

TCM-919

SERVICE MANUAL

US Model
Canadian Model
AEP Model
UK Model
E Model



Model Name Using Similar Mechanism	NEW
Tape Transport Mechanism Type	MT-919

SPECIFICATIONS

Recording system 2-track 1-channel monaural
 Speaker Approx. 6.6 cm (25/8 in.) dia.
 Frequency response 150 – 6,300 Hz
 Input Microphone input jack (minijack)
 sensitivity 0.25 mV for low impedance
 microphone
 Output Earphone jack (minijack)
 for 8 – 300-ohm earphone
 Power output 400 mW (at 10% harmonic distortion) (DC)
 Power requirements

	AC operation	DC operation
US, Canadian model	120 V AC, 60 Hz	6 V DC four R14 (size C) batteries
UK model	240 V AC, 50 Hz	
AEP, E, Saudi Arabia model	220 – 230 V AC, 50 Hz	

Battery life (hours)

Batteries	Recording
Sony battery SUM-2 (NS)	Approx. 4
Sony alkaline battery AM2 (N)	Approx. 10

For maximum performance, we recommend the use of alkaline batteries.

Dimensions Approx. 237 x 71 x 154 mm (w/h/d)
 (9³/₈ x 2⁷/₈ x 6¹/₈ in.) incl. projecting parts and
 controls
 Mass Approx. 980 g (2.2 lb. 34.6 oz.) incl. batteries
 Supplied accessories AC power adaptor (1) (for US, Canadian, AEP,
 UK model only)

Design and specifications subject to change without notice.

Note

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

Note on the AC power adaptor

Use only the supplied AC power adaptor (for US, Canadian, AEP, UK model only) or the AC-E60M AC power adaptor (not supplied). Do not use any other AC power adaptor.

Polarity of the plug
 (Unified polarity type)



CASSETTE CORDER
SONY®

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK Δ OR DOTTED LINE WITH MARK Δ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

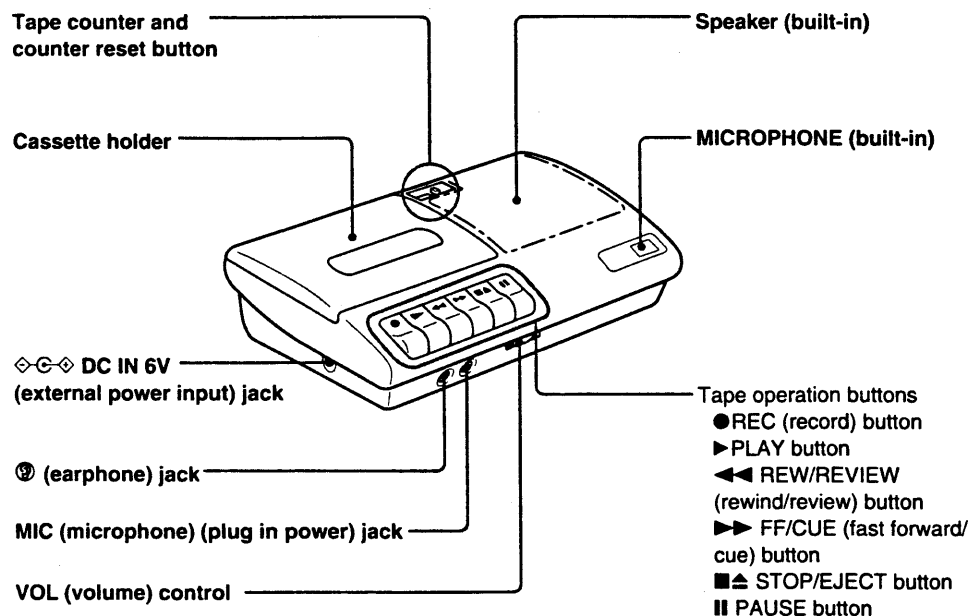
**ATTENTION AU COMPOSANT AYANT RAPPORT
À LA SÉCURITÉ!**

LES COMPOSANTS IDENTIFIÉS PAR UNE MARQUE Δ SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER SES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

**SECTION 1
GENERAL**

This section is extracted from
instruction manual.

