

SERVICE MANUAL

US Model
Canadian Model
AEP Model
UK Model
E Model

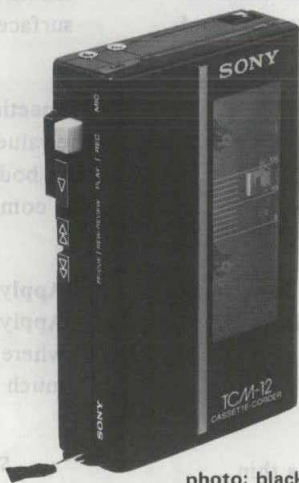


photo: black type

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SPECIFICATIONS

- Recording system 2-track 1-channel monaural
- Fast winding time Approx. 2 min. with Sony C-60 Cassette
- Frequency response 150–8,000 Hz
- Speaker Approx. 4.5 cm (1 13/16 inches) dia.
- Power output (DC) 280 mW (at 10% harmonic distortion)
- Input Microphone input jack (minijack) sensitivity 0.2 mV (–72 dB) for low impedance microphone
- Output Earphone jack (minijack) for 8–300 ohm earphone or load impedance 10 kilohms or higher
- Power requirements 3V DC
two size AA batteries (IEC designation R6)
DC IN 3V jack accepts;
• Sony EBP-500 battery case (optional) for use on two size D (IEC designation R20) batteries
• Sony AC-D2 AC power adaptor (optional)
US, Canadian model:
for use on 120V AC, 60Hz
AEP model:
for use on 220V AC, 50Hz
UK model:
for use on 240V AC, 50Hz
E model:
for use on 120V AC, 50Hz or 220V AC, 60Hz
• Sony DCC-70 car battery cord (optional) for use on 12V car battery

Battery life (hours)

Battery	Recording
Sony New Super SUM-3 (NS) or Eveready No. 1215	Approx. 2
Sony AM3 Alkaline or Eveready No. E91	Approx. 4.5

For maximum performance we recommend the use of alkaline batteries.

Tape Transport Mechanism Type	MT-12A-06
Similar Mechanism Set	TCM-2

- Dimensions Approx. 84.7 × 132 × 31.4 mm (w/h/d)
(3 3/8 × 5 1/4 × 1 1/4 inches)
not incl. projecting parts and controls
Approx. 91 × 134 × 33.4 mm (w/h/d)
(3 5/8 × 5 3/8 × 1 3/8 inches)
incl. projecting parts and controls
Approx. 290 g (10.3 oz)
incl. batteries
- Weight

FEATURES

- Simplicity of recording—merely insert a cassette and depress a single button.
- One touch review function facilitates listening to the just recorded program.
- Instant edit function—during playback, only by depressing the record button, the mode changes to the recording.



CASSETTE-CORDER
SONY®

SECTION 1 OUTLINE

1-1. SERVICING NOTES

Replacing chip components

All chip components should be connected and disconnected, using a tapered soldering iron [temperature of the iron tip: less than 280°C (536°F)], a pair of tweezers and braided wire.

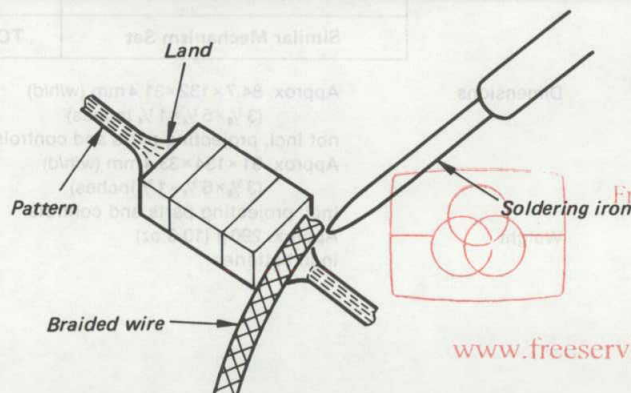
Precautions for replacement

1. Do not disconnect the chip component forcefully. Otherwise, the pattern may peel off.
2. Never re-use a disconnected chip component. Dispose of all old chip components.
3. To protect the chip component, heating time for attaching the component should be within 3 seconds.

○ Removing chip components

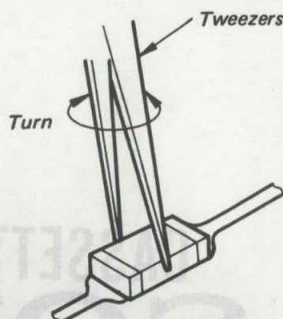
(1) Removing solder at electrode

Remove the solder at the electrode, using a thin braided wire. Do not remove the solder of the part (chip component) attached adjacent to the electrode.



(2) Disconnecting chip components

Turn the tweezers with the soldering iron alternately applied to both electrodes, and the chip component will be disconnected. Take careful precautions while disconnecting, because if the chip component is forcefully removed the land may peel off. Never re-use a disconnected chip component.



(3) Smoothing the soldered surface

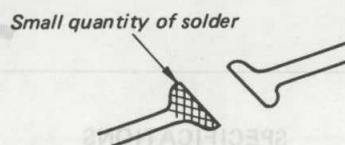
After disconnecting the chip component, remove the solder by using a braided wire to smooth the land surface.

○ Connecting chip components

The value of chip components is not displayed on the main body. Take due precautions to avoid mixing new chip components with other ones.

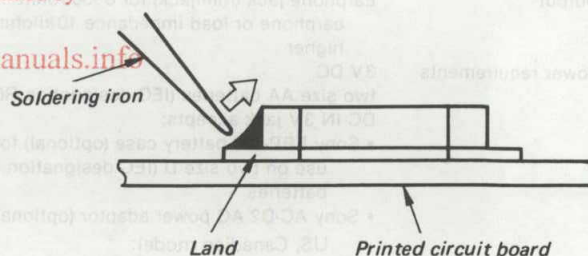
(1) Applying solder to land on one side

Apply a thin layer of solder to the land on one side where the chip component is to be connected. Too much solder may cause bridging.



(2) Speedy soldering

Hold the chip component at the desired position, using tweezers, and apply the soldering iron in the arrow-marked direction. To protect the chip component, heating time should be within 3 seconds.



(3) Speedy soldering of electrode on the other side

Solder the electrode on the other side in the same way as in (2) above.

TCM-12

TCM-12

Supplement No. 1

SERVICE MANUAL

SUPPLEMENT

File this supplement with the service manual.

Subject: Some resistors have been changed to printed resistors.

No. 1
February 1987

US Model
Canadian Model
AEP Model
UK Model
E Model

• Applicable Serial No. :

US Model: Serial No. 689,721 and later
Canadian Model: Serial No. 736,101 and later
AEP Model: Serial No. 722,101 and later
UK Model: Serial No. 758,801 and later
E Model: Serial No. 703,301 and later

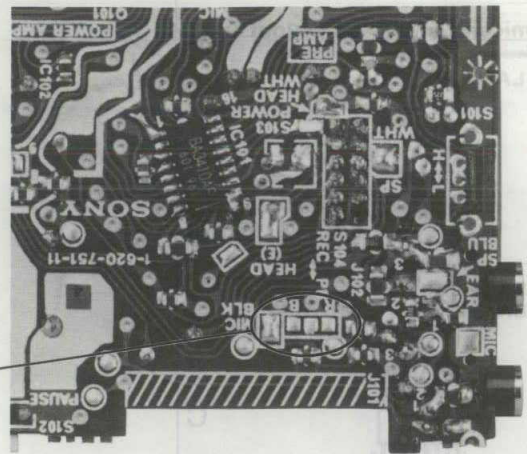
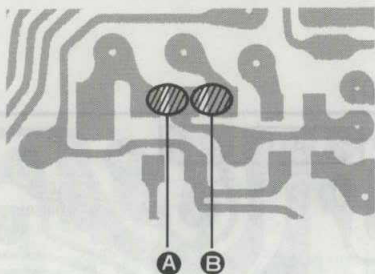
• The following parts have been changed from the first model.

	No.	Part No.	Description
page 12	14	3-320-914-01	(WHITE) ... LID, BATTERY CASE
		3-334-573-01	(BLACK) ... LID, BATTERY CASE
	SP901	1-503-751-11	SPEAKER
page 15	118	X-3313-509-1	FLYWHEEL ASSY
	163	3-318-251-01	SPRING, TENSION
page 18	SP901	1-503-751-11	SPEAKER

Microphone Sensitivity Adjustment

When replacing the microphone, perform this adjustment.

Mark of Microphone	Pattern Connection
black	A
red	B

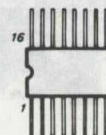


CASSETTE-CORDER
SONY

LA5523



BA3410AF
BA5208AF



2SC1623

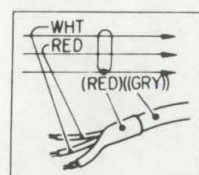


SLB-23UR27

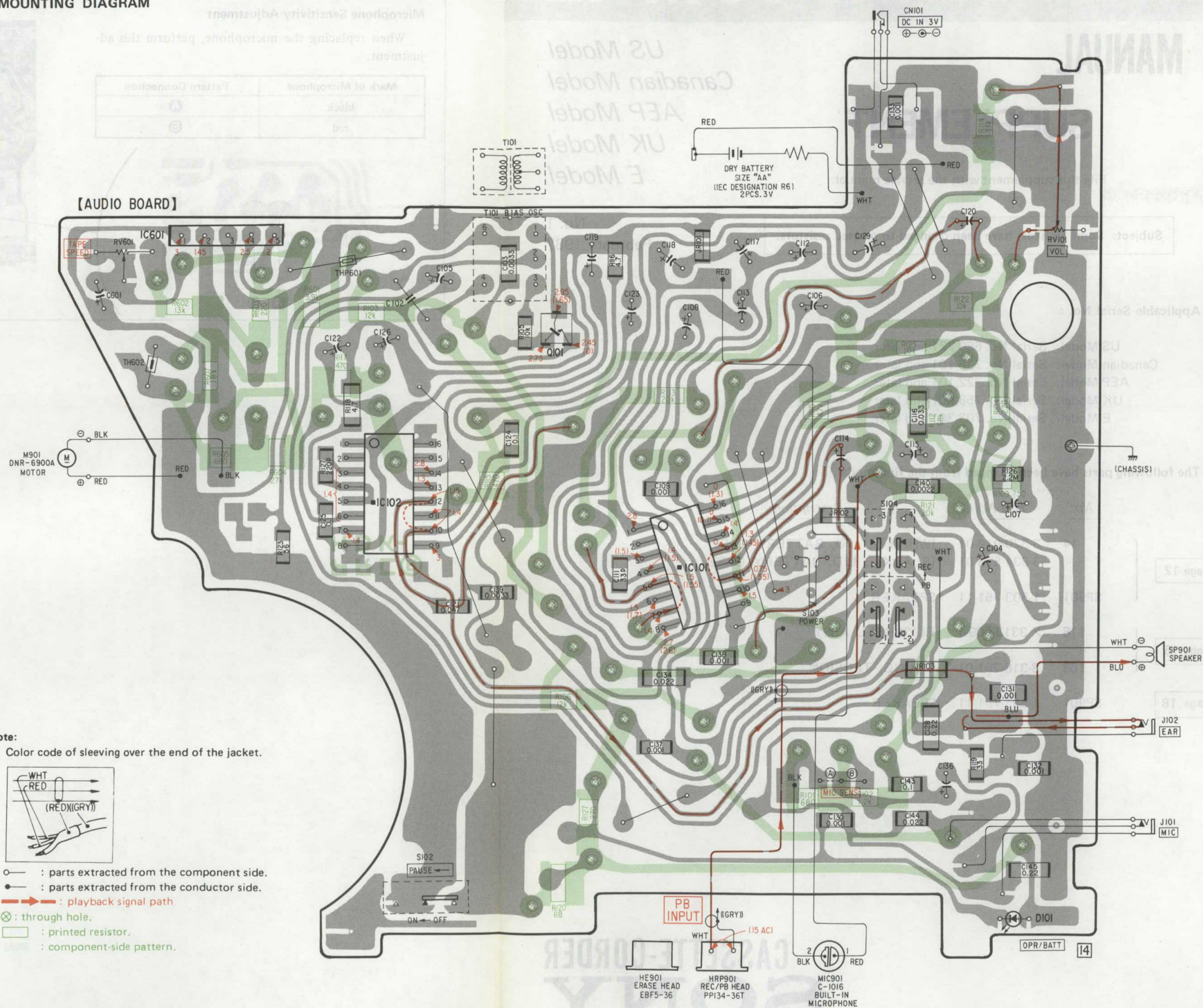
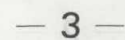


Note:

- Color code of sleeving over the end of the jacket.



