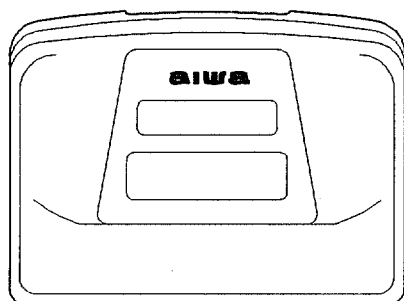


# aiwa



## HS-PS140



MANUAL

REEL CASSETTE PLAYER

SEE

TAPE MECHANISM : 4ZM-2 P1N

◦ TYPE: Y,YU,YZ,YJ

◦ BASIC

### SPECIFICATIONS

<b>Maximum output:</b>	20 mW + 20 mW (EIAJ/16Ω) 15 mW + 15 mW (EIAJ/32Ω)
<b>Power source:</b>	DC 3V using two size AA (R6) batteries
<b>Maximum dimensions: (W x H x D):</b>	116.8(W) x 92.5(H) x 33.7(D) mm (4 <sup>5</sup> / <sub>8</sub> x 3 <sup>3</sup> / <sub>4</sub> x 1 <sup>3</sup> / <sub>8</sub> in.)
<b>Weight:</b>	Approx. 110 g (3.9 oz) (excluding batteries)

- Design and specifications are subject to change without notice.

SERVICE

# ELECTRICAL MAIN PARTS LIST

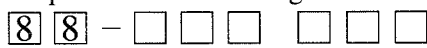
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
IC	87-070-160-040		C-IC, IC, MM1104AFFK
MAIN C.B			
C1	87-A10-177-010		CAP, CER 1500P-50 K B
C2	87-A10-177-010		CAP, CER 1500P-50 K B
C3	87-010-501-040		CAP, E 47-4 5L SRE
C4	87-010-501-040		CAP, E 47-4 5L SRE
C7	87-A10-170-010		CAP, CER 330P-50 K Y5E
C8	87-A10-170-010		CAP, CER 330P-50 K Y5E
C15	87-010-503-040		CAP, E 220-4 5L SRE
C16	87-010-503-040		CAP, E 220-4 5L SRE
C17	87-010-502-040		CAP, E 100-4 5L SRE
C18	87-010-502-040		CAP, E 100-4 5L SRE
C19	87-016-350-040		CAP, E 470-4 5L MA
C20	87-010-494-040		CAP, E 1-50 5L SRE
C21	87-A10-176-010		CAP, CER 1000P-50 K B
C22	87-018-209-080		CAP, TC U 0.1-50 Z F UP050
J1	85-HRL-623-010		JACK, 3.5 ST BLK
R13	87-022-657-080		RES, 0.68-1/8W G 4300PPM
SFR1	87-024-197-010		SFR, 1K H VZ066L3
SW1	87-A90-133-010		SW, LEAF LSA1120JAU
TH1	87-026-256-090		THMS, HT-100
VR1	83-HRC-609-010		VOL 20KAX2

