

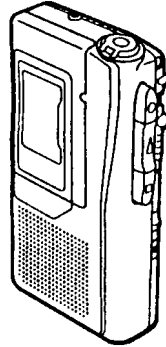


**TP-M115**  
**TP-M105**

YUB YUB3

YB YBB YHB

YJB YLB



# SERVICE MANUAL

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MICROCASSETTE RECORDER

BASIC TAPE MECHANISM : M-187

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**aiwa**

S/M Code No. 09-003-341-9N1



## SPECIFICATIONS

<b>Track system:</b>	Micro cassette, 2 tracks 1 channel, monaural						
<b>Usable tapes:</b>	<b>MICROCASSETTE™</b> (Normal position type)						
<b>Frequency response:</b>	250 - 5,000 Hz (2.4 cm/sec) EIAJ						
<b>Tape speed:</b>	2.4 cm/sec or 1.2 cm/sec switchable						
<b>Microphone:</b>	Electret condenser microphone (monaural)						
<b>Maximum output:</b>	110 mW (EIAJ/DC)						
<b>Output jack:</b>	EARPHONE jack (monaural mini-jack) (1)						
<b>Other jack:</b>	DC 3 V jack						
<b>Speaker:</b>	Diameter 36 mm, 4 ohms						
<b>Recording system:</b>	DC bias						
<b>Erasing system:</b>	Magnet erasure						
<b>Power sources:</b>	DC 3 V using two size AA (R6) dry cell batteries AC house current using the AC adaptor Aiwa AC-302						
<b>Battery life:</b>	<table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th style="width: 60%;">Battery</th> <th>Battry life EIAJ Recording</th> </tr> </thead> <tbody> <tr> <td>Manganese(R6P) batteries</td> <td>Approx. 7 hrs.</td> </tr> <tr> <td>Alkaline(LR6) batteries</td> <td>Approx. 24 hrs</td> </tr> </tbody> </table>	Battery	Battry life EIAJ Recording	Manganese(R6P) batteries	Approx. 7 hrs.	Alkaline(LR6) batteries	Approx. 24 hrs
Battery	Battry life EIAJ Recording						
Manganese(R6P) batteries	Approx. 7 hrs.						
Alkaline(LR6) batteries	Approx. 24 hrs						
<b>Dimensions:</b>	63.8 (W) x 121(H) x 25.7 (D) mm (2 <sup>5</sup> / <sub>8</sub> x 4 <sup>7</sup> / <sub>6</sub> x 1 <sup>1</sup> / <sub>16</sub> in)						
<b>Weight:</b>	Approx. 116 g (4.1 oz.) (excluding batteries)						

• Design and specifications are subject to change without notice.

## ACCESSORIES LIST

DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。  
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
1	8A-HX8-901-010	IB, YU(3L)C<115U,115U3>	
1	8A-HX8-902-010	IB, YHJ(ECC)C<105YHB,105YJB>	
1	8A-HX8-904-010	IB, YL(3L)C<105YLB>	
1	8A-HX8-905-010	IB, Y(EGF)C<105YB>	
1	8A-HX8-906-010	IB, Y(SID)C<105YB>	
1	8A-HX8-907-010	IB, Y(PHNCZ)C<105YB>	