Parts Identification



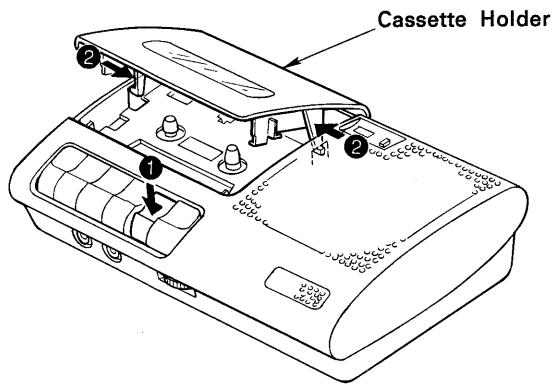
SECTION 2

DISASSEMBLY

REMOVAL OF THE CASSETTE HOLDER

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

1. OPEN the cassette holder.
(Push button STOP/EJECT)
2. Release the cassette holder while pushing the latches.



SECTION 3 ADJUSTMENTS

3-1. MECHANICAL ADJUSTMENT

PRECAUTION

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

record / playback head	pinch roller
erase head	rubber belts
capstan	idler
2. Demagnetize the record / playback head with a head demagnetizer
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 in the rated power supply voltage unless otherwise noted.

Torque Measurement

Torque	Torque meter	Meter reading
FWD	CQ-102C	30 to 60g•cm (0.42 to 0.84 oz•inch)
FWD Back tension	CQ-102C	1 to 5g•cm (0.014 to 0.07 oz•inch)
FF, REW	CQ-201B	55 to 140g•cm (0.77 to 1.96 oz•inch)

3-2. ELECTRICAL ADJUSTMENT

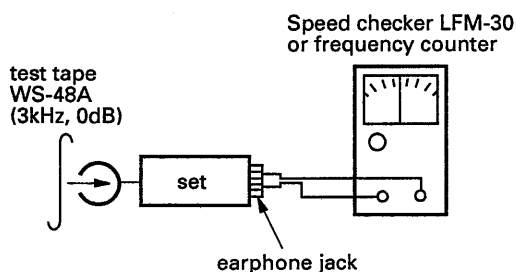
Tape Speed Adjustment

Setting :

VOL control : mechanical mid.

Adjustment Procedure :

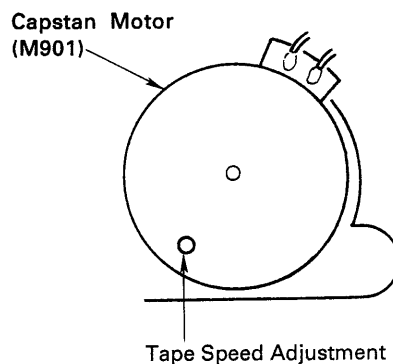
1. Mode : Playback



Specification :

Speed Checker	Frequency Counter
±3%	2,910Hz-3,090Hz

Adjustment Location : Capstan Motor (M901)



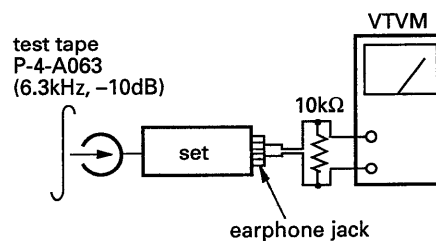
Record / Playback Head Azimuth Adjustment

Setting :

VOL control : mechanical mid.

Adjustment Procedure :