## 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

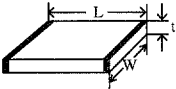
Chip Resistor Part Coding



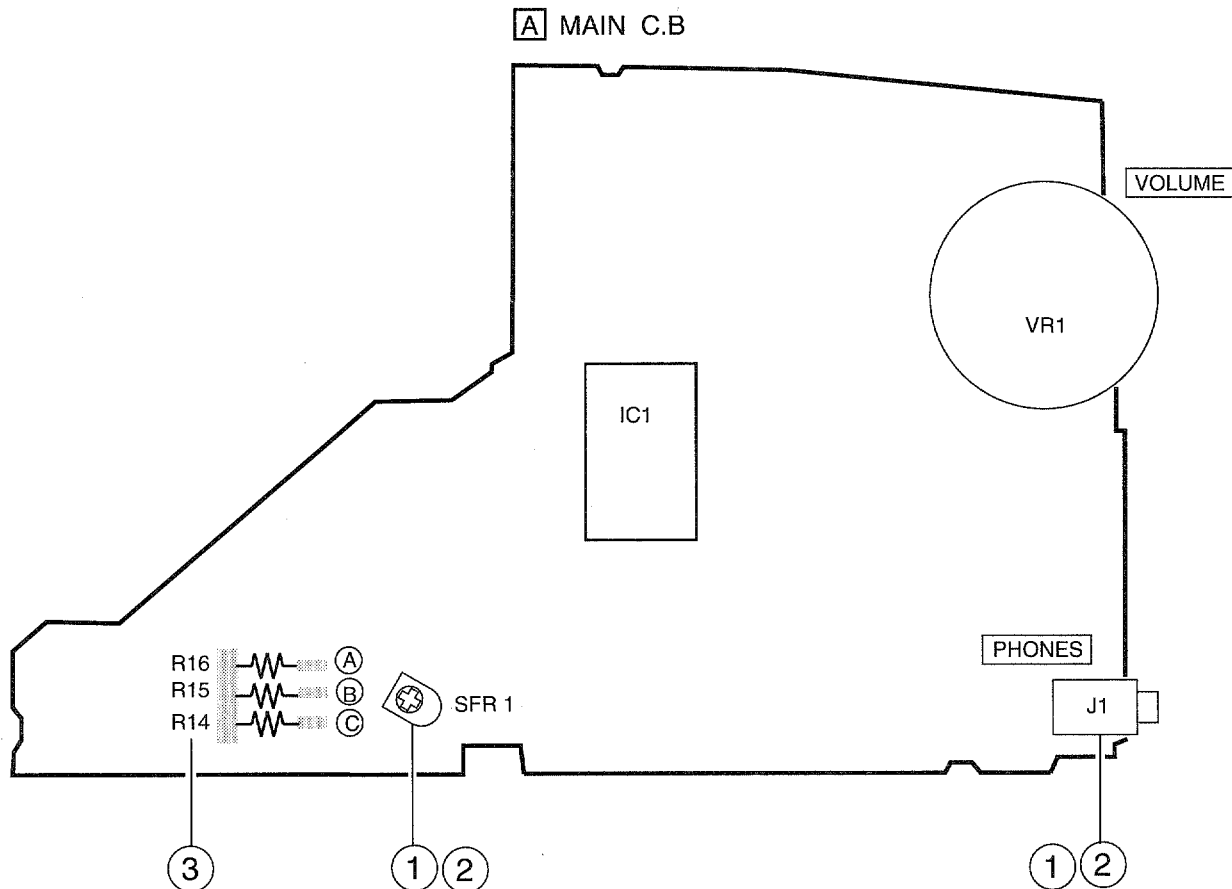
A  
抵抗部品コード  
Resistor Code

桁表示  
Figure  
抵抗値  
Value of resistor

## 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		t
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

# ADJUSTMENT



## <TAPE PLAYER SECTION>

1. Tape Speed Adjustment
  - Settings : • Test tape : TTA-100 (TAPE CENTER)
  - Test point : PHONES JACK (J1)
  - Adjustment location : SFR1
  - Method : Play back the test tape and adjust for  $3000\text{Hz} \pm 10\text{Hz}$ .
  
2. Azimuth Check
  - Settings : • Test tape : TTA-320 (TTA-3.30)
  - Test point : PHONES JACK (J1)
  - Adjustment location : SFR1
  - Method : Play back the 8kHz signal of the test tape and adjust so that the output becomes maximum.
  
3. Motor Load 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 begining of the tape-run, perform this adjustment following the procedure below.

  - 1) Solder both resistor pattern (B) and (C) of the MOTOR AND GOVERNOR MATCHING ADJ. resistor group.
  - 2) Set the tape speed (using speed adjustment SFR1).
  - 3) Restrict the motor rotation by hand (or turn PAUSE ON).

- 4) Remove your hand and listen to the begining 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, reduce 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	(Procedure 1 above)	Step (1)	Step (2)
High resistance (A)	Open	Solder	Solder
Medium resistance (B)	Solder	Solder	Open
Low resistance (C)	Solder	Solder	Solder

- 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.

# PRACTICAL SERVICE FIGURE

## <TAPE SECTION>

Tape speed : 3015Hz ± 60Hz  
Wow & flutter : Less than 0.5% (RMS)  
Take-up torque : 35 ~ 50g-cm (FWD)  
F.F torque : More than 30g-cm  
Rew torque : 60~170g-cm  
Back tension : 1.5~4.5g-cm(FWD)  
S/N ratio : More than 42dB (PB, DC)  
Distortion : Less than 3.0% (PB, DC)  
Noise level : Less than 5.0mV  
(Vol MAX, PB, DC)  
Less than 0.3mV  
(Vol MIN, PB, DC)  
Frequency response : 63Hz+2/-6dB ~ 8kHz+2/-6dB(PB)  
Test tape : TTA-210  
TTA-320(NORM)  
TTA-100

