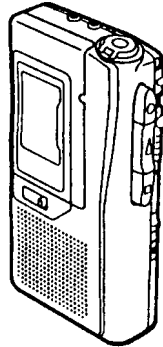




TP-M230 YH(B)
TP-M330 YL(S)



SERVICE MANUAL

MICROCASSETTE RECORDER

BASIC TAPE MECHANISM : M-186(M230)/
M-185(M330)

aiwa
S/M Code No. 09-995-329-4N3



SPECIFICATIONS

[TP-M330]

Track system: Micro cassette, 2 tracks 1 channel, monaural

Usable tapes: **MICROCASSETTE™** (Normal position type)

Frequency response: 250 - 5,000 Hz (2.4 cm/sec) EIAJ

Tape speed: 2.4 cm/sec or 1.2 cm/sec switchable

Microphone: Electret condenser microphone (monaural)

Maximum output: 110 mW (EIAJ/DC)

Input jack: EXT MIC jack (monaural mini-jack) (1)

Output jack: EARPHONE jack (monaural mini-jack) (1)

Other jack: DC 3 V jack

Speaker: Diameter 36 mm, 4 ohms

Recording system: DC bias

Erasing system: Magnet erasure

Power sources: DC 3 V using two R6 (size AA) batteries
AC house current using an optional AC adaptor Aiwa AC-D302

Battery life:

Battery	Battery life EIAJ Recording
Manganese(R6P) batteries	Approx. 7 hrs.
Alkaline(LR6) batteries	Approx. 24 hrs

Dimensions:

63.8 (W) x 121(H) x 27.4 (D) mm
(2 5/8 x 4 7/6 x 1 1/16 in)

Weight:

Approx. 120 g (4.2 oz.) (excluding batteries)

[TP-M230]

Track system: Micro cassette, 2 tracks 1 channel, monaural

Usable tapes: **MICROCASSETTE™** (Normal position type)

Frequency response: 250 - 5,000 Hz (2.4 cm/sec) EIAJ

Tape speed: 2.4 cm/sec or 1.2 cm/sec switchable

Microphone: Electret condenser microphone (monaural)

Maximum output: 110 mW (EIAJ/DC)

Input jack: EXT MIC jack (monaural mini-jack) (1)

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Recording system: DC bias

Erasing system: Magnet erasure

Power sources: DC 3 V using two R6 (size AA) batteries
AC house current using the AC adaptor Aiwa AC-D302

Battery life:

Battery	Battery life EIAJ Recording
Manganese(R6P) batteries	Approx. 7 hrs.
Alkaline(LR6) batteries	Approx. 24 hrs

Dimensions:

63.8 (W) x 121(H) x 25.7 (D) mm
(2 5/8 x 4 7/6 x 1 1/16 in)

Weight:

Approx. 118 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".

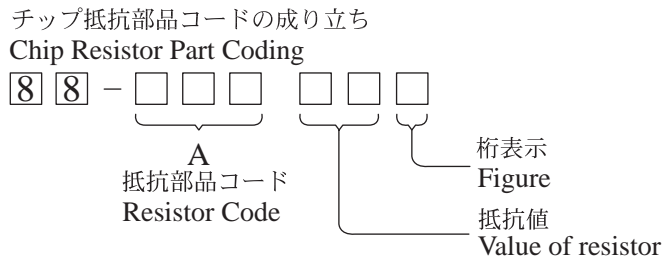
REF. NO	PART NO.	KANRI NO.	DESCRIPTION
1	SZ-HX7-910-210		INSTRUCTION BOOK<230YHB>
1	SZ-HX5-910-500		INSTRUCTION BOOK<330YLS>

