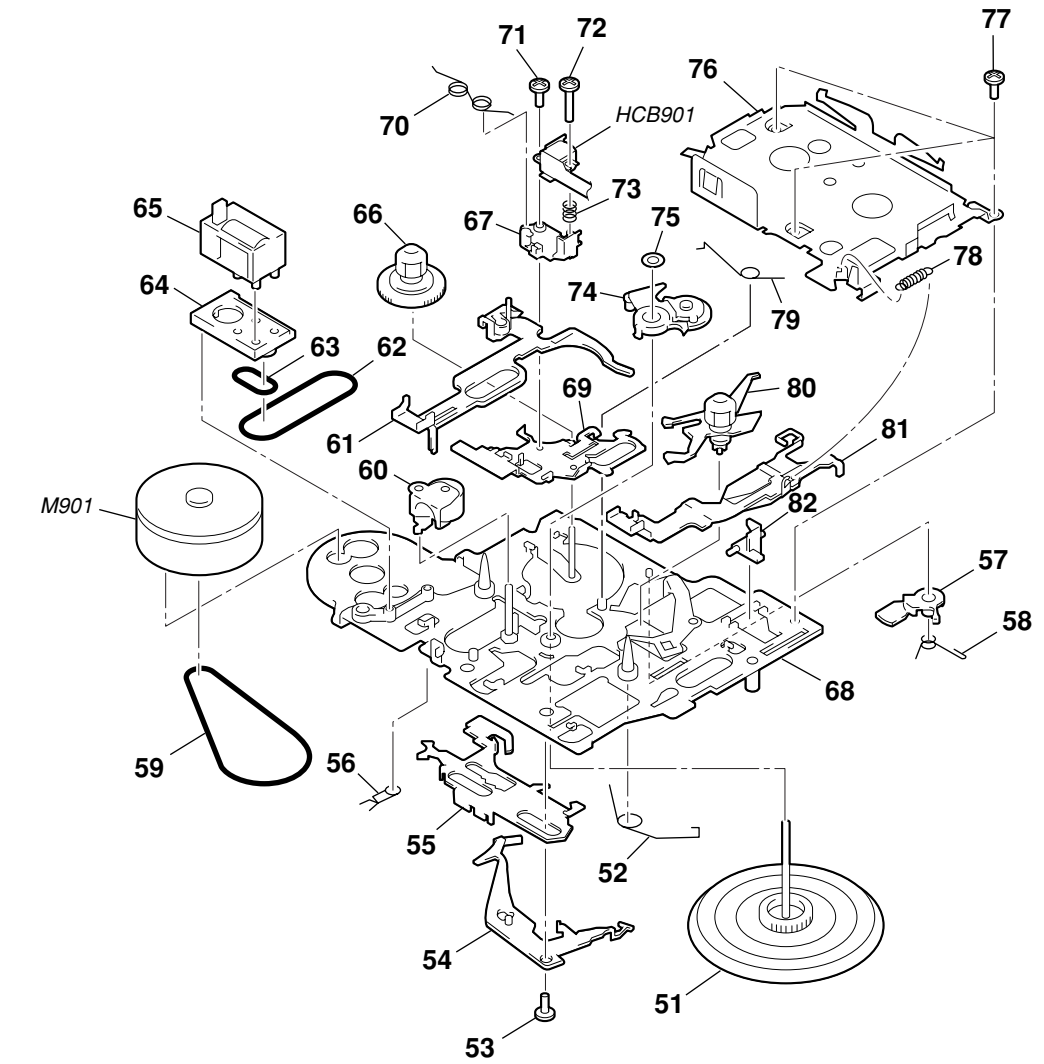
- Abbreviation  
E :Indication of country of origin  
1E :No indication of country of origin

5-1. FRONT SECTION



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
1	3-025-026-01	BUTTON (STAND)		24	3-328-319-31	STRAP, HAND	
2	X-3375-565-1	STAND ASSY		26	3-025-013-11	BUTTON (CUE)	
3	3-318-382-31	SCREW (1.7X3), TAPPING		27	3-027-880-01	SPRING (TOGGLE), TORSION	
* 4	3-025-036-01	BRACKET (SPK)		28	3-010-499-01	ARM (EJECT)	
* 5	3-025-030-01	BRACKET (M-SP)		29	X-3375-599-1	CABINET (FRONT) ASSY	
6	3-704-197-91	SCREW (IB LOCK)		30	3-025-029-01	FOOT (CABINET)	
7	3-025-031-01	HOLDER (M-SP)		31	X-3375-566-1	LID ASSY, CASSETTE	
8	3-025-024-01	BRACKET (PANEL MIC)		32	3-025-039-01	COVER (AZIMUTH)	
9	3-025-043-01	SHEET (WS)		33	3-025-033-01	KNOB (SENSITIVITY SELECTION)	
10	3-025-023-01	PANEL (MIC)		* 34	3-025-040-01	BRACKET (SENSITIVITY)	
11	A-3021-101-A	MAIN BOARD, COMPLETE		35	3-669-481-05	PIN (DIA.1X15), PARALLEL	
12	3-025-037-01	TERMINAL, BATTERY		38	3-342-156-61	SCREW	
13	3-025-038-01	SPRING, BATTERY COIL		39	3-025-032-01	CUSHION, MICROPHONE	
14	X-3375-600-1	CABINET (REAR) ASSY (EXCEPT 1E)		40	A-3021-100-A	LED BOARD, COMPLETE	
14	X-3375-956-1	CABINET (REAR) ASSY (1E)		41	3-345-648-01	SCREW (M1.4), TOOTHED LOCK	
15	3-334-565-21	SCREW (B1.7X13.5), TAPPING		42	3-025-041-01	SHEET (BLIND)	
16	3-318-203-82	SCREW (B1.7X7), TAPPING		43	3-025-042-01	PAPER, SHIELD	
17	3-025-019-01	LID, BATTERY CASE		44	3-026-293-01	CUSHION (BATTERY)	
18	3-025-017-01	KNOB (PAUSE)		45	1-669-666-11	LED FLEXIBLE BOARD	
19	3-025-018-01	KNOB (FR)		MIC901	1-542-348-11	MICROPHONE, ELECTRET CONDENSER	