# ELECTRICAL MAIN PARTS LIST

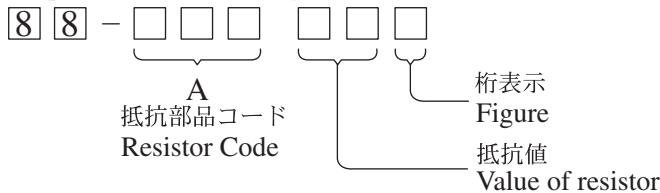
DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。  
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REF. NO	PART NO.	KANRI NO.	DESCRIPTION	REF. NO	PART NO.	KANRI NO.	DESCRIPTION
IC				C27	87-010-186-080		CAP,CHIP 4700P
	85-TM5-604-010	IC,LA4165M		J1	85-TM5-605-010		JACK,HSJ1456
				J2	87-A60-849-010		JACK,DC DIA 2.75 BLK
				LED2	8Z-HX5-601-010		LED,KM2520A01SRC001 RED
				S1	8Z-HX5-602-010		SW,PUSH PS42D07
MAIN C.B				S2	87-031-816-010		SLIDE SWITCH<115U,115U3>
C1	87-010-193-080		CHIP CAPACITOR,0.033	S3	87-031-816-010		SLIDE SWITCH
C2	87-010-186-080		CAP,CHIP 4700P	S4	87-036-343-010		SW,SL 2-2-2
C3	87-010-185-080		C-CAP,S 3900P-50 B	S5	85-TM5-608-010		SW,LEAF LSA-1114P
C4	87-010-082-010		CAPACITOR, 220MF 4V/87-0	S8	87-A90-826-010		SW,LEAF LSA-1114P
C5	87-010-072-010		CAP 2.2-50V	SFR1	85-TM5-615-010		SFR,5K V FRB-062
C6	87-010-184-080		CHIP CAPACITOR 3300P(K)	SFR3	87-A91-282-080		C-SFR,2.0K H RVG3S08
C7	87-010-198-080		CAP, CHIP 0.022	VR1	85-TM5-609-010		VR,RTRY 10KAX2 V
C8	87-010-186-080		CAP,CHIP 4700P				
C9	87-010-504-080		CAP, CHIP TANTALUM 0.47-25				
C10	87-010-075-010		CAP,10U-16V H5				
C11	87-010-490-010		CAP,E 0.1-50 GAS<115U,115U3>				
C12	87-A10-952-080		C-CAP,TN 22-4 M A MCM<115U,115U3>				
C13	87-010-082-010		CAPACITOR, 220MF 4V/87-0				
C14	87-010-082-010		CAPACITOR, 220MF 4V/87-0				
C15	87-010-082-010		CAPACITOR, 220MF 4V/87-0				
C16	87-010-178-080		CHIP CAP 1000P				
C17	87-010-505-080		CA, CHIP TANTALUM 1-16				
C18	87-010-504-080		CAP, CHIP TANTALUM 0.47-25				
C22	87-010-746-080		CAP, TANTAL 10-4				
C23	87-010-494-010		E CAP 1-50				