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

REF. NO	PART NO.	KANRI NO.	DESCRIPTION	REF. NO	PART NO.	KANRI NO.	DESCRIPTION
IC				C18	87-015-504-080		C-CAP,E 0.47-25V
	S0-510-321-640	IC,LA4165M		C22	SA-100-000-4C0		C-CAP,E 10-4V
TRANSISTOR				C23	87-010-071-040		CAP,E 1-50V
	87-026-213-010	C-TR,DTC114YKA		J1	S0-014-560-000		JACK,HP HSJ1456-01-210H
	87-026-230-010	C-TR,DTA114YKA		J3	S0-014-560-000		JACK,HP HSJ1456-01-210H
	89-327-126-080	C-TR,2SC2712GR		J4	S1-000-010-000		JACK,DC 2.75MM
DIODE				LD2	S0-252-002-020		LED,KM2520A01SRC001
	87-020-691-080	C-DIODE,1SS302		S1	S4-207-420-000		SW,PUSH 4P2T
MAIN C.B				S2	S1-200-211-000		SW,SLIDE 1P2T
C4	87-010-822-010	CAP,E 220-4V		S3	S1-200-211-000		SW,SLIDE 1P2T
C5	87-010-417-080	CAP,E 2.2-35V		S4	S2-210-211-000		SW,SLIDE 2P2T
C9	87-015-504-080	C-CAP,E 0.47-25V		S5	S0-011-140-020		SW,LEAF LSA-1114L