20	3-010-491-01	BUTTON (REC)		MIC902	1-542-298-11	MICROPHONE, ELECTRET CONDENSER	
21	3-010-492-01	BUTTON (PLAY)		SP901	1-505-918-11	SPEAKER (2.8cm)	
22	3-010-493-01	BUTTON (STOP)					
23	3-669-481-07	PIN (DIA.1X10), PARALLEL					

5-2. MECHANISM DECK SECTION  
(MZ-100MC-14)



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
51	X-3371-272-1	FLYWHEEL (M) ASSY		* 68	X-3369-557-1	CHASSIS COMPLETE ASSY (D)	
52	3-914-904-01	SPRING (PFR), TORSION		* 69	3-914-913-01	LEVER (PLAY)	
53	3-704-243-11	SCREW (P1.7X2.0)		70	3-914-902-01	SPRING (P), TORSION	
* 54	3-023-941-01	PLATE (FR), LOCK		71	3-704-245-42	SCREW (1.4)	
* 55	3-914-919-01	SLIDER (FR)		72	3-366-746-51	SCREW (M1.4X6.5)	
56	3-914-903-01	SPRING (FR), TORSION		73	3-378-792-01	SPRING, COMPRESSION	
57	3-914-915-01	ARM (S.OFF)		74	X-3368-584-1	ARM (MIDWAY GEAR) ASSY	
58	3-914-906-01	SPRING (S.OFF), TORSION		75	3-331-007-21	WASHER	
59	3-377-420-11	BELT		* 76	3-914-923-11	COVER, MD	
60	X-3368-585-1	PINCH LEVER ASSY		77	3-331-047-01	SCREW (M1.4X1.4),SPECIAL HEAD	
61	X-3375-404-1	LEVER (STOP) ASSY		78	3-914-908-01	SPRING (REC LOCK), TENSION	
62	3-343-948-01	BELT		79	3-914-907-01	SPRING (MIDWAY GEAR), TORSION	
63	3-023-935-01	BELT		80	X-3368-587-1	REEL ASSY, S	
64	X-3375-403-1	BRACKET ASSY, COUNTER		* 81	X-3368-583-1	LEVER (REC) ASSY	
65	1-251-705-11	COUNTER, TAPE		82	3-914-916-01	ARM (CLAW DETECTION)	
66	X-3368-582-1	REEL ASSY, T		HCB901	1-500-527-11	HEAD,MAGNETIC(RECODE/PLAYBACK/ERASE)	
67	3-914-914-12	GUIDE, TAPE		M901	1-698-533-21	MOTOR, DC	

## SECTION 6 ELECTRICAL PARTS LIST

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 :  $\mu$  , for example :  
uA.... :  $\mu$  A.... , uPA.... :  $\mu$  PA....  
