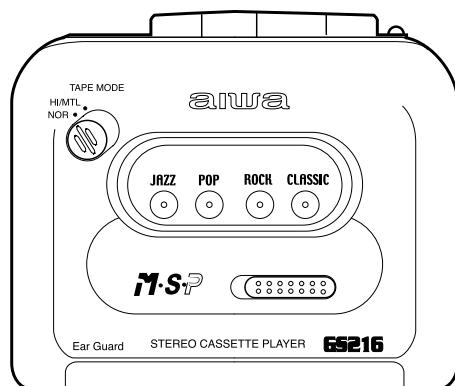




HS-GS216 Y,YH



SERVICE MANUAL

STEREO
CASSETTE PLAYER

BASIC TAPE MECHANISM : 8ZM-3 P2N

aiwa
S/M Code No. 09-012-439-0N1

DATA

SPECIFICATIONS

Maximum output:	4 mW + 4 mW (EIAJ 16 ohms)<Y> 5 mW + 5 mW (EIAJ 32 ohms)<YH>
Load impedance<Y>:	16 - 80 ohms
Power source:	DC 3V using two R6 (size AA) batteries AC house current using an optional AC adaptor Aiwa AC-D302
Maximum outside dimensions:	111.3 (W) x 83 (H) x 29.4 (D) mm (4 $\frac{1}{2}$ x 3 $\frac{3}{8}$ x 1 $\frac{3}{16}$ in.) (excluding projecting parts and controls)
Weight	Approx. 130g (4.6 oz) excluding batteries

- Design and specifications are subject to change without notice.

ACCESSORIES / PACKAGE LIST

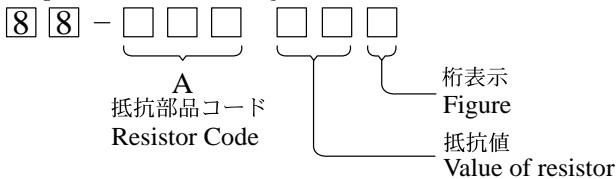
REF.NO.	PARTNO.	KANRI NO.	DESCRIPTION
1	8B-HG9-902-010	IB, (ECC) F	GS216<YH>
1	8B-HG9-906-010	IB, (EDPHNC) F	GS216<Y>
1	8B-HG9-905-010	IB, (EGFSI) F	GS216<Y>
2	87-B30-255-010	HEADPHONE, HP-M007B(S)	
3	8Z-HRB-050-210	CLIP, BELT ASSY	