C10	87-010-420-010	CAP,E 10-6.3V		S6	S1-300-211-000		SW,SL 1P3T<330>
C11	87-010-067-080	CAP,E 0.1-50V		S7	S1-200-211-000		SW,SLIDE 1P2T<330>
C12	87-010-731-080	C-CAP,E 22-4V		S8	S0-011-140-030		SW,LEAF LSA-1114H4AU
C13	87-010-822-010	CAP,E 220-4V		SFR1	S5-020-630-000		SFR,5KB 6MM 2P
C14	87-010-482-010	CAP,E 220-4V		SFR3	S2-020-350-000		SFR,2K
C15	87-010-822-010	CAP,E 220-4V		VR1	SC-101-032-030		VOL,ROTARY 10KAx2
C17	87-A10-419-080	C-CAP,E 1-16V					

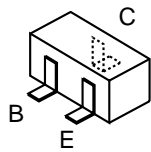
チップ抵抗部品コード / CHIP RESISTOR PART CODE



チップ抵抗 Chip resistor

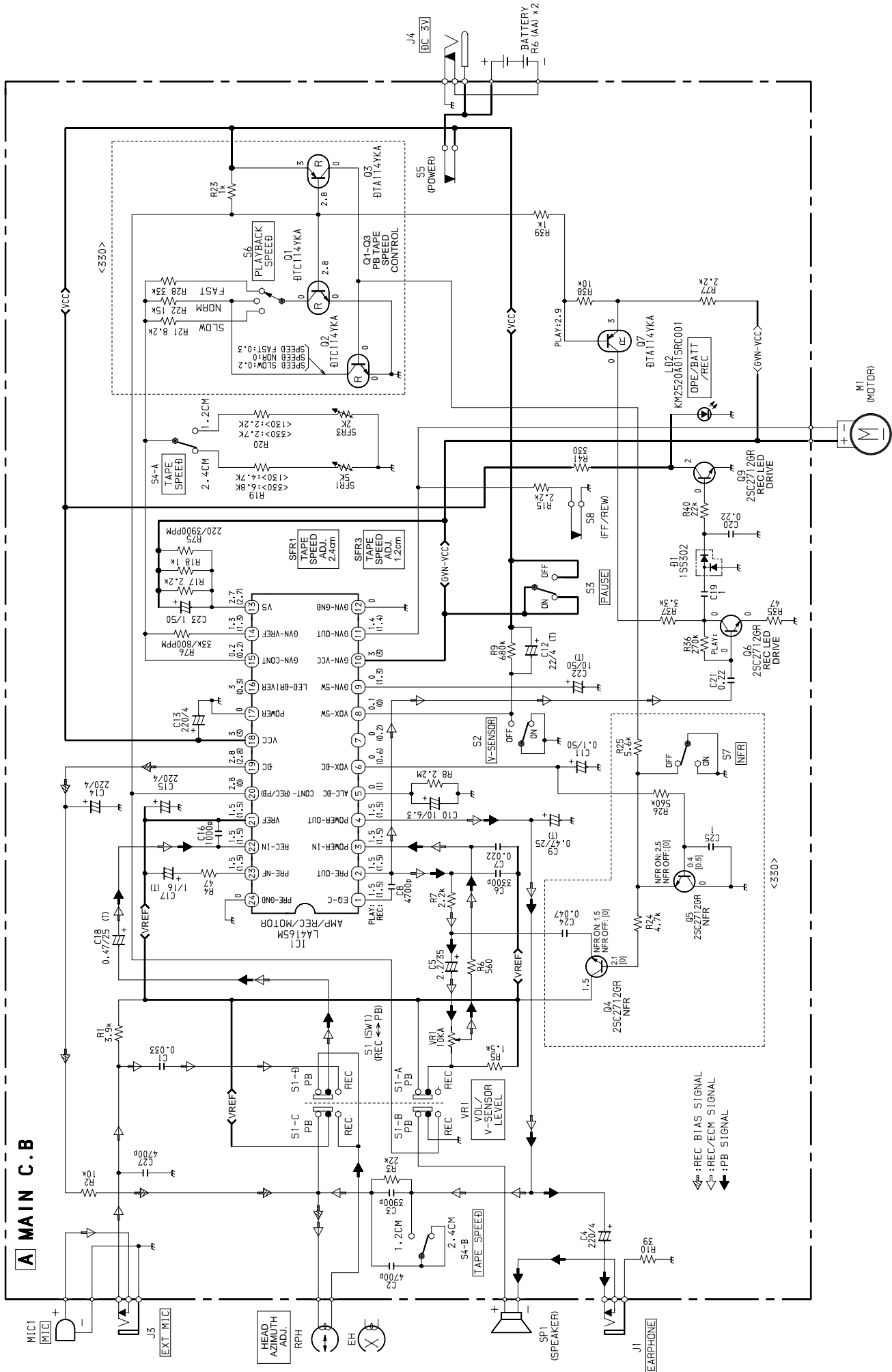
容量 Wattage	種類 Type	許容誤差 Tolerance	記号 Symbol	寸法 / Dimensions (mm)			抵抗コード : A Resistor Code : A	
				外形 / Form	L	W		t
1/16W	1005	± 5%	CJ		1.0	0.5	0.35	104
1/16W	1608	± 5%	CJ		1.6	0.8	0.45	108
1/10W	2125	± 5%	CJ		2	1.25	0.45	118
1/8W	3216	± 5%	CJ		3.2	1.6	0.55	128

