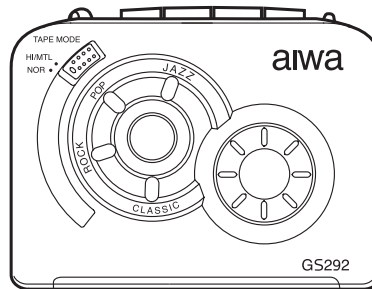


HS-GS292

[L]Y1B

HS-GM600MK3

[L]Y1



SERVICE MANUAL

STEREO CASSETTE PLAYER

BASIC TAPE MECHANISM : 8ZM-3 P3N

aiwa

S/M Code No. 09-995-405-6R2

REVISION

SPECIFICATIONS

Maximum output:	4 mW + 4 mW (EIAJ/16Ω)
Load impedance:	16 – 32 ohms
Power source:	DC 3V using two R6 (size AA) batteries AC house current using the optional AC adaptor AIWA AC – D302
Maximum dimensions:	111.8 (W) x 88 (H) x 32.3 (D) mm ($4\frac{1}{2}$ x $3\frac{1}{2}$ x $1\frac{5}{16}$ in.)
Weight	Approx.120g (4.2 oz) (excluding batteries)

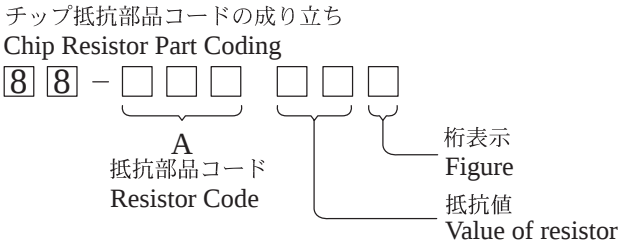
- Design and specifications are subject to change without notice.

ELECTRICAL MAIN PARTS LIST

REF.NO.	PARTNO.	KANRI NO.	DESCRIPTION
IC			
	87-A20-461-040	IC, MM1336DF	
TRANSISTOR			
	87-026-264-080	C-TR, RN1411	
	89-327-125-080	CHIP TR, 2SC2712GR	
DIODE			
	87-A40-630-040	C-DIODE, RB411D	
	87-020-027-080	CHIP-DIODE 1SS184	
MAIN C.B			
C101	87-010-178-080	CHIP CAP 1000P	
C102	87-010-178-080	CHIP CAP 1000P	
C103	87-010-213-080	C-CAP, S 0.015-50 B	
C104	87-010-213-080	C-CAP, S 0.015-50 B	
C105	87-010-499-040	CAP, E 22-6.3 M 5L SRE	
C106	87-010-499-040	CAP, E 22-6.3 M 5L SRE	
C111	87-010-182-080	C-CAP, S 2200P-50 B	
C112	87-010-182-080	C-CAP, S 2200P-50 B	
C119	87-010-503-040	CAP, E 220-4 M 5L SRE	
C120	87-016-350-040	CAP, E 470-4 MA GAS	
C121	87-016-462-080	C-CAP, S 1-16 ZF	
C122	87-010-178-080	C-CAP, S 1000P-50 KB	
C123	87-010-495-040	CAP, E 2.2-50 M 5L SRE	
C125	87-010-499-040	CAP, E 22-6.3 M 5L SRE	
C126	87-010-503-040	CAP, E 220-4 GAS	
C127	87-010-197-080	CAP, CHIP 0.01 DM	
C128	87-010-196-080	CHIP CAPACITOR, 0.1-25	
C230	87-010-178-080	C-CAP, S 1000P-50 KB	
C311	87-016-462-080	C-CAP, S 1-16 ZF	
C312	87-016-462-080	C-CAP, S 1-16 ZF	
C322	87-010-596-080	C-CAP, S 0.047-16	
C403	87-010-197-080	CAP, CHIP 0.01 DM	

