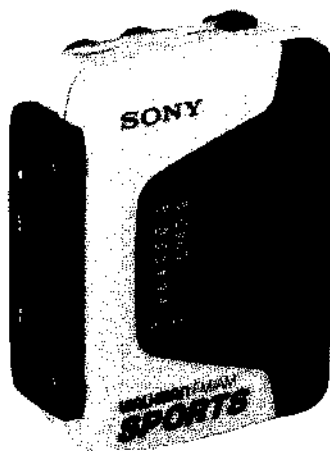


WM-AF59/BF59

SERVICE MANUAL



US Model
Canadian Model
WM-AF59
AEP Model
UK Model
E Model
WM-BF59

Model Name Using Similar Mechanism	NEW
Tape Transport Mechanism Type	MT-WMA53

SPECIFICATIONS

Frequency range WM-AF59 FM: 87.6—108MHz/AM: 530—1,710kHz
WM-BF59 FM 87.6—107MHz (in West Germany)
87.6—107.9MHz (in the other countries)
AM: 531—1,602kHz

Power requirement 3 V DC two R6 (size AA) batteries

Battery life (hours)

Batteries	Radio reception	Playback
Sony battery SUM-3 (NS)	approx. 13	approx. 3
Sony alkaline battery AM3 (N)	approx. 30	approx. 7

Accessories supplied Bell clip (1)
Stereo headphones (open-air type, 1) (for Canada, Europe and U.K.)
Stereo ear receiver (open-air type, 1) (for the other countries)

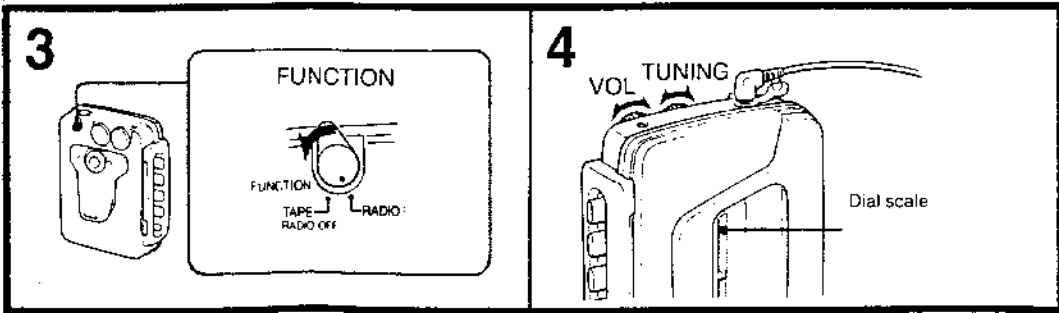
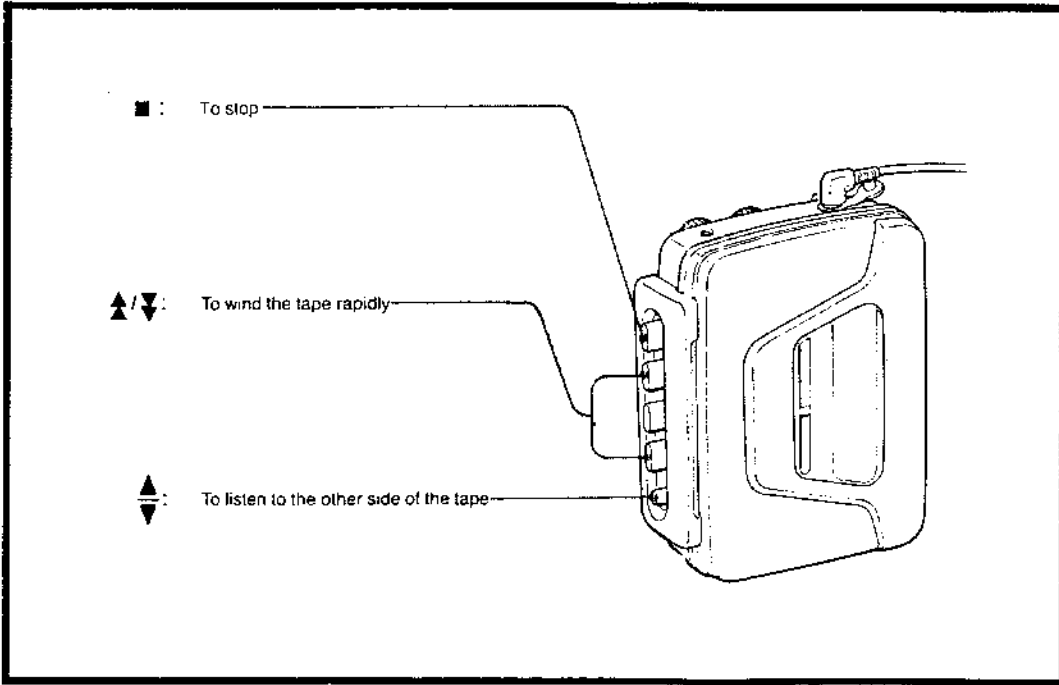
Note

This appliance conforms with EEC Directives 76/889 and 82/499 regarding interference suppression

Design and specifications subject to change without notice.

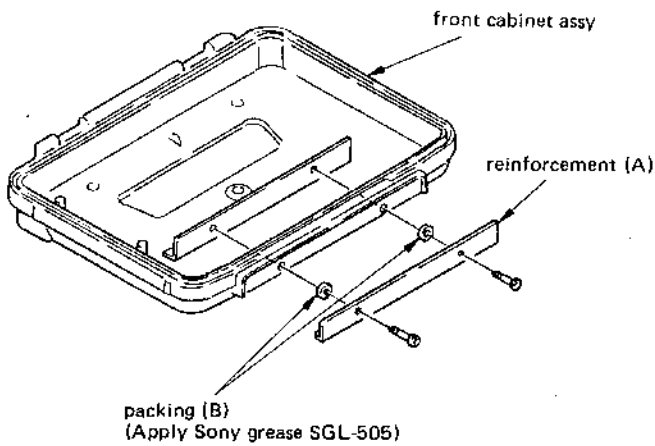
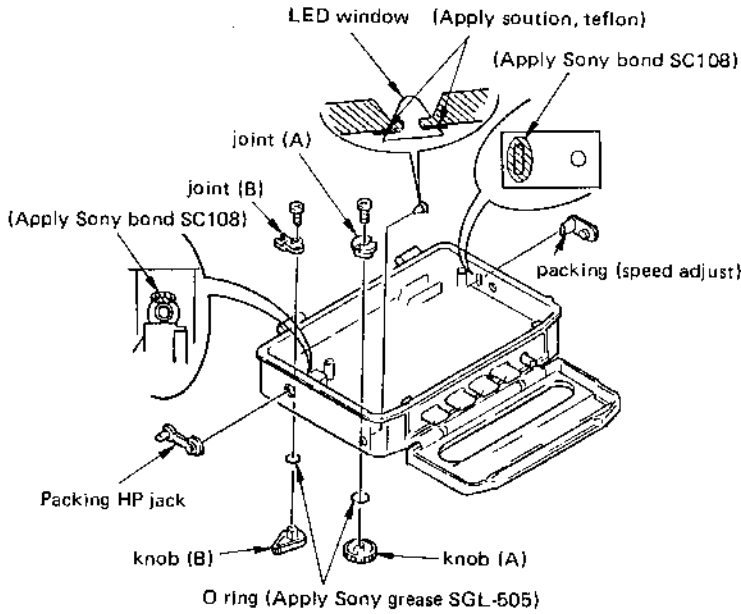
RADIO CASSETTE PLAYER
SONY[®]