## ACCESSORIES / PACKAGE LIST

If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

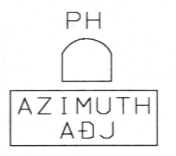
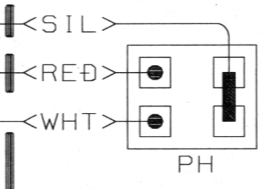
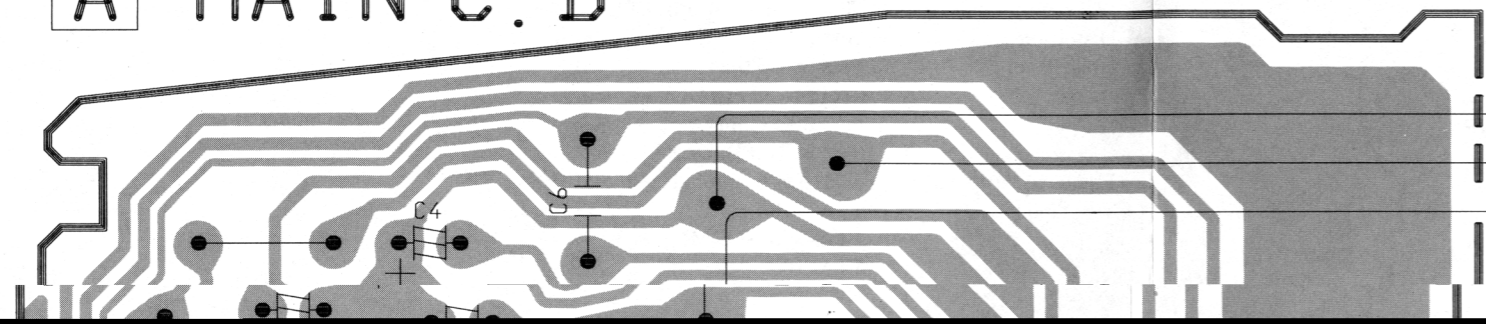
REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	84-447-019-310		CLIP, BELT<Y, YU, YZ, YJ>
2	87-B30-081-010		HEADPHONE, HP-M009(S)<Y, YU, YZ>
2	87-B30-078-010		HEADPHONE, HP-M006(S)<YJ>
3	87-HKA-902-010		IB, EX-EGFSI-S <Y, YZ>
3	87-HKA-901-010		IB, EX-ESF-S<YU>
3	87-HKA-908-010		IB, EX-ESF-S<YJ>