1. Mode : Playback

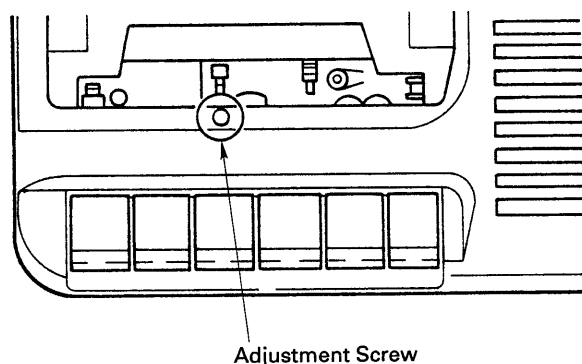


2. Turn the adjustment screw for maximum VTVM reading.

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

3. After the adjustment, lock the screws with locking compound.

Adjustment Location : Record/Playback Head



WHT

RED

M901

S901

TC POWER

RED

WHT

SPI01

SPEAKER

RED

WHT

WHT

RED

WHT

RED

WHT

OR6

JW133

JW134

C128

JW132

JW131

JW123

JW124

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JW126

JW127

JW128

JW129

JW130

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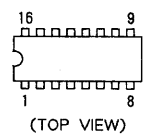
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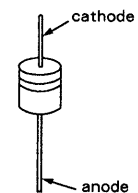
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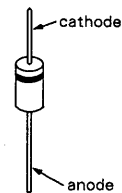
LA4162