SECTION 1 GENERAL



SECTION 2 NOTE ON REPAIR

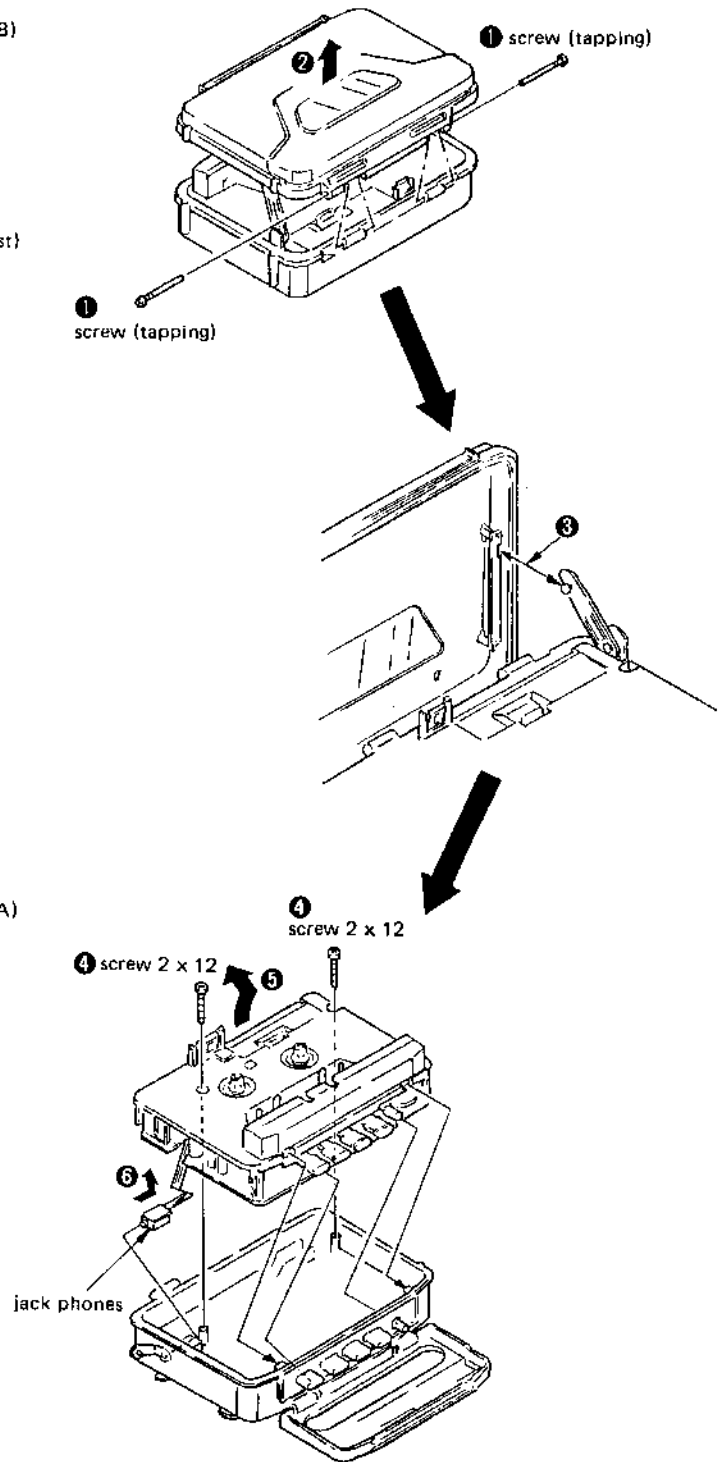
2-1. WATERPROOFED SECTION



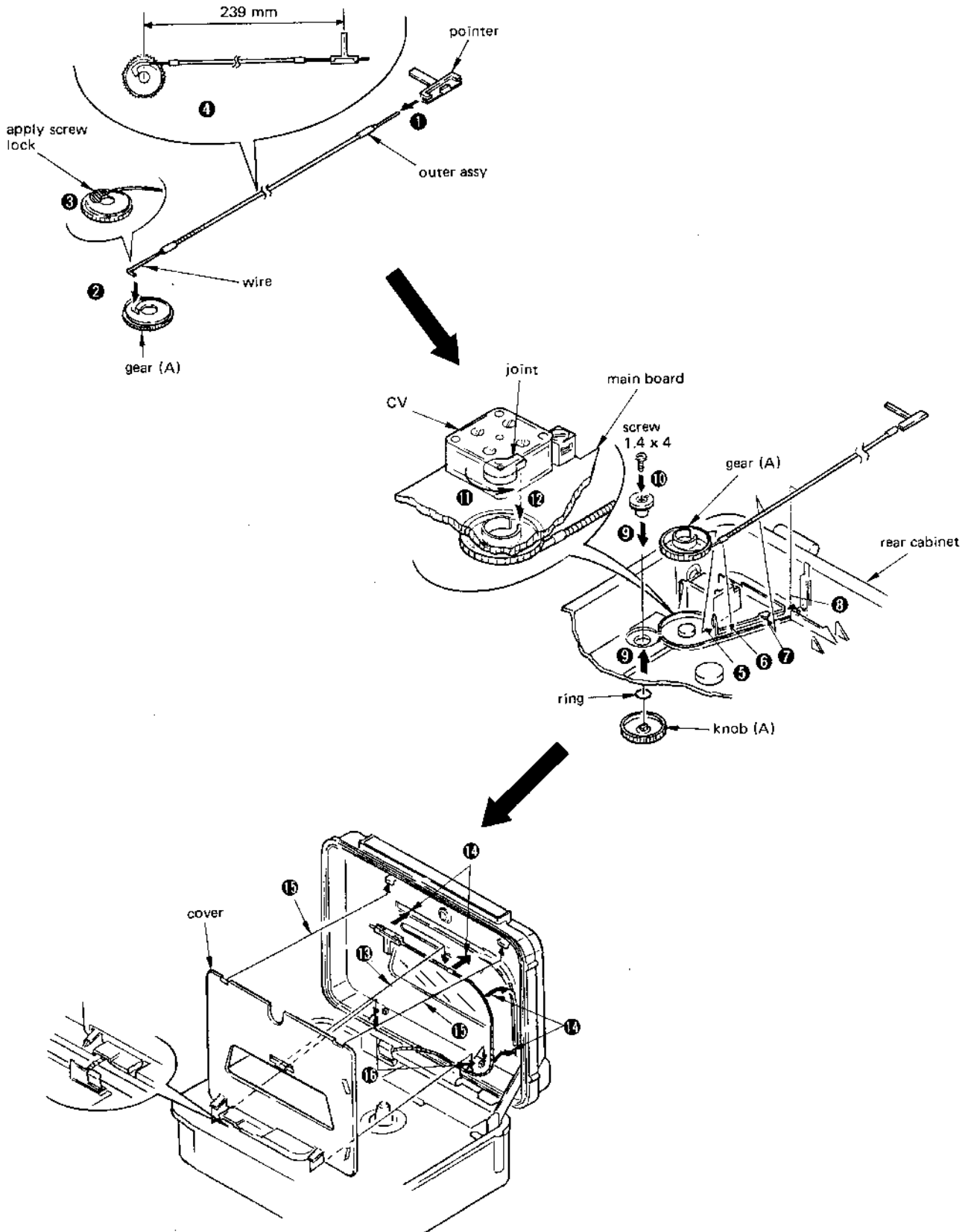
Solution teflon: 7-451-109-02
 Sony bond SC108: 7-432-909-04
 Sony grease SGL-505: 7-662-010-04

SECTION 3 DISASSEMBLY

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



POINTER RACK SETTING



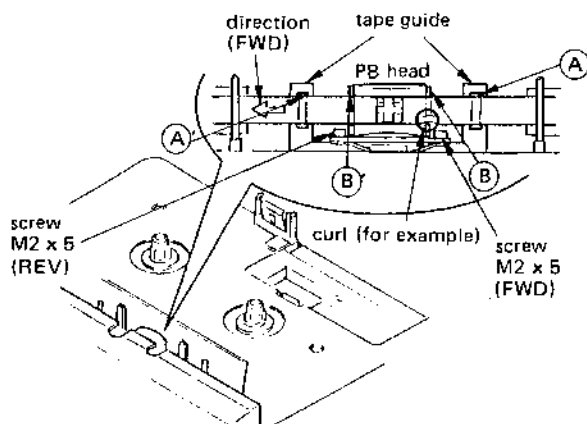
SECTION 4 ADJUSTMENTS

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 (3.0V) unless otherwise noted.