REF.NO.	PARTNO.	KANRI NO.	DESCRIPTION
C404	87-010-197-080	CAP, CHIP 0.01 DM	
C405	87-012-141-080	CHIP-CAPACITOR, 0.22-16F	
C406	87-012-141-080	CHIP-CAPACITOR, 0.22-16F	
C407	87-016-462-080	C-CAP, S 1-16 ZF	
C408	87-016-462-080	C-CAP, S 1-16 ZF	
C409	87-010-195-080	C-CAP, S 0.068-25 F	
C410	87-010-195-080	C-CAP, S 0.068-25 F	
C411	87-010-188-080	CAP, CHIP 6800P	
C412	87-010-188-080	CAP, CHIP 6800P	
C413	87-010-198-080	CAP, CHIP 0.022	
C414	87-010-198-080	CAP, CHIP 0.022	
C415	87-010-501-040	E/CAP GAS 47-4	
C417	87-010-198-080	CAP, CHIP 0.022	
C418	87-010-198-080	CAP, CHIP 0.022	
C420	87-016-462-080	C-CAP, S 1-16 ZF	
C421	87-016-462-080	C-CAP, S 1-16 ZF	
C701	87-012-157-080	C-CAP, S 330P-50 CH	
C702	87-012-157-080	C-CAP, S 330P-50 CH	
C703	87-010-196-080	CHIP CAPACITOR, 0.1-25	
C704	87-010-197-080	C-CAP, S 0.01-25 KB	
C705	87-010-197-080	C-CAP, S 0.01-25 KB	
C706	87-016-461-080	C-CAP, S 0.47-16 ZF	
J101	87-A60-849-010	JACK, DC DIA 2.75 BLK	
J102	85-HRL-623-010	JACK, 3.5 BLK ST BLK	
R115	87-022-657-080	RES, 0.68-1/8W G 4300PPM	
S101	87-A91-077-010	SW, LEAF	
S102	8Z-HRB-607-010	SW, SL 2-2-2 SSZZ-S-502(S)	
S301	87-A90-917-010	C-SW, SL 1-1-2 SS-350-B12	
S401	87-A91-285-010	C-SW, SL 1-1-4 SS-350-	
SFR101	87-024-050-010	SEMI-FIXED RESISTOR, 1K	
TH101	87-026-256-090	THERMISTOR, HT-100	
VR101	87-A90-818-010	VR, RTRY 20KCX2	
W1	87-A80-115-010	F-CABLE, 5P P2	

