WM-EX511/EX618

SERVICE MANUAL

AEP Model
UK Model
E Model
WM-EX618
Tourist Model
WM-EX511

Photo : WM-EX511

Model Name Using Similar Mechanism	WM-EX606
Tape Transport Mechanism Type	MT-WMEX911-60

SPECIFICATIONS

Frequency response (DOLBY NR* off)
20 - 18,000 Hz (EIAJ**)
Output Earphones (∩/REMOTE jack)
load impedance 8 - 300 Ω
Power output 5 mW + 5 mW at DC operation (EIAJ, 16 Ω)
Power requirements 1.5 V DC Rechargeable battery (NC-6WM)
One R6 (size AA) battery

Battery life (EIAJ)

Battery	Playback
Rechargeable NC-6WM fully charged	Approx. 3.5 hours
Sony alkaline AM3 (N)	Approx. 9 hours
Rechargeable NC-6WM with Sony AM3 (N)	Approx. 12.5 hours
Sony SUM-3 (NS)	Approx. 2.5 hours

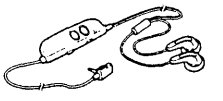
For maximum performance we recommend the use of alkaline battery.

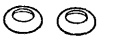
Dimensions Approx. 108.4 x 77.2 x 20.3 mm (w/h/d)
incl. projecting parts and controls (EIAJ)
Mass Main unit Approx. 150 g
For use Approx. 245 g (incl. Stereo earphone with remote controller, rechargeable battery NC-6WM, tape C-60HF)

Design and specifications subject to change without notice.
* Dolby noise reduction manufactured under licence from Dolby Laboratories Licensing Corporation.
"DOLBY" and the double-D symbol ▯▯ are trademarks of Dolby Laboratories Licensing Corporation.
**(EIAJ) Electric Industries Association of Japan

Accessories supplied

• Battery case • Battery charger • Sony alkaline battery AM3 (N) • Rechargeabl battery





• Headphone (with Remote Control)
• Ear adaptors(2) (If the earphones do not fit your ears, attach the ear adaptors.)

• Carrying case • Clip
• Instruction manual
• Leaf lets
• Warranty card

Using on AC power
Remove the rechargeable battery if inserted and attach the battery case and connect the AC power adaptor (AC-E15HG not supplied) to the DC IN 1.5 V of the battery case and to the wall outlet. Do not use any other AC power adaptor.

Polarity of the plug

使用時は添付資料も参照のこと
Refer to the additional documents

CASSETTE PLAYER

SONY®

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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.

Flexible Circuit Board Repairing

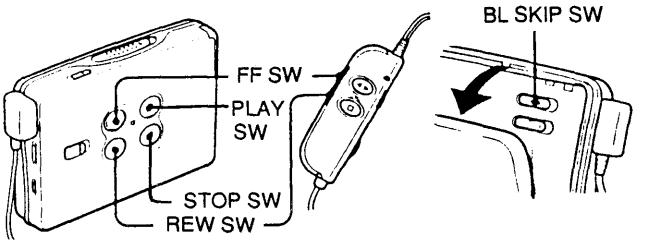
- Keep the temperature of the soldering iron around 270 °C during repairing.
- Do not touch the soldering iron on the same conductor of the circuit board (within 3 times).
- Be careful not to apply force on the conductor when soldering or unsoldering.

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.

SECTION 1
SERVICING NOTE

Hall element H701 mounted on the main board is used to detect rotaion of the reels. Because it is mounted on the main board, when the main board is being removed, rotation of the reels cannot be detected and the auto-off/tape-end detector circuit does not operate correctly.
Switch S702 (for N/R and FF/REW) is also mounted on the main board. Therefore, without the main board, the head cannnot be placed in playback position, and power cannot be supplied to the circuitry of the playback system.
When the main board is being removed, follow the procedures below, in order to check operation of the mechanisms of the tape deck and to check voltages supplied to each circuit.

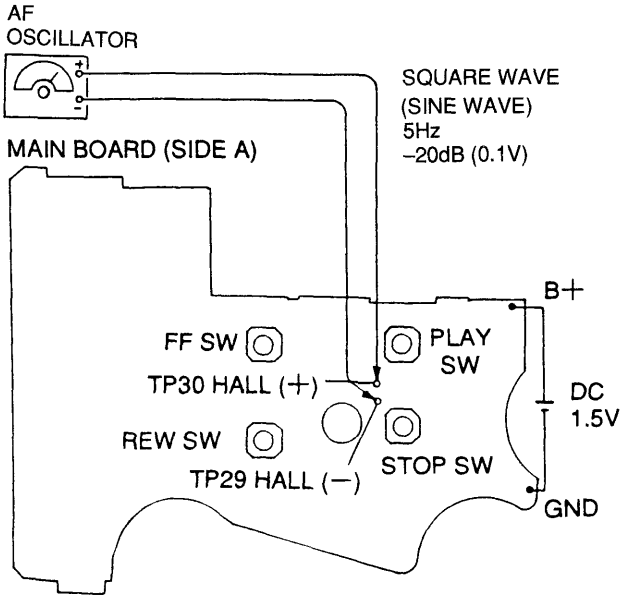


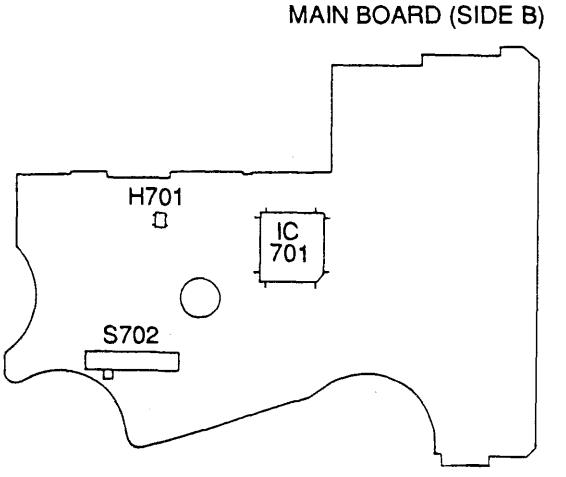
SETTING
1) Refer to "Disassembly" and remove the cabinet and open the MAIN board.
2) Turn OFF the BL SKIP switch (S704) of the MAIN board.
3) Supply 1.5V to the battery terminals (+) and (–) using a stabilized power supply.

Note 1 : Do not change the setting position of switch S702 when removing the main board. If it has been changed accidentally, or if the desired mode cannot be set with the switch, adjust the setting again after the audio board is installed.
Note 2 : Use the remote control ◁▷, □, FF, and REW switches as much as possible. If the remote control is not available, do not touch S707 to S710 with the hand and use something with a round tip to press them.

FF/REW mode
(1) Apply a square wave signal or a sine wave signal to hall element sensor H701. (See the figure below.)
(2) Slide the STOP switch for selecting STOP mode.
(3) Slide the FF or REW switch.
(4) Remove the main board.

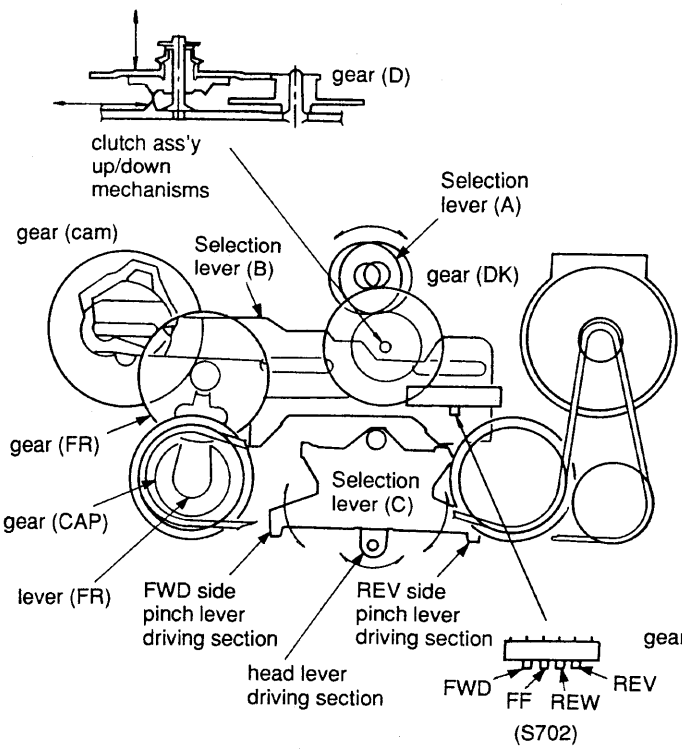
PLAY mode
(1) Apply a square wave signal or a sine wave signal to hall element sensor H701. (See the figure below.)
(2) Slide the STOP switch for selecting STOP mode.
(3) Slide the PLAY switch.
With the audio board installed, Slide the PLAY switch selects the FWD or REV mode alternatively.
(4) Remove the main board.





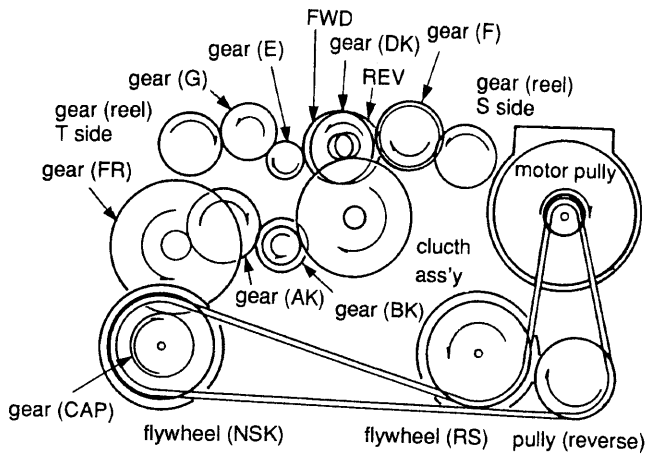
Function of the lever and rotating mechanisms for mode selection

- Mode selection starts when the motor rotates reversely.
- Selection lever (B) moves to the left or right when driver whin the gear (cam).
- The swich set position of switch S702 (4-position switch) is determined in accordance with the position of Selection lever (B). When the switch set position is set appropriately, the moter rotates normally and the tape starts moving.

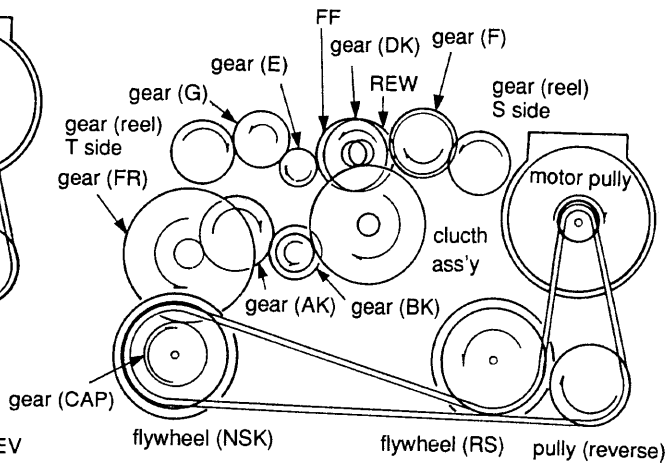


- Lever (FR) is driver with gear (FR) by friction, and it swings to the left or right depending on the rotating direction of the motor.
- Selection levers (A) and (C) also swing to the left or right in accordance with the movement of Selection lever (B), and the clutch assembly moves upward or downward accordingly.
- The pinch roller is activated and the head is placed in playback position with Selection lever (C).
- When the mode is switched from one mode to another, the pinch roller is activated while the motor is rotating reversely (for a short period of time), causing a little slackness in the tape transport.