Playback Head Height Adjustment (Note on Playback Head Replacement)



1. Turn the screw M2 x 5 so that the (B) - (B) line of HEAD GUIDE becomes approximately parallel to the (A) - (A) line of TAPE GUIDE.
2. When there is a tape curl on HEAD GUIDE (B), (B) using a mirror cassette, turn the screw M2 x 5 to eliminate the tape curl.
For example in the figure:
(The curl marked O is eliminated by turning clockwise the screw M2 x 5 (right).)
3. Check in the REV mode by the same way as in the FWD mode.

4-1. MECHANICAL ADJUSTMENT

Torque Measurement

Mode	Torque Meter	Meter Reading
FWD	CQ-102C	25 to 55 g-cm (0.35 to 0.76 oz-inch)
FWD Back Tension		1.5 to 4.5 g-cm (0.02 to 0.06 oz-inch)
REV	CQ-102RC	25 to 55 g-cm (0.35 to 0.76 oz-inch)
REV Back Tension		1.5 to 4.5 g-cm (0.02 to 0.06 oz-inch)
FF	CQ-201B	55 to 150 g-cm (0.76 to 2.1 oz-inch)
REW		55 to 150 g-cm (0.76 to 2.1 oz-inch)

Tape Pulling Force Measurement

Mode	Tension Meter	Meter Reading
FWD	CQ-403A	more than 45 g (more than 1.6 oz)
REV	CQ-403R	more than 45 g (more than 1.6 oz)

TEST TAPE

Type	Signal	Used for
WS-48A	3 kHz, 0 dB	Tape Speed Adjustment
P-4-A063	6.3 kHz, -10 dB	Dolby NR Head Azimuth Adjustment

4-2. ELECTRICAL ADJUSTMENTS

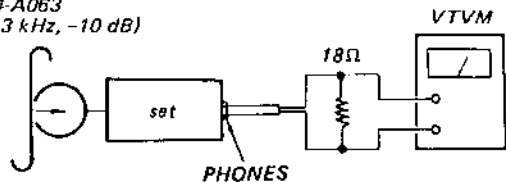
4-2-1. Tape Section

Playback Head Azimuth Adjustment

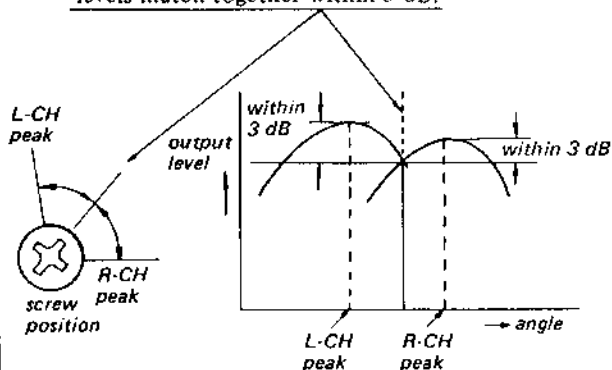
Procedure:

1. Playback mode

test tape
P-4-A063
(6.3 kHz, -10 dB)



2. Turn the adjustment screw for the maximum output levels. If these levels do not match, turn the adjustment screw until both of output levels match together within 3 dB.

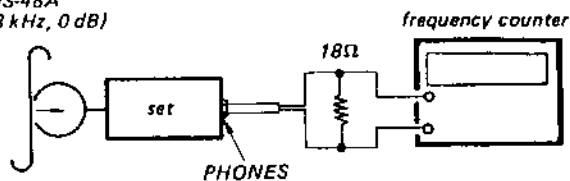


Adjustment should be made in both directions of FWD and REV.
Adjustment screws should be stopped turning in the clockwise direction.
After the adjustment, lock the screws with locking compound.

Tape Speed Adjustment

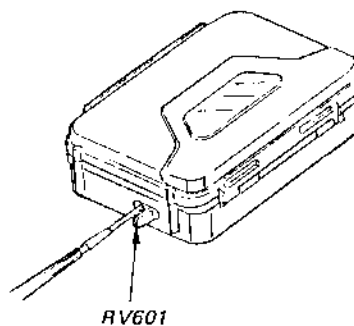
Procedure:

test tape
WS-48A
(3 kHz, 0 dB)



1. Play back WS-48A (Tape center portion) in FWD mode.
Adjust the RV601 so that the frequency counter reads 3,000 ±90 Hz.
2. Play back WS-48A (Tape center portion) in REV mode.
Confirm that the reading of frequency counter is within 1.5% from the reading in step 1.

Adjustment Location:



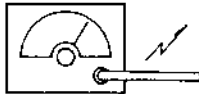
4-2-2. Radio Section

AM

Setting:

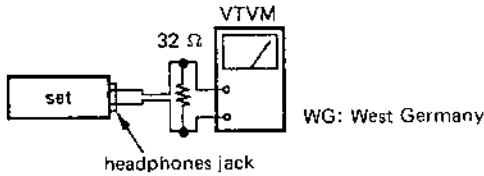
FUNCTION: RADIO
BAND: AM

AM RF signal generator



Put the lead-wire antenna close to the set.

30% amplitude modulation by 400 Hz signal
Output level: as low as possible



MW Frequency Coverage Adjustment

< > : AF59
() : BF59

Pointer position	SG frequency	Adjustment part	Reading on VTVM
f minimum	520kHz	L4	maximum
f maximum	<1,750kHz> (1,680kHz)	CT4	

MW Tracking Adjustment

SG and set frequency	Adjustment part	Reading on VTVM
620kHz	L3	maximum
1,400kHz	CT3	

FM

Setting:

BAND: AF59/FM LOCAL
BF59/FM MONO

FM RF signal generator



22.5 kHz frequency deviation by 1 kHz
Output level: as low as possible

- Repeat the procedures in each adjustment several times, and the frequency coverage and tracking adjustments should be finally done by the trimmer capacitors.