uPB.... :  $\mu$  PB.... , uPC.... :  $\mu$  PC....  
uPD.... :  $\mu$  PD....
- CAPACITORS  
uF :  $\mu$  F
- COILS  
uH :  $\mu$  H
- Abbreviation  
E : Indication of country of origin  
IE : No indication of country of origin

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

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
	A-3021-100-A	LED BOARD, COMPLETE *****			3-025-038-01	SPRING, BATTERY COIL	
	1-669-666-11	LED FLEXIBLE BOARD			< CAPACITOR >		
		< CAPACITOR >		C101	1-164-346-11	CERAMIC CHIP 1uF	16V
				C103	1-164-346-11	CERAMIC CHIP 1uF	16V
				C104	1-164-346-11	CERAMIC CHIP 1uF	16V
C501	1-163-038-91	CERAMIC CHIP 0.1uF	25V	C105	1-164-346-11	CERAMIC CHIP 1uF	16V
C502	1-119-750-11	TANTAL. CHIP 22uF	20% 6.3V	C106	1-126-607-11	ELECT CHIP 47uF	20% 4V
		< DIODE >		C107	1-163-038-91	CERAMIC CHIP 0.1uF	25V
D401	8-719-985-81	LED HLMP-Q150 (REC)		C108	1-164-232-11	CERAMIC CHIP 0.01uF	50V
D501	8-719-062-42	LED BR1111R-TR (BATT ●●)		C109	1-164-346-11	CERAMIC CHIP 1uF	16V
D502	8-719-062-42	LED BR1111R-TR (BATT ● )		C110	1-163-037-11	CERAMIC CHIP 0.022uF	50V
D503	8-719-062-43	LED AY1111R-TR (△)		C111	1-163-017-00	CERAMIC CHIP 0.0047uF	5% 50V
		< IC >		C112	1-164-005-11	CERAMIC CHIP 0.47uF	25V
IC501	8-759-399-49	IC MM1251BFBE		C113	1-164-346-11	CERAMIC CHIP 1uF	16V
		< COIL >		C114	1-164-346-11	CERAMIC CHIP 1uF	16V
L501	1-412-032-11	INDUCTOR CHIP 100uH		C115	1-164-346-11	CERAMIC CHIP 1uF	16V
		< TRANSISTOR >		C116	1-124-779-00	ELECT CHIP 10uF	20% 16V
Q501	8-729-402-93	TRANSISTOR UN5214-TX		C117	1-128-024-11	ELECT CHIP 4.7uF	20% 10V
		< RESISTOR >		C118	1-119-750-11	TANTAL. CHIP 22uF	20% 6.3V
R501	1-216-106-00	METAL CHIP 240K	5% 1/10W	C119	1-128-015-11	ELECT CHIP 22uF	20% 4V
R502	1-216-101-00	METAL CHIP 150K	5% 1/10W	C120	1-163-037-11	CERAMIC CHIP 0.022uF	10% 50V
R503	1-216-083-00	METAL CHIP 27K	5% 1/10W	C121	1-164-346-11	CERAMIC CHIP 1uF	16V
R504	1-216-689-11	METAL CHIP 39K	0.5% 1/10W	C122	1-164-346-11	CERAMIC CHIP 1uF	16V
R505	1-216-033-00	METAL CHIP 220	5% 1/10W	C123	1-164-346-11	CERAMIC CHIP 1uF	16V
R506	1-216-037-00	METAL CHIP 330	5% 1/10W	C124	1-163-017-00	CERAMIC CHIP 0.0047uF	5% 50V