ELECTRICAL MAIN PARTS LIST 1/1

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION	REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
IC				C312	87-010-805-080	CAP, S 1-16	
	87-A20-461-040	C-IC, MM1336DF		C313	87-010-805-080	CAP, S 1-16	
TRANSISTOR				C321	87-A10-952-080	C-CAP, TN 22-4 M A MCM	
	87-026-264-080	C-TR, RN1411		C322	87-010-596-080	CHIP CAPACITOR, 0.047-16KR	
	89-327-125-080	CHIP TR, 2SC2712GR		C403	87-010-197-080	CAP, CHIP 0.01 DM	
DIODE				C404	87-010-197-080	CAP, CHIP 0.01 DM	
	87-A40-630-040	C-DIODE, RB411D		C405	87-012-141-080	CHIP-CAPACITOR, 0.22-16F	
	87-020-027-080	CHIP-DIODE 1SS184		C406	87-012-141-080	CHIP-CAPACITOR, 0.22-16F	
MAIN C.B				C407	87-010-805-080	CAP, S 1-16	
C101	87-010-178-080	CHIP CAP 1000P-50		C408	87-010-805-080	CAP, S 1-16	
C102	87-010-178-080	CHIP CAP 1000P-50		C409	87-010-195-080	C-CAP, S 0.068-25 F	
C103	87-010-213-080	C-CAP, S 0.015-50 B		C410	87-010-195-080	C-CAP, S 0.068-25 F	
C104	87-010-213-080	C-CAP, S 0.015-50 B		C411	87-010-188-080	CAP, CHIP 6800P	
C105	87-010-499-040	CAP, E 22-6.3 GAS		C412	87-010-188-080	CAP, CHIP 6800P	
C106	87-010-499-040	CAP, E 22-6.3 GAS		C413	87-010-198-080	CAP, CHIP 0.022	
C111	87-010-182-080	C-CAP, S 2200P-50 B		C414	87-010-198-080	CAP, CHIP 0.022	
C112	87-010-182-080	C-CAP, S 2200P-50 B		C415	87-010-501-040	E/CAP GAS 47-4	
C119	87-010-503-040	CAP, E 220-4 GAS		C417	87-010-198-080	CAP, CHIP 0.022	
C120	87-016-350-040	CAP, E 470-4 MA GAS		C418	87-010-198-080	CAP, CHIP 0.022	
C121	87-010-805-080	CAP, S 1-16		C420	87-010-805-080	CAP, S 1-16	
C122	87-010-178-080	CHIP CAP 1000P-50KB		C421	87-010-805-080	CAP, S 1-16	
C123	87-010-494-040	CAP, E 1-50 GAS		C701	87-012-157-080	C-CAP, S 330P-50 CH	
C124	87-010-596-080	CAP, S 0.047-16		C702	87-012-157-080	C-CAP, S 330P-50 CH	
C125	87-010-499-040	CAP, E 22-6.3 GAS		C703	87-010-196-080	CHIP CAPACITOR, 0.1-25	
C126	87-010-503-040	CAP, E 220-4 GAS		C704	87-010-197-080	CAP, CHIP 0.01 DM	
C127	87-010-197-080	CAP, CHIP 0.01 DM		C705	87-010-197-080	CAP, CHIP 0.01 DM	
C128	87-010-196-080	CHIP CAPACITOR, 0.1-25		C706	87-012-141-080	CHIP-CAPACITOR, 0.22-16F	
C230	87-010-196-080	CHIP CAPACITOR, 0.1-25		J101	87-A61-124-110	JACK, DC DIA2.75 BLK TC	
C301	87-010-196-080	CHIP CAPACITOR, 0.1-25		J102	85-HRL-623-010	JACK, 3.5 ST BLK	
C302	87-010-196-080	CHIP CAPACITOR, 0.1-25		S101	87-A91-077-010	SW, LEAF	
C303	87-016-087-080	C-CAP, S 0.47-16F		S102	8Z-HRB-607-010	SW, SL 2-2-2 SSZZ-S-502(S)	
C304	87-016-087-080	C-CAP, S 0.47-16F		S301	87-A90-917-010	C-SW, SL 1-1-2 SS-350-B12W-C-L	
C305	87-010-186-080	CAP, CHIP 4700P		S401	87-A91-285-110	C-SW, SL 1-1-4 SS-350-B14B-C-L	
C306	87-010-186-080	CAP, CHIP 4700P		SFR101	87-024-050-010	SFR, 1K V VZ066H1	
C307	87-010-186-080	CAP, CHIP 4700P		TH101	87-026-256-090	THERMISTOR, HT-100	
C308	87-010-186-080	CAP, CHIP 4700P		VR101	87-A90-818-010	VR, RTRY 20KCX2H XV0102G	
C309	87-010-193-080	CHIP CAPACITOR, 0.033					
C310	87-010-193-080	CHIP CAPACITOR, 0.033					
C311	87-010-805-080	CAP, S 1-16					

○チップ抵抗部品コード／CHIP RESISTOR PART CODE

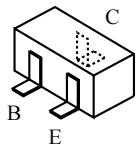
チップ抵抗部品コードの成り立ち
Chip Resistor Part Coding