TRANSISTOR ILLUSTRATION

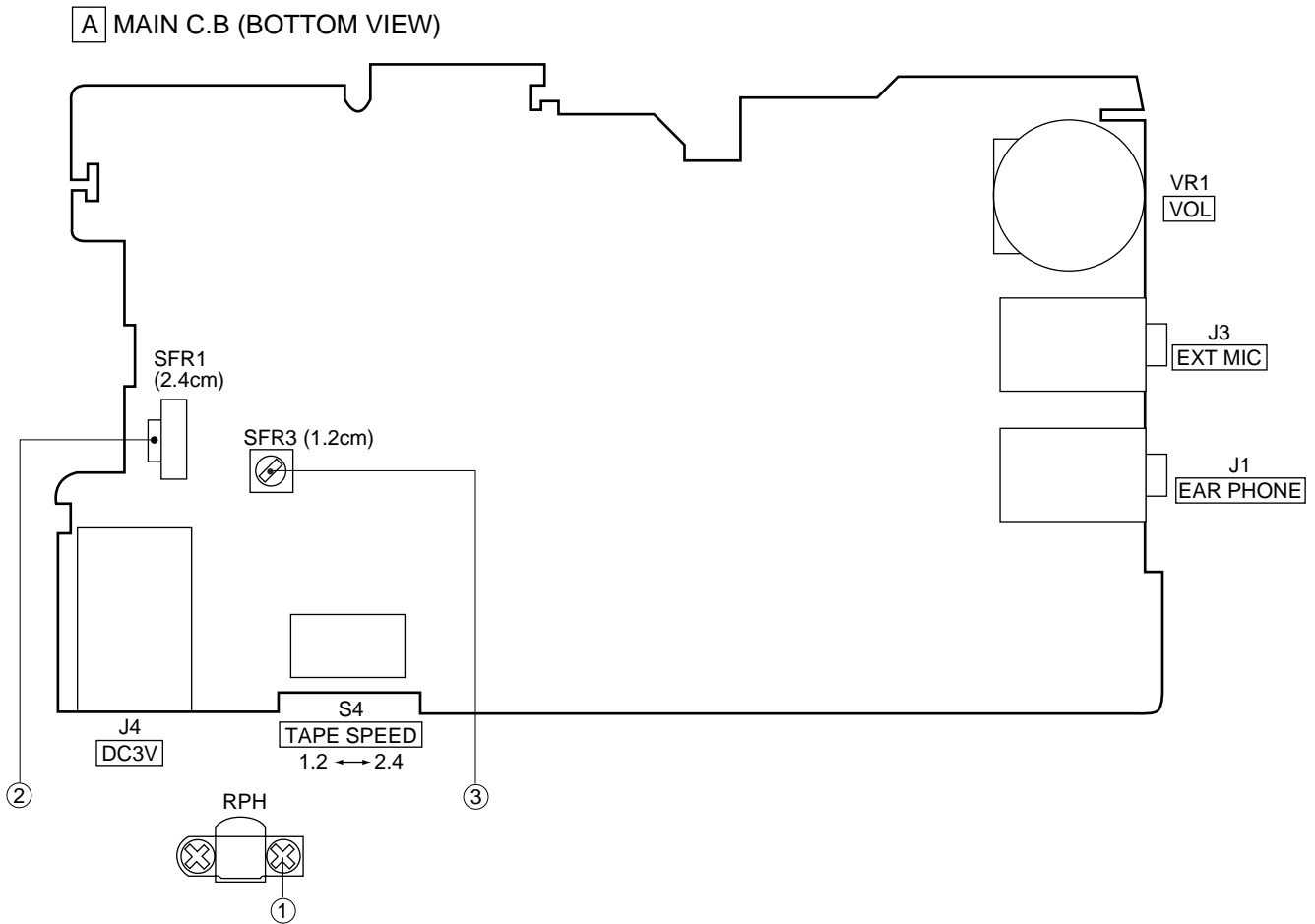


2SC2712GR
 DTA114YKA
 DTC114YKA

SCHEMATIC DIAGRAM



ADJUSTMENT



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

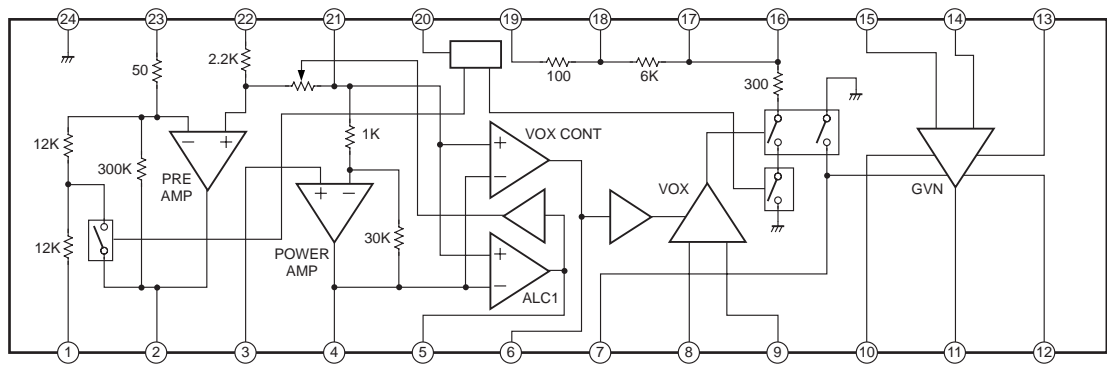
Method: Playback the test tape (TTS-910) and adjust SFR3 so that the tape speed is become $3000 \pm 90\text{Hz}$.