R507	1-216-037-00	METAL CHIP 330	5% 1/10W	C125	1-126-246-11	ELECT CHIP 220uF	20% 4V
R508	1-216-051-00	METAL CHIP 1.2K	5% 1/10W	C126	1-126-209-11	ELECT CHIP 100uF	20% 4V
R509	1-216-045-00	METAL CHIP 680	5% 1/10W	C127	1-126-246-11	ELECT CHIP 220uF	20% 4V
		< SWITCH >		C128	1-124-779-00	ELECT CHIP 10uF	20% 16V
S102	1-570-386-11	SWITCH, SLIDE (SENSITIVITY)		C129	1-164-699-11	CERAMIC CHIP 0.0033uF	5% 50V
*****							
	A-3021-101-A	MAIN BOARD, COMPLETE *****		C130	1-164-182-11	CERAMIC CHIP 0.0033uF	10% 50V
	3-025-037-01	TERMINAL, BATTERY		C131	1-163-010-11	CERAMIC CHIP 0.0012uF	10% 50V
				C132	1-126-607-11	ELECT CHIP 47uF	20% 4V
				C133	1-164-346-11	CERAMIC CHIP 1uF	16V
				C134	1-164-346-11	CERAMIC CHIP 1uF	16V
				C135	1-163-005-11	CERAMIC CHIP 470PF	10% 50V
				C136	1-163-009-11	CERAMIC CHIP 0.001uF	10% 50V
				C137	1-163-009-11	CERAMIC CHIP 0.001uF	10% 50V
				C138	1-164-346-11	CERAMIC CHIP 1uF	16V
				C140	1-164-346-11	CERAMIC CHIP 1uF	16V
				C141	1-163-038-91	CERAMIC CHIP 0.1uF	25V
				C142	1-163-038-91	CERAMIC CHIP 0.1uF	25V

**MAIN**

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
C143	1-163-009-11	CERAMIC CHIP	0.001uF 10% 50V	Q107	8-729-230-63	TRANSISTOR	2SC4116-YG
C144	1-163-009-11	CERAMIC CHIP	0.001uF 10% 50V	Q108	8-729-420-50	TRANSISTOR	UN5215
C145	1-163-009-11	CERAMIC CHIP	0.001uF 10% 50V	Q109	8-729-420-50	TRANSISTOR	UN5215
C146	1-163-009-11	CERAMIC CHIP	0.001uF 10% 50V	Q110	8-729-402-96	TRANSISTOR	UN5114
C148	1-163-005-11	CERAMIC CHIP	470PF 10% 50V	Q111	8-729-028-30	TRANSISTOR	UN511F
C149	1-164-346-11	CERAMIC CHIP	1uF 16V	Q112	8-729-425-18	TRANSISTOR	XN4504
C150	1-163-009-11	CERAMIC CHIP	0.001uF 10% 50V	Q113	8-729-402-93	TRANSISTOR	UN5214-TX
C153	1-163-809-11	CERAMIC CHIP	0.047uF 10% 25V	Q115	8-729-230-63	TRANSISTOR	2SC4116-YG
C154	1-164-232-11	CERAMIC CHIP	0.01uF 50V	Q116	8-729-420-50	TRANSISTOR	UN5215
C155	1-164-346-11	CERAMIC CHIP	1uF 16V	Q117	8-729-420-24	TRANSISTOR	2SB1218A-QRS
C156	1-163-009-11	CERAMIC CHIP	0.001uF 10% 50V	Q118	8-729-402-93	TRANSISTOR	UN5214-TX
C158	1-163-009-11	CERAMIC CHIP	0.001uF 10% 50V	Q119	8-729-402-96	TRANSISTOR	UN5114
