

TCS-580V

SERVICE MANUAL



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

Model Name Using Similar Mechanism	NEW
Tape Transport Mechanism Type	MT-580-101

SPECIFICATIONS

Track

Compact cassette, Stereo

Speaker

Approx. 3.6 cm (1⁷/₁₆ in.) dia.

Frequency range

40 – 12,500 Hz (during playback)

70 – 10,000 Hz (during recording)

Input

Microphone input jack (minijack/PLUG IN POWER)
sensitivity 0.2 mV for 3 kilohms or lower impedance
microphone

Output

Headphones jack (stereo minijack) for 8 – 300 ohms
headphones

Power output

Speaker 120 mW

Headphones 7 mW + 7 mW (US, Canadian model)
5 mW + 5 mW (EXCEPT US, Canadian model)

Variable range of the tape speed

from +30% to -15%

Power requirements

- Two R6 (size AA) batteries (not supplied): 3 V DC
- Sony AC-E30M (EXCEPT US, Canadian model) or AC-E30L (US, Canadian model) AC Power adaptor (not supplied):
240 V AC, 50 Hz (UK model)
120 V AC, 60 Hz (US, Canadian model)
220 – 230 V AC, 50 or 60 Hz (AEP, German model)
110 – 120V/220 – 240 V AC, 50 or 60Hz (E, Tourist model)
- Sony DCC-E130L car battery cord (not supplied): 12 V car battery

Dimensions (w/h/d)

Approx. 90 x 125 x 36 mm incl. projecting parts and controls

Mass

Approx. 265 g incl. batteries

Supplied accessories

Carrying case (1)
Headphones (1)

Design and specifications are subject to change without notice.

Note

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

CASSETTE-CORDER
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.

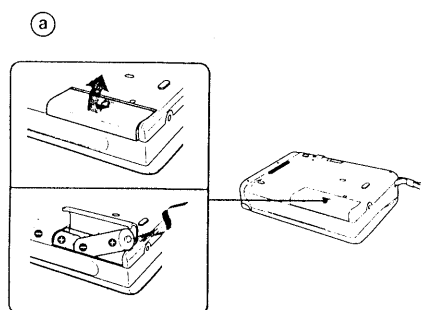
Notes on chip component replacement

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

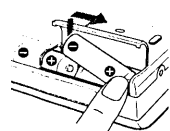
SECTION 1 GENERAL

This section is extracted from instruction manual.

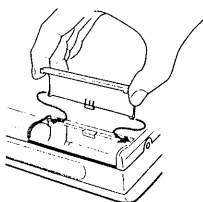
A



b

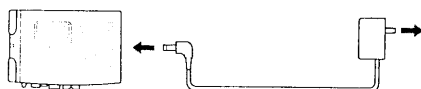


c



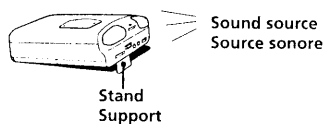
d

AC-E30M or AC-E30L (for us, Canadian model) AC power adaptor (not supplied)

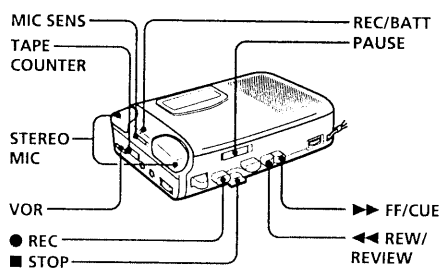


B

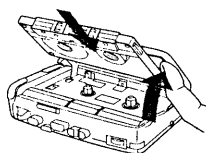
a



b



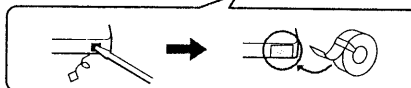
c



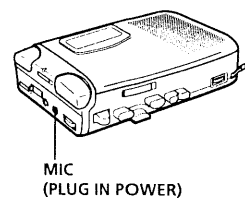
d

Side A
Face A

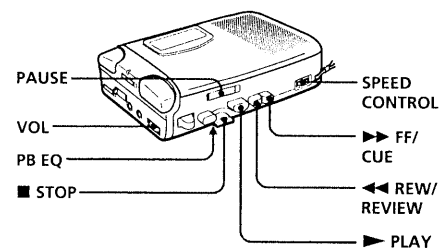
Tab for side A
Languette de la face A



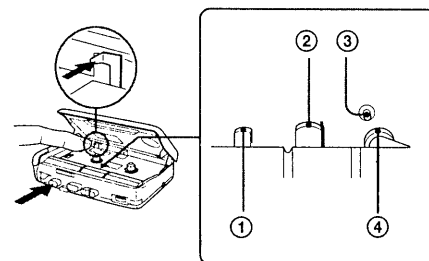
C



D



E



Preparing Power Sources

Choose one of the following power sources.

Dry Batteries (see Fig. A-a)

Make sure that nothing is connected to the DC IN 3V jack.

- 1 Open the battery compartment lid.
- 2 Insert two R6 (size AA) batteries (not supplied) with correct polarity and close the lid.

To take out the batteries (see Fig. A-b)

If the battery compartment lid is accidentally detached (see Fig. A-c)

Attach it as illustrated.

When to replace the batteries

Replace the batteries with new ones when the REC/BATT (record/battery) lamp dims and the sound is distorted.

Battery life (Approx. hours)

Batteries	Recording	Playback
Sony SUM-3 (NS)	3	2.5
Sony alkaline AM3 (N)	10.5	8.5

House Current (see Fig. A-d)

Connect the AC power adaptor to DC IN 3V and to the wall outlet. Use the AC-E30M or AC-E30L (for Canadian model) AC power adaptor (not supplied). Do not use any other AC power adaptor.

Polarity of the plug



Recording (see Fig. B-a, B-b)

Make sure that nothing is connected to MIC.

- 1 Open the cassette compartment lid with your finger.
- 2 Insert a normal (TYPE I) cassette with the side to start recording facing the lid. (see Fig. B-c)
- 3 Set VOR to ON or OFF.
If you set VOR to ON, the unit automatically starts recording the sound and pauses when there is no sound (you can save tapes and batteries).
When the sound is not loud enough, set it to OFF, or the unit may not start recording.
- 4 Set MIC SENS to select the sensitivity of the microphone:
H (high) to record at meetings or in a quiet and/or spacious place.
L (low) to record for dictation or in a noisy place.
- 5 Press ● REC. The ► PLAY button will be depressed together.
Recording starts. While the tape runs, the REC/BATT lamp lights and flashes depending on the strength of the sound.

To	Press or slide
Stop recording	■ STOP
Start recording during playback	● REC during playback (the unit becomes in the recording mode)
Review the portion just recorded	Press and hold ◀◀ REW/REVIEW during recording. Release the button at the point to start playback.
Pause recording	Slide PAUSE — in the direction of the arrow.
Take out a cassette	■ STOP and open the lid with your finger (see Fig. B-c)

Notes

- Do not use a CrO₂ (TYPE II) or metal (TYPE IV) tape for recording; otherwise the sound may be distorted when you play back the tape, or the previous recording may not be erase completely.
- Be careful not to press the microphones forcibly. Otherwise, the microphones will be damaged and cause noise.
- The SPEED CONTROL switch works in the playback mode only. Recording will be made independent of this control.

Notes on VOR (Voice Operated Recording)

- The VOR system depends on the environmental conditions. If you cannot get the desired results even though you adjust MIC SENS, set VOR to OFF.
- When you use the system in a noisy place, the unit will stay in the recording mode. If the sound is too soft, on the contrary, the unit will not start recording. Set MIC SENS to H (high) or L (low) depending on the conditions to pick up necessary sound only.

To monitor the sound

Connect the headphones (supplied) to Ω.

To prevent a tape from being accidentally recorded over (see Fig. B-d)

Break out and remove the cassette tabs. To reuse the tape for recording, cover the tab hole with adhesive tape.

Recording from Various Sound Sources (see Fig. C)

Recording with an External Microphone

Connect a stereo microphone with stereo mini plug to MIC. Use a microphone of low impedance (less than 3 kilohms). When an external microphone is connected to MIC firmly, the built-in stereo microphones are automatically disconnected. When using a plug-in-power system microphone, the power to the microphone is supplied from this unit.

Note

When recording with an external microphone, check the sensitivity of the microphone, since the VOR system may not work properly because of the difference in sensitivity.

Recording from Another Equipment

Connect another equipment to MIC using a connecting cord (not supplied).

Playing a Tape (see Fig. D)

- 1 Insert a cassette with the side to start playing facing the lid.
- 2 Press ► PLAY.
- 3 Adjust the volume.

To	Press or slide
Stop playback/stop fast forward or rewind*	■ STOP
Pause playback	Slide PAUSE — in the direction of the arrow.
Fast forward	►► FF/CUE during stop
Rewind	◀◀ REW/REVIEW during stop
Search forward during playback (CUE)	Press and hold ►► FF/CUE and release it at the point you want.
Search backward during playback (REVIEW)	Press and hold ◀◀ REW/REVIEW and release it at the point you want.

- * If you leave the unit after the tape has been wound or rewound, the batteries will be consumed rapidly. Be sure to depress ■ STOP.

How to adjust the tape playback speed

Use the SPEED CONTROL.

S (slow): to play back a tape slower

Center position: to play back a tape at normal speed

F (fast): to play back a tape faster

How to equalize the sound

Set the PB EQ switch depending on the playback tape.