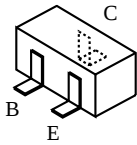
○チップ抵抗部品コード／CHIP RESISTOR PART CODE



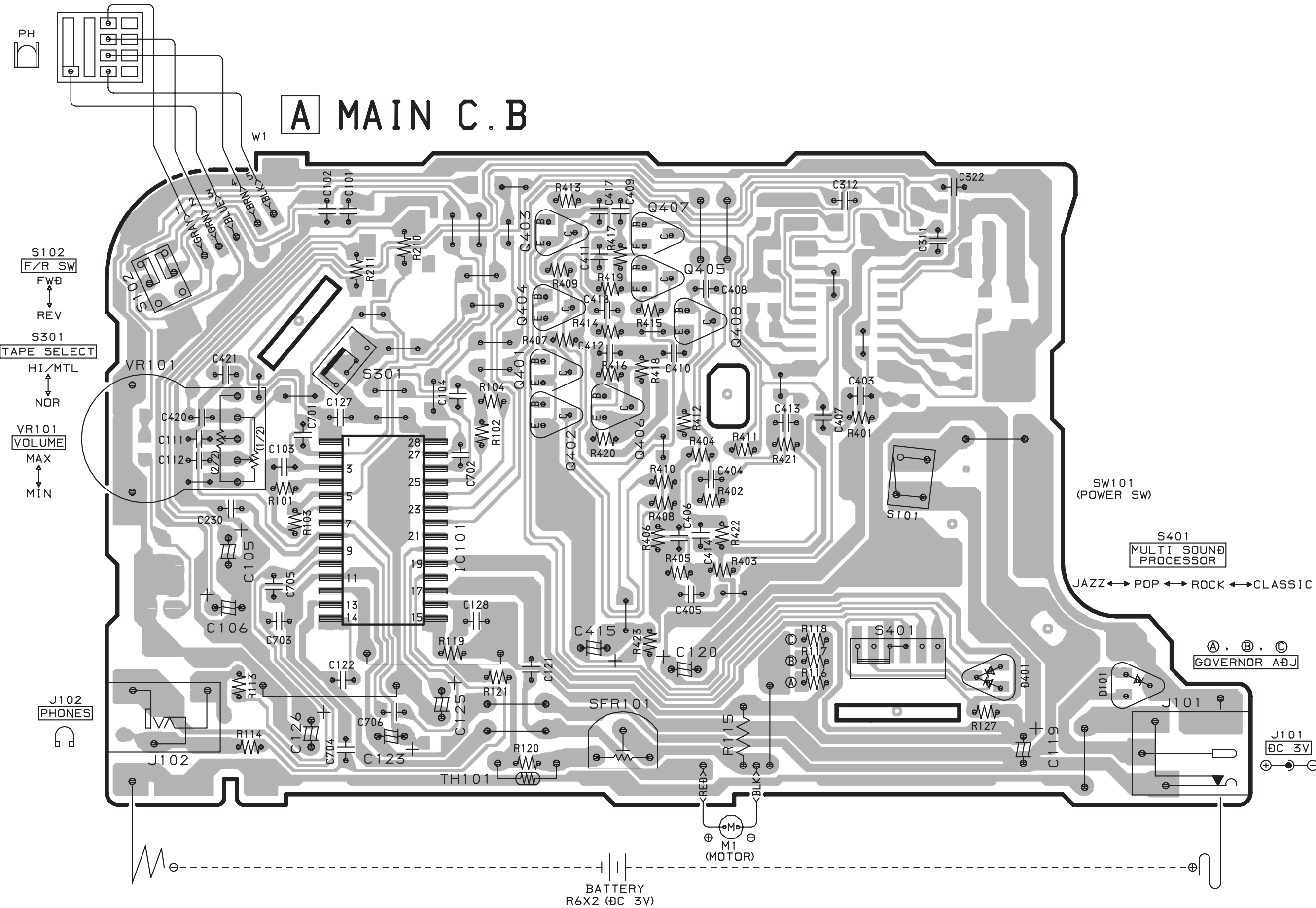
チップ抵抗
Chip resistor

容量 Wattage	種類 Type	許容誤差 Tolerance	記号 Symbol	寸法／Dimensions (mm)				抵抗コード : A
				外形／Form	L	W	t	Resistor Code : A
1/16W	1005	± 5%	CJ		1.0	0.5	0.35	104
1/16W	1608	± 5%	CJ		1.6	0.8	0.45	108
1/10W	2125	± 5%	CJ		2	1.25	0.45	118
1/8W	3216	± 5%	CJ		3.2	1.6	0.55	128