FM Frequency Coverage Adjustment

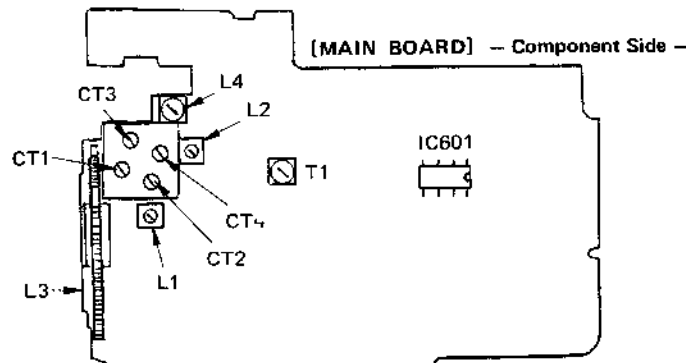
() : WG model

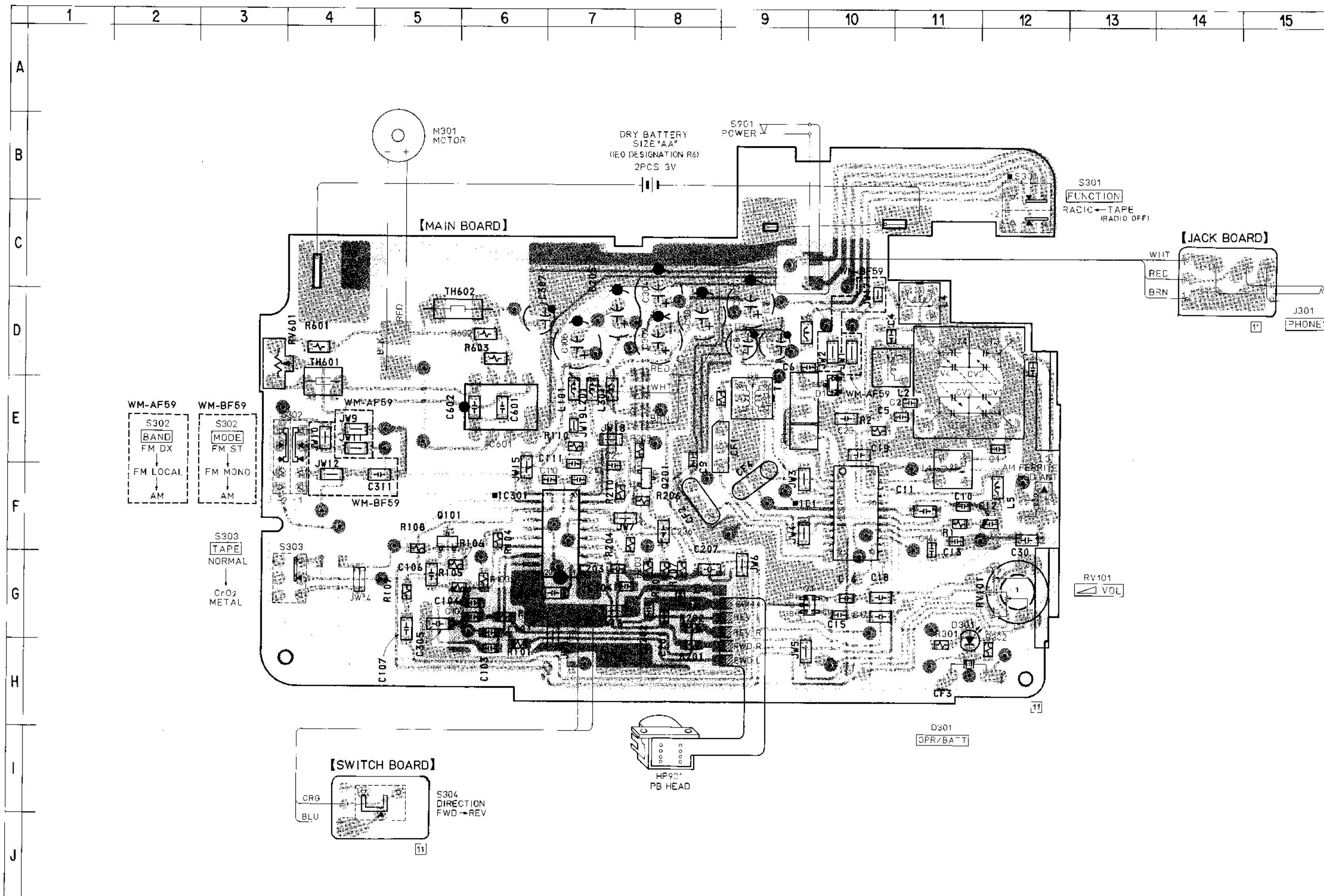
Pointer position	SG frequency	Adjustment part	Reading on VTVM
f minimum	86.0MHz (87.35MHz)	L2	maximum
f maximum	109.5MHz (107.8MHz)	CT2	

FM Tracking Adjustment

SG and set frequency	Adjustment part	Reading on VTVM
86.0MHz (87.35MHz)	L1	maximum
109.5MHz (107.8MHz)	CT1	

Adjustment Location





Semiconductor Location

Ref. No.	Location
D1	E-10
D301	G-11
IC1	F-10
IC301	F-7
IC601	E-6
Q1	G-10
Q101	F-5
Q201	F-8

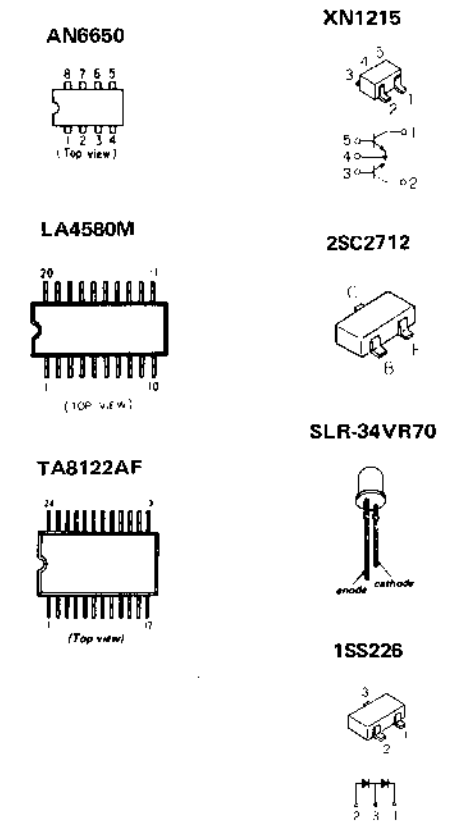
Note on Printed Wiring Board:

- : parts mounted on the conductor side.
- : indicates side identified with part number.
- : Through hole.
- : Pattern on the side which is seen.
- : Pattern of the other side.

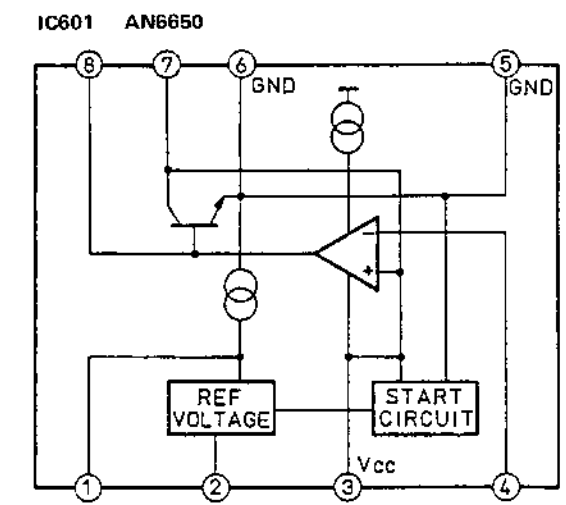
Note on Schematic Diagram:

- 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.
- △ : internal component.
- B+ : B+ Line
- : adjustment for repair.
- Total current is measured with no cassette installed.
- Power voltage is dc 3V and fed with required dc power supply from battery terminal.
- Voltage and waveforms are dc with respect to ground in playback mode. no mark: FWD, FM
- Voltages are taken with a VOM (input impedance 10 M Ω). Voltage variations may be noted due to normal production tolerances.
- Signal path.
- ⇒ : FM ⇨ : PB

Semiconductor Lead Layouts



IC Block Diagram



SECTION 6 EXPLODED VIEWS

NOTE:

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

Due to standardization, parts with part number suffix -XX and -X may be different from the parts specified in the components used on the set.

