TCM-500DV

SERVICE MANUAL

Ver 1.2 2004. 04

US Model
Canadian Model
AEP Model
E Model
Tourist Model

Model Name Using Similar Mechanism	New
Tape Transport Mechanism Type	MT-500-175

SPECIFICATIONS

Recording system
2-track 1 channel monaural
Tape speed
4.8 cm/s or 2.4 cm/s
Frequency range
350 - 6 300 Hz using nomal (TYPE I) cassette (with REC TIME/PLAY MODE switch at “NORMAL”)
Speaker
Approx. 3.6 cm (1 7/16 in.) dia.
Power output
450 mW + 450 mW (at 10 % harmonic distortion)
Input
Microphone input jack (minijack)
sensitivity 0.2 mV for 3kΩ or lower impedance microphone
Output
Earphone jack (minijack) for 8 -300Ω earphone
Variable range of the tape speed
From approx. +30% to –15% (with REC TIME/PLAY MODE switch at “NORMAL”)
Power requirements
• 3 V DC, batteries AA (R6) x 2
• External DC 3 V power sources
Dimensions (w/h/d) (incl. projecting parts and controls)
Approx. 87.6 x 113.0 x 37.1 mm
(3 1/2 x 4 1/2 x 1 1/2 in.)
Mass (main unit only)
Approx. 215 g (7.6 oz.)

Design and specifications are subject to change without notice.

CASSETTE-CORDER

9-877-111-03
2004D02-1

Sony Corporation
Personal Audio Company
Published by Sony Engineering Corporation

SONY®

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Flexible Circuit Board Repairing

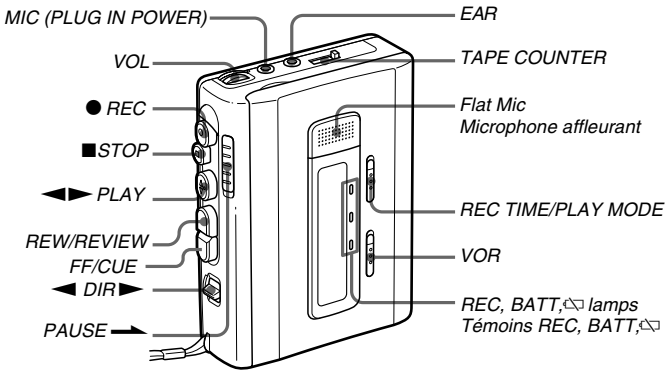
- Keep the temperature of the soldering iron around 270 ˚C during repairing.
- Do not touch the soldering iron on the same conductor of the circuit board (within 3 times).
- Be careful not to apply force on the conductor when soldering or unsoldering.

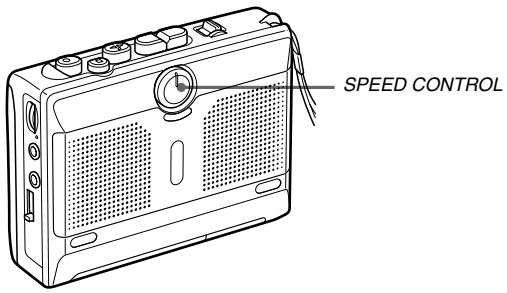
Notes on chip component replacement

- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

SECTION 1
GENERAL

This section is extracted from instruction manual.



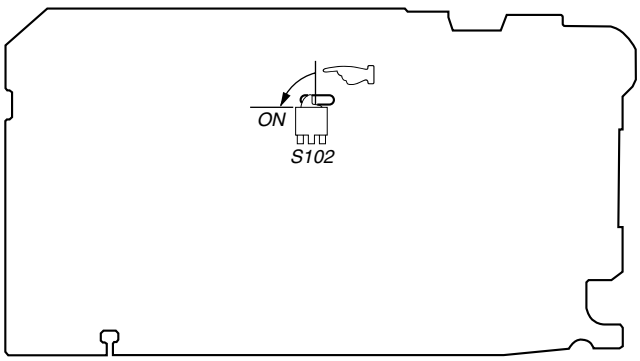


SECTION 2
SERVICING NOTES

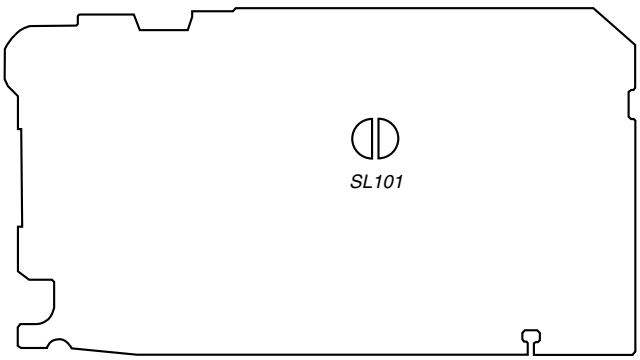
In this set, the S102 (POWER) detects REC/PLAYBACK on.
It is mounted on the MAIN board, and therefore the REC/PLAYBACK on cannot be detected with the MAIN board removed.
When making an operation check and voltage check of mechnical deck with the MAIN board removed, fix the S102 at turn on.

Also, soldering the lands SL101 bridge makes S102 to turn on.

