

TCS-100DV

SERVICE MANUAL

Ver. 1.1 2006.04

US Model
AEP Model
Tourist Model



Model Name Using Similar Mechanism	NEW
Tape Transport Mechanism Type	MT-TCS100-162

SPECIFICATIONS

Recording system

4-track 2-channel stereo

Tape speed

4.8 cm / s or 2.4 cm / s

Frequency range

150 – 8,000 Hz using normal (TYPE I) cassette (with REC TIME switch at “NORMAL”)

Speaker

Approx. 3.6 cm (1¹/₁₆ in.) dia.

Power output

Speaker: 70 mW (at 10% harmonic distortion)

Head phones: 3 mW + 3 mW (at 10% harmonic distortion)

Input

Microphone input jack (minijack) sensitivity 0.4 mV for 3 kilohms or lower impedance microphone

Output

⌚ (headphones) jack (minijack) for 8 – 300 ohms headphones

Variable range of the speed control

From +20% to –15% (with REC / TIME switch at “NORMAL”)

Power requirements

1.5V DC batteries size AAA (R03) × 2 / External DC 1.5V power sources

Dimensions (w/h/d) incl. projecting parts and controls

Approx. 112 × 30 × 78 mm (4 ³/₄ × 1 ³/₁₆ × 3 ¹/₁₆ in.)

Mass

Approx. 190 g (6.8 oz)

Supplied accessories

Carrying pouch (1)

Sony manganese batteries R03 (SB) (2) (Sony world model only)

Headphones with remote control (1)

Hand strap (1)

Design and specifications are subject to change without notice.

STEREO CASSETTE-CORDER

SONY®

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Flexible Circuit Board Repairing

- Keep the temperature of the soldering iron around 270 °C during repairing.
- Do not touch the soldering iron on the same conductor of the circuit board (within 3 times).
- Be careful not to apply force on the conductor when soldering or unsoldering.

Notes on chip component replacement

- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

SECTION 1 SERVICING NOTES

SERVICE MODE

This set detects the rotation of the idler gear (A) (side S) using the photo reflector (PH701). The PH701 is mounted on the MAIN board, therefore the idler gear (A) (side S) cannot be detected with the MAIN board removed. As a result, the motor (M601) cannot be controlled, causing malfunction.

Further, the DIRECTION switch (S701) is also mounted on the MAIN board, and with the board removed, the mechanism position cannot be detected and the operation is not changed over. Therefore, when the voltage check is executed with the MAIN board removed, follow the procedure provided below.

1. Setting

- 1) Refer to "3. DISASSEMBLY", and remove the MAIN board.
- 2) Connect the MAIN board to the motor (M601) and the plunger (PM701) using jumper wires. These can be connected easily with the use of the extension tool (Part No. 1-769-143-11) (ten in one set).
- 3) Short each terminals of REC PROTECT DETECT (REV) switch (S702-1), TAPE DETECT switch (S702-2), REC PROTECT (FWD) switch (S703-1) and ATS switch (S703-2).
- 4) Connect the AF oscillator to the TP33 (PHOTO IN) and the TP40 (GND).
- 5) Supply 1.3 V to the battery terminals using the regulated power supply.

2. Preset state

To set the REC, PLAY, FF, REW modes, the preset state must be set.

- 1) Check that the slider (NR) and the DIRECTION switch (S701) are set to the center position. If not, set the preset state as follow.
- 2) Move the DIRECTION switch (S701) to the side, which the slider (NR) is facing.
- 3) The slider (NR) will move when the regulated power supply switch is set to OFF once and then set to ON. Move the DIRECTION switch (S701) according to this timing and set to the center position.

3. FF, REW modes

- 1) Check that the preset state is set.
- 2) Input the square wave or sine wave to the TP33 (PHOTO IN) and the TP40 (GND).
- 3) Press the **[FF/CUE ▶▶]** button (S4) or the **[REW/REVIEW ◀◀]** button (S5).

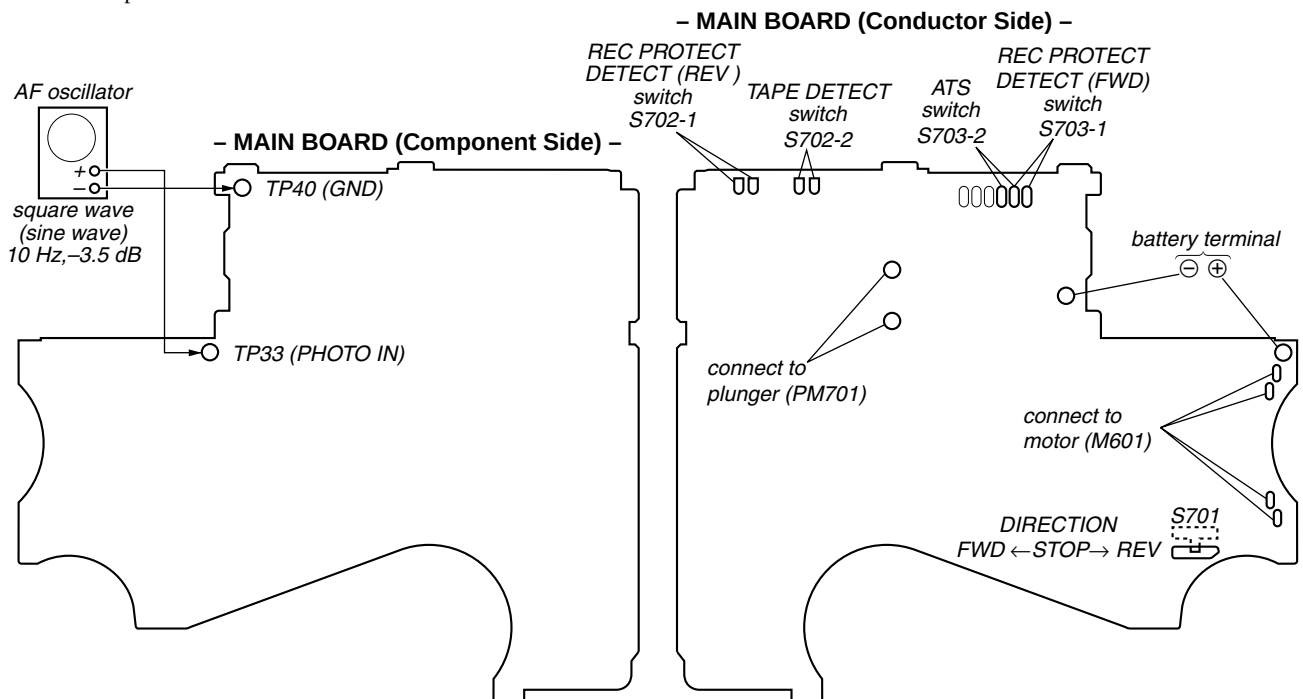
4. REC, PLAY modes

- 1) Check that the preset state is set.
- 2) Input the square wave or sine wave to the TP33 (PHOTO IN) and the TP40 (GND).
- 3) Press the **[REC]** switch (S6) or **[PLAY/DIR ◀▶]** button (S3) will move the slider (NR) once towards the side R and then to the side F. Move the DIRECTION switch (S701) according to this timing will set the REC or PLAY mode (side F). Press the **[REC]** switch (S6) or **[PLAY/DIR ◀▶]** button (S3) another time and move the DIRECTION switch (S701) according to the movement of the slider (NR) will set the REC or PLAY mode (side R).