PRACTICAL SERVICE FIGURE

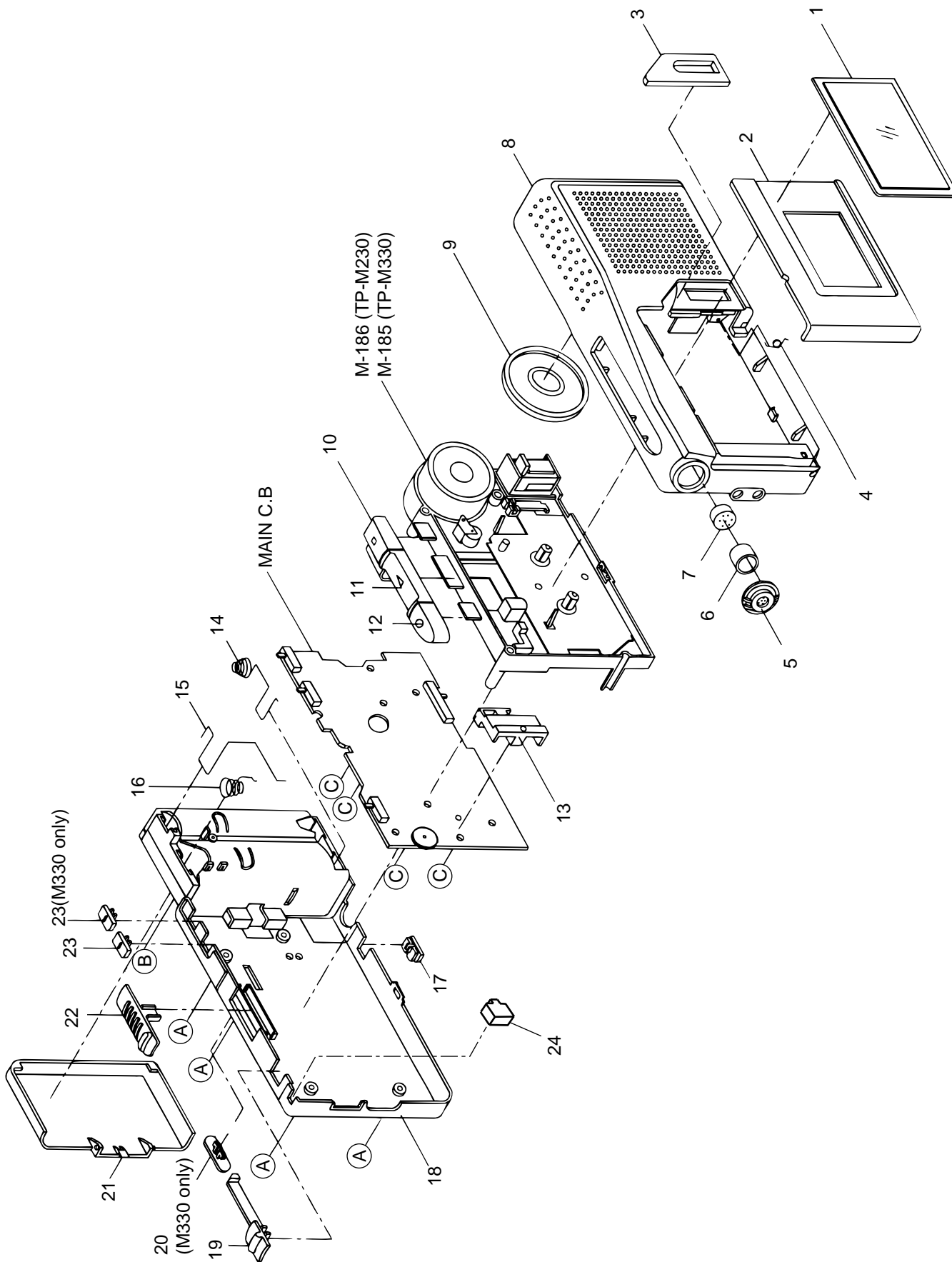
Tape speed:	$3000 \text{ Hz} \pm 90 \text{ Hz}$
Wow & flutter:	Less than 0.65% (RMS) (2.4cm) Less than 0.65% (RMS) (1.2cm)
Take-up torque:	4 ~ 12 g-cm
F.F torque:	30 ~ 150 g-cm
Rew torque:	25 ~ 60 g-cm
Back tension:	Less than 1.3 g-cm
S/N ratio:	More than 50 dB (DC. PB) More than 26 dB (DC. R/PB)
Noise 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