1. Rotating Mechanisms in PLAY Mode



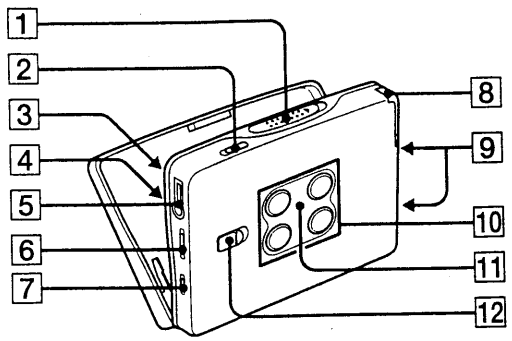
2. Rotating Mechanisms in FF, REW Mode

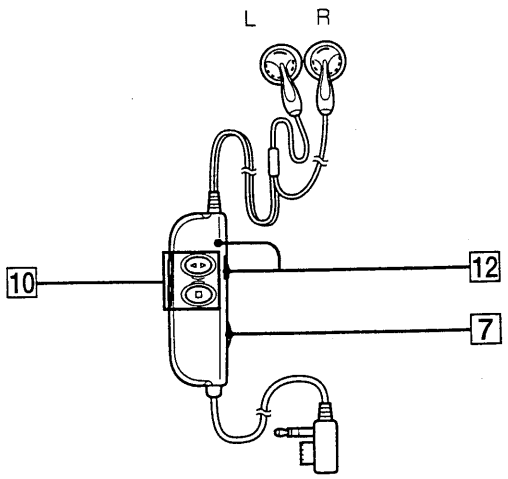


SECTION 2
GENERAL

This section is extracted from instruction manual.

PARTS IDENTIFICATION





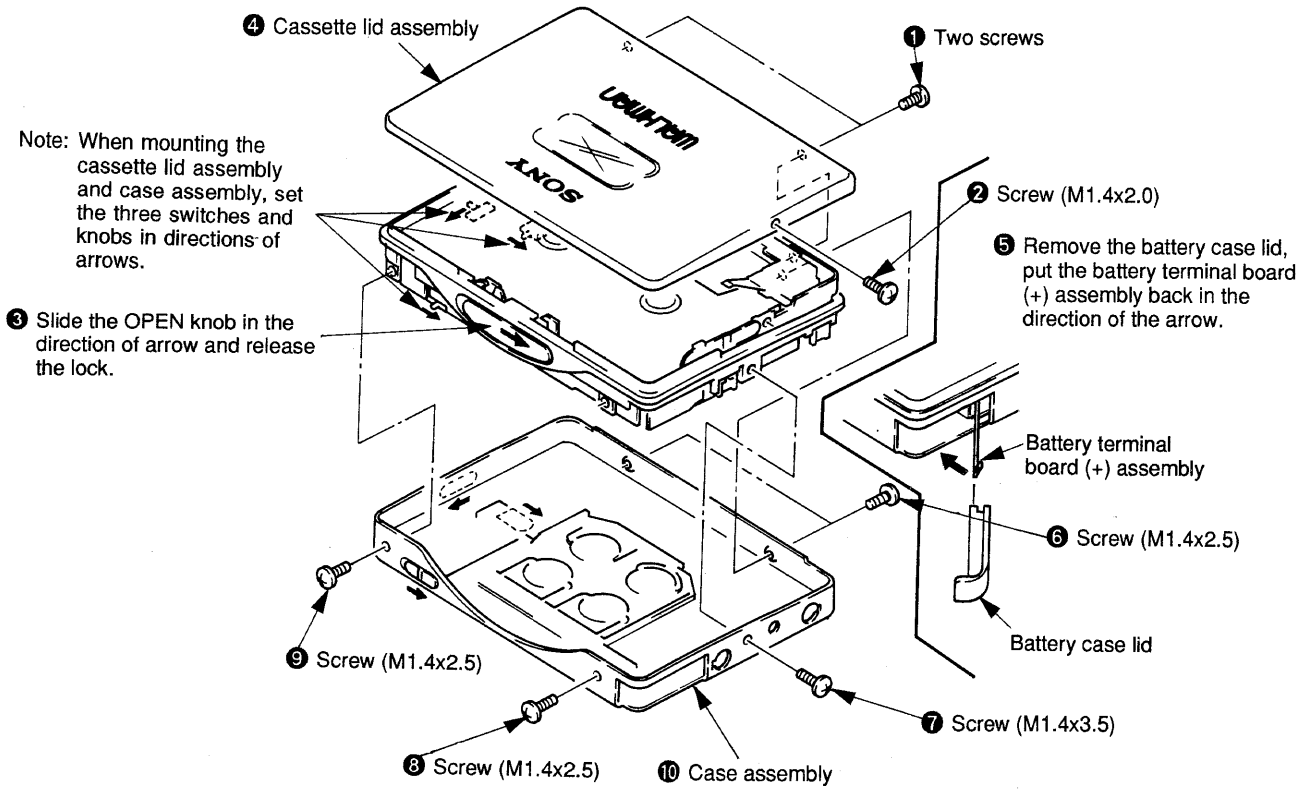
1 OPEN (open the Cassette lid) knob
2 AVLS (Automatic Volume Limitter System) switch
3 MODE (tape transport mode)/BL SKIP (blank skip) switch
4 DOLBY NR (Dolby Noise Reduction) switch
5 ∩ REMOTE (remote controller/headphones) jack
6 EX DBB (dynamic bass boost) selector
7 VOL (Volume) knob
8 Battery compartment for the rechargeable battery
9 Battery connecting points (for supplied battery case)
10 Tape operation button
11 BATT (battery) indicator
12 Hold switch and hold window

SECTION 3

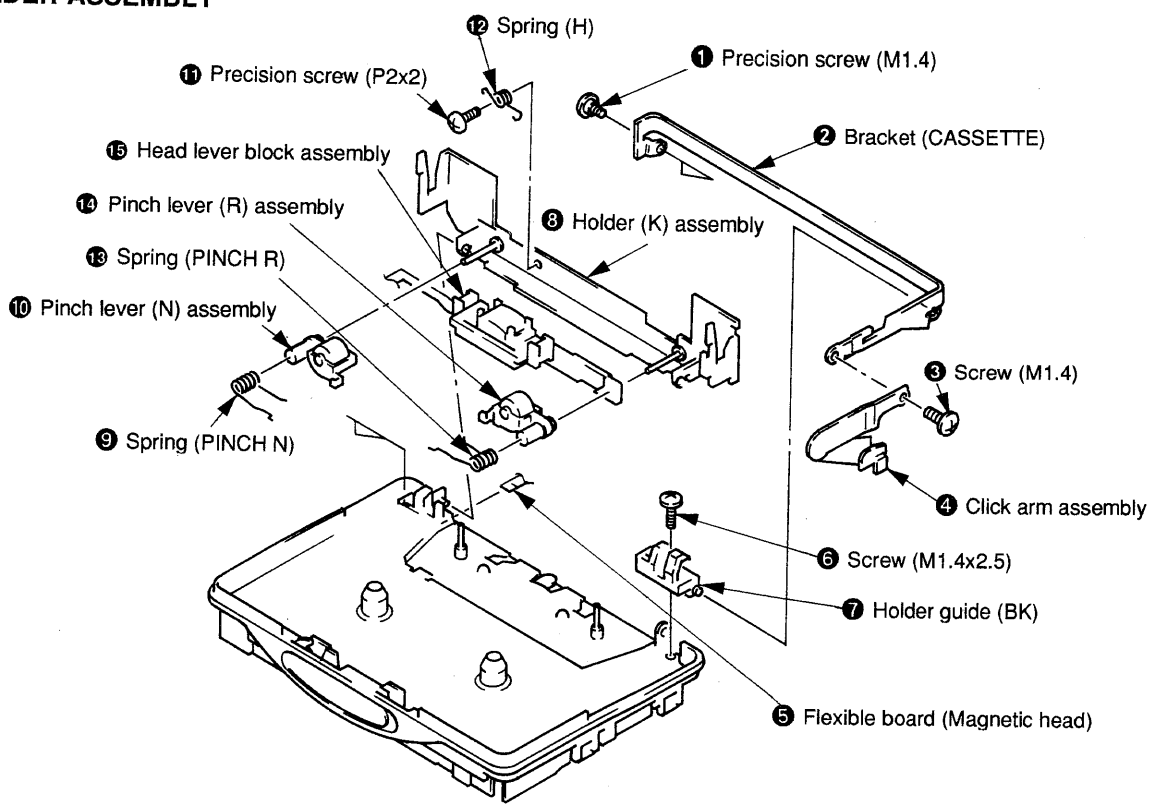
DISASSEMBLY

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

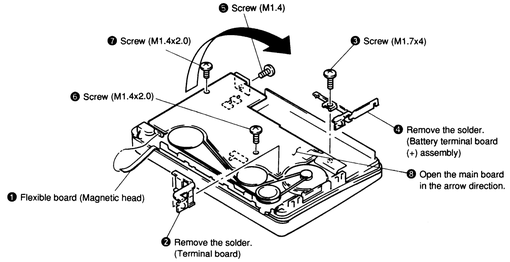
3-1. CASSETTE LID ASSEMBLY AND CASE ASSEMBLY



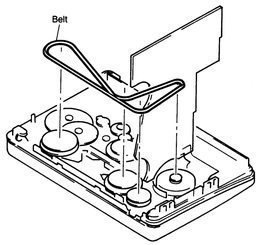
3-2. HOLDER ASSEMBLY



3-3. OPENING OF MAIN BOARD



3-4. BELT



SECTION 4
ADJUSTMENTS

4-1. MECHANICAL ADJUSTMENTS

PRECAUTION

1. Clean the following parts with a denatured-alcohol-moistened swab :
   playback head — rubber belts
   capstan — idlers
   pinch roller
2. Demagnetize the 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 with the rated power supply voltage (1.3V) unless otherwise noted.

Torque Measurement

Mode	Torque Meter	Meter Reading
FWD	CQ102C	21 — 38 g • cm (0.29 — 0.53 oz • inch)
FWD Back Tension		0.5 — 3 g • cm (0.01 — 0.04 oz • inch)
REV	CQ102RC	21 — 38 g • cm (0.29 — 0.53 oz • inch)
REV Back Tension		0.5 — 3 g • cm (0.01 — 0.04 oz • inch)
FF	CQ201B	more than 60 g • cm (more than 0.84 oz • inch)
REW		

Tape Pulling Force Measurement

Mode	Torque Meter	Meter Reading
FWD	CQ-403A	more than 35 g (more than 1.23 oz)
REV	CQ-403R	

4-2. ELECTRICAL ADJUSTMENTS

PRECAUTION

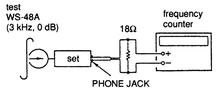
1. Power supply voltage : 1.3V.
2. Switch position
   DOLBY NR switch : OFF
   EX DBB switch : NORM

Test Tape

Type	Signal	Used for
WS-48A	3 kHz, 0 dB	Tape Speed Adjustment

TAPE SPEED ADJUSTMENT

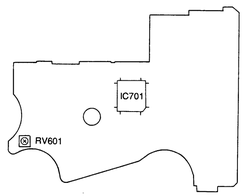
Procedure :



1. Play back WS-48A (tape center portion) in FWD mode. Adjust the RV601 so that the frequency counter reads 3,000 ± 30 Hz.
2. Play back WS-48A (tape center portion) in REV mode. Confirm that the reading of frequency counter is within 2.5% from the reading in step 1.