–MAIN BOARD (side A) –

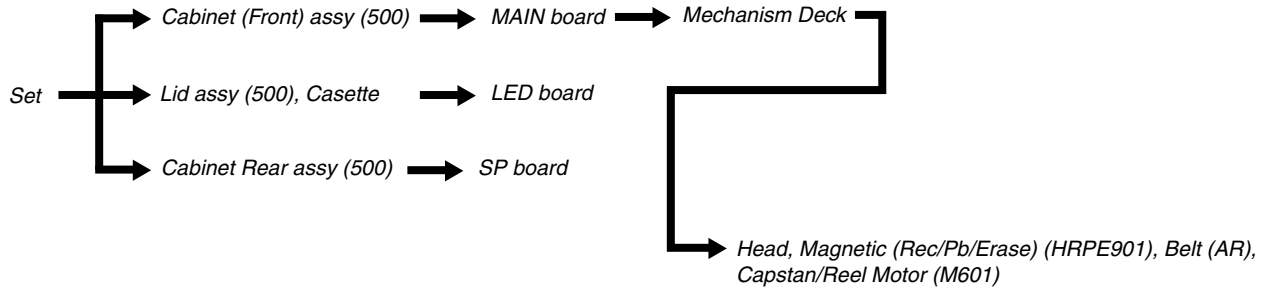


–MAIN BOARD (side B) –



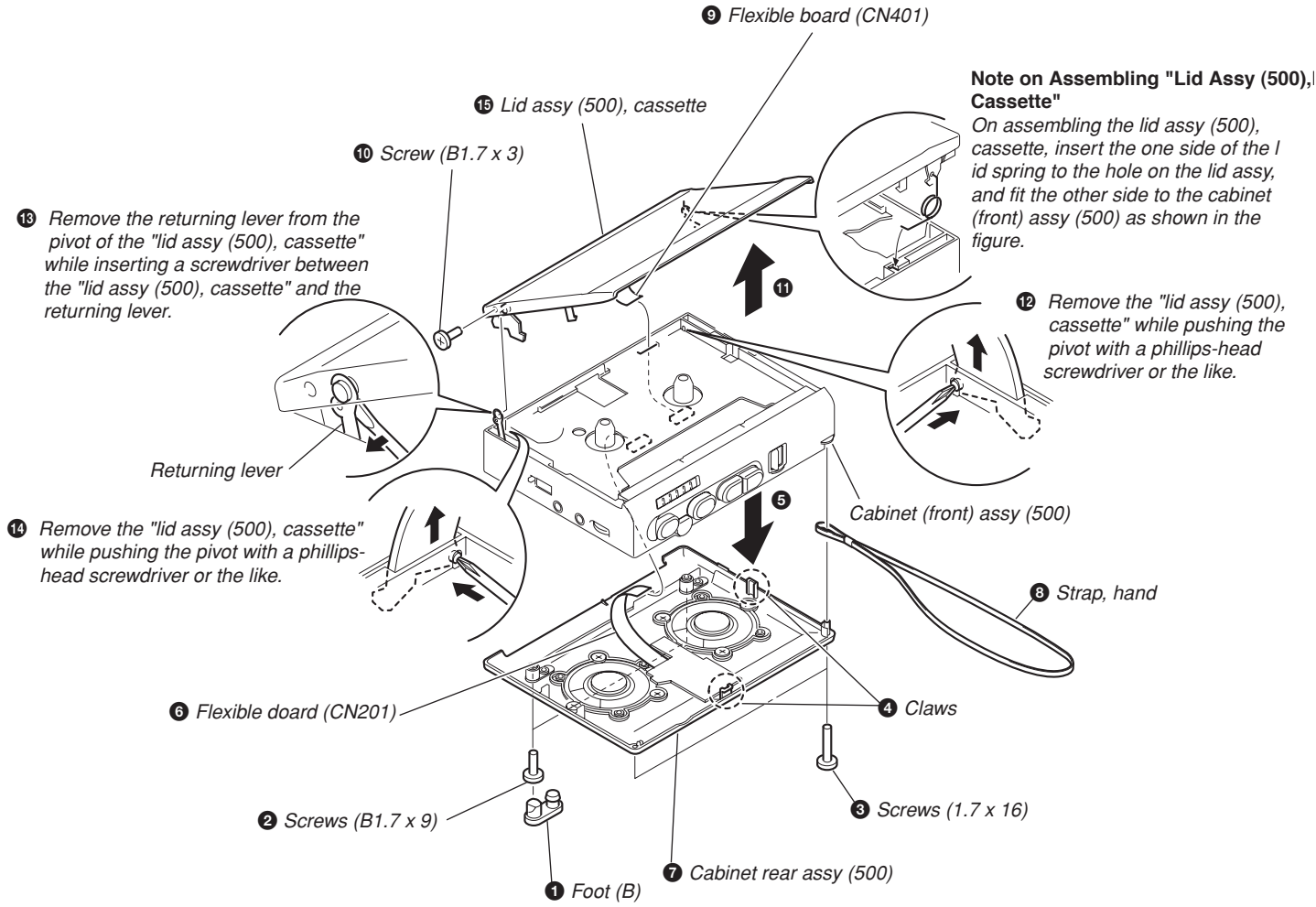
SECTION 3
DISASSEMBLY

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

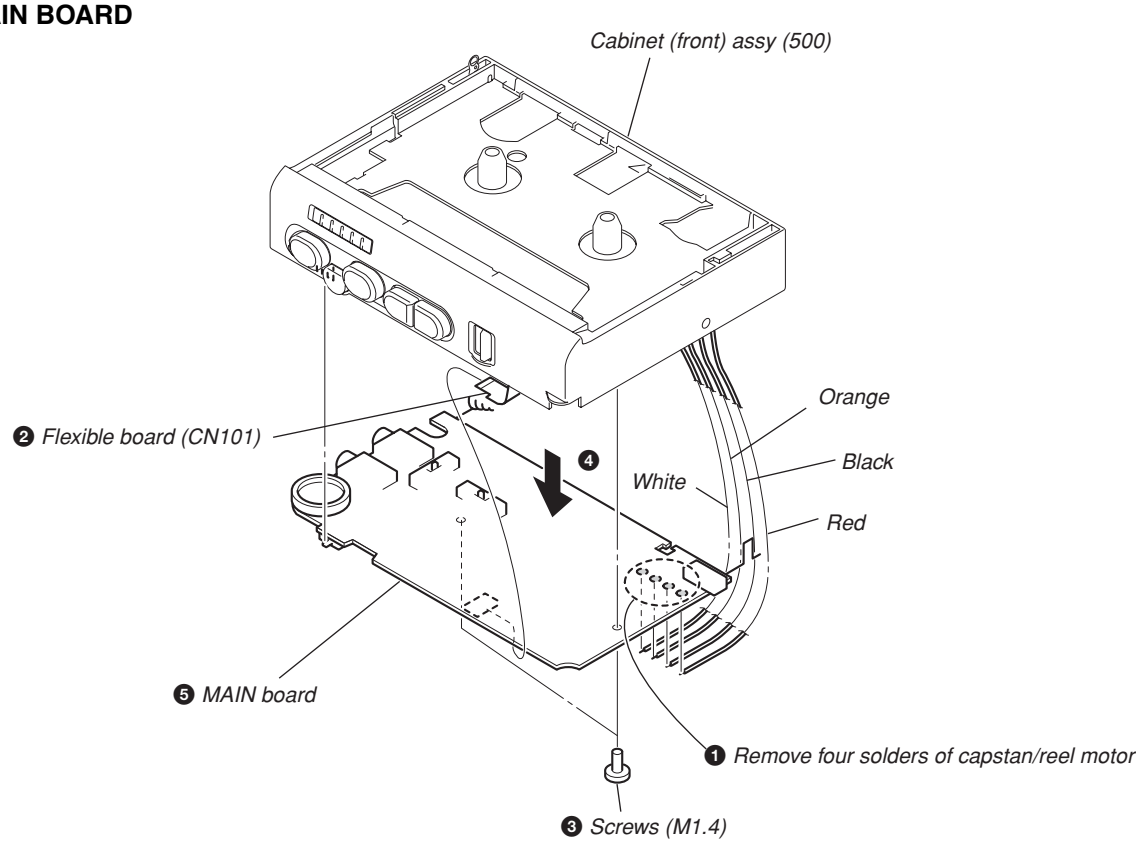


Note: Follow the disassembly procedure in the numerical order given.

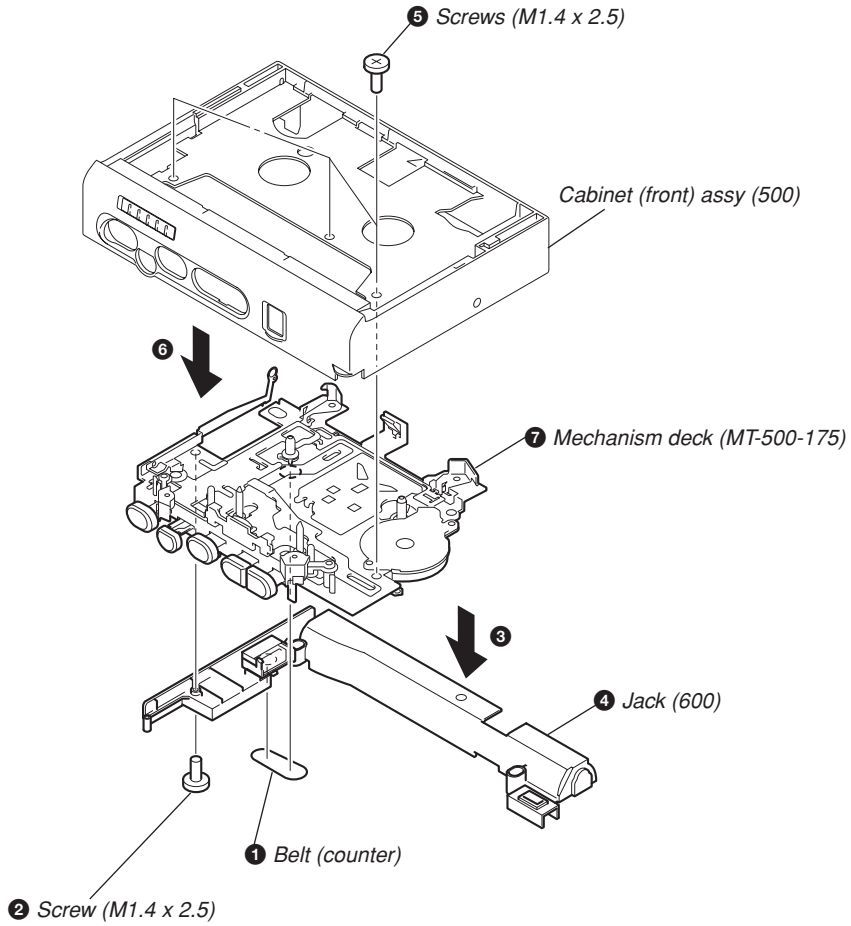
3-1.CABINET REAR ASSY (500), "LID ASSY (500), CASSETTE"



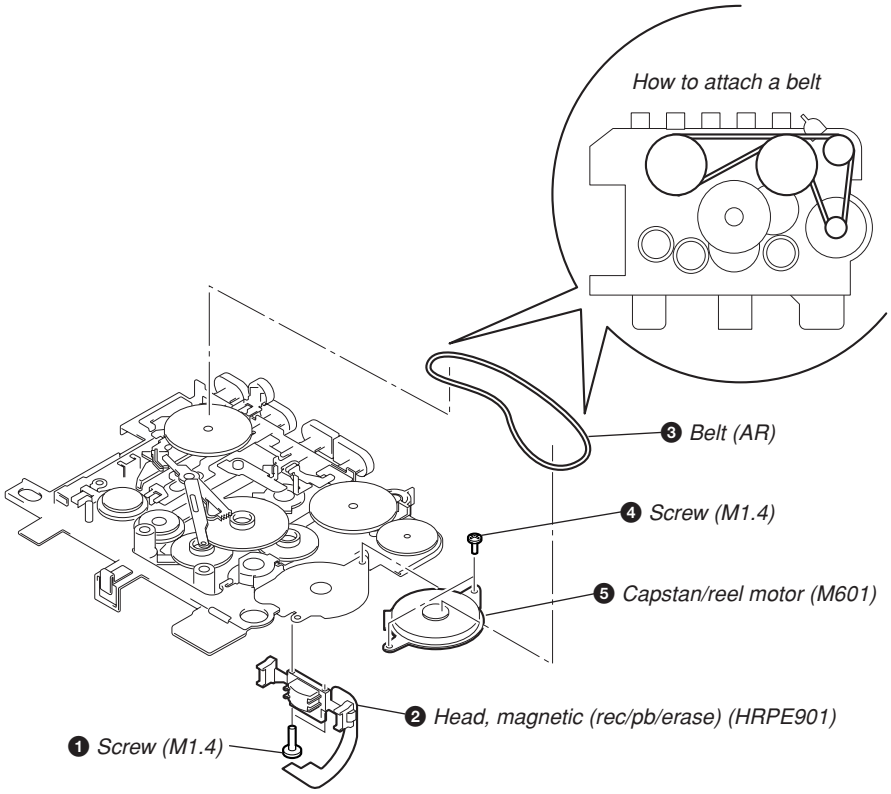
3-2. MAIN BOARD



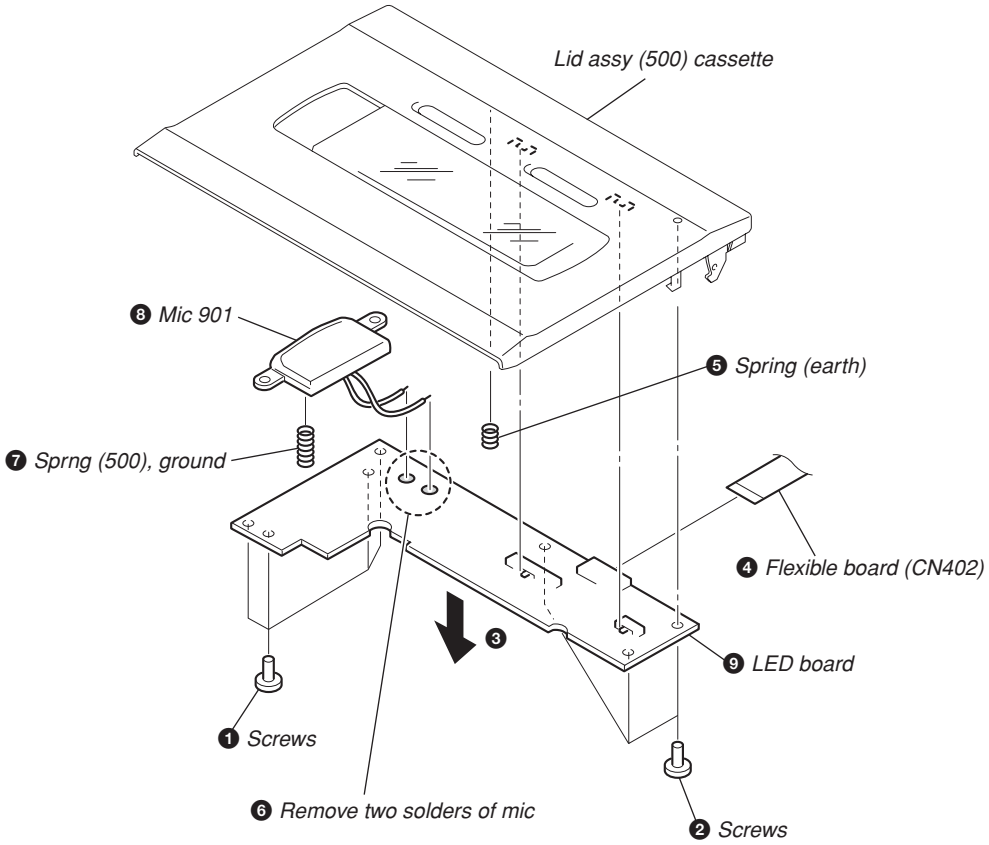
3-3. MECHANISM DECK



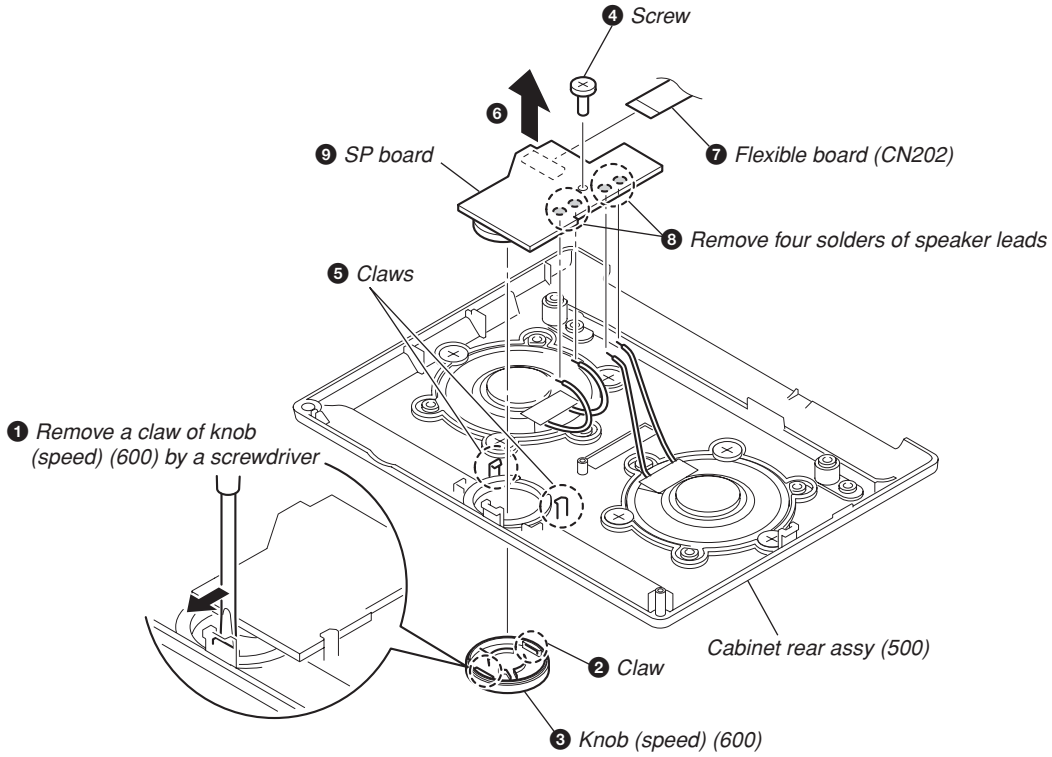
3-4.HEAD, MAGNETIC (REC/PB/ERASE) (HRPE901), BELT (AR), CAPSTAN/REEL MOTOR (M601)