1SS119



10E2



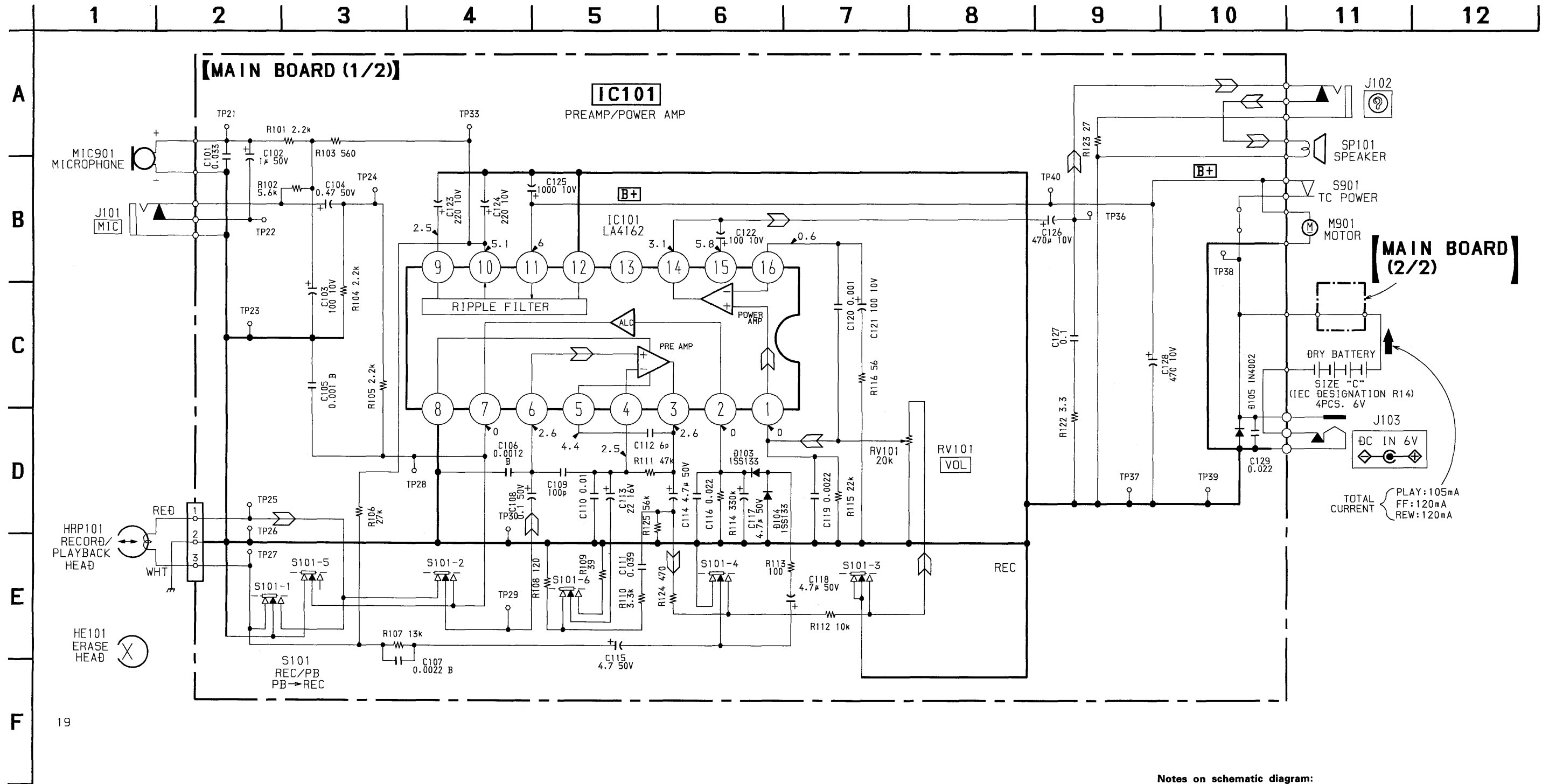
- 5 -

Ref. No.	Location
D103	C-5
D104	C-5
D105	D-7
IC101	C-6

Notes on printed wiring boards:

- : Indicated a lead wire mounted on the component side.
-  : Pattern from the side which enables seeing.

4-3. SCHEMATIC DIAGRAM



SECTION 5

EXPLODED VIEWS

NOTE:

- $-XX$, $-X$ mean standardized parts, so they may have some differences from the original one.

- **Color Indication of Appearance Parts**

Example:

KNOB,BALANCE(WHITE)...(RED)