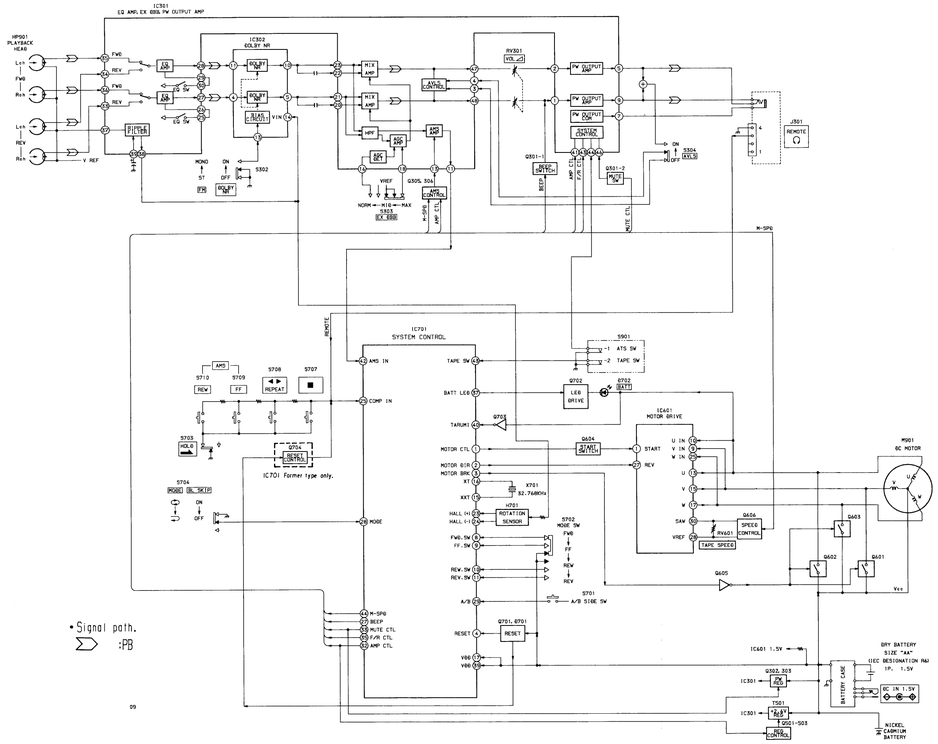
Adjustment Parts Location diagram :

MAIN BOARD (SIDE B)



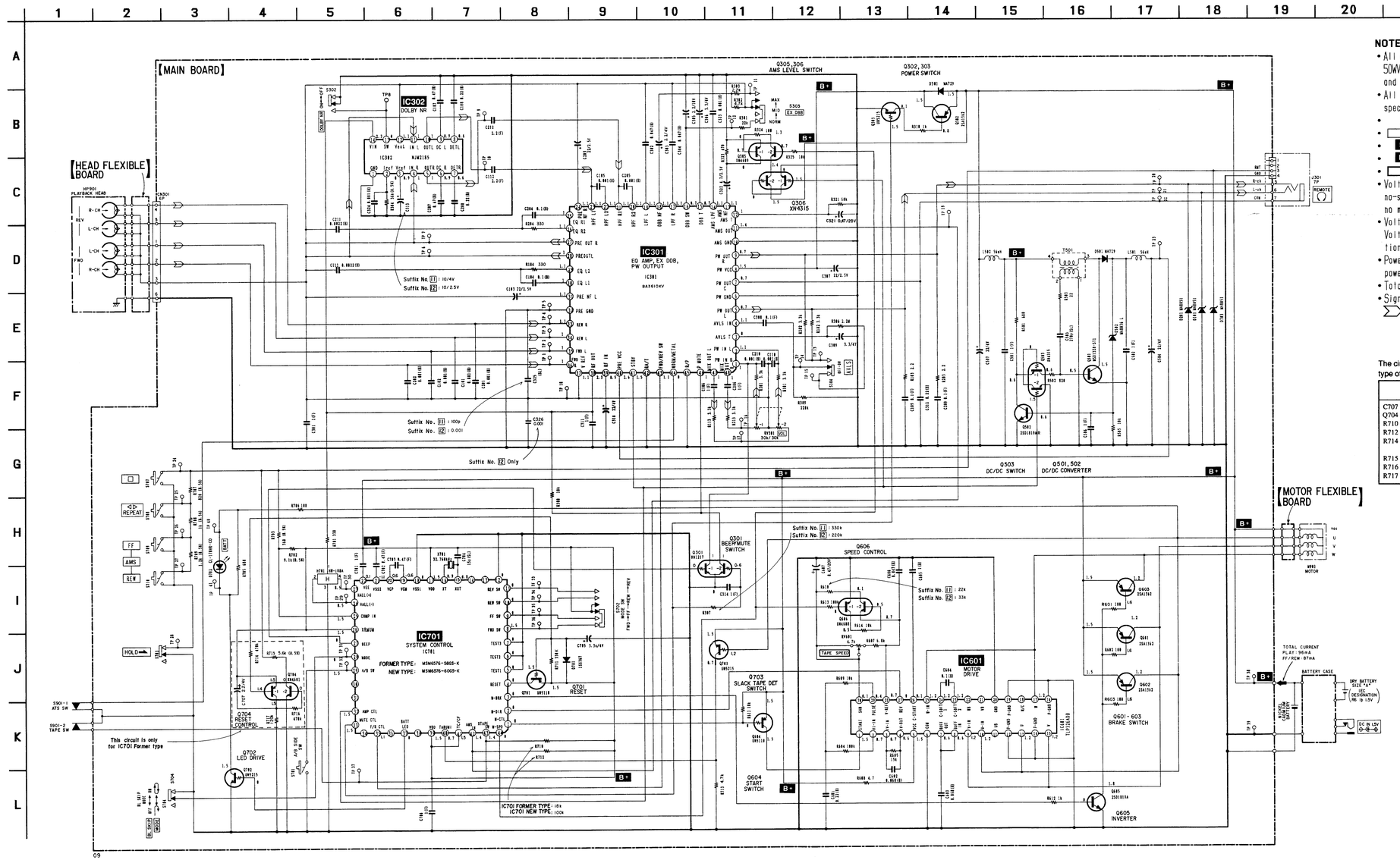
SECTION 5
DIAGRAMS

5-1. BLOCK DIAGRAM



5-2. SCHEMATIC DIAGRAM

• See page 22 for IC Pin Function. (IC701)



NOTE

- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantaiums.
- All resistors are in Ω and 1/4W or less unless otherwise specified.
- % :indicates tolerance.
- ▭ :panel designation.
- B+ :B+ Line.
- B- :B- Line.
- ▭ :adjustment for repair.
- Voltages are dc with respect to ground under no-signal conditions. no mark:PB
- Voltages are taken with a VOM (Input impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Power voltage is dc1.5 V and fed with regulated dc power supply from battery terminal.
- Total current is measured with no cassette installed.
- Signal path. ▷ :PB

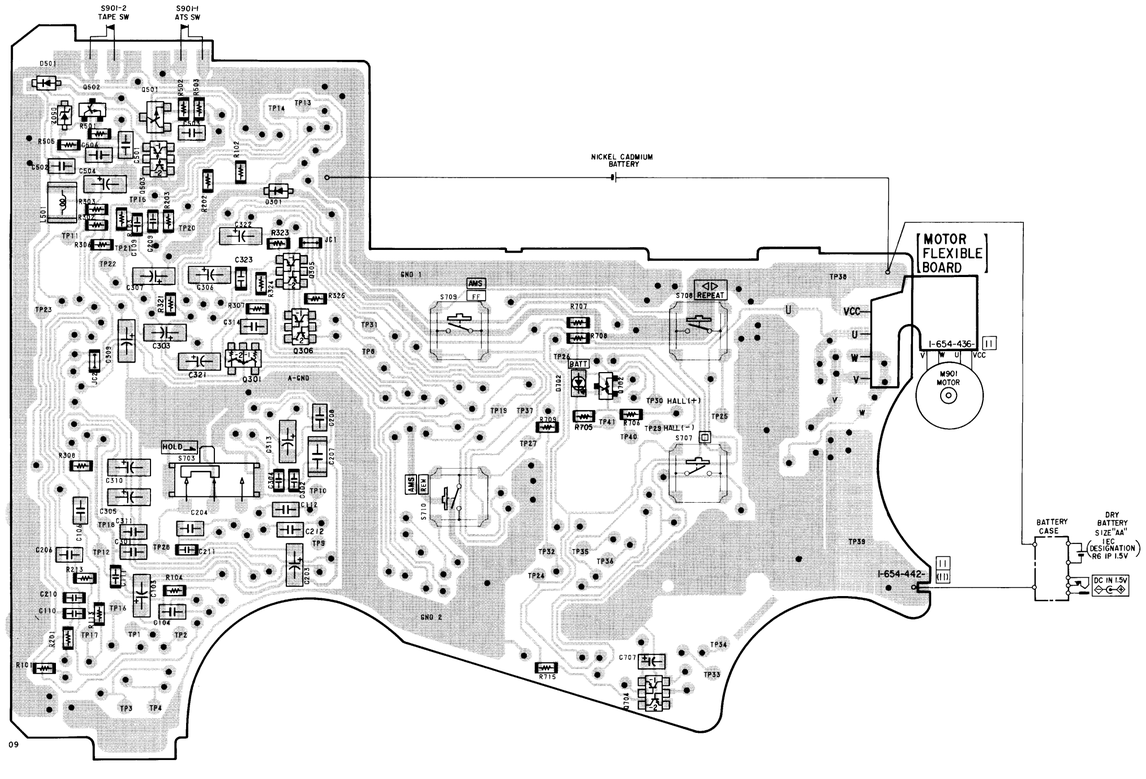
The circuit description is different by micro proccessor type of IC701.