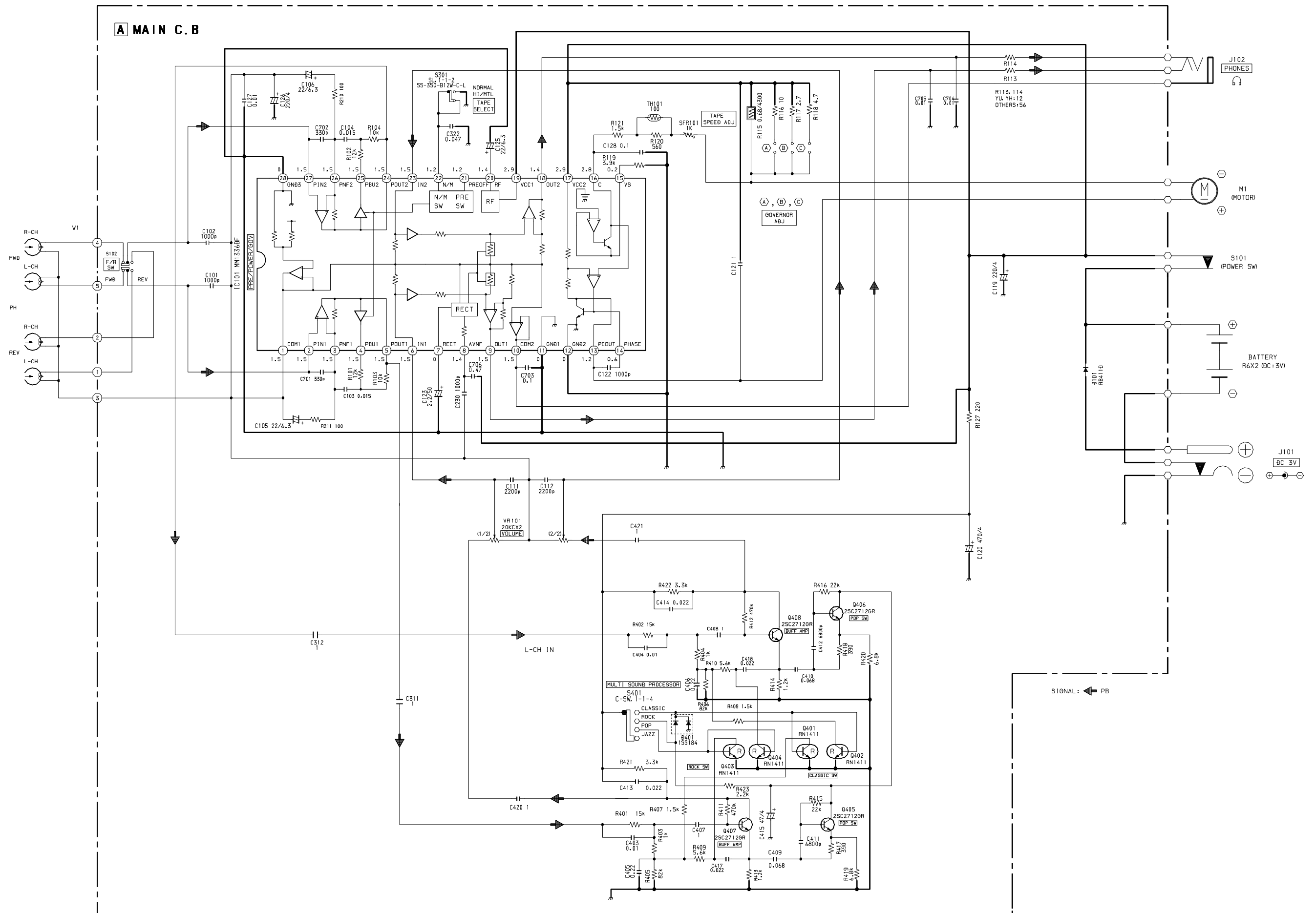
TRANSISTOR ILLUSTRATION



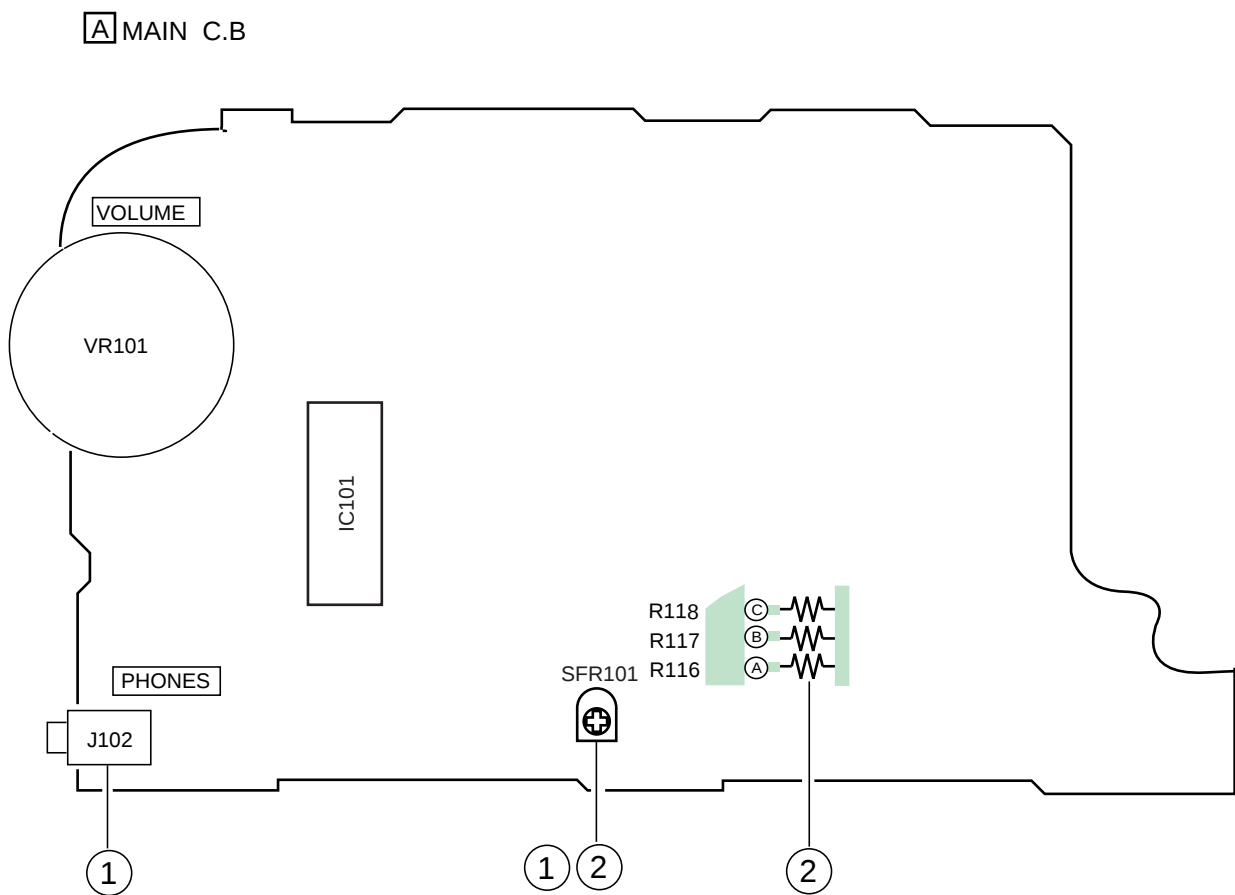
2SC2712
RN1411



SCHEMATIC DIAGRAM - 1 (MAIN)



ADJUSTMENT



PRACTICAL SERVICE FIGURE

<TAPE SECTION>

Tape speed :	3015Hz ± 60Hz
Wow :	Less than 0.5% (RMS)
Take-up torque :	24 ~ 45g-cm (FWD)
F.F torque :	70 ~ 150g-cm
REW torque :	70 ~ 150g-cm
Back tension :	1.5 ~ 4.0g-cm (FWD)
S/N ratio :	More than 42dB (PB, DC)
Distortion :	Less than 3.0% (PB, DC)
Noise level :	Less than 4.5mV (Vol MAX, PB, DC) Less than 0.45mV (Vol MIN, PB, DC)
Frequency response :	63Hz + 1 / - 7dB ~ 8kHz + 4 / - 4dB (NORMAL) 63Hz + 1 / - 7dB ~ 10kHz + 4 / - 6dB (CrO2)
Test tape :	TTA- 100 TTA-320(NORMAL) TTA-310(CrO2)

<TAPE PLAYER SECTION>

1. Tape Speed Adjustment
- Settings :
- Test tape : TTA-100 (Tape center)
 - Test point : PHONES (J101)
 - Adjustment location : SFR101
 - MSP : CLASSIC
 - TAPE SELECTOR : NORM
 - VOLUME : MAX
- Method : Play back (FWD) the test tape and adjust SFR101 so that the frequency becomes 3010Hz±10Hz. Then confirm WOW is less than 0.50%.
2. GOVERNER Adjustment
- Perform the STOP —> PLAY and REVERSE operations (or PAUSE ON —> 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 (A) 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).