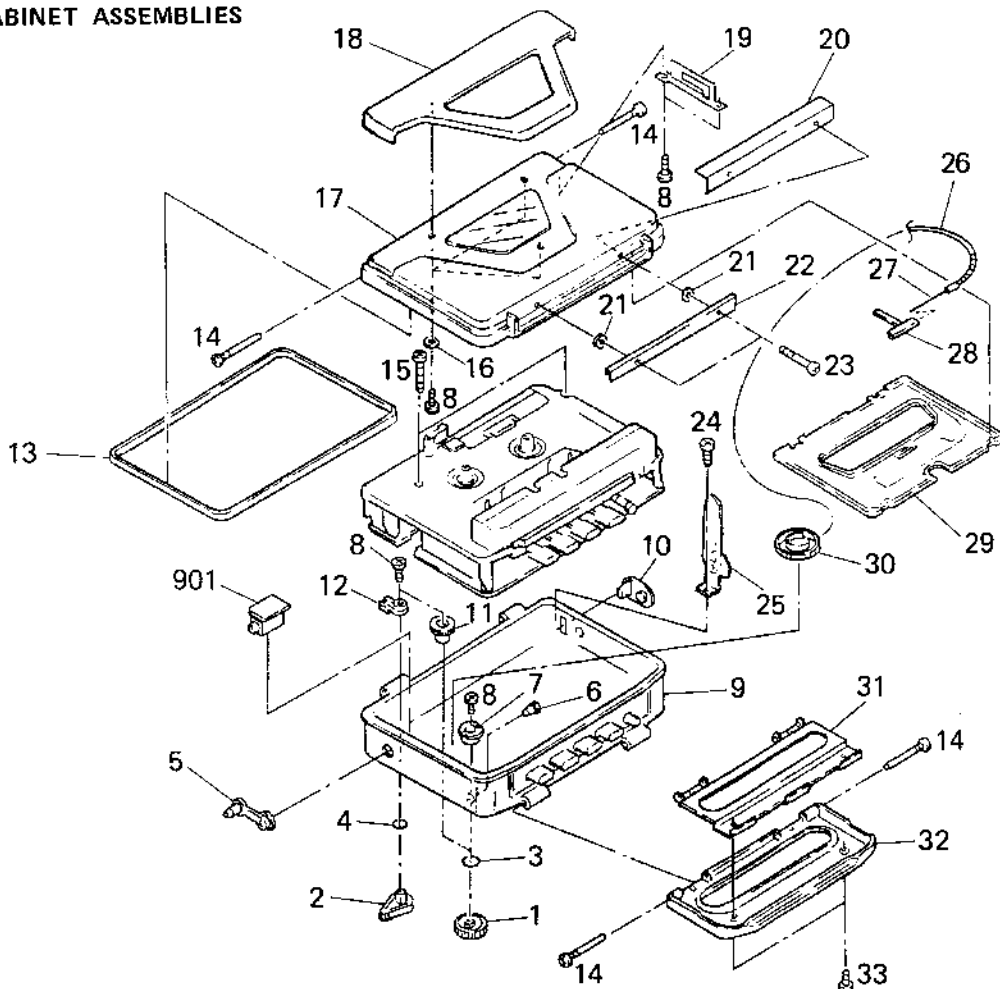
Color Indication of Appearance Parts
Example:

(RED) ... KNOB, BALANCE (WHITE)
 ↑ Cabinet's Color ↑ Parts' Color

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

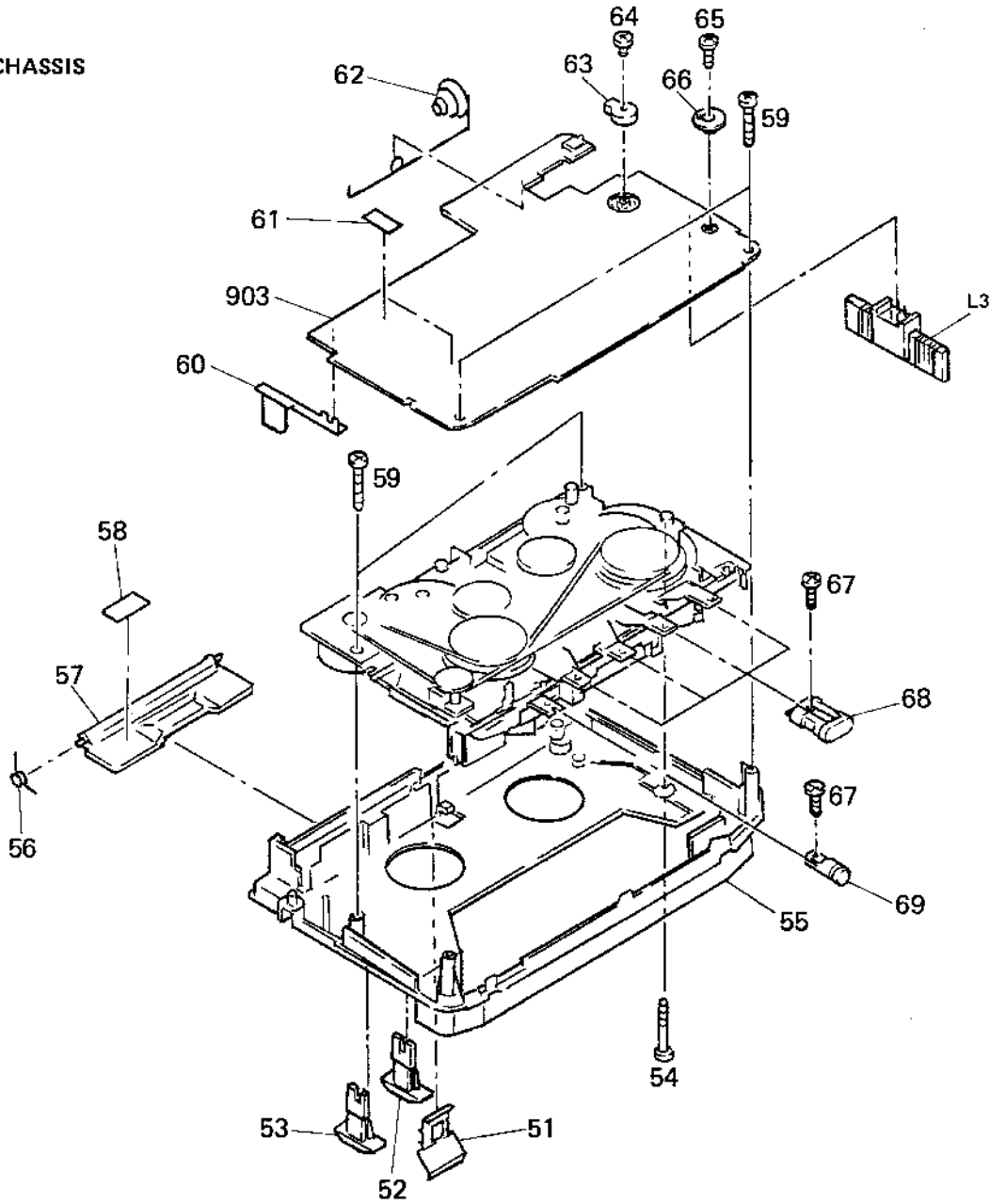
Les composants identifiés par une marque sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

(1) CABINET ASSEMBLIES



No.	Part No.	Description	Remarks	No.	Part No.	Description	Remarks
1	3-351-137-01	KNOB (A)		17	X-3336-739-1	(BF59)...CABINET (FRONT) ASSY	
2	3-351-136-01	KNOB (B)			X-3336-740-1	(AF59)...CABINET (FRONT) ASSY	
3	3-326-573-01	RING (DIA.4.9X DIA.7.1), 0			X-3363-306-1	(AF59; Canadian; GREEN)...CABINET (FRONT) ASSY (GREEN)	
4	3-326-560-02	RING (DIA.2.5XDIA. 4.5), 0		18	3-351-165-01	(AF59).....PLATE, ORNAMENTAL	
5	3-326-520-01	PACKING, HP JACK			3-351-165-11	(BF59;WG). ...PLATE, ORNAMENTAL	
6	3-326-519-01	WINDOW, LED			3-351-165-21	(BF59; AEP, UK, E, FR)...PLATE, ORNAMENTAL	
7	3-351-138-01	JOINT (A)		19	*3-351-150-01	HOLDER (CLICK)	
8	3-318-201-51	SCREW (B) (1.4X4), TAPPING		20	*3-351-148-01	REINFORCEMENT (B)	
9	X-3336-732-1	(BF59;FR)CABINET (REAR) ASSY		21	3-326-149-01	PACKING (B)	
	X-3336-733-1	(BF59;UK).....CABINET (REAR) ASSY		22	*3-351-147-01	REINFORCEMENT (A)	
	X-3336-734-1	(BF59;E). . . .CABINET (REAR) ASSY		23	3-326-145-21	SCREW (M1.7X6.8)	
	X-3336-735-1	(BF59;AEP,WG)...CABINET (REAR) ASSY		24	7-685-103-19	SCREW +P 2X5 TYPE2 NON-SLIT	
	X-3336-736-1	(AF59).....CABINET (REAR) ASSY		25	X-3336-727-1	ARM ASSY, CLICK	
	X-3363-307-1	(AF59; Canadian; GREEN)...CABINET (REAR) ASSY (GREEN)		26	*X-3336-730-1	OUTER ASSY	
10	3-312-826-00	PACKING, (SPEED ADJUST)		27	3-351-174-01	WIRE	
11	3-351-168-01	GEAR (B)		28	3-351-167-01	POINTER	
12	3-351-139-01	JOINT (B)		29	*3-351-164-01	COVER	
13	3-351-134-01	PACKING, CABINET		30	3-351-171-01	GEAR (A)	
14	3-326-536-11	SCREW, TAPPING		31	*3-351-146-01	BRACKET (BUCKLE)	
15	7-685-107-19	SCREW +P 2X12 TYPE2 NON-SLIT		32	3-351-135-01	BUCKLE	
16	3-310-368-00	RING, RETAINING		33	3-704-243-11	SCREW (P1.7X2.0)	
				901	*1-630-802-11	PC BOARD, JACK	

