

TCM-959T

SERVICE MANUAL

*US Model
Canadian Model
AEP Model
E Model*



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

SPECIFICATIONS

Radio section

Frequency range US, Canadian, E model:
FM: 87.6—108.0MHz
AM: 530—1,710kHz
AEP model:
FM: 87.6—107.0MHz
AM: 531—1,602kHz
Saudi Arabia model:
FM: 87.6—107.0MHz
AM: 530—1,605kHz
Antenna FM: Wire lead antenna
AM: Built-in ferrite bar antenna

Tape recorder section and general

Recording system 2-track 1-channel monaural
Speaker Approx. 6.6cm (2⁵/₈ in.) dia.
Frequency response 150—6,300Hz
Input Microphone input jack (minijack)
sensitivity 0.25mV for low
impedance microphone
Output Earphone jack (minijack)
for 8—300-ohm earphone
Power output 400mW (at 10% harmonic
distortion) (DC)
Power requirements 6V DC, four size C (R14)
batteries
DC IN 6V jack accepts;
AC power adaptor for use on
US, Canadian model:
120V AC, 60Hz
AEP, E, Saudi Arabia model:
220—230V AC, 50Hz

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. 237×71×155mm
(w/h/d)
(9³/₈×2⁷/₈×6¹/₈ in.) incl.
projecting parts and controls
Mass Approx. 1,030g (2.3 lb. 36.4 oz.)
incl. batteries
Supplied accessories AC power adaptor (AC-E616) (1)
(for US, Canadian, AEP model)

Design and specifications subject to change without notice.

Note on the AC power adaptor

Use only the supplied AC power adaptor (AC-E616) (for US, Canadian, AEP model) or the not supplied AC power adaptor (AC-E60M) (for E, Saudi Arabia model). Do not use any other AC power adaptor.

Polarity of the plug
(Unified polarity type)



MICROFILM

RADIO CASSETTE-CORDER
SONY®

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK  OR DOTTED LINE WITH MARK  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.

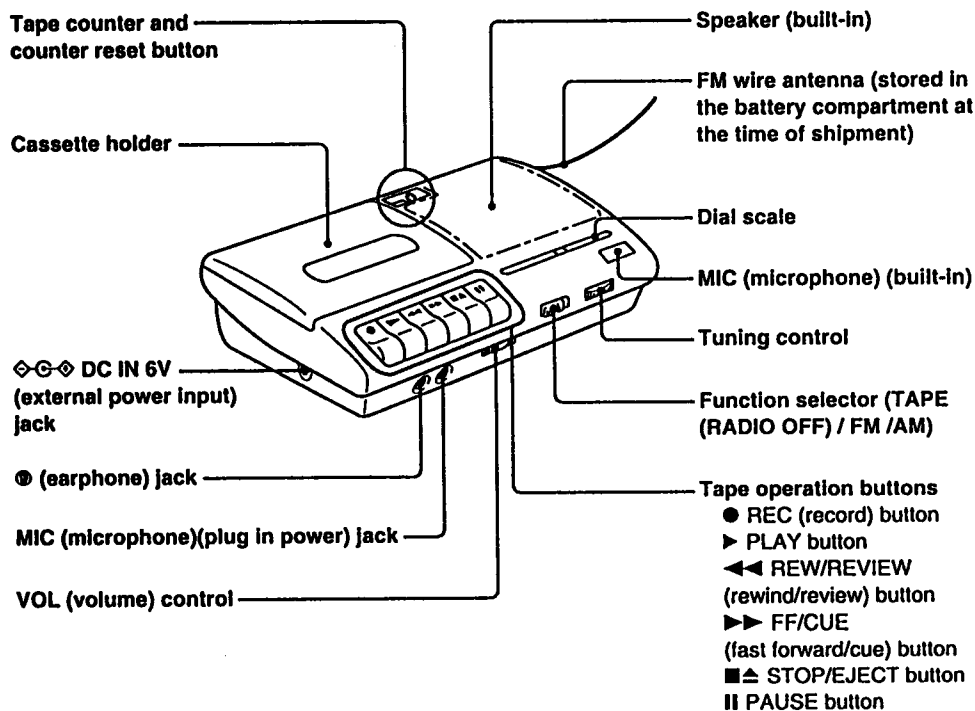
**ATTENTION AU COMPOSANT AYANT RAPPORT
À LA SÉCURITÉ!**

LES COMPOSANTS IDENTIFIÉS PAR UNE MARQUE  SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES 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.