- — : parts extracted from the component side.
- — : parts extracted from the conductor side.
- → : playback signal path
- ⊗ : through hole.
- : printed resistor.
- : component-side pattern.



Q·IC·I

IC60I

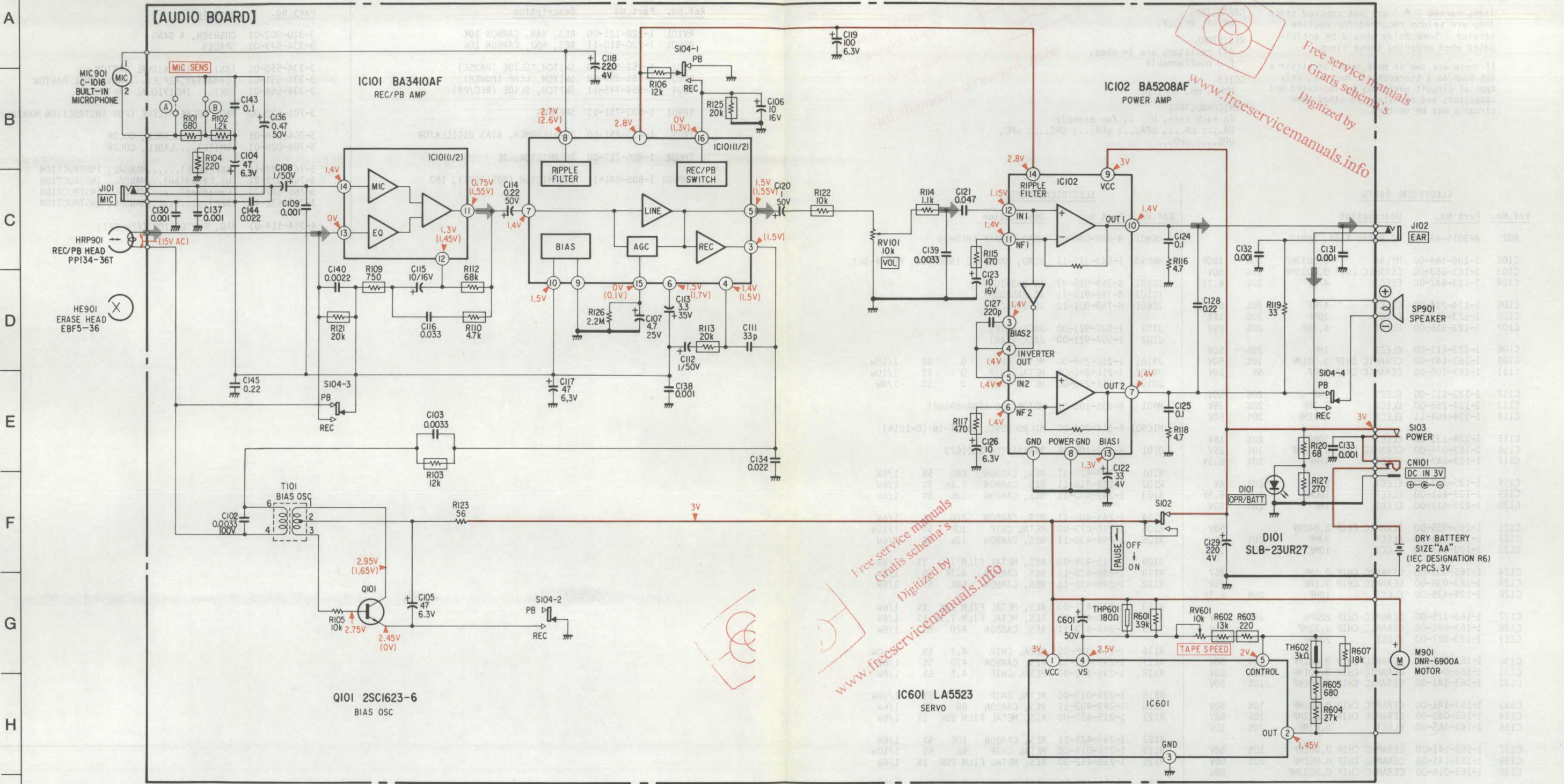
Q101

■ ICI02

ICIOI

DIOI

4.2. SCHEMATIC DIAGRAM



- Note:**
- All capacitors are in μF unless otherwise noted. pF: μF 50WV 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.
 - : printed resistor.
 - : Signal path.
 - : B+ bus.
 - : adjustment for repair.
 - AC voltage readings with a VTVM.
 - Power voltage is 3V and fed with regulated DC power supply from battery terminal.
 - Voltages are dc with respect to ground in playback (no-signal) mode with a VOM (DC 50k Ω /V).
 - Voltage variations may be noted due to normal production tolerances.
 - () : record mode

ELECTRICAL PARTS LIST

NOTE:

- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- If there are two or more same circuits in a set such as a stereophonic machine, only typical circuit parts may be indicated and capacitors and resistors in other same circuits may be omitted.

CAPACITORS:

MF:μF, PF:μpF.

RESISTORS

- All resistors are in ohms.
- F : nonflammable

COILS

MMH : mH, UH : μH

SEMICONDUCTORS

In each case, U : μ, for example:

UA....: μA..., UPA....: μPA..., UPC....: μPC, UPD....: μPD...

ELECTRICAL PARTS				
Ref.No.	Part No.	Description		
901	A-3015-457-A	PC BOARD ASSY, AUDIO		
C102	1-106-184-00	MYLAR	0.0033MF	10% 100V
C103	1-163-053-00	CERAMIC CHIP	0.0033MF	10% 50V
C104	1-123-647-00	ELECT	47MF	20% 6.3V
C105	1-124-224-00	ELECT	47MF	20% 6.3V
C106	1-123-617-00	ELECT	10MF	20% 16V
C107	1-123-616-00	ELECT	4.7MF	20% 25V
C108	1-123-611-00	ELECT	1MF	20% 50V
C109	1-163-141-00	CERAMIC CHIP	0.001MF	10% 50V
C111	1-163-105-00	CERAMIC CHIP	33PF	5% 50V
C112	1-123-611-00	ELECT	1MF	20% 50V
C113	1-124-258-00	ELECT	3.3MF	20% 35V
C114	1-124-464-11	ELECT	0.22MF	20% 50V
C115	1-124-233-00	ELECT	10MF	20% 16V
C116	1-163-074-00	CERAMIC CHIP	0.033MF	10% 25V
C117	1-123-647-00	ELECT	47MF	20% 6.3V
C118	1-123-827-00	ELECT	220MF	20% 4V
C119	1-123-661-00	ELECT	100MF	20% 6.3V
C120	1-123-611-00	ELECT	1MF	20% 50V
C121	1-163-035-00	CERAMIC CHIP	0.047MF	50V
C122	1-124-431-00	ELECT	33MF	20% 4V
C123	1-123-617-00	ELECT	10MF	20% 16V
C124	1-163-038-00	CERAMIC CHIP	0.1MF	25V
C125	1-163-038-00	CERAMIC CHIP	0.1MF	25V
C126	1-124-435-00	ELECT	10MF	20% 6.3V
C127	1-163-125-00	CERAMIC CHIP	220PF	10% 50V
C128	1-163-081-00	CERAMIC CHIP	0.22MF	25V
C129	1-123-827-00	ELECT	220MF	20% 4V
C130	1-163-141-00	CERAMIC CHIP	0.001MF	10% 50V
C131	1-163-047-00	CERAMIC CHIP	0.001MF	10% 50V
C132	1-163-141-00	CERAMIC CHIP	0.001MF	10% 50V
C133	1-163-141-00	CERAMIC CHIP	0.001MF	10% 50V
C134	1-163-063-00	CERAMIC CHIP	0.022MF	10% 50V
C136	1-163-465-00	ELECT	0.47MF	20% 50V
C137	1-163-141-00	CERAMIC CHIP	0.001MF	10% 50V
C138	1-163-141-00	CERAMIC CHIP	0.001MF	10% 50V
C139	1-163-015-00	CERAMIC CHIP	0.0033MF	50V
C140	1-163-013-00	CERAMIC CHIP	0.0022MF	10% 50V
C143	1-163-038-00	CERAMIC CHIP	0.1MF	25V
C144	1-163-033-00	CERAMIC CHIP	0.022MF	10% 25V
C145	1-163-081-00	CERAMIC CHIP	0.22MF	25V
C601	1-123-611-00	ELECT	1MF	20% 50V
CN101	1-507-723-00	JACK, EXTENTION POWER (DC IN 3V)		
D101	8-719-908-16	DIODE SLB-23UR27		