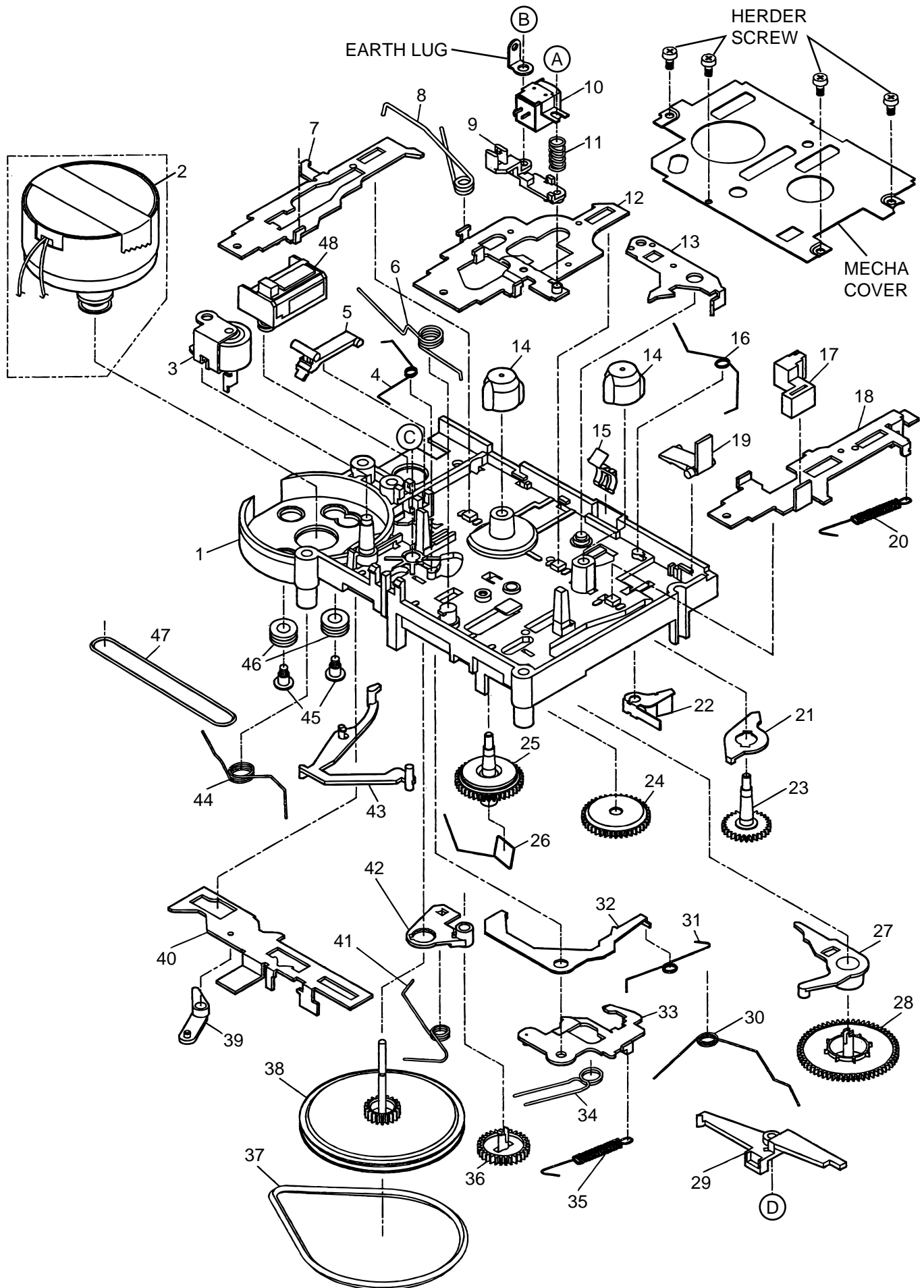
DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
 If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

