

TCM-400DV

SERVICE MANUAL

Ver 1.0 2001.10

*E Model
Chinese Model
Tourist Model*



Model Name Using Similar Mechanism	New
Tape Transport Mechanism Type	MT-400-175

SPECIFICATIONS

Recording system

2-track 1 channel monaural

Tape speed

4.8 cm/s or 2.4 cm/s

Frequency range

250 - 6 300 Hz using normal (TYPE I) cassette (with REC TIME switch at "NORMAL")

Speaker

Approx. 3.6 cm ($1 \frac{7}{16}$ in.) dia.

Power output

250 mW (at 10 % harmonic distortion)

Input

Microphone input jack (minijack)
sensitivity 0.2 mV for 3 k Ω or
lower impedance microphone

Output

Earphone jack (minijack) for 8 -300 Ω earphone

Variable range of the tape speed

From approx. +30% to -15% (with REC TIME switch at "NORMAL")

Power requirements

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

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

Approx. 86.7 x 114.4 x 35.4 mm
($3 \frac{1}{2}$ x $4 \frac{5}{8}$ x $1 \frac{7}{16}$ in.)

Mass

Approx. 160 g (5.7 oz.) (main unit only)

Design and specifications are subject to change without notice.

CASSETTE-CORDER

SECTION 1
GENERAL

This section is extracted from instruction manual.

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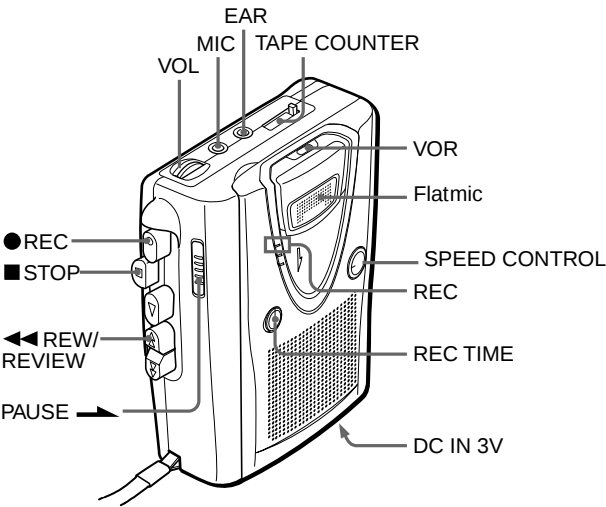
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Flexible Circuit Board Repairing

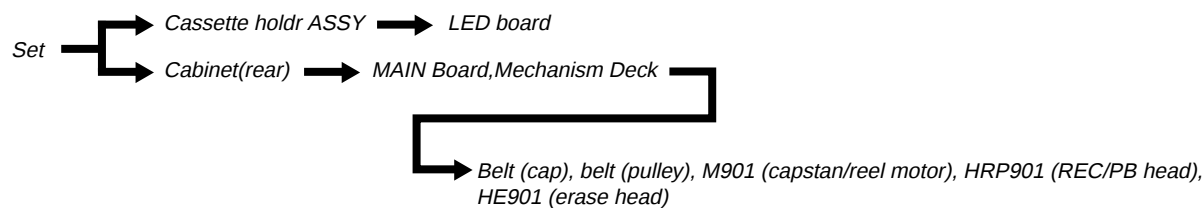
- Keep the temperature of the soldering iron around 270 °C during repairing.
- Do not touch the soldering iron on the same conductor of the circuit board (within 3 times).
- Be careful not to apply force on the conductor when soldering or unsoldering.

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.

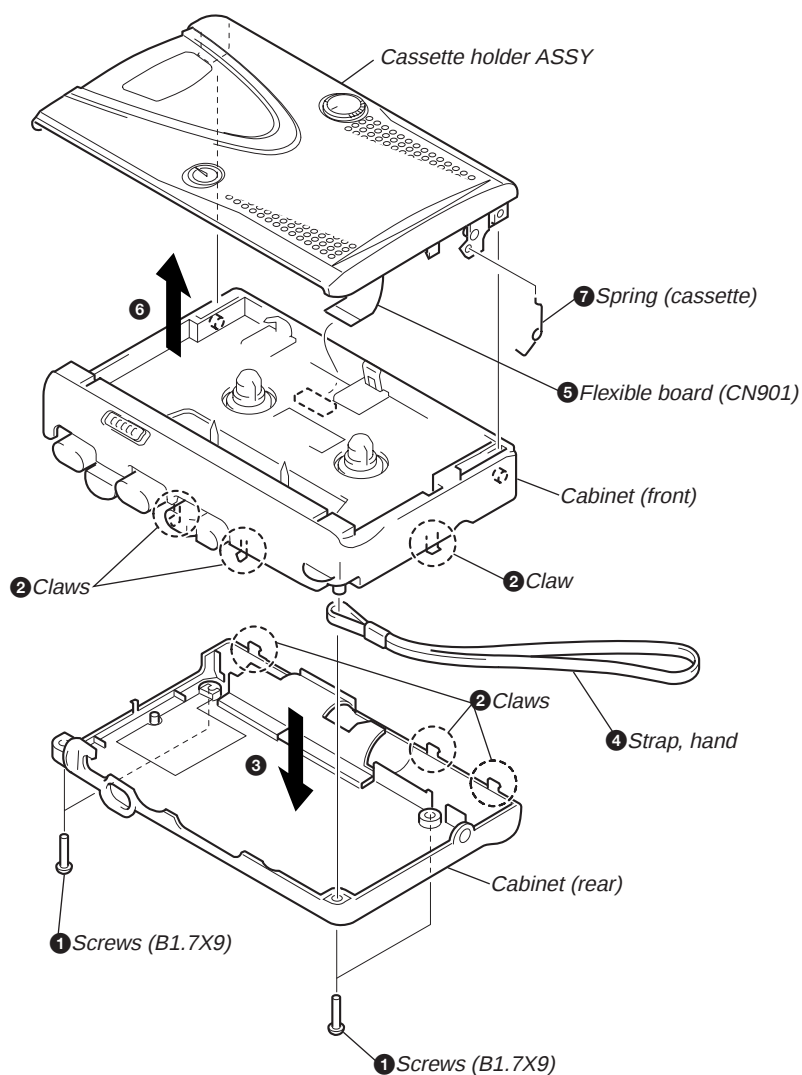
SECTION 2 DISASSEMBLY

- This set can be disassembled in the order shown below.

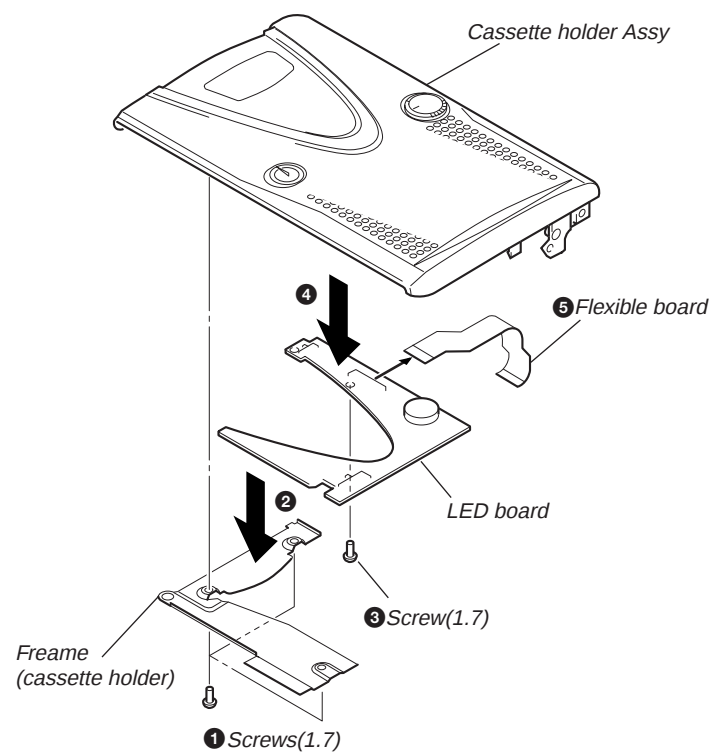


Note: Follow the disassembly procedure in the numerical order given.