ELECTRICAL PARTS				
Ref.No.	Part No.	Description		
HE901	8-658-096-02	HEAD, ERASE EBF5-36		
HRP901	1-543-325-11	HEAD, MAGNETIC (REC/PB), PP134-36T		
IC101	8-759-910-97	IC BA3410AF		
IC102	8-759-910-71	IC BA5208AF		
IC601	8-759-801-12	IC LA5523		
J101	1-507-921-00	JACK (MIC)		
J102	1-507-921-00	JACK (EAR)		
JR101	1-216-295-00	METAL CHIP	0 5%	1/10W
JR102	1-216-295-00	METAL CHIP	0 5%	1/10W
JR103	1-216-296-00	METAL CHIP	0 5%	1/8W
M901	8-835-105-01	MOTOR, DC (DNR-6900A)		
MIC901	8-814-204-00	MICROPHONE, BUILT-IN (C-1016)		
Q101	8-729-100-66	TRANSISTOR 2SC1623		
R101	1-249-415-11	RES, CARBON	680 5%	1/6W
R102	1-249-418-11	RES, CARBON	1.2K 5%	1/6W
R103	1-249-430-11	RES, CARBON	12K 5%	1/6W
R104	1-249-409-11	RES, CARBON	220 5%	1/6W
R105	1-216-073-00	METAL CHIP	10K 5%	1/10W
R106	1-249-430-11	RES, CARBON	12K 5%	1/6W
R109	1-215-418-00	RES, METAL FILM	750 1%	1/6W
R110	1-249-425-11	RES, CARBON	4.7K 5%	1/6W
R112	1-249-439-11	RES, CARBON	68K 5%	1/6W
R113	1-215-452-00	RES, METAL FILM	20K 1%	1/6W
R114	1-215-422-00	RES, METAL FILM	1.1K 1%	1/6W
R115	1-249-413-11	RES, CARBON	470 5%	1/6W
R116	1-216-308-00	METAL CHIP	4.7 5%	1/10W
R117	1-249-413-11	RES, CARBON	470 5%	1/6W
R118	1-216-142-00	METAL CHIP	4.7 5%	1/8W
R119	1-216-013-00	METAL CHIP	33 5%	1/10W
R120	1-249-403-11	RES, CARBON	68 5%	1/6W
R121	1-215-452-00	RES, METAL FILM	20K 1%	1/6W
R122	1-249-429-11	RES, CARBON	10K 5%	1/6W
R123	1-216-019-00	METAL CHIP	56 5%	1/10W
R125	1-215-452-00	RES, METAL FILM	20K 1%	1/6W
R126	1-216-129-00	METAL CHIP	2.2M 5%	1/10W
R127	1-249-410-11	RES, CARBON	270 5%	1/6W
R601	1-249-424-11	RES, CARBON	3.9K 5%	1/6W
R602	1-215-448-00	RES, METAL FILM	13K 1%	1/6W
R603	1-249-409-11	RES, CARBON	220 5%	1/6W
R604	1-249-434-11	RES, CARBON	27K 5%	1/6W
R605	1-249-415-11	RES, CARBON	680 5%	1/6W
R607	1-249-432-11	RES, CARBON	18K 5%	1/6W

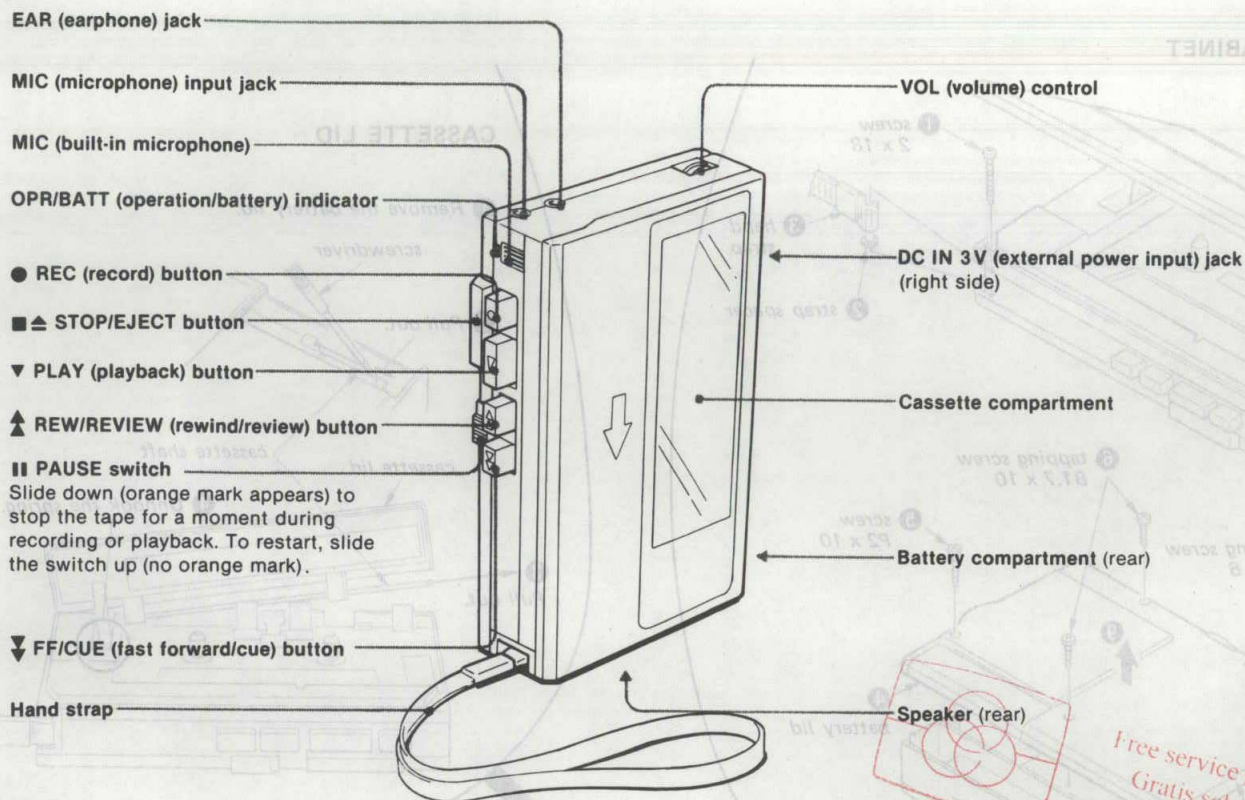
ELECTRICAL PARTS

Ref.No.	Part No.	Description
RV101	1-228-121-00	RES, VAR, CARBON 10K
RV601	1-230-510-11	RES, ADJ, CARBON 10K
S102	1-553-510-00	SWITCH, SLIDE (PAUSE)
S103	1-554-297-00	SWITCH, LEAF (POWER)
S104	1-554-745-11	SWITCH, SLIDE (REC/PB)
SP901	1-503-751-11	SPEAKER
T101	1-433-251-00	TRANSFORMER, BIAS OSCILLATOR
TH602	1-806-717-00	THERMISTOR, 3K
THP601	1-806-881-11	THERMISTOR (POSITIVE), 180

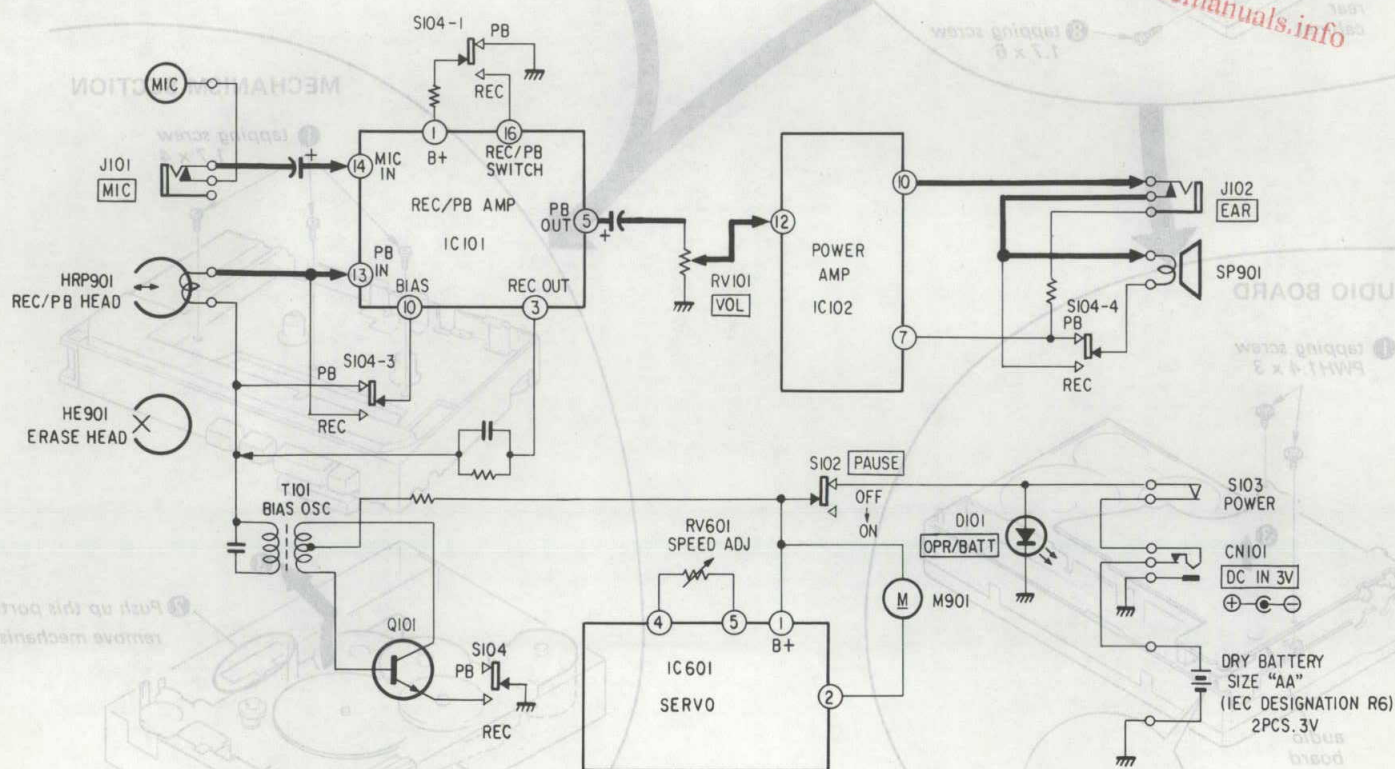
ACCESSORY & PACKING MATERIAL

Part No.	Description
3-320-902-01	CUSHION, 4 GANG
3-334-549-01	SPACER
3-334-550-01	(US)....INDIVIDUAL CARTON
3-334-551-01	(Canadian,AEP,E)....INDIVIDUAL CARTON
3-334-564-01	(UK)....INDIVIDUAL CARTON
3-701-622-00	BAG, POLYETHYLENE (FOR INSTRUCTION MANUAL)
3-704-016-01	(BLACK)....LABEL, COLOR
3-704-029-01	(WHITE)....LABEL, COLOR
3-765-522-11	(AEP,UK,E).....MANUAL, INSTRUCTION
3-765-522-21	(US,Canadian)....MANUAL, INSTRUCTION
3-765-522-31	(Canadian).....MANUAL, INSTRUCTION
3-765-522-41	(AEP).....MANUAL, INSTRUCTION
4-354-114-01	BAG, PROTECTION (FOR SET)