↑ ↑

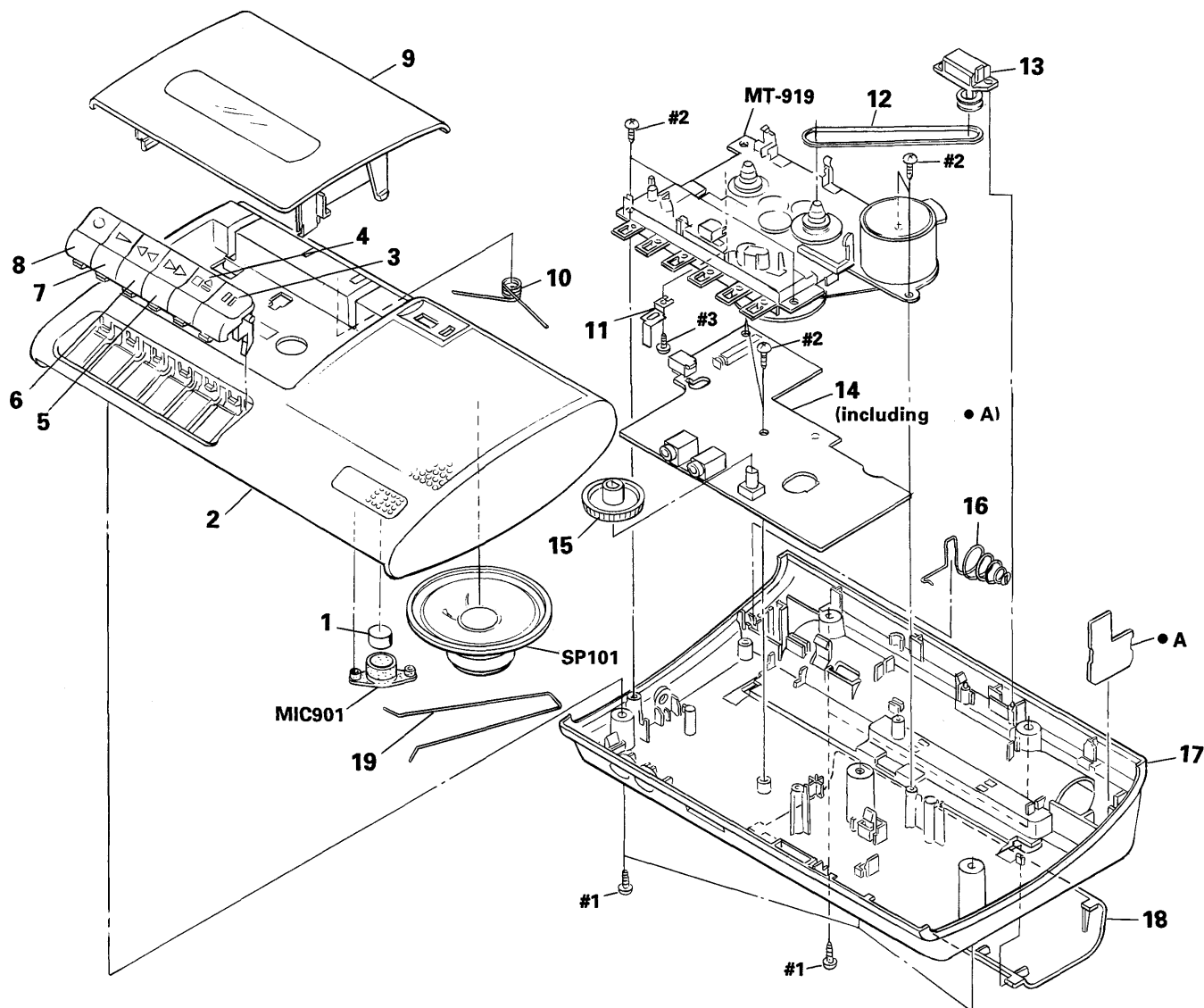
Parts color Cabinet's color

- 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 is given in the last of this parts list.

The components identified by mark  or dotted line with mark  are critical for safety.
Replace only with part number specified.

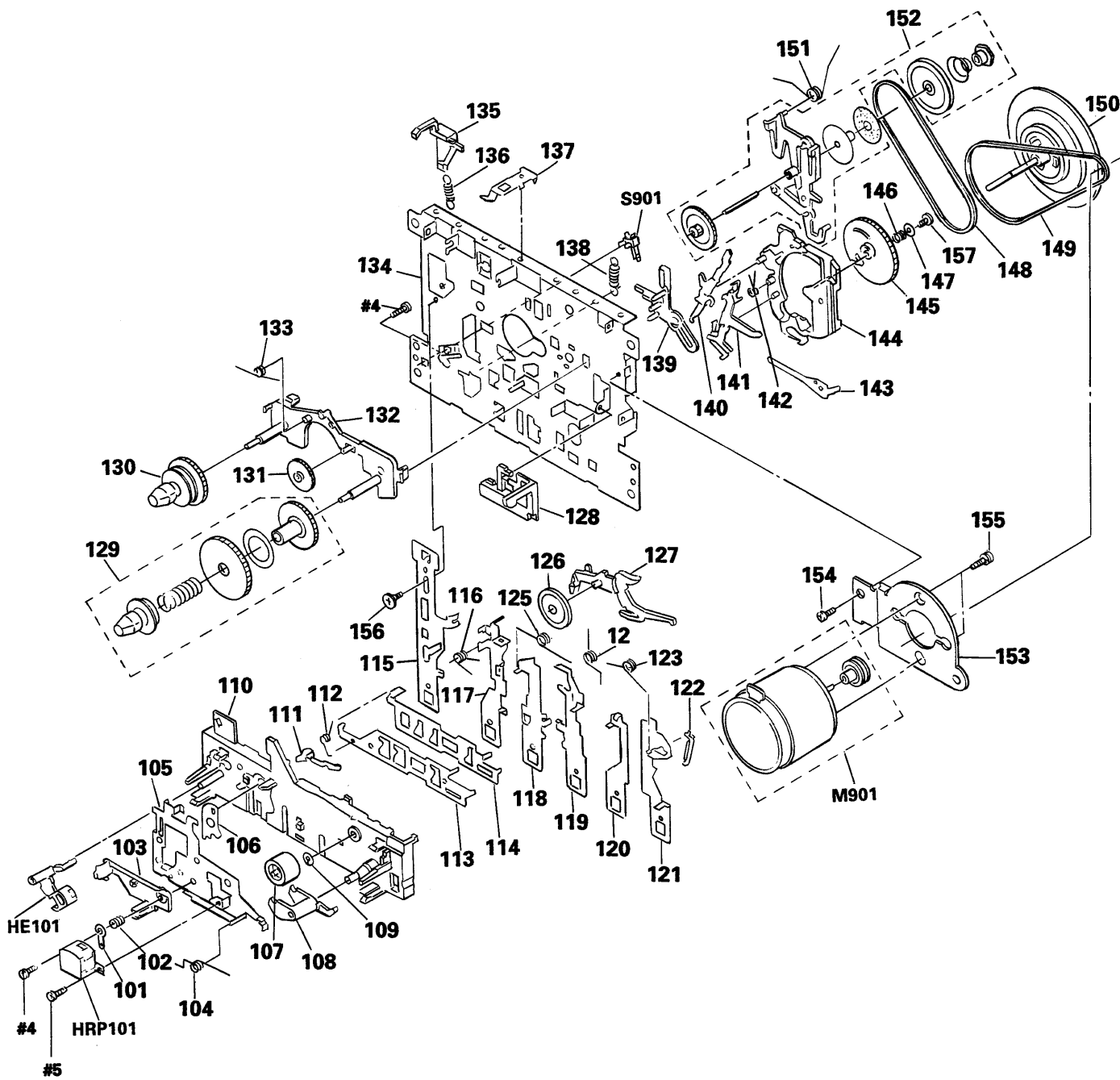
Les composants identifiés par une marque  sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