1-1. PARTS IDENTIFICATION



Ref. No.	Part No.	Description	Remark
101	3-363-230-01	LUG	
102	3-362-985-01	SPRING	
103	3-362-986-01	HOLDER, HEAD	
104	3-362-983-01	SPRING	
* 105	3-362-984-01	HEAD (BASE)	
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	

Ref. No.	Part No.	Description	Remark
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	
157	3-366-352-01	SCREW	
HE101	1-500-009-11	HEAD, MAGNETIC (ERASE)	
HRP101	1-543-410-11	HEAD, MAGNETIC (REC/PB)	
M901	X-3366-071-1	MOTOR ASSY	
S901	1-572-538-11	SWITCH, LEAF (TC POWER)	

SECTION 7 ELECTRICAL PARTS LIST

MAIN

BATT

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 and -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

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.

Ref. No.	Part No.	Description	Remark
*	A-3060-619-A	MAIN BOARD, COMPLETE (INCLUDING BATT BOARD)	

		< CAPACITOR >	
C101	1-161-772-11	CERAMIC 0.1uF 10% 25V	
C102	1-124-903-11	ELECT 1uF 20% 50V	
C103	1-126-101-11	ELECT 100uF 20% 16V	
C104	1-124-902-00	ELECT 0.47uF 20% 50V	
C105	1-102-074-00	CERAMIC 0.001uF 10% 50V	
C106	1-102-118-00	CERAMIC 0.0012uF 10% 50V	
C107	1-102-121-00	CERAMIC 0.0022uF 10% 50V	
C108	1-124-927-11	ELECT 4.7uF 20% 50V	
C109	1-102-973-00	CERAMIC 100PF 5% 50V	
C110	1-102-129-00	CERAMIC 0.01uF 10% 50V	
C111	1-161-058-00	CERAMIC 0.039uF 10% 50V	
C112	1-102-943-00	CERAMIC 6PF 0.5PF 50V	
C113	1-126-233-11	ELECT 22uF 20% 50V	
C114	1-123-369-00	ELECT 4.7uF 20% 50V	
C115	1-123-369-00	ELECT 4.7uF 20% 50V	
C116	1-161-055-00	CERAMIC 0.022uF 10% 50V	
C117	1-123-369-00	ELECT 4.7uF 20% 50V	
C118	1-123-369-00	ELECT 4.7uF 20% 50V	
C119	1-102-121-00	CERAMIC 0.0022uF 10% 50V	
C120	1-102-074-00	CERAMIC 0.001uF 10% 50V	
C121	1-126-101-11	ELECT 100uF 20% 16V	
C122	1-126-101-11	ELECT 100uF 20% 16V	
C123	1-126-335-11	ELECT 220uF 20% 10V	
C124	1-126-335-11	ELECT 220uF 20% 10V	
C125	1-124-473-11	ELECT 1000uF 20% 10V	
C126	1-126-103-11	ELECT 470uF 20% 16V	
C127	1-161-772-11	CERAMIC 0.1uF 10% 25V	
C128	1-126-103-11	ELECT 470uF 20% 16V	
C129	1-101-005-00	CERAMIC 0.022uF 10% 25V	
C151	1-102-973-00	CERAMIC 100PF 5% 50V	
C152	1-102-978-00	CERAMIC 220PF 5% 50V	
		< DIODE >	
D103	8-719-911-19	DIODE 1SS119	