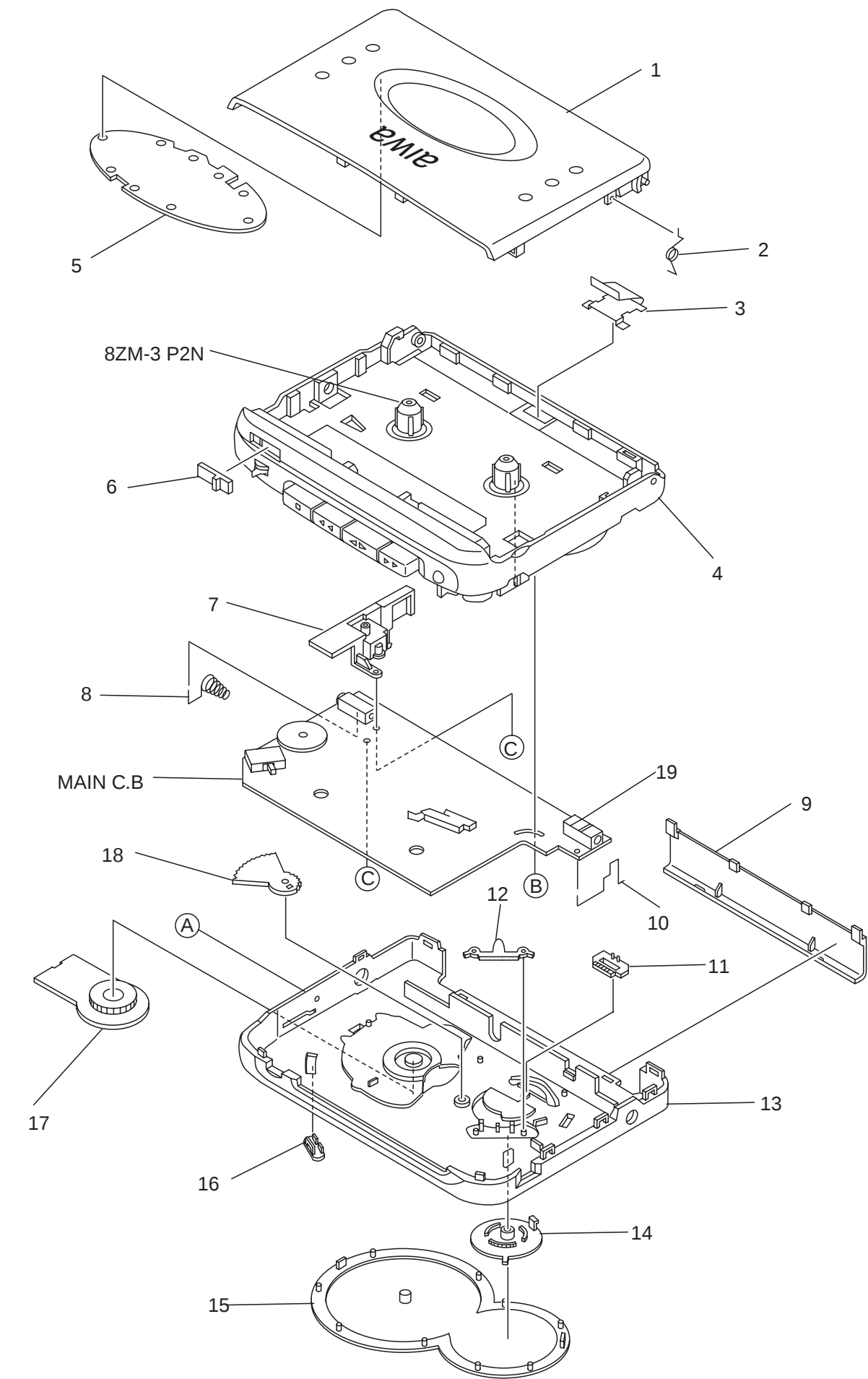
- 4) Remove your hand and listen to the beginning of the tape-run.
- 5) When the rise of tape running is smooth, no more adjustment is necessary.
If wow continues for 1 to 2 seconds at the rise time, change the combined resistance according to procedure 6 and check that the tape starts running smooth.
- 6) Solder the resistor pattern according to the table below

Pattern	Low resistance (A)	Medium resistance (B)	High resistance (C)
(Procedure 1 above)	Solder	Soder	Open
Step (1)	Solder	Open	Solder
Step (2)	Solder	Solder	Solder

(NOTE : ㉠ =10ohm , ㉢ =2.7ohm , ㉡ =4.7ohm)