	IC701 Former Type MSM-6576-59GS-K	IC701 New Type MSM-6576-60GS-K
C707	2.2μF 4V	delete
Q704	XN4601	delete
R710	18k	100k
R712	18k	100k
R714	470k	delete
R715	5.6k	delete
R716	470k	delete
R717	120k	delete

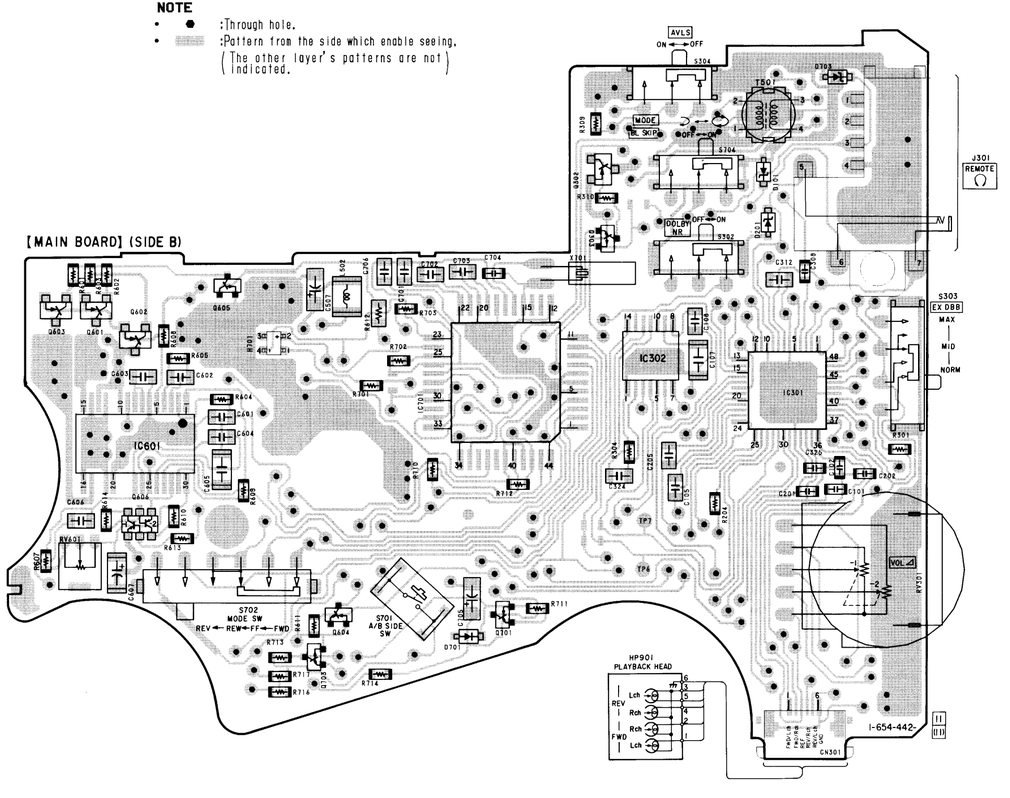
5-3. PRINTED WIRING BOARD — Main board Suffix No. [11] —

• See page 21 for Semiconductor Lead Layouts.

【MAIN BOARD】 (SIDE A)



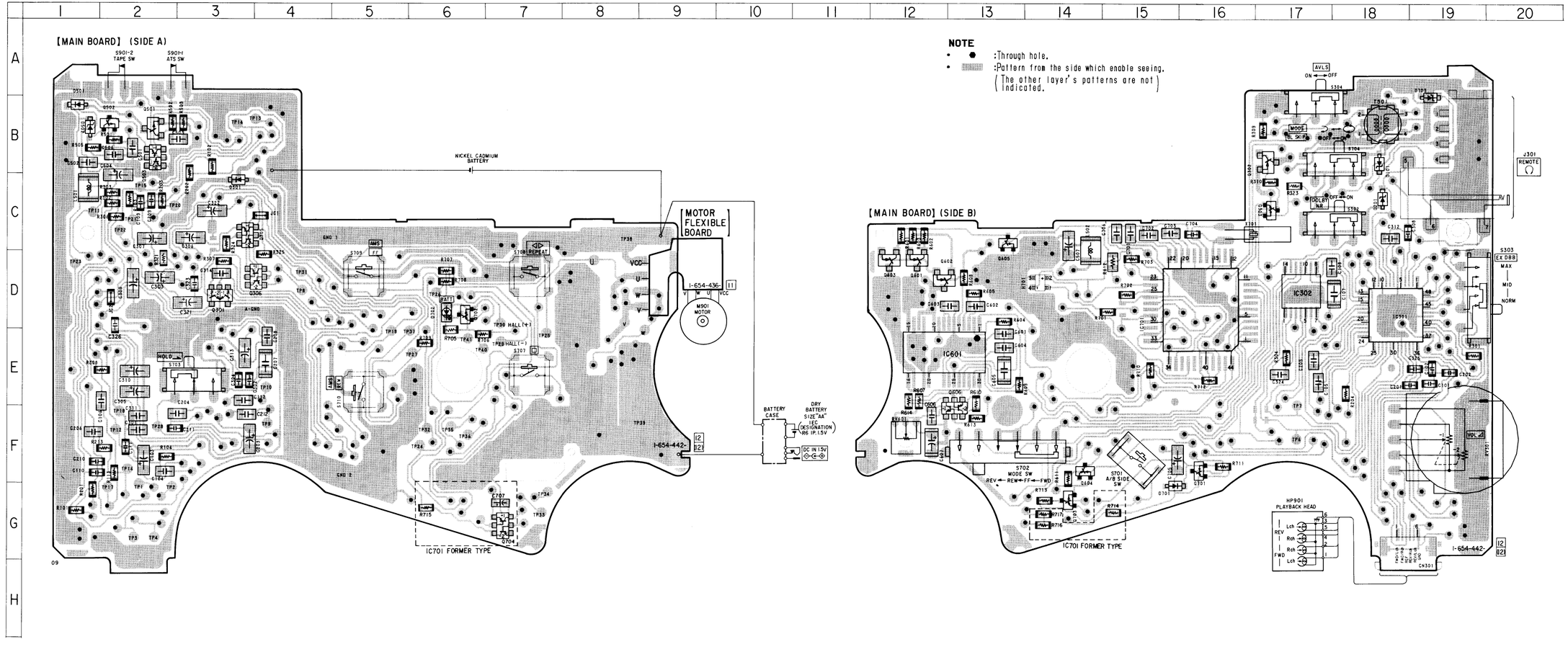
【MAIN BOARD】 (SIDE B)



• Semiconductor Location

Ref. No.	Location
D101	B-18
D201	C-18
D301	C-3
D501	B-1
D502	B-1
D701	G-15
D702	D-6
D703	B-19
H701	D-14
IC301	D-18
IC502	D-17
IC601	E-12
IC701	D-16
Q301	D-3
Q302	B-17
Q303	C-17
Q305	C-3
Q306	D-4
Q501	B-2
Q502	B-2
Q503	B-2
Q601	D-12
Q602	D-12
Q603	D-12
Q604	F-14
Q605	C-13
Q606	F-13
Q701	F-16
Q702	D-6
Q703	G-14
Q704	G-7

5-4. PRINTED WIRING BOARD — Main board Suffix No. 12 —

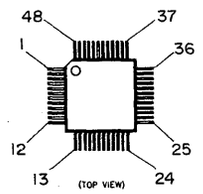


• **Semiconductor Location**

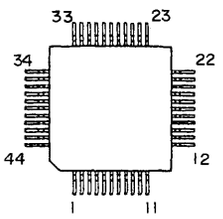
Ref. No.	Location
D101	B-18
D201	C-18
D301	C-3
D501	B-1
D502	B-1
D701	G-15
D702	D-6
D703	B-19
H701	D-14
IC301	D-18
IC302	D-17
IC601	E-12
IC701	D-16
Q301	D-3
Q302	B-17
Q303	C-17
Q305	C-3
Q306	D-4
Q501	B-2
Q502	B-2
Q503	B-2
Q601	D-12
Q602	D-12
Q603	D-12
Q604	F-14
Q605	C-13
Q606	F-13
Q701	F-16
Q702	D-6
Q703	G-14
Q704	G-6

5-5. SEMICONDUCTOR LEAD LAYOUTS

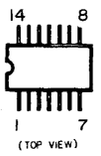
BA3610KV



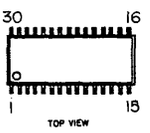
MSM6576-58GS-K
MSM6576-60GS-K



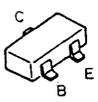
NJM2185V



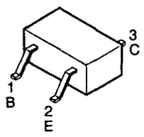
TLP326ADB



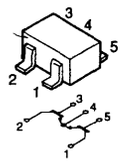
MSD1328-ST1
UN5215
2SA1362YG
2SD1819A-R



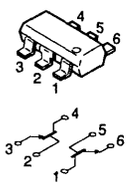
UN5110-QRS



XN1217

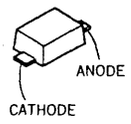


XN4315
XN4601
XN4608
XN4609



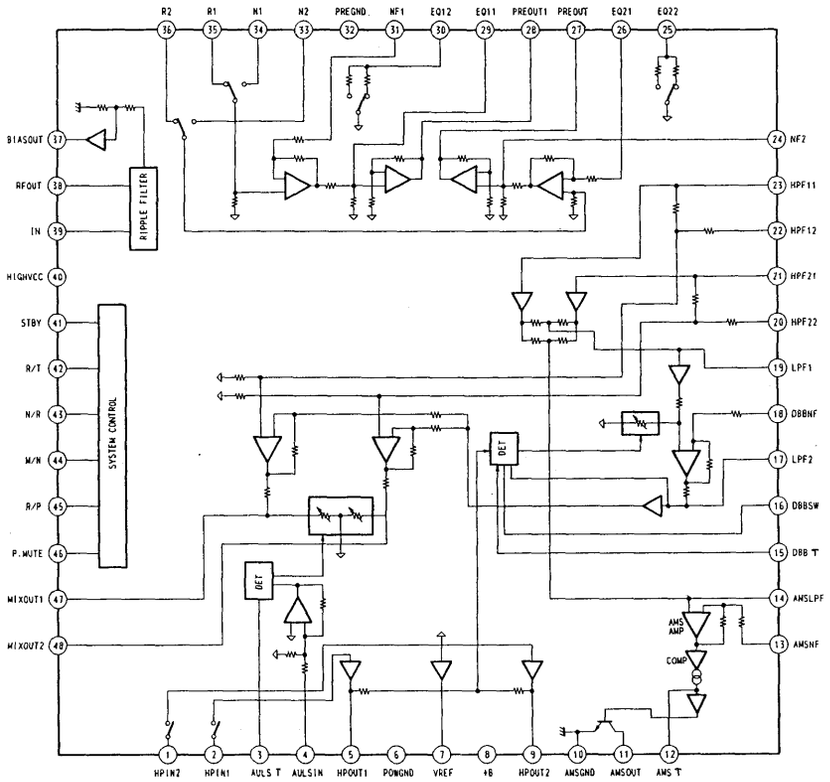
CL-170HR-CD

MA8036-L
MA8051
1SS367

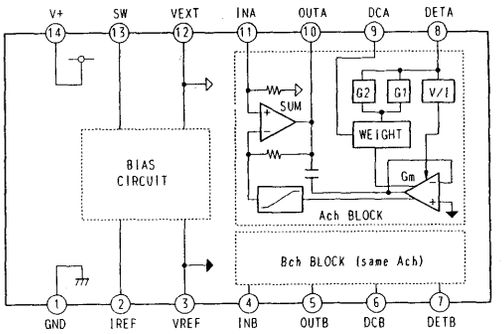


5-6. IC BLOCK DIAGRAMS

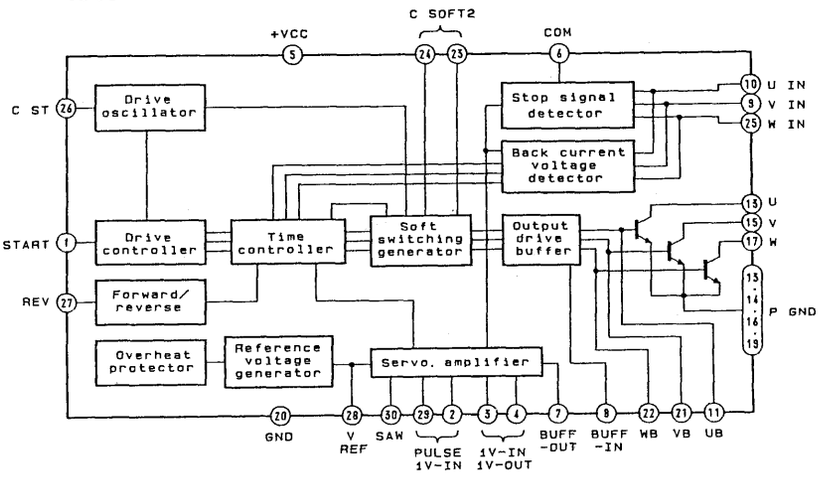
IC301 BA3610KS



IC302 NJM2185



IC601 TLP326ADB



5-7. IC PIN FUNCTION

IC701 SYSTEM CONTROL IC (MSM6576)