3-5.LED BOARD



3-6. SP BOARD


❹ Screw
❻
❾ SP board
❼ Flexible board (CN202)
❽ Remove four solders of speaker leads
❺ Claws
❶ Remove a claw of knob (speed) (600) by a screwdriver
Cabinet rear assy (500)
❷ Claw
❸ Knob (speed) (600)

SECTION 4
MECHANICAL ADJUSTMENTS

1. Clean the following parts with a denatured-alcohol-moistened swab:
   record/playback/erase head pinch roller
   capstan rubber belt
2. Demagnetize the record/playback/erase head with a head demag netizer.
3. Do not use a magnetized screwdriver for the adjustments.
4. The adjustments should be performed with the rated power supply voltage (3 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)
FWD Back Tension		0.05 – 0.49 mN•m (0.5– 5 g•cm) (0.007 – 0.069 oz•inch)
REV		
REV Back Tension		
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 5
ELECTRICAL ADJUSTMENTS

Setting:
- Supplied voltage: 3 V (DC)
- Switch and control position
  VOL contorl (RV101) : mechanical center
  REC SPEED switch (S401) : normal (4.8cm/s)
  PAUSE switch (S601) : OFF
  SPEED CONTROL (RV201) : center click
  VOR switch (S402) : OFF

Regulation Level

input level	Mic	–60dBs
output level	earphone	16Ω, –20dBs

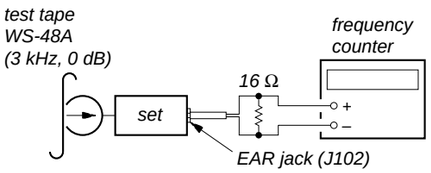
Test Tape

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

0 dB=0.775 V

Tape Speed Adjustment

Mode: playback

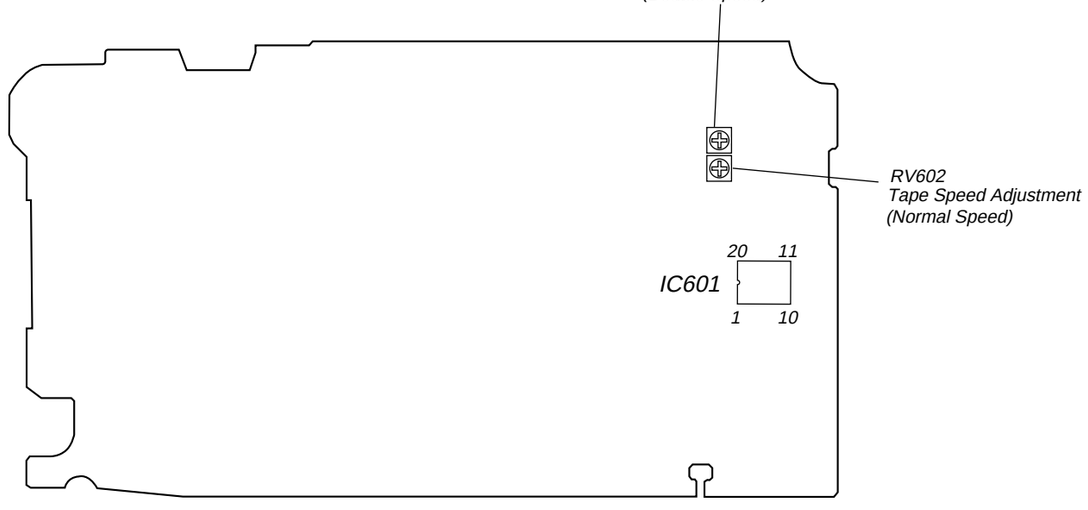


Procedure:
1. Set [REC TIME] switch (S401) to NORMAL (4.8 cm/s) position, and playback the tape (WS-48A) .
2. Adjust RV602 so that frequency counter reading becomes 3,010 Hz.
3. Set [REC TIME] switch (S401) to DOUBLE (2.4 cm/s) position.
4. Playback the tape from the beginning for two minutes, then adjust RV601 so that frequency counter reading becomes 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) .

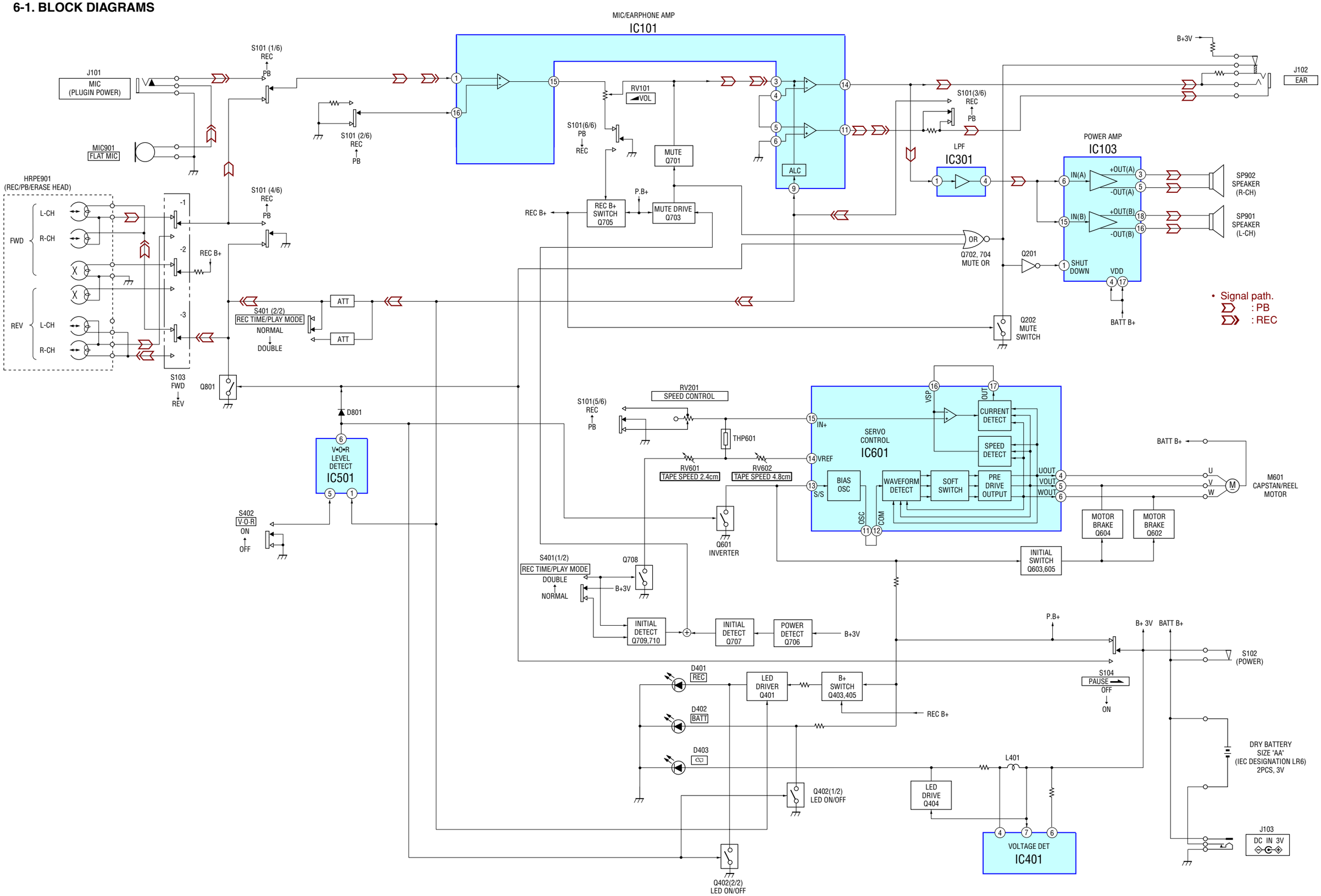
Adjustment Location:

– MAIN BOARD (Conductor Side) –

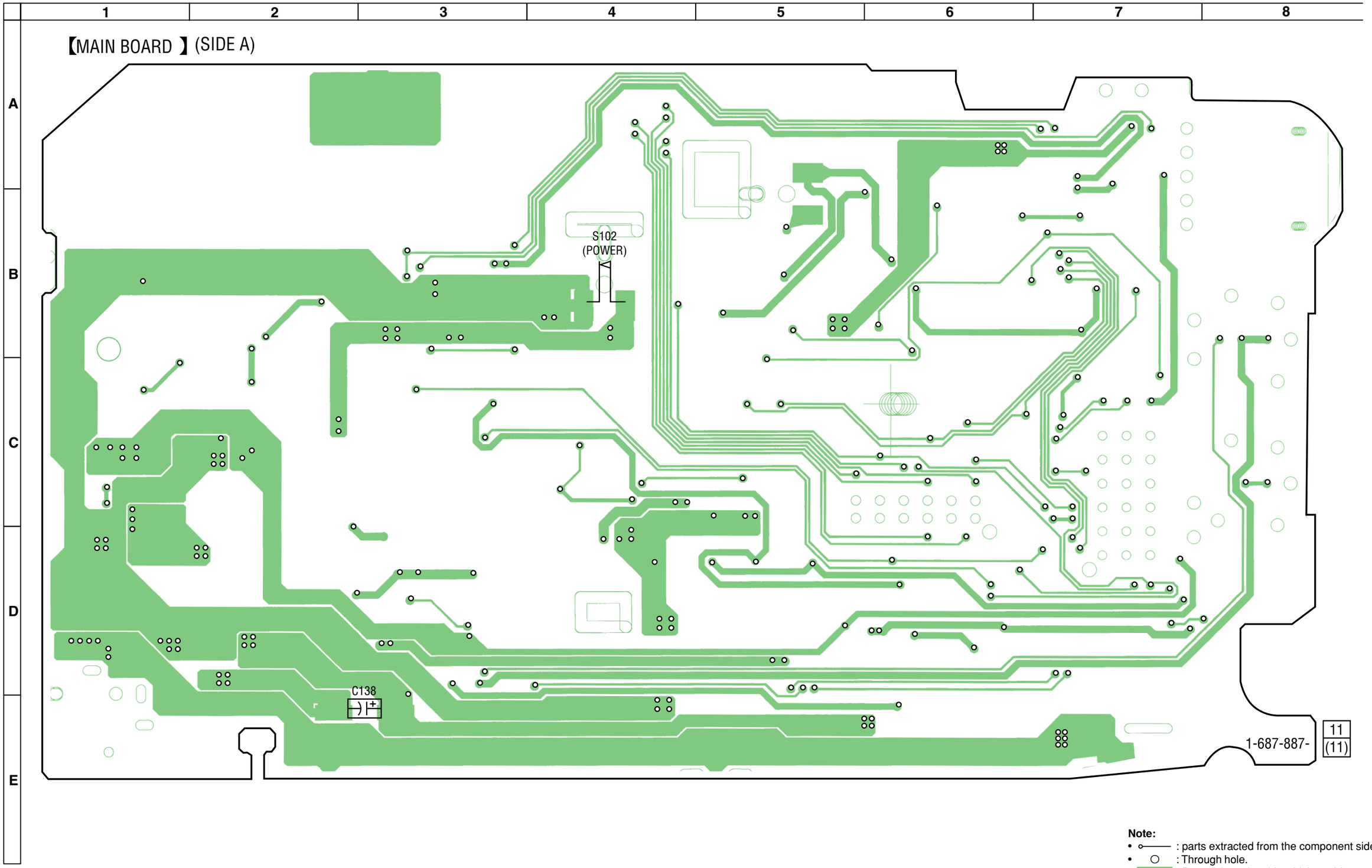


SECTION 6
DIAGRAMS

6-1. BLOCK DIAGRAMS



6-2. PRINTED WIRING BOARD –MAIN BOARD (SIDE A)–

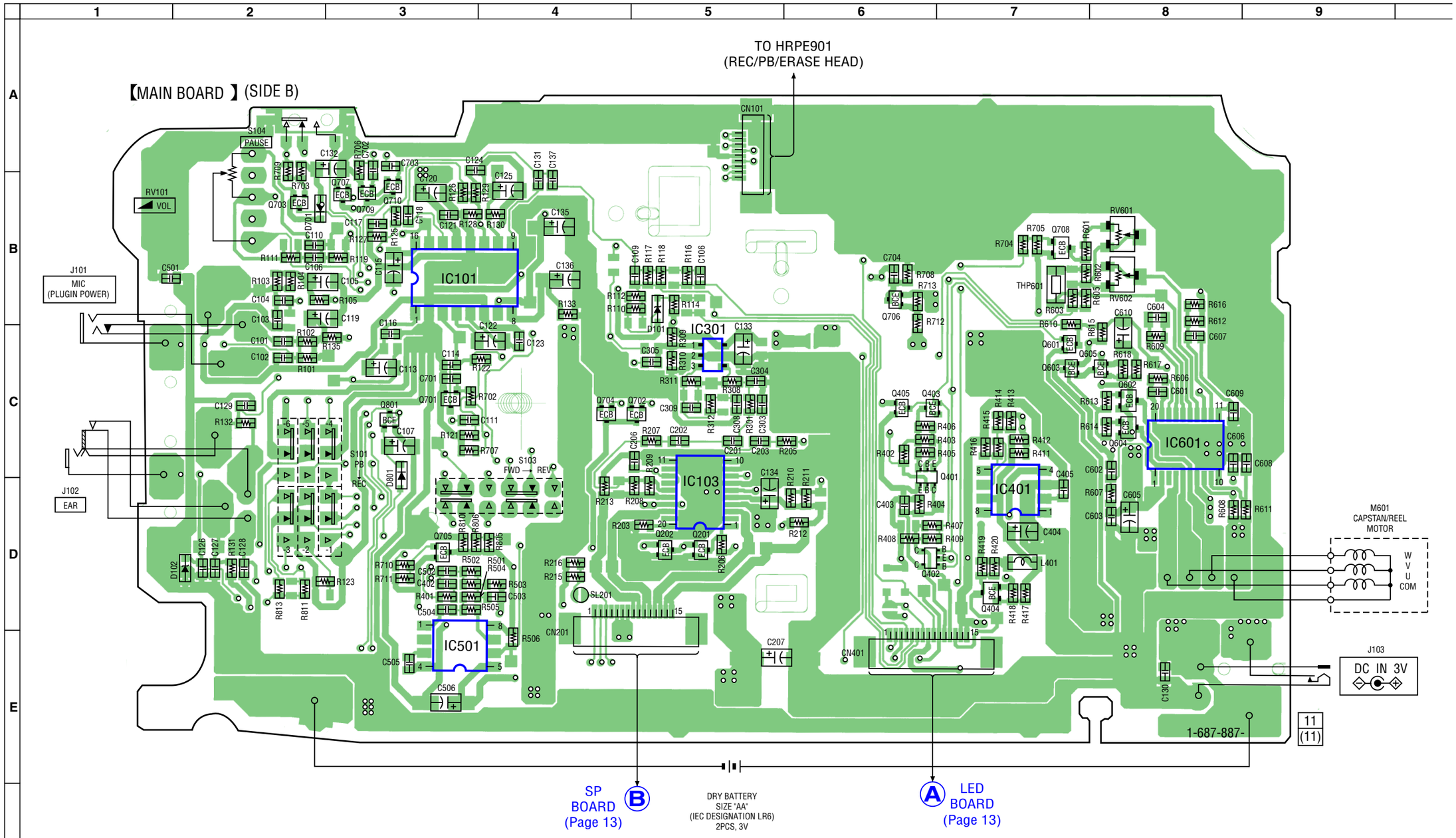


Note:

- ○——— : 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.

6-3. PRINTED WIRING BOARD –MAIN BOARD (SIDE B)–



Note:

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

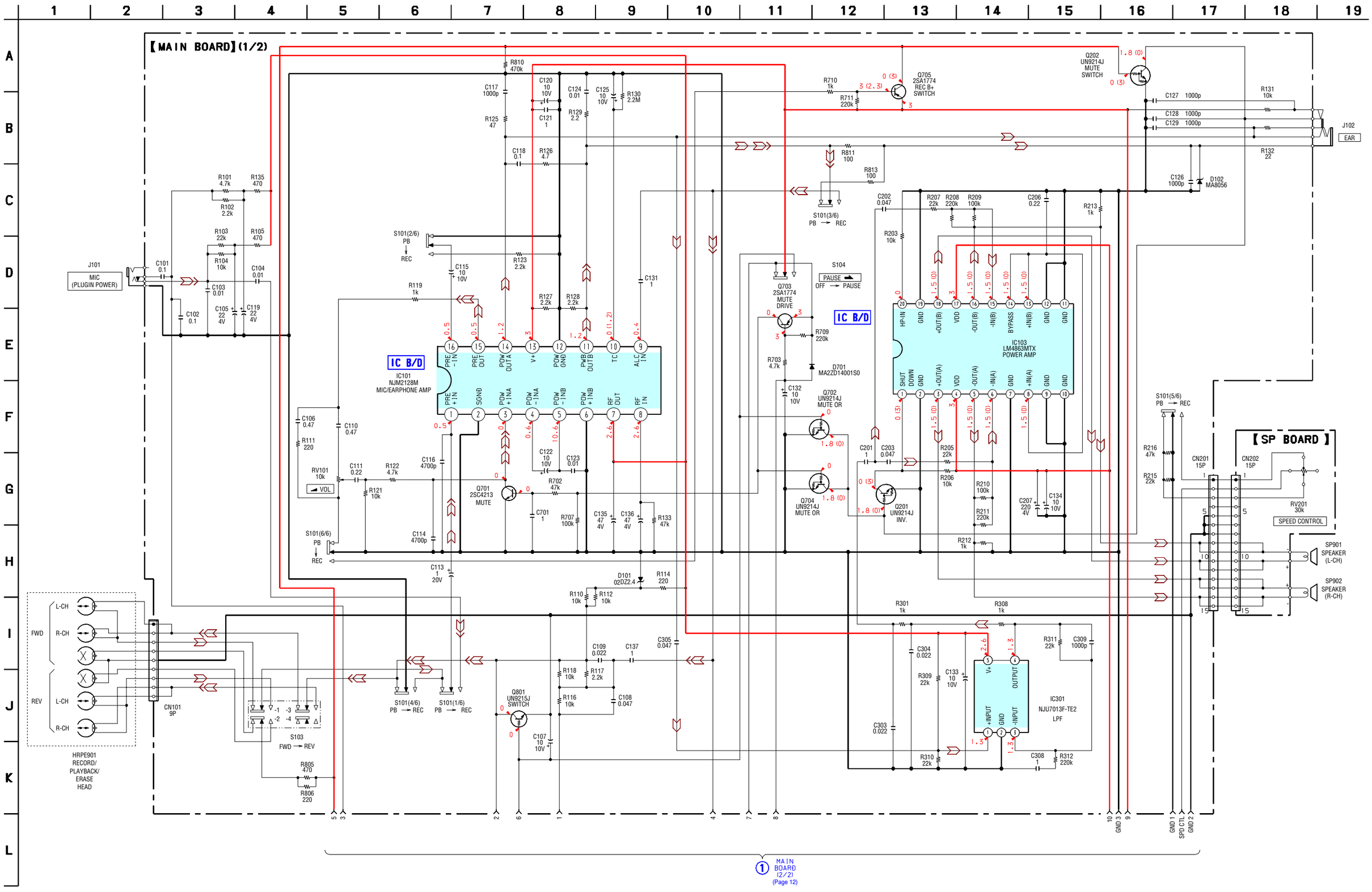
Caution:

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.