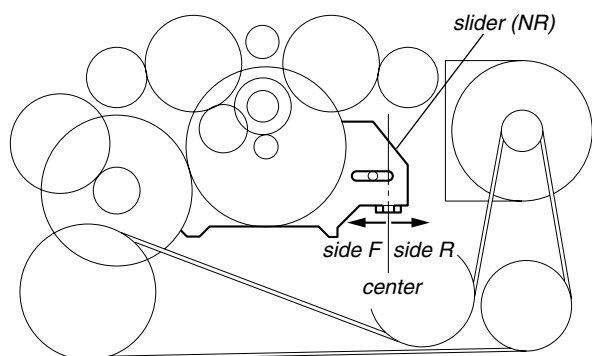
Note 1: If the above fails, perform from preset again.

Note 2: Use each button on the remote controller as much as possible. If no remote controller, do not touch the buttons with your hands, but using a stick with a round tip.

Note 3: When using headphones, the timing for move the DIRECTION switch (S701) can be determined from the beep sound.

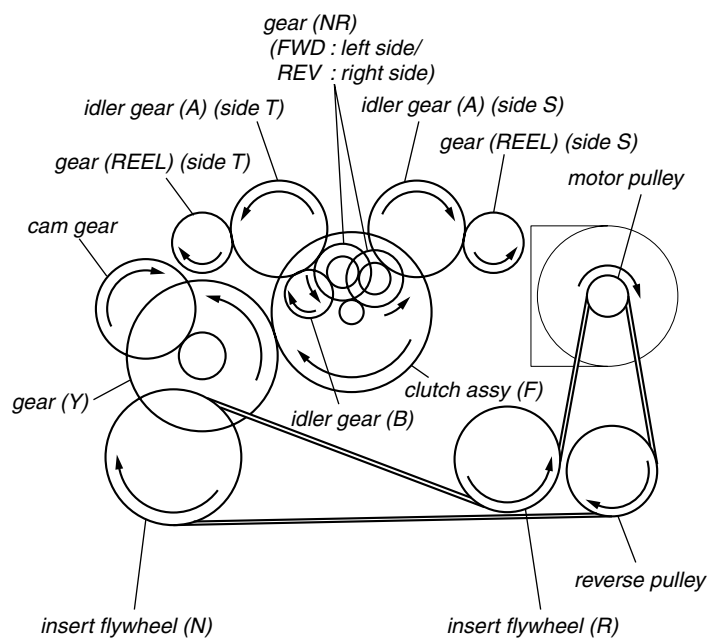


Slider (NR)

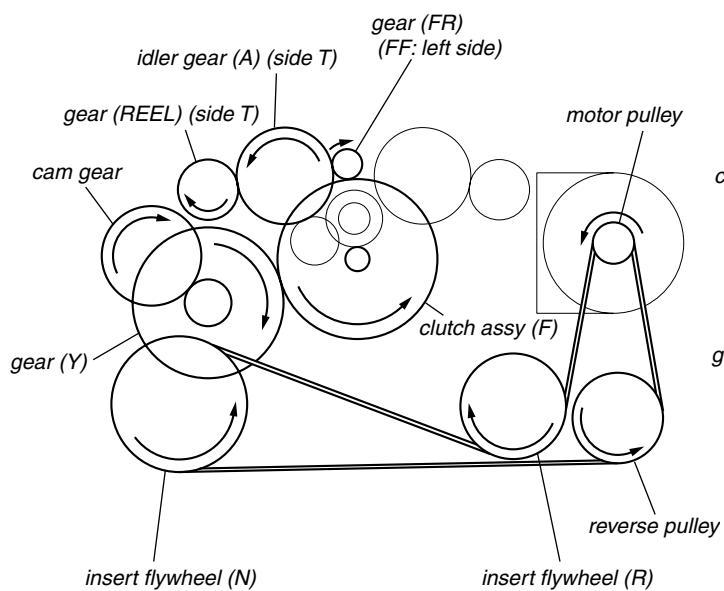


Rotation system

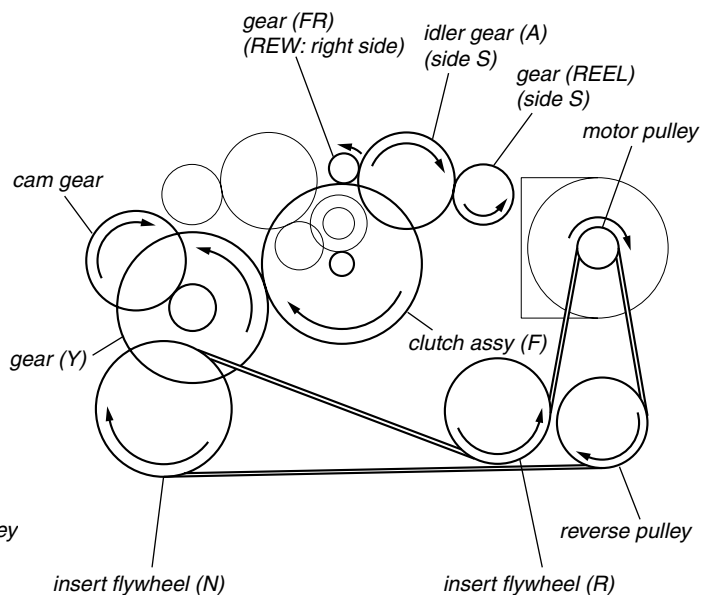
Rotation system during PLAY.



Rotation system during FF.



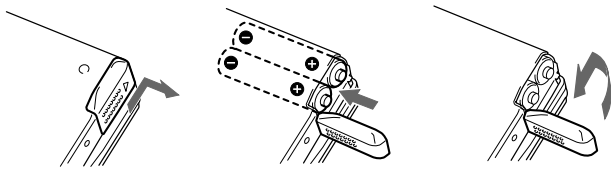
Rotation system during REW.



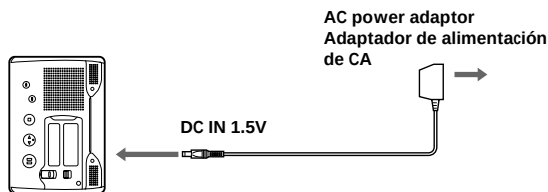
SECTION 2 GENERAL

This section is extracted from instruction manual.