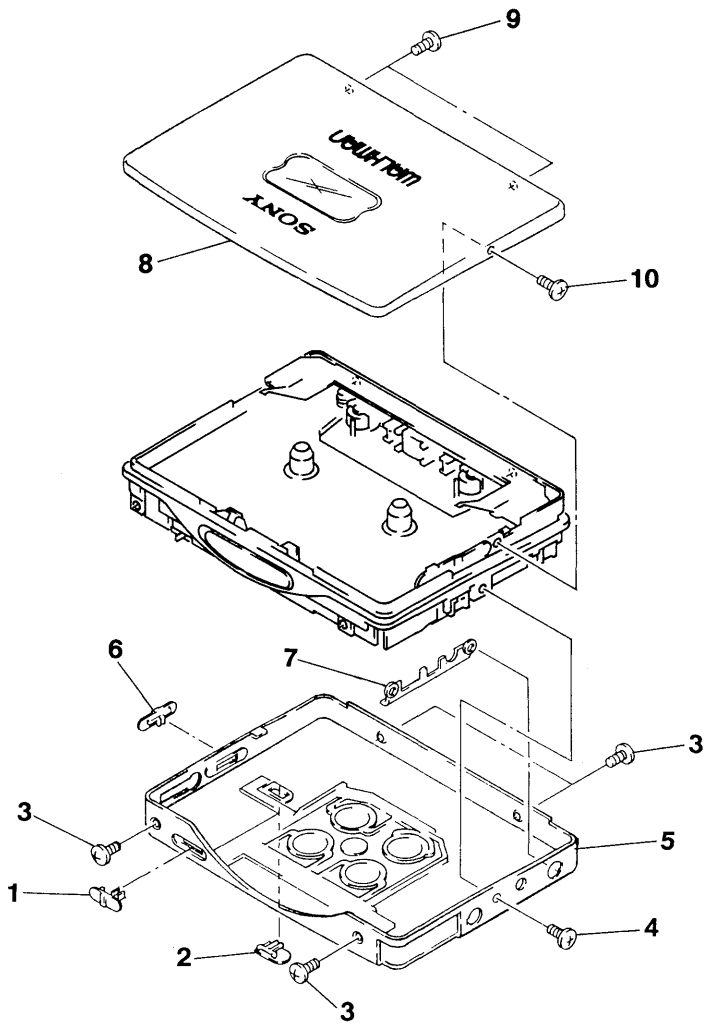
Pin No.	Pin Name	I/O	INT	ACT	Function
1	MOTOR CTL	O	L	H	Motor control output pin. "H"=MOTOR ON.
2	MOTOR DIR	O	L	H	Motor rotating direction control. "L"=Forward direction, "H"=Reverse direction.
3	MOTOR BRK	O	L	H	Motor brake control. "H"=BRAKE ON.
4	RESET	–	–	H	Reset pin. "H"=RESET.
5	TEST1	–	–	–	Test pin (Fixed at "L")
6	TEST2	–	–	–	Test pin (Fixed at "L")
7	TEST3	–	–	–	Test pin (Fixed at "L")
8	FWD SW	I	–	–	MD condition check. "H"=FWD SW ON.
9	FF SW	I	–	–	MD condition check. "H"=FF SW ON.
10	REW SW	I	–	–	MD condition check. "H"=REW SW ON.
11	REV SW	I	–	–	MD condition check. "H"=REV SW ON.
12	———	–	–	–	Not used.
13	———	–	–	–	Not used.
14	———	–	–	–	Not used.
15	XXT	–	–	–	Connected to crystal oscillator. (32.768 kHz)
16	XT	–	–	–	Connected to crystal oscillator. (32.768 kHz)
17	VDD	–	–	–	1.5V power supply
18	VSS1	–	–	–	GND
19	VCM	–	–	–	Boosts power supply voltage.
20	VCP	–	–	–	Boosts power supply voltage.
21	VSS2	–	–	–	Boosts power supply voltage.
22	VEE	–	–	–	Boosts power supply voltage.
23	HALL (+)	I	–	–	Connected to hole element detected by rotation.
24	HALL (–)	I	–	–	Connected to hole element detected by rotation.
25	COMP IN	I	–	–	Operation button signal input pin.
26	XRMUM	I	–	–	Connected to 1.5V.
27	BEEP	O	–	–	BEEP signal output pin.
28	MODE	I	–	–	"H"=SHUT OFF MODE, "L"=ENDLESS MODE (BL. SKIP ON)
29	A/B SW	–	–	–	"H"=MD FWD on A side, "L"=MD FWD on B side.
30	———	–	–	–	Not used.
31	———	–	–	–	Not used.
32	AMP CTL	O	L	H	Booster and amplifier power supply control. "H"=AMP ON.
33	MUTE CTL	O	L	H	Muting control. "L"=MUTE ON.
34	———	–	–	–	Not used.
35	F/R CTL	O	L	H	Head selection. "H"=FWD, "L"=REV.
36	———	–	–	–	Not used.
37	BATT LED	O	L	H	LED operation. "H"=Lights. (OFF when LOW BATT.)
38	———	–	–	–	Not used.
39	VDD	–	–	–	1.5V power supply
40	TARUMI	I	–	–	Reversible motive motor input terminal for loosening process. "L"=STOP
41	TC/CF	I	–	–	Initializing micro computer. "H"=TC, "L"=CF (Fixed at "H")
42	AMS IN	I	–	–	With/No sound input pin. "H"=With sound.
43	XTAPE SW	I	–	–	With/No tape detection. "H"=NO TAPE (returned to OFF+A side when taken out.)
44	MOTOR SPD	O	L	H	Motor rotation speed control output. "L"=Normal.

SECTION 6
EXPLODED VIEWS

NOTE:

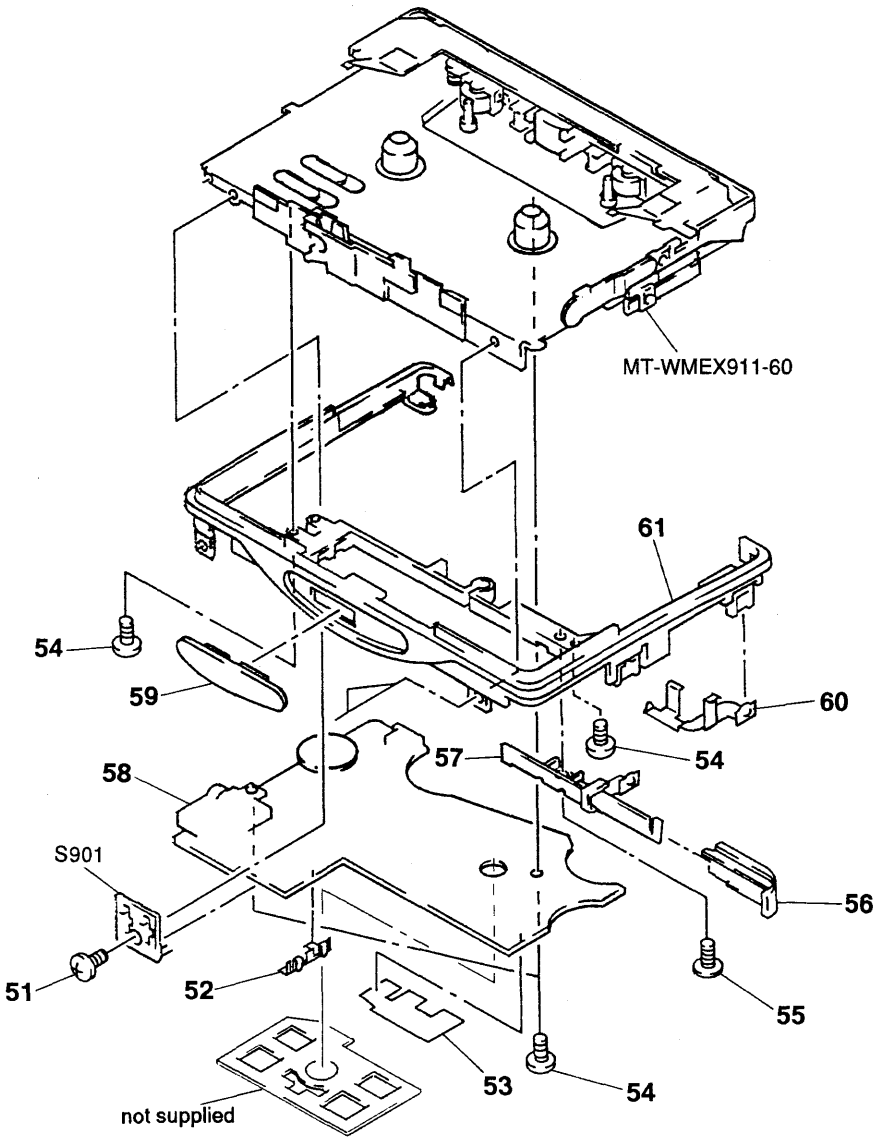
- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- Color Indication of Appearance Parts Example:
  KNOB, BALANCE (WHITE) . . . (RED)
  ↑ ↑
  Parts color Cabinet's color
- The mechanical parts with no reference number in the exploded views are not supplied.
- Accessories and packing materials are given in the last of this parts list.