Tape	PB EQ switch
Normal tape (TYPE I)	NORMAL
CrO ₂ , (TYPE II) or metal tape (TYPE IV)	CrO ₂ /METAL

Precautions

On power

- Operate the unit only on 3 V DC.
For AC operation, use the AC power adaptor recommended for the unit. Do not use any other type.
For battery operation, use two R6 (size AA) batteries.
- The nameplate indicating operating voltage, etc. is located on the bottom of the unit.

On the unit

- Do not leave the unit in a location near heat sources, or in a place subject to direct sunlight, excessive dust or mechanical shock.
- Should any solid object or liquid fall into the unit, remove the batteries or disconnect the AC power adaptor, and have the unit checked by qualified personnel before operating it any further.
- Keep personal credit cards using magnetic coding or spring-wound watches etc. away from the unit to prevent possible damage from the magnet used for the speaker.
- When you do not use the unit for long, remove the batteries to avoid damage caused by battery leakage and subsequent corrosion.
- If the unit has not been used for long, set it in the playback mode and warm it up for a few minutes before inserting a tape.

On tape longer than 90 minutes

We do not recommend the use of tapes longer than 90 minutes.

If you have any questions or problems concerning your unit, please consult your nearest Sony dealer.

Maintenance (see Fig. E)

To clean the tape heads and path

Depress ● REC while pushing the lever.
Wipe the erase head ①, record/playback head ②, capstan ③ and the pinch roller ④ with a cotton swab, moistened with alcohol every 10 hours of use.

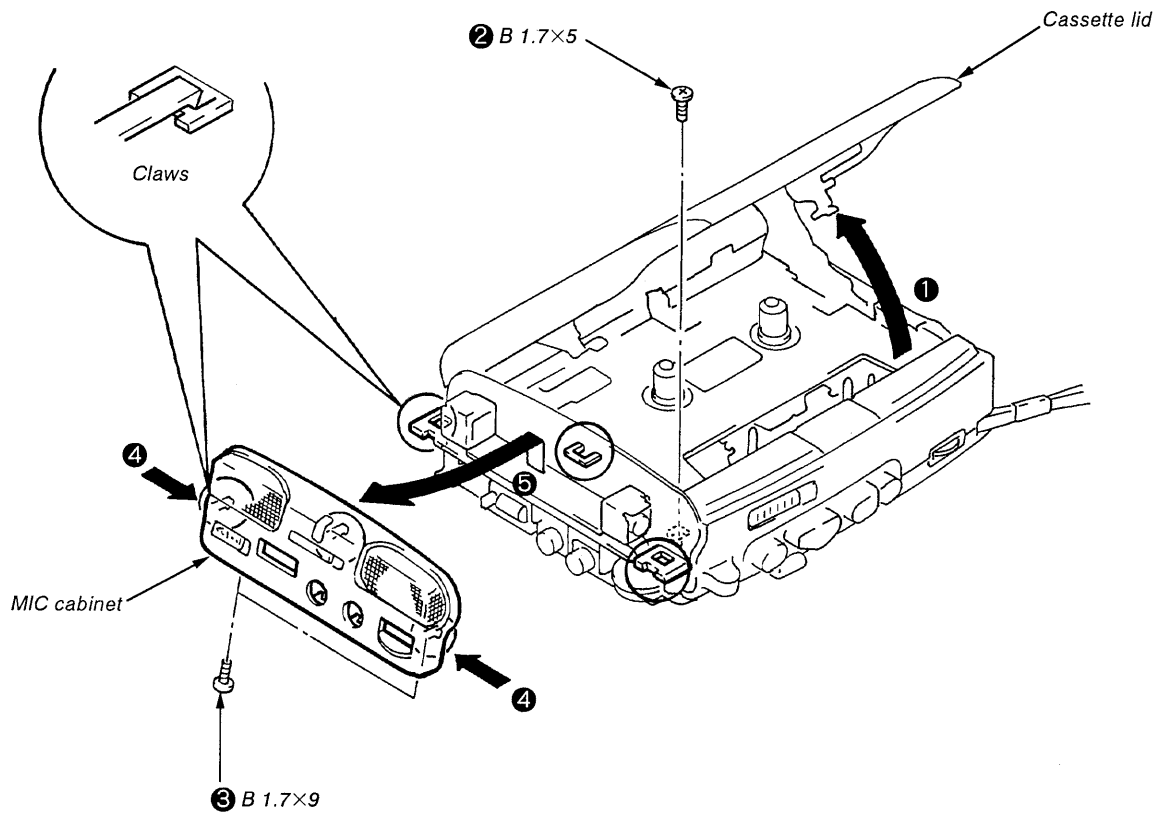
To clean the exterior

Use a soft cloth slightly moistened in water. Do not use alcohol, benzine or thinner.

SECTION 2 DISASSEMBLY

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

2-1. MIC CABINET



SECTION 3 ADJUSTMENTS

3-1. MECHANICAL ADJUSTMENTS

PRECAUTION

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

record/playback head	pinch roller
erase head	rubber belts
capstan	idlers
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. After the adjustments, apply suitable locking compound to the parts adjusted.
5. The adjustments should be performed with the rated power supply voltage unless otherwise noted.
6. Power supply voltage : 3V dc.

Torque Measurement

Torque	Meter Reading	Torque Meter
Forward	26 – 42g•cm (0.37 – 0.58oz•inch)	CQ-102C
Fast Forward and Rewind	more than 60g•cm (0.84oz•inch)	CQ-201B
Back Tension	2 – 4.5g•cm (0.028 – 0.062oz•inch)	CQ-102C

Tape Tension Measurement

Meter	Meter Reading
CQ-403A	more than 60g (2.12oz)

3-2. ELECTRICAL ADJUSTMENTS

TAPE RECORDER SECTION

• Test Tape

Type	Signal	Used for
WS-48A	3kHz, 0dB	tape speed adjustment
P-4-A063	6.3kHz, – 10dB	head azimuth adjustment

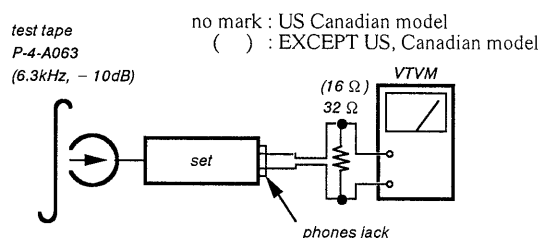
Setting :

VOLUME Control (RV301) : – 10dB
 SPEED Control (RV602) : mechanical center
 PAUSE (S601) : OFF
 MIC Sense (S303) : H
 VOR (S501) : OFF
 PB EQ (S302) : normal

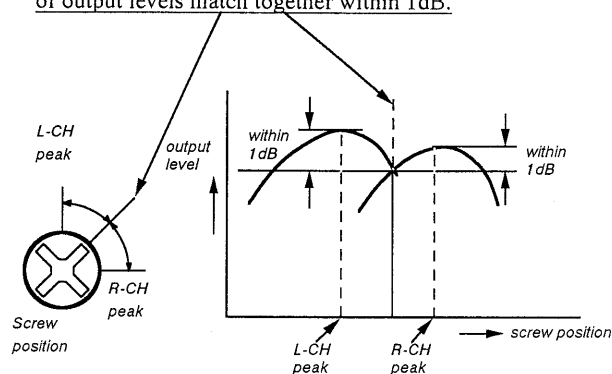
Record/Playback Head Azimuth Adjustment

Procedure :

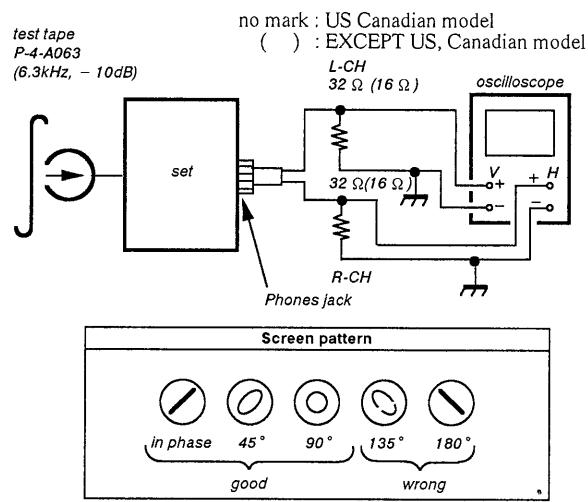
1. Playback Mode



2. Turn the adjustment screw for the maximum output levels. If these levels do not match, turn the adjustment screw until both of output levels match together within 1dB.