チップ抵抗 Chip resistor

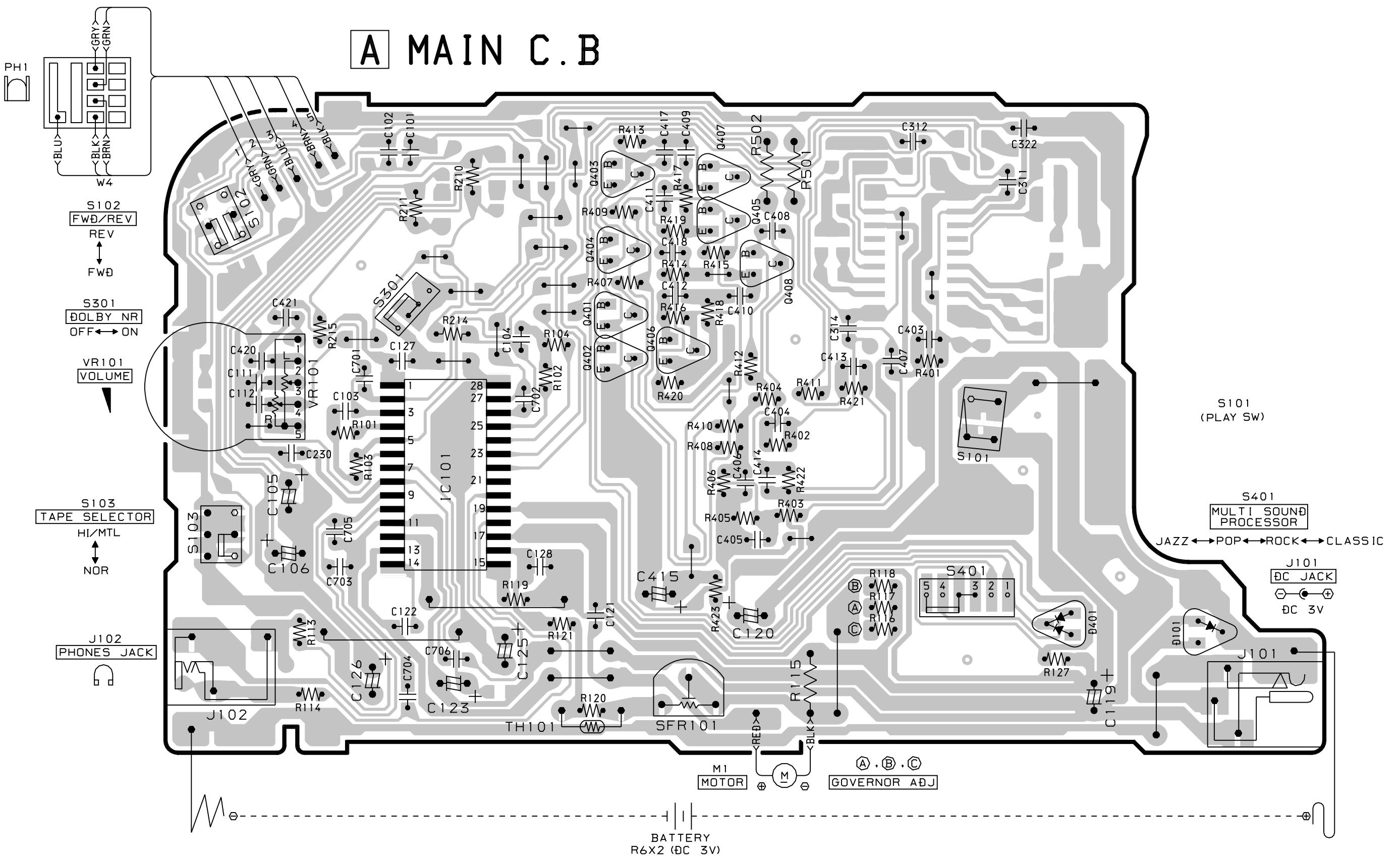
容量 Wattage	種類 Type	許容誤差 Tolerance	記号 Symbol	寸法／Dimensions (mm)			抵抗コード : A Resistor Code : A
				外形／Form	L	W	
1/16W	1005	± 5%	CJ		1.0	0.5	0.35
1/16W	1608	± 5%	CJ		1.6	0.8	0.45
1/10W	2125	± 5%	CJ		2	1.25	0.45
1/8W	3216	± 5%	CJ		3.2	1.6	0.55