1-2. PARTS IDENTIFICATION



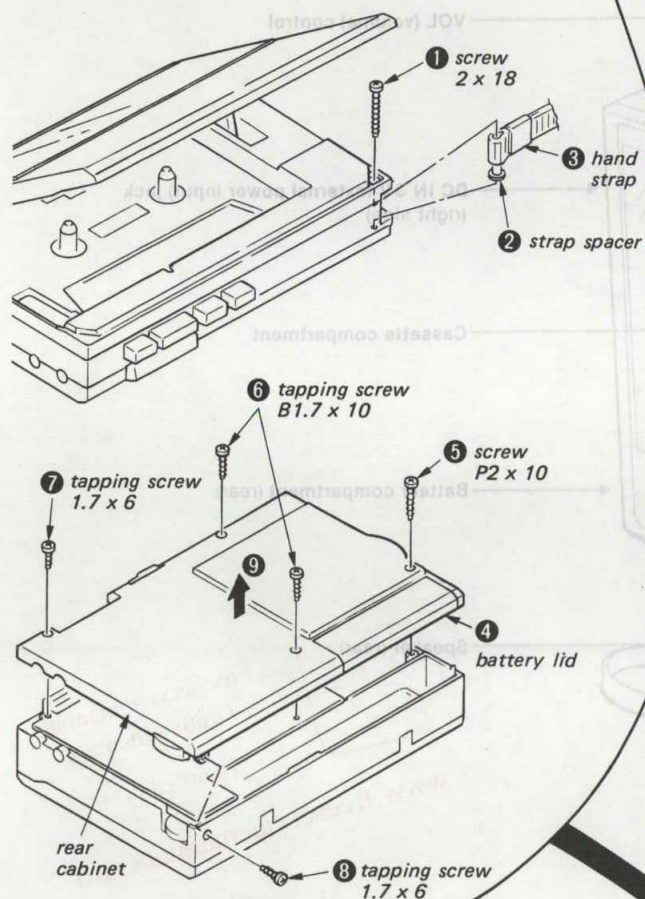
1-3. BLOCK DIAGRAM



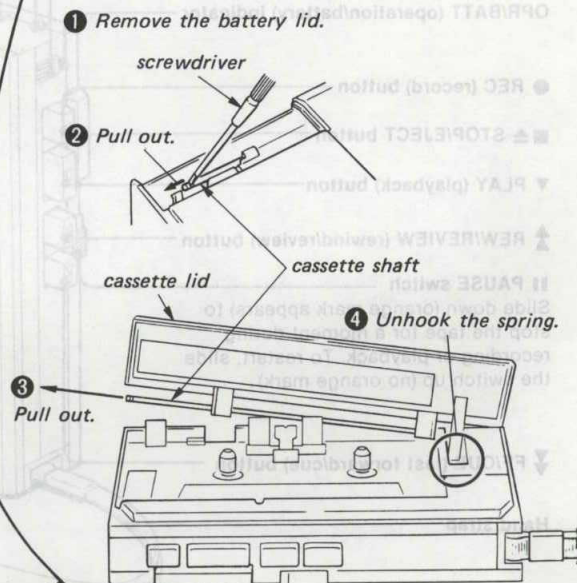
SECTION 2 DISASSEMBLY

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

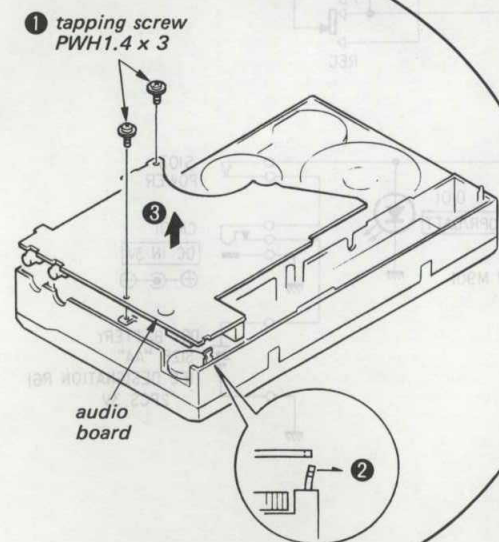
REAR CABINET



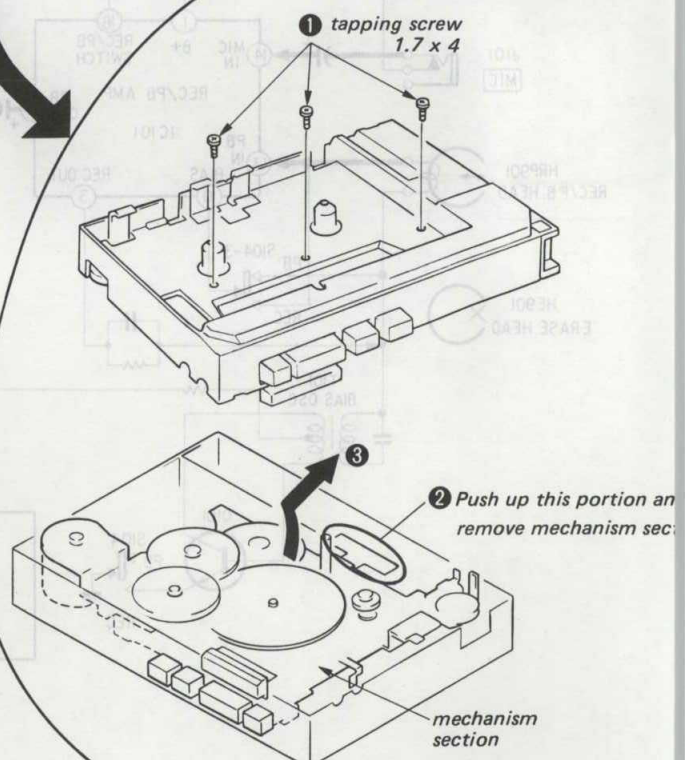
CASSETTE LID



AUDIO BOARD



MECHANISM SECTION



SECTION 3
ADJUSTMENTS

3-1. MECHANICAL ADJUSTMENT AND MEASUREMENT

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.

power supply voltage : 3 V DC

Torque Measurement

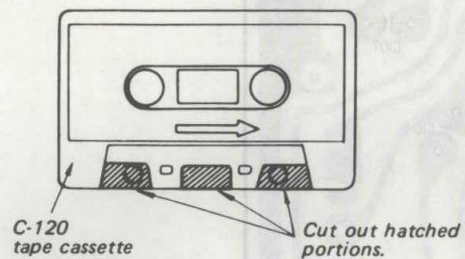
Torque	Meter Reading	Torque Meter
Forward	22 - 45 g·cm (0.31 - 0.62 oz·inch)	CQ-102C
Fast Forward and Rewind	65 - 100 g·cm (0.90 - 1.39 oz·inch)	CQ-201B
Back Tension	2 - 4 g·cm (0.028 - 0.056 oz·inch)	CQ-102C

Tape Tension Measurement

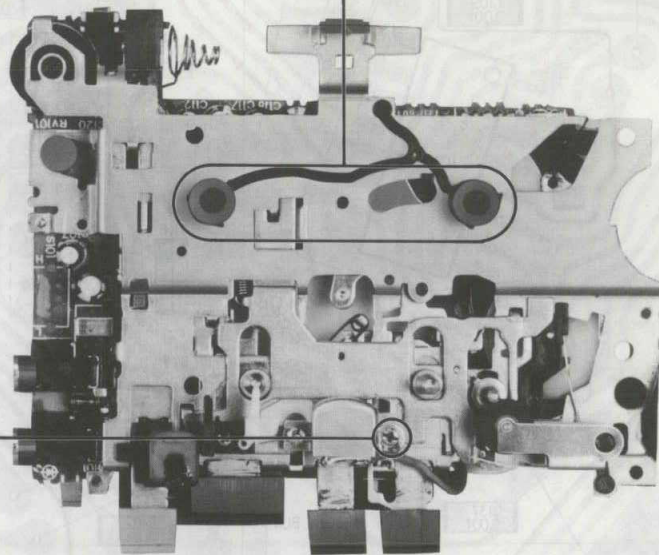
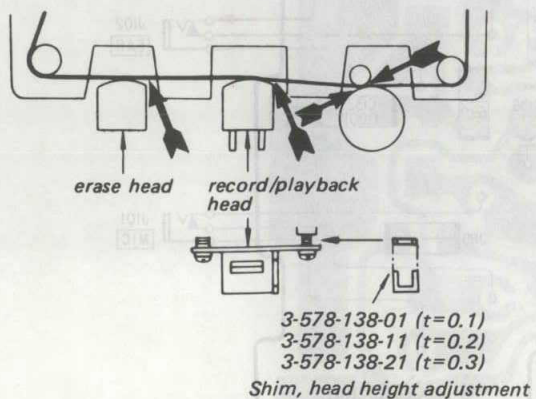
Meter	Meter Reading
CQ-403A	More than 110g (3.88 oz)

Head Height Adjustment

1. Prepare an adjustment cassette as shown below.



2. In record mode and viewing from the front, adjust the head heights to eliminate tape curl and tape twist at portions shown by arrow.

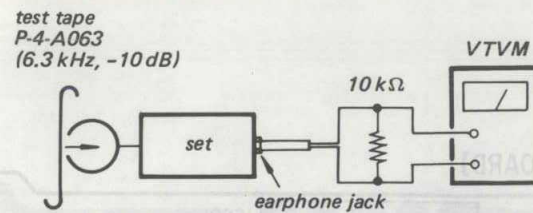


3-2. ELECTRICAL ADJUSTMENTS

Record/playback Head Azimuth Adjustment

Procedure:

1. Mode: playback

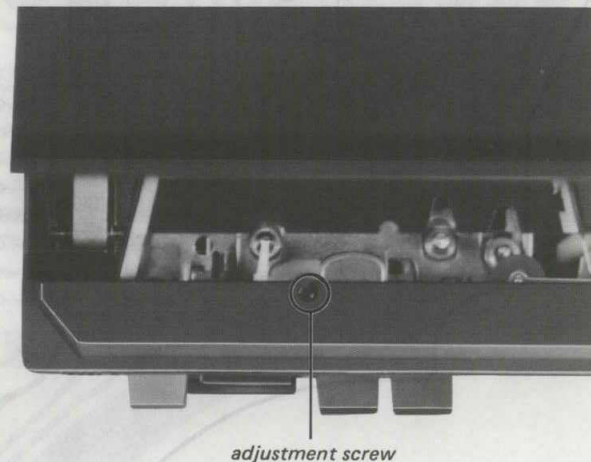


2. Turn the adjustment screw to obtain the maximum reading on VTVM.

Note: Several peaks may appear, but take the maximum.