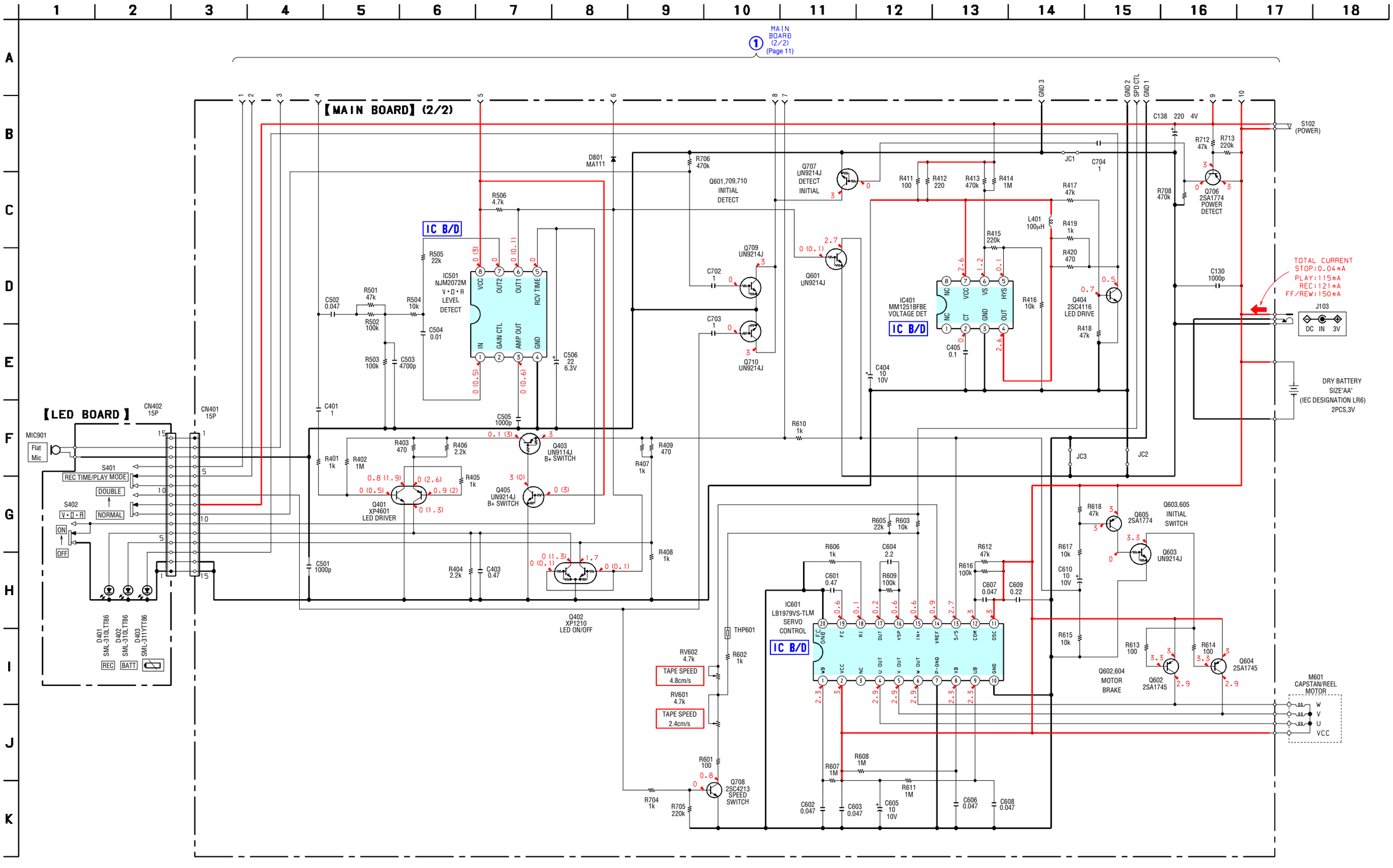
- **Semiconductor Location**

Ref. No.	Location
D101	B-5
D102	D-2
D701	B-2
D801	C-3
IC101	B-3
IC103	D-5
IC301	C-5
IC401	D-7
IC501	E-3
IC601	C-8
Q201	D-5
Q202	D-5
Q401	C-6
Q402	D-6
Q403	C-6
Q404	D-7
Q405	C-6
Q601	C-7
Q602	C-8
Q603	C-7
Q604	C-8
Q605	C-8
Q701	C-3
Q702	C-5
Q703	B-2
Q704	C-4
Q705	D-3
Q706	B-6
Q707	B-3
Q708	B-7
Q709	B-3
Q710	B-3
Q801	C-3

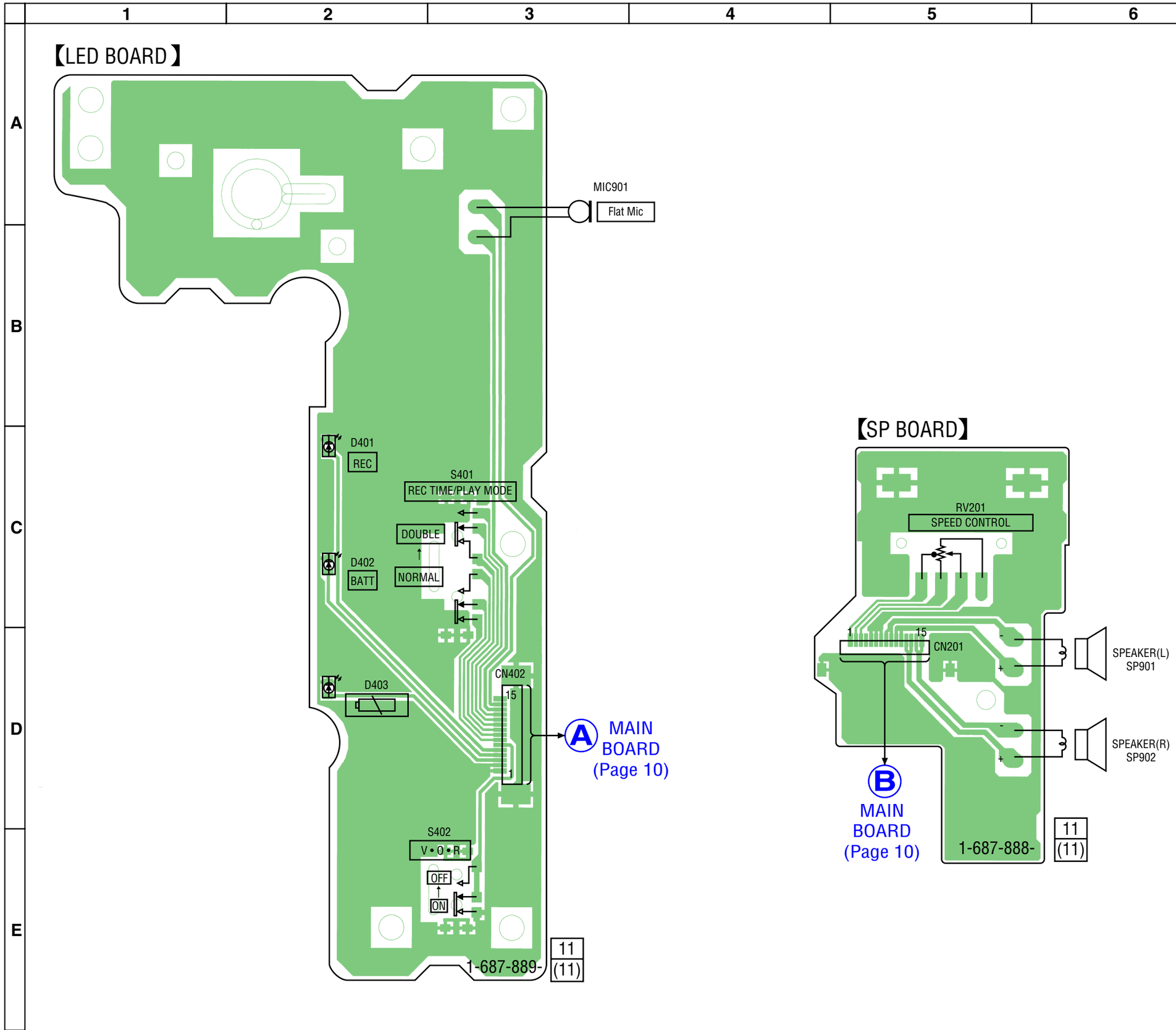
6-4. SCHEMATIC DIAGRAM –MAIN BOARD (1/2)– • Refer to page 14 for Notes.



6-5. SCHEMATIC DIAGRAM –MAIN BOARD (2/2)– • Refer to page 14 for Notes.



6-6. PRINTED WIRING BOARD –LED, SP BOARD –



• **Semiconductor Location**

Ref. No.	Location
D401	C-2
D402	C-2
D403	D-2

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

Note on schematic diagrams

- All capacitors are in μF unless otherwise noted. pF: μμF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- ▬ : B+ Line.
- ▭ : adjustment for repair.
- Power voltage is dc 3V and fed with regulated dc power supply frombattery terminal .
- Voltages are dc with respect to ground under no-signal conditions.

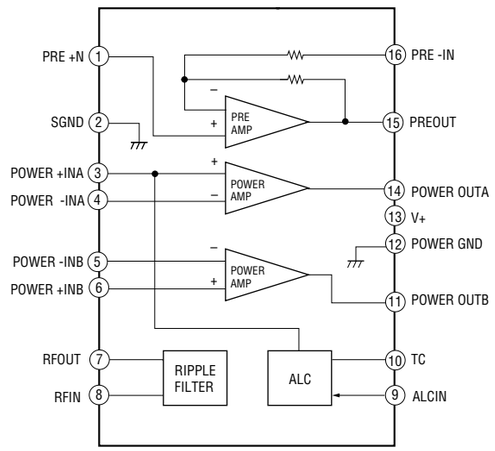
no mark : PLAY
( ) : REC

- Voltages are taken with a VOM (Input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.

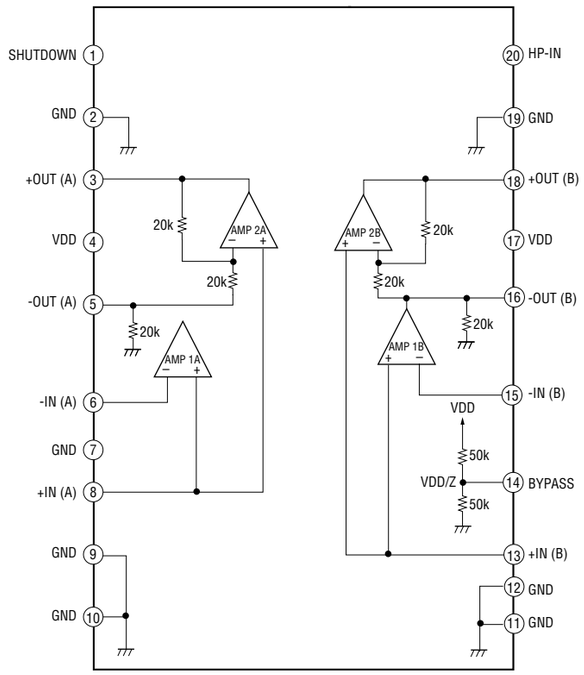
- Signal path.
  Σ : PB
  Σ» : REC

6-7. IC BLOCK DIAGRAMS

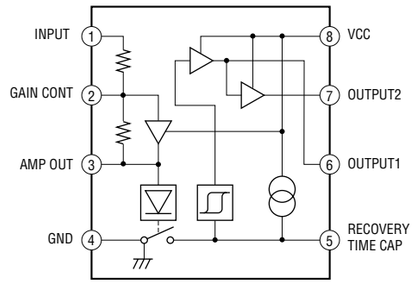
IC101 NJM2128M-TE2



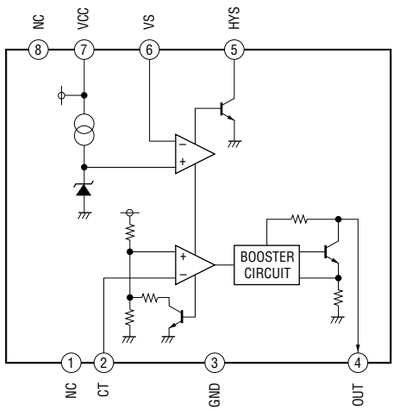
IC103 LM4863MTX



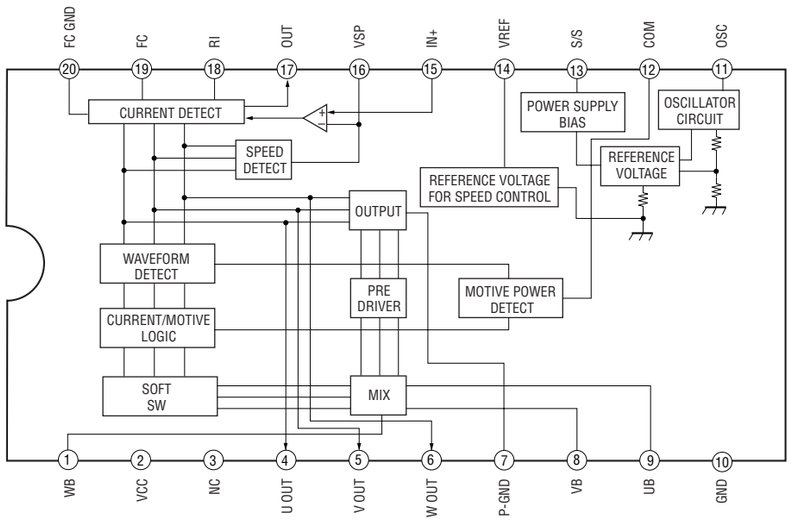
IC501 NJM2072M (TE2)