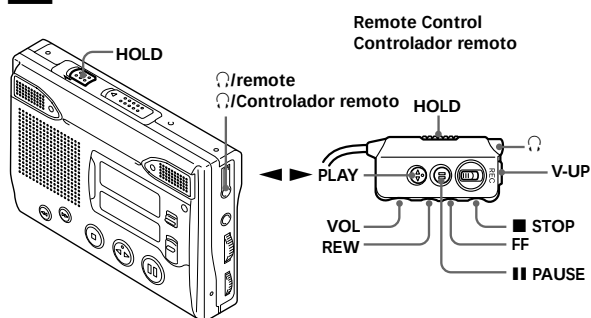
A



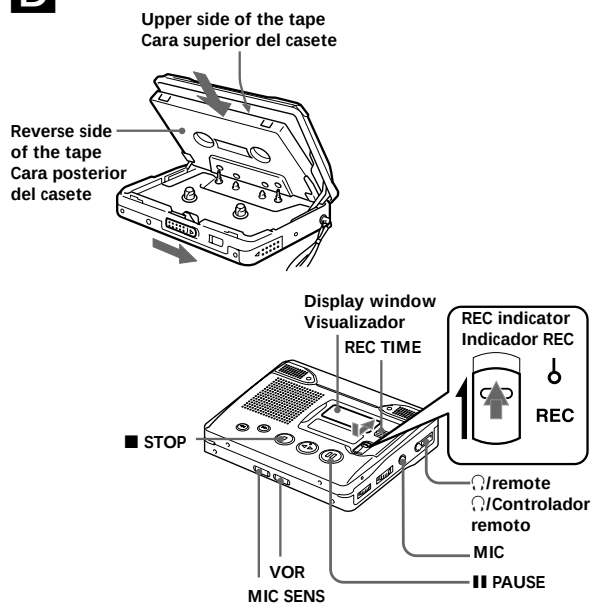
B



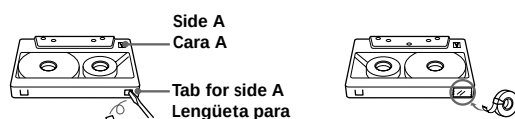
C



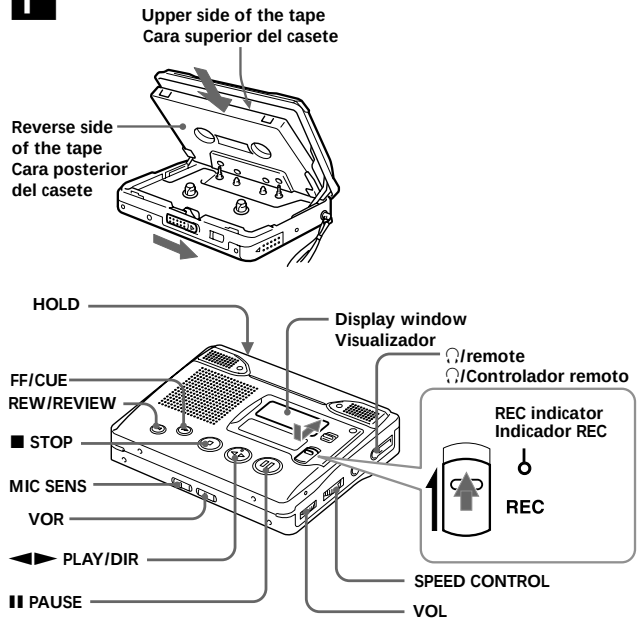
D



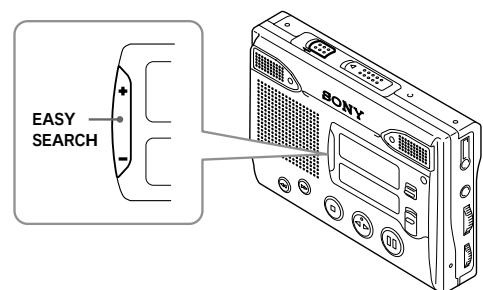
E



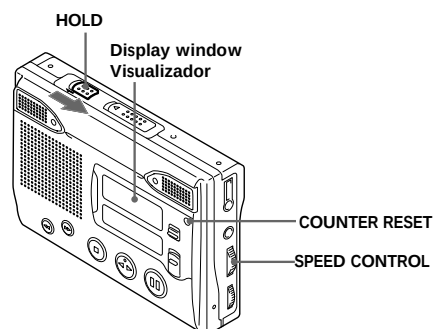
F



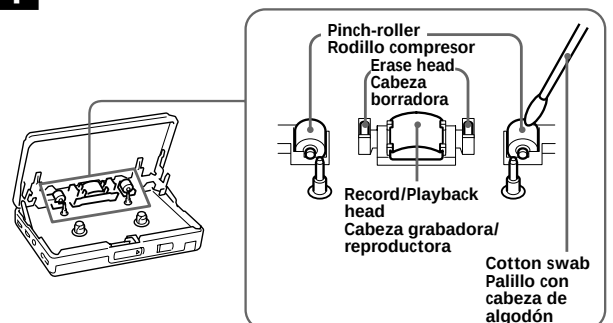