## ○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

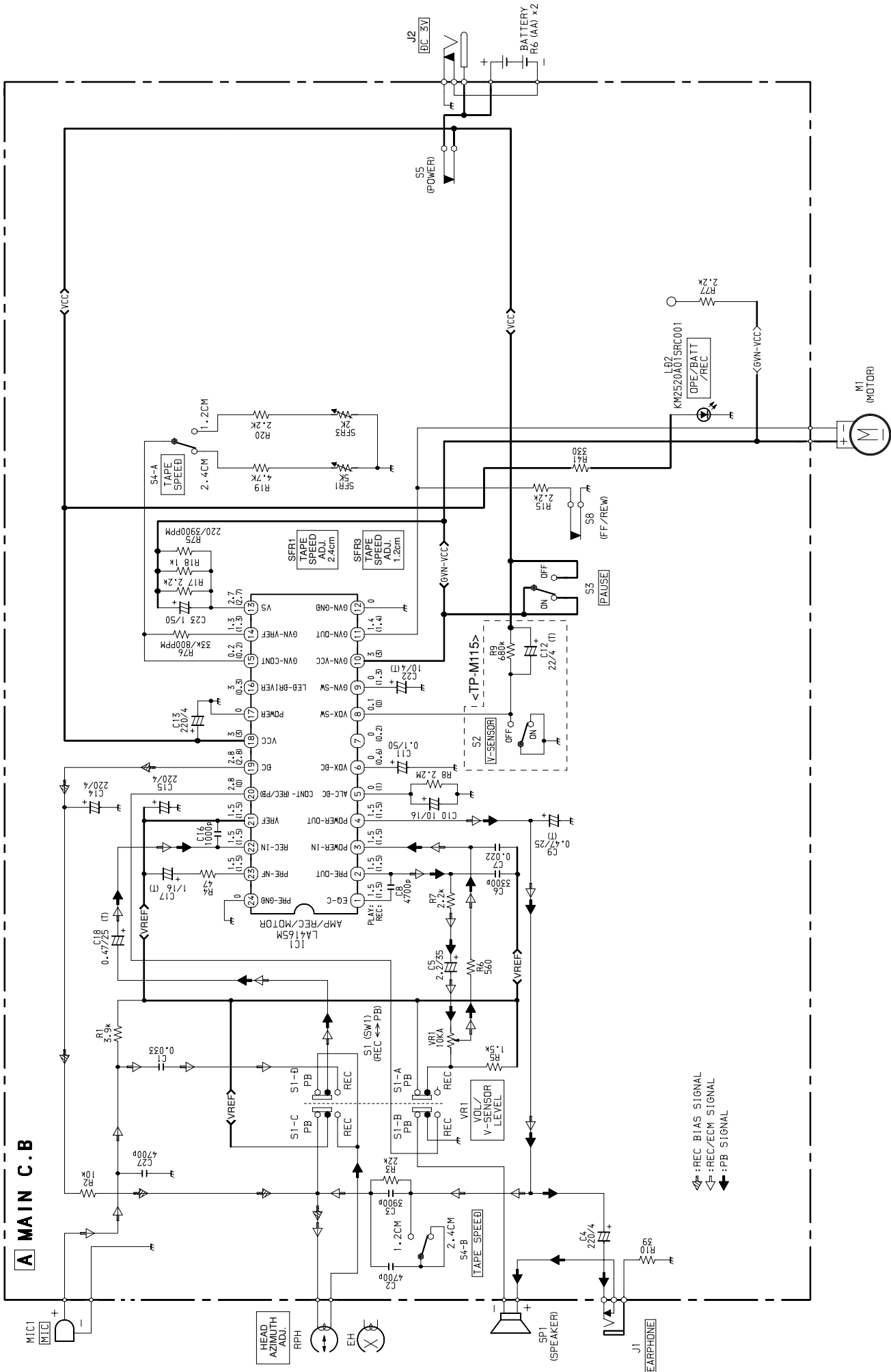
### Chip Resistor Part Coding

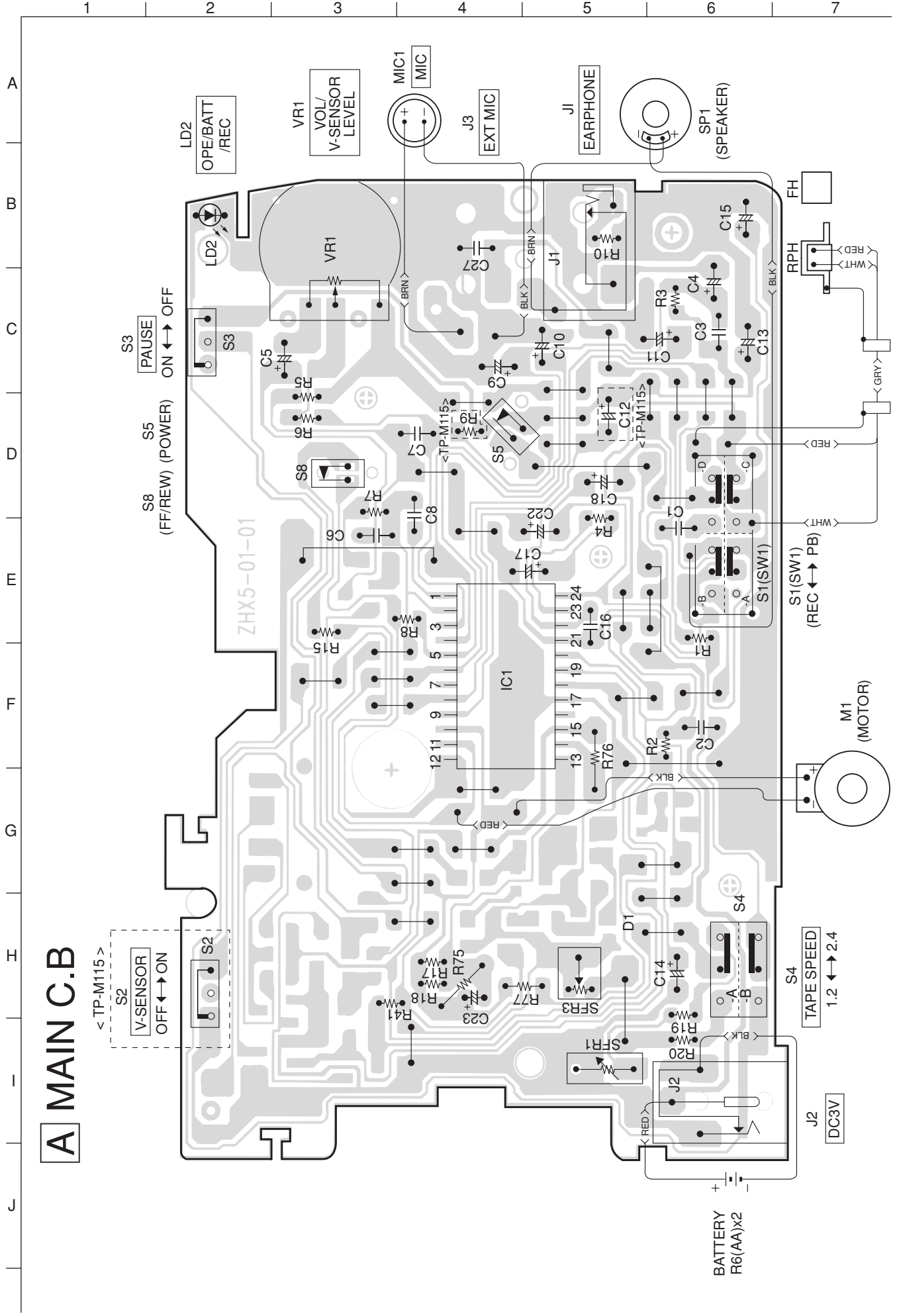


## チップ抵抗 Chip resistor

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		t
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