3. After the adjustment, lock the adjustment screw with suitable locking compound.

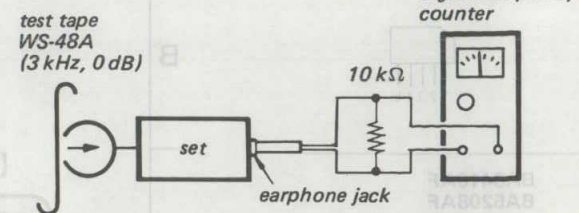
Adjustment Location:



Tape Speed Adjustment

Procedure:

- Mode: playback

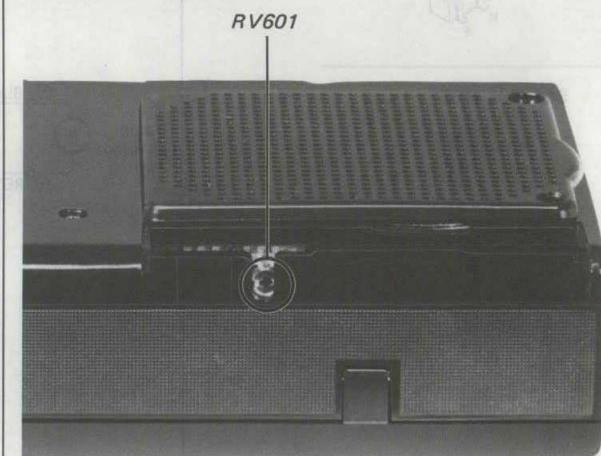


Specification:

Speed checker	Digital frequency counter
±2%	2,940 - 3,060 Hz

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

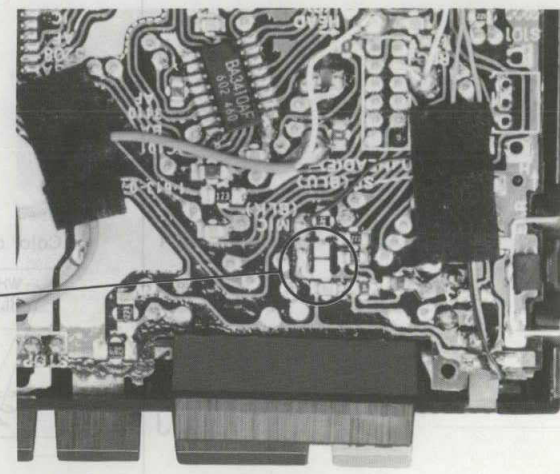
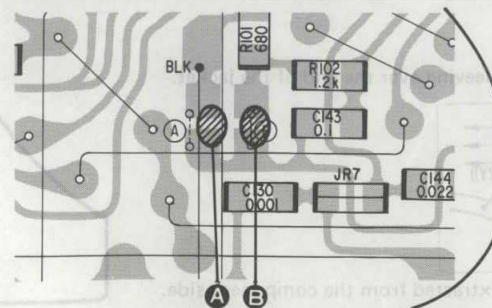
Adjustment Location:



Microphone Sensitivity Adjustment

When replacing the microphone, perform this adjustment.

Mark of Microphone	Pattern Connection
black	A
red	B

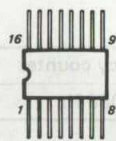


4-1. MOUNTING DIAGRAM

LA5523



BA3410AF
BA5208AF



2SC1623

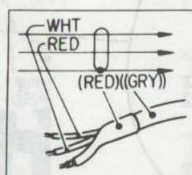


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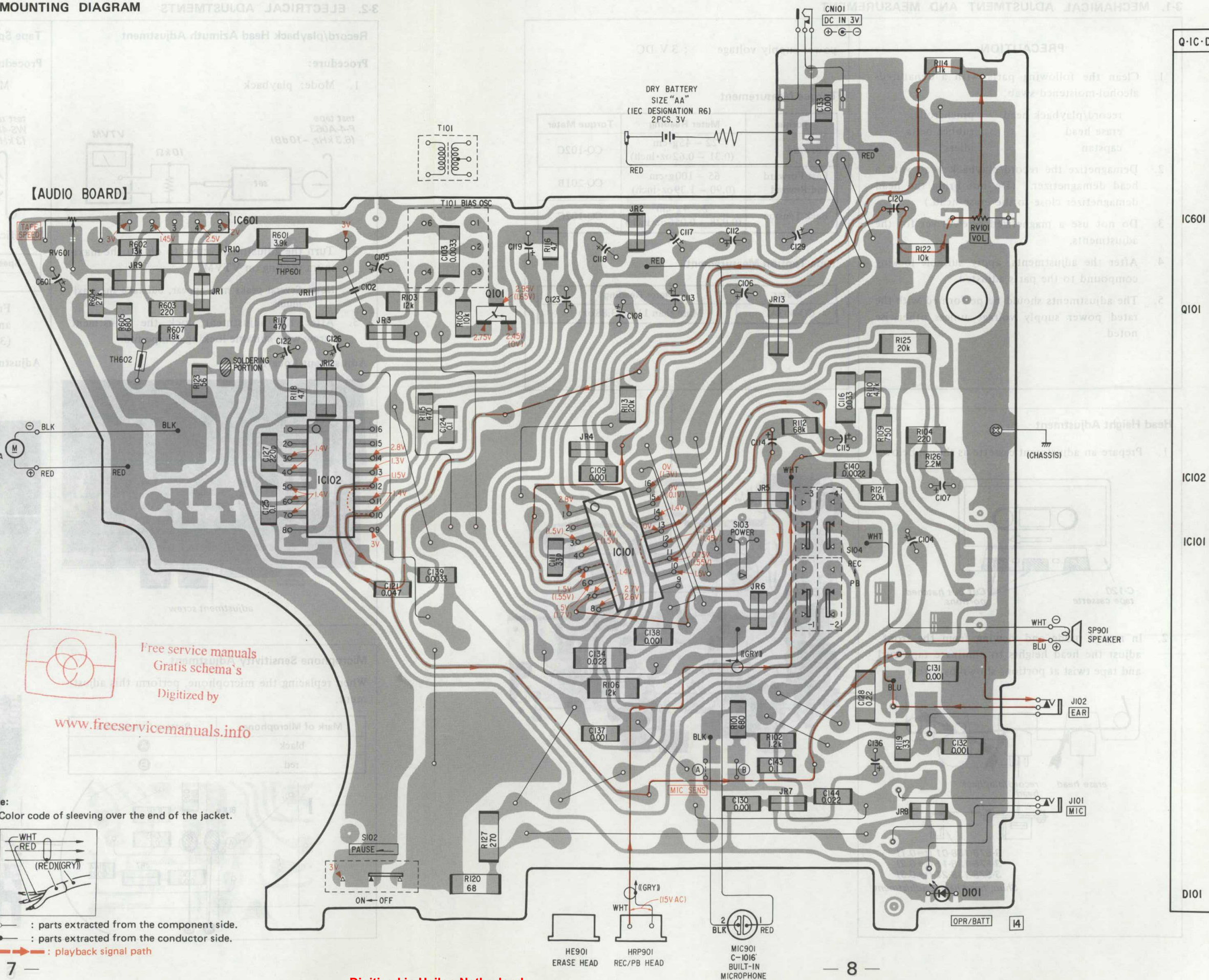


Note:

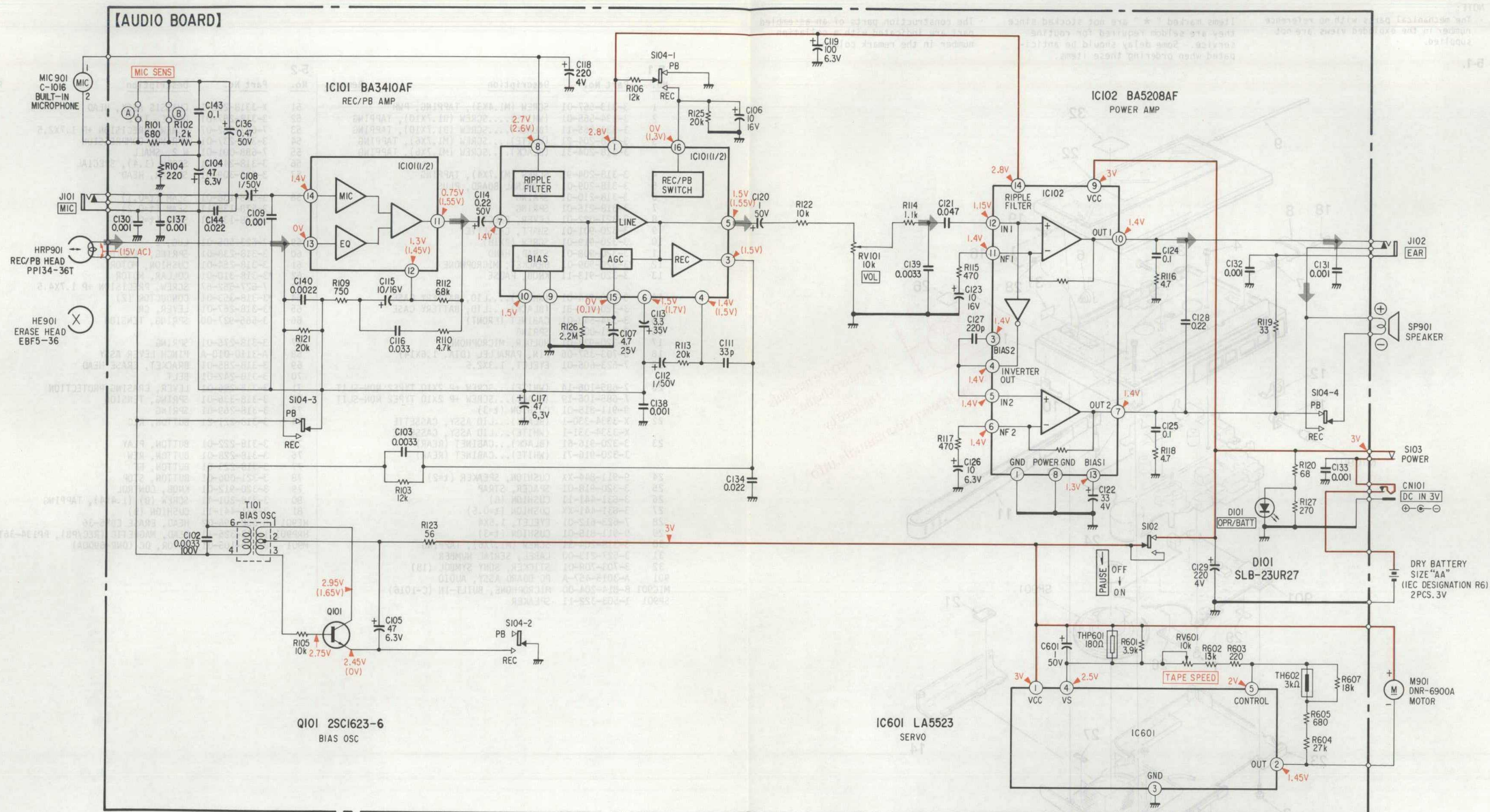
- Color code of sleeving over the end of the jacket.