C160	1-164-346-11	CERAMIC CHIP	1uF 16V	Q120	8-729-402-93	TRANSISTOR	UN5214-TX
C301	1-163-038-91	CERAMIC CHIP	0.1uF 25V	Q122	8-729-429-74	TRANSISTOR	2SC3929
C302	1-164-344-11	CERAMIC CHIP	0.068uF 10% 25V	Q123	8-729-402-93	TRANSISTOR	UN5214-TX
C303	1-163-989-11	CERAMIC CHIP	0.033uF 10% 25V	Q125	8-729-429-71	TRANSISTOR	XN4314
C304	1-135-151-21	TANTALUM CHIP	4.7uF 20% 4V	Q130	8-729-403-17	TRANSISTOR	XN1215
C401	1-164-005-11	CERAMIC CHIP	0.47uF 25V	Q301	8-729-402-81	TRANSISTOR	XN4501
C402	1-163-017-00	CERAMIC CHIP	0.0047uF 5% 50V	Q302	8-729-429-71	TRANSISTOR	XN4314
C403	1-163-038-91	CERAMIC CHIP	0.1uF 25V	Q303	8-729-230-63	TRANSISTOR	2SC4116-YG
C601	1-119-750-11	TANTAL. CHIP	22uF 20% 6.3V	Q401	8-729-402-84	TRANSISTOR	XN4601
		< DIODE >		Q402	8-729-420-50	TRANSISTOR	UN5215
D101	8-719-820-05	DIODE	1SS181	Q403	8-729-402-96	TRANSISTOR	UN5114
D102	8-719-420-51	DIODE	MA729	Q601	8-729-402-93	TRANSISTOR	UN5214-TX
D103	8-719-404-49	DIODE	MA111	Q602	8-729-420-53	TRANSISTOR	UN5115
D104	8-719-404-49	DIODE	MA111			< RESISTOR >	
D105	8-719-404-49	DIODE	MA111	R101	1-216-057-00	METAL CHIP	2.2K 5% 1/10W
		< IC >		R102	1-216-097-91	RES,CHIP	100K 5% 1/10W
IC101	8-759-492-49	IC	LA4168ML-TE-L	R103	1-216-081-00	METAL CHIP	22K 5% 1/10W
		< JACK >		R104	1-216-053-00	METAL CHIP	1.5K 5% 1/10W
J101	1-750-061-11	JACK,DC(POLARITY UNIFIED TYPE)	(DC IN 3V)	R105	1-216-097-91	RES,CHIP	100K 5% 1/10W
J102	1-784-848-21	JACK (EAR)		R106	1-216-057-00	METAL CHIP	2.2K 5% 1/10W
		< JUMPER RESISTOR >		R108	1-216-047-91	RES,CHIP	820 5% 1/10W
JC101	1-216-295-00	METAL CHIP	0 5% 1/10W	R109	1-216-097-91	RES,CHIP	100K 5% 1/10W
JC102	1-216-295-00	METAL CHIP	0 5% 1/10W	R110	1-216-097-91	RES,CHIP	100K 5% 1/10W
JC103	1-216-296-00	METAL CHIP	0 5% 1/8W	R111	1-216-089-91	RES,CHIP	47K 5% 1/10W
JC104	1-216-295-00	METAL CHIP	0 5% 1/10W	R112	1-216-065-91	RES,CHIP	4.7K 5% 1/10W
JC105	1-216-295-00	METAL CHIP	0 5% 1/10W	R113	1-216-081-00	METAL CHIP	22K 5% 1/10W
JC106	1-216-295-00	METAL CHIP	0 5% 1/10W	R114	1-216-176-11	RES,CHIP	120 5% 1/8W
JC107	1-216-296-00	METAL CHIP	0 5% 1/8W	R115	1-216-039-00	METAL CHIP	390 5% 1/10W
JC108	1-216-295-00	METAL CHIP	0 5% 1/10W	R116	1-216-077-00	METAL CHIP	15K 5% 1/10W