TRANSISTOR ILLUSTRATION

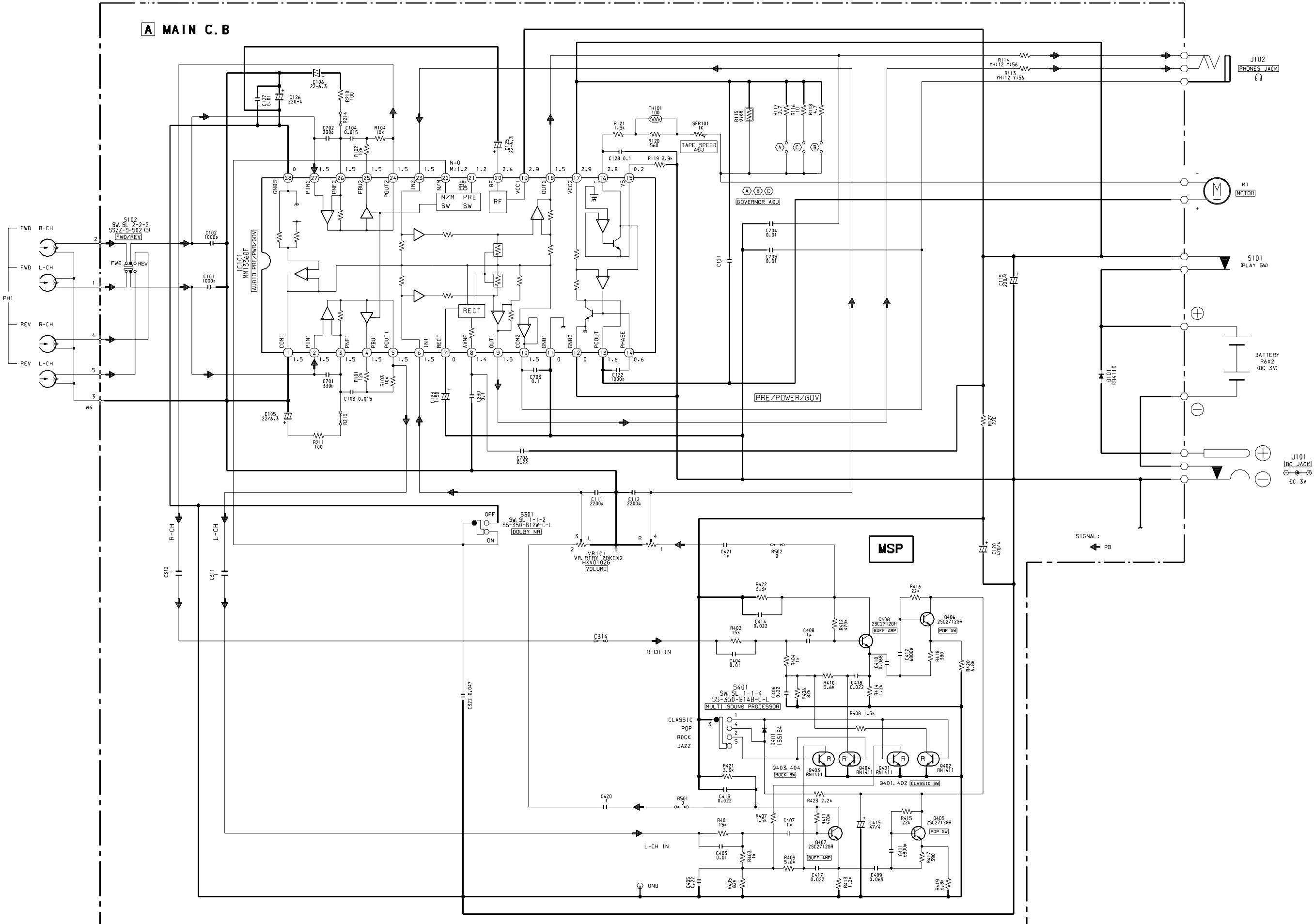


2SC2712
RN1411

A MAIN C.E



SCHEMATIC DIAGRAM



ADJUSTMENT

1. Tape Speed Adjustment

- Settings : • Test tape : TTA - 100
(Tape center)
• Test point : Phones Jack (J102)
• Adjustment location : SFR101
• Tape selector : NORM
• Volume : Non - clip
(MAX - 10 dB down)