5-1. CABINET SECTION



<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Remarks</u>	<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Remarks</u>
* 1	3-348-316-01	CUSHION, MICROPHONE		12	3-384-783-01	BELT, COUNTER PULLEY	
2	3-384-689-01	CASE, UPPER		13	1-548-608-11	COUNTER, TAPE (SMALL TYPE)	
3	3-384-680-01	BUTTON (PAUSE), CASSETTE		* 14	A-3060-620-A	MAIN BOARD, COMPLETE	
4	3-384-687-01	BUTTON (STOP/EJECT), CASSETTE		15	3-384-678-01	KNOB, VOLUME	
5	3-384-685-01	BUTTON (FF), CASSETTE		16	3-384-785-01	TERMINAL, BATTERY	
6	3-384-686-01	BUTTON (REW), CASSETTE		17	3-384-688-01	CASE, LOWER	
7	3-384-684-01	BUTTON (PLAY), CASSETTE		18	3-384-682-01	COVER, BATTERY	
8	3-384-677-01	BUTTON (REC), CASSETTE		19	3-384-784-01	SPRING, SPEAKER STOPPER	
9	X-3366-072-1	COVER ASSY, CASSETTE					
10	3-384-676-01	SPRING, TORSION		MIC901	8-814-186-00	MICROPHONE, ELECTRET CONDENSER	
11	3-384-679-01	SPRING, REC		SP101	1-504-200-11	SPEAKER (6cm)	

5-2. CASSETTE MECHANISM SECTION (MT-919)



Ref.No.	Part No.	Description	Remarks	Ref.No.	Part No.	Description	Remarks
101	3-363-230-01	LUG		157	3-366-352-01	SCREW	
102	3-362-985-01	SPRING		HE101	1-500-009-11	HEAD, MAGNETIC (ERASE)	
103	3-362-986-01	HOLDER, HEAD		HRP101	1-543-776-11	HEAD, MAGNETIC (REC/PB)	
104	3-362-983-01	SPRING		M901	X-3366-071-1	MOTOR ASSY	
* 105	3-362-984-01	HEAD (BASE)		S901	1-572-538-11	SWITCH, LEAF (TC POWER)	
106	3-385-832-01	LINK, CR					
107	3-362-982-01	PINCH ROLLER					
108	3-362-981-01	PINCH ARM					
109	3-362-980-01	WASHER					
110	3-385-819-01	FRAME ASSY					
111	3-385-831-01	ARM, CR					
112	3-385-821-01	SPRING					
113	3-385-820-01	PLATE, FUNCTION					
114	3-385-822-01	LEVER, SW					
* 115	3-362-947-01	LEVER, REC					
116	3-362-954-01	SPRING					
* 117	3-362-948-01	LEVER, PLAY					
* 118	3-362-949-01	LEVER, REW					
* 119	3-362-950-01	LEVER, FF					
120	3-385-824-01	LEVER, SE					
* 121	3-362-952-01	LEVER, PAUSE					
122	3-362-953-01	ARM, PAUSE					
123	3-362-957-01	SPRING					
124	3-362-956-01	SPRING					
125	3-362-955-01	SPRING					
126	3-362-960-01	PULLEY, IDLER					
127	3-362-959-01	ARM, IDLER					
128	3-362-968-01	LEVER, EJECT					
129	3-362-962-01	REEL ASSY, T					
130	3-362-963-01	REEL, S					
131	3-362-965-01	IDLER, FF					
132	3-362-961-01	SPINDLE (BASE)					
133	3-372-120-01	SPRING					
* 134	3-362-941-01	CHASSIS					
135	3-385-825-01	INTERLOCK					
136	3-904-314-01	SPRING					
137	3-362-967-01	SPRING, CASSETTE					
138	3-362-971-01	SPRING					
139	3-362-972-01	SENSOR					
140	3-362-976-01	LEVER, CONTROL					
141	3-362-975-01	LEVER, SENSOR					
142	3-362-977-01	SPRING					
143	3-362-978-01	SPRING, PLATE					
144	3-362-973-01	AS (BASE)					
145	3-362-974-01	GEAR, CAM					
146	3-369-962-01	SPRING, COMPRESSION					
147	3-369-961-01	WASHER					
148	3-385-829-01	BELT					
149	3-385-833-01	BELT (X TYPE)					
150	3-385-827-01	FLYWHEEL ASSY					
151	3-362-970-01	SPRING					
152	3-385-826-01	IDLER ASSY, PF					
* 153	3-385-828-01	HOLDER, MOTOR					
154	3-363-229-01	SCREW					
155	3-385-830-01	SCREW					
156	3-362-958-01	SCREW					