- 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



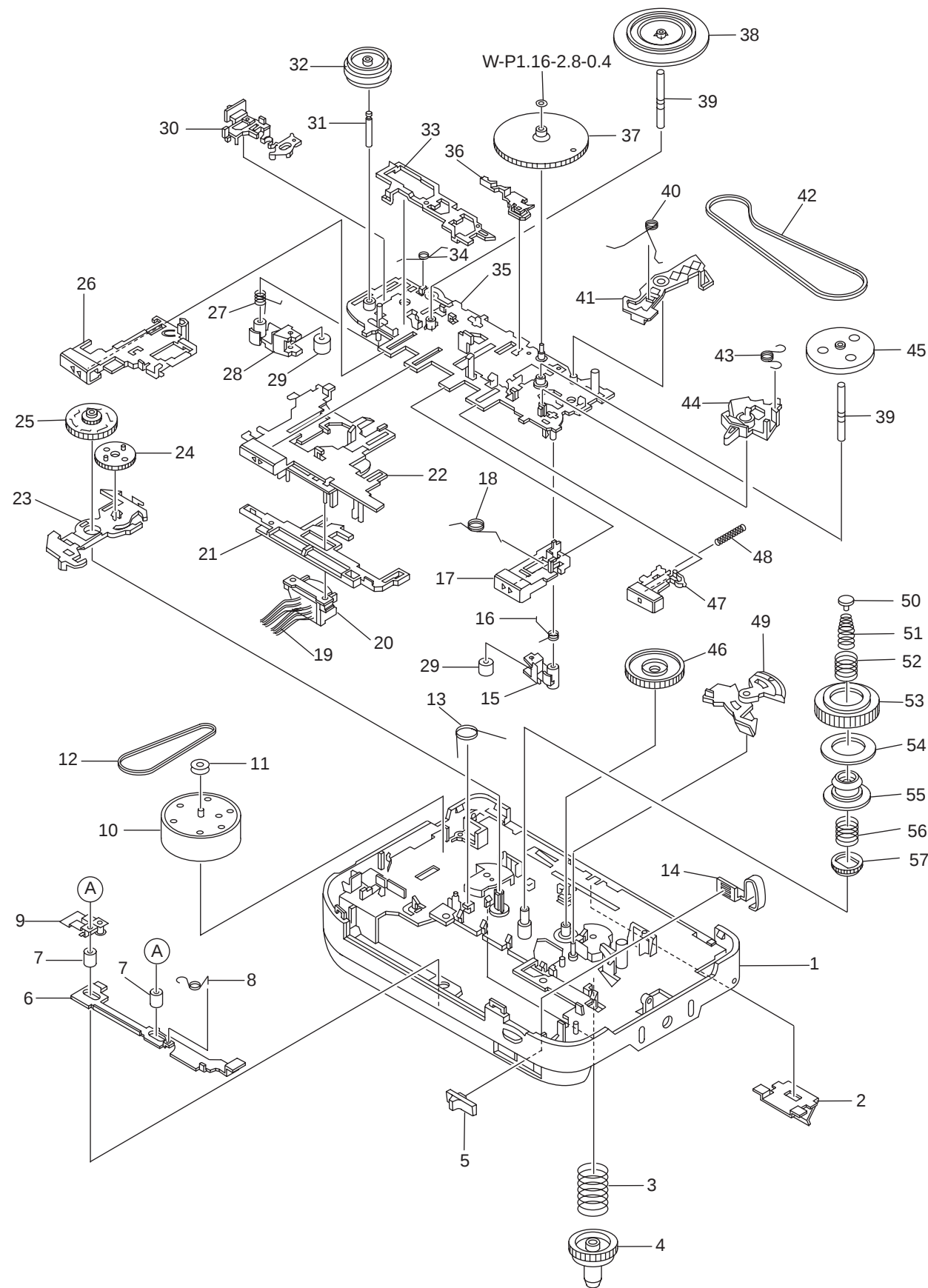
MECHANICAL PARTS LIST 1/1

REF.NO.	PARTNO.	KANRI NO.	DESCRIPTION
1	8Z-HG6-009-010		LID,CASS P L-BLU<600[L]Y1>
1	8Z-HG6-013-010		LID,CASS P L-BLU EG<292[L]Y1B>
2	8Z-HRB-217-010		SPR-T,CASS
3	8Z-HRB-207-010		SPR-P,CASS
4	8Z-HRB-036-010		FRAME,CENTER BLU
5	8Z-HRB-002-010		WINDOW,CASS
6	8Z-HRB-014-010		KNOB,SL OPEN
7	8Z-HG9-201-010		HLDR,HP JACK
8	8Z-HRB-209-010		BAT-CONTACT,M
9	8Z-HG9-013-010		LID,BAT L-BLU
10	8Z-HRB-208-010		BAT-CONTACT,P
11	8Z-HG9-202-010		RACK,MSP
12	8Z-HG9-203-010		SPR,CLIC MSP
13	8Z-HG9-012-010		CABI,REAR 292 L-BLU<292[L]Y1B>
13	8Z-HG9-011-010		CABI,REAR GM600 L-BLU<600[L]Y1>
14	8Z-HG9-004-010		KNOB,RTRY MSP
15	8Z-HG9-002-010		PANEL,MSP 292 SIL
16	8Z-HG9-003-010		KNOB,SL DOLBY SIL
17	8Z-HG9-005-010		PLATE,IND 292
18	8Z-HG9-204-010		GEAR,MSP
19	8Z-HRB-202-010		HLDR,DC JACK
A	87-B10-048-010		VT2+1.4-3 (3) CR HL
B	87-264-527-310		V+1.7-3 SCREW
C	87-B10-196-010		VT2+1.4-4 BLK (3) HL