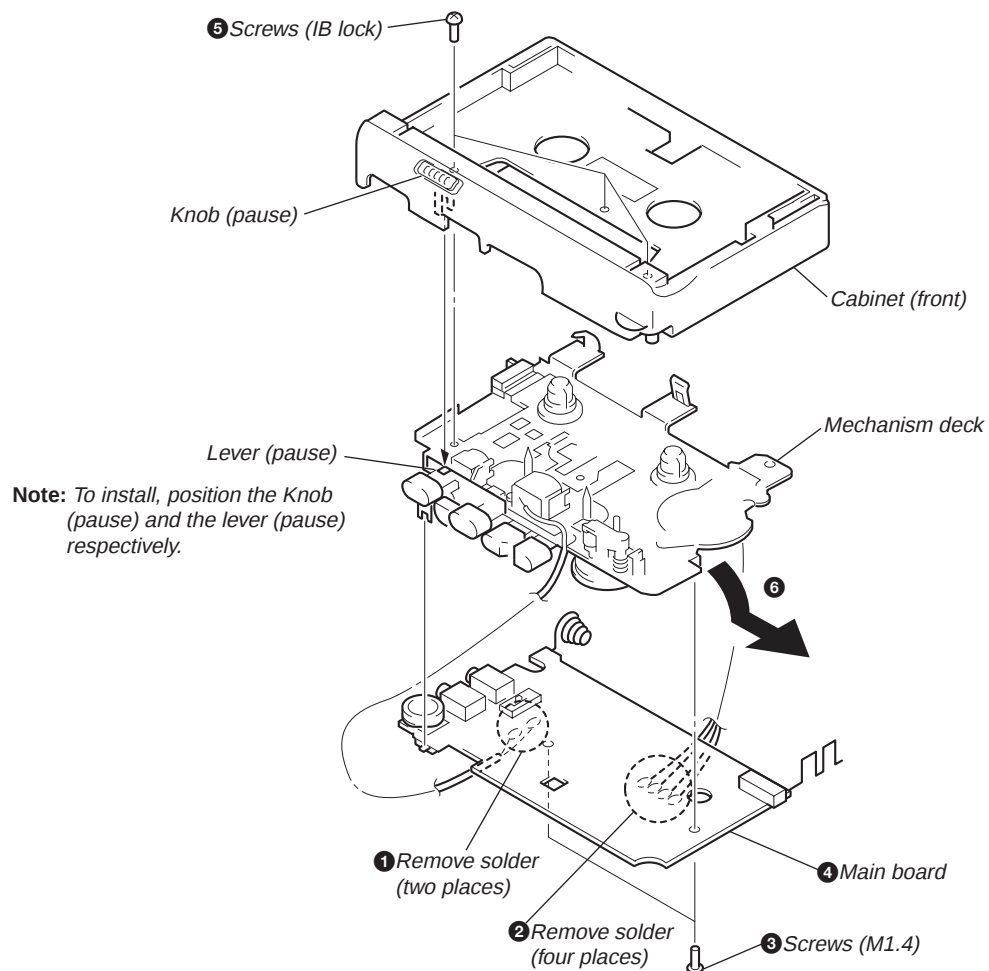
2-1.CABINET (REAR), CASSETTE HOLDER ASSY



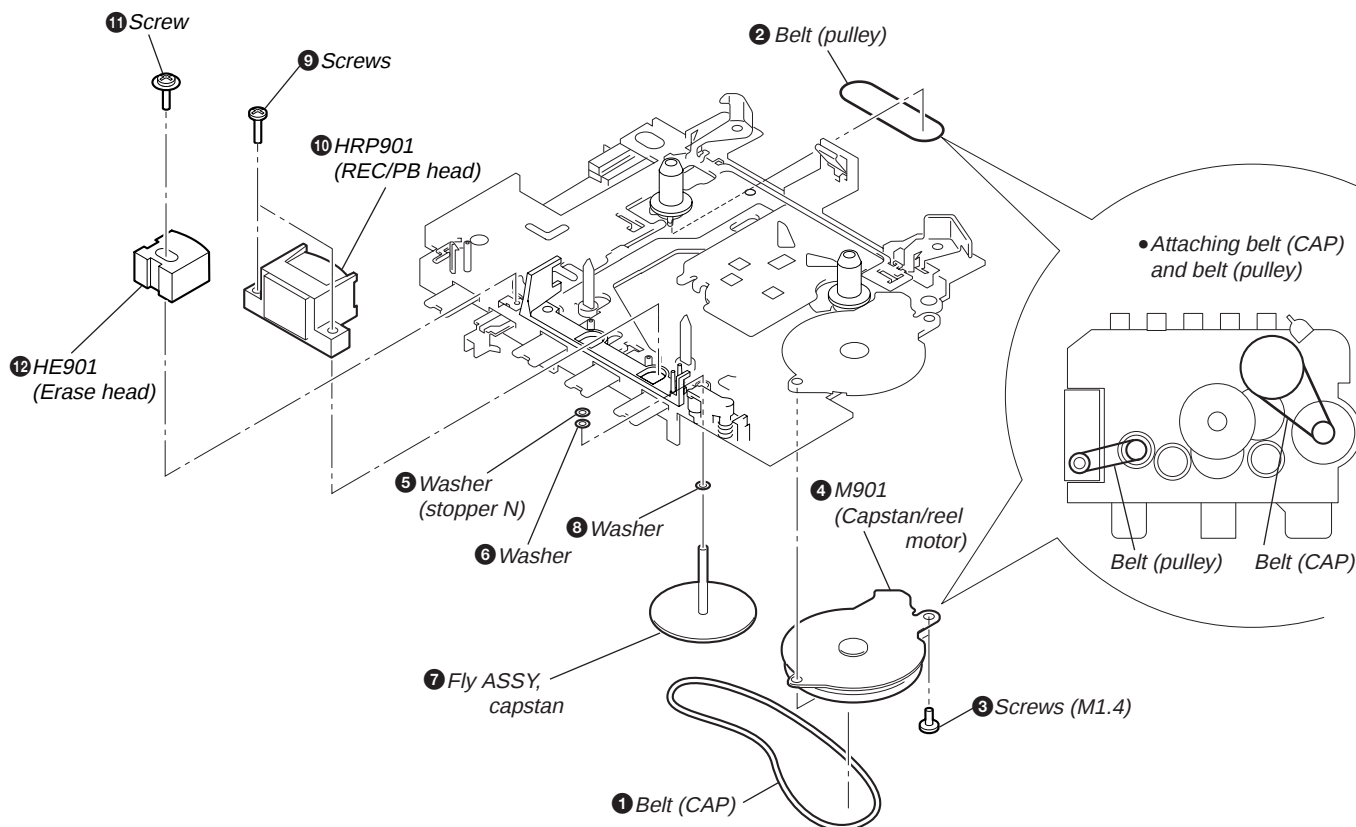
2-2. LED BOARD



2-3. MAIN BOARD, MECHANISM DECK



2-4. BELT (CAP), BELT (PULLEY), M901 (CAPSTAN/REEL MOTOR), HRP901 (REC/PB HEAD), HE901 (ERASE HEAD)



SECTION 3 MECHANICAL ADJUSTMENTS

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

record/playback head	pinch roller
erase head	rubber belt
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 (2.5 V) unless otherwise noted.

Torque Measurement

Mode	Torque Meter	Meter Reading
FWD	CQ-102C	1.97 – 3.92mN•m (20 – 40 g•cm) (0.28 – 0.55 oz•inch)
Forward Back Tension		0.05 – 0.49 mN•m (0.5 – 5 g•cm) (0.007 – 0.069 oz•inch)
FF, REW	CQ-201B	more than 4.91 mN•m (more than 50 g•cm) (more than 0.69 oz•inch)

Tape Tension Measurement

Mode	Tension Meter	Meter Reading
FWD	CQ-403A	more than 50 g (more than 1.76 oz)

SECTION 4
ELECTRICAL ADJUSTMENTS

Setting:

- Supplied voltage: 2.5 V
- Switch and control position
 - VOL control (RV101) : mechanical center
 - PAUSE switch (S601) : OFF
 - SPEED CONTROL (RV603): center click
 - VOR switch (S901) : OFF

Test Tape

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

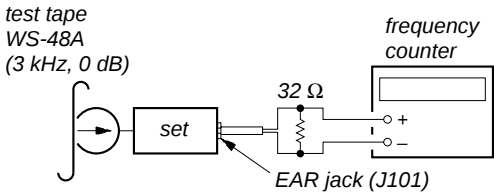
0 dB=0.775 V

Tape Speed Adjustment

Mode: playback

Adjustment Location:

– MAIN BOARD (Conductor Side) –



Procedure:

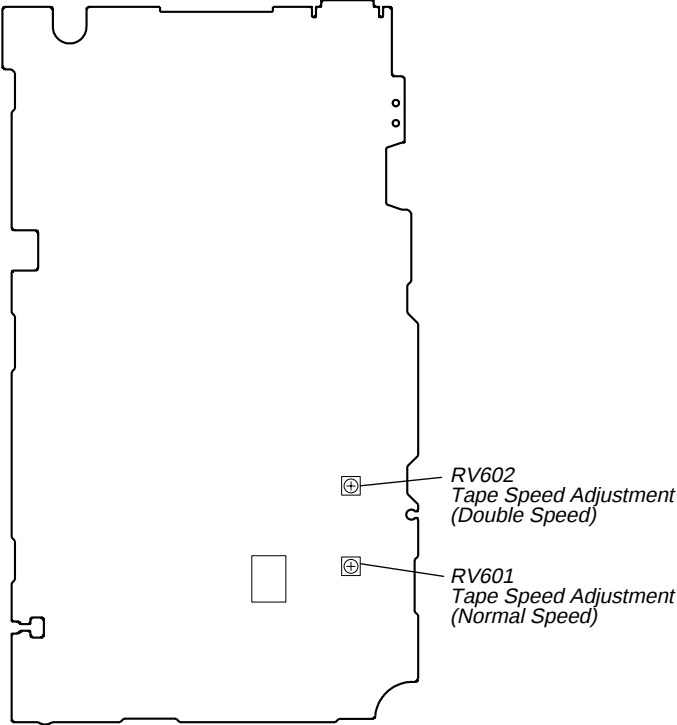
1. Set [REC ◦ TIME] switch (S902) to NORMAL (4.8 cm/s) position, and playback the tape (WS-48A) .
2. Adjust RV601 so that frequency counter reading becomes 3,000 Hz.