Method : Play back the test tape and adjust SFR101 so that the frequency becomes 3000 Hz \pm 10 Hz. Then confirm WOW is less than 0.50%.

2. GOVERNOR Check

Perform the STOP \rightarrow PLAY and REVERSE operations (or PAUSE ON \rightarrow OFF) after the motor is replaced. When the tape starts running smooth, this adjustment is not necessary. If wow is conspicuous at the beginning of the tape-run, perform this adjustment following the procedures below.

- 1) Solder resistor pattern (C) of the MOTOR AND GOVERNOR MATCHING ADJ. resistor group.
- 2) Set the tape speed (using speed adjustment SFR101).
- 3) Restrict the motor rotation by hand (or turn PAUSE ON).
- 4) Remove your hand and listen to the beginning of the tape-run.
- 5) When the rise of tape running is smooth, no more adjustment is necessary.
If wow continues for 1 to 2 seconds at the rise time, change the combined resistance according to procedure 2 and check that the tape starts running smooth.
- 6) Solder the resistor pattern according to the table below

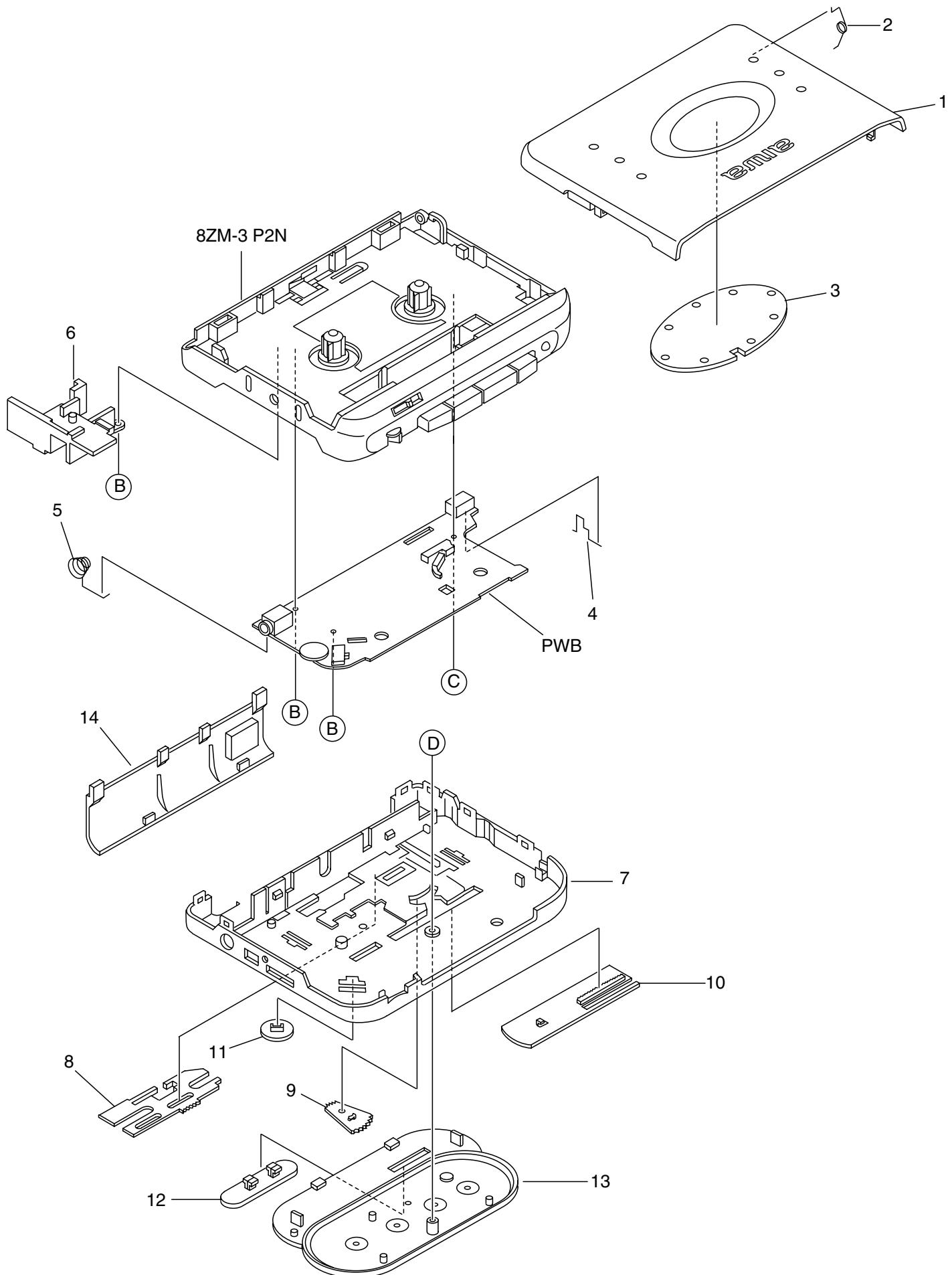
Pattern	Low resistance (Ⓐ)	Medium resistance (Ⓑ)	High resistance (Ⓒ)
Step (1)	Open	Open	Open
Step (2)	Open	Open	Solder
Step (3)	Open	Solder	Open