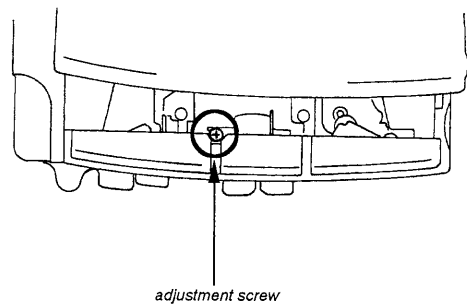


3. Playback Mode



4. After the adjustment, lock the adjustment screws with suitable locking compound.

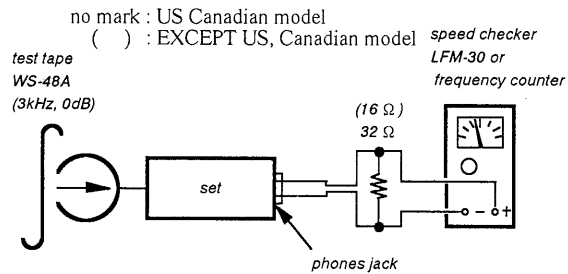
Adjustment Location : — record/playback head —



Tape Speed Adjustment

Procedure :

Mode : playback

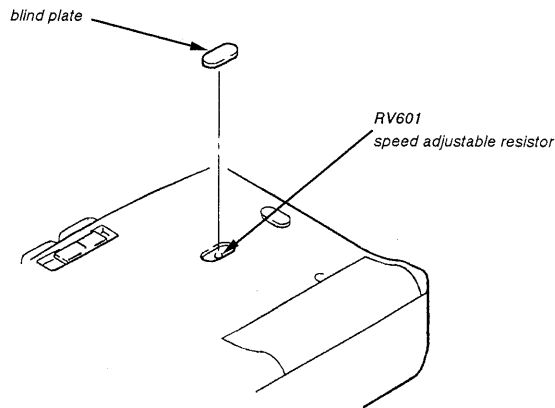


Adjustment Value :

Speed checker	Frequency counter
± 1%	2,970 — 3,030Hz

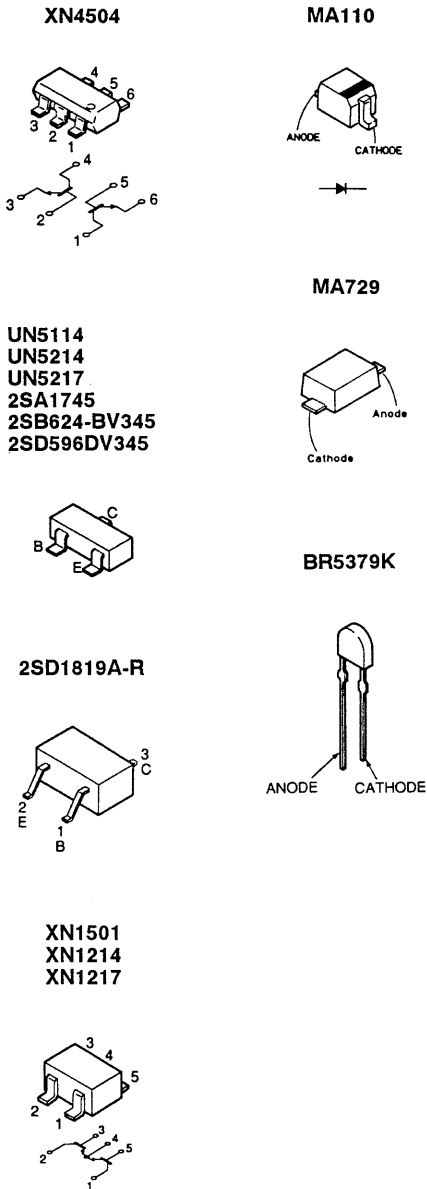
Frequency difference between the beginning and the end of the tape should be within 1% (30Hz).

Adjustment Location :



SECTION 4
DIAGRAMS

● SEMICONDUCTOR LEAD LAYOUTS



● SEMICONDUCTOR LOCATION

Ref. No.	Location	Ref. No.	Location
D303	D - 9	Q305	B - 8
D304	B - 12	Q306	E - 3
D601	E - 10	Q307	E - 3
D602	F - 9	Q308	D - 3
		Q309	D - 4
IC301	E - 8	Q502	D - 10
IC302	D - 8	Q503	E - 2
IC303	C - 3	Q601	G - 9
IC501	E - 10	Q602	D - 10
IC601	G - 8	Q603	H - 2
IC602	E - 10	Q604	H - 3
		Q606	E - 10
Q101	E - 3	Q607	F - 2
Q102	E - 3	Q608	F - 9
Q201	F - 4	Q609	E - 2
Q202	E - 4		
Q301	C - 3	Q610	E - 2
		Q611	F - 2
		Q612	F - 9
Q302	C - 10	Q613	D - 10
Q303	D - 8	Q614	E - 10
Q304	B - 4		

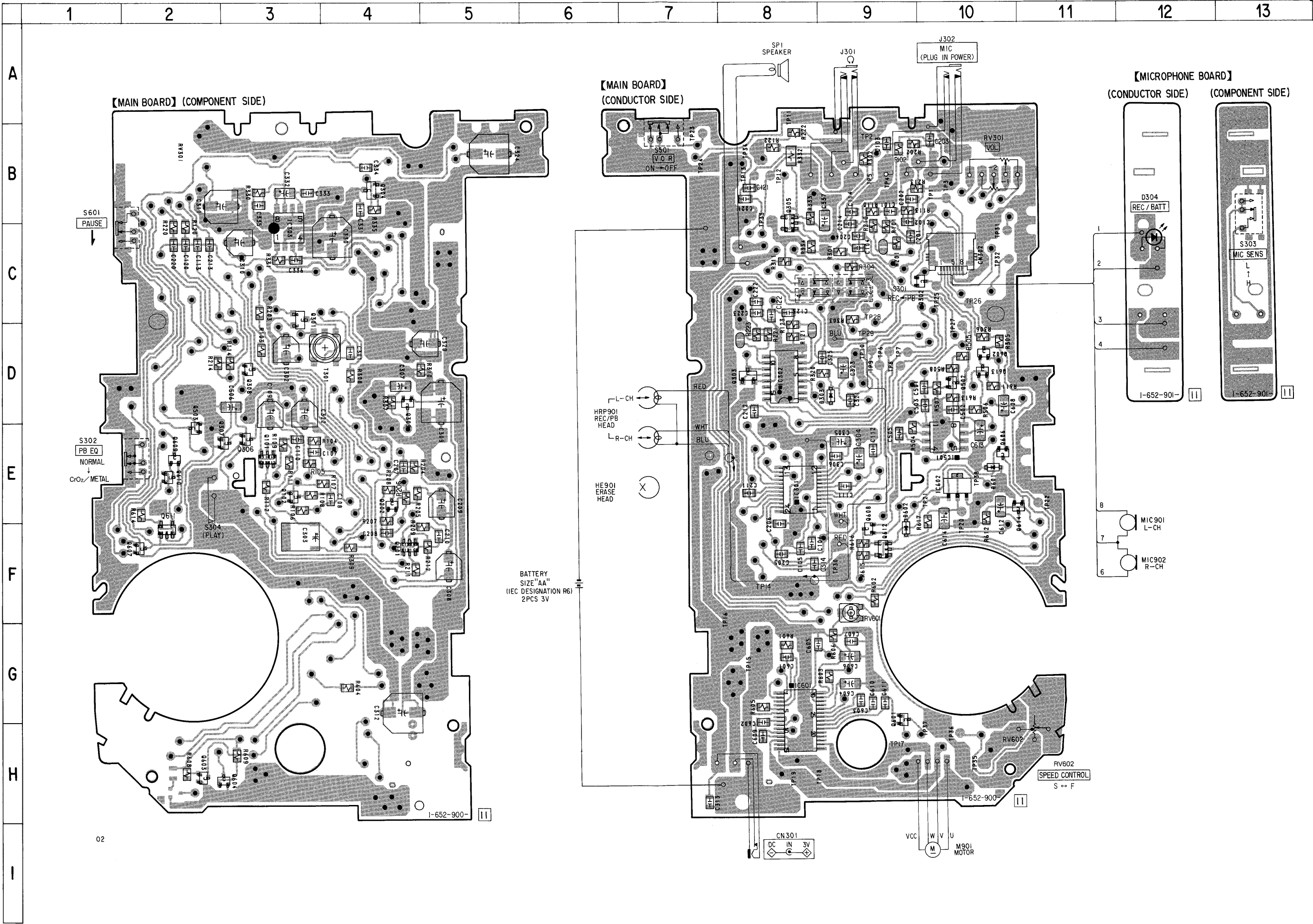
Note:

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

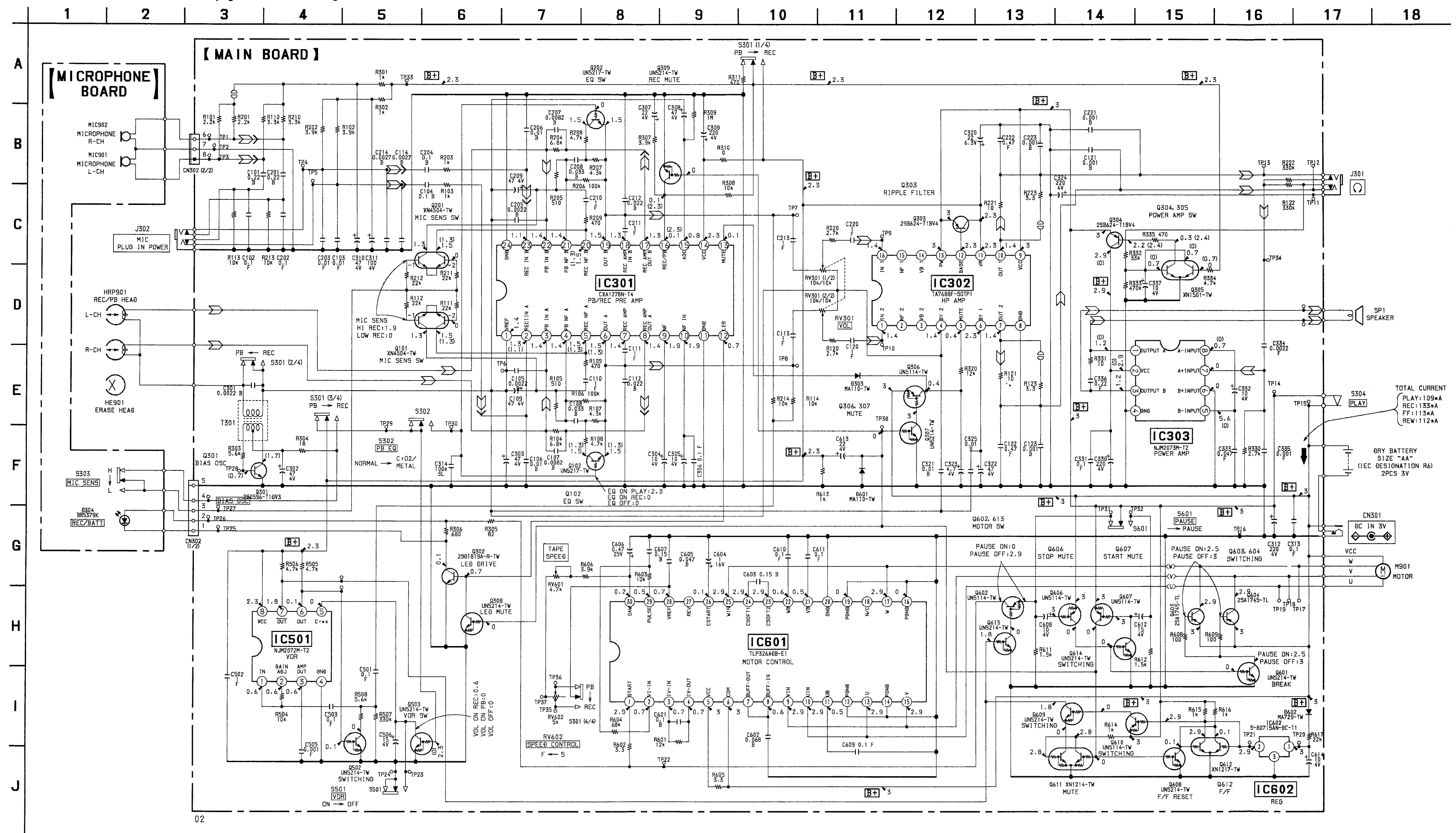
Caution :