JC109	1-216-295-00	METAL CHIP	0 5% 1/10W	R117	1-216-061-00	METAL CHIP	3.3K 5% 1/10W
JC120	1-216-295-00	METAL CHIP	0 5% 1/10W	R118	1-216-009-00	METAL CHIP	22 5% 1/10W
JC121	1-216-295-00	METAL CHIP	0 5% 1/10W	R119	1-216-049-91	RES,CHIP	1K 5% 1/10W
		< TRANSISTOR >		R120	1-216-113-00	METAL CHIP	470K 5% 1/10W
Q101	8-729-429-74	TRANSISTOR	2SC3929	R121	1-216-097-91	RES,CHIP	100K 5% 1/10W
Q102	8-729-429-74	TRANSISTOR	2SC3929	R122	1-216-204-00	RES,CHIP	1.8K 5% 1/8W
Q103	8-729-422-39	TRANSISTOR	XN4404	R123	1-216-043-91	RES,CHIP	560 5% 1/10W
Q104	8-729-800-37	TRANSISTOR	2SD1048-X7	R124	1-216-150-91	RES,CHIP	10 5% 1/8W
Q105	8-729-230-63	TRANSISTOR	2SC4116-YG	R126	1-216-023-00	METAL CHIP	82 5% 1/10W
Q106	8-729-402-93	TRANSISTOR	UN5214-TX	R127	1-216-011-00	METAL CHIP	27 5% 1/10W
				R128	1-216-077-00	METAL CHIP	15K 5% 1/10W
				R129	1-216-065-91	RES,CHIP	4.7K 5% 1/10W
				R130	1-216-065-91	RES,CHIP	4.7K 5% 1/10W
				R131	1-216-084-00	METAL CHIP	30K 5% 1/10W
				R132	1-216-081-00	METAL CHIP	22K 5% 1/10W

Ref. No.	Part No.	Description	Remark
R133	1-216-085-00	METAL CHIP	33K 5% 1/10W
R134	1-216-085-00	METAL CHIP	33K 5% 1/10W
R135	1-216-037-00	METAL CHIP	330 5% 1/10W
R136	1-216-033-00	METAL CHIP	220 5% 1/10W
R137	1-216-089-91	RES,CHIP	47K 5% 1/10W
R138	1-216-073-00	METAL CHIP	10K 5% 1/10W
R140	1-216-093-00	METAL CHIP	68K 5% 1/10W
R141	1-216-105-91	RES,CHIP	220K 5% 1/10W
R142	1-216-081-00	METAL CHIP	22K 5% 1/10W
R145	1-216-081-00	METAL CHIP	22K 5% 1/10W
R146	1-216-057-00	METAL CHIP	2.2K 5% 1/10W
R147	1-216-097-91	RES,CHIP	100K 5% 1/10W
R148	1-216-041-00	METAL CHIP	470 5% 1/10W
R149	1-216-061-00	METAL CHIP	330 5% 1/10W
R150	1-216-069-00	METAL CHIP	6.8K 5% 1/10W
R301	1-216-095-00	METAL CHIP	82K 5% 1/10W
R302	1-216-097-91	RES,CHIP	100K 5% 1/10W
R303	1-216-061-00	METAL CHIP	3.3K 5% 1/10W
R304	1-216-061-00	METAL CHIP	3.3K 5% 1/10W
R305	1-216-097-91	RES,CHIP	100K 5% 1/10W
R306	1-216-025-91	RES,CHIP	100 5% 1/10W
R307	1-216-113-00	METAL CHIP	470K 5% 1/10W
R308	1-216-129-00	METAL CHIP	2.2M 5% 1/10W
R401	1-216-059-00	METAL CHIP	2.7K 5% 1/10W
R402	1-216-031-00	METAL CHIP	180 5% 1/10W
R403	1-216-119-00	METAL CHIP	820K 5% 1/10W