(NOTE : Ⓐ = 2.7 ohm, Ⓑ = 4.7 ohm, Ⓒ = 10 ohm)

- 7) Finally re-check the tape speed.

Caution : Cool the patterns down to normal temperature after soldering. If the pattern remains heated, the governor circuit does not operate normally.

MECHANICAL EXPLODED VIEW 1 / 1



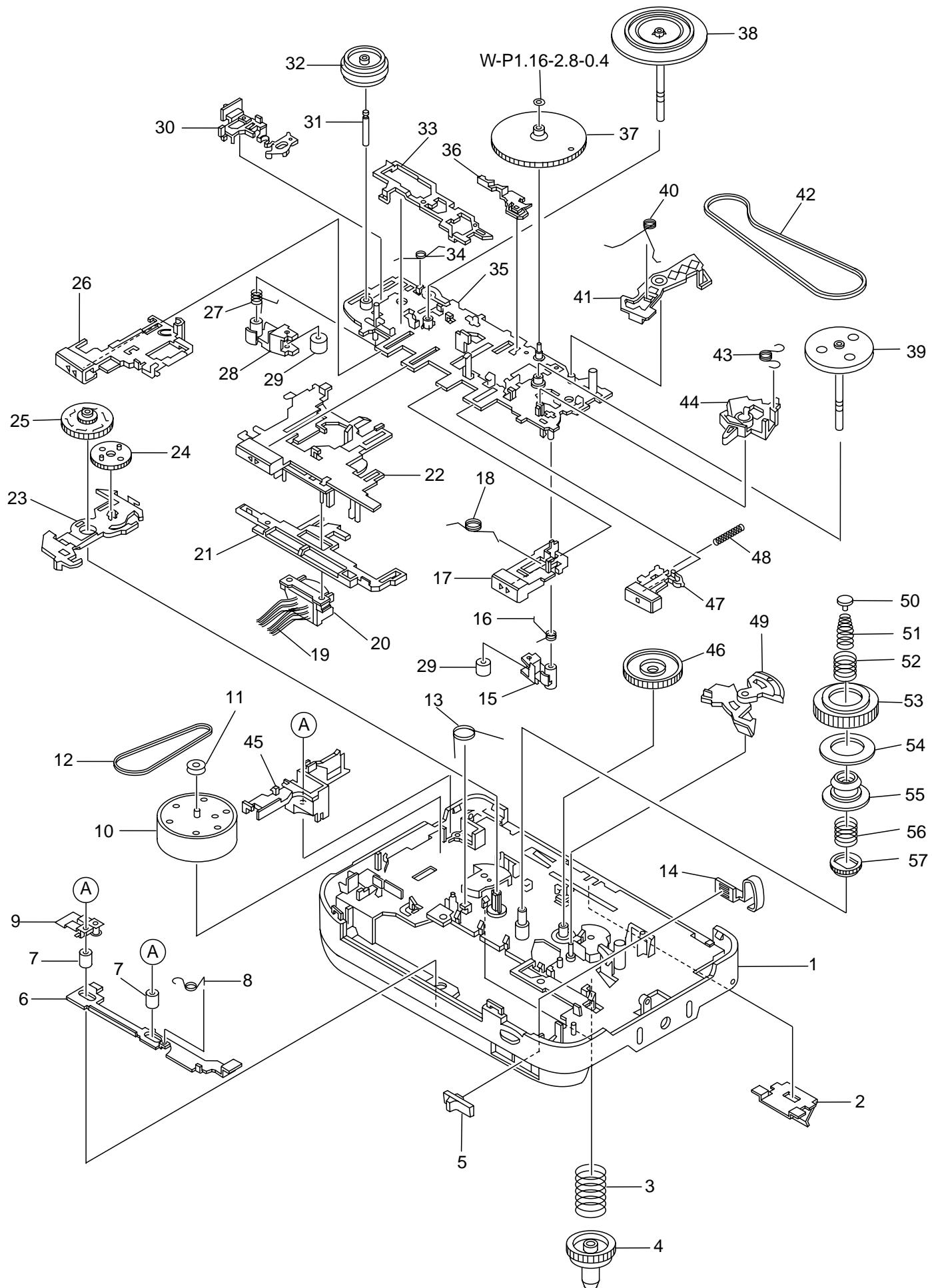
MECHANICAL PARTS LIST 1 / 1

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	8B-HG6-007-010		LID,CASS P EG<Y>
1	8B-HG9-004-010		LID,CASS<YH>
2	8Z-HRB-217-110		SPR-T,CASS
3	8Z-HRB-002-010		WINDOW,CASS
4	8Z-HRB-208-010		BAT-CONTACT, P
5	8B-HRC-203-010		BAT-CONTACT, M
6	8Z-HG9-201-110		HLDR, HP JACK
7	8B-HG9-001-010		CABI, REAR EG<Y>
7	8B-HG9-003-010		CABI, REAR<YH>
8	8B-HG6-201-010		RACK,MSP
9	8B-HG6-202-010		GEAR,MSP
10	8B-HG6-005-010		PLATE, IND MSP
11	8B-HG6-004-010		KNOB, SL DOLBY
12	8B-HG6-003-010		KNOB, SL MSP
13	8B-HG6-002-010		PANEL,MSP
14	8Z-HRB-005-110		LID,BAT SIL
A	87-B10-048-010		VT2+1.4-3 (3) CR HL
B	87-B10-196-010		VT2+1.4-4 BLK (3) HL
C	87-264-527-310		V 1.7-3 SCREW
D	87-067-384-010		SCREWVT1.4-3.5HL

COLOR NAME TABLE

Basic color symbol	Color	Basic color symbol	Color	Basic color symbol	Color
B	Black	C	Cream	D	Orange
G	Green	H	Gray	L	Blue
LT	Transparent Blue	N	Gold	P	Pink
R	Red	S	Silver	ST	Titan Silver
T	Brown	V	Violet	W	White
WT	Transparent White	Y	Yellow	YT	Transparent Yellow
LM	Metallic Blue	LL	Light Blue	GT	Transparent Green
LD	Dark Blue	DT	Transparent Orange	GM	Metallic Green
YM	Metallic Yellow	DM	Metallic Orange	PT	Transparent Pink
LA	Aqua Blue	GL	Light Green	HT	Transparent Gray