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

4-1. PRINTED WIRING BOARDS



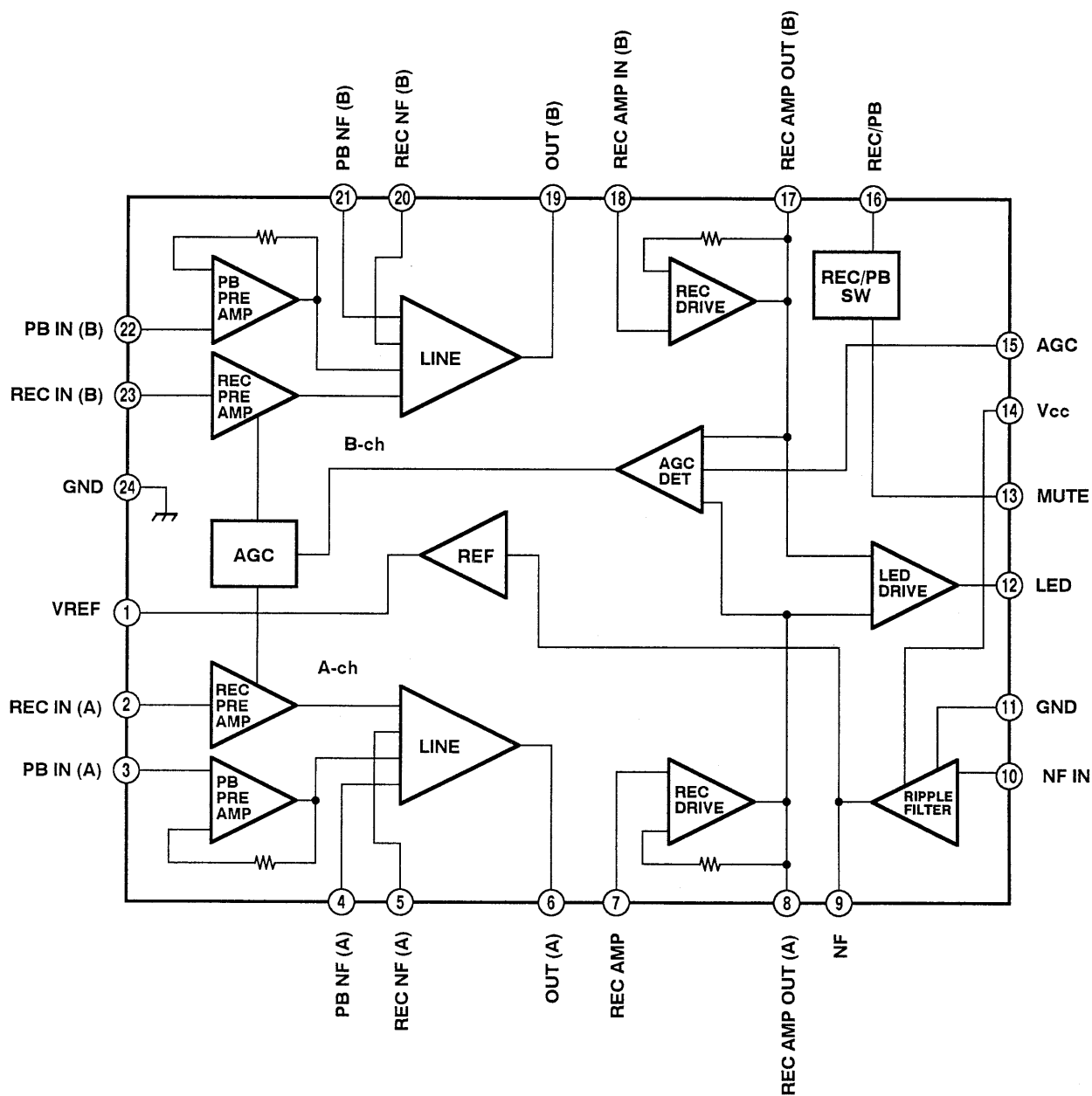
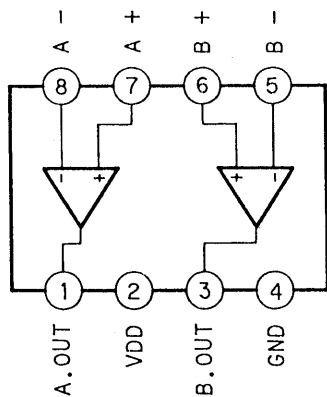
4-2. SCHEMATIC DIAGRAM • Refer to page 14 for IC Block Diagrams.



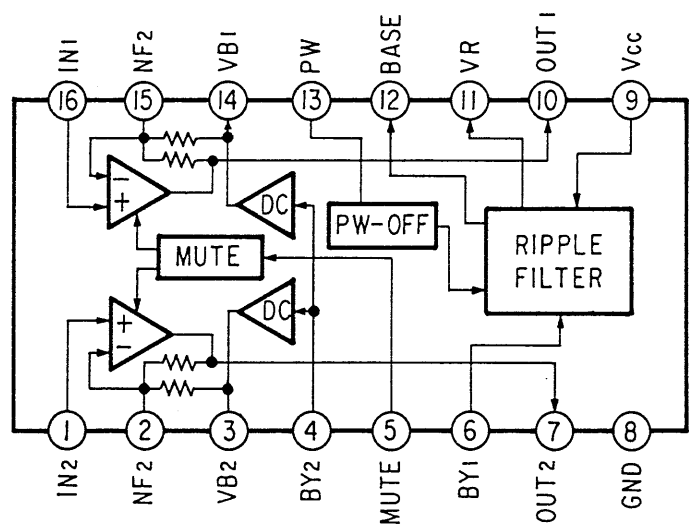
Note :

- All capacitors are in μ F unless otherwise noted. pF: μ μ F 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/10W or less unless otherwise specified.
- **B+** : B+ Line
- : adjustment for repair.
- Voltage and waveforms are dc with respect to ground under no-signal conditions.
- no mark : PLAY
- () : REC
- Voltages are taken with a VOM (Input impedance 10M Ω). Voltage variations may be noted due to normal production tolerances.
- Signal path.
- : PB
- : REC