Specification values: 2,990 to 3,010 Hz

3. Set [REC ◦ TIME] switch (S902) to DOUBLE (2.4 cm/s) position.
4. Playback the tape from the beginning for two minutes, then adjust RV602 so that frequency counter reading becomes 1,500 Hz.

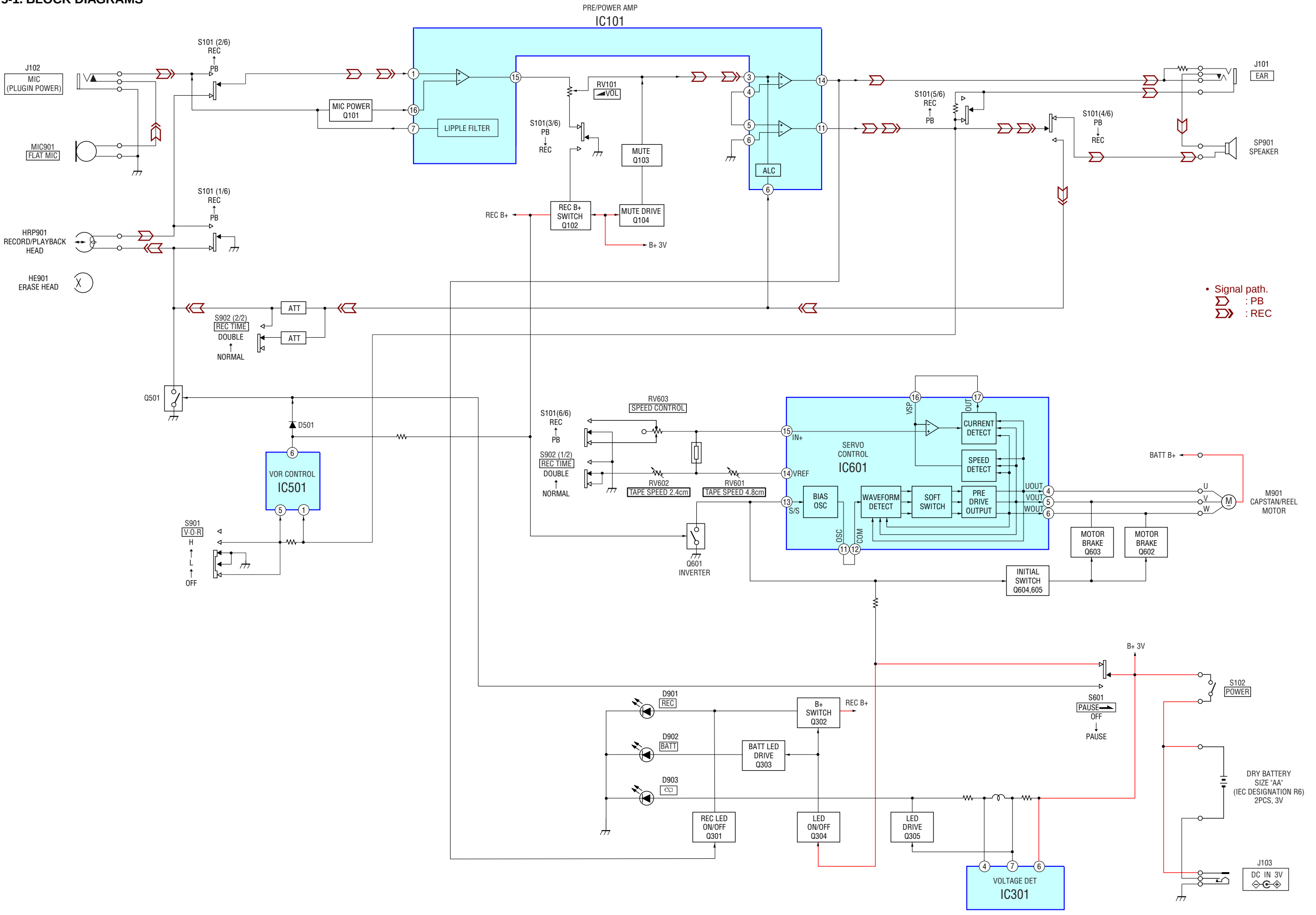
Specification values: 1,495 to 1,505 Hz

Confirm that deflection of the frequency counter reading between the beginning and the end of tape is within 2% (NORMAL: approx. 60 Hz, DOUBLE: approx. 30 Hz) .