6-1. CASE AND CASSETTE LID SECTION



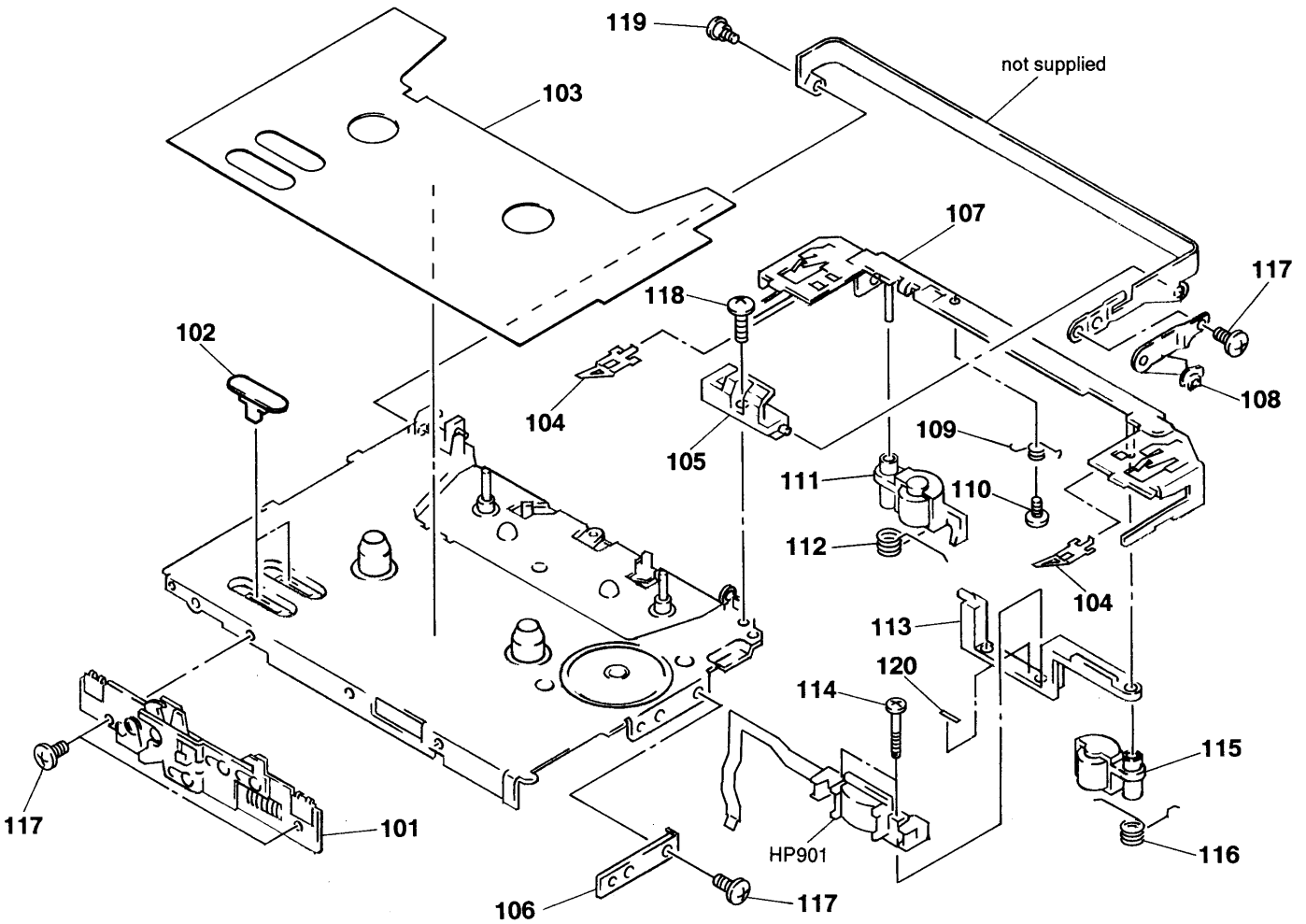
Ref. No.	Part No.	Description	Remark
1	3-918-931-01	KNOB (AVLS) (BLACK).. (BLACK)	
1	3-918-931-11	KNOB (AVLS) (GLAY).. (BLUE)	
1	3-918-931-21	KNOB (AVLS) (GLAY).. (SILVER)	
2	X-3370-041-1	KNOB (HOLD) ASSY	
3	3-704-197-21	SCREW (M1.4X2.5), LOCKING (BLACK).. (BLACK)	
3	3-704-197-23	SCREW (M1.4X2.5), LOCKING (SILVER).. (BLUE, SILVER)	
4	3-704-197-51	SCREW (M1.4X3.5), LOCKING (SILVER).. (BLUE, SILVER)	
4	3-704-197-53	SCREW (M1.4X3.5), LOCKING (BLACK).. (BLACK)	
5	X-3369-380-1	CASE ASSY (B) (BLACK) (EX511)	
5	X-3369-606-1	CASE ASSY (L) (BLUE) (EX511)	
5	X-3369-607-1	CASE ASSY (S) (SILVER) (EX511)	
5	X-3370-286-1	CASE ASSY (B) (BLACK) (EX618)	
5	X-3370-287-1	CASE ASSY (L) (BLUE) (EX618)	
5	X-3370-288-1	CASE ASSY (S) (SILVER) (EX618)	
6	3-918-929-01	KNOB (DBB) (BLACK).. (BLACK)	
6	3-918-929-11	KNOB (DBB) (GLAY).. (BLUE)	
6	3-918-929-21	KNOB (DBB) (GLAY).. (SILVER)	
7	3-905-328-01	PLATE, ORNAMENTAL	
8	X-3369-375-1	LID ASSY (B), CASSETTE (BLACK)	(EX-511)
8	X-3369-604-1	LID ASSY (L), CASSETTE (BLUE) (EX511)	
8	X-3369-605-1	LID ASSY (S), CASSETTE (SILVER) (EX511)	
8	X-3370-283-1	LID ASSY (B), CASSETTE (BLACK) (EX618)	
8	X-3370-284-1	LID ASSY (L), CASSETTE (BLUE) (EX618)	
8	X-3370-285-1	LID ASSY (S), CASSETTE (SILVER) (EX618)	
9	3-349-825-51	SCREW (SILVER).. (BLUE, SILVER)	
9	3-906-045-11	SCREW (BLACK).. (BLACK)	
10	3-704-197-11	SCREW (M1.4X2.0), LOCKING (SILVER).. (BLUE, SILVER)	
10	3-704-197-13	SCREW (M1.4X2.0), LOCKING (BLACK).. (BLACK)	

6-2. MAIN BOARD SECTION



Ref. No.	Part No.	Description	Remark
51	3-366-892-01	SCREW (M1.4)	
52	3-918-897-11	TERMINAL BOARD (-), BATTERY	
53	1-654-436-11	MOTOR FLEXIBLE BOARD	
54	3-704-197-21	SCREW (M1.4X2.0), LOCKING	
55	3-375-114-01	SCREW (M1.7X4)	
56	3-918-895-01	LID, BATTERY CASE (BLACK)	
56	3-918-895-11	LID, BATTERY CASE (BLUE)	
56	3-918-895-21	LID, BATTERY CASE (SILVER)	
57	X-3369-378-1	TERMINAL BOARD (+)ASSY, BATTERY	
58	A-3016-629-A	MAIN BOARD, COMPLETE	
59	3-918-864-21	KNOB (OPEN)	
60	3-918-898-01	TERMINAL BOARD	
61	3-918-863-21	ORNAMENT, REEL (BLACK)..(BLACK)	
61	3-918-863-31	ORNAMENT, REEL (GLAY)..(BLUE, SILVER)	
S901	1-762-187-11	SWITCH, LEAF (ATS, TAPE)	

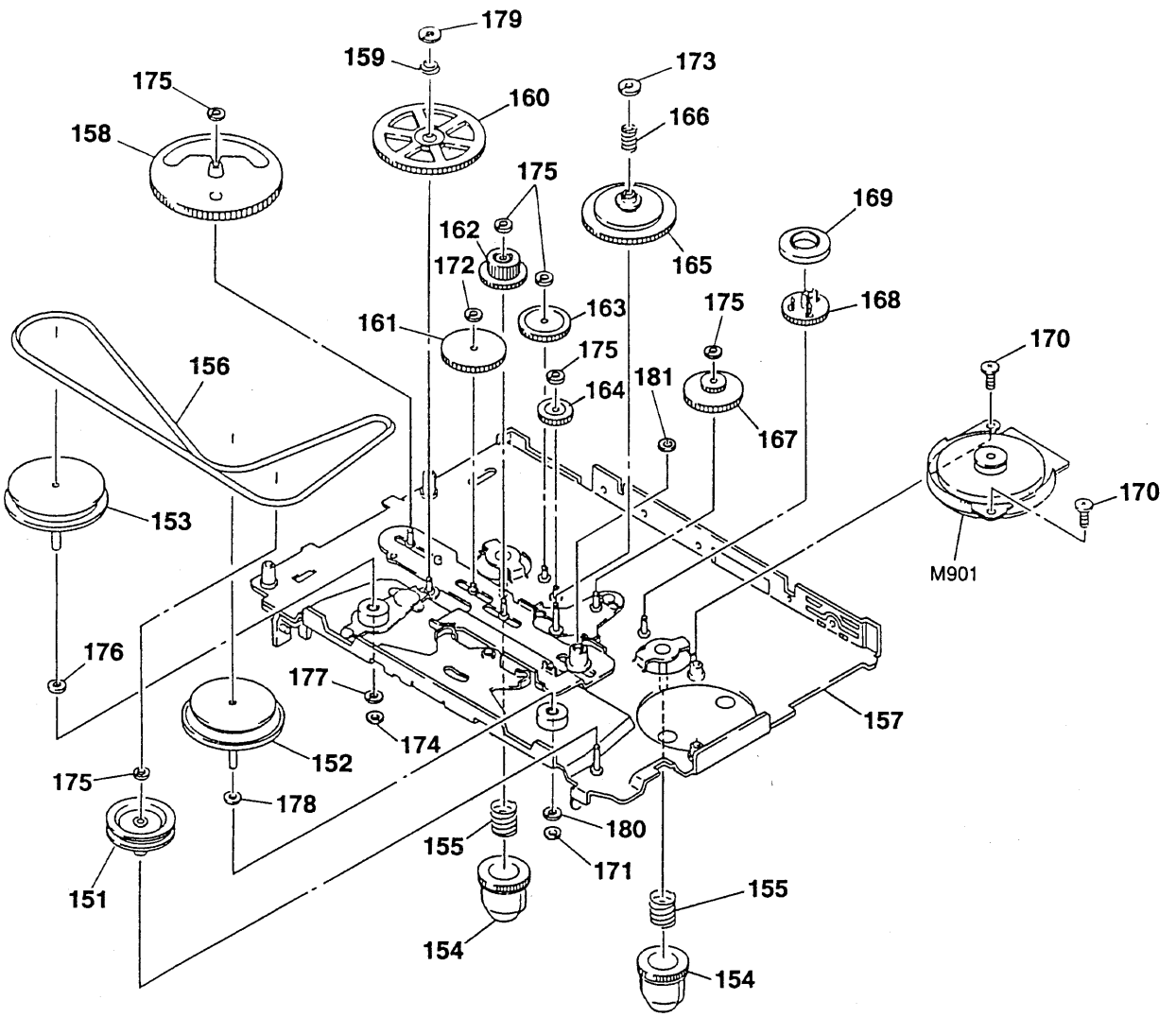
6-3. MECHANISM SECTION 1 (MT-WMEX911-60)