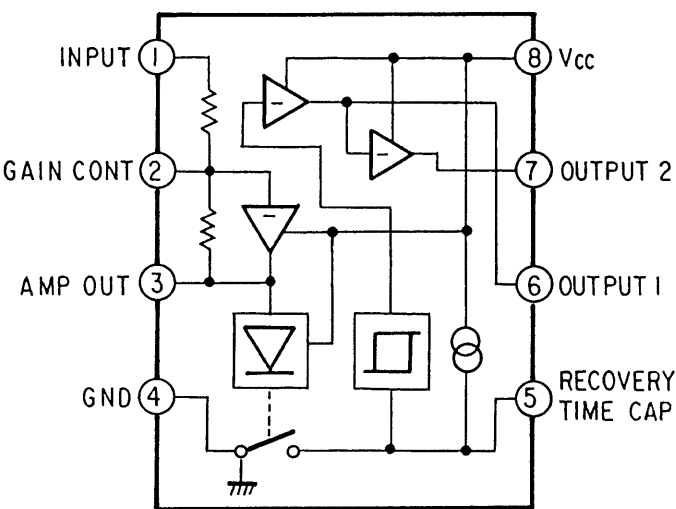
● IC BLOCK DIAGRAMS

IC301 CXA1278N**IC303 NJM2073M**

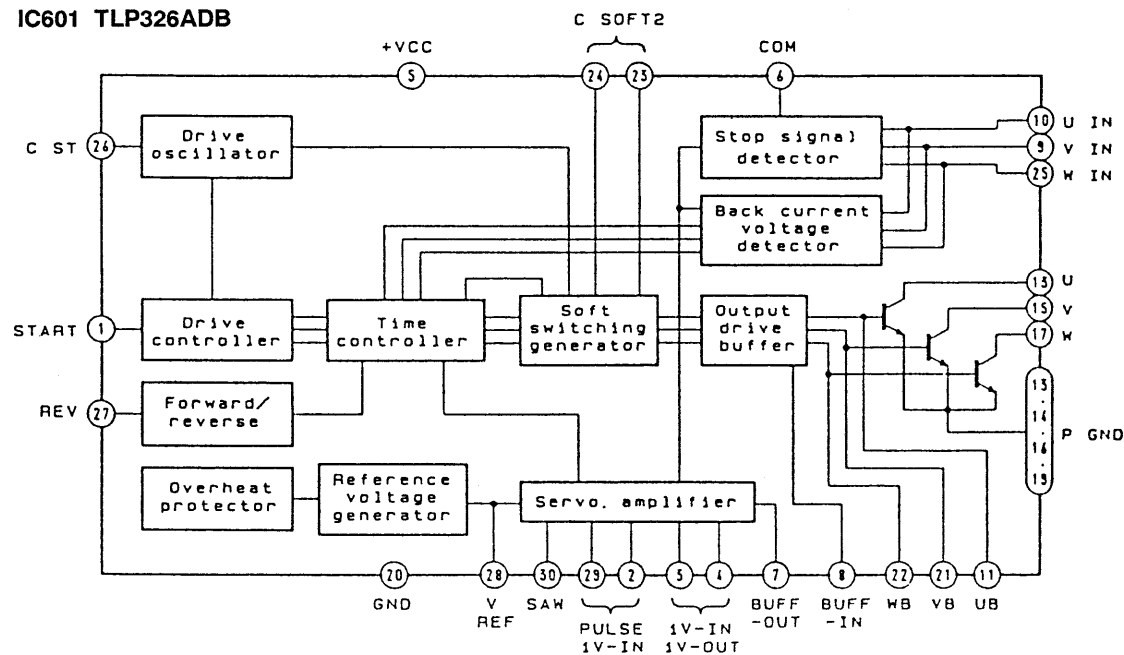
IC302 TA7688F



IC501 NJM2072M



IC601 TLP326ADB

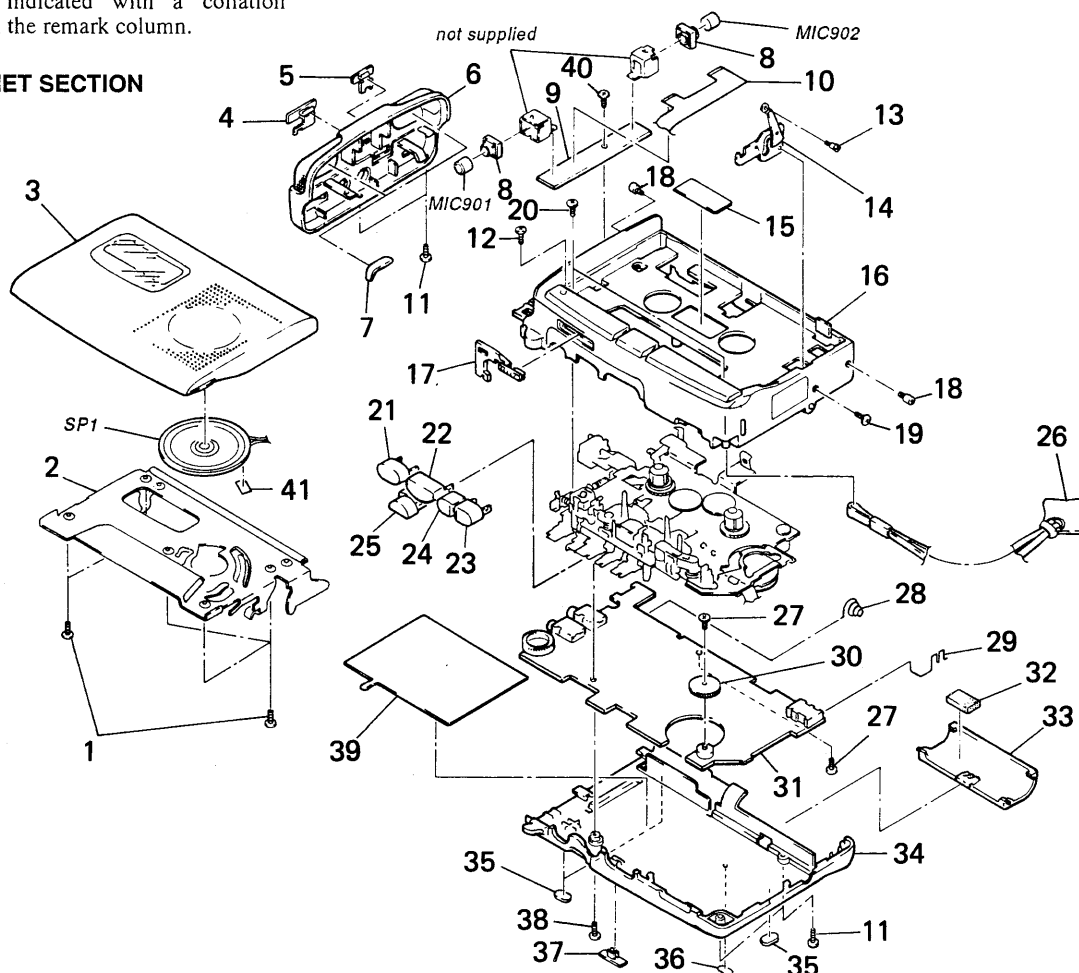


SECTION 5 EXPLODED VIEWS

NOTE :

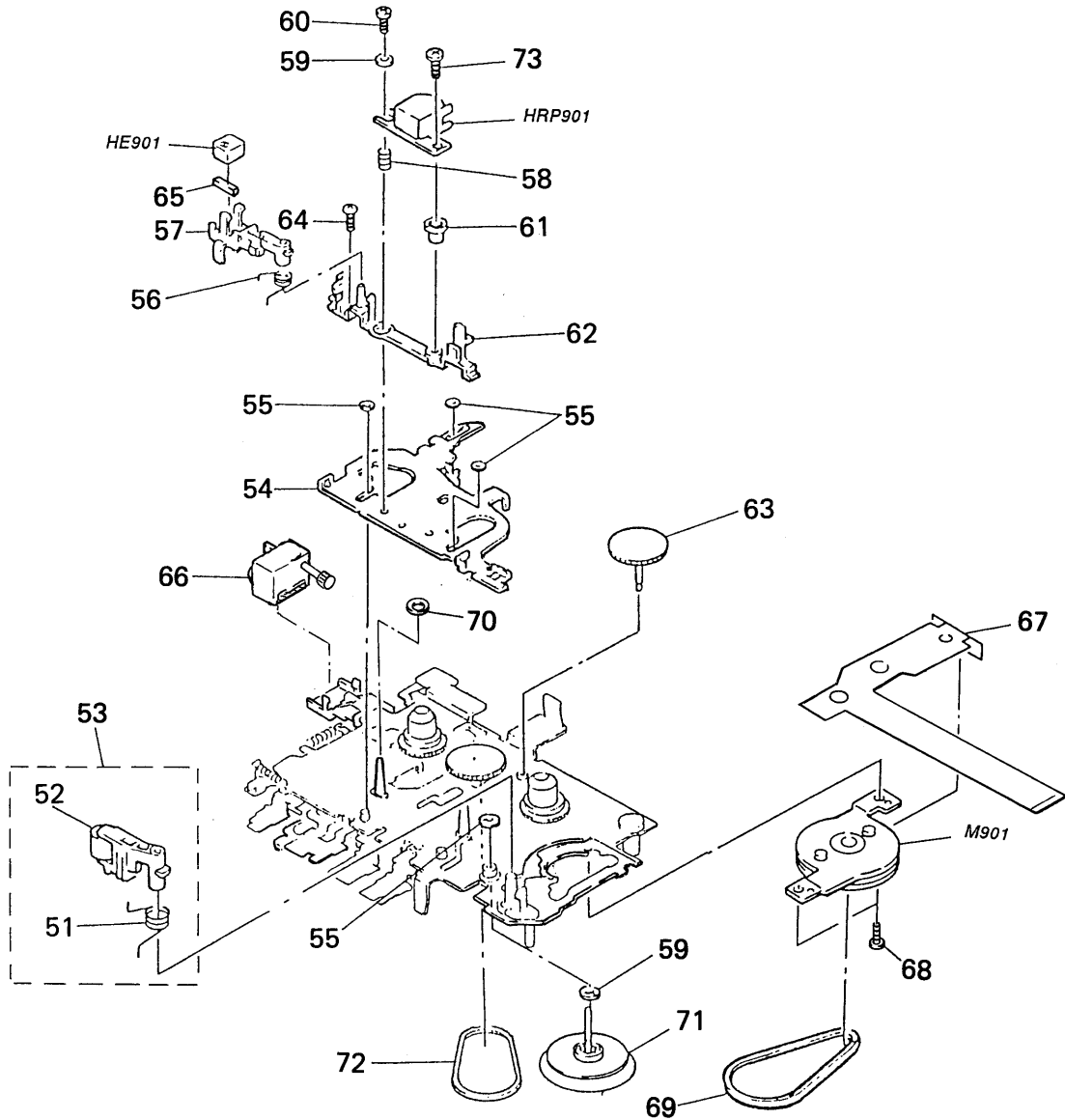
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.