SECTION 6

ELECTRICAL PARTS LIST

MAIN

NOTE:

The components identified by mark Δ or dotted line with mark Δ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque Δ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

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.
- 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

Ref. No.	Part No.	Description	Remarks	Ref. No.	Part No.	Description	Remarks
*	A-3060-620-A	MAIN BOARD, COMPLETE *****				< IC >	
		< CAPACITOR >		IC101	1-807-406-11	IC LA4162	
						< JACK >	
C101	1-161-057-00	CERAMIC	0.033uF 10% 50V	J101	1-750-008-11	JACK (DIA. 3.5) (MIC)	
C102	1-124-903-11	ELECT	1uF 20% 50V	J102	1-750-008-11	JACK (DIA. 3.5) (EARPHONE)	
C103	1-126-101-11	ELECT	100uF 20% 16V	J103	1-568-907-21	JACK, EXTERNAL POWER (DC IN 6V)	
C104	1-124-902-00	ELECT	0.47uF 20% 50V			< RESISTOR >	
C105	1-102-074-00	CERAMIC	0.001uF 10% 50V	R101	1-247-717-11	CARBON 2.2K 5% 1/4W	
C106	1-102-118-00	CERAMIC	0.0012uF 10% 50V	R102	1-247-722-11	CARBON 5.6K 5% 1/4W	
C107	1-102-121-00	CERAMIC	2200PF 10% 50V	R103	1-247-710-11	CARBON 560 5% 1/4W	
C108	1-124-463-00	ELECT	0.1uF 20% 50V	R104	1-247-717-11	CARBON 2.2K 5% 1/4W	
C109	1-102-973-00	CERAMIC	100PF 5% 50V	R105	1-247-717-11	CARBON 2.2K 5% 1/4W	
C110	1-102-129-00	CERAMIC	10000PF 10% 50V	R106	1-249-463-11	CARBON 27K 5% 1/4W	
C111	1-161-058-00	CERAMIC	0.039uF 10% 50V	R107	1-247-158-00	CARBON 13K 5% 1/4W	
C112	1-102-943-00	CERAMIC	6.0PF ± 0.5 PF 50V	R108	1-247-701-11	CARBON 120 5% 1/4W	
C113	1-126-233-11	ELECT	22uF 20% 50V	R109	1-247-695-11	CARBON 39 5% 1/4W	
C114	1-123-369-00	ELECT	4.7uF 20% 50V	R110	1-247-719-11	CARBON 3.3K 5% 1/4W	
C115	1-123-369-00	ELECT	4.7uF 20% 50V	R111	1-249-465-11	CARBON 47K 5% 1/4W	
C116	1-161-055-00	CERAMIC	0.022uF 10% 50V	R112	1-247-725-11	CARBON 10K 5% 1/4W	
C117	1-123-369-00	ELECT	4.7uF 20% 50V	R113	1-247-700-11	CARBON 100 5% 1/4W	
C118	1-123-369-00	ELECT	4.7uF 20% 50V	R114	1-247-891-00	CARBON 330K 5% 1/4W	
C119	1-102-121-00	CERAMIC	2200PF 10% 50V	R115	1-249-462-11	CARBON 22K 5% 1/4W	
C120	1-102-074-00	CERAMIC	0.001uF 10% 50V	R116	1-247-697-11	CARBON 56 5% 1/4W	
C121	1-126-101-11	ELECT	100uF 20% 16V	R122	1-249-453-11	CARBON 3.3 5% 1/4W	
C122	1-126-101-11	ELECT	100uF 20% 16V	R123	1-247-693-11	CARBON 27 5% 1/4W	
C123	1-126-335-11	ELECT	220uF 20% 10V	R124	1-247-708-11	CARBON 470 5% 1/4W	
C124	1-126-335-11	ELECT	220uF 20% 10V	R125	1-249-466-11	CARBON 56K 5% 1/4W	
C125	1-124-559-51	ELECT	1000uF 20% 10V			< VARIABLE RESISTOR >	
C126	1-126-103-11	ELECT	470uF 20% 16V	RV101	1-223-299-11	RES, VAR, CARBON 20K (VOL)	
C127	1-161-772-11	CERAMIC	0.1uF 10% 25V			< SWITCH >	
C128	1-126-103-11	ELECT	470uF 20% 16V	S101	1-692-401-11	SWITCH, PUSH (REC/PB)	
C129	1-161-055-00	CERAMIC	0.022uF 10% 50V			*****	
		< DIODE >					
D103	8-719-911-19	DIODE 1SS119					
D104	8-719-911-19	DIODE 1SS119					
D105	8-719-200-02	DIODE 10E2					