# SCHEMATIC DIAGRAM

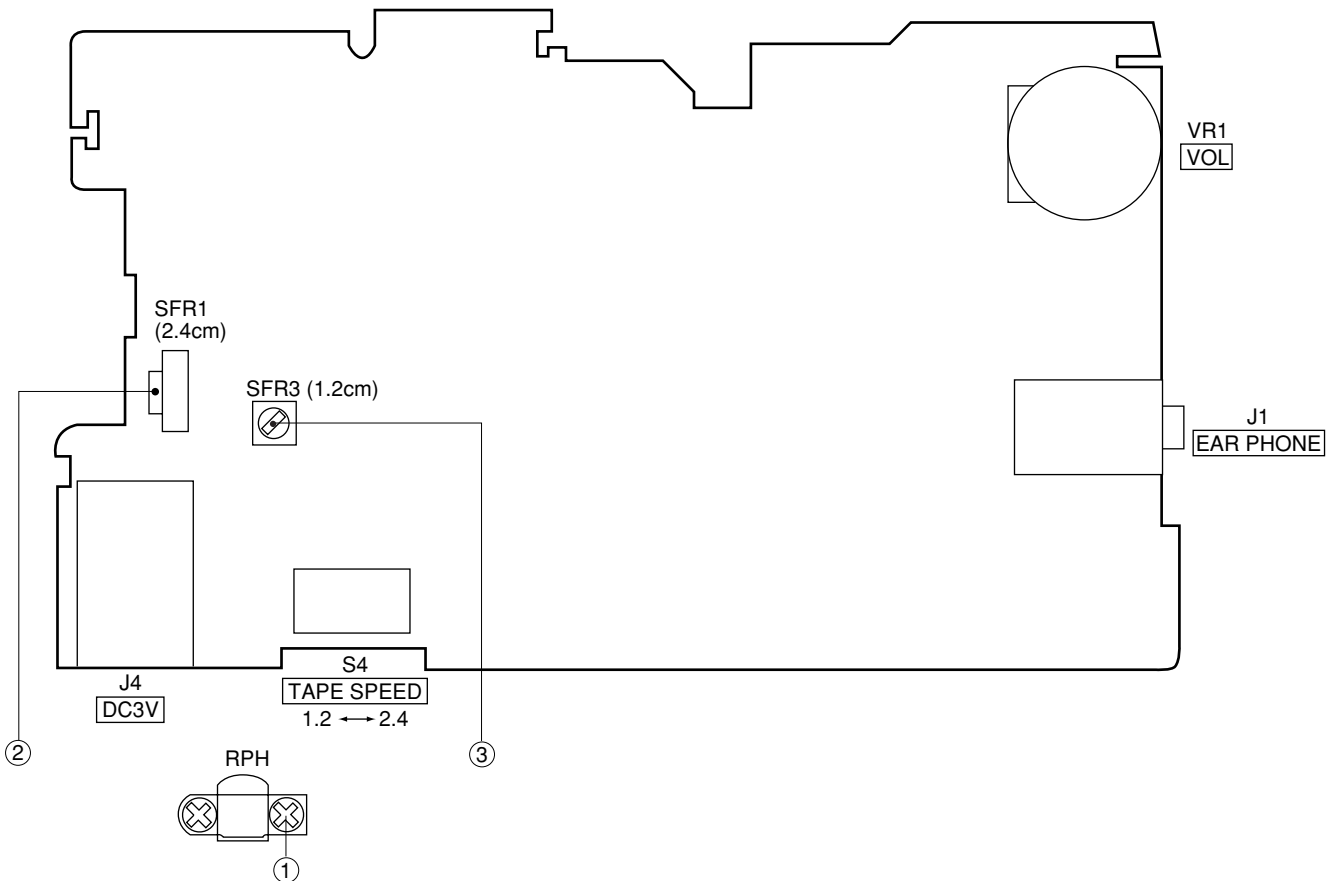




**A MAIN C.B**

# ADJUSTMENT

**A** MAIN C.B (BOTTOM VIEW)



## 1. Head Azimuth Adjustment

- Setting:
- Test tape: TTS-930
  - Tape speed: 2.4 cm
  - Adjustment point: Head Azimuth Adjustment screw

Method: Playback the 5 kHz signal of the test tape (TTS-930) and adjust screw so that the output becomes maximum.

## 2. Tape Speed Adjustment (2.4cm)

- Setting:
- Test tape: TTS-900
  - Volume: MAX
  - Adjustment point: SFR1

Method: Playback the test tape (TTS-900) and adjust SFR1 so that the tape speed is become  $3000 \pm 10\text{Hz}$ .

## 3. Tape Speed Adjustment (1.2cm)

- Setting:
- Test tape: TTS-910
  - Volume: MAX
  - Adjustment point: SFR3

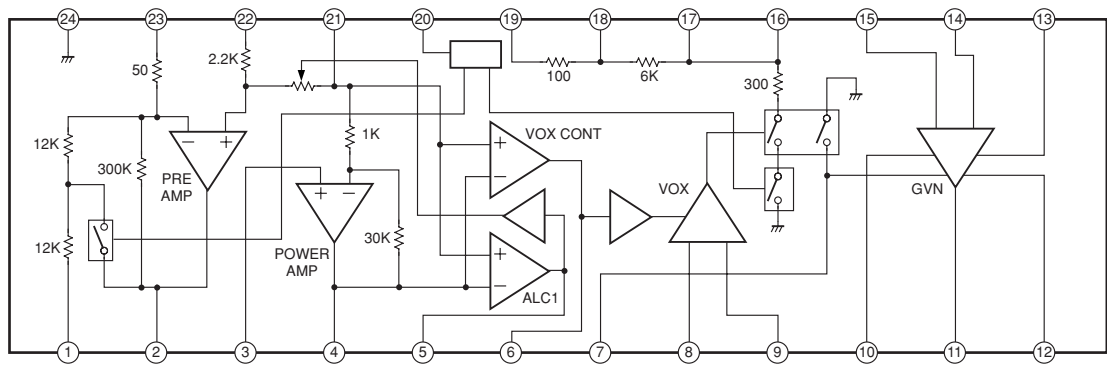
Method: Playback the test tape (TTS-910) and adjust SFR3 so that the tape speed is become  $3000 \pm 90\text{Hz}$ .