5-1. CABINET SECTION



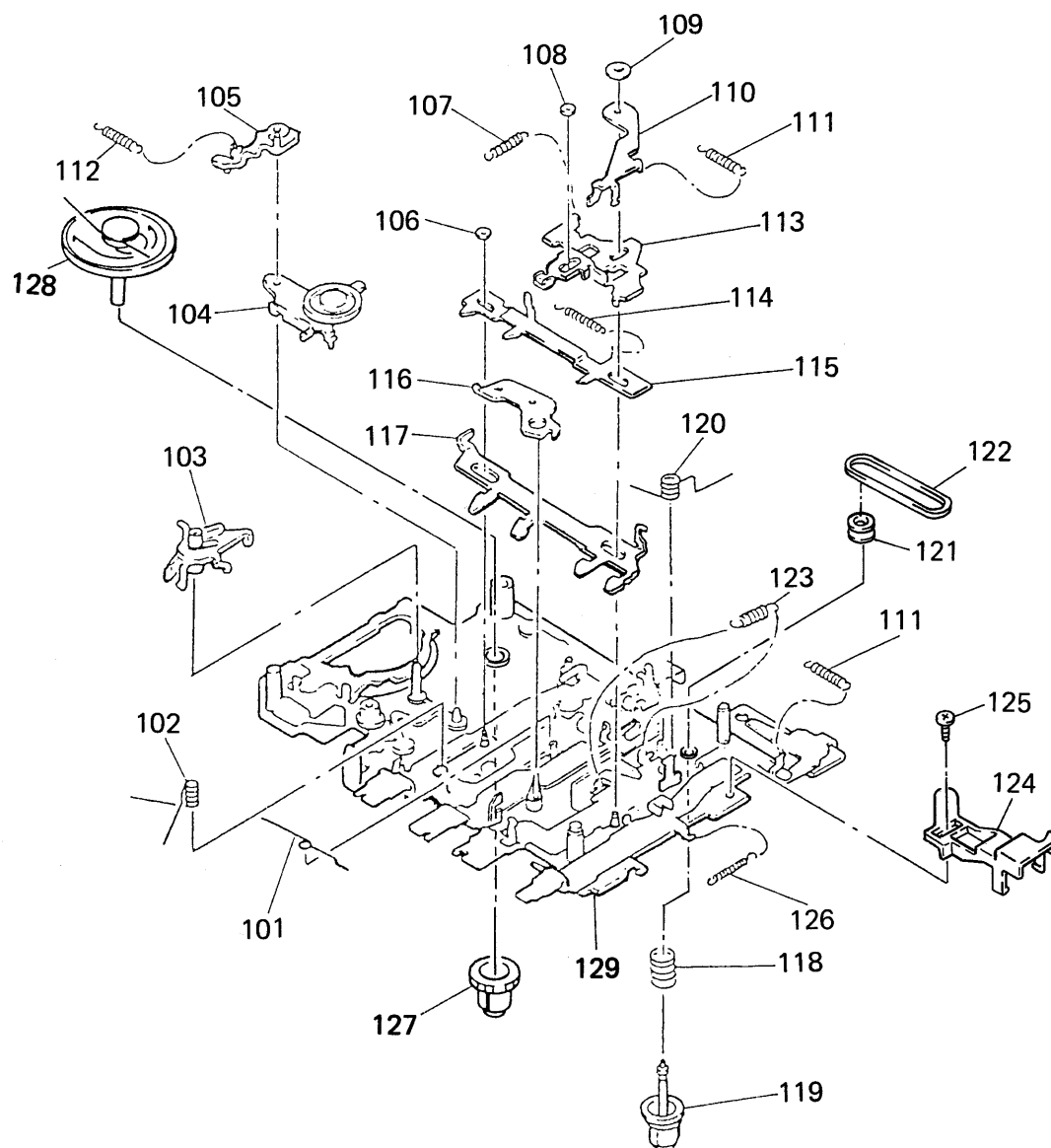
Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
1	3-318-382-41	SCREW (1.7X3.7), TAPPING		23	3-907-540-01	BUTTON (FF)	
* 2	3-913-193-01	HOLDER, CASSETTE		24	3-907-541-01	BUTTON (REW)	
3	X-3368-508-1	LID SUB ASSY, CASSETTE		25	3-907-542-01	BUTTON (STOP)	
4	3-913-192-01	KNOB (MICROPHONE SENSITIVITY)		26	3-914-327-01	STRAP, STAND	
5	3-913-205-01	KNOB (VOR)		27	3-345-648-03	SCREW (M1.4X4.0), TOOTHED LOCK	
6	X-3368-501-1	CABINET ASSY, MIC		28	3-907-524-01	SPRING, BATTERY COIL	
7	3-913-199-01	SPACER (WINDOW SCREEN)		29	3-917-218-01	TERMINAL BOARD, PLUS	
8	3-913-203-01	CUSHION (MICROPHONE)		30	3-376-713-11	KNOB (SPEED CONTROL)	
* 9	1-652-901-11	MICROPHONE BOARD		* 31	A-3016-589-A	MAIN BOARD, COMPLETE	
* 10	1-652-947-11	MICROPHONE FLEXIBLE BOARD		32	3-917-703-01	CUSHION	
11	3-318-203-92	SCREW (B1.7X9), TAPPING		33	3-913-207-01	LID, BATTERY CASE	
12	3-318-203-71	SCREW (B1.7X5), TAPPING		34	3-913-208-11	CABINET (REAR)	
13	3-311-772-11	SHAFT (A), STOPPER		35	3-349-258-11	PLATE, BLIND	
14	X-3363-570-1	TOGGLE ASSY		36	3-349-258-01	PLATE, BLIND	
15	3-371-862-01	PLATE, ORNAMENTAL		37	3-913-202-01	KNOB (EQ)	
16	3-913-200-11	CABINET (FRONT)		38	3-704-245-82	SCREW (1.4X5.0)	
17	3-913-201-01	KNOB (PAUSE)		39	3-915-925-01	PAPER, SHIELD	
18	3-315-989-11	SCREW, ORNAMENTAL		40	3-342-512-11	SCREW (B1.7X3), TAPPING	
19	3-704-197-32	SCREW (M1.4X3.0)		41	3-831-441-XX	SPACER, KNOB	
20	3-704-245-42	SCREW (P1.4X3.0)		MIC901	1-542-240-11	MICROPHONE, ELECTRET CONDENSER (L-CH)	
21	3-907-539-01	BUTTON (REC)		MIC902	1-542-240-11	MICROPHONE, ELECTRET CONDENSER (R-CH)	
22	3-907-543-01	BUTTON (PLAY)		SP1	1-544-657-12	SPEAKER (3.6CM)	

5-2. MECHANISM DECK SECTION-1 (MT-580-101)



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
51	3-907-945-01	SPRING (PINCH LEVER), TORSION		64	3-704-197-91	SCREW (M1. 4X1.8), LOCKING	
52	X-3363-573-1	PINCH ROLLER ASSY		65	3-385-317-11	CUSHION (E HEAD)	
53	X-3368-041-1	PINCH ROLLER ASSY		66	1-548-582-11	COUNTER, TAPE (SMALL TYPE)	
* 54	3-371-838-01	LEVER (HEAD)		67	1-649-600-11	MOTOR FLEXIBLE BOARD	
55	3-321-483-11	RING, RETAINING		68	3-704-245-42	SCREW (P1. 4X3. 0)	
56	3-371-873-01	SPRING (E HEAD), TORSION		69	3-371-868-01	BELT (FR)	
57	3-371-851-01	BRACKET (E HEAD)		70	3-914-418-01	SPACER	
58	3-371-882-01	SPRING (AZIMUTH), COMPRESSION		71	X-3367-493-1	WHEEL ASSY (ZND), CAPSTAN	
59	3-701-437-41	WASHER		72	3-907-943-01	BELT (CAPSTAN)	
60	3-375-135-01	SCREW (1. 4), SPECIAL		73	3-376-177-01	SCREW (M1. 4X3. 8)	
61	3-375-045-01	COLLAR (HEAD)		HE901	8-658-096-02	HEAD, ERASE EBF5-36 (ERASE)	
62	3-371-839-01	BRACKET (HEAD)		HRP901	1-500-126-11	HEAD, MAGNETIC (RECORD/PLAYBACK)	
63	3-371-854-01	GEAR (FF)		M901	1-698-220-11	MOTOR, DC	

5-3. MECHANISM DECK SECTION-2
(MT-580-101)



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
101	3-371-871-01	SPRING (IDLER), TORSION		* 116	3-371-858-01	LEVER, CR	
102	3-371-872-01	SPRING (FR), TORSION		* 117	3-371-856-01	PLATE, LOCK	
* 103	3-371-863-01	LEVER (DETECTION)		118	3-908-734-01	SPRING (B.T), COMPRESSION	
104	X-3363-568-1	LEVER ASSY, IDLER		119	3-371-866-01	GEAR (S REEL)	
* 105	3-371-864-01	LEVER (SHUT OFF)		120	3-907-942-01	SPRING (PLAY LEVER), TORSION	
106	3-321-813-21	WASHER, COTTER POLYETHYLENE		121	3-907-519-01	PULLEY (S REEL)	
107	3-907-947-01	SPRING (STOP LEVER), TENSION		122	3-916-942-01	BELT, COUNTER	
108	3-371-883-01	WASHER (STOP LEVER)		123	3-907-944-01	SPRING (POWER TENSION), TENSION	
109	3-371-884-01	WASHER (P-S-R)		* 124	3-913-209-01	HOLDER (COUNTER)	
* 110	3-907-520-01	LEVER (PAUSE RELEASE)		125	3-704-245-42	SCREW (P1.4X3.0)	
111	3-911-371-01	SPRING, TENSION		126	3-371-878-01	SPRING (REC LEVER), TENSION	
112	3-371-877-01	SPRING (SHUT-OFF LEVER), TENSION		127	3-371-865-01	GEAR (T REEL)	
* 113	3-907-521-01	LEVER (STOP)		128	X-3363-576-1	TABLE ASSY, FELT	
114	3-371-875-01	SPRING (LOCK PLATE), TENSION		* 129	X-3367-494-7	CHASSIS ASSY	
* 115	3-371-857-01	LEVER (SW)					