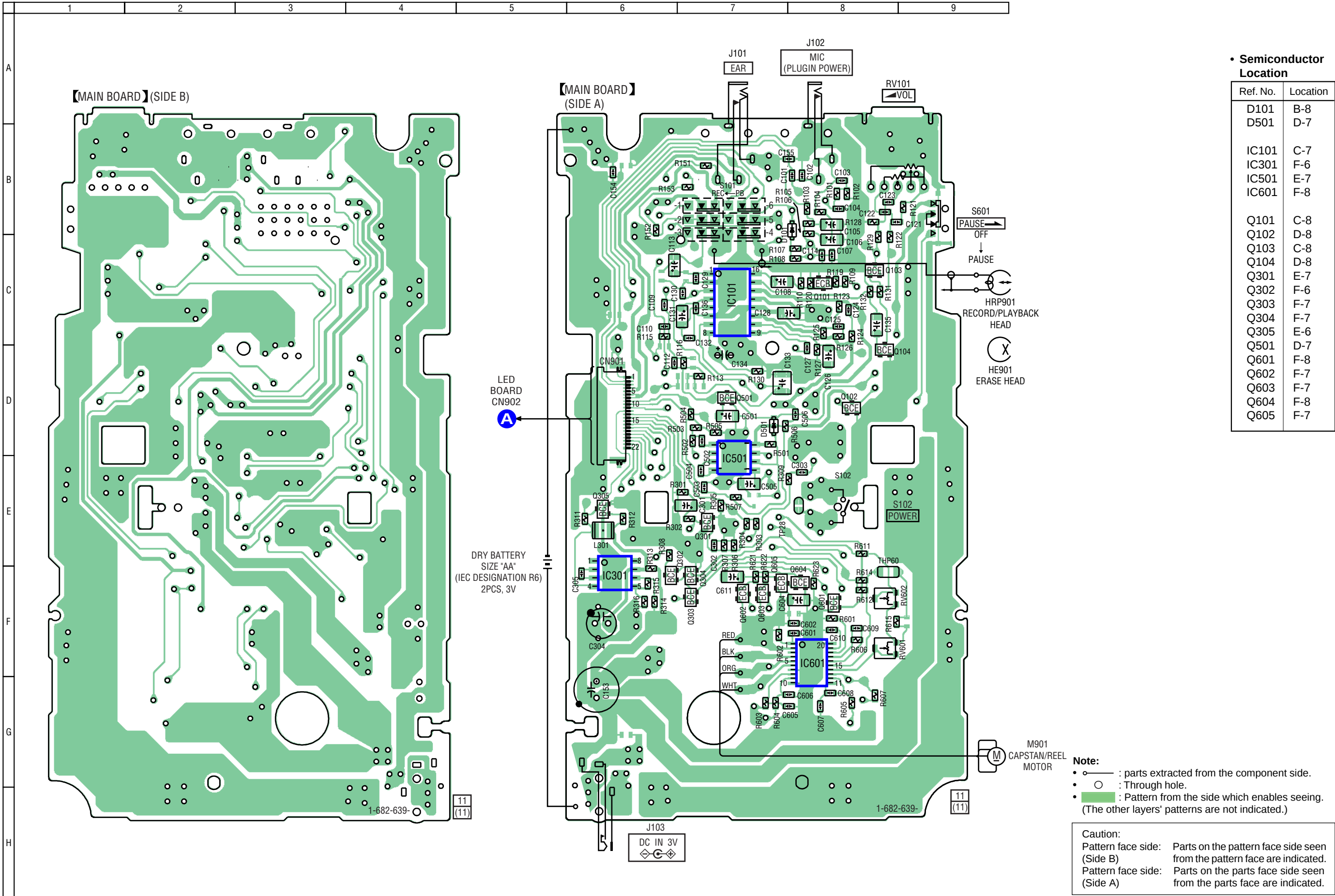


SECTION 5
DIAGRAMS

5-1. BLOCK DIAGRAMS

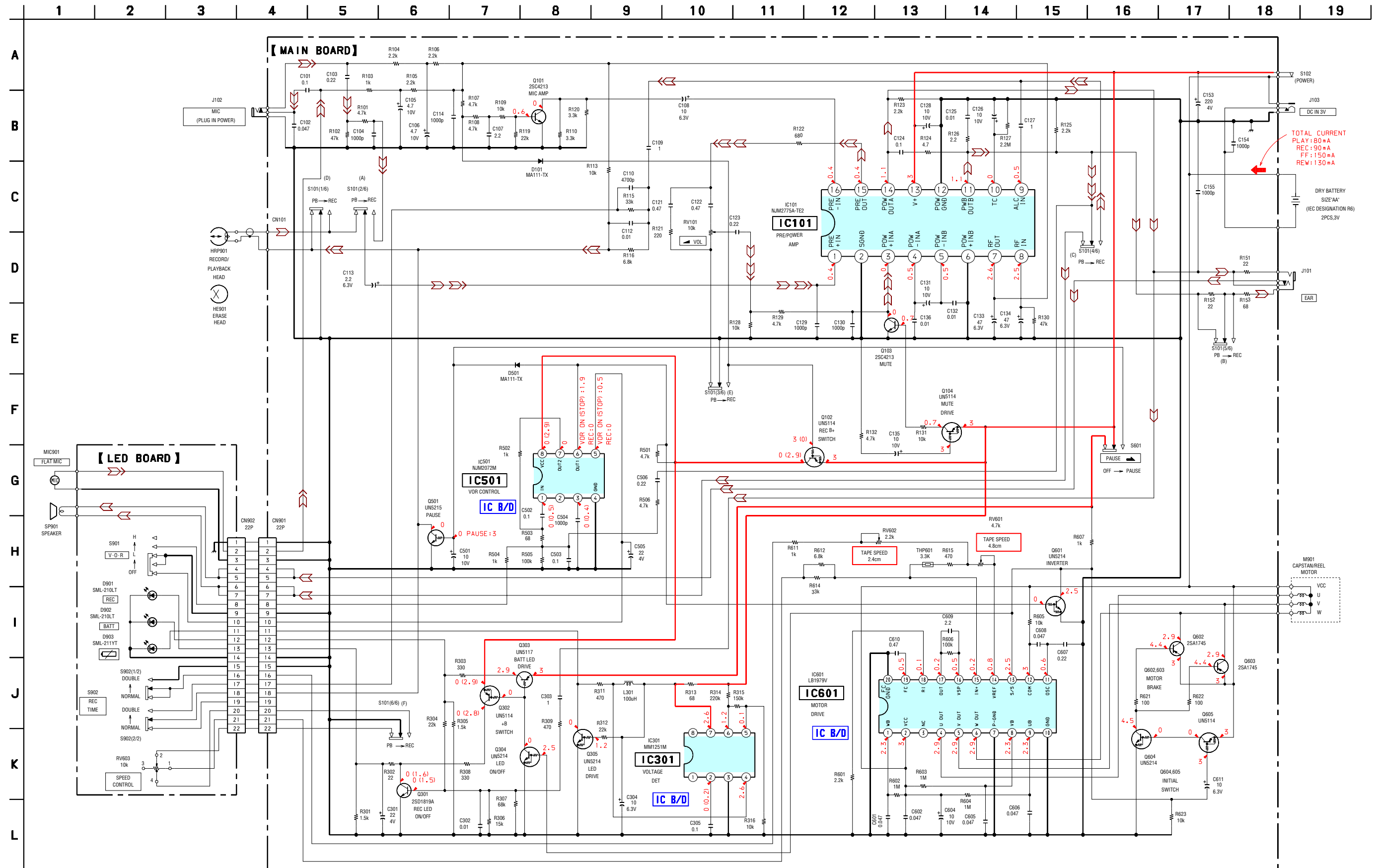


5-2. PRINTED WIRING BOARD –MAIN BOARD –



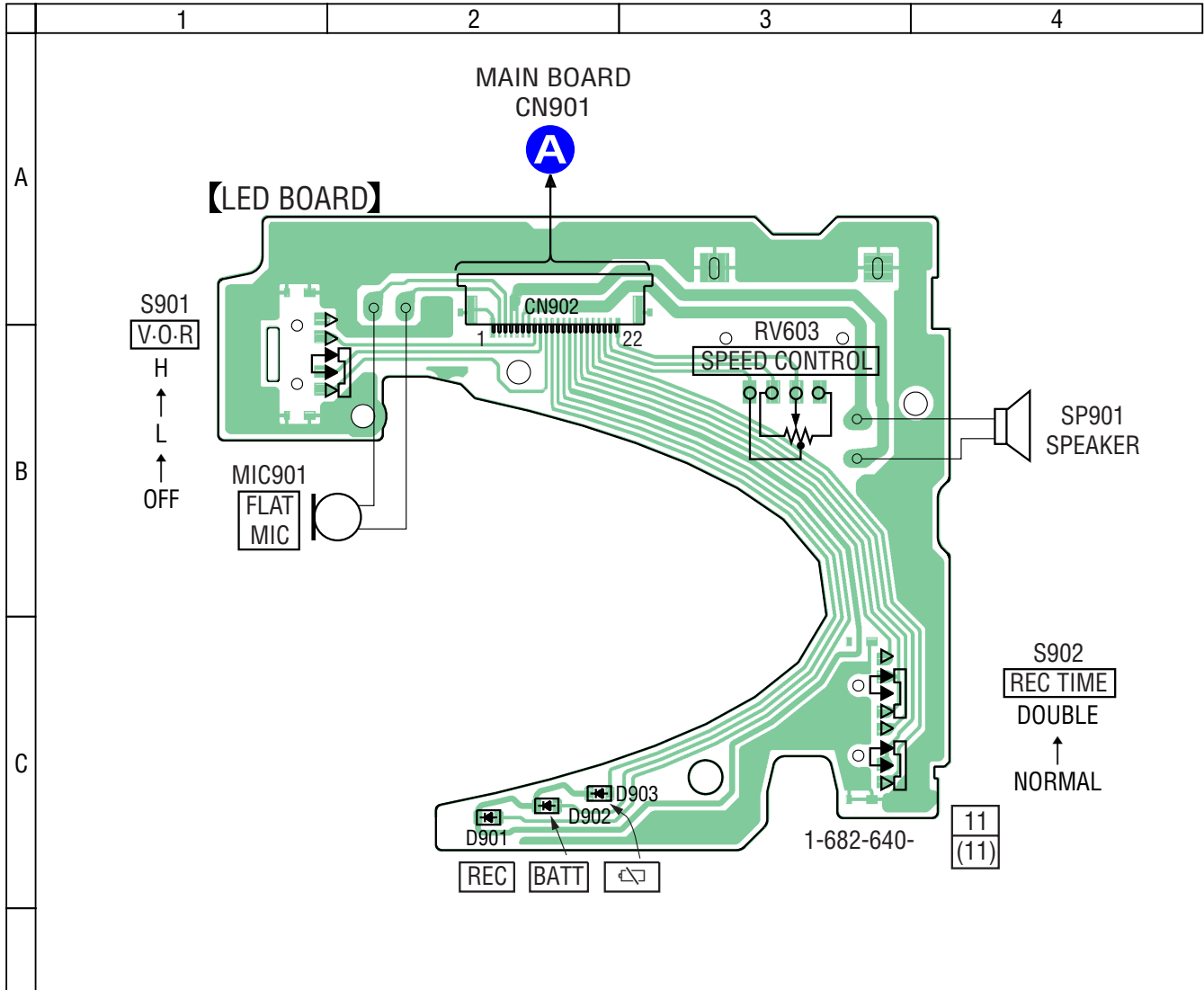
5-3. SCHEMATIC DIAGRAM

- See page 10 for Notes.
- See page 10 for IC Block Diagrams.



5-4. PRINTED WIRING BOARD - LED BOARD -

- See page 12 for Circuit Boards Location.