Ref. No.	Part No.	Description	Remark
101	X-3369-377-1	BRACKET ASSY	
102	3-918-901-01	KNOB (D/M)	
103	3-918-900-11	COVER, MD (EX511)	
* 103	3-918-900-21	COVER, MD (EX618)	
104	3-918-850-01	SPRING (CASSETTE) (CF)	
105	3-918-782-01	GUIDE (BK), HOLDER	
106	3-922-843-01	BRACKET (L)	
107	X-3369-347-1	HOLDER (K) ASSY	
108	X-3369-379-1	ARM ASSY, CLICK	
109	3-386-683-01	SPRING (H)	
110	7-627-553-17	PRECISION SCREW +P 2X2 TYPE 3	

Ref. No.	Part No.	Description	Remark
111	X-3366-298-1	PINCH LEVER (N) ASSY	
112	3-386-684-11	SPRING (PINCH N)	
* 113	3-386-646-01	LEVER, HEAD	
114	3-704-413-31	SCREW (M1.4X7.2)	
115	X-3366-296-1	PINCH LEVER (R) ASSY	
116	3-386-685-11	SPRING (PINCH R)	
117	3-366-892-01	SCREW (M1.4)	
118	3-704-197-21	SCREW (M1.4X2.5), LOCKING	
119	3-907-009-41	SCREW (M1.4)	
120	3-907-859-01	SPACER (H)	
HP901	1-500-091-11	HEAD, MAGNETIC (PLAYBACK)	

6-4. MECHANISM SECTION 2 (MT-WMEX911-60)



Ref. No.	Part No.	Description	Remark
151	3-386-711-11	PULLEY (REVERSE)	
152	X-3368-639-1	WHEEL (RS) ASSY, CAPSTAN	
153	X-3369-346-1	WHEEL (NSK) ASSY, CAPSTAN	
154	3-912-169-01	GEAR (REEL)	
155	3-913-727-01	SPRING (BT), COMPRESSION	
156	3-919-884-01	BELT	
157	X-3369-345-1	CHASSIS ASSY	
158	3-912-173-01	GEAR (CAM)	
159	3-912-170-01	SPRING (FR), COMPRESSION	
160	3-919-886-01	GEAR (FR)	
161	3-918-783-01	GEAR (AK)	
162	3-918-785-01	GEAR (BK)	
163	3-912-175-01	GEAR (G)	
164	3-912-168-01	GEAR (E)	
165	X-3369-344-1	CLUTCH ASSY (K)	
166	3-913-620-01	SPRING (UD), COMPRESSION	

Ref. No.	Part No.	Description	Remark
167	3-918-784-01	GEAR (DK)	
168	3-912-176-01	GEAR (F)	
169	3-912-172-01	MAGNET	
170	3-704-197-11	SCREW (M1.4X2.0), LOCKING	
171	3-325-394-01	WASHER, STOPPER	
172	3-348-953-01	WASHER	
173	3-348-953-11	WASHER	
174	3-348-993-01	WASHER	
175	3-349-859-01	WASHER	
176	3-350-945-11	WASHER	
177	3-350-989-01	WASHER	
178	3-386-694-01	WASHER	
179	3-906-183-01	WASHER	
180	3-919-885-01	WASHER	
181	3-923-717-01	WASHER	
M901	1-698-463-11	MOTOR	

SECTION 7
ELECTRICAL PARTS LIST

MAIN

NOTE:

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

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

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- RESISTORS
  All resistors are in ohms
  METAL: Metal-film resistor
  METAL OXIDE: Metal Oxide-film resistor
  F : nonflammable
- SEMICONDUCTORS
  In each case, u: μ , for example:
  uA...: μA..., uPA...: μPA..., uPB...: μPB..., uPC...: μPC..., uPD...: μPD...
- CAPACITORS
  uF : μF
- COILS
  uH : μH

Ref.No.	Part No.	Description			Remark
	A-3016-629-A	MAIN BOARD, COMPLETE			
		**********			
		< CAPACITOR >			
C101	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C102	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C103	1-135-316-11	TANTAL. CHIP	22uF	20%	2.5V
C104	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C105	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C106	1-164-346-11	CERAMIC CHIP	1uF		16V
C107	1-165-320-11	CERAMIC CHIP	0.47uF	10%	16V
C108	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C109	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C110	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C111	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C112	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C201	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C202	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C203	1-135-316-11	TANTAL. CHIP	22uF	20%	2.5V
C204	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C205	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C206	1-164-346-11	CERAMIC CHIP	1uF		16V
C207	1-165-320-11	CERAMIC CHIP	0.47uF	10%	16V
C208	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C209	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C210	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C211	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C212	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C301	1-164-346-11	CERAMIC CHIP	1uF		16V
C302	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C303	1-135-187-21	TANTAL. CHIP	2.2uF	20%	4V
C304	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C305	1-135-149-21	TANTALUM CHIP	2.2uF	20%	10V
C306	1-135-221-11	TANTAL. CHIP	3.3uF	20%	4V
C307	1-135-316-11	TANTAL. CHIP	22uF	20%	2.5V
C308	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C309	1-135-221-11	TANTAL. CHIP	3.3uF	20%	4V
C310	1-104-847-11	TANTAL. CHIP	22uF	20%	4V
C311	1-164-346-11	CERAMIC CHIP	1uF		16V
C312	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C313	1-107-983-11	TANTAL. CHIP	10uF	20%	2.5V
					(Suffix No. 12)

Ref.No.	Part No.	Description			Remark
C313	1-135-201-11	TANTALUM CHIP	10uF	20%	4V
					(Suffix No. 11)
C314	1-164-346-11	CERAMIC CHIP	1uF		16V
C321	1-135-192-21	TANTAL. CHIP	0.47uF	20%	20V
C322	1-135-218-11	TANTAL. CHIP	4.7uF	20%	2.5V
C323	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C324	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C325	1-162-953-11	CERAMIC CHIP	100PF	5%	50V
					(Suffix No. 11)
C325	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
					(Suffix No. 12)
C326	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
					(Suffix No. 12)
C501	1-164-346-11	CERAMIC CHIP	1uF		16V
C502	1-164-346-11	CERAMIC CHIP	1uF		16V
C503	1-163-127-00	CERAMIC CHIP	270PF	5%	50V
C504	1-104-847-11	TANTAL. CHIP	22uF	20%	4V
C506	1-164-346-11	CERAMIC CHIP	1uF		16V
C507	1-104-847-11	TANTAL. CHIP	22uF	20%	4V
C601	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C602	1-164-344-11	CERAMIC CHIP	0.068uF	10%	25V
C603	1-164-344-11	CERAMIC CHIP	0.068uF	10%	25V
C604	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C605	1-107-682-11	CERAMIC CHIP	1uF	10%	16V
C606	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C607	1-135-192-21	TANTAL. CHIP	0.47uF	10%	20V
C701	1-164-346-11	CERAMIC CHIP	1uF		16V
C702	1-164-005-11	CERAMIC CHIP	0.47uF		25V
C703	1-164-005-11	CERAMIC CHIP	0.47uF		25V
C704	1-162-943-11	CERAMIC CHIP	15PF	5%	50V
C705	1-135-221-11	TANTAL. CHIP	3.3uF	20%	4V
C706	1-164-346-11	CERAMIC CHIP	1uF		16V
C707	1-107-815-11	TANTAL. CHIP	2.2uF	10%	4V
					(IC701 FORMER)
		< CONNECTOR >			
CN301	1-695-942-21	CONNECTOR, FPC (ZIF) 6P			
		< DIODE >			
D101	8-719-422-37	DIODE	MA8051		
D201	8-719-422-37	DIODE	MA8051		
D301	8-719-420-51	DIODE	MA729		

MAIN

Ref. No.	Part No.	Description	Remark
D501	8-719-420-51	DIODE MA729	
D502	8-719-421-36	DIODE MA8036-L	
D701	8-719-049-09	DIODE 1SS367	
D702	8-719-051-01	DIODE CL-170HR-CD (BATT)	
D703	8-719-422-37	DIODE MA8051	
		< HALL ELEMENT >	
H701	8-719-042-61	ELEMENT, HALL HW-108AFT-DE	
		< IC >	
IC301	8-759-273-41	IC BA3610KV	
IC302	8-759-275-48	IC NJM2185V	
IC601	8-759-996-13	IC TLP326ADB	
IC701	8-759-287-94	IC MSM6576-58GS-K (FORMER)	
IC701	8-759-335-00	IC MSM6576-60GS-K (NEW)	
		< JACK >	
J301	1-766-512-21	JACK 7P (∩ REMOTE)	
		< JUMPER RESISTOR >	
JC1	1-216-864-11	METAL CHIP 0 5% 1/16W	
JC2	1-216-864-11	METAL CHIP 0 5% 1/16W	
		< COIL >	
L501	1-412-148-11	INDUCTOR CHIP 56uH	
L502	1-412-148-11	INDUCTOR CHIP 56uH	
		< TRANSISTOR >	
Q301	8-729-422-45	TRANSISTOR XN1217	
Q302	8-729-230-72	TRANSISTOR 2SA1362YG	
Q303	8-729-420-50	TRANSISTOR UN5215	
Q305	8-729-402-90	TRANSISTOR XN4609	
Q306	8-729-422-18	TRANSISTOR XN4315	
Q501	8-729-010-40	TRANSISTOR MSD1328-ST1	
Q502	8-729-230-63	TRANSISTOR 2SC4116-YG	
Q503	8-729-422-18	TRANSISTOR XN4315	
Q601	8-729-230-72	TRANSISTOR 2SA1362YG	
Q602	8-729-230-72	TRANSISTOR 2SA1362YG	
Q603	8-729-230-72	TRANSISTOR 2SA1362YG	
Q604	8-729-422-51	TRANSISTOR UN5110-QRS	
Q605	8-729-230-63	TRANSISTOR 2SC4116-YG	
Q606	8-729-402-16	TRANSISTOR XN4608	
Q606	8-729-402-84	TRANSISTOR XN4601	
Q701	8-729-422-51	TRANSISTOR UN5110-QRS	
Q702	8-729-420-50	TRANSISTOR UN5215	
Q703	8-729-420-50	TRANSISTOR UN5215	
Q704	8-729-402-84	TRANSISTOR XN4601 (IC701 FORMER)	