- — : parts extracted from the component side.
- — : parts extracted from the conductor side.
- —→ : playback signal path



4-2. SCHEMATIC DIAGRAM



Note:

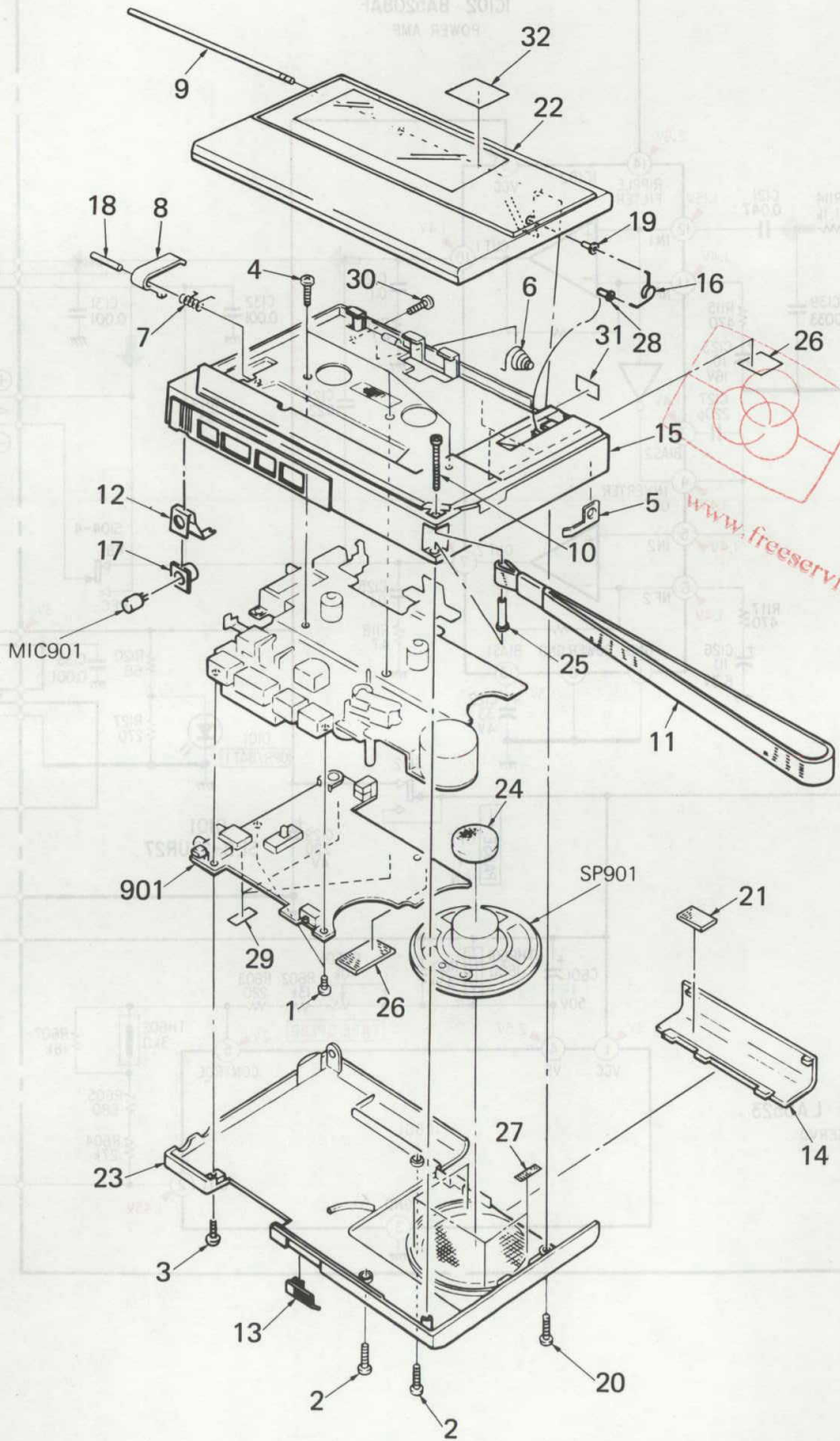
- All capacitors are in μF unless otherwise noted. pF: μF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and $\frac{1}{4}\text{W}$ or less unless otherwise specified.
- $\rightarrow$: Signal path.
- --- : B+ bus.
- $\square$: adjustment for repair.
- AC voltage readings with a VTVM.
- Power voltage is 3V and fed with regulated DC power supply from battery terminal.

Voltages are dc with respect to ground in playback (no-signal) mode with a VOM (DC 50k Ω /V). Voltage variations may be noted due to normal production tolerances.
() : record mode

SECTION 5
EXPLODED VIEWS AND PARTS LIST

NOTE:
• The mechanical parts with no reference number in the exploded views are not supplied.
• Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
• The construction parts of an assembled part are indicated with a collation number in the remark column.

5-1.



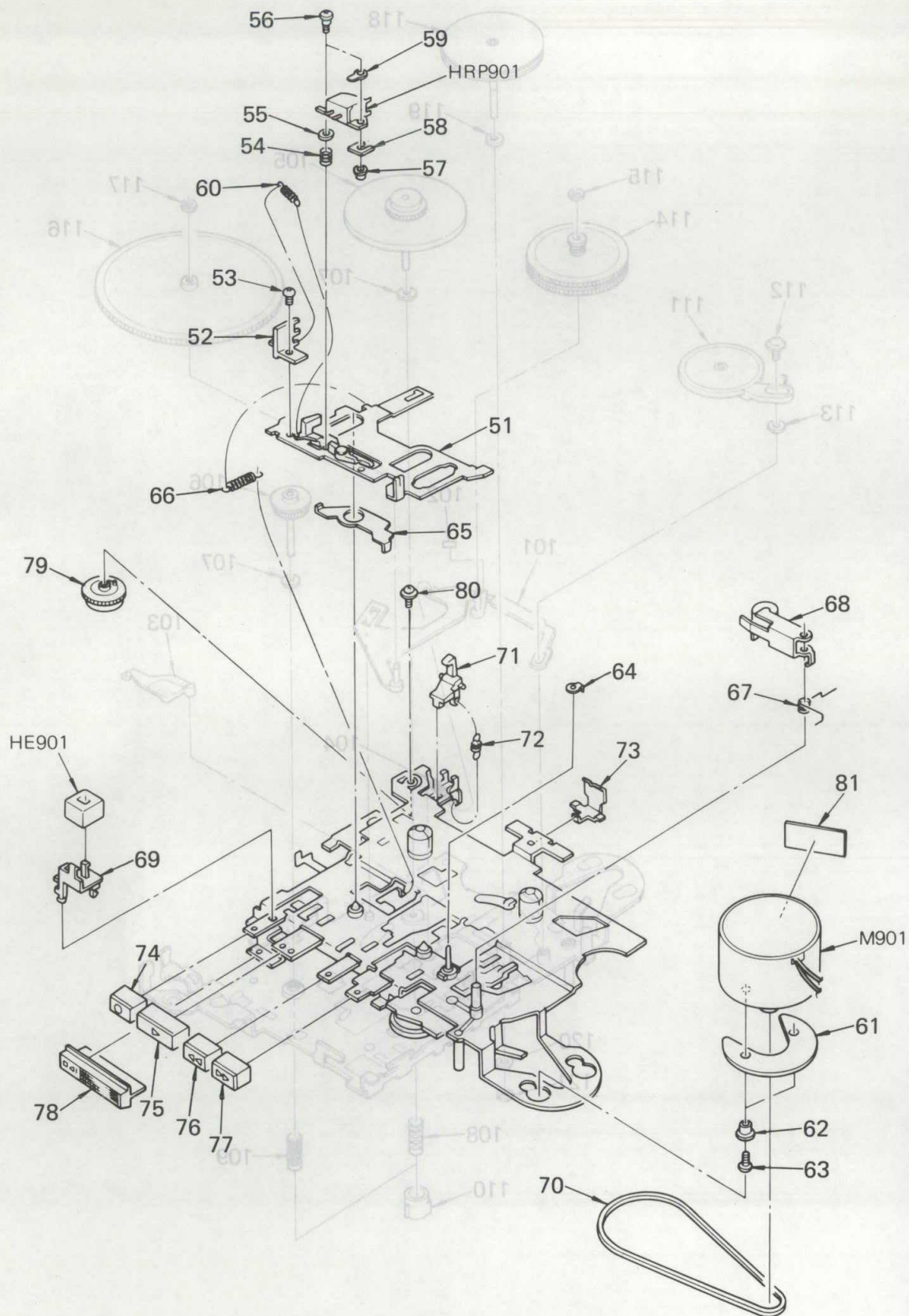
5-1

No.	Part No.	Description	Remarks
1	3-313-567-01	SCREW (M1.4X3), TAPPING, PWH	
2	3-334-565-01	(WHITE)...SCREW (B1.7X10), TAPPING	
3	3-334-565-11	(BLACK)...SCREW (B1.7X10), TAPPING	
4	3-318-204-21	(WHITE)...SCREW (M1.7X6), TAPPING	
5	3-318-204-31	(BLACK)...SCREW (M1.7X6), TAPPING	
6	3-318-204-91	SCREW (M1.7X4), TAPPING	
7	3-318-209-01	TERMINAL BOARD, PLUS	
8	3-318-210-01	SPRING	
9	3-318-215-01	SPRING	
10	3-321-022-01	LEVER, EJECT	
11	3-320-901-01	SHAFT, CASSETTE	
12	3-320-919-01	SCREW (2X18)	
13	3-320-908-01	STRAP, HAND	
14	*3-320-909-01	BRACKET, MICROPHONE	
15	3-320-913-11	KNOB, PAUSE	
16	3-320-914-01	(WHITE)...LID, BATTERY CASE	
17	3-320-914-81	(BLACK)...LID, BATTERY CASE	
18	3-334-548-01	CABINET (FRONT)	
19	3-321-002-01	SPRING	
20	3-320-928-01	HOLDER, MICROPHONE	
21	3-703-357-06	PIN, PARALLEL (DIA. 1.6X14)	
22	7-623-605-01	EYELET, 1.3X2.5	
23	7-685-106-14	(WHITE)...SCREW +P 2X10 TYPE2 NON-SLIT	
24	7-685-106-19	(BLACK)...SCREW +P 2X10 TYPE2 NON-SLIT	
25	9-911-815-01	CUSHION (t=3)	
26	X-3334-330-1	(BLACK)...LID ASSY, CASSETTE	
27	X-3334-331-1	(WHITE)...LID ASSY, CASSETTE	
28	3-320-916-61	(BLACK)...CABINET (REAR)	
29	3-320-916-71	(WHITE)...CABINET (REAR)	
30	9-911-844-XX	CUSHION, SPEAKER (t=2)	
31	3-320-918-01	SPACER, STRAP	
32	3-831-441-11	CUSHION (B)	
33	3-831-441-XX	CUSHION (t=0.5)	
34	7-623-612-01	EYELET, 1.5X4	
35	9-911-815-01	CUSHION (t=3)	
36	3-318-204-31	SCREW (M1.7X6), TAPPING	
37	3-527-213-00	LABEL, SERIAL NUMBER	
38	3-703-708-01	STICKER, SONY SYMBOL (18)	
39	A-3015-457-A	PC BOARD ASSY, AUDIO	
40	MIC901	8-814-204-00	MICROPHONE, BUILT-IN (C-1016)
41	SP901	1-503-322-11	SPEAKER