TAPE MECHANISM EXPLODED VIEW 1 / 1



TAPE MECHANISM PARTS LIST 1 / 1

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	8Z-HRB-003-210		FRAME, CENTER GRY
2	8Z-HRB-207-110		SPR-P, CASS
3	88-ZM3-253-210		SPR-C, BT L
4	88-ZM3-274-010		GEAR, REEL A
5	8Z-HRB-014-110		KNOB, SL OPEN
6	8Z-HRB-204-110		LEVER, EJECT
7	8Z-HRB-216-110		CAP, EJECT
8	8Z-HRB-205-110		SPR-T, EJECT
9	8Z-HRB-215-010		SHAFT, ASSY
10	87-A91-379-010		MOT, BCY3B-13
11	88-ZM3-236-010		PULLEY, MOT S
12	88-ZM3-263-210		BELT, S
13	88-ZM3-243-010		SPR-T, PLAY BACK
14	8Z-HRB-206-010		PLATE, EJECT
15	88-ZM3-217-210		ARM, PINCH L
16	88-ZM3-241-110		SPR-T, PINCH L
17	88-ZM3-003-110		LEVER, REW
18	88-ZM3-246-110		SPR-T, FF REW
19	87-A80-115-010		F-CABLE, 5P P2
20	87-A91-019-010		HEAD ASSY, PH 8ZM-3
21	88-ZM3-211-010		LEVER, DIR
22	88-ZM3-001-110		LEVER, PLAY
23	88-ZM3-213-310		LEVER, T-UP
24	88-ZM3-225-110		GEAR, PLAY
25	88-ZM3-224-210		GEAR, TRANSMIT
26	88-ZM3-002-110		LEVER, FF
27	88-ZM3-242-210		SPR-T, PINCH R
28	88-ZM3-242-210		ARM, PINCH R
29	88-ZM3-271-010		ROLLER ASSY, PINCH
30	88-ZM3-220-110		BTN, MODE SEL
31	88-ZM3-267-010		SHAFT, PULLEY TWIN
32	88-ZM3-234-010		PULLEY, BELT TWIN
33	88-ZM3-212-110		LEVER, LOCK
34	88-ZM3-245-110		SPR-T, LOCK
35	88-ZM3-201-410		CHAS ASSY, OUTSERT P
36	88-ZM3-216-110		LEVER, SW
37	88-ZM3-221-110		GEAR, AUTO
38	09-001-453-010		FLY-WHL ASSY, R S
39	88-ZM3-280-010		FLY-WHL ASSY, L2
40	88-ZM3-248-010		SPR-T, AUTO CHOOSE
41	88-ZM3-215-110		LEVER, AUTO KICK
42	88-ZM3-262-010		BELT, L
43	88-ZM3-244-010		SPR-T, DIR
44	88-ZM3-219-010		BTN, DIR KNOB
45	8A-HRH-203-010		HLDR, DC JACK
46	88-ZM3-226-010		GEAR, IDLE
47	88-ZM3-004-210		LEVER, STOP
48	88-ZM3-255-210		SPR-C, STOP
49	88-ZM3-214-110		LEVER, AUTO FIND
50	88-ZM3-238-010		CAP, SLIP
51	88-ZM3-252-010		SPR-C, SHIFT
52	88-ZM3-251-310		SPR-C, SLIP
53	88-ZM3-222-110		GEAR, SLIP FAST
54	88-ZM3-269-110		FELT, SLIP
55	88-ZM3-237-110		CLR, SLIP
56	88-ZM3-247-010		SPR-T, AUTO FIND
57	88-ZM3-223-010		GEAR, SLIP SLOW
58	8A-HRH-203-010		HLDR, DC JACK
A	87-067-384-010		SCREWVT1.4-3.5HL

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