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		

TAPE MECHANISM EXPLODED VIEW 1/1



TAPE MECHANISM PARTS LIST 1/1

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION	REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	8Z-HRB-036-010		FRAME,CENTER BLU	31	88-ZM3-267-010		SHAFT,PULLEY TWIN
2	8Z-HRB-207-110		SPR-P,CASS	32	88-ZM3-234-010		PULLEY,BELT TWIN
3	88-ZM3-253-110		SPR-C,BT L	33	88-ZM3-212-010		LEVER, LOCK
4	88-ZM3-274-010		GEAR,REEL A	34	88-ZM3-245-110		SPR-T, LOCK
5	8Z-HRB-014-010		KNOB,SL OPEN	35	88-ZM3-201-110		CHAS ASSY,OUTSERT P
6	8Z-HRB-204-110		LEVER,EJECT	36	88-ZM3-216-010		LEVER,SW
7	8Z-HRB-216-110		CAP, EJECT	37	88-ZM3-221-110		GEAR,AUTO
8	8Z-HRB-205-010		SPR-T,EJECT	38	88-ZM3-240-010		FLY-WHL,R S
9	8Z-HRB-215-010		SHAFT, ASSY	39	88-ZM3-266-010		CAPSTAN, 1.5-NS
10	87-A91-379-010		MOT,BCY3B-13	40	88-ZM3-248-010		SPR-T,AUTO CHOOSE
11	88-ZM3-236-010		PULLEY,MOT S	41	88-ZM3-215-010		LEVER,AUTO KICK
12	88-ZM3-263-210		BELT,S	42	88-ZM3-262-010		BELT,L
13	88-ZM3-243-010		SPR-T,PLAY BACK	43	88-ZM3-244-010		SPR-T,DIR
14	8Z-HRB-206-010		PLATE,EJECT	44	88-ZM3-219-010		BTN,DIR KNOB
15	88-ZM3-217-110		ARM,PINCH L	45	88-ZM3-239-010		FLY-WHL,L S
16	88-ZM3-241-010		SPR-T,PINCH L	46	88-ZM3-226-010		GEAR,IDLE
17	88-ZM3-003-110		LEVER,REW	47	88-ZM3-004-110		LEVER,STOP
18	88-ZM3-246-110		SPR-T,FF REW	48	88-ZM3-255-110		SPR-C,STOP
19	87-A80-115-010		F-CABLE,5P P2	49	88-ZM3-214-010		LEVER,AUTO FIND
20	87-A91-019-010		HEAD ASSY,PH 8ZM-3	50	88-ZM3-238-010		CAP,SLIP
21	88-ZM3-211-010		LEVER,DIR	51	88-ZM3-252-010		SPR-C,SHIFT
22	88-ZM3-001-110		LEVER,PLAY	52	88-ZM3-251-210		SPR-C,SLIP
23	88-ZM3-213-110		LEVER,T-UP	53	88-ZM3-222-010		GEAR,SLIP FAST
24	88-ZM3-225-110		GEAR,PLAY	54	88-ZM3-269-010		FELT,SLIP
25	88-ZM3-224-110		GEAR,TRANSMIT	55	88-ZM3-237-010		CLR,SLIP
26	88-ZM3-002-010		LEVER,FF	56	88-ZM3-247-010		SPR-T,AUTO FIND
27	88-ZM3-242-110		SPR-T,PINCH R	57	88-ZM3-223-010		GEAR,SLIP SLOW
28	88-ZM3-218-010		ARM,PINCH R	A	87-067-384-010		SCREWVT1.4-3.5HL
29	88-ZM3-271-010		ROLLER ASSY,PINCH				
30	88-ZM3-220-010		BTN,MODE SEL				

ACCESSORIES / PACKAGE LIST

REF.NO.	PARTNO.	KANRI NO.	DESCRIPTION
1	8Z-HG9-908-010	IB,Y (EDPHNCZ)	S<[L]Y1B>
1	8Z-HG9-907-010	IB,Y (EGFSI)	S
2	8Z-HRB-050-010	CLIP,BELT	ASSY
3	87-B30-255-010	HEADPHONE,HP-M007	(S)

L ▶

A4 ▶

サービス技術ニュース	
番号	連絡内容
Gー	ー
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