G



H

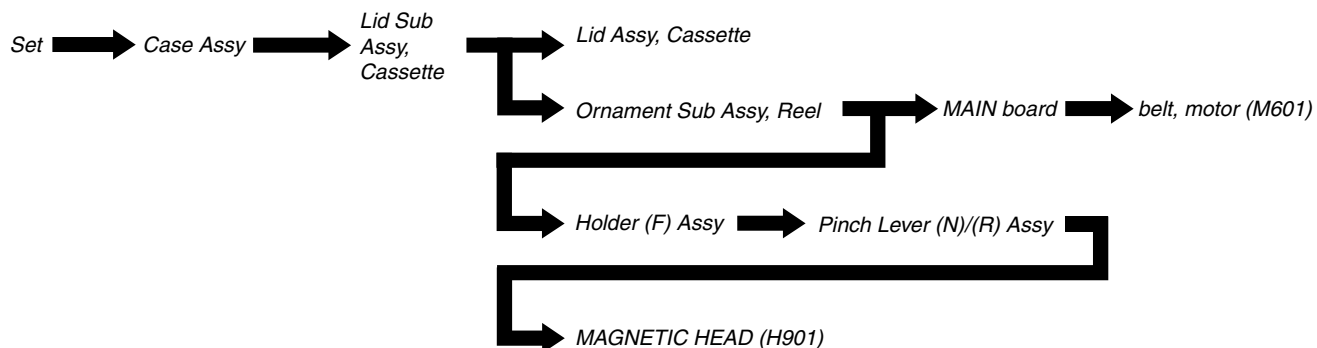


I



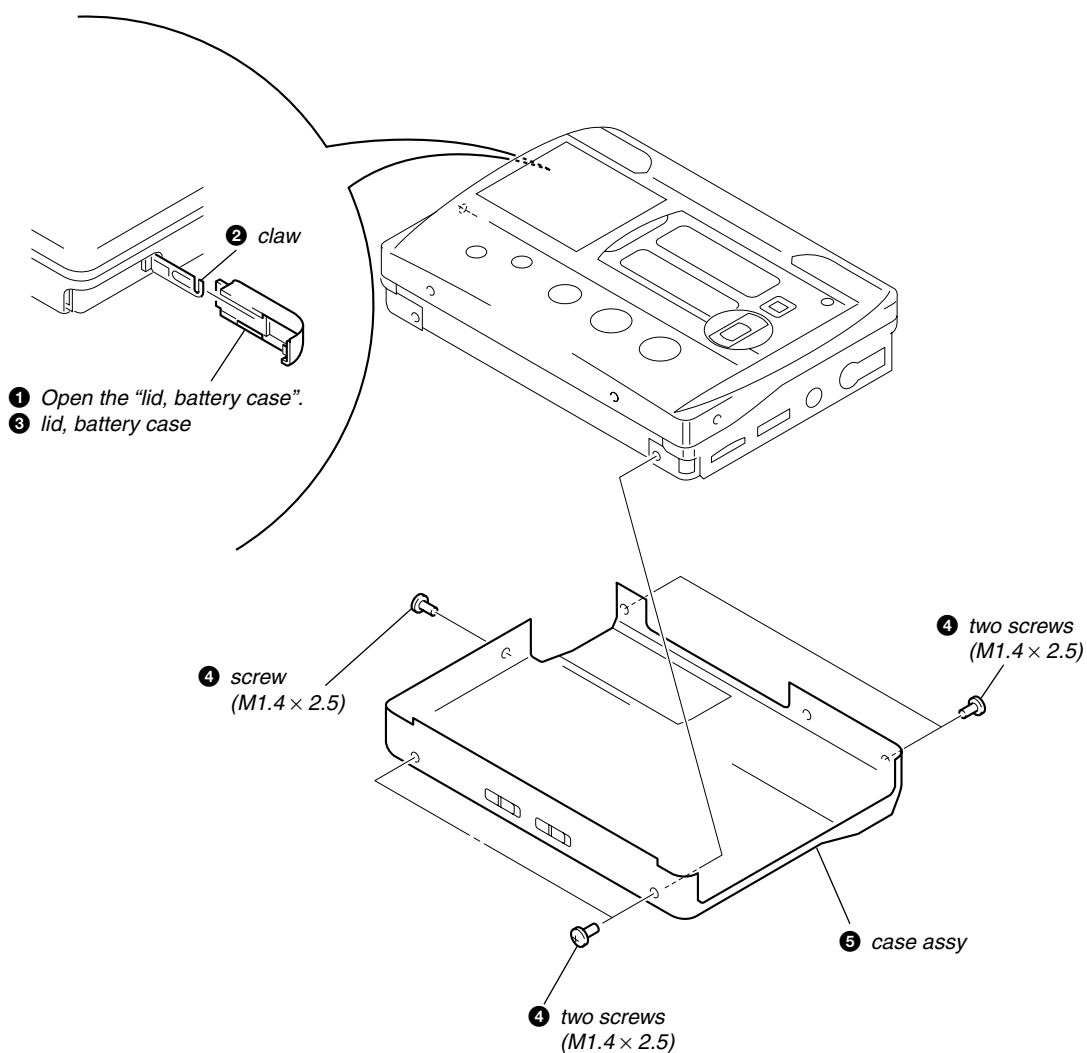
SECTION 3 DISASSEMBLY

- This set can be disassembled in the order shown below.

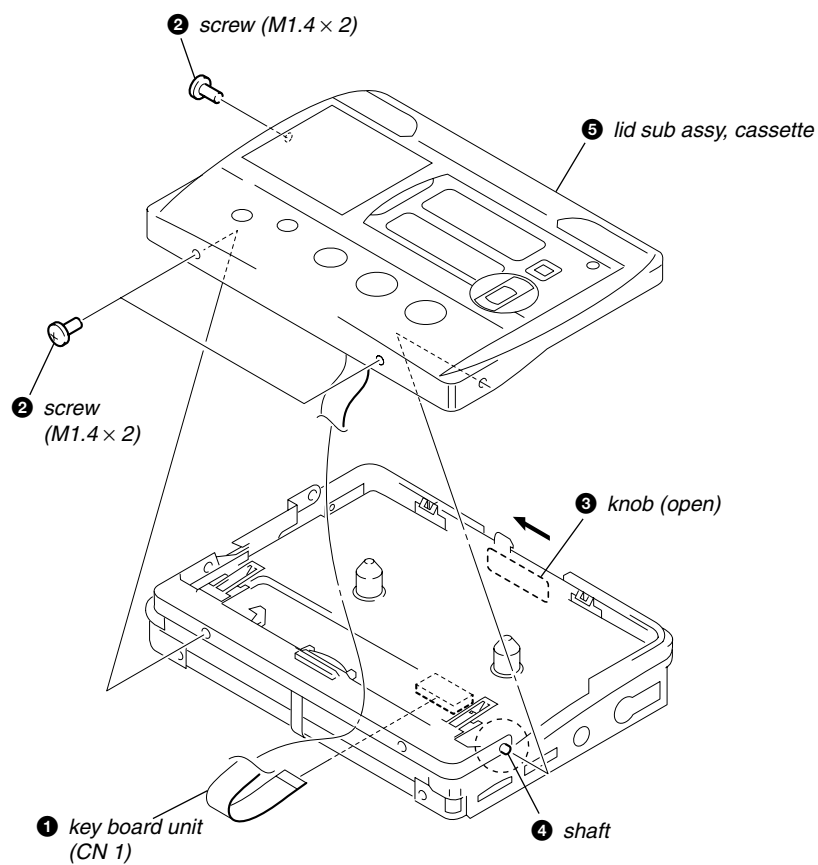


Note: Follow the disassembly procedure in the numerical order given.