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: (Side B)	Parts on the pattern face side seen from the pattern face are indicated.
Pattern face side: (Side A)	Parts on the parts face side seen from the parts face are indicated.

Note on schematic diagrams

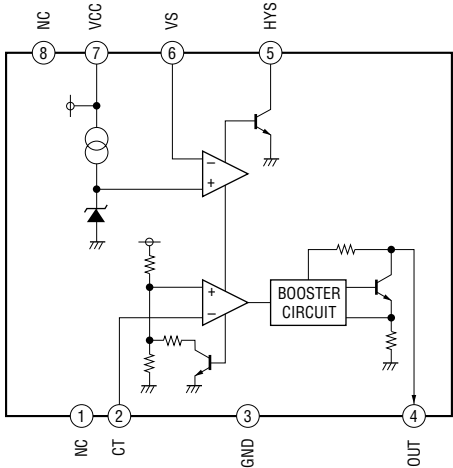
- All capacitors are in μF unless otherwise noted. pF : μF
- 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and $\frac{1}{4}\text{W}$ or less unless otherwise specified.
- ■ : B+ Line.
- □ : adjustment for repair.
- Power voltage is dc 3V and fed with regulated dc power supply from battery terminal .
- Voltages are dc with respect to ground under no-signal conditions.

no mark : PLAY
() : REC

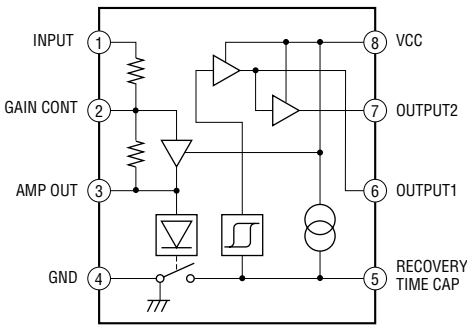
- Voltages are taken with a VOM (Input impedance 10 M Ω). Voltage variations may be noted due to normal production tolerances.
- Signal path.
▷ : PB
▷ : REC

5-5. IC BLOCK DIAGRAMS

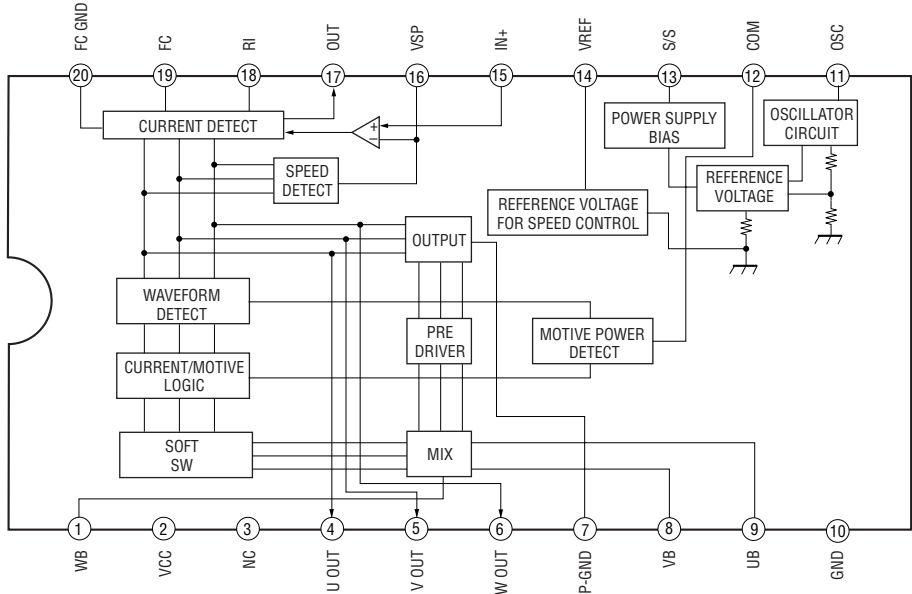
IC301 MM1251BFBE



IC501 NJM2072M (TE2)



IC601 LB1979VS-TLM



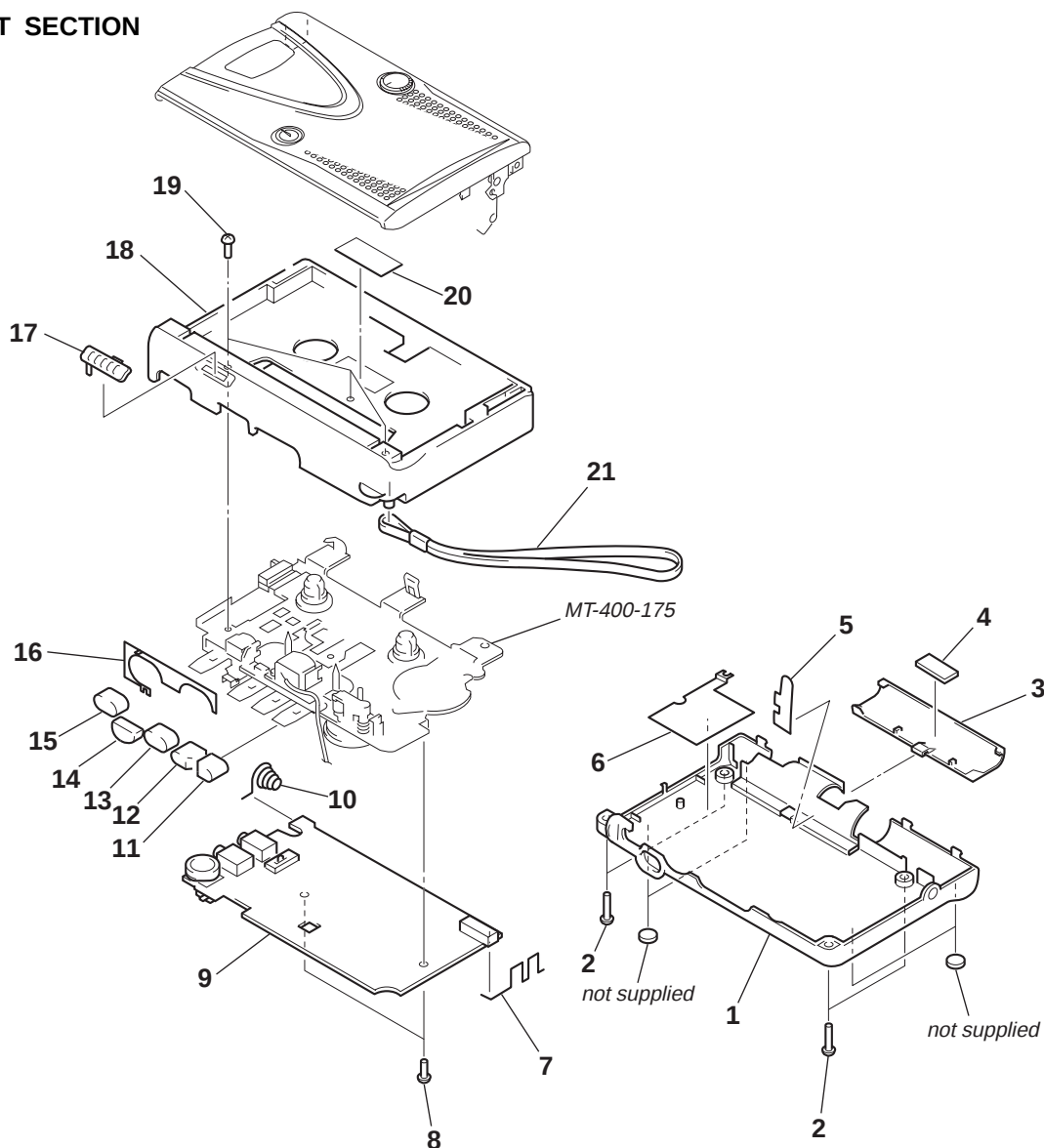
SECTION 6 EXPLODED VIEWS

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.