WIRING

1 2 3 4 5 6 7 8 9 10 11 12 13 14

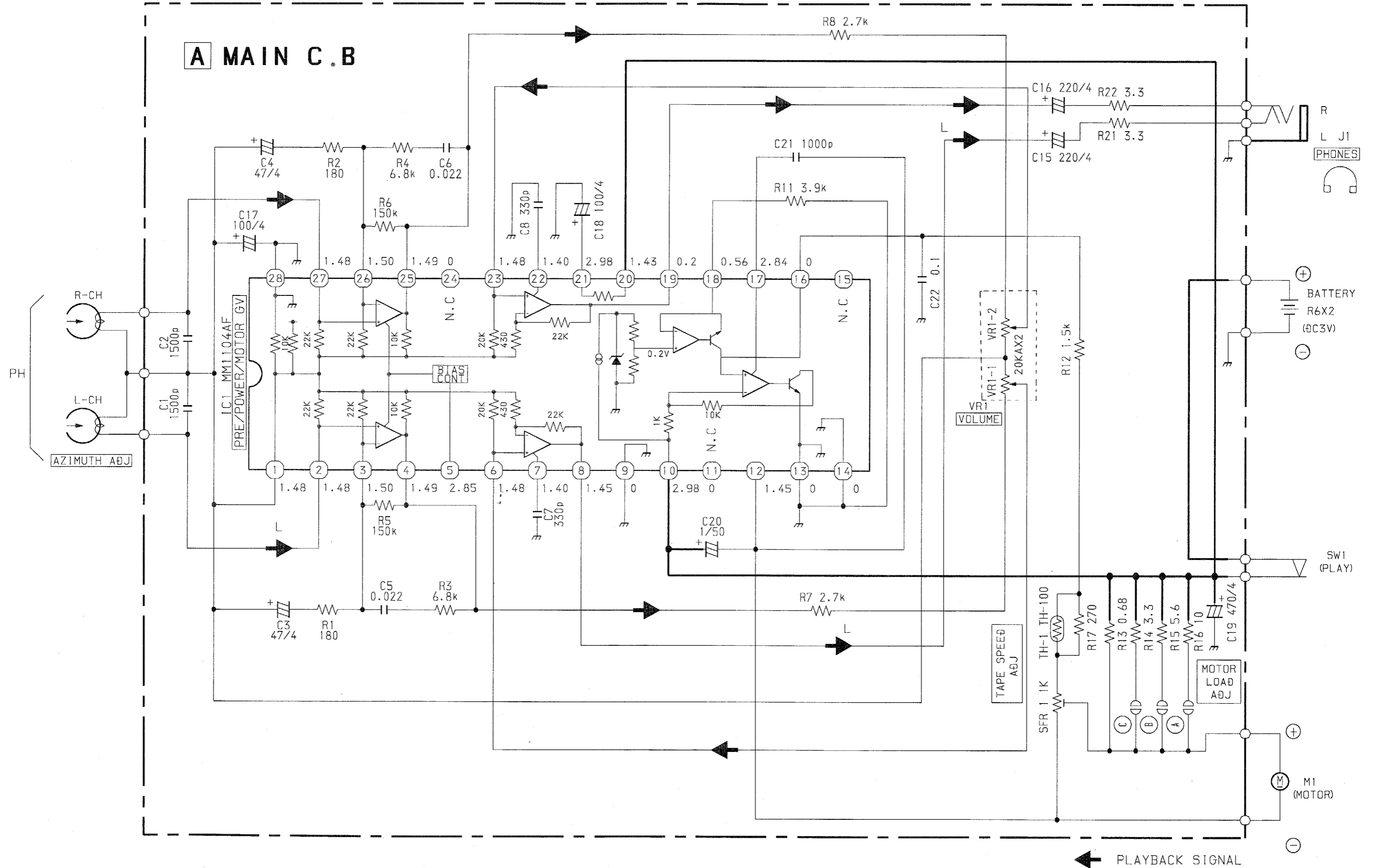
A

A MAIN U.B

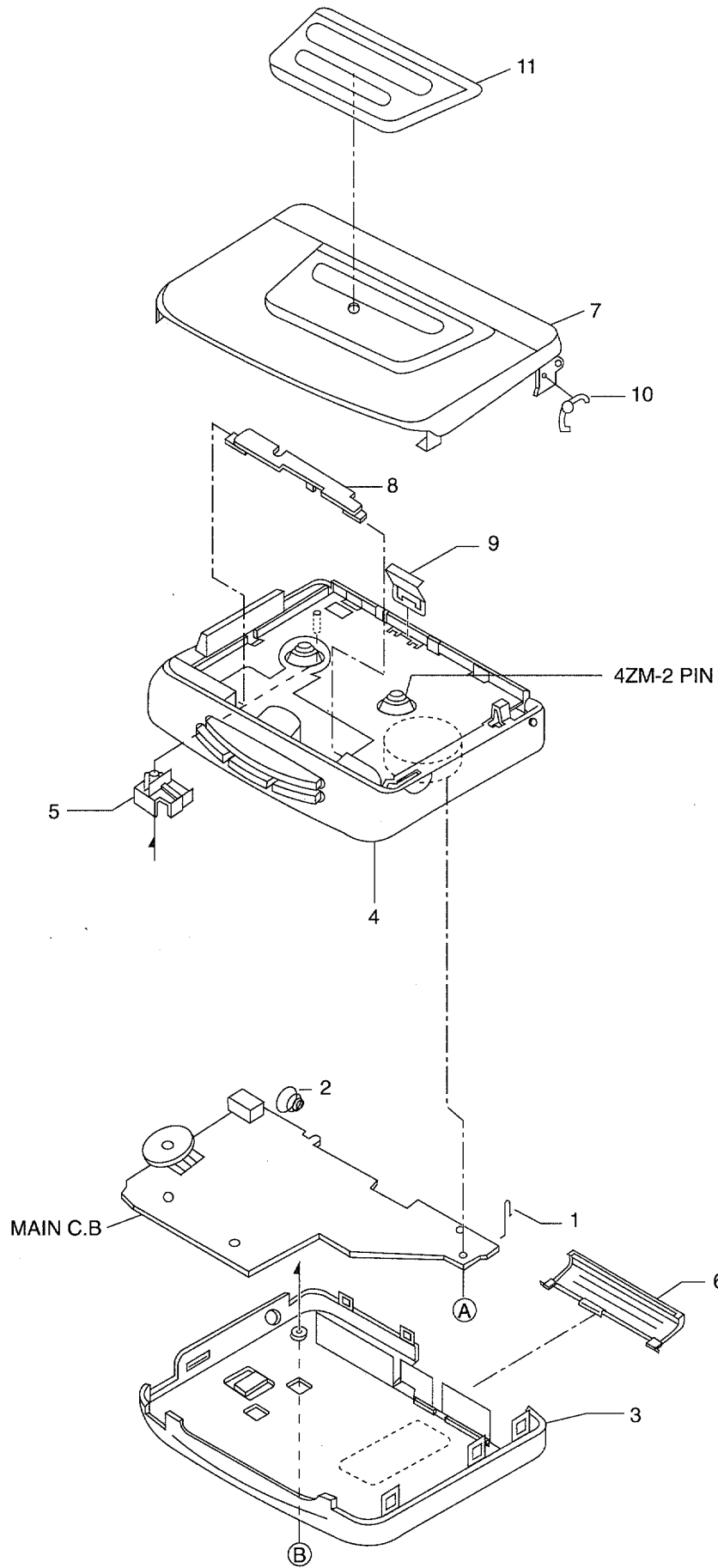


B

C



MECHANICAL EXPLODED VIEW 1 / 1



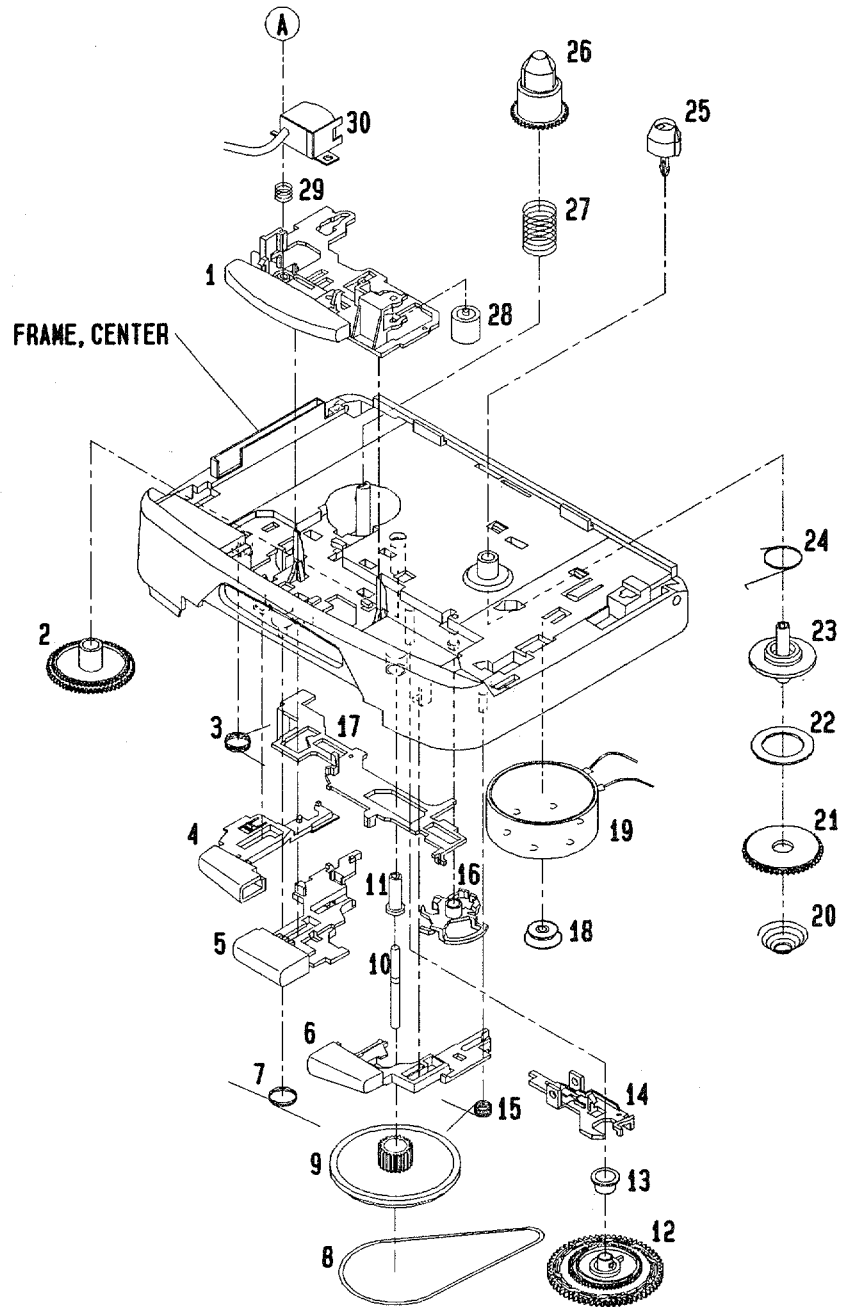
# MECHANICAL PARTS LIST 1/1

If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	86-HKA-202-010		BAT-CONTACT, (+)
2	86-HKA-203-010		BAT-CONTACT, (-)
3	87-HKA-004-010		CABI, REAR <[B]YU, [B]YB, [B]Y, [B]YZ, YJ1>
3	87-HKA-020-010		CABI, REAR BLU <[L]YB>
3	87-HKA-021-010		CABI, REAR GRN<[G]YB>