## PRACTICAL SERVICE FIGURE

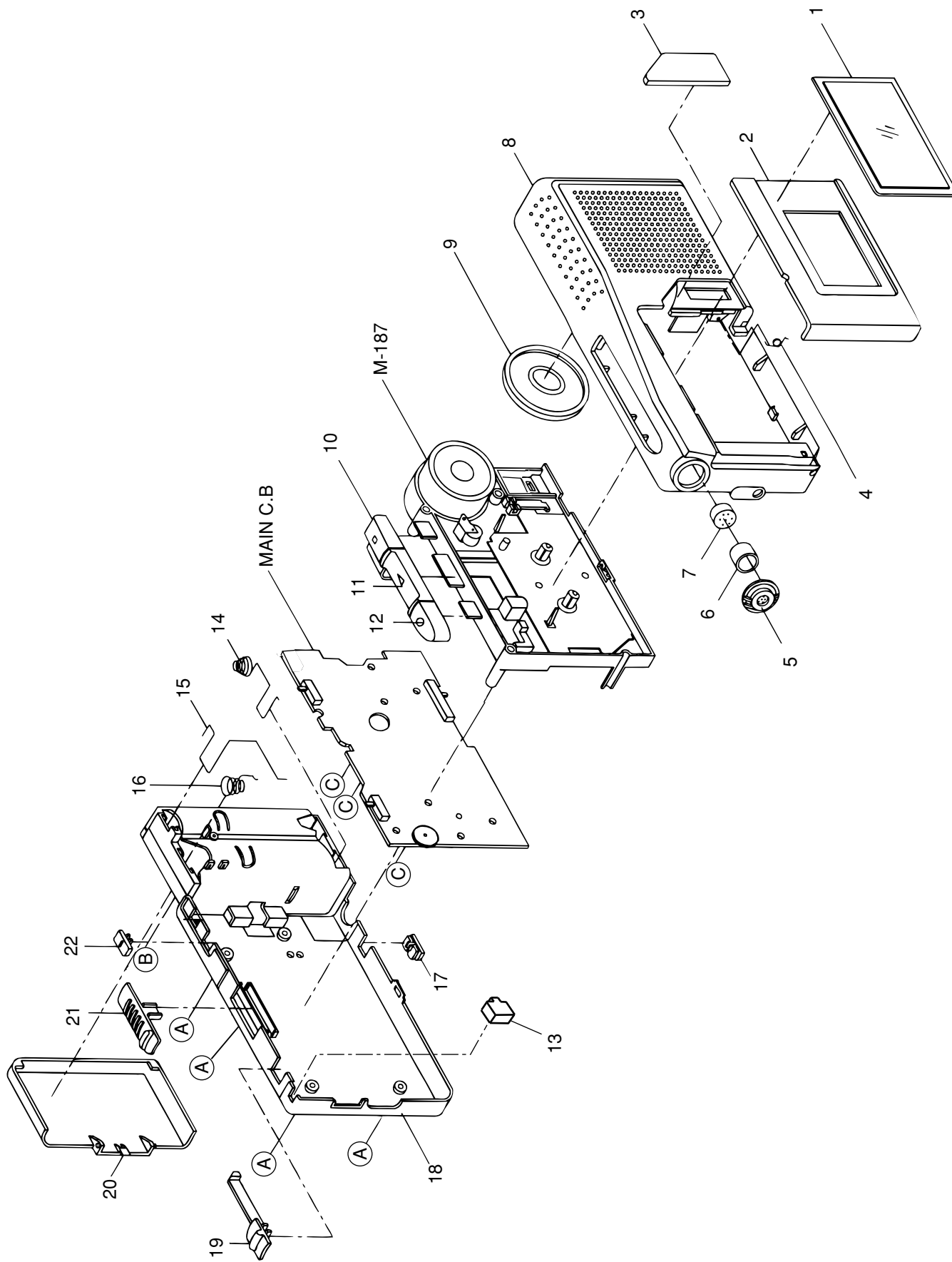
Tape speed:	$3000 \text{ Hz} \pm 90 \text{ Hz}$
Wow & flutter:	Less than 0.65% (RMS) (2.4cm) Less than 0.65% (RMS) (1.2cm)
Take-up torque:	4 ~ 12 g-cm
F.F torque:	30 ~ 150 g-cm
Rew torque:	25 ~ 60 g-cm
Back tension:	Less than 1.3 g-cm
S/N ratio:	More than 50 dB (DC. PB) More than 26 dB (DC. R/PB)
Noise level:	Less than 1.7 mV (DC. Vol Max. PB) Less than 18 mV (DC. Vol Max. R/PB)
Erasing ratio:	More than 40 dB (1 kHz)
Test tape:	TTS-900 (Wow & flutter/Tape speed – 2.4 cm) TTS-910 (Wow & flutter/Tape speed – 1.2 cm) TTS-920 (Distortion/Output) TTS-930 (Azimuth) TTS-940 (REC/PB)