REF. NO	PART NO.	KANRI NO.	DESCRIPTION	REF. NO	PART NO.	KANRI NO.	DESCRIPTION
1	SZ-HX5-040-100		WINDOW CASS<330YLS>	14	S6-HX5-230-000		SPR, BAT (+/-)
1	SZ-HX5-040-200		WINDOW CASS<230YHB>	15	S6-HX5-240-000		SPR, BAT (+)
2	SZ-HX5-030-100		DOOR, CASS<330YLS>	16	S6-HX5-250-000		SPR, BAT (-)
2	SZ-HX5-030-200		DOOR, CASS<230YHB>	17	SZ-HX5-150-020		KNOB, SLIDE 1.2/2.4<230YHB>
3	SZ-HX7-030-400		LENS COUNTER<230YHB>	17	SZ-HX5-150-000		KNOB, SLIDE 1.2/2.4<330YLS>
3	SZ-HX5-170-100		LENS, COUNTER<330YLS>	18	SZ-HX7-020-200		CAB, REAR<230YHB>
4	SZ-HX5-190-000		CASS SPR-C	18	SZ-HX5-020-100		CAB, REAR<330YLS>
5	SZ-HX5-060-010		COVER MIC	19	SZ-HX5-110-020		KNOB, SLIDE PAUSE<230YHB>
6	S6-HX5-210-000		CUSHION MIC	19	SZ-HX5-110-000		KNOB, SLIDE PAUSE<330YLS>
7	S1-035-230-000		MIC, CONDENSER MIC	20	SZ-HX5-140-000		KNOB, SLIDE SLOW/FAST<330YLS>
8	SZ-HX5-010-400		CAB, FRONT<230YHB>	21	SZ-HX5-050-020		LID BATT<230YHB>
8	SZ-HX5-010-100		CAB, FRONT GREY<330YLS>	21	SZ-HX5-050-010		LID, BATT<330YLS>
9	S1-440-004-210		SPKR, 1.4' (36mm) 4 OHM 0.4W	22	SZ-HX5-120-000		KNOB, SLIDE F.F./REW<330YLS>
10	SZ-HX5-100-030		BTN, STOP<230YHB>	22	SZ-HX5-120-020		KNOB, SLIDE F.F./REW<230YHB>
10	SZ-HX5-100-010		KNOB, CASS STOP<330YLS>	23	SZ-HX5-130-000		KNOB, SLIDE V-SENSOR<330YLS>
11	SZ-HX5-090-030		BTN, PLAY<230YHB>	23	SZ-HX5-130-020		KNOB, SLIDE V-SENSOR<230YHB>
11	SZ-HX5-090-010		KNOB, CASS PLAY<330YLS>	24	SZ-HX5-160-000		LENS, LED
12	SZ-HX5-080-300		BTN, REC GRY<230YHB>	A	87-261-043-410		SCREW, 2-20
12	SZ-HX5-080-100		KNOB, CASS REC<330YLS>	B	87-751-035-410		SCREW, ST2-6
13	SZ-HX5-070-000		HOLDER JACK	C	87-261-533-310		SCREW ST1.7-6

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	31	S1-800-440-000		REC LOCK SP
2	SR-F30-0C1-427		MOTOR ASSY	32	S1-800-430-000		REC LOCK PLATE
3	S1-800-13K-000		PINCH ARM ASSY	33	S1-800-170-000		SW ARM
4	S1-800-100-000		EARTH SP	34	S1-800-220-000		FR LEVER SP
5	S1-800-020-000		EJECT ARM	35	S1-800-180-000		SW ARM SP
6	S1-800-080-000		HEAD BASE SP	36	S1-800-260-000		CENTER GEAR
7	S1-800-060-000		STOP LAVER	37	SV-400-000-000		MAIN BELT
8	S1-800-120-000		PINCH ARM SP	38	S1-800-35K-000		FW CP ASSY
9	S1-800-150-000		AZ SPACER	39	S1-800-740-000		RESET ARM(A)
10	ST-MC1-3E0-000		R/P HEAD	40	S1-800-210-000		FR LEVER
11	S1-800-160-000		AZIMUTH SP	41	S1-800-250-000		CENTER ARM SP
12	S8-000-700-000		HEAD BASE	42	S1-800-240-000		CENTER ARM
13	S1-800-040-000		LOCK PLATE	43	S1-800-190-000		EJECT CAM
14	S1-800-290-000		REEL CAP	44	S1-800-200-000		EJECT CAM SP
15	S1-800-730-000		CST HOLDER SP	45	SM-100-075-000		MOTOR SCREW
16	S1-800-050-000		LOCK PLATE SP	46	S3-741-150-000		RUBBER CUSHION
17	SE-695-100-000		E HEAD	47	SV-410-000-000		COUNTER BELT<186>
18	S1-800-090-000		REC LEVER	48	SM-MP3-900-490		COUNTER<186>
19	S1-800-030-000		REC LOCK LEVER	A	S3-PB1-4X6-500		SCREW
20	S1-800-760-200		REC LEVER SP	B	S3-PB1-4X2-500		SCREW
21	S1-800-450-000		RESET ARM	C	S1-0X2-4X0-5LC		L-CUT-W-W
22	S1-800-720-000		REC SW LEVER	D	S1-2X3-0X0-25L		L-CUT-W-Y
23	S1-800-280-000		REEL (S) GEAR				
24	S1-800-410-000		SHUT OFF GEAR				
25	S1-800-30K-000		REEL (T) ASSY				
26	S1-800-510-000		SHUT OFF SP				
27	S1-800-780-000		REW ARM				
28	S1-800-270-000		REW CEAR				
29	S1-800-390-000		SHUT OFF ARM				
30	S1-800-800-000		THRUST SP				