3	87-HKA-025-010		CABI, REAR YEL<[Y]YZ>
3	87-HKA-026-010		CABI, REAR L-BLU<[L]YZ>
4	86-HRM-024-010		FRAME, CENTER GRAY<[B]YU, [B]YB, [B]Y, [B]YZ, YJ1>
4	86-HRM-036-010		FRAME, CENTER GRAY<[G]YB, [L]YB, [L]YZ, [Y]YZ>
5	86-HKA-201-010		HLDR, JACK
6	87-HKA-005-010		LID, BAT<[B]YU, [B]YB, [B]Y, [B]YZ, YJ1>
6	87-HKA-030-010		LID, BAT BLU<[L]YB>
6	87-HKA-031-010		LID, BAT GRN<[G]YB>
6	87-HKA-032-010		LID, BAT YEL<[Y]YZ>
6	87-HKA-033-010		LID, BAT L-BLU<[L]YZ>
7	87-HKA-001-010		LID, CASS <[B]YU, [B]YB, [B]Y, [B]YZ, YJ1>
7	87-HKA-010-010		LID, CASS BLU<[L]YB>
7	87-HKA-011-010		LID, CASS GRN<[G]YB>
7	87-HKA-012-010		LID, CASS YEL<[Y]YZ>
7	87-HKA-013-010		LID, CASS L-BLU<[L]YZ>
8	87-HRM-201-010		PLATE, HEAD GRAY<[B]YU, [B]Y, [B]YZ, YJ1, [B]YB>
8	86-HRM-206-010		PLATE, HEAD<[L]YB, [G]YB, [L]YZ, [Y]YZ>
9	81-HK9-208-210		SPR-P, CASS A
10	86-HRM-205-010		SPR-T, CLICK
11	86-HKA-002-010		WINDOW, CASS
A	87-264-525-319		SCREW V+1.7-2.5 CR
B	87-067-691-019		SCREW V+1.7-6 CR BLK HLOCK