IC401 MM125BFBE



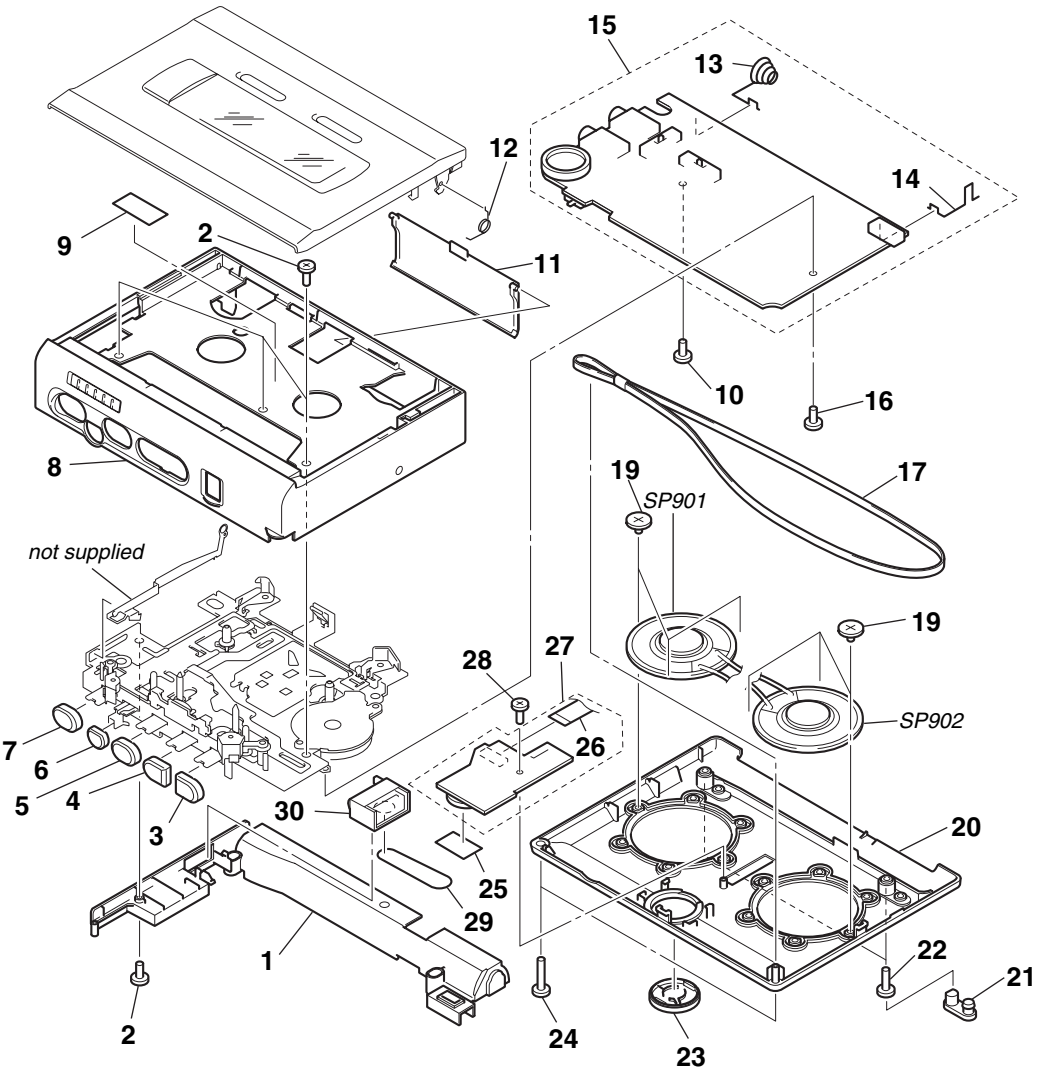
IC601 LB1979VS-TLM



SECTION 7
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.

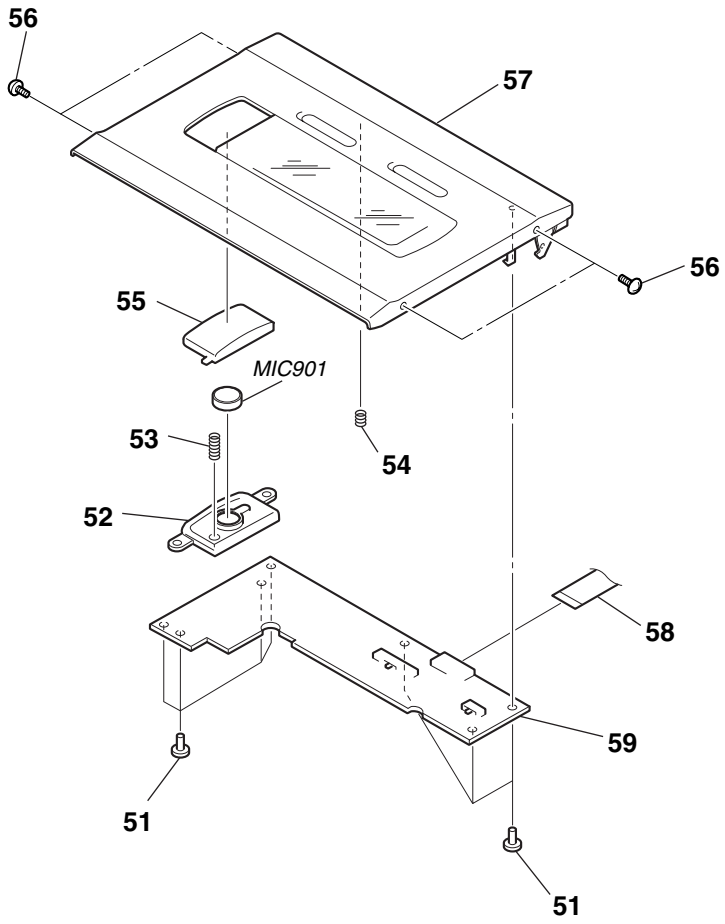
7-1. CABINET SECTION



Ref. No.	Part No.	Description	Remark
1	3-248-424-31	JACK (600)	
2	3-704-197-21	SCREW (M1.4X2.5), SPECIAL HEAD	
3	3-225-570-11	BUTTON (FF)	
4	3-225-571-11	BUTTON (REW)	
5	3-225-568-11	BUTTON (PLAY) (L-CH)	
6	3-225-569-11	BUTTON (STOP)	
7	3-245-736-21	BUTTON (REC)	
8	X-3382-992-1	CABINET (FRONT) ASSY (500)	
9	3-925-231-01	REFLECTOR	
10	3-704-260-61	SCREW (M1.4)	
11	3-248-418-11	LID, BATTERY	
12	3-248-440-01	SPRING, LID	
13	3-248-439-01	SPRING (-), BATTERY	
14	3-248-438-01	SPRING (+), BATTERY	
* 15	A-3663-938-A	MAIN PC BOARD ASSY	
16	3-345-648-01	SCREW (M1.4X3)	

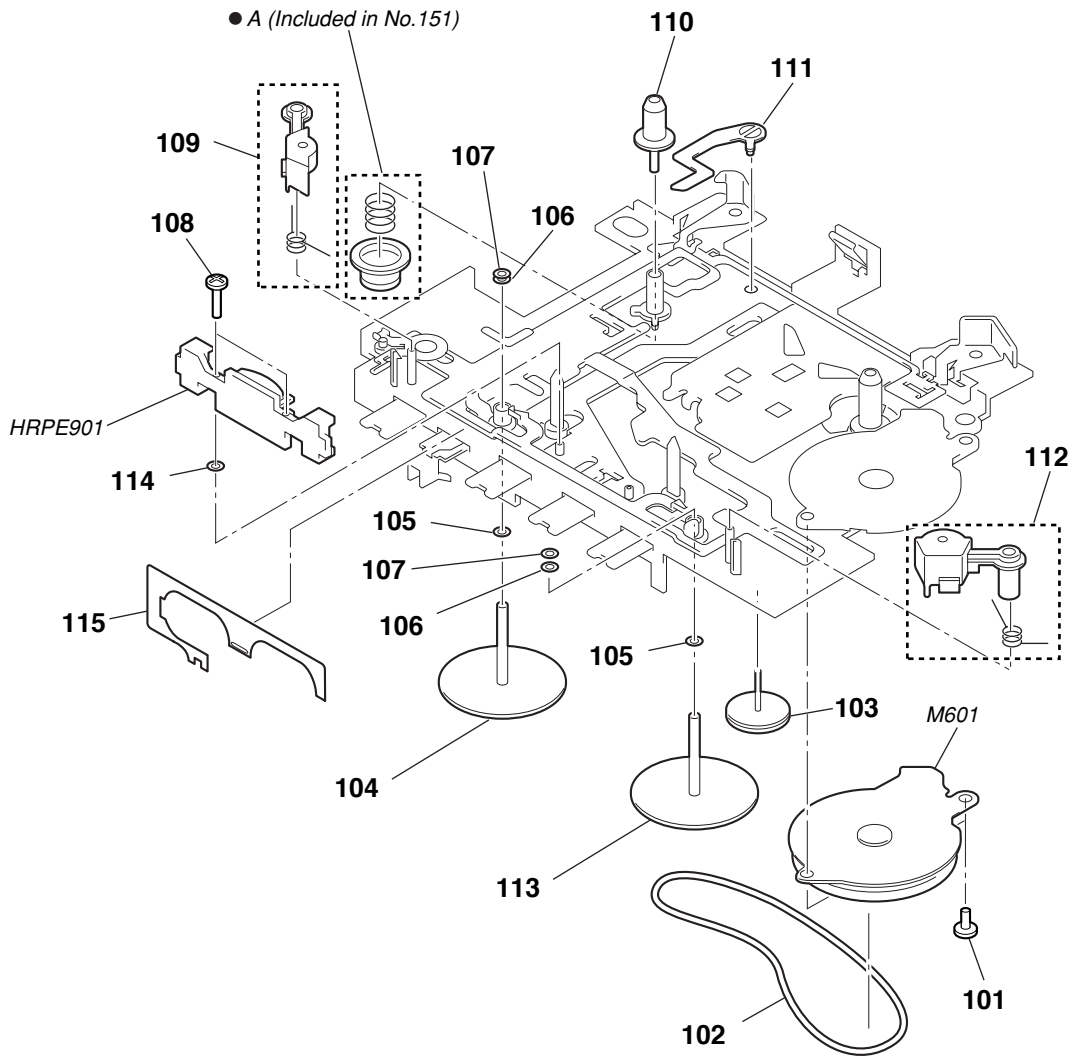
Ref. No.	Part No.	Description	Remark
17	3-328-319-01	STRAP, HAND	
19	3-034-792-11	SCREW, TAPPING (B2.0)	
20	X-3383-510-1	CABINET REAR ASSY (500) (U)	
21	3-248-436-11	FOOT (B)	
22	3-318-203-91	SCREW (B1.7X9), TAPPING	
23	3-248-422-11	KNOB (SPEED) (600)	
24	3-035-255-11	SCREW (1.7X16)	
25	3-831-441-99	SPACER, KNOB	
26	1-687-886-11	FLEXIBLE BOARD	
* 27	A-3663-941-A	SP PC BOARD ASSY	
28	3-375-114-71	SCREW	
29	3-234-858-01	BELT (COUNTER)	
30	1-548-582-11	COUNTER, TAPE (SMALL TYPE)	
SP901	1-825-350-11	SPEAKER (3.6CM) (L-CH)	
SP902	1-825-350-11	SPEAKER (3.6CM) (R-CH)	

7-2. CASSETTE HOLDER SECTION



Ref. No.	Part No.	Description	Remark
51	3-375-114-71	SCREW	
52	3-248-449-01	CUSHION (500), MICROPHONE	
53	3-250-387-01	SPRING (500), GROUND	
54	3-250-382-01	SPRING (600), GROUND	
55	3-248-446-01	GRILLE (500), MICROPHONE	
56	3-893-942-41	SCREW (1.7X3), TAPPING (B)	
57	X-3383-511-1	LID ASSY (500) (U), CASSETTE	
58	1-687-886-11	FLEXIBLE BOARD	
* 59	A-3663-937-A	LED MOUNTED PC BOARD	
MIC901	1-476-484-31	MICROPHONE UNIT, ELECTRET CAP	