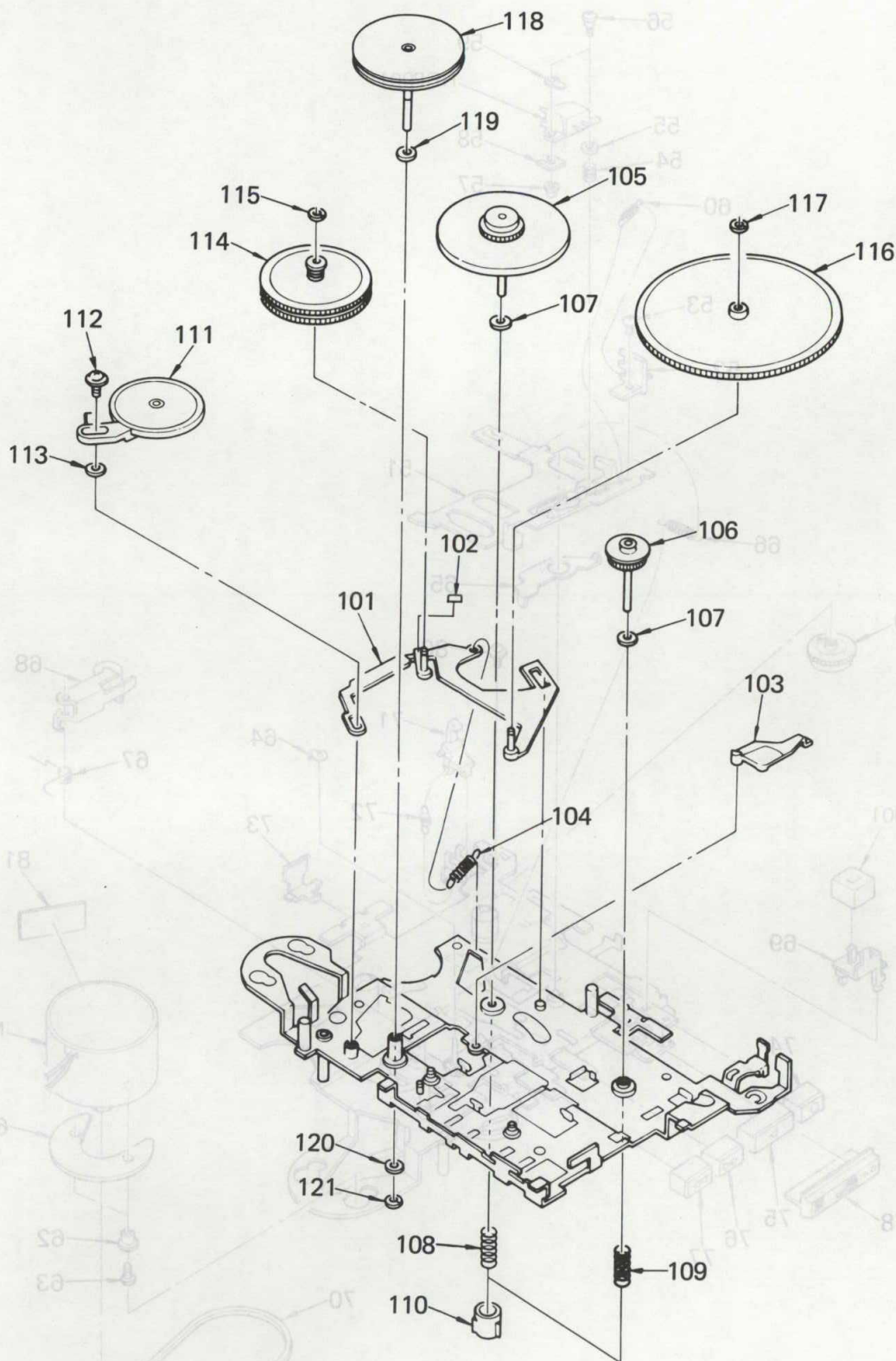
5-2

No.	Part No.	Description	Remarks
51	X-3318-222-1	CHASSIS ASSY, HEAD	
52	3-318-287-01	GUIDE, TAPE	
53	7-627-552-07	SCREW, PRECISION +P 1.7X2.5	
54	3-318-237-01	SPRING, COMPRESSION	
55	7-688-001-01	W 2, SMALL	
56	3-318-240-01	SCREW (1.4), SPECIAL	
57	3-318-309-01	SPACER, HEAD	
58	3-578-138-01	SEAM (t=0.1)	
59	3-578-138-11	SEAM (t=0.2)	
60	3-578-138-21	SEAM (t=0.3)	
61	7-623-505-01	LUG, 2	
62	3-318-238-01	SPRING, TENSION	
63	3-318-254-01	CUSHION, MOTOR	
64	*3-318-310-01	COLLAR, MOTOR	
65	7-627-552-67	SCREW, PRECISION +P 1.7X4.5	
66	*3-318-353-01	CONDUCTOR (2)	
67	*3-318-267-01	LEVER, CR	
68	3-565-927-00	SPRING, TENSION	
69	3-318-275-01	SPRING	
70	A-3110-010-A	PINCH LEVER ASSY	
71	3-318-285-01	BRACKET, ERASE HEAD	
72	3-318-242-01	BELT	
73	3-318-286-01	LEVER, ERASING PROTECTION	
74	3-318-336-01	SPRING, TENSION	
75	3-318-269-01	SPRING	
76	3-318-221-21	BUTTON, REC	
77	3-318-222-01	BUTTON, PLAY	
78	3-318-228-01	BUTTON, REW	
79	3-318-223-01	BUTTON, FF	
80	3-321-006-01	BUTTON, STOP	
81	3-320-912-01	KNOB, CONTROL	
82	3-318-201-41	SCREW (B) (1.4X4), TAPPING	
83	3-831-441-11	CUSHION (B)	
84	HE901	8-658-096-02	HEAD, ERASE EBF5-36
85	HRP901	1-543-325-11	HEAD, MAGNETIC (REC/PB), PP134-36T
86	M901	8-835-105-01	MOTOR, DC (DNR-6900A)

5-2.



5-3.



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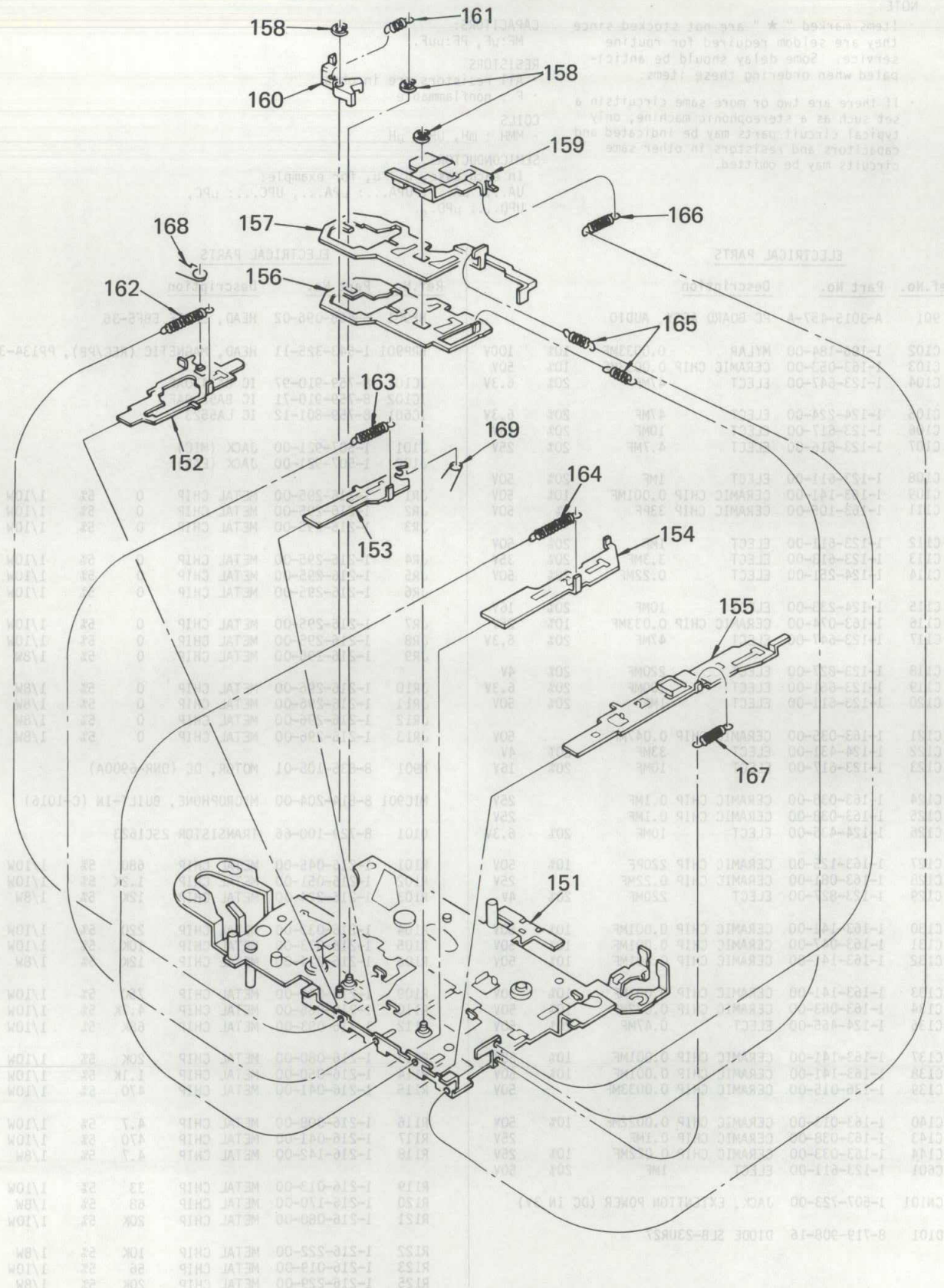
5-3

No.	Part No.	Description	Remarks
101	X-3318-208-1	LEVER ASSY, FR	
102	3-831-441-XX	CUSHION (t=0.5)	
103	3-318-288-01	ARM, FF	
104	3-318-243-01	SPRING, TENSION	
105	X-3325-619-1	CLUTCH ASSY	
106	X-3318-204-1	GEAR ASSY, REW	
107	3-701-437-21	WASHER (t=0.5)	
108	3-318-241-01	SPRING, COMPRESSION	
109	3-321-024-01	SPRING, COMPRESSION	
110	3-306-836-02	CAP, REEL, T	
111	X-3318-210-1	LEVER ASSY, FWD IDLER	
112	3-318-324-01	BUSHING, IDLER LEVER	
113	3-827-323-11	WASHER (DIA. 3.1)	
114	X-3318-207-1	GEAR (A) ASSY, FR	
115	3-578-265-11	WASHER, STOPPER	
116	3-318-265-01	GEAR (B), FR	
117	3-570-615-00	POLY-WASHER (DIA.1.2)	
118	X-3318-211-1	FLYWHEEL ASSY	
119	3-701-437-11	WASHER (t=0.25)	
120	3-701-437-01	WASHER (t=0.13)	
121	3-318-236-01	WASHER, POLY, SLIT	

5-4

No.	Part No.	Description	Remarks
151	*X-3318-214-1	CHASSIS ASSY, MECHANICAL	
152	3-318-291-01	LEVER, FR	
153	3-318-292-01	LEVER, REW	
154	*3-318-290-01	LEVER, PLAY	
155	*3-318-289-11	LEVER, REC	
156	*3-318-294-01	PLATE, LOCK	
157	3-318-300-01	LEVER, SWITCH	
158	7-624-101-01	RING, RETAINING E-1.2	
159	*3-318-293-01	LEVER, STOP	
160	3-318-296-01	LEVER, SHUT-OFF	
161	3-318-351-01	SPRING, TENSION	
162	3-318-250-01	SPRING, TENSION	
163	3-325-683-01	SPRING, TENSION	
164	3-318-246-01	SPRING, TENSION	
165	3-318-248-01	SPRING, TENSION	
166	3-547-669-00	SPRING, TENSION	
167	3-318-247-01	SPRING, TENSION	
168	3-318-276-01	SPRING, FF	
169	3-318-277-01	SPRING, REW	

5-4.