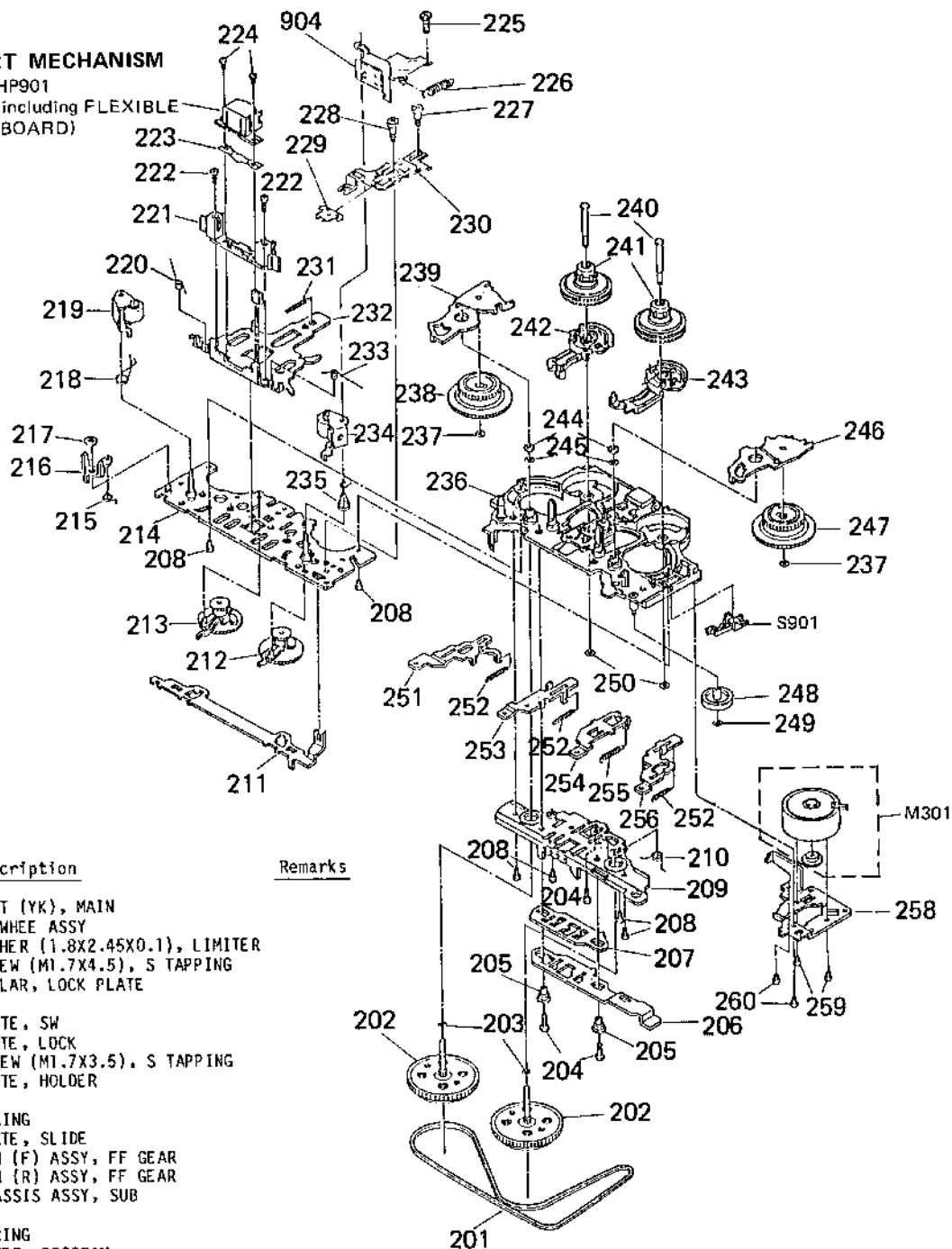
(2) CHASSIS



No.	Part No.	Description	Remarks	No.	Part No.	Description	Remarks
51	3-351-153-01	SPRING		62	3-351-152-01	SPRING	
52	3-351-170-01	KNOB (C)		63	3-351-169-01	JOINT (C)	
53	3-351-170-11	KNOB (C)		64	3-880-990-00	SCREW (1.7X3), FLAT, (+) SPECIAL	
54	7-627-852-67	SCREW, PRECISION +P 1.7X6 TYPE3		65	3-318-201-51	SCREW (B) (1.4X4), TAPPING	
55	*3-351-176-01	(AF59)...CHASSIS		66	3-351-140-01	JOINT (D)	
	*3-351-176-11	(BF59)...CHASSIS		67	7-627-552-07	SCREW (M1.7X2.5), TAPPING	
56	3-326-134-01	SPRING, TORSION		68	3-351-141-01	BUTTON (A)	
57	3-351-142-01	LID, BATTERY CASE		69	3-351-143-01	BUTTON (B)	
58	9-911-850-XX	FELT		903	*A-3015-766-A	(AF59),.....PC BOARD ASSY, MAIN	
59	7-685-103-19	SCREW +P 2X5 TYPE2 NON-SLIT			*A-3015-784-A	(BF59: AEP, UK, E, FR)...PC BOARD ASSY, MAIN	
60	3-351-151-01	TERMINAL BOARD, BATTERY			*A-3015-785-A	(BF59: WG).....PC BOARD ASSY, MAIN	
61	3-881-441-XX	SPACER, KNOB		L3	1-402-437-11	(AF59)...ANTENNA, FERRITE-ROD	
				L3	1-402-449-11	(BF59)...ANTENNA, FERRITE-ROD	

**(3) TAPE TRANSPORT MECHANISM
(MT-WMA53)**

HP901
(including FLEXIBLE
BOARD)



No.	Part No.	Description	Remarks
201	3-395-041-01	BELT (YK), MAIN	
202	3-395-040-01	FLYWHEEL ASSY	
203	3-395-057-01	WASHER (1.8X2.45X0.1), LIMITER	
204	3-395-047-01	SCREW (M1.7X4.5), S TAPPING	
205	3-395-015-01	COLLAR, LOCK PLATE	
206	*3-395-014-01	PLATE, SW	
207	*3-395-013-01	PLATE, LOCK	
208	3-395-046-01	SCREW (M1.7X3.5), S TAPPING	
209	*3-395-010-01	PLATE, HOLDER	
210	3-395-011-01	SPRING	
211	*3-395-003-01	PLATE, SLIDE	
212	3-395-004-01	ARM (F) ASSY, FF GEAR	
213	3-395-005-01	ARM (R) ASSY, FF GEAR	
214	*3-395-002-01	CHASSIS ASSY, SUB	
215	3-395-035-01	SPRING	
216	3-395-034-01	LEVER, PROGRAM	
217	3-395-053-01	WASHER (CUT) (1.85X5X0.5), P	
218	3-395-019-01	SPRING (R)	
219	3-395-030-01	PINCH ROLLER (R) ASSY	
220	3-395-022-01	SPRING (R)	
221	3-395-023-01	GUIDE, TAPE	
222	3-395-048-01	SCREW (M2X5)	
223	3-395-025-01	PLATE, SPRING, HEAD	
224	3-395-049-01	SCREW (M2X4), + - (SPECIAL)	
225	3-351-132-01	SCREW	
226	3-351-160-01	SPRING, TENSION	
227	3-351-131-01	SCREW, STEP	
228	3-351-131-11	SCREW, STEP	
229	*3-351-127-01	LEVER (A)	
230	*X-3336-729-1	LEVER (B) ASSY	
231	3-395-027-01	SPRING	
232	*3-395-020-01	PANEL (V), HEAD	
233	3-395-021-01	SPRING (F)	
234	3-395-029-01	PINCH ROLLER (F) ASSY	
235	3-395-018-01	SPRING (F)	
236	*3-395-001-01	CHASSIS ASSY	
237	3-395-054-01	WASHER (CUT) (0.8X2.4X0.25), HL	
238	3-395-032-01	GEAR (R), T CAM	
239	3-395-017-01	ARM (R) ASSY, T GEAR	
240	3-395-039-01	SHAFT, REEL	
241	3-395-038-01	REEL ASSY	