SECTION 6 ELECTRICAL PARTS LIST

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 : 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

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

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
*	A-3016-589-A	MAIN BOARD, COMPLETE *****		C210	1-164-346-11	CERAMIC CHIP 1uF	16V
	3-376-713-11	KNOB (SPEED CONTROL)		C211	1-164-346-11	CERAMIC CHIP 1uF	16V
	< CAPACITOR >			C212	1-163-037-11	CERAMIC CHIP 0.022uF	10% 25V
C101	1-164-489-11	CERAMIC CHIP 0.22uF	10% 16V	C213	1-164-346-11	CERAMIC CHIP 1uF	16V
C102	1-163-038-00	CERAMIC CHIP 0.1uF	25V	C214	1-163-014-00	CERAMIC CHIP 0.0027uF	10% 50V
C103	1-163-031-11	CERAMIC CHIP 0.01uF	50V	C220	1-164-346-11	CERAMIC CHIP 1uF	16V
C104	1-164-004-11	CERAMIC CHIP 0.1uF	10% 25V	C221	1-163-009-11	CERAMIC CHIP 0.001uF	10% 50V
C105	1-164-161-11	CERAMIC CHIP 0.0022uF	10% 100V	C221	1-164-182-11	CERAMIC CHIP 0.0033uF	10% 50V
C106	1-164-232-11	CERAMIC CHIP 0.01uF	50V	C222	1-164-005-11	CERAMIC CHIP 0.47uF	25V
C107	1-163-020-00	CERAMIC CHIP 0.0082uF	10% 50V	C223	1-163-009-11	CERAMIC CHIP 0.001uF	10% 50V
C108	1-163-989-11	CERAMIC CHIP 0.033uF	10% 25V	C301	1-164-695-11	CERAMIC CHIP 0.0022uF	5% 50V
C109	1-126-607-11	ELECT CHIP 47uF	20% 4V	C302	1-126-607-11	ELECT CHIP 47uF	20% 4V
C110	1-164-346-11	CERAMIC CHIP 1uF	16V	C303	1-128-017-21	ELECT CHIP 47uF	0 4V
C111	1-164-346-11	CERAMIC CHIP 1uF	16V	C304	1-135-201-11	TANTALUM CHIP 10uF	20% 4V
C112	1-163-037-11	CERAMIC CHIP 0.022uF	10% 25V	C305	1-135-201-11	TANTALUM CHIP 10uF	20% 4V
C113	1-164-346-11	CERAMIC CHIP 1uF	16V	C306	1-163-038-00	CERAMIC CHIP 0.1uF	25V
C114	1-163-014-00	CERAMIC CHIP 0.0027uF	10% 50V	C307	1-104-847-11	TANTAL. CHIP 22uF	20% 4V
C120	1-164-346-11	CERAMIC CHIP 1uF	16V	C308	1-126-607-11	ELECT CHIP 47uF	20% 4V
C121	1-163-009-11	CERAMIC CHIP 0.001uF	10% 50V	C309	1-126-246-11	ELECT CHIP 220uF	20% 4V
C121	1-164-182-11	CERAMIC CHIP 0.0033uF	10% 50V	C310	1-126-607-11	ELECT CHIP 47uF	20% 4V
C122	1-164-005-11	CERAMIC CHIP 0.47uF	25V	C311	1-126-209-11	ELECT 100uF	20% 4V
C123	1-163-009-11	CERAMIC CHIP 0.001uF	10% 50V	C312	1-126-246-11	ELECT CHIP 220uF	20% 4V
C201	1-164-489-11	CERAMIC CHIP 0.22uF	10% 16V	C313	1-163-038-00	CERAMIC CHIP 0.1uF	25V
C202	1-163-038-00	CERAMIC CHIP 0.1uF	25V	C314	1-163-117-00	CERAMIC CHIP 100PF	5% 50V
C203	1-163-031-11	CERAMIC CHIP 0.01uF	50V	C320	1-124-778-00	ELECT CHIP 22uF	20% 6.3V
C204	1-164-004-11	CERAMIC CHIP 0.1uF	10% 25V	C321	1-164-232-11	CERAMIC CHIP 0.01uF	50V
C205	1-164-161-11	CERAMIC CHIP 0.0022uF	10% 100V	C322	1-126-607-11	ELECT CHIP 47uF	20% 4V
C206	1-164-232-11	CERAMIC CHIP 0.01uF	50V	C323	1-135-151-21	TANTALUM CHIP 4.7uF	20% 4V
C207	1-163-020-00	CERAMIC CHIP 0.0082uF	10% 50V	C324	1-126-246-11	ELECT CHIP 220uF	20% 4V
C208	1-163-989-11	CERAMIC CHIP 0.033uF	10% 25V	C325	1-164-232-11	CERAMIC CHIP 0.01uF	50V
C209	1-126-607-11	ELECT CHIP 47uF	20% 4V	C330	1-126-246-11	ELECT CHIP 220uF	20% 4V
				C331	1-163-038-00	CERAMIC CHIP 0.1uF	25V
				C332	1-135-201-11	TANTALUM CHIP 10uF	20% 4V
				C333	1-163-035-00	CERAMIC CHIP 0.047uF	50V

MAIN

Ref. No.	Part No.	Description	Remark
C334	1-164-161-11	CERAMIC CHIP 0.0022uF	10% 100V
C335	1-163-025-11	CERAMIC CHIP 0.001uF	50V
C336	1-164-222-11	CERAMIC CHIP 0.22uF	25V
C337	1-135-201-11	TANTALUM CHIP 10uF	20% 4V
C501	1-163-038-00	CERAMIC CHIP 0.1uF	25V
C502	1-164-346-11	CERAMIC CHIP 1uF	16V
C503	1-163-038-00	CERAMIC CHIP 0.1uF	25V
C505	1-163-025-11	CERAMIC CHIP 0.001uF	50V
C506	1-135-158-21	TANTALUM CHIP 15uF	20% 4V
C601	1-164-004-11	CERAMIC CHIP 0.1uF	10% 25V
C602	1-164-344-11	CERAMIC CHIP 0.068uF	10% 25V
C603	1-164-492-11	CERAMIC CHIP 0.15uF	10% 16V
C604	1-135-091-91	TANTAL. CHIP 1uF	20% 16V
C605	1-163-809-11	CERAMIC CHIP 0.047uF	10% 25V
C606	1-135-145-11	TANTALUM CHIP 0.47uF	10% 35V
C607	1-164-492-11	CERAMIC CHIP 0.15uF	10% 16V
C608	1-135-201-11	TANTALUM CHIP 10uF	20% 4V
C609	1-163-038-00	CERAMIC CHIP 0.1uF	25V
C610	1-163-038-00	CERAMIC CHIP 0.1uF	25V
C611	1-163-038-00	CERAMIC CHIP 0.1uF	25V
C612	1-135-158-21	TANTALUM CHIP 15uF	20% 4V
C613	1-104-847-11	TANTAL. CHIP 22uF	20% 4V
C614	1-135-201-11	TANTALUM CHIP 10uF	20% 4V
< CONNECTOR >			
CN301	1-580-919-11	JACK, DC(POLARITY UNIFIED TYPE) (DC IN 3V)	
CN302	1-766-597-21	CONNECTOR, FPC (ZIF) 8P	
< DIODE >			
D303	8-719-404-46	DIODE MA110	
D601	8-719-404-46	DIODE MA110	
D602	8-719-420-51	DIODE MA729	
< IC >			
IC301	8-752-036-27	IC CXA1278N	
IC302	8-759-205-43	IC TA7688F-SO	
IC303	8-759-701-02	IC NJM2073M	
IC501	8-759-701-51	IC NJM2072M	
IC601	8-759-996-13	IC TLP326ADB	
IC602	8-759-177-44	IC S-80715AN-DC	
< JACK >			
J301	1-507-999-21	JACK(PHONES)	
J302	1-507-999-11	JACK(MIC/PLUG IN POWER)	
< TRANSISTOR >			
Q101	8-729-425-18	TRANSISTOR XN4504	
Q102	8-729-422-48	TRANSISTOR UN5217	