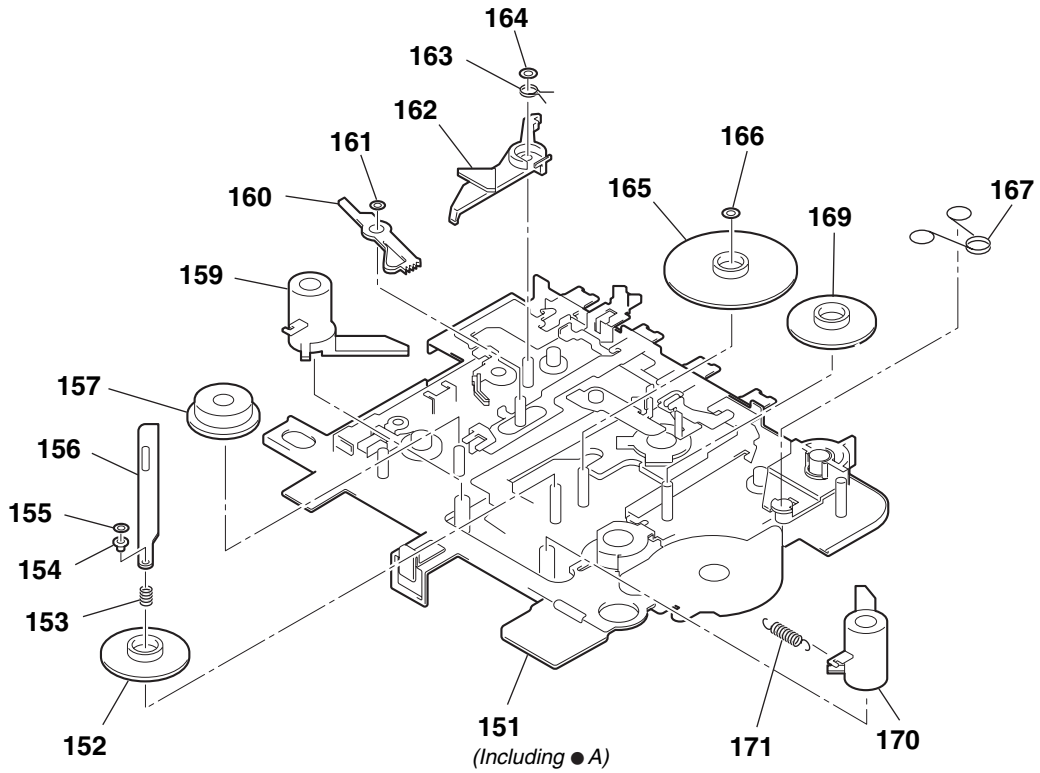
7-3. SMECHANISM DECK SECTION-1 (MT-500-175)



Ref. No.	Part No.	Description	Remark
101	3-704-197-01	SCREW (M1.4), SPECIAL HEAD	
102	3-225-429-01	BELT (AR)	
103	3-225-390-03	PULLEY (REVERSE)	
104	X-3380-830-2	FLY ASSY (AR5.0), CAPSTAN	
105	3-386-694-01	WASHER	
106	3-029-278-01	WASHER	
107	3-029-275-01	WASHER (STOPPER N)	
108	3-042-480-01	SCREW (M1.4)	
109	X-3379-882-3	PINCH (N) ASSY, ARM	

Ref. No.	Part No.	Description	Remark
110	3-019-776-03	GEAR (REEL-S)	
111	3-225-399-04	LEVER (N SHUT OFF)	
112	X-3379-883-4	PINCH (R) ASSY, ARM	
113	X-3379-877-2	FLY ASSY (AR), CAPSTAN	
114	3-350-949-61	SHEET (SYSTEM CONTROL SCREW)	
115	3-234-856-03	LEVER (PAUSE)	
HRPE901	1-500-685-21	HEAD, MAGNETIC (REC/PB/ERASE)	
M601	1-763-772-12	MOTOR, DC (CAPSTAN/REEL) (INCLUDING PULLEY)	

7-4. MECHANISM DECK SECTION-2 (MT-500-175)



Ref. No.	Part No.	Description	Remark
151	X-3382-924-1	CHASSIS ASSY (ARS)	
152	3-225-385-03	GEAR (B)	
153	3-229-063-01	SPRING (UD) (R), COMPRESSION	
154	3-019-778-03	SLEEVE (MS)	
155	3-728-091-01	WASHER, STOPPER	
156	3-225-427-01	WASHER, LEVER	
157	3-225-384-02	GEAR (A)	
159	3-225-395-04	LEVER (REW ROTARY)	
160	X-3380-677-3	LEVER (E DETECTION) ASSY	
161	3-229-064-01	WASHER, STOPPER	

Ref. No.	Part No.	Description	Remark
162	3-225-393-03	LEVER (SHUT/OFF)	
163	3-225-448-02	SPRING (SHUT OFF), TORSION	
164	3-321-813-71	WASHER, COTTER POLYETHYLENE	
165	X-3379-881-3	CLUTCH ASSY (AR)	
166	3-315-384-31	WASHER, STOPPER	
167	3-225-438-01	SPRING (NR SLIDER), TORSION	
169	3-225-388-04	GEAR (D)	
170	3-225-394-04	LEVER (FF ROTARY)	
171	3-225-444-01	SPRING (FR ROTARY), TENSION	

SECTION 8
ELECTRICAL PARTS LIST

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
  CND :Canadian
  JEW :Tourist

Ref. No.	Part No.	Description			Remark
*	A-3663-937-A	LED BOARD, COMPLETE			
		**********			
	1-687-886-11	FLEXIBLE BOARD			
		< CONNECTOR >			
CN402	1-573-355-11	CONNECTOR, FFC/FPC	15P		
		< DIODE >			
D401	8-719-064-07	DIODE SML-310LTT86 (REC)			
D402	8-719-064-07	DIODE SML-310LTT86 (BATT)			
D403	8-719-060-92	DIODE SML-311YTT86 (☜)			
		< SWITCH >			
S401	1-571-277-51	SWITCH, SLIDE (REC TIME/PLAY MODE)			
S402	1-572-922-11	SWITCH, SLIDE (V.O.R)			
**********					
*	A-3663-938-A	MAIN BOARD, COMPLETE			
		**********			
	3-248-438-01	SPRING (+), BATTERY			
	3-248-439-01	SPRING (-), BATTERY			
		< CAPACITOR >			
C101	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C102	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C103	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C104	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C105	1-104-847-11	TANTAL.CHIP	22uF	20%	4V
C106	1-113-619-11	CERAMIC CHIP	0.47uF		10V
C107	1-104-851-11	TANTAL.CHIP	10uF	20%	10V
C108	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C109	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C110	1-113-619-11	CERAMIC CHIP	0.47uF		10V
C111	1-165-128-11	CERAMIC CHIP	0.22uF		16V
C113	1-135-177-21	TANTALUM CHIP	1uF	20%	20V
C114	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C115	1-104-851-11	TANTAL.CHIP	10uF	20%	10V
C116	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C117	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C118	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C119	1-104-847-11	TANTAL.CHIP	22uF	20%	4V
C120	1-104-851-11	TANTAL.CHIP	10uF	20%	10V
C121	1-115-156-11	CERAMIC CHIP	1uF		10V
C122	1-104-851-11	TANTAL.CHIP	10uF	20%	10V
C123	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C124	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C125	1-104-851-11	TANTAL.CHIP	10uF	20%	10V

Ref. No.	Part No.	Description			Remark
C126	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C127	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C128	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C129	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C130	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C131	1-115-156-11	CERAMIC CHIP	1uF		10V
C132	1-104-851-11	TANTAL.CHIP	10uF	20%	10V
C133	1-104-851-11	TANTAL.CHIP	10uF	20%	10V
C134	1-104-851-11	TANTAL.CHIP	10uF	20%	10V
C135	1-126-607-11	ELECT CHIP	47uF	20%	4V
C136	1-126-607-11	ELECT CHIP	47uF	20%	4V
C137	1-115-156-11	CERAMIC CHIP	1uF		10V
C138	1-126-246-11	ELECT CHIP	220uF	20%	4V
C201	1-115-156-11	CERAMIC CHIP	1uF		10V
C202	1-164-361-11	CERAMIC CHIP	0.047uF		16V
C203	1-164-361-11	CERAMIC CHIP	0.047uF		16V
C206	1-165-128-11	CERAMIC CHIP	0.22uF		16V
C207	1-126-246-11	ELECT CHIP	220uF	20%	4V
C303	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C304	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C305	1-164-361-11	CERAMIC CHIP	0.047uF		16V
C308	1-115-156-11	CERAMIC CHIP	1uF		10V
C309	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C401	1-115-156-11	CERAMIC CHIP	1uF		10V
C403	1-113-619-11	CERAMIC CHIP	0.47uF		10V
C404	1-104-851-11	TANTAL.CHIP	10uF	20%	10V
C405	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C501	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C502	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C503	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C504	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C505	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C506	1-124-778-00	ELECT CHIP	22uF	20%	6.3V
C601	1-117-863-11	CERAMIC CHIP	0.47uF	10%	6.3V
C602	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C603	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C604	1-125-838-11	CERAMIC CHIP	2.2uF	10%	6.3V
C605	1-104-851-11	TANTAL.CHIP	10uF	20%	10V
C606	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C607	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C608	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C609	1-115-467-11	CERAMIC CHIP	0.22uF	10%	10V
C610	1-104-851-11	TANTAL.CHIP	10uF	20%	10V
C701	1-115-156-11	CERAMIC CHIP	1uF		10V
C702	1-115-156-11	CERAMIC CHIP	1uF		10V
C703	1-115-156-11	CERAMIC CHIP	1uF		10V