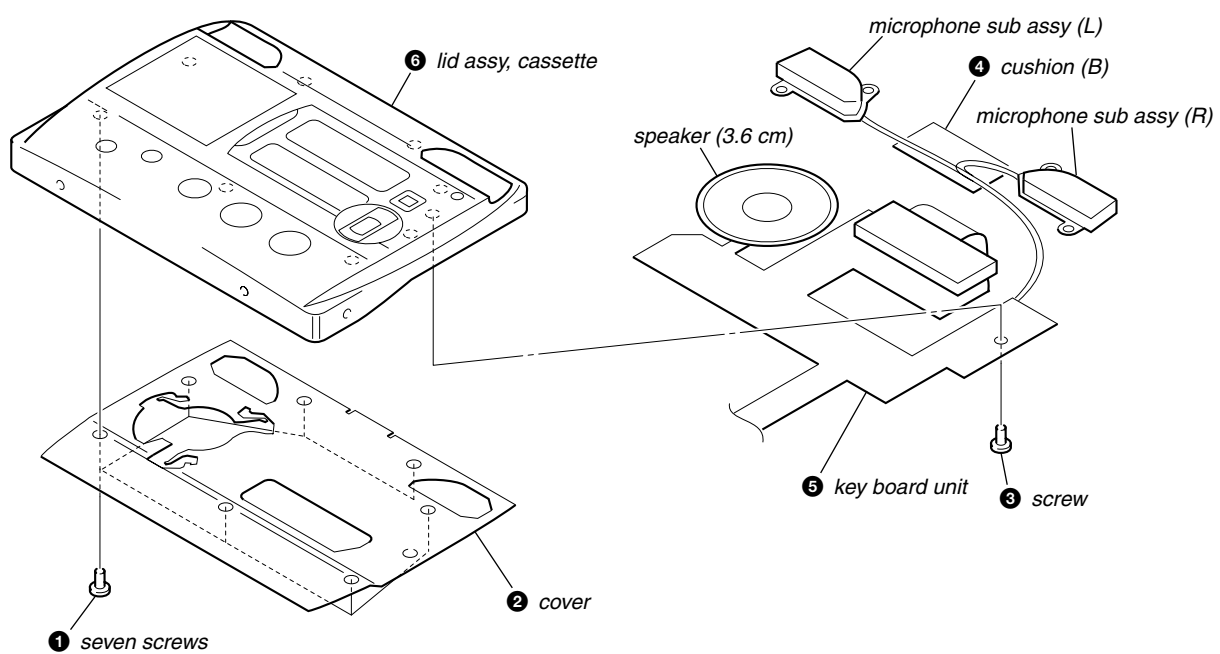
CASE ASSY



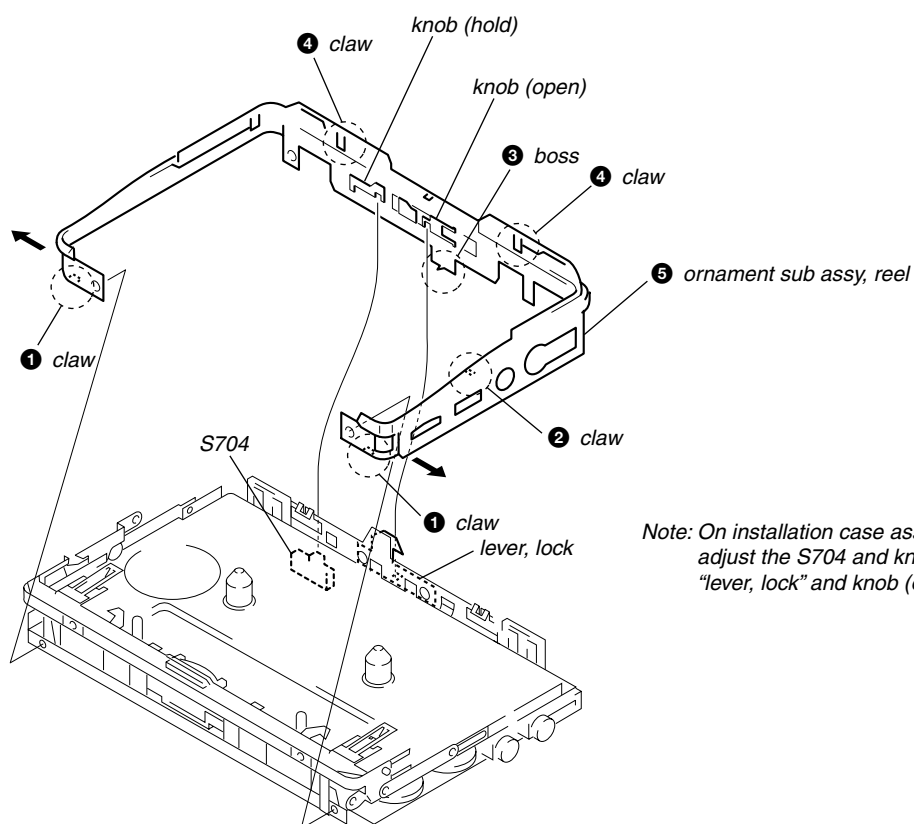
LID SUB ASSY, CASSETTE



LID ASSY, CASSETTE

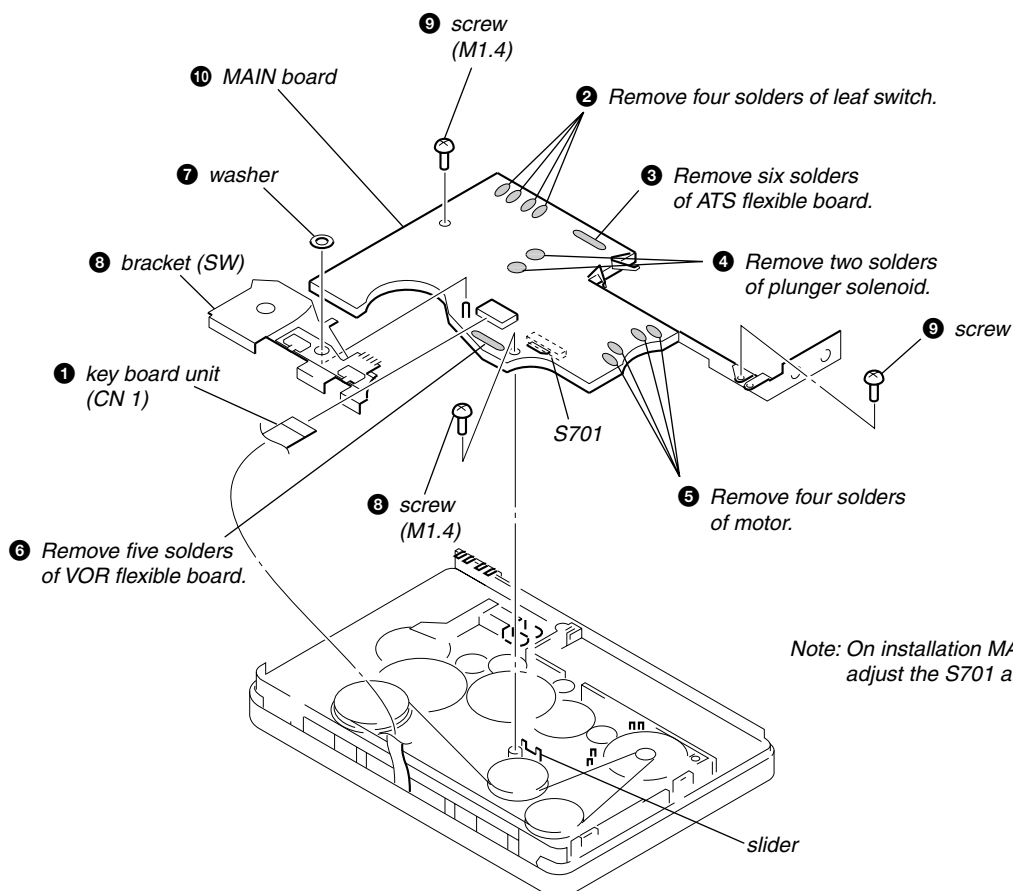


ORNAMENT SUB ASSY, REEL



Note: On installation case assy adjust the S704 and knob (hold), "lever, lock" and knob (open).