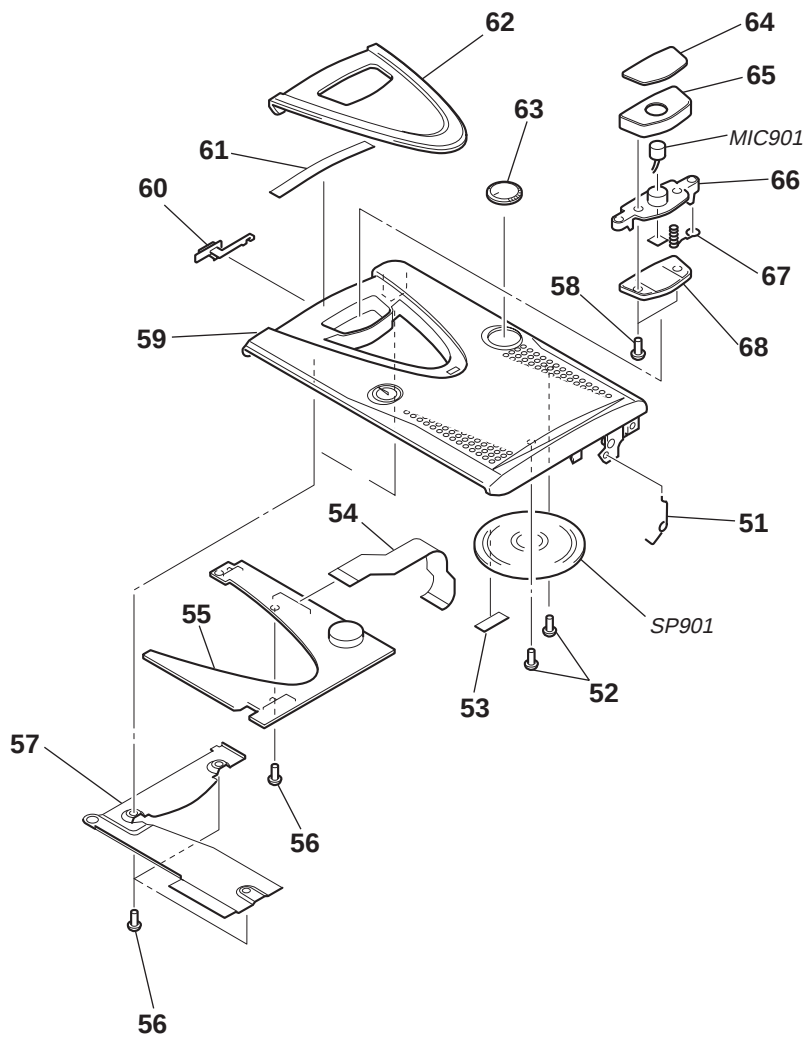
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list and accessories are given in the last of this parts list.
- Abbreviation
JEW : Tourist
CH : Chinese
1E : No Indication of country of origin
E : Indication of country of origin

6-1. CABINET SECTION



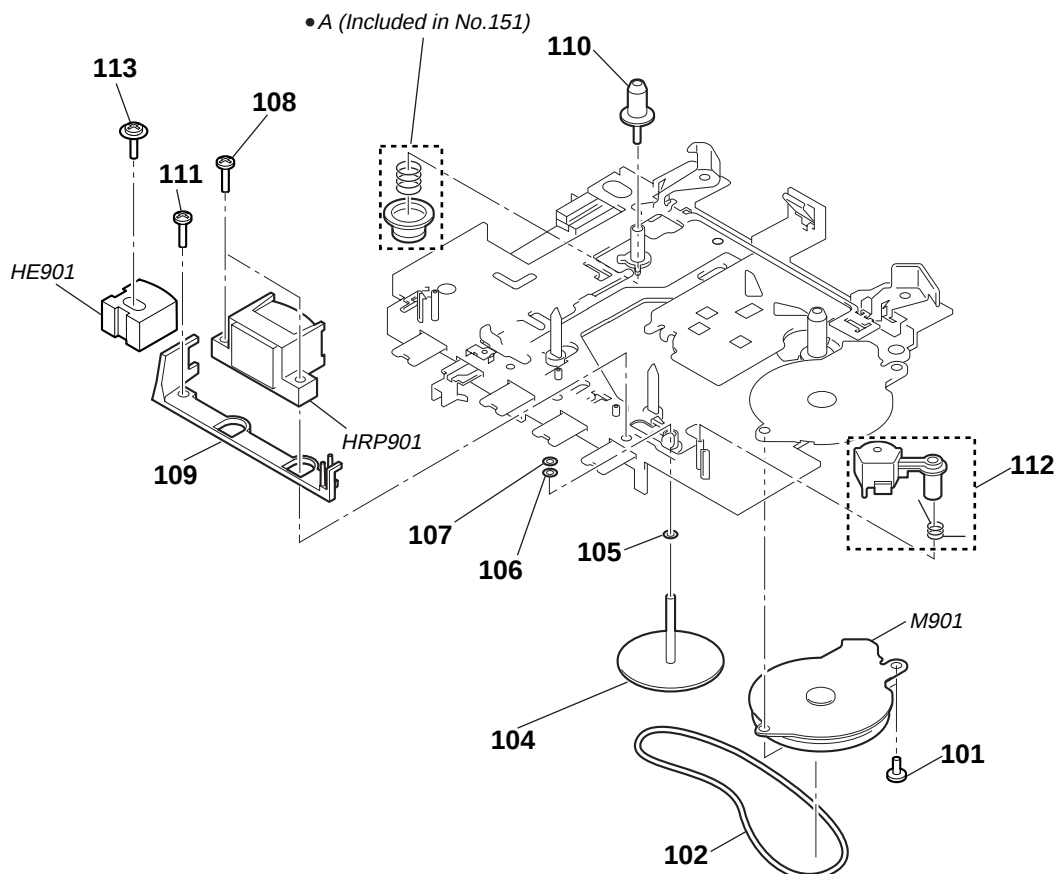
Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
1	3-234-567-11	CABINET (REAR) (CH,E)		11	3-234-569-01	BUTTON (CUE)	
1	3-234-567-21	CABINET (REAR) (JEW)		12	3-234-570-01	BUTTON (REVIEW)	
1	3-234-567-31	CABINET (REAR) (1E)		13	3-234-568-01	BUTTON (PLAY)	
2	3-318-203-92	SCREW (B1.7X9), TAPPING		14	3-235-589-01	BUTTON (STOP)	
3	3-225-577-02	LID, BATTERY CASE		15	3-235-588-01	BUTTON (REC)	
4	3-914-930-11	CUSHION (BATTERY CASE LID)		16	3-234-856-01	LEVER (PAUSE)	
5	3-229-228-01	SHEET (BATTERY PICK)		17	3-234-561-01	KNOB (PAUSE)	
6	3-237-440-01	SHEET,SHIELD		18	3-234-566-11	CABINET (FRONT)	
7	3-226-525-01	TERMINAL (+)		19	3-704-197-42	SCREW (IB LOCK)	
8	3-345-648-01	SCREW (M1.4), TOOTHED LOCK		20	3-925-231-01	REFLECTOR	
* 9	A-3021-597-A	MAIN PC BOARD ASSY		21	3-328-319-01	STRAP, HAND	
10	3-226-526-01	TERMINAL (-)					

6-2. CASSETTE HOLDER SECTION



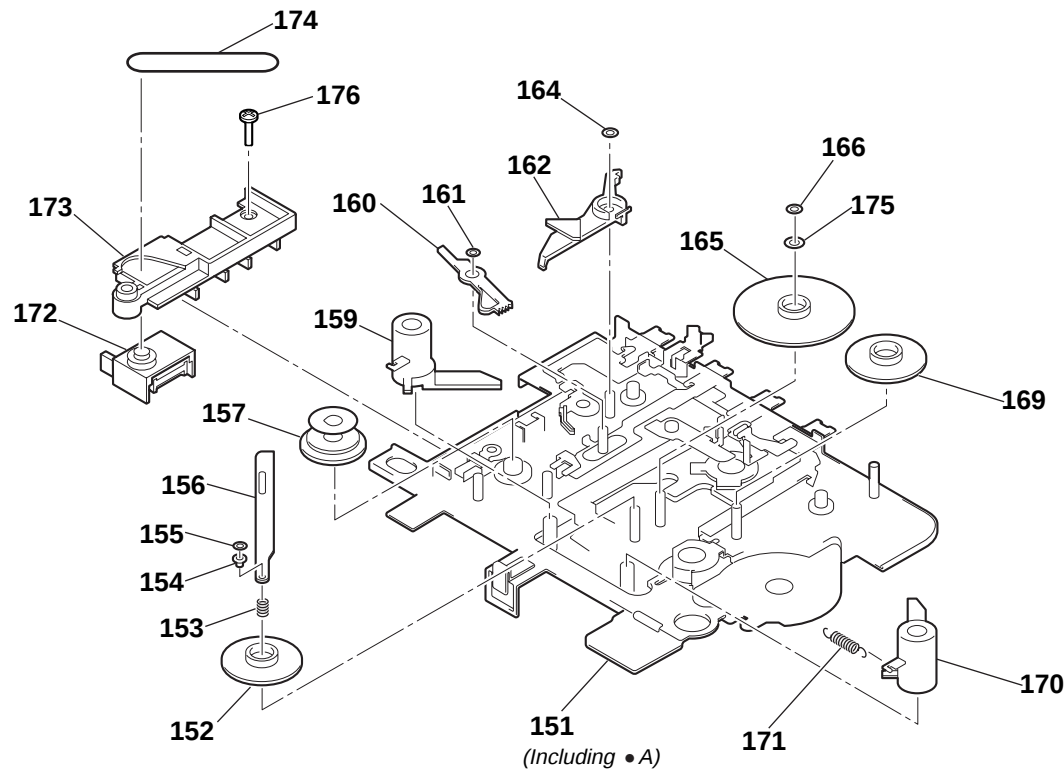
Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
51	3-229-210-01	SPRING (CASSETTE)		61	3-237-279-01	WINDOW, ADHESIVE SHEET	
52	3-034-792-01	SCREW, TAPPING (B2.0)		62	3-234-554-11	WINDOW (CASSETTE)	
53	4-017-441-01	CUSHION (B)		63	3-234-557-01	KNOB (SPEED CONTROL)	
54	1-683-215-11	FLEXIBLE BOARD		64	3-234-562-01	PANEL (MIC)	
* 55	1-682-640-11	LED BOARD		65	3-234-564-01	CUSHION (MIC)	
56	3-318-382-04	SCREW (1.7), TAPPING		66	3-234-563-01	HOLDER (MIC)	
57	3-234-556-01	FRAME (CASSETTE HOLDER)		67	3-235-590-01	GROUND, COMPRESSION SPRING	
58	3-318-382-51	SCREW (1.7), TAPPING		68	3-234-565-01	COVER (MIC)	
59	X-3381-551-1	HOLDER ASSY, CASSETTE		MIC901	1-542-298-11	MICROPHONE, ELECTRET CONDENSER	
60	3-234-560-01	KNOB (VOL)		SP901	1-529-188-11	SPEAKER (3.6CM)	