Ref. No.	Part No.	Description	Remark
D104	8-719-911-19	DIODE 1SS119	
D105	8-719-200-02	DIODE 10E2	
		< IC >	
IC101	1-807-406-11	IC LA4162	
		< JACK >	
J101	1-750-008-11	JACK (DIA. 3.5) (MIC)	
J102	1-750-008-11	JACK (DIA. 3.5) (earphone)	
J103	1-568-907-21	JACK, DC (POLARITY UNIFIED TYPE) (DC IN 6V)	
		< RESISTOR >	
R101	1-247-717-11	CARBON 2.2K 5% 1/4W	
R102	1-247-722-11	CARBON 5.6K 5% 1/4W	
R103	1-247-710-11	CARBON 560 5% 1/4W	
R104	1-247-717-11	CARBON 2.2K 5% 1/4W	
R105	1-247-717-11	CARBON 2.2K 5% 1/4W	
R106	1-249-463-11	CARBON 27K 5% 1/4W	
R107	1-247-158-00	CARBON 13K 5% 1/4W	
R108	1-247-701-11	CARBON 120 5% 1/4W	
R109	1-247-695-11	CARBON 39 5% 1/4W	
R110	1-247-719-11	CARBON 3.3K 5% 1/4W	
R111	1-249-465-11	CARBON 47K 5% 1/4W	
R112	1-247-725-11	CARBON 10K 5% 1/4W	
R113	1-247-700-11	CARBON 100 5% 1/4W	
R114	1-247-891-00	CARBON 330K 5% 1/4W	
R115	1-249-462-11	CARBON 22K 5% 1/4W	
R116	1-247-697-11	CARBON 56 5% 1/4W	
R118	1-247-883-00	CARBON 150K 5% 1/4W	
R119	1-247-721-11	CARBON 4.7K 5% 1/4W	
R122	1-249-453-11	CARBON 3.3 5% 1/4W	
R123	1-247-104-00	CARBON 75 5% 1/4W	
R124	1-247-708-11	CARBON 470 5% 1/4W	
R125	1-249-466-11	CARBON 56K 5% 1/4W	
R151	1-247-700-11	CARBON 100 5% 1/4W	
		< VARIABLE RESISTOR >	
RV101	1-223-299-11	RES, VAR, CARBON 20K (VOL)	

MAIN**BATT****TUNER**

Ref. No.	Part No.	Description	Remark
< SWITCH >			
S101	1-692-401-11	SWITCH, PUSH (REC/PB)	
S102	1-692-402-11	SWITCH, SLIDE (BAND)	

*	A-3060-618-A	TUNER BOARD, COMPLETE (US, Canadian)	
*	A-3060-691-A	TUNER BOARD, COMPLETE (AEP, E)	
*	A-3060-692-A	TUNER BOARD, COMPLETE (Saudi Arabia)	

	3-384-673-01	HOLDER, FERRITE-ROD ANTENNA	
< FILTER >			
BPF1	1-236-022-11	FILTER, BAND PASS	
< CAPACITOR >			
C1	1-102-936-00	CERAMIC 3PF	0.25PF 50V
C3	1-102-958-00	CERAMIC 20PF	5% 50V
		(Saudi Arabia)	
C3	1-102-959-00	CERAMIC 22PF	5% 50V
		(US, Canadian, AEP, E)	
C4	1-102-959-00	CERAMIC 22PF	5% 50V
		(E)	
C4	1-102-960-00	CERAMIC 24PF	5% 50V
		(US, Canadian)	
C4	1-102-961-00	CERAMIC 27PF	5% 50V
		(AEP)	
C4	1-102-962-00	CERAMIC 30PF	5% 50V
		(Saudi Arabia)	
C5	1-102-935-00	CERAMIC 2PF	0.25PF 50V
C6	1-102-125-00	CERAMIC 0.0047uF	10% 50V
C8	1-102-953-00	CERAMIC 18PF	5% 50V
C9	1-101-997-11	CERAMIC 5PF	0.5PF 50V
		(US, Canadian)	
C9	1-101-998-00	CERAMIC 6PF	0.5PF 50V
		(AEP, E, Saudi Arabia)	
C13	1-124-902-00	ELECT 0.47uF	20% 50V
C14	1-101-005-00	CERAMIC 0.022uF	50V
C15	1-126-966-11	ELECT 33uF	20% 10V
C16	1-161-051-00	CERAMIC 0.01uF	10% 50V
C17	1-102-125-00	CERAMIC 0.0047uF	10% 50V
C18	1-123-369-00	ELECT 4.7uF	20% 25V
C19	1-126-103-11	ELECT 470uF	20% 16V
C20	1-161-051-00	CERAMIC 0.01uF	10% 50V
C23	1-101-005-00	CERAMIC 0.022uF	50V
C24	1-102-973-00	CERAMIC 100PF	5% 50V
C25	1-126-233-11	ELECT 22uF	20% 50V
C27	1-101-005-00	CERAMIC 0.022uF	50V
C28	1-161-051-00	CERAMIC 0.01uF	10% 50V