No.	Part No.	Description	Remarks
242	3-395-037-01	LEVER (R) ASSY, AUTO	
243	3-395-036-01	LEVER (F) ASSY, AUTO	
244	3-395-059-01	WASHER (1.45X3.2X0.5), HL	
245	3-395-058-01	WASHER (1.85X3.2X0.2), P	
246	3-395-016-01	ARM (F) ASSY, T GEAR	
247	3-395-031-01	GEAR (F), T CAM	
248	3-395-033-01	PULLEY, SUB	
249	3-395-055-01	WASHER (CUT) (0.85X2.8X0.25), P	
250	3-395-056-01	WASHER (CUT) (1.13X3.6X0.25), HL	
251	*3-395-008-01	LEVER (V), STOP	
252	3-395-045-01	SPRING	
253	*3-395-007-01	LEVER (R) (V), FF	
254	*3-395-009-01	LEVER (V), PLAY	
255	3-395-028-01	SPRING	
256	*3-395-006-01	LEVER (F) (V), FF	
258	*3-395-042-01	BRACKET, MOTOR	
259	3-395-051-01	SCREW (M1.7X1.6), CAMERA	
260	3-395-052-01	SCREW (M1.7X3), PS TAPPING	
904	*1-630-800-11	PC BOARD, SWITCH	
HP901	1-543-633-11	HEAD, MAGNETIC (PLAYBACK)	
M301	X-3336-744-1	MOTOR, ASSY	
S901	1-571-951-11	SWITCH, LEAF (POWER)	

SECTION 7

ELECTRICAL PARTS LIST

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.
- 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: μ F, PF: μ PF.**RESISTORS**

- All resistors are in ohms.
- F: nonflammable

COILS

- MMH: mH, UH: μ H

SEMICONDUCTORSIn each case, U: μ , for example:UA...: μ A..., UPA...: μ PA...,UPC...: μ PC, UPD...: μ PD...

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.

Ref.No.	Part No.	Description	Ref.No.	Part No.	Description
901	*1-630-802-11	PC BOARD, JACK	C202	1-163-009-11	CERAMIC CHIP 0.001MF 10% 50V
903	*A-3015-766-A	(AF59).....PC BOARD ASSY, MAIN	C203	1-163-117-00	CERAMIC CHIP 100PF 5% 50V
	*A-3015-784-A	(BF59: AEP, UK, E, FR) . PC BOARD ASSY, MAIN	C204	1-163-117-00	CERAMIC CHIP 100PF 5% 50V
	*A-3015-785-A	(BF59: WG).....PC BOARD ASSY, MAIN	C205	1-124-432-00	ELECT 47MF 20% 4V
904	*1-630-800-11	PC BOARD, SWITCH	C206	1-163-063-00	CERAMIC CHIP 0.022MF 10% 50V
C1	1-163-099-00	(AF59/BF59: AEP, UK, E, FR) ...CERAMIC CHIP 18PF 5% 50V	C207	1-162-638-11	CERAMIC CHIP 1MF 16V
C1	1-163-102-00	(BF59: WG) ..CERAMIC CHIP 24PF 5% 50V	C210	1-164-161-11	CERAMIC CHIP 0.0022MF 10% 50V
C2	1-163-102-00	(AF59/BF59: AEP, UK, E, FR) ...CERAMIC CHIP 24PF 5% 50V	C211	1-163-009-11	CERAMIC CHIP 0.001MF 10% 50V
C2	1-163-104-00	(BF59: WG) ..CERAMIC CHIP 30PF 5% 50V	C301	1-162-638-11	CERAMIC CHIP 1MF 16V
C3	1-163-085-00	CERAMIC CHIP 2PF 0.25PF 50V	C302	1-124-432-00	ELECT 47MF 20% 4V
C4	1-163-091-00	(AF59/BF59: WG) ...CERAMIC CHIP 8PF 0.25PF 50V	C303	1-124-434-00	ELECT 220MF 20% 4V
C4	1-163-093-00	(BF59: AEP, UK, E, FR) ...CERAMIC CHIP 10PF 5% 50V	C304	1-124-434-00	ELECT 220MF 20% 4V
C5	1-163-097-00	CERAMIC CHIP 15PF 5% 50V	C305	1-163-205-00	CERAMIC CHIP 0.001MF 10% 50V
C6	1-163-117-00	CERAMIC CHIP 100PF 5% 50V	C306	1-124-434-00	ELECT 220MF 20% 4V
C8	1-126-157-11	ELECT 10MF 20% 6.3V	C307	1-126-094-11	ELECT 4.7MF 20% 16V
C9	1-163-989-11	CERAMIC CHIP 0.033MF 10% 25V	C310	1-163-009-11	CERAMIC CHIP 0.001MF 10% 50V
C10	1-163-129-00	CERAMIC CHIP 330PF 10% 50V	C311	1-163-205-00	(BF59) ..CERAMIC CHIP 0.001MF 10% 50V
C11	1-162-638-11	CERAMIC CHIP 1MF 16V	C601	1-163-077-00	CERAMIC CHIP 0.1MF 50V
C12	1-163-038-00	CERAMIC CHIP 0.1MF 25V	C602	1-163-205-00	CERAMIC CHIP 0.001MF 10% 50V
C13	1-163-038-00	CERAMIC CHIP 0.1MF 25V	CF1	1-567-090-00	FILTER, CERAMIC (455kHz)
C14	1-163-038-00	CERAMIC CHIP 0.1MF 25V	CF2	1-577-090-61	FILTER, CERAMIC (10.7MHz)
C15	1-163-035-00	CERAMIC CHIP 0.047MF 50V	CF3	1-577-091-11	OSCILLATOR, CRYSTAL (19kHz)
C16	1-163-035-00	CERAMIC CHIP 0.047MF 50V	CF4	1-577-090-61	FILTER, CERAMIC (10.7MHz)
C17	1-162-638-11	CERAMIC CHIP 1MF 16V	CP1	1-236-169-11	FILTER, BAND PASS
C18	1-162-638-11	CERAMIC CHIP 1MF 16V	CV	1-151-653-11	(AF59) ..CAP, VARIABLE
C19	1-163-075-00	CERAMIC CHIP 0.047MF 10% 25V	CV	1-151-654-11	(BF59) ..CAP, VARIABLE
C20	1-124-431-00	ELECT 33MF 20% 4V	D1	8-719-800-76	DIODE 1SS226
C23	1-163-205-00	CERAMIC CHIP 0.001MF 10% 50V	D301	1-807-738-11	DIODE SLR-34VR70F130 (LED)
C30	1-163-059-00	CERAMIC CHIP 0.01MF 10% 50V	IC1	8-759-230-39	IC TA8122AF
C101	1-163-009-11	CERAMIC CHIP 0.001MF 10% 50V	IC301	8-759-820-66	IC LA4580M
C102	1-163-009-11	CERAMIC CHIP 0.001MF 10% 50V	IC601	8-759-403-83	IC AN6650
C103	1-163-117-00	CERAMIC CHIP 100PF 5% 50V	J301	1-563-298-11	JACK (SMALL TYPE) (DIA. 3.5)(PHONES)
C104	1-163-117-00	CERAMIC CHIP 100PF 5% 50V	JW1	1-216-296-00	(AF59) ..METAL GLAZE 0 5% 1/8W
C105	1-124-432-00	ELECT 47MF 20% 4V	JW2	1-216-296-00	(BF59) ..METAL GLAZE 0 5% 1/8W
C106	1-163-063-00	CERAMIC CHIP 0.022MF 10% 50V	JW3	1-216-296-00	METAL GLAZE 0 5% 1/8W
C107	1-162-638-11	CERAMIC CHIP 1MF 16V	JW4	1-216-296-00	METAL GLAZE 0 5% 1/8W
C110	1-164-161-11	CERAMIC CHIP 0.0022MF 10% 50V	JW5	1-216-296-00	METAL GLAZE 0 5% 1/8W
C111	1-163-009-11	CERAMIC CHIP 0.001MF 10% 50V	JW6	1-216-296-00	METAL GLAZE 0 5% 1/8W
C201	1-163-009-11	CERAMIC CHIP 0.001MF 10% 50V	JW7	1-216-296-00	METAL GLAZE 0 5% 1/8W
			JW8	1-216-296-00	METAL GLAZE 0 5% 1/8W
			JW9	1-216-296-00	(AF59) ..METAL GLAZE 0 5% 1/8W
			JW10	1-216-296-00	(BF59) ..METAL GLAZE 0 5% 1/8W
			JW11	1-216-296-00	(AF59) ..METAL GLAZE 0 5% 1/8W
			JW12	1-216-296-00	(BF59) ..METAL GLAZE 0 5% 1/8W