# TAPE MECHANISM EXPLODED VIEW 1 / 1

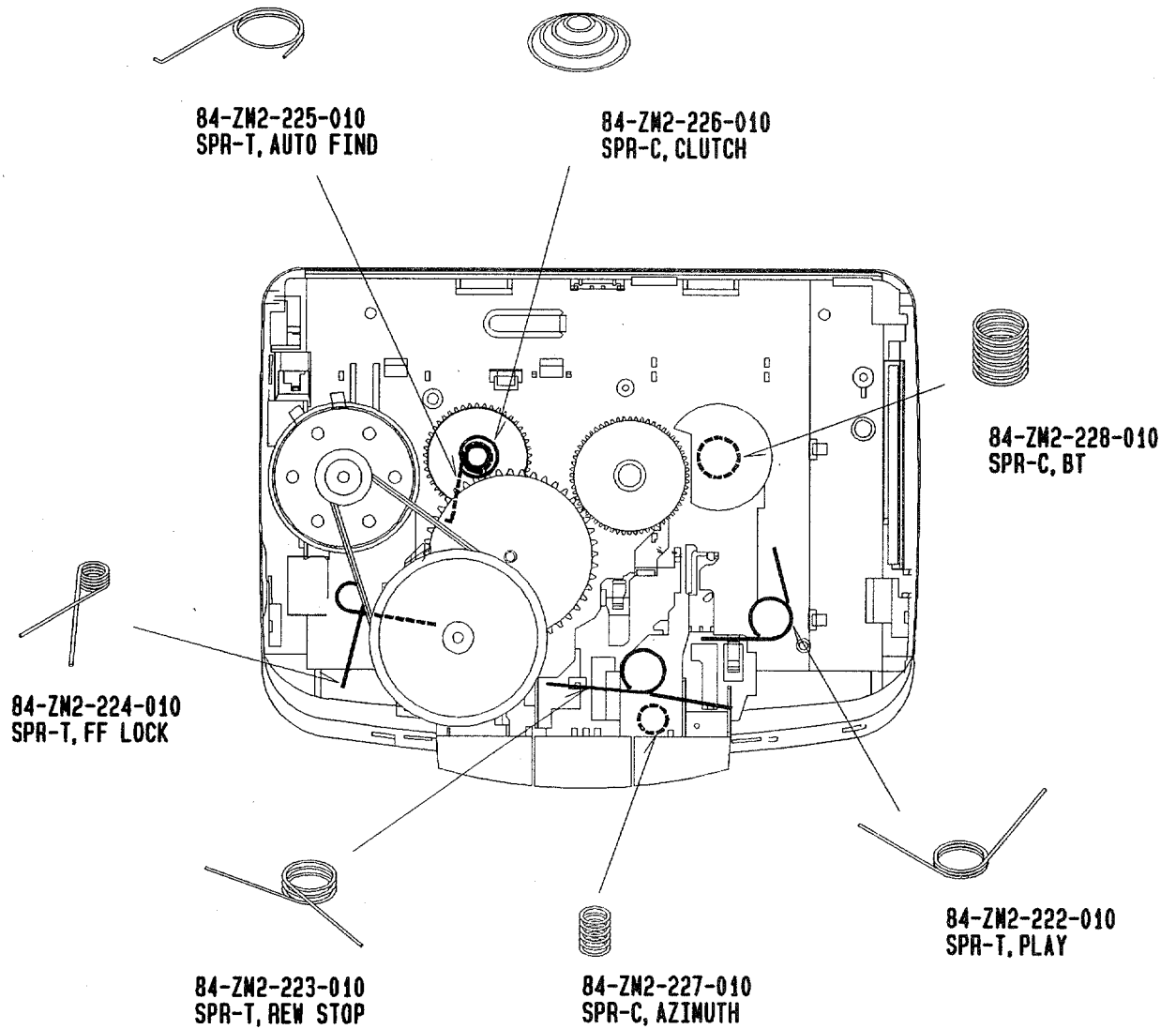


# TAPE MECHANISM PARTS LIST 1/1

If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	84-ZM2-002-01K		LEVER, PLAY
2	84-ZM2-211-01K		GEAR, CONNECT
3	84-ZM2-222-010		SPR-T, PLAY
4	84-ZM2-005-01K		LEVER, STOP
5	84-ZM2-004-01K		LEVER, REW
6	84-ZM2-003-01K		LEVER, FF
7	84-ZM2-223-010		SPR-T, REW STOP
8	84-ZM2-232-010		BELT, MAIN
9	84-ZM2-214-01K		FLY-WHL, P
10	84-ZM2-230-010		CAPSTAN, P 1.8-25
11	84-ZM2-220-01K		BGR, P
12	84-ZM2-210-01K		GEAR, AUTO
13	84-ZM2-218-01K		CAP, GEAR AUTO
14	84-ZM2-208-01K		LEVER, SHIFT
15	84-ZM2-224-010		SPR-T, FF LOCK
16	84-ZM2-207-01K		LEVER, AUTO
17	84-ZM2-206-01K		LEVER LOCK
18	84-ZM2-219-01K		PULLEY, MOTOR
19	87-045-385-019		MOT (BCY3B11)
20	84-ZM2-226-010		SPR-C, CLUTCH
21	84-ZM2-212-01K		GEAR, CLUTCH
22	84-ZM2-231-019		FELT, CLUTCH
23	84-ZM2-217-01K		SHAFT, REEL
24	84-ZM2-225-010		SPR-T, AUTO FIND
25	84-ZM2-216-01K		REEL TABLE, R
26	84-ZM2-215-01K		REEL TABLE, L
27	84-ZM2-228-010		SPR-C, BT
28	83-ZM1-255-010		PINCH ROL ASSY
29	84-ZM2-227-010		SPR-C, AZIMUTH
30	87-A90-081-019		HEAD, PH MS25P
A	84-ZM2-236-019		S-SCREW, AZITHUM-2-5.9