Ref. No.	Part No.	Description	Remark
< FILTER >			
CF1	1-577-072-11	FILTER, CERAMIC	
CF2	1-579-263-11	FILTER, CERAMIC	
< VARIABLE CAPACITOR >			
CT1-4	1-141-455-11	CAP, VAR (TUNING) (US, Canadian)	
CV1-4			
CT1-4	1-141-456-11	CAP, VAR (TUNING) (AEP, E, Saudi Arabia)	
CV1-4			
< DIODE >			
D1	8-719-109-72	DIODE RD3.9ES-B2	
D2	8-719-911-19	DIODE 1SS119	
< IC >			
IC1	8-759-245-07	IC TA8164P	
< COIL >			
* L1	1-422-185-11	COIL, AIR-CORE	
L2	1-406-161-11	COIL, FM OSCILLATOR (US, Canadian, AEP, E)	
L2	1-459-815-11	COIL (WITH CORE) (Saudi Arabia)	
L3	1-501-582-11	ANTENNA, FERRITE-ROD (AM) (US, Canadian)	
L3	1-501-588-11	ANTENNA, FERRITE-ROD (AM) (AEP, E, Saudi Arabia)	
L4	1-406-040-00	COIL (OSC)	
< TRANSISTOR >			
Q1	8-729-281-53	TRANSISTOR 2SC1815-GR	
Q2	8-729-281-53	TRANSISTOR 2SC1815-GR	
< RESISTOR >			
R2	1-249-465-11	CARBON 47K 5% 1/4W	
R3	1-247-721-11	CARBON 4.7K 5% 1/4W	
R4	1-249-461-11	CARBON 18K 5% 1/4W	
R5	1-249-469-11	CARBON 100K 5% 1/4W	
R6	1-249-469-11	CARBON 100K 5% 1/4W	
R9	1-247-700-11	CARBON 100 5% 1/4W	
R10	1-247-708-11	CARBON 470 5% 1/4W	
R11	1-247-703-11	CARBON 180 5% 1/4W	
R12	1-247-693-11	CARBON 27 5% 1/4W	
		(Saudi Arabia)	
R12	1-247-696-11	CARBON 47 5% 1/4W	
		(US, Canadian, AEP, E)	
R13	1-247-692-11	CARBON 22 5% 1/4W	
R14	1-247-725-11	CARBON 10K 5% 1/4W	
R15	1-247-725-11	CARBON 10K 5% 1/4W	
R16	1-247-706-11	CARBON 330 5% 1/4W	
R17	1-247-692-11	CARBON 22 5% 1/4W	

TUNER

Ref. No.	Part No.	Description	Remark
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< TRANSFORMER >

T1	1-404-249-00	COIL, FM DETECTOR	
T2	1-404-933-11	TRANSFORMER, IF	
T3	1-404-355-00	TRANSFORMER, IF	

MISCELLANEOUS

13	1-548-608-11	COUNTER, TAPE (SMALL TYPE)	
HE101	1-500-009-11	HEAD, MAGNETIC (ERASE)	
HRP101	1-543-410-11	HEAD, MAGNETIC (REC/PB)	
M901	X-3366-071-1	MOTOR ASSY	
MIC901	8-814-186-00	MICROPHONE, ELECTRET CONDENSER (MIC)	

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)	
△	1-466-979-11	ADAPTOR, AC (AC-E616) (AEP)	
*	3-384-625-01	INDIVIDUAL CARTON (US, Canadian)	
*	3-384-626-01	INDIVIDUAL CARTON (E, Saudi Arabia)	
*	3-384-627-01	INDIVIDUAL CARTON (AEP)	
*	3-387-196-01	CUSHION (L)	
*	3-387-197-01	CUSHION (R)	
	3-756-233-12	MANUAL, INSTRUCTION (ENGLISH, FRENCH, SPANISH, PORTUGUESE) (Canadian, AEP, E, Saudi Arabia)	
	3-756-233-22	MANUAL, INSTRUCTION (ENGLISH) (US)	
	3-756-233-42	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)	
#6	7-621-259-25	SCREW +P 2.6X4	

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.