Ref.No.	Part No.	Description
JW14	1-216-296-00	METAL GLAZE 0 5% 1/8W
JW15	1-216-296-00	METAL GLAZE 0 5% 1/8W
JW16	1-216-296-00	METAL GLAZE 0 5% 1/8W
JW17	1-216-296-00	(BF59)...METAL GLAZE 0 5% 1/8W
JW18	1-216-296-00	METAL GLAZE 0 5% 1/8W
JW19	1-216-295-00	METAL GLAZE 0 5% 1/10W
L1	1-459-848-11	COIL (WITH CORE) (RF)(FM ANT)
L2	1-459-847-11	(AF59/BF59: AEP, UK, E, FR) ...COIL (WITH CORE) (OSC)(FM OSC)
L2	1-459-859-11	(BF59:WG)... ...COIL (WITH CORE)(FM OSC)
L3	1-402-437-11	(AF59)...ANTENNA, FERRITE-ROD
L3	1-402-449-11	(BF59)...ANTENNA, FERRITE-ROD
L4	1-406-285-11	COIL (OSC)(AM OSC)
L5	1-410-209-51	INDUCTOR CHIP 27UH
L6	1-410-209-51	INDUCTOR CHIP 27UH
L101	1-410-200-31	INDUCTOR CHIP 4.7UH
L201	1-410-200-31	INDUCTOR CHIP 4.7UH
L301	1-410-204-31	INDUCTOR CHIP 10UH
M301	X-3336-744-1	MOTOR ASSY
Q1	8-729-403-17	TRANSISTOR XN1215
Q101	8-729-271-23	TRANSISTOR 2SC7212
Q201	8-729-271-23	TRANSISTOR 2SC7212
R1	1-216-081-00	METAL GLAZE 22K 5% 1/10W
R2	1-216-015-00	METAL GLAZE 39 5% 1/10W
R6	1-216-059-00	METAL GLAZE 2.7K 5% 1/10W
R101	1-216-057-00	METAL GLAZE 2.2K 5% 1/10W
R102	1-216-057-00	METAL GLAZE 2.2K 5% 1/10W
R103	1-216-025-00	METAL GLAZE 100 5% 1/10W
R104	1-216-101-00	METAL GLAZE 150K 5% 1/10W
R105	1-216-063-00	METAL GLAZE 3.9K 5% 1/10W
R106	1-216-058-00	METAL GLAZE 2.4K 5% 1/10W
R107	1-216-057-00	METAL GLAZE 2.2K 5% 1/10W
R108	1-216-059-00	METAL GLAZE 2.7K 5% 1/10W
R110	1-216-025-00	METAL GLAZE 100 5% 1/10W
R201	1-216-057-00	METAL GLAZE 2.2K 5% 1/10W
R202	1-216-057-00	METAL GLAZE 2.2K 5% 1/10W
R203	1-216-025-00	METAL GLAZE 100 5% 1/10W
R204	1-216-101-00	METAL GLAZE 150K 5% 1/10W
R205	1-216-063-00	METAL GLAZE 3.9K 5% 1/10W
R206	1-216-058-00	METAL GLAZE 2.4K 5% 1/10W
R207	1-216-057-00	METAL GLAZE 2.2K 5% 1/10W
R208	1-216-059-00	METAL GLAZE 2.7K 5% 1/10W
R210	1-216-025-00	METAL GLAZE 100 5% 1/10W

Ref.No.	Part No.	Description
R301	1-216-034-00	METAL GLAZE 240 5% 1/10W
R302	1-216-057-00	METAL GLAZE 2.2K 5% 1/10W
R601	1-216-196-00	METAL GLAZE 820 5% 1/8W
R602	1-216-149-00	METAL GLAZE 9.1 5% 1/8W
R603	1-216-139-00	METAL GLAZE 3.6 5% 1/8W
RV101	1-230-593-11	RES. VAR, CARBON 10K/10K(VOL)
RV601	1-238-594-11	RES, ADJ, CARBON 500 (SPEED)
S301	1-571-674-11	SWITCH, SLIDE (FUNCTION)
S302	1-554-843-11	SWITCH, SLIDE (BAND/MODE)
S303	1-570-114-11	SWITCH, SLIDE (TAPE)
S304	1-570-355-11	SWITCH, SLIDE (DIRECTION)
S901	1-571-951-11	SWITCH, LEAF (POWER)
T1	1-404-793-11	TRANSFORMER, 1F (AM IFT)
TH601	1-807-488-11	THERMISTOR (POSITIVE)
TH602	1-808-680-11	THERMISTOR (POSITIVE)

ACCESSORY & PACKING MATERIAL

*3-351-182-01	(AF59/BF59: AEP, UK, E, WG)...CUSHION (UPPER)
*3-351-183-01	(AF59/BF59: AEP, UK, E, WG)...CUSHION (LOWER)
*3-353-707-01	(BF59:FR)...CUSHION (UPPER)
*3-353-708-01	(BF59:FR)...CUSHION (LOWER)
*3-351-191-01	(AF59:US)...INDIVIDUAL CARTON
*3-351-193-01	(AF59:Canadian)...INDIVIDUAL CARTON
*3-351-195-01	(BF59:AEP,WG)...INDIVIDUAL CARTON
*3-351-197-01	(BF59:UK)...INDIVIDUAL CARTON
*3-351-199-01	(BF59:E)...INDIVIDUAL CARTON
*3-353-705-01	(BF59:FR)...INDIVIDUAL CARTON
3-750-306-11	(AF59:Canadian/BF59)..MANUAL, INSTRUCTION
3-750-306-21	(AF59:US)...MANUAL, INSTRUCTION
3-750-306-41	(BF59:AEP,WG)...MANUAL, INSTRUCTION
8-952-261-90	(AF59/BF59: AEP, UK, FR, WG) ...HEADPHONE MDR-W15L/Y SET
8-952-261-95	(AF59:Canadian; GREEN) ...HEADPHONE MDR-W15 LNK SET
8-952-265-90	(BF59:E)...HEADPHONE MDR-E215/Y SET
X-3336-728-1	CASE ASSY, CARRYING
X-3363-305-1	(AF59:Canadian; GREEN)...CASE ASSY, CARRYING