# IC BLOCK DIAGRAM

IC, LA4165M



MECHANICAL EXPLODED VIEW 1/1





# MECHANICAL MAIN PARTS LIST 1/1

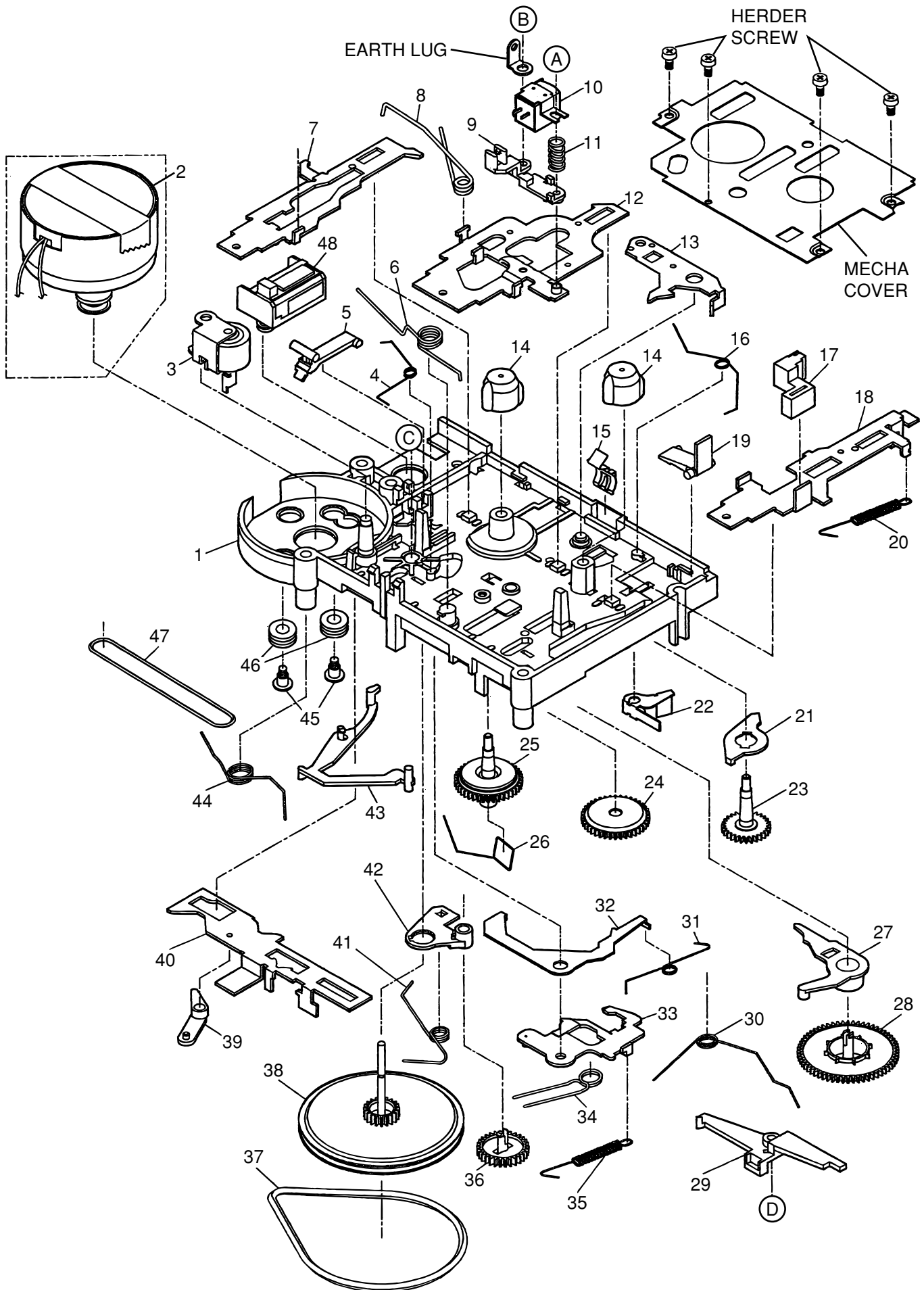
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REF. NO	PART NO.	KANRI NO.	DESCRIPTION
1	8A-HX8-009-010		WINDOW,CASS M105<EXCEPT 115U,115U3>
1	8A-HX8-003-010		WINDOW,CASS M115 YU<115U,115U3>
2	8A-HX8-008-010		LID,CASS B M115/M105
3	8A-HX8-010-010		LENS,COUNTER M105 Y<EXCEPT 115U,115U3>
3	8A-HX8-004-010		LENS,COUNTER M115 YU<115U,115U3>
4	8Z-HX5-201-010		SPR,CASS
5	8A-HX8-005-010		COVER, MIC M115/M105
6	S6-HX5-210-000		CUSHION MIC
7	84-TM1-639-010		ECM,KUC3523
8	8A-HX8-006-010		CABI,FRONT B M105 Y<EXCEPT 115U,115U3>
8	8A-HX8-001-010		CABI,FRONT B M115 YU<115U,115U3>
9	S1-440-004-210		SPKR,1.4' (36mm) 4 OHM 0.4W
10	8Z-HX7-015-010		BTN,CASS STOP YU
11	8Z-HX7-014-010		BTN,CASS PLAY YU
12	8Z-HX7-013-010		BTN,CASS REC YU
13	8Z-HX5-020-010		LENS,LED
14	85-TM5-203-010		SPR,BAT(+/-)
15	85-TM5-204-010		SPR,BAT(+)
16	85-TM5-205-010		SPR,BAT(-)
17	8Z-HX7-021-010		KNOB,SL 1.2/2.4 YU
18	8A-HX8-007-010		CABI,REAR B M105 Y<EXCEPT 115U,115U3>
18	8A-HX8-002-010		CABI,REAR B M115 YU<115U,115U3>
19	8Z-HX7-020-010		KNOB,SL PAUSE YU
20	8Z-HX7-007-010		LID,BATT YU
21	8Z-HX7-019-010		KNOB,SL FF/REW YU
22	8Z-HX7-035-010		KNOB,SL V-SENSOR YU<115U,115U3>
A	87-261-043-410		V+2-20
B	87-261-553-310		V+2-6 BLK
C	87-261-533-310		SCREW V+1.7-6 BLK