6-3. SMECHANISM DECK SECTION-1 (MT-400-175)



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
101	3-704-197-01	SCREW (M1.4), SPECIAL HEAD		110	3-019-776-01	GEAR (REEL-S)	
102	3-234-857-01	BELT (CAP)		111	3-703-816-24	SCREW (M1.4), SPECIAL HEAD	
104	X-3379-877-1	FLY ASSY (AR), CAPSTAN		112	X-3379-882-1	PINCH (N) ASSY, ARM	
105	3-386-694-01	WASHER		113	3-703-925-21	SCREW (M1.4)	
106	3-029-278-01	WASHER		HE901	1-500-515-11	HEAD, MAGNETIC (ERASE)	
107	3-029-275-01	WASHER (STOPPER N)		HRP901	1-500-717-11	HEAD, MAGNETIC (RECORE/PLAYBACK)	
108	3-703-816-73	SCREW (M1.4), SPECIAL HEAD		M901	1-763-772-11	MOTOR, DC (CAPSTAN/REEL)	
109	3-234-861-01	GUIDE (ARO), HEAD				(INCLUDING PULLEY)	

6-4. MECHANISM DECK SECTION-2 (MT-400-175)



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
151	X-3381-206-1	CHASSIS ASSY (ARO)		164	3-321-813-71	WASHER, COTTER POLYETHYLENE	
152	3-225-385-01	GEAR (B)		165	X-3379-881-1	CLUTCH ASSY (AR)	
153	3-229-063-01	SPRING (UD) (R), COMPRESSION		166	3-315-384-31	WASHER, STOPPER	
154	3-019-778-01	SLEEVE (MS)		169	3-225-388-01	GEAR (D)	
155	3-728-091-01	WASHER, STOPPER		170	3-225-394-01	LEVER (FF ROTARY)	
156	3-225-427-01	WASHER, LEVER		171	3-225-444-01	SPRING (FR ROTARY), TENSION	
157	3-225-384-01	GEAR (A)		172	1-548-582-11	COUNTER, TAPE (SMALL TYPE)	
159	3-225-395-01	LEVER (REW ROTARY)		173	3-234-862-01	BRACKET (COUNTER)	
160	X-3380-677-1	LEVER (E DETECTION) ASSY		174	3-234-858-01	BELT (PULLEY)	
161	3-229-064-01	WASHER, STOPPER		175	3-344-901-01	WASHER, STOPPER	
162	3-225-393-01	LEVER (SHUT/OFF)		176	3-703-816-24	SCREW (M1.4X2.5), SPECIAL HEAD	

SECTION 7 ELECTRICAL PARTS LIST

MAIN

Note:

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

- 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.
- Items marked “*” are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- RESISTORS
All resistors are in ohms
METAL: Metal-film resistor
METAL OXIDE: Metal Oxide-film resistor
F : nonflammable

- 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
JEW : Tourist
CH : Chinese
1E : No Indication of country of origin
E : Indication of country of origin

Ref. No.	Part No.	Description				Remark	Ref. No.	Part No.	Description				Remark
*	A-3021-597-A	MAIN BOARD, COMPLETE *****					C505	1-104-847-11	TANTAL. CHIP	22uF	20%	4V	
							C506	1-115-467-11	CERAMIC CHIP	0.22uF	10%	10V	
							C601	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V	
		<CAPACITOR>					C602	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V	
C101	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V		C604	1-104-851-11	TANTAL. CHIP	10uF	20%	10V	
C102	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V		C605	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V	
C103	1-115-467-11	CERAMIC CHIP	0.22uF	10%	10V		C606	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V	
C104	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V		C607	1-115-467-11	CERAMIC CHIP	0.22uF	10%	10V	
C105	1-135-210-11	TANTALUM CHIP	4.7uF	20%	10V		C608	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V	
C106	1-135-210-11	TANTALUM CHIP	4.7uF	20%	10V		C609	1-135-834-11	CERAMIC CHIP	2.2uF	10%	6.3V	
C107	1-135-834-11	CERAMIC CHIP	2.2uF	10%	6.3V		C610	1-117-863-11	CERAMIC CHIP	0.47uF	10%	6.3V	
C108	1-104-851-11	TANTAL. CHIP	10uF	20%	10V		C611	1-104-851-11	TANTAL. CHIP	10uF	20%	10V	
C109	1-115-156-11	CERAMIC CHIP	1uF		10V								
C110	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V				<CONNECTOR>				
C112	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V		CN901	1-573-362-11	CONNECTOR, FFC/FPC 22P				
C113	1-135-149-21	TANTALUM CHIP	2.2uF	20%	10V				<DIODE>				
C114	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V								
C121	1-113-619-11	CERAMIC CHIP	0.47uF		10V		D101	8-719-404-50	DIODE MA111-TX				
C122	1-113-619-11	CERAMIC CHIP	0.47uF		10V		D501	8-719-404-50	DIODE MA111-TX				
C123	1-165-128-11	CERAMIC CHIP	0.22uF		16V								
C124	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V				<IC>				
C125	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V								
C126	1-104-851-11	TANTAL. CHIP	10uF	20%	10V		IC101	6-701-379-01	IC NJM2775AM(TE2)				
C127	1-115-156-11	CERAMIC CHIP	1uF		10V		IC301	8-759-399-49	IC MM1251BFBE				
							IC501	8-759-701-51	IC NJM2072M(TE2)				
C128	1-104-851-11	TANTAL. CHIP	10uF	20%	10V		IC601	8-759-638-51	IC LB1979VS-TLM				
C129	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V								
C130	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V				<JACK>				
C131	1-104-851-11	TANTAL. CHIP	10uF	20%	10V		J101	1-785-791-11	JACK (EAR)				
C132	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V		J102	1-785-790-11	JACK (MIC (PULUGIN POWER))				
C133	1-110-569-11	TANTAL. CHIP	47uF	20%	6.3V		J103	1-794-615-11	JACK,DC(POLARITY UNIFIED TYPE) (DC IN 3V)				
C134	1-104-357-11	ELECT	47uF	20%	6.3V								
C135	1-104-851-11	TANTAL. CHIP	10uF	20%	10V				<INDUCTOR>				
C136	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V								
C153	1-124-434-00	ELECT	220uF	20%	4V		L301	1-412-032-11	INDUCTOR CHIP 100uH				
C154	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V				<TRANSISTOR>				
C155	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V		Q101	8-729-013-37	TRANSISTOR 2SC4213-AB-TE85L				
C301	1-104-847-11	TANTAL. CHIP	22uF	20%	4V		Q102	8-729-402-96	TRANSISTOR UN5114				
C302	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V		Q103	8-729-013-37	TRANSISTOR 2SC4213-AB-TE85L				
C303	1-115-156-11	CERAMIC CHIP	1uF		10V		Q104	8-729-402-96	TRANSISTOR UN5114				
C304	1-104-354-31	ELECT	10uF	20%	6.3V		Q301	8-729-230-63	TRANSISTOR 2SC4116-YG				
C305	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V		Q302	8-729-402-96	TRANSISTOR UN5114				
C501	1-104-851-11	TANTAL. CHIP	10uF	20%	10V		Q303	8-729-011-52	TRANSISTOR UN5117-TX				
C502	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V		Q304	8-729-402-93	TRANSISTOR UN5214				
C503	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V		Q305	8-729-402-93	TRANSISTOR UN5214				
C504	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V								