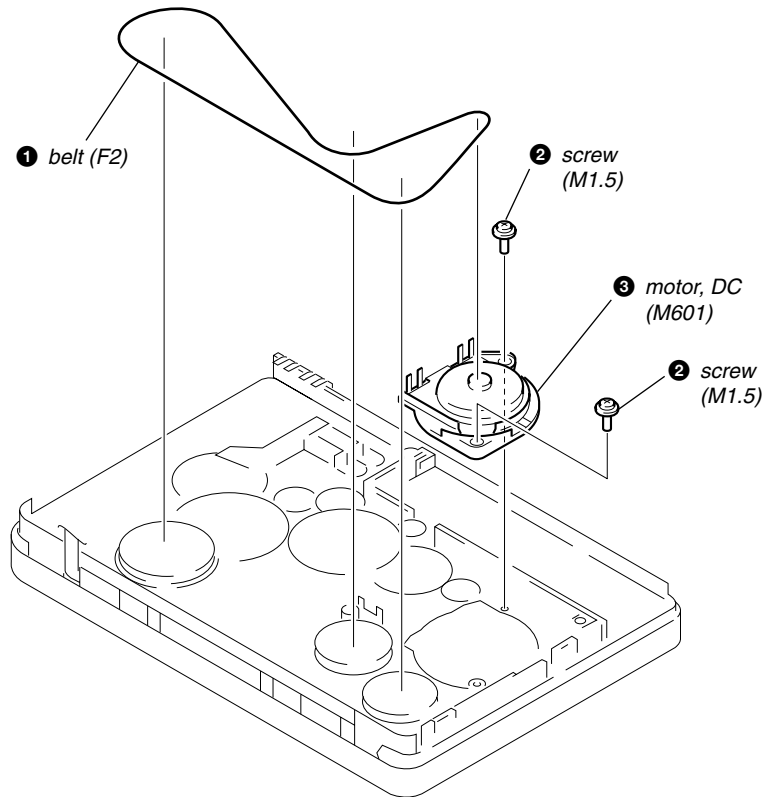
MAIN BOARD



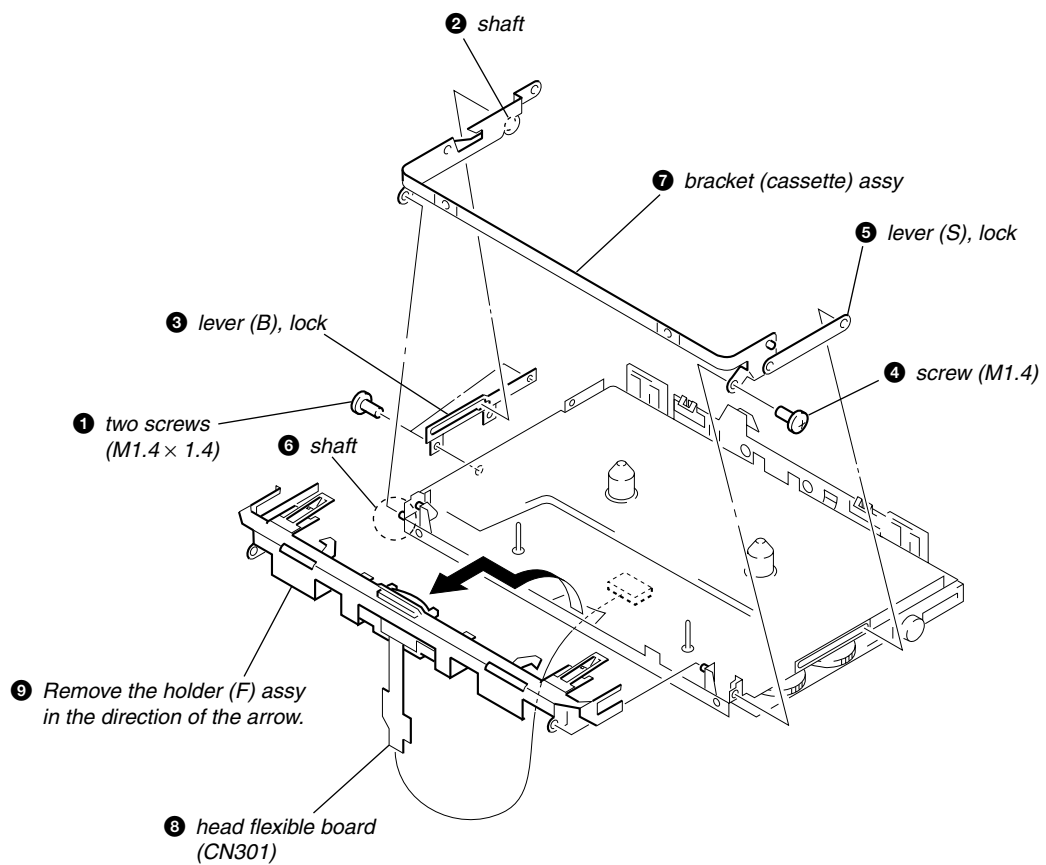
Note: On installation MAIN board adjust the S701 and slider.

BELT, MOTOR (M601)

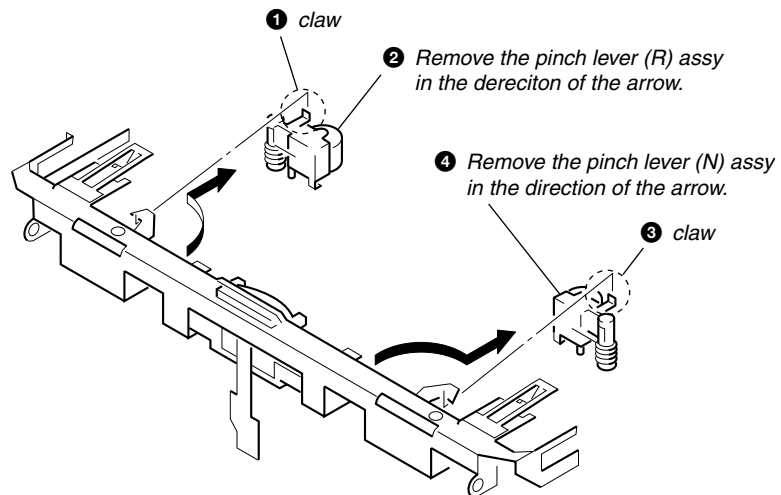
• See page 4 for Rotation system.



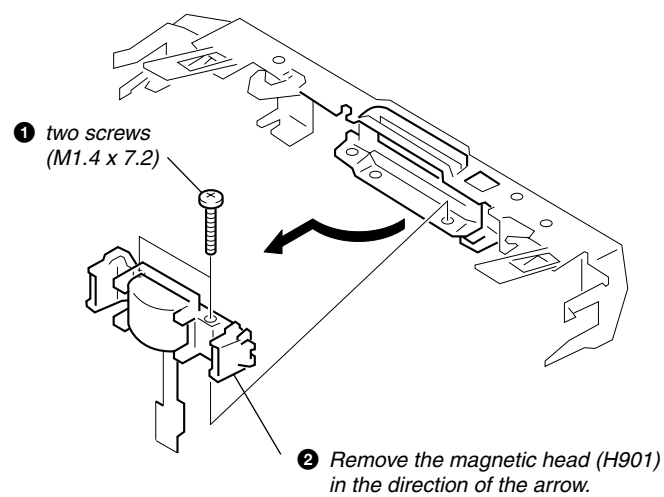
HOLDER (F) ASSY



PINCH LEVER (N)/(R) ASSY



MAGNETIC HEAD (H901)



SECTION 4 MECHANICAL ADJUSTMENT

PRECAUTION

- Clean the following parts with a denatured-alcohol-moistened swab:

playback/rec/erase head	pinch roller
rubber belts	capstan
idler	
- Demagnetize the playback head with a head demagnetizer. (Do not bring the head demagnetizer close to the erase head.)
- Do not use a magnetized screwdriver for the adjustments.
- The adjustments should be performed with the rated power supply voltage (1.3 V) unless otherwise noted.