SECTION 6
ELECTRICAL PARTS LIST

NOTE:

- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- If there are two or more same circuits in a set such as a stereophonic machine, only typical circuit parts may be indicated and capacitors and resistors in other same circuits may be omitted.

CAPACITORS:
MF:µF, PF:µµF.

RESISTORS

- All resistors are in ohms.
- F : nonflammable

COILS

- MMH : mH, UH : µH

SEMICONDUCTORS

In each case, U : µ, for example:
UA....: µA..., UPA....: µPA..., UPC....: µPC,
UPD....: µPD...

ELECTRICAL PARTS

Ref.No.	Part No.	Description
901	A-3015-457-A	PC BOARD ASSY, AUDIO
C102	1-106-184-00	MYLAR 0.0033MF 10% 100V
C103	1-163-053-00	CERAMIC CHIP 0.0033MF 10% 50V
C104	1-123-647-00	ELECT 47MF 20% 6.3V
C105	1-124-224-00	ELECT 47MF 20% 6.3V
C106	1-123-617-00	ELECT 10MF 20% 16V
C107	1-123-616-00	ELECT 4.7MF 20% 25V
C108	1-123-611-00	ELECT 1MF 20% 50V
C109	1-163-141-00	CERAMIC CHIP 0.001MF 10% 50V
C111	1-163-105-00	CERAMIC CHIP 33PF 5% 50V
C112	1-123-611-00	ELECT 1MF 20% 50V
C113	1-123-613-00	ELECT 3.3MF 20% 35V
C114	1-124-251-00	ELECT 0.22MF 20% 50V
C115	1-124-233-00	ELECT 10MF 20% 16V
C116	1-163-074-00	CERAMIC CHIP 0.033MF 10% 25V
C117	1-123-647-00	ELECT 47MF 20% 6.3V
C118	1-123-827-00	ELECT 220MF 20% 4V
C119	1-123-661-00	ELECT 100MF 20% 6.3V
C120	1-123-611-00	ELECT 1MF 20% 50V
C121	1-163-035-00	CERAMIC CHIP 0.047MF 50V
C122	1-124-431-00	ELECT 33MF 20% 4V
C123	1-123-617-00	ELECT 10MF 20% 16V
C124	1-163-038-00	CERAMIC CHIP 0.1MF 25V
C125	1-163-038-00	CERAMIC CHIP 0.1MF 25V
C126	1-124-435-00	ELECT 10MF 20% 6.3V
C127	1-163-125-00	CERAMIC CHIP 220PF 10% 50V
C128	1-163-081-00	CERAMIC CHIP 0.22MF 25V
C129	1-123-827-00	ELECT 220MF 20% 4V
C130	1-163-141-00	CERAMIC CHIP 0.001MF 10% 50V
C131	1-163-047-00	CERAMIC CHIP 0.001MF 10% 50V
C132	1-163-141-00	CERAMIC CHIP 0.001MF 10% 50V
C133	1-163-141-00	CERAMIC CHIP 0.001MF 10% 50V
C134	1-163-063-00	CERAMIC CHIP 0.022MF 10% 50V
C136	1-124-465-00	ELECT 0.47MF 20% 50V
C137	1-163-141-00	CERAMIC CHIP 0.001MF 10% 50V
C138	1-163-141-00	CERAMIC CHIP 0.001MF 10% 50V
C139	1-136-015-00	CERAMIC CHIP 0.0033MF 50V
C140	1-163-013-00	CERAMIC CHIP 0.0022MF 10% 50V
C143	1-163-038-00	CERAMIC CHIP 0.1MF 25V
C144	1-163-033-00	CERAMIC CHIP 0.022MF 10% 25V
C601	1-123-611-00	ELECT 1MF 20% 50V
CN101	1-507-723-00	JACK, EXTENTION POWER (DC IN 3V)
D101	8-719-908-16	DIODE SLB-23UR27

ELECTRICAL PARTS

Ref.No.	Part No.	Description
HE901	8-658-096-02	HEAD, ERASE EBF5-36
HRP901	1-543-325-11	HEAD, MAGNETIC (REC/PB), PP134-36T
IC101	8-759-910-97	IC BA3410AF
IC102	8-759-910-71	IC BA5208AF
IC601	8-759-801-12	IC LA5523
J101	1-507-921-00	JACK (MIC)
J102	1-507-921-00	JACK (EAR)
JR1	1-216-295-00	METAL CHIP 0 5% 1/10W
JR2	1-216-295-00	METAL CHIP 0 5% 1/10W
JR3	1-216-295-00	METAL CHIP 0 5% 1/10W
JR4	1-216-295-00	METAL CHIP 0 5% 1/10W
JR5	1-216-295-00	METAL CHIP 0 5% 1/10W
JR6	1-216-295-00	METAL CHIP 0 5% 1/10W
JR7	1-216-295-00	METAL CHIP 0 5% 1/10W
JR8	1-216-295-00	METAL CHIP 0 5% 1/10W
JR9	1-216-296-00	METAL CHIP 0 5% 1/8W
JR10	1-216-296-00	METAL CHIP 0 5% 1/8W
JR11	1-216-296-00	METAL CHIP 0 5% 1/8W
JR12	1-216-296-00	METAL CHIP 0 5% 1/8W
JR13	1-216-296-00	METAL CHIP 0 5% 1/8W
M901	8-835-105-01	MOTOR, DC (DNR-6900A)
MIC901	8-814-204-00	MICROPHONE, BUILT-IN (C-1016)
Q101	8-729-100-66	TRANSISTOR 2SC1623
R101	1-216-045-00	METAL CHIP 680 5% 1/10W
R102	1-216-051-00	METAL CHIP 1.2K 5% 1/10W
R103	1-216-224-00	METAL CHIP 12K 5% 1/8W
R104	1-216-033-00	METAL CHIP 220 5% 1/10W
R105	1-216-073-00	METAL CHIP 10K 5% 1/10W
R106	1-216-224-00	METAL CHIP 12K 5% 1/8W
R109	1-216-046-00	METAL CHIP 750 5% 1/10W
R110	1-216-065-00	METAL CHIP 4.7K 5% 1/10W
R112	1-216-093-00	METAL CHIP 68K 5% 1/10W
R113	1-216-080-00	METAL CHIP 20K 5% 1/10W
R114	1-216-050-00	METAL CHIP 1.1K 5% 1/10W
R115	1-216-041-00	METAL CHIP 470 5% 1/10W
R116	1-216-308-00	METAL CHIP 4.7 5% 1/10W
R117	1-216-041-00	METAL CHIP 470 5% 1/10W
R118	1-216-142-00	METAL CHIP 4.7 5% 1/8W
R119	1-216-013-00	METAL CHIP 33 5% 1/10W
R120	1-216-170-00	METAL CHIP 68 5% 1/8W
R121	1-216-080-00	METAL CHIP 20K 5% 1/10W
R122	1-216-222-00	METAL CHIP 10K 5% 1/8W
R123	1-216-019-00	METAL CHIP 56 5% 1/10W
R125	1-216-229-00	METAL CHIP 20K 5% 1/8W

ELECTRICAL PARTS

Ref.No.	Part No.	Description
R126	1-216-129-00	METAL CHIP 2.2M 5% 1/10W
R127	1-216-184-00	METAL CHIP 270 5% 1/8W
R601	1-216-212-00	METAL CHIP 3.9K 5% 1/8W
R602	1-216-076-00	METAL CHIP 13K 5% 1/10W
R603	1-216-033-00	METAL CHIP 220 5% 1/10W
R604	1-216-083-00	METAL CHIP 27K 5% 1/10W
R605	1-216-045-00	METAL CHIP 680 5% 1/10W
R607	1-216-079-00	METAL CHIP 18K 5% 1/10W
RV101	1-228-121-00	RES, VAR, CARBON 10K
RV601	1-230-510-11	RES, ADJ, CARBON 10K
S102	1-553-510-00	SWITCH, SLIDE (PAUSE)
S103	1-554-297-00	SWITCH, LEAF (POWER)
S104	1-554-745-11	SWITCH, SLIDE (REC/PB)
SP901	1-503-322-11	SPEAKER
T101	1-433-251-00	TRANSFORMER, BIAS OSCILLATOR
TH602	1-806-717-00	THERMISTOR, 3KΩ
THP601	1-806-881-11	THERMISTOR (POSITIVE), 180Ω

ACCESSORY & PACKING MATERIAL

Part No.	Description
3-320-902-01	CUSHION, 4 GANG
3-334-549-01	SPACER
3-334-550-01	(US)....INDIVIDUAL CARTON
3-334-551-01	(Canadian,AEP,E)....INDIVIDUAL CARTON
3-334-564-01	(UK)....INDIVIDUAL CARTON
3-701-622-00	BAG, POLYETHYLENE (FOR INSTRUCTION MANUAL)
3-704-016-01	(BLACK)....LABEL, COLOR
3-704-029-01	(WHITE)....LABEL, COLOR
3-765-522-11	(AEP,UK,E).....MANUAL, INSTRUCTION
3-765-522-21	(US,Canadian)....MANUAL, INSTRUCTION
3-765-522-31	(Canadian).....MANUAL, INSTRUCTION
3-765-522-41	(AEP).....MANUAL, INSTRUCTION
4-354-114-01	BAG, PROTECTION (FOR SET)

TROUBLESHOOTING GUIDE

Cassette cannot be inserted.

- The ▼ button is depressed.

The ● button cannot be depressed.

- No cassette in the cassette compartment.
- The cassette inserted has had the tabs removed. Cover the slot with a small piece of plastic tape.

The ▼ button cannot be locked.

- The tape is completely wound towards the arrow direction on the cassette compartment lid. Rewind the tape with the ▲ button.

Tape does not move.

- Incorrect polarity of batteries.
- Weak batteries.
- The || PAUSE switch is slid down (orange mark).
- Battery operation is attempted while the AC power adaptor or car battery cord is connected to the recorder but not to the wall outlet or the cigarette lighter socket.

No sound from the speaker.

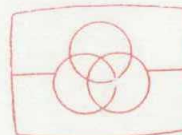
- The earphone is plugged in.
- The VOL (volume) control is turned down completely.

Weak or distorted sound, sound drop-outs, or excessive noise.

- Weak batteries.
- Dirty heads.

Recording cannot be made or is unsatisfactory.

- Improper connection.



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