TCM-400DV

MAIN

LED

Ref. No.	Part No.	Description	Remark		
Q501	8-729-420-50	TRANSISTOR UN5215			
Q601	8-729-054-21	TRANSISTOR KRC407-RTK			
Q602	8-729-823-86	TRANSISTOR 2SA1745			
Q603	8-729-823-86	TRANSISTOR 2SA1745			
Q604	8-729-402-93	TRANSISTOR UN5214			
Q605	8-729-402-96	TRANSISTOR UN5114			
<RESISTOR>					
R101	1-216-829-11	METAL CHIP 4.7K	5%	1/16W	
R102	1-216-841-11	METAL CHIP 47K	5%	1/16W	
R103	1-216-821-11	METAL CHIP 1K	5%	1/16W	
R104	1-216-825-11	METAL CHIP 2.2K	5%	1/16W	
R105	1-216-825-11	METAL CHIP 2.2K	5%	1/16W	
R106	1-216-825-11	METAL CHIP 2.2K	5%	1/16W	
R107	1-216-829-11	METAL CHIP 4.7K	5%	1/16W	
R108	1-216-829-11	METAL CHIP 4.7K	5%	1/16W	
R109	1-216-833-11	METAL CHIP 10K	5%	1/16W	
R110	1-216-827-11	METAL CHIP 3.3K	5%	1/16W	
R113	1-216-833-11	METAL CHIP 10K	5%	1/16W	
R115	1-216-839-11	METAL CHIP 33K	5%	1/16W	
R116	1-216-831-11	METAL CHIP 6.8K	5%	1/16W	
R119	1-216-837-11	METAL CHIP 22K	5%	1/16W	
R120	1-216-827-11	METAL CHIP 3.3K	5%	1/16W	
R121	1-216-813-11	METAL CHIP 220	5%	1/16W	
R122	1-216-819-11	METAL CHIP 680	5%	1/16W	
R123	1-216-825-11	METAL CHIP 2.2K	5%	1/16W	
R124	1-216-793-11	RES-CHIP 4.7	5%	1/16W	
R125	1-216-825-11	METAL CHIP 2.2K	5%	1/16W	
R126	1-216-789-11	METAL CHIP 2.2	5%	1/16W	
R127	1-216-861-11	METAL CHIP 2.2M	5%	1/16W	
R128	1-216-833-11	METAL CHIP 10K	5%	1/16W	
R129	1-216-829-11	METAL CHIP 4.7K	5%	1/16W	
R130	1-216-841-11	METAL CHIP 47K	5%	1/16W	
R131	1-216-833-11	METAL CHIP 10K	5%	1/16W	
R132	1-216-829-11	METAL CHIP 4.7K	5%	1/16W	
R151	1-216-801-11	METAL CHIP 22	5%	1/16W	
R152	1-216-801-11	METAL CHIP 22	5%	1/16W	
R153	1-216-807-11	METAL CHIP 68	5%	1/16W	
R301	1-216-823-11	METAL CHIP 1.5K	5%	1/16W	
R302	1-216-801-11	METAL CHIP 22	5%	1/16W	
R303	1-216-815-11	METAL CHIP 330	5%	1/16W	
R304	1-216-837-11	METAL CHIP 22K	5%	1/16W	
R305	1-216-823-11	METAL CHIP 1.5K	5%	1/16W	
R306	1-216-835-11	METAL CHIP 15K	5%	1/16W	
R307	1-216-843-11	METAL CHIP 68K	5%	1/16W	
R308	1-216-815-11	METAL CHIP 330	5%	1/16W	
R309	1-216-817-11	METAL CHIP 470	5%	1/16W	
R311	1-216-817-11	METAL CHIP 470	5%	1/16W	
R312	1-216-837-11	METAL CHIP 22K	5%	1/16W	
R313	1-216-807-11	METAL CHIP 68	5%	1/16W	
R314	1-216-849-11	METAL CHIP 220K	5%	1/16W	
R315	1-216-847-11	METAL CHIP 150K	5%	1/16W	
R316	1-216-833-11	METAL CHIP 10K	5%	1/16W	
R501	1-216-829-11	METAL CHIP 4.7K	5%	1/16W	
R502	1-216-821-11	METAL CHIP 1K	5%	1/16W	
R503	1-216-807-11	METAL CHIP 68	5%	1/16W	
R504	1-216-821-11	METAL CHIP 1K	5%	1/16W	
R505	1-216-845-11	METAL CHIP 100K	5%	1/16W	

Ref. No.	Part No.	Description	Remark		
R506	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R601	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R602	1-216-857-11	METAL CHIP	1M	5%	1/16W
R603	1-216-857-11	METAL CHIP	1M	5%	1/16W
R604	1-216-857-11	METAL CHIP	1M	5%	1/16W
R605	1-216-833-11	METAL CHIP	10K	5%	1/16W
R606	1-216-845-11	METAL CHIP	100K	5%	1/16W
R607	1-216-821-11	METAL CHIP	1K	5%	1/16W
R611	1-216-821-11	METAL CHIP	1K	5%	1/16W
R612	1-216-831-11	METAL CHIP	6.8K	5%	1/16W
R614	1-216-839-11	METAL CHIP	33K	5%	1/16W
R615	1-216-817-11	METAL CHIP	470	5%	1/16W
R621	1-216-809-11	METAL CHIP	100	5%	1/16W
R622	1-216-809-11	METAL CHIP	100	5%	1/16W
R623	1-216-833-11	METAL CHIP	10K	5%	1/16W
<VALIABLE RESISTOR>					
RV101	1-225-362-11	RES, VAR, MAIN CARBON 10K/10K (▲VOL)			
RV601	1-238-663-11	RES, ADJ, CARBON 4.7K (TAPE SPEED 4.8cm/s)			
RV602	1-223-584-11	RES, ADJ, CARBON 2.2K (TAPE SPEED 2.4cm/s)			
<SWITCH>					
S101	1-786-282-11	SWITCH, SLIDE (PB/REC)			
S102	1-762-302-11	SWITCH, DETECTION (SMALL TYPE) (POWER)			
S601	1-572-922-11	SWITCH, SLIDE (PAUSE▶)			
<THERMISTOR>					
THP601	1-810-794-11	THERMISTOR, POSITIVE			

*	1-682-640-11	LED BOARD			

	1-683-215-11	FLEXIBLE BOARD			
<CONNECTOR>					
CN902	1-573-362-11	CONNECTOR, FFC/FPC 22P			
<DIODE>					
D901	8-719-059-96	LED SML-210LT-T86 (REC)			
D902	8-719-059-96	LED SML-210LT-T86 (BATT)			
D903	8-719-057-99	LED SML-211YT-T86 (↔)			
<VALIABLE RESISTOR>					
RV603	1-227-445-11	RES, VAR, CARBON 30K (SPEED CONTROL)			
<SWITCH>					
S901	1-692-605-31	SWITCH, SLIDE (VOR)			
S902	1-571-277-51	SWITCH, SLIDE (REC TIME)			

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Remark</u>
172	1-548-582-11	COUNTER, TAPE (SMALL TYPE)	
HE901	1-500-515-11	HEAD, MAGNETIC (ERASE)	
HRP901	1-500-717-11	HEAD, MAGNETIC (RECORE/PLAYBACK)	
M901	1-763-772-11	MOTOR, DC (CAPSTAN/REEL)	
		(INCLUDING PULLEY)	
MIC901	1-542-298-11	MICROPHONE, ELECTRET CONDENSER	
SP901	1-529-188-11	SPEAKER (3.6CM)	

ACCESSORIES			

3-234-084-01		MANUAL, INSTRUCTION (JAPANESE) (JEW)	
3-234-084-11		MANUAL, INSTRUCTION	
		(ENGLISH, FRENCH, SPANISH) (E)	
3-234-084-21		MANUAL, INSTRUCTION	
		(PORTUGUESE, SWEDISH, FINNISH) (E)	
3-234-084-41		MANUAL, INSTRUCTION	
		(ENGLISH, SLOVAK, RUSSIAN) (JEW)	
3-234-084-51		MANUAL, INSTRUCTION	
		(TRADITIONAL CHINESE, SIMPLIFIED CHINESE,	
		KOREAN) (JEW)	
3-234-084-71		MANUAL, INSTRUCTION	
		(ENGLISH, SIMPLIFIED CHINESE) (CH)	
3-234-084-81		MANUAL, INSTRUCTION	
		(ENGLISH, TRADITIONAL CHINESE) (1E)	

REVISION HISTORY

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