MAIN

Ref. No.	Part No.	Description			Remark
C704	1-115-156-11	CERAMIC CHIP	1uF		10V
		< CONNECTOR >			
CN101	1-573-349-21	CONNECTOR, FFC/FPC 9P			
CN201	1-573-355-11	CONNECTOR, FFC/FPC 15P			
CN401	1-573-355-11	CONNECTOR, FFC/FPC 15P			
		< DIODE >			
D101	8-719-064-90	DIODE 02DZ2.4-X(TPH3)			
D102	8-719-977-03	DIODE DTZ5.6B			
D701	8-719-072-70	DIODE MA2ZD14001S0			
D801	8-719-404-50	DIODE MA111-TX			
		< IC >			
IC101	8-759-339-54	IC NJM2128M-TE2			
IC103	8-759-597-59	IC LM4863MTX			
IC301	8-759-528-80	IC NJU7013F-TE2			
IC401	8-759-399-49	IC MM1251BFBE			
IC501	8-759-701-51	IC NJM2072M(TE2)			
IC601	8-759-638-51	IC LB1979VS-TLM			
		< JACK >			
J101	1-785-791-11	JACK (MIC (PLUG IN POWER))			
J102	1-695-514-11	JACK (SMALL TYPE) 1P (EARPHONE)			
J103	1-794-615-11	JACK,DC(POLARITY UNIFIED TYPE) (DC IN 3V)			
		< COIL >			
L401	1-414-404-41	INDUCTOR	100uH		
		< TRANSISTOR >			
Q201	8-729-037-75	TRANSISTOR UN9214J-(TX).SO			
Q202	8-729-037-75	TRANSISTOR UN9214J-(TX).SO			
Q401	8-729-427-74	TRANSISTOR XP4601			
Q402	8-729-426-51	TRANSISTOR XP1210-TXE			
Q403	8-729-037-62	TRANSISTOR UN9114J-(TX).SO			
Q404	8-729-230-63	TRANSISTOR 2SC4116-YG			
Q405	8-729-037-75	TRANSISTOR UN9214J-(TX).SO			
Q601	8-729-037-75	TRANSISTOR UN9214J-(TX).SO			
Q602	8-729-823-86	TRANSISTOR 2SA1745			
Q603	8-729-037-75	TRANSISTOR UN9214J-(TX).SO			
Q604	8-729-823-86	TRANSISTOR 2SA1745			
Q605	8-729-928-19	TRANSISTOR 2SA1774R			
Q701	8-729-013-37	TRANSISTOR 2SC4213-AB-TE85L			
Q702	8-729-037-75	TRANSISTOR UN9214J-(TX).SO			
Q703	8-729-928-19	TRANSISTOR 2SA1774R			
Q704	8-729-037-75	TRANSISTOR UN9214J-(TX).SO			
Q705	8-729-928-19	TRANSISTOR 2SA1774R			
Q706	8-729-928-19	TRANSISTOR 2SA1774R			
Q707	8-729-037-75	TRANSISTOR UN9214J-(TX).SO			
Q708	8-729-013-37	TRANSISTOR 2SC4213-AB-TE85L			
Q709	8-729-037-75	TRANSISTOR UN9214J-(TX).SO			
Q710	8-729-037-75	TRANSISTOR UN9214J-(TX).SO			
Q801	8-729-037-76	TRANSISTOR UN9215J-(TX).SO			
		< RESISTOR >			
R101	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R102	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R103	1-216-837-11	METAL CHIP	22K	5%	1/10W
R104	1-216-833-11	METAL CHIP	10K	5%	1/10W
R105	1-216-817-11	METAL CHIP	470	5%	1/10W
R110	1-216-833-11	METAL CHIP	10K	5%	1/10W

Ref. No.	Part No.	Description			Remark
R111	1-216-813-11	METAL CHIP	220	5%	1/10W
R112	1-216-833-11	METAL CHIP	10K	5%	1/10W
R114	1-216-813-11	METAL CHIP	220	5%	1/10W
R116	1-216-833-11	METAL CHIP	10K	5%	1/10W
R117	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R118	1-216-833-11	METAL CHIP	10K	5%	1/10W
R119	1-216-821-11	METAL CHIP	1K	5%	1/10W
R121	1-216-833-11	METAL CHIP	10K	5%	1/10W
R122	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R123	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R125	1-216-805-11	METAL CHIP	47	5%	1/10W
R126	1-216-793-11	METAL CHIP	4.7	5%	1/10W
R127	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R128	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R129	1-216-789-11	METAL CHIP	2.2	5%	1/10W
R130	1-216-861-11	METAL CHIP	2.2M	5%	1/10W
R131	1-216-833-11	METAL CHIP	10K	5%	1/10W
R132	1-216-801-11	METAL CHIP	22	5%	1/10W
R133	1-216-841-11	METAL CHIP	47K	5%	1/10W
R135	1-216-817-11	METAL CHIP	470	5%	1/10W
R203	1-216-833-11	METAL CHIP	10K	5%	1/10W
R205	1-216-837-11	METAL CHIP	22K	5%	1/10W
R206	1-216-833-11	METAL CHIP	10K	5%	1/10W
R207	1-216-837-11	METAL CHIP	22K	5%	1/10W
R208	1-216-849-11	METAL CHIP	220K	5%	1/10W
R209	1-216-845-11	METAL CHIP	100K	5%	1/10W
R210	1-216-845-11	METAL CHIP	100K	5%	1/10W
R211	1-216-849-11	METAL CHIP	220K	5%	1/10W
R212	1-216-821-11	METAL CHIP	1K	5%	1/10W
R213	1-216-821-11	METAL CHIP	1K	5%	1/10W
R215	1-216-837-11	METAL CHIP	22K	5%	1/10W
R216	1-216-841-11	METAL CHIP	47K	5%	1/10W
R301	1-216-821-11	METAL CHIP	1K	5%	1/10W
R308	1-216-821-11	METAL CHIP	1K	5%	1/10W
R309	1-216-837-11	METAL CHIP	22K	5%	1/10W
R310	1-216-837-11	METAL CHIP	22K	5%	1/10W
R311	1-216-837-11	METAL CHIP	22K	5%	1/10W
R312	1-216-849-11	METAL CHIP	220K	5%	1/10W
R401	1-216-821-11	METAL CHIP	1K	5%	1/10W
R402	1-216-857-11	METAL CHIP	1M	5%	1/10W
R403	1-216-817-11	METAL CHIP	470	5%	1/10W
R404	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R405	1-216-821-11	METAL CHIP	1K	5%	1/10W
R406	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R407	1-216-821-11	METAL CHIP	1K	5%	1/10W
R408	1-216-821-11	METAL CHIP	1K	5%	1/10W
R409	1-216-817-11	METAL CHIP	470	5%	1/10W
R411	1-216-809-11	METAL CHIP	100	5%	1/10W
R412	1-216-813-11	METAL CHIP	220	5%	1/10W
R413	1-216-853-11	METAL CHIP	470K	5%	1/10W
R414	1-216-857-11	METAL CHIP	1M	5%	1/10W
R415	1-216-849-11	METAL CHIP	220K	5%	1/10W
R416	1-216-833-11	METAL CHIP	10K	5%	1/10W
R417	1-216-841-11	METAL CHIP	47K	5%	1/10W
R418	1-216-841-11	METAL CHIP	47K	5%	1/10W
R419	1-216-821-11	METAL CHIP	1K	5%	1/10W
R420	1-216-817-11	METAL CHIP	470	5%	1/10W
R501	1-216-841-11	METAL CHIP	47K	5%	1/10W
R502	1-216-845-11	METAL CHIP	100K	5%	1/10W
R503	1-216-845-11	METAL CHIP	100K	5%	1/10W
R504	1-216-833-11	METAL CHIP	10K	5%	1/10W

Ref. No.	Part No.	Description			Remark
R505	1-216-837-11	METAL CHIP	22K	5%	1/10W
R506	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R601	1-216-809-11	METAL CHIP	100	5%	1/10W
R602	1-216-821-11	METAL CHIP	1K	5%	1/10W
R603	1-216-833-11	METAL CHIP	10K	5%	1/10W
R605	1-216-837-11	METAL CHIP	22K	5%	1/10W
R606	1-216-821-11	METAL CHIP	1K	5%	1/10W
R607	1-216-857-11	METAL CHIP	1M	5%	1/10W
R608	1-216-857-11	METAL CHIP	1M	5%	1/10W
R609	1-216-845-11	METAL CHIP	100K	5%	1/10W
R610	1-216-821-11	METAL CHIP	1K	5%	1/10W
R611	1-216-857-11	METAL CHIP	1M	5%	1/10W
R612	1-216-841-11	METAL CHIP	47K	5%	1/10W
R613	1-216-809-11	METAL CHIP	100	5%	1/10W
R614	1-216-809-11	METAL CHIP	100	5%	1/10W
R615	1-216-833-11	METAL CHIP	10K	5%	1/10W
R616	1-216-845-11	METAL CHIP	100K	5%	1/10W
R617	1-216-833-11	METAL CHIP	10K	5%	1/10W
R618	1-216-841-11	METAL CHIP	47K	5%	1/10W
R702	1-216-841-11	METAL CHIP	47K	5%	1/10W
R703	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R704	1-216-821-11	METAL CHIP	1K	5%	1/10W
R705	1-216-849-11	METAL CHIP	220K	5%	1/10W
R706	1-216-853-11	METAL CHIP	470K	5%	1/10W
R707	1-216-845-11	METAL CHIP	100K	5%	1/10W
R708	1-216-853-11	METAL CHIP	470K	5%	1/10W
R709	1-216-849-11	METAL CHIP	220K	5%	1/10W
R710	1-216-821-11	METAL CHIP	1K	5%	1/10W
R711	1-216-849-11	METAL CHIP	220K	5%	1/10W
R712	1-216-841-11	METAL CHIP	47K	5%	1/10W
R713	1-216-849-11	METAL CHIP	220K	5%	1/10W
R805	1-216-817-11	METAL CHIP	470	5%	1/10W
R806	1-216-813-11	METAL CHIP	220	5%	1/10W
R810	1-216-853-11	METAL CHIP	470K	5%	1/10W
R811	1-216-809-11	METAL CHIP	100	5%	1/10W
R813	1-216-809-11	METAL CHIP	100	5%	1/10W

< VARIABLE RESISTOR >

RV101	1-225-743-11	RES, VAR, CARBON 10K/10K (◢VOL)
RV601	1-241-593-11	RES, ADJ, CERMET 4.7K (TAPE SPEED 2.4cm/S)
RV602	1-241-593-11	RES, ADJ, CERMET 4.7K (TAPE SPEED 4.8cm/S)

< SWITCH >

S101	1-786-282-11	SWITCH, SLIDE (PB/REC)
S102	1-572-688-11	SWITCH, PUSH (1 KEY) (POWER)
S103	1-786-026-12	SWITCH, SLIDE (FWD/REV)
S104	1-572-922-11	SWITCH, SLIDE (PAUSE➡)

< THERMISTOR >

THP601	1-810-794-11	THERMISTOR, POSITIVE

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*	A-3663-941-A	SP BOARD, COMPLETE
		**********
	1-687-886-11	FLEXIBLE BOARD

< CONNECTOR >

* CN202	1-815-832-21	CONNECTOR, FFC/FPC (ZIF)	15P

Ref. No.	Part No.	Description	Remark

< VARIABLE RESISTOR >

RV201	1-227-445-11	RES, VAR,CARBON30K (SPEED CONTROL)	

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MISCELLANEOUS
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26	1-687-886-11	FLEXIBLE BOARD	
30	1-548-582-11	COUNTER, TAPE (SMALL TYPE)	
58	1-687-886-11	FLEXIBLE BOARD	
HRPE901	1-500-685-21	HEAD, MAGNETIC (REC/PB/ERASE)	
M601	1-763-772-12	MOTOR, DC (CAPSTAN/REEL) (INCLUDING PULLEY)	
MIC901	1-476-484-31	MICROPHONE UNIT, ELECTRET CAP	
SP901	1-825-350-11	SPEAKER (3.6CM) (L-CH)	
SP902	1-825-350-11	SPEAKER (3.6CM) (R-CH)	

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ACCESSORIES
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	1-542-483-11	EARPHONE (TRH-E35) (JEW)
	3-249-772-01	MANUAL, INSTRUCTION (JAPANESE)(JEW)
	3-249-772-21	MANUAL, INSTRUCTION (ENGLISH, FRENCH) (US,CND,JEW)
	3-249-772-31	MANUAL, INSTRUCTION (ENGLISH, SPANISH, PORTUGUESE) (AEP,E)
	3-249-772-41	MANUAL, INSTRUCTION (FRENCH, GERMAN, DUTCH) (AEP)
	3-249-772-51	MANUAL, INSTRUCTION (SWEDISH, ITALIAN, FINNISH) (AEP)

REVISION HISTORY

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Ver.	Date	Description of Revision
1.0	2003.02	New
1.1	2003.04	JEW model addition. (ENG-03019)
1.2	2004.04	Correction of output level. (SPM-04026)