Ref. No.	Part No.	Description	Remark
Q201	8-729-425-18	TRANSISTOR XN4504	
Q202	8-729-422-48	TRANSISTOR UN5217	
Q301	8-729-141-75	TRANSISTOR 2SD596DV345	
Q302	8-729-402-32	TRANSISTOR 2SD1819A-R	
Q303	8-729-141-48	TRANSISTOR 2SB624-BV345	
Q304	8-729-141-48	TRANSISTOR 2SB624-BV345	
Q305	8-729-402-13	TRANSISTOR XN1501	
Q306	8-729-402-96	TRANSISTOR UN5114	
Q307	8-729-402-93	TRANSISTOR UN5214	
Q308	8-729-402-93	TRANSISTOR UN5214	
Q309	8-729-402-93	TRANSISTOR UN5214	
Q502	8-729-402-93	TRANSISTOR UN5214	
Q503	8-729-402-93	TRANSISTOR UN5214	
Q601	8-729-402-93	TRANSISTOR UN5214	
Q602	8-729-402-96	TRANSISTOR UN5114	
Q603	8-729-823-86	TRANSISTOR 2SA1745	
Q604	8-729-823-86	TRANSISTOR 2SA1745	
Q606	8-729-402-96	TRANSISTOR UN5114	
Q607	8-729-402-96	TRANSISTOR UN5114	
Q608	8-729-402-93	TRANSISTOR UN5214	
Q609	8-729-402-93	TRANSISTOR UN5214	
Q610	8-729-402-96	TRANSISTOR UN5114	
Q611	8-729-420-16	TRANSISTOR XN1214	
Q612	8-729-422-45	TRANSISTOR XN1217	
Q613	8-729-402-93	TRANSISTOR UN5214	
Q614	8-729-402-93	TRANSISTOR UN5214	
< RESISTOR >			
R101	1-216-057-00	METAL CHIP 2.2K 5%	1/10W
R102	1-216-063-00	METAL CHIP 3.9K 5%	1/10W
R103	1-216-049-00	METAL CHIP 1K 5%	1/10W
R104	1-216-069-00	METAL CHIP 6.8K 5%	1/10W
R105	1-216-042-00	METAL CHIP 510 5%	1/10W
R106	1-216-097-00	METAL CHIP 100K 5%	1/10W
R107	1-216-064-00	METAL CHIP 4.3K 5%	1/10W
R108	1-216-065-00	METAL CHIP 4.7K 5%	1/10W
R109	1-216-041-00	METAL CHIP 470 5%	1/10W
R110	1-216-061-00	METAL CHIP 3.3K 5%	1/10W
R111	1-216-081-00	METAL CHIP 22K 5%	1/10W
R112	1-216-081-00	METAL CHIP 22K 5%	1/10W
R113	1-216-073-00	METAL CHIP 10K 5%	1/10W
R114	1-216-073-00	METAL CHIP 10K 5%	1/10W
R120	1-216-059-00	METAL CHIP 2.7K 5%	1/10W
R121	1-216-001-00	METAL CHIP 10 5%	1/10W
R122	1-216-109-00	METAL CHIP 330K 5%	1/10W
R123	1-216-304-11	METAL CHIP 3.3 5%	1/10W
R201	1-216-057-00	METAL CHIP 2.2K 5%	1/10W
R202	1-216-063-00	METAL CHIP 3.9K 5%	1/10W

MAIN

MICROPHONE

MICROPHONE FLEXIBLE

Ref.No.	Part No.	Description	Remark		
R203	1-216-049-00	METAL CHIP	1K	5%	1/10W
R204	1-216-069-00	METAL CHIP	6. 8K	5%	1/10W
R205	1-216-042-00	METAL CHIP	510	5%	1/10W
R206	1-216-097-00	METAL CHIP	100K	5%	1/10W
R207	1-216-064-00	METAL CHIP	4. 3K	5%	1/10W
R208	1-216-065-00	METAL CHIP	4. 7K	5%	1/10W
R209	1-216-041-00	METAL CHIP	470	5%	1/10W
R210	1-216-061-00	METAL CHIP	3. 3K	5%	1/10W
R211	1-216-081-00	METAL CHIP	22K	5%	1/10W
R212	1-216-081-00	METAL CHIP	22K	5%	1/10W
R213	1-216-073-00	METAL CHIP	10K	5%	1/10W
R214	1-216-073-00	METAL CHIP	10K	5%	1/10W
R220	1-216-059-00	METAL CHIP	2. 7K	5%	1/10W
R221	1-216-001-00	METAL CHIP	10	5%	1/10W
R222	1-216-109-00	METAL CHIP	330K	5%	1/10W
R223	1-216-304-11	METAL CHIP	3. 3	5%	1/10W
R301	1-216-049-00	METAL CHIP	1K	5%	1/10W
R302	1-216-049-00	METAL CHIP	1K	5%	1/10W
R303	1-216-067-00	METAL CHIP	5. 6K	5%	1/10W
R304	1-216-007-00	METAL CHIP	18	5%	1/10W
R305	1-216-023-00	METAL CHIP	82	5%	1/10W
R306	1-216-045-00	METAL CHIP	680	5%	1/10W
R307	1-216-063-00	METAL CHIP	3. 9K	5%	1/10W
R308	1-216-073-00	METAL CHIP	10K	5%	1/10W
R309	1-216-121-00	METAL CHIP	1M	5%	1/10W
R310	1-216-295-00	METAL CHIP	0	5%	1/10W
R311	1-216-041-00	METAL CHIP	470	5%	1/10W
R320	1-216-075-00	METAL CHIP	12K	5%	1/10W
R330	1-216-059-00	METAL CHIP	2. 7K	5%	1/10W
R331	1-216-001-00	METAL CHIP	10	5%	1/10W
R332	1-216-234-00	METAL GLAZE	33K	5%	1/8W
R333	1-216-113-00	METAL CHIP	470K	5%	1/10W
R334	1-216-065-00	METAL CHIP	4. 7K	5%	1/10W
R335	1-216-041-00	METAL CHIP	470	5%	1/10W
R504	1-216-073-00	METAL CHIP	10K	5%	1/10W
R505	1-216-065-00	METAL CHIP	4. 7K	5%	1/10W
R506	1-216-065-00	METAL CHIP	4. 7K	5%	1/10W
R507	1-216-109-00	METAL CHIP	330K	5%	1/10W
R508	1-216-067-00	METAL CHIP	5. 6K	5%	1/10W
R601	1-216-075-00	METAL CHIP	12K	5%	1/10W
R602	1-216-304-11	METAL CHIP	3. 3	5%	1/10W
R603	1-216-073-00	METAL CHIP	10K	5%	1/10W
R604	1-216-093-00	METAL CHIP	68K	5%	1/10W
R605	1-216-304-11	METAL CHIP	3. 3	5%	1/10W
R606	1-216-063-00	METAL CHIP	3. 9K	5%	1/10W
R608	1-216-025-00	METAL CHIP	100	5%	1/10W
R609	1-216-025-00	METAL CHIP	100	5%	1/10W
R611	1-216-053-00	METAL CHIP	1. 5K	5%	1/10W
R612	1-216-053-00	METAL CHIP	1. 5K	5%	1/10W

Ref.No.	Part No.	Description	Remark		
R613	1-216-049-00	METAL CHIP	1K	5%	1/10W
R614	1-216-049-00	METAL CHIP	1K	5%	1/10W
R615	1-216-049-00	METAL CHIP	1K	5%	1/10W
R616	1-216-049-00	METAL CHIP	1K	5%	1/10W
R617	1-216-081-00	METAL CHIP	22K	5%	1/10W
< VARIABLE RESISTOR >					
RV301	1-223-510-11	RES, VAR, CARBON 10K/10K(VOL)			
RV601	1-241-593-11	RES, ADJ, METAL GRAZE 4.7K(TAPE SPEED)			
RV602	1-223-681-11	RES, VAR, CARBON 5K(SPEED CONTROL)			
< SWITCH >					
S301	1-762-081-11	SWITCH, SLIDE(PB/REC)			
S302	1-571-275-31	SWITCH, SLIDE(PB EQ)			
S304	1-572-288-11	SWITCH, PUSH(PLAY)			
S501	1-571-275-31	SWITCH, SLIDE(VOR)			
S601	1-571-275-31	SWITCH, SLIDE(PAUSE)			
< TRANSFORMER >					
T301	1-433-286-11	TRANSFORMER, BIAS OSCILLATION			

*	1-652-901-11	MICROPHONE BOARD			

	3-913-203-01	CUSHION (MICROPHONE)			
< DIODE >					
D304	8-719-048-86	LED BR5379K(REC/BATT)			
< MICROPHONE >					
MIC901	1-542-240-11	MICROPHONE, ELECTRET CONDENSER (L-CH)			
MIC902	1-542-240-11	MICROPHONE, ELECTRET CONDENSER (R-CH)			
< SWITCH >					
S303	1-571-275-31	SWITCH, SLIDE(MIC SENS)			

*	1-652-947-11	MICROPHONE FLEXIBLE BOARD			

Ref. No.	Part No.	Description	Remark
		MISCELLANEOUS	

66	1-548-582-11	COUNTER, TAPE (SMALL TYPE)	
67	1-649-600-11	MOTOR FLEXIBLE BOARD	
HE901	8-658-096-02	HEAD, ERASE EBF5-36 (ERASE)	
HRP901	1-500-126-11	HEAD, MAGNETIC (RECORD/PLAYBACK)	
M901	1-698-220-11	MOTOR, DC	
SP1	1-544-657-12	SPEAKER (3.6CM)	

		ACCESSORIES & PACKING MATERIALS	

	1-504-228-11	HEADPHONE (MDR-013) (US, Canadian)	
	3-758-849-01	MANUAL, INSTRUCTION (JAPANESE) (Tourist)	
	3-758-849-11	MANUAL, INSTRUCTION (ENGLISH/FRENCH/ SPANISH/PORTUGUESE) (EXCEPT US)	
	3-758-849-21	MANUAL, INSTRUCTION (ENGLISH) (US)	
	3-758-849-41	MANUAL, INSTRUCTION (GERMAN/DUTCH/ SWEDISH/ITALIAN) (AEP, German)	
*	3-916-440-01	INDIVIDUAL CARTON (US)	
*	3-916-441-01	INDIVIDUAL CARTON (AEP, UK, E, German, Tourist)	
*	3-916-445-01	CUSHION	
	3-916-794-01	CASE, CARRYING	
*	3-916-939-01	INDIVIDUAL CARTON (Canadian)	
	8-953-538-90	HEADPHONE MDR-E741//K SET (AEP, UK, E, German, Tourist)	
	X-3329-657-1	ATTACHMENT ASSY	