## 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		

MECHANISM EXPLODED VIEW 1/1



# MECHANISM MAIN PARTS LIST 1/1

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REF. NO	PART NO.	KANRI NO.	DESCRIPTION	REF. NO	PART NO.	KANRI NO.	DESCRIPTION
1	S1-800-01K-000		CHASSIS ASSY	27	S1-800-780-000		REW ARM
2	SR-F30-0C1-427		MOTOR ASSY	28	S1-800-270-000		REW CEAR
3	S1-800-13K-000		PINCH ARM ASSY	29	S1-800-390-000		SHUT OFF ARM
4	S1-800-100-000		EARTH SP	30	S1-800-800-000		THRUST SP
6	S1-800-080-000		HEAD BASE SP	31	S1-800-440-000		REC LOCK SP
7	S1-800-060-000		STOP LAVER	32	S1-800-430-000		REC LOCK PLATE
8	S1-800-120-000		PINCH ARM SP	33	S1-800-170-000		SW ARM
9	S1-800-150-000		AZ SPACER	34	S1-800-220-000		FR LEVER SP
10	ST-MC2-13E-000		R/P HEAD	35	S1-800-180-000		SW ARM SP
11	S1-800-160-000		AZIMUTH SP	36	S1-800-260-000		CENTER GEAR
12	S8-000-700-000		HEAD BASE	37	SV-400-000-000		MAIN BELT
13	S1-800-040-000		LOCK PLATE	38	S1-800-35K-000		FW CP ASSY
14	S1-800-290-000		REEL CAP	39	S1-800-740-000		RESET ARM(A)
15	S1-800-730-000		CST HOLDER SP	40	S1-800-210-000		FR LEVER
16	S1-800-050-000		LOCK PLATE SP	41	S1-800-250-000		CENTER ARM SP
17	SE-695-100-000		E HEAD	42	S1-800-240-000		CENTER ARM
18	S1-800-090-000		REC LEVER	45	SM-100-075-000		MOTOR SCREW
19	S1-800-030-000		REC LOCK LEVER	46	S3-741-150-000		RUBBER CUSHION
20	S1-800-760-200		REC LEVER SP	A	S3-PB1-4X6-500		SCREW
21	S1-800-450-000		RESET ARM	B	S3-PB1-4X2-500		SCREW
22	S1-800-720-000		REC SW LEVER	C	S1-0X2-4X0-5LC		L-CUT-W-W
23	S1-800-280-000		REEL (S) GEAR	D	S1-2X3-0X0-188		L-CUT-W-Y
24	S1-800-410-000		SHUT OFF GEAR	E	S2-1X4-X02-LWR		LW(RED)
25	S1-800-30K-000		REEL (T) ASSY				
26	S1-800-510-000		SHUT OFF SP				



サービス技術ニュース	
番号	連絡内容
G- -	
G- -	
G- -	

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**AIWA CO.,LTD.** 2-11, IKENOHATA 1-CHOME, TAITO-KU, TOKYO 110-8710, JAPAN TEL:03 (3827) 3111