Torque Measurement

Mode	Torque Meter	Meter Reading
FWD	CQ-102C	1.57-2.45 mN•m (16 – 25 g•cm) (0.23 – 0.34 oz•inch)
FWD Back Tension		0.05-0.14 mN•m (0.5 – 1.5 g•cm) (0.007 – 0.02 oz•inch)
REV	CQ-102RC	1.57-2.45 mN•m (16 – 25 g•cm) (0.23 – 0.34 oz•inch)
REV Back Tension		0.05-0.14 mN•m (0.5 – 1.5 g•cm) (0.007 – 0.02 oz•inch)
FF, REW	CQ-201B	more than 4.91 mN•m (more than 50 g•cm) (more than 0.7 oz•inch)

SECTION 5 ELECTRICAL ADJUSTMENT

PRECAUTION

- Specified voltage : 1.3 V (DC)
- Setting
SPEED CONTROL dial : center click

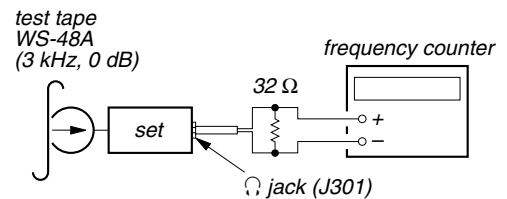
0 dB=0.775 V

Test tape

Type	Signal	Used for
WS-48A	3 kHz, 0 dB	Tape Speed Adjustment

Tape Speed Adjustment

Setting:



Procedure:

– Normal –

- Set the **REC TIME** switch (S1) to **NORMAL** position.
- Playback WS-48A (tape center) in the FWD state.
- Adjust RV602 so that the frequency counter reading becomes 3,000 Hz.

Specified Value: 2,970 to 3,030 Hz

- Check that deflection of the frequency counter reading between the beginning and the end of tape is within 1.5% (approx. 45 Hz).

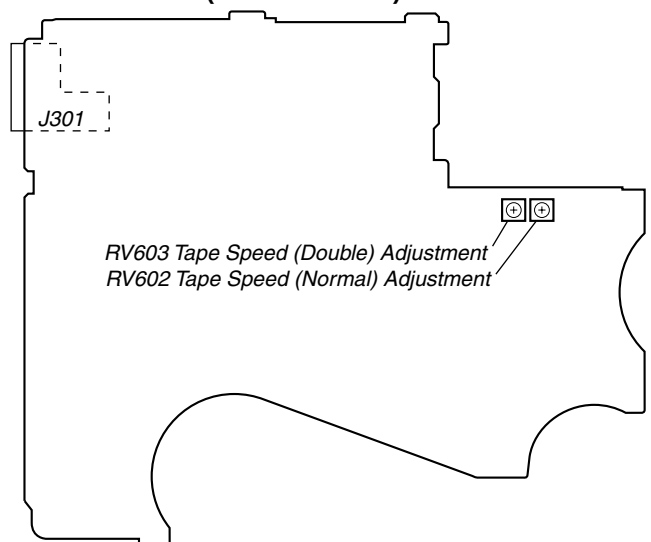
– Double (1/2 SPEED) –

- Set the **REC TIME** switch (S1) to **DOUBLE** position.
- Playback WS-48A (tape center) in the FWD state.
- Adjust RV603 so that the frequency counter reading becomes 1,500 Hz.

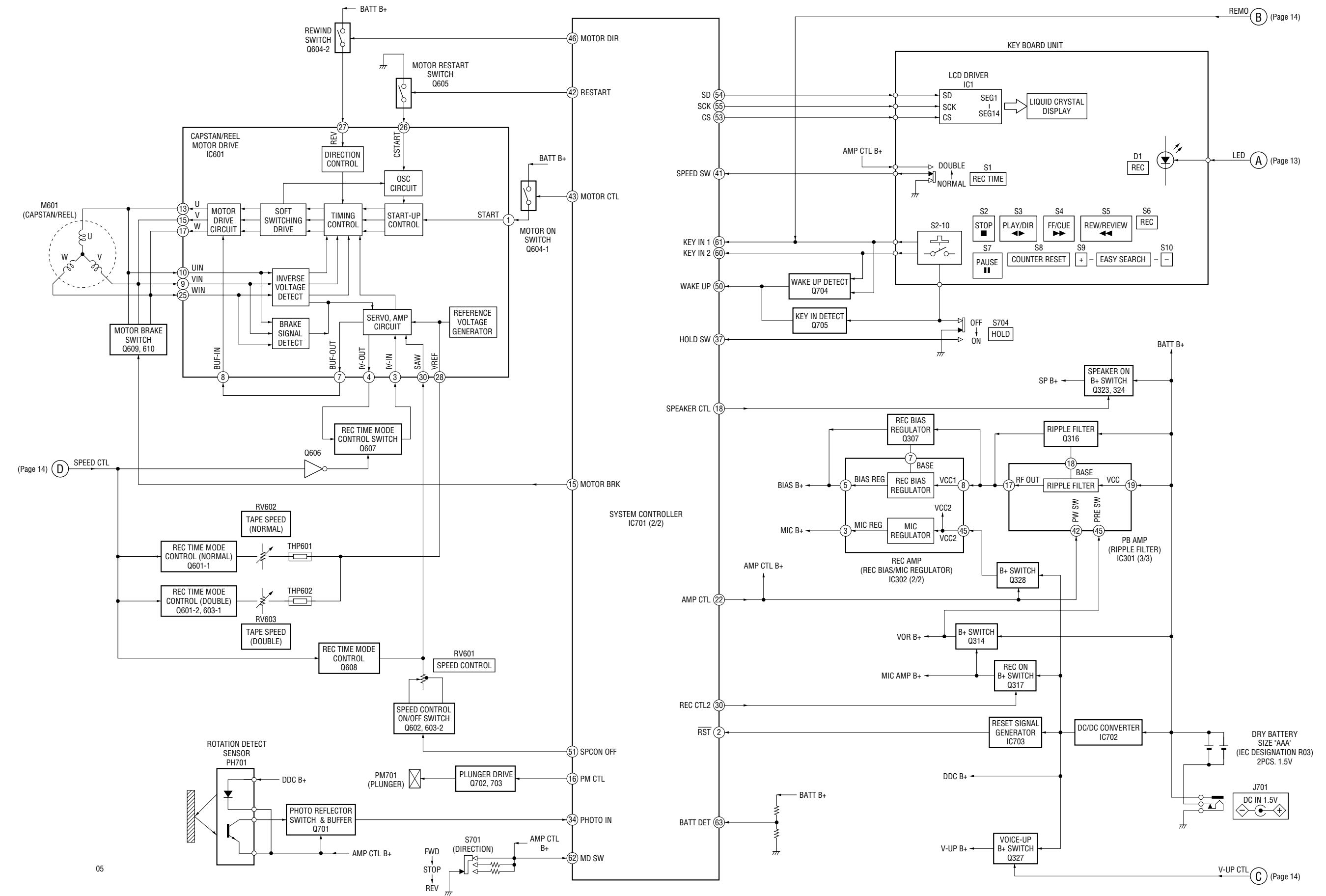
Specified Value: 1,485 to 1,515 Hz

Adjustment Location:

– MAIN BOARD (Conductor Side) –



6-2. BLOCK DIAGRAM – MAIN Section –



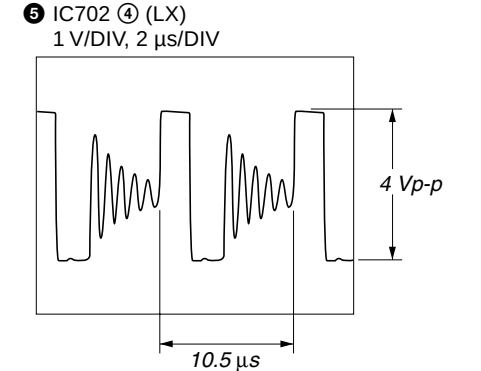
Note on Printed Wiring Boards:

-  : parts extracted from the component side.
-  : parts extracted from the conductor side.
-  : internal component.
-  : Pattern from the side which enables seeing.