R404	1-216-073-00	METAL CHIP	10K 5% 1/10W
R601	1-216-085-00	METAL CHIP	33K 5% 1/10W
R602	1-216-214-00	RES,CHIP	4.7K 5% 1/8W
R603	1-216-089-91	RES,CHIP	47K 5% 1/10W
R604	1-216-066-00	METAL CHIP	5.1K 5% 1/10W
R605	1-216-047-91	RES,CHIP	820 5% 1/10W
< VARIABLE RESISTOR >			
RV101	1-225-597-11	RES, VAR, CARBON 10K (VOL)	
RV601	1-238-663-11	RES, ADJ, CARBON 4.7K	(TAPE SPEED 1.2cm/s)
RV602	1-223-997-21	RES, CARBON ADJ VAR 47K	(TAPE SPEED 2.4cm/s)
< SWITCH >			
S101	1-572-688-11	SWITCH, PUSH (1 KEY) (POWER)	
S103	1-572-922-11	SWITCH, SLIDE (PAUSE →)	
S104	1-692-999-11	SWITCH, SLIDE (PB/REC)	
S105	1-572-922-11	SWITCH, SLIDE (VOR)	
S301	1-692-088-11	SWITCH, TACTILE (PUSH CUE MARKER)	
S601	1-572-922-11	SWITCH, SLIDE (FAST PB)	
S602	1-572-688-11	SWITCH, PUSH (1 KEY) (▶▶)	
S603	1-571-277-51	SWITCH, SLIDE (TAPE SPEED)	
< TRANSFORMER >			
T101	1-433-286-11	TRANSFORMER, BIAS OSCILLATION	
< THERMISTOR >			
TH601	1-801-744-11	THERMISTOR, POSITIVE	
TH602	1-810-552-11	THERMISTOR, POSITIVE	

Ref. No.	Part No.	Description	Remark
< CONNECTOR >			
W101	1-750-349-21	CONNECTOR, FFC/FPC (ZIF) 9P	
*****			
MISCELLANEOUS			
*****			
45	1-669-666-11	LED FLEXIBLE BOARD	
65	1-251-705-11	COUNTER, TAPE	
HCB901	1-500-527-11	HEAD,MAGNETIC(RECODE/PLAYBACK/ERASE)	
M901	1-698-533-21	MOTOR, DC	
MIC901	1-542-348-11	MICROPHONE, ELECTRET CONDENSER	
MIC902	1-542-298-11	MICROPHONE, ELECTRET CONDENSER	
SP901	1-505-918-11	SPEAKER (2.8cm)	
*****			
ACCESSORIES & PACKING MATERIALS			
*****			
*	2-283-326-01	LABEL, CAUTION (Tourist)	
	3-025-039-01	COVER (AZIMUTH)	
	3-862-343-11	MANUAL, INSTRUCTION (ENGLISH)	(US,Canadian,AEP)
	3-862-343-21	MANUAL, INSTRUCTION (FRENCH)	(Canadian)
	3-862-343-31	MANUAL, INSTRUCTION(FRENCH,	PORTUGUESE,ITALIAN, DUTCH)
			(AEP,E,Tourist)
	3-862-343-41	MANUAL, INSTRUCTION (GERMAN, SPANISH,	SWEDISH, FINNISH) (AEP)
	3-862-343-51	MANUAL, INSTRUCTION (ENGLISH, SPANISH,	CHINESE, KOREAN) (E,Tourist)
	3-862-343-61	MANUAL, INSTRUCTION (JAPANESE) (Tourist)	
	3-862-343-71	MANUAL, INSTRUCTION (ENGLISH, SPANISH,	CHINESE, KOREAN) (1E)
	8-952-251-90	HEADPHONE MDR-E122 SET	
	X-3375-567-1	SCREEN ASSY, WINDOW (US, Canadian,	Tourist)