# SPRING APPLICATION POSITION



# REFERENCE NAME LIST

## ELECTRICAL SECTION

DESCRIPTION	REFERENCE NAME
ANT	ANTENNAS
C-	CHIP
C-CAP	CAP, CHIP
C-CAP TN	CAP, CHIP TANTALUM
C-COIL	COIL, CHIP
C-DI	DIODE, CHIP
C-DIODE	DIODE, CHIP
C-FET	FET, CHIP
C-FOTR	FILTER, CHIP
C-JACK	JACK, CHIP
C-LED	LED, CHIP
C-RES	RES, CHIP
C-SFR	SFR, CHIP
C-SLIDE SW	SLIDE SWITCH, CHIP
C-SW	SWITCH, CHIP
C-TR	TRANSISTOR, CHIP
C-VR	VOLUME, CHIP
C-ZENER	ZENER, CHIP
CAP, CER	CAP, CERA-SOL
CAP, E	CAP, ELECT
CAP, M/F	CAP, FILM
CAP, TC	CAP, CERA-SOL
CAP, TC-U	CAP, CERA-SOL SS
CAP, TN	CAP, TANTALUM
CERA FIL	FILTER, CERAMIC
CF	FILTER, CERAMIC
DL	DELAY LINE
E/CAP	CAP, ELECT
FILT	FILTER
FLTR	FILTER
FUSE RES	RES, FUSE
MOT	MOTOR
P-DIODE	PHOTO DIODE
P-SNSR	PHOTO SENSER
P-TR	PHOTO TRANSISTOR
POLY VARI	VARIABLE CAPACITOR
PPCAP	CAP, PP
PT	POWER TRANSFORMER
PTR, RES	PTR, MELF
RC	REMOTE CONTROLLER
RES NF	RES, NON-FLAMMABLE
RESO	RESONATOR
SHLD	SHIELD
SOL	SOLENOID
SPKR	SPEAKER
SW, LVR	SWITCH, LEVER
SW, RTRY	SWITCH, ROTARY
SW, SL	SWITCH, SLIDE
TC CAP	CAP, CERA-SOL
THMS	THERMISTOR
TR	TRANSISTOR
TRIMER	CAP, TRIMMER
TUN-CAP	VARIABLE CAPACITOR
VIB, CER	RESONATOR, CERAMIC
VIB, XTAL	RESONATOR, CRYSTAL
VR	VOLUME
ZENER	DIODE, ZENER

## MECHANICAL SECTION

DESCRIPTION	REFERENCE NAME
ADHESHIVE	SHEET ADHESHIVE
AZ	AZIMUTH
BAR-ANT	BAR-ANTENNA
BAT	BATTERY
BATT	BATTERY
BRG	BEARING
BTN	BUTTON
CAB	CABINET
CASS	CASSETTE
CHAS	CHASSIS
CLR	COLLAR
CONT	CONTROL
CRSR	CURSOR
CU	CUSHION
CUSH	CUSHION
DIR	DIRECTION
DUBB	DUBBING
FL	FRONT LOADING
FLY-WHL	FLYWHEEL
FR	FRONT
FUN	FUNCTION
G-CU	G-CUSHION
HDL	HANDOL
HIMERON	CLOTH
HINGE, BAT	HINGE, BATTERY
HLDR	HOLDER
HT-SINK	HEAT SINK
IB	INSTRUCTION BOOKLET
IDLE	IDLER
IND, L-R	INDICATOR, L-R
KEY, CONT	KEY, CONTROL
KEY, PRGM	KEY, PROGRAM
KNOB, SL	KNOB, SLIDE
LBL	LABEL
LID, BATT	LID, BATTERY
LID, CASS	LID, CASSETTE
LVR	LEVER
P-SP	P-SPRING
PANEL, CONT	PANEL, CONTROL
PANEL, FR	PANEL, FRONT
PRGM	PROGRAM
PULLY, LOAD MO	PULLY, LOAD MOTOR
RBN	RIBBON
S-	SPECIAL
SEG	SEGMENT
SH	SHEET
SHLD-SH	SHIELD-SHEET
SL	SLIDE
SP	SPRING
SP-SCREW	SPECIAL-SCREW
SPACER, BAT	SPACER, BATTERY
SPR	SPRING
SPR-P	P-SPRING
SPR-PC-PUSH	P-SPRING, C-PUSH
T-SP	T-SPRING
TERM	TERMINAL
TRIG	TRIGGER
TUN	TUNING
VOL	VOLUME
W	WASHER
WHL	WHEEL
WORM-WHL	WORM-WHEEL

サービス技術ニュース	
番号	連絡内容
G-	-
G-	-
G-	-

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