Ref. No.	Part No.	Description	Remark
		< RESISTOR >	
R101	1-216-827-11	METAL CHIP 3.3K 5% 1/16W	
R102	1-216-827-11	METAL CHIP 3.3K 5% 1/16W	
R103	1-216-789-11	METAL CHIP 2.2 5% 1/16W	
R104	1-216-815-11	METAL CHIP 330 5% 1/16W	
R113	1-216-827-11	METAL CHIP 3.3K 5% 1/16W	
R201	1-216-827-11	METAL CHIP 3.3K 5% 1/16W	
R202	1-216-827-11	METAL CHIP 3.3K 5% 1/16W	
R203	1-216-789-11	METAL CHIP 2.2 5% 1/16W	
R204	1-216-815-11	METAL CHIP 330 5% 1/16W	
R213	1-216-827-11	METAL CHIP 3.3K 5% 1/16W	
R301	1-216-837-11	METAL CHIP 22K 5% 1/16W	
R302	1-216-829-11	METAL CHIP 4.7K 5% 1/16W	
R303	1-216-825-11	METAL CHIP 2.2K 5% 1/16W	
R304	1-218-729-11	METAL CHIP 36K 0.50% 1/16W	
R306	1-216-861-11	METAL CHIP 2.2M 5% 1/16W	
R307	1-216-849-11	METAL CHIP 220K 5% 1/16W	(Suffix No. 12)
R307	1-216-853-11	METAL CHIP 470K 5% 1/16W	(Suffix No. 11)
R308	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R309	1-216-849-11	METAL CHIP 220K 5% 1/16W	
R310	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R321	1-216-843-11	METAL CHIP 68K 5% 1/16W	
R323	1-216-817-11	METAL CHIP 470 5% 1/16W	
R324	1-216-809-11	METAL CHIP 100 5% 1/16W	
R325	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R501	1-216-819-11	METAL CHIP 680 5% 1/16W	
R502	1-216-820-11	METAL CHIP 820 5% 1/16W	
R503	1-216-801-11	METAL CHIP 22 5% 1/16W	
R505	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R601	1-216-809-11	METAL CHIP 100 5% 1/16W	
R602	1-216-809-11	METAL CHIP 100 5% 1/16W	
R603	1-216-809-11	METAL CHIP 100 5% 1/16W	
R604	1-216-845-11	METAL CHIP 100K 5% 1/16W	
R605	1-216-835-11	METAL CHIP 15K 5% 1/16W	
R607	1-216-831-11	METAL CHIP 6.8K 5% 1/16W	
R608	1-216-793-11	METAL GLAZE 4.7 5% 1/16W	
R609	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R610	1-216-837-11	METAL CHIP 22K 5% 1/16W	(Suffix No. 11)
R610	1-216-839-11	METAL CHIP 33K 5% 1/16W	(Suffix No. 12)
R611	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R612	1-216-049-91	METAL GLAZE 1K 5% 1/10W	
R613	1-216-845-11	METAL CHIP 100K 5% 1/16W	
R614	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R701	1-216-815-11	METAL CHIP 330 5% 1/16W	
R702	1-218-870-11	METAL CHIP 9.1K 0.50% 1/16W	
R703	1-218-836-11	METAL CHIP 360 0.50% 1/16W	

Ref. No.	Part No.	Description				Remark
R705	1-216-819-11	METAL CHIP	680	5%	1/16W	
R706	1-216-809-11	METAL CHIP	100	5%	1/16W	
R707	1-218-845-11	METAL CHIP	820	0.50%	1/16W	
R708	1-218-692-11	METAL CHIP	1K	0.50%	1/16W	
R709	1-218-694-11	METAL CHIP	1.2K	0.50%	1/16W	
R710	1-216-836-11	METAL CHIP	18K	5%	1/16W	(IC701 FORMER)
R710	1-216-845-11	METAL CHIP	100K	5%	1/16W	(IC701 NEW)
R711	1-216-851-11	METAL CHIP	330K	5%	1/16W	
R712	1-216-836-11	METAL CHIP	18K	5%	1/16W	(IC701 FORMER)
R712	1-216-845-11	METAL CHIP	100K	5%	1/16W	(IC701 NEW)
R713	1-216-829-11	METAL CHIP	4.7K	5%	1/16W	
R714	1-216-853-11	METAL CHIP	470K	5%	1/16W	(IC701 FORMER)
R715	1-218-710-11	METAL CHIP	5.6K	0.5%	1/16W	(IC701 FORMER)
R716	1-216-853-11	METAL CHIP	470K	5%	1/16W	(IC701 FORMER)
R717	1-216-846-11	METAL CHIP	120K	5%	1/16W	(IC701 FORMER)
		< VARIABLE RESISTOR >				
RV301	1-223-774-11	RES, VAR, CARBON 30K/30K (VOL)				
RV601	1-223-229-21	RES, ADJ, METAL GLAZE 4.7K				
		< SWITCH >				
S302	1-762-078-11	SWITCH, SLIDE (DOLBY NR)				
S303	1-762-079-11	SWITCH, SLIDE (EX DBB)				
S304	1-762-078-11	SWITCH, SLIDE (AVLS)				
S701	1-762-188-11	SWITCH, PUSH (1 KEY) (A/B SIDE)				
S702	1-692-370-11	SWITCH, SLIDE (MODE)				
S703	1-762-078-11	SWITCH, SLIDE (HOLD ⇀)				
S704	1-762-078-11	SWITCH, SLIDE (MODE/BL SKIP)				
S707	1-762-230-11	SWITCH, KEYBOARD (□)				
S708	1-762-230-11	SWITCH, KEYBOARD (◁ ▷REPEAT)				
S709	1-762-230-11	SWITCH, KEYBOARD (AMS, FF)				
S710	1-762-230-11	SWITCH, KEYBOARD (AMS, REW)				
S901	1-762-187-11	SWITCH, LEAF (ATS, TAPE)				
		< TRANSFORMER >				
T501	1-450-666-11	TRANSFORMER, DC-DC CONVERTER				
		< VIBRATOR >				
X701	1-579-616-11	VIBRATOR, CRYSTAL (32.768kHz)				

****

Ref. No.	Part No.	Description	Remark
	1-654-436-11	MOTOR FLEXIBLE BOARD	
		**********	
		< MOTOR >	
M901	1-698-463-11	MOTOR	

****

		MISCELLANEOUS	
		**********	
53	1-654-436-11	MOTOR FLEXIBLE BOARD	
HP901	1-500-091-11	HEAD, MAGNETIC (PLAYBACK)	
M901	1-698-463-11	MOTOR	
S901	1-762-187-11	SWITCH, LEAF (ATS, TAPE)	

****

		ACCESSORIES & PACKING MATERIALS	
		**********	
	1-504-714-11	HEADPHONE (WITH REMOTE CONTROL)	
	1-528-231-22	BATTERY, NICKEL CADMIUM (NC-6WM) (EX511)	
⚠	1-528-252-11	BATTERY CHARGER (BC-7S) (EX618:UK)	
⚠	1-528-445-11	BATTERY CHARGER (BC-8AT) (EX511)	
	1-528-543-11	BATTERY, NICKEL CADMIUM (NC-6WM) (EX618:E)	
	1-528-543-21	BATTERY, NICKEL CADMIUM (NC-6WM) (EX618:AEP, UK)	
⚠	1-528-544-11	BATTERY CHARGER (BC-7DT) (EX618:E)	
⚠	1-528-546-11	BATTERY CHARGER (BC-7SY) (EX618:AEP)	
	1-550-640-11	BATTERY CASE	
⚠	1-569-007-11	ADAPTER, CONVERSION 2P (EX511/EX618:E)	
	1-759-043-11	BATTERY CASE	
*	3-376-784-11	CUSHION (EX511/EX618:AEP, E)	
*	3-376-784-11	CUSHION (EX618:E)	
*	3-382-452-11	CASE, ACCESSORY (EX618)	
	3-759-938-41	MANUAL, INSTRUCTION (JAPANESE, ENGLISH) (EX511)	
	3-800-025-11	MANUAL, INSTRUCTION (ENGLISH, FRENCH, CHINESE) (EX618)	
	3-800-025-41	MANUAL, INSTRUCTION (GERMAN, DUTCH, SWEDISH) (EX618:AEP)	
	3-800-025-51	MANUAL, INSTRUCTION (FRENCH, ITALIAN, PORTUGUESE) (EX618:AEP)	
	3-918-892-01	CASE, CARRYING	
	3-920-201-01	CLIP	
*	3-920-291-01	INDIVIDUAL CARTON (EX511)	
*	3-920-293-01	INDIVIDUAL CARTON (EX618:AEP, E)	
	X-3329-657-1	ATTACHMENT	

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

9-960-118-11

Sony Corporation
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Personal A&V Products Div.

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WM-EX511/EX618

SONY
SERVICE MANUAL

AEP Model
UK Model
E Model
Australian Model
WM-EX618

Tourist Model
WM-EX511

SUPPLEMENT-1

File this supplement with the service manual.

Subject : 1. The Australian model added.
2. AU Cover is an available as spare parts.
3. CORRECTION

1. The Australian model is identical with the E model except for the following parts.

• DIFFERENT PARTS LIST

ACCESSORIES & PACKING MATERIALS

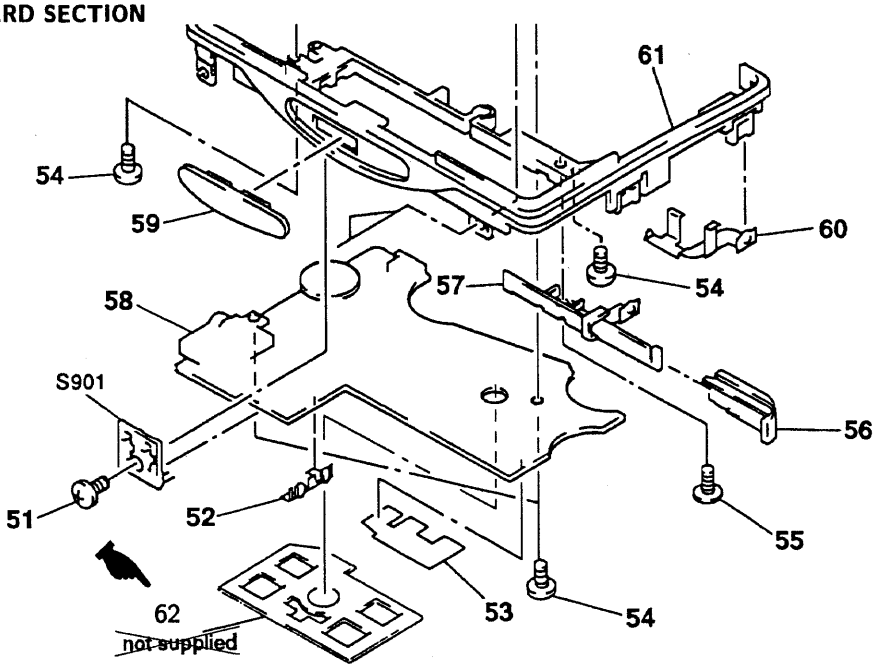
WM-EX618 E MODEL		WM-EX618 Australian MODEL	
Part No.	Description	Part No.	Description
1-528-543-11	BATTERY, NICKEL CADMIUM (NC-6WM)	———	
⚠1-528-544-11	BATTERY CHARGER (BC-7DT)	———	
⚠1-569-007-11	ADAPTER, CONVERSION 2P	———	
* 3-382-452-11	CASE, ACCESSORY	———	
3-800-025-11	MANUAL, INSTRUCTION (ENGLISH, FRENCH, CHINESE)	3-759-938-41	MANUAL, INSTRUCTION (ENGLISH, KOREAN)

2. Revise your service manual as shown below due to parts supply classification has been changed.

☛ : **indicates revised portion.**

Page	CURRENT			REVISED		
	Ref.No.	Part No.	Description	Ref.No.	Part No.	Description
24	——— not supplied ———			62	* 3-922-842-01	COVER, AU

6-2. MAIN BOARD SECTION



(RPC-95056)

3. CORRECTION

Correct your service manual as shown below.

☛ : **indicates corrected portion.**

Page	INCORRECT			CORRECT	
	Ref.No.	Part No.	Description	Part No.	Description
24	54	3-704-197-21	SCREW (M1.4×2.0), LOCKING	3-704-197-21	SCREW (M1.4×2.5), LOCKING

Sony Corporation
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