Ref. No.	Part No.	Description	Remarks
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MISCELLANEOUS

13	1-548-608-11	COUNTER, TAPE (SMALL TYPE)	
HE101	1-500-009-11	HEAD, MAGNETIC (ERASE)	
HRP101	1-543-776-11	HEAD, MAGNETIC (REC/PB)	
M901	X-3366-071-1	MOTOR ASSY	
MIC901	8-814-186-00	MICROPHONE, ELECTRET CONDENSER	
S901	1-572-538-11	SWITCH, LEAF (TC POWER)	
SP101	1-504-200-11	SPEAKER (6cm)	

ACCESSORIES & PACKING MATERIALS

△	1-466-977-11	ADAPTOR, AC (AC-E616) (US, Canadian)
△	1-466-978-11	ADAPTOR, AC (AC-E616) (UK)
△	1-466-979-11	ADAPTOR, AC (AC-E616) (AEP)
*	3-384-620-01	INDIVIDUAL CARTON (E, Saudi Arabia)
*	3-384-621-01	INDIVIDUAL CARTON (US, Canadian)
*	3-384-622-01	INDIVIDUAL CARTON (AEP, UK)
*	3-387-196-01	CUSHION (L)
*	3-387-197-01	CUSHION (R)
	3-756-230-11	MANUAL, INSTRUCTION (English, French, Spanish, Portuguese) (EXCEPT US)
	3-756-230-21	MANUAL, INSTRUCTION (English) (US)
	3-756-230-41	MANUAL, INSTRUCTION (German, Dutch, Swedish, Italian) (AEP)

HARDWARE LIST

#1	7-685-648-79	SCREW +BVTP	3X12 TYPE2 N-S
#2	7-685-646-79	SCREW +BVTP	3X8 TYPE2 N-S
#3	7-621-255-10	SCREW +PTT	2X3 (S)
#4	7-685-104-19	SCREW +P	2X6 TYPE2 NON-SLIT
#5	7-621-255-25	SCREW +PTT	2X4 (S)

The components identified by mark △ or dotted line with mark △ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque △ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

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