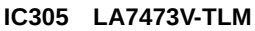
(The other layers' patterns are not indicated.)

- MAIN board is multi-layer printed board.
However, the patterns of intermediate-layer have not been included in the diagram.





IC301 TA2123AF (EL)



The diagram illustrates a sophisticated radio receiver circuit with the following key components and connections:

- System Control:** A central block managing the receiver's operation, connected to various control lines (REC MUT, MIC/RADIO, FWD/REV, REC/PLAY, CONF, CONF A, CONF B, CONF C, CONF D, CONF E).
- Regulators:**
 - MIC REG:** Microphone biasing regulator.
 - REC BIAS REG:** Recording biasing regulator.
 - MIC REGULATOR:** General microphone regulation.
- Input/Output Stages:**
 - MIC 1, MIC 2:** Microphone inputs with ALC (Automatic Level Control) feedback.
 - RADIO 1, RADIO 2:** Radio signal inputs with ALC feedback.
 - REC 1, REC 2:** Recording inputs with ALC feedback.
 - PLAY/REC (FWD/REV):** Playback and recording control lines.
- Power and Reference:**
 - VCC2:** Main power supply.
 - VREF:** Reference voltage for the system.
- Control and Monitoring:**
 - DET (Detector):** Detects signal presence.
 - MIC MONITOR 1, MIC MONITOR 2:** Monitor microphone levels.
 - REC MONITOR 1, REC MONITOR 2:** Monitor recording levels.

The diagram is labeled with numerous pins and components, and includes a legend for pin numbers at the bottom:

1 NC 2 MIC REG REF 3 MIC REG 4 BIAS REG REF 5 BIAS REG 6 OSC 7 BASE 8 VCC1 9 VCCRF 10 ALC 11 GND 12 NC 13 DET 14 REC IN2 15 REC IN1 16 MIC OUT1 17 MIC OUT2 18 RADIO IN2 19 NF2 20 MIC IN2 21 RADIO IN1 22 NF1 23 MIC IN1 24 GND 25 CONF E 26 27 28 CONF D 29 CONF C 30 CONF B 31 CONF A 32 REC/PLAY 33 FWD/REV 34 MIC/RADIO 35 REC MUT 36 NC 37 38 VREF 39 VREF 40 GND 41 REC1 REV 42 REC2 REV 43 REC2 FWD 44 REC1 FWD 45 VCC2 46 MIC MONITOR 1 47 MIC MONITOR 2 48 NC

The block diagram illustrates the internal architecture of the motor control system, connecting various functional blocks to specific pins:

- Pins 1-15 (Bottom):** START, V-IN, IV-IN, IV-OUT, VOC, COM, BUFF IN, VIN, UIN, UB, PGND, U, V.
- Pins 16-27 (Top):** PGND, W, NC, PGND, GND, VB, CS0FT1, CS0FT2, REV, VREF, PULSE, SAW.
- Functional Blocks:** THERMAL SHUT DOWN, REFERENCE VOLTAGE GENERATOR, SERVO AMP, DIRECTION CONTROL, OSC, START-UP CONTROL, TIMING CONTROL, SOFT SWITCHING DRIVE, OUTPUT DRIVE BUFFER, EXOR, INVERSE VOLTAGE DETECT, BRAKE SIGNAL DETECT.
- Interconnections:** The diagram shows complex signal paths, including feedback loops from the output back to the timing and servo amp blocks, and control signals from external inputs like thermal shutdown and reference voltage generator.

[illegible]

- MAIN BOARD IC701 MB-89133LPFV-G-570BND (SYSTEM CONTROLLER)

Pin No.	Pin Name	I/O	Description
1	AVCC	—	Power supply terminal (+3V) (for A/D converter)
2	RST	I	System reset signal input from the reset signal generator (IC703) “L”: reset
3, 4	MODE2, MODE1	I	Test input terminal Normally: fixed at “L”
5	X0	I	Main system clock input terminal (4MHz)
6, 7	NC	—	Not used (open)
8	X1	O	Main system clock output terminal (4MHz)
9	VCC	—	Power supply terminal (+3V)
10	X0A	I	Sub system clock input terminal (32.768kHz) Not used (fixed at “L”)
11, 12	NC	—	Not used (open)
13	X1A	O	Sub system clock output terminal (32.768kHz) Not used (open)
14	CUE/REVIEW	O	When cue/review, audio attenuate signal output terminal “H”: cue/review (normally output “L”)
15	MOTOR BRK	O	Motor brake on/off signal output to the capstan/reel motor driver (IC601) “H”: brake on (normally output “L”)
16	PM CTL	O	Plunger (PM701) drive signal output terminal “H”: plunger on
17	NC	—	Not used (open)
18	SPEAKER CTL	O	Power on/off control signal output to the speaker output circuit “L”: used headphone, “H”: speaker output
19	VOICE UP CTL	O	Power on/off control signal output to the voice-up circuit “L”: voice-up on, “H”: voice-up off
20	MUTE CTL	O	Muting signal output to the PB amp (IC301) “L”: mute on, “H”: mute off
21	NC	—	Not used (open)
22	AMP CTL	O	Power output terminal (+3V)
23	F/R CTL (PLAY)	O	FWD/REV selection signal output to the PB amp (IC301) and head switching circuit “L”: FWD direction (PB) /REV direction (REC), “H”: REV direction (PB) /FWD direction (REC)
24	HP DET	I	Detection signal input of headphones on/off “H”: headphones on
25	VSS	—	Ground terminal
26	REC MUTE	O	Muting signal output to the REC amp (IC302) “L”: muting on, “H”: muting off
27	REC CTL	O	REC on/off control signal output to the REC amp (IC302) “L”: recording
28	NC	—	Not used (open)
29	F/R CTL (REC)	O	FWD/REV selection signal output to the REC amp (IC302) “L”: REV direction, “H”: FWD direction
30	REC CTL2	O	Power on/off control signal output to the recording circuit “L”: recording
31	LED OFF	O	The signal output to the goes off LED circuit for REC LED (D1) Output “H” only when recording is paused “H”: goes off the LED
32	NC	—	Not used (open)
33	VOR IN	I	VOR REC pausing signal input from the VOR detector (IC306) “L”: record is paused
34	PHOTO IN	I	Rotation detect signal input of the capstan/reel motor (M601)
35	R TUME	I	REC protect detect (REV) switch (S702-1) input terminal “L”: no protection, “H”: protected
36	F TUME	I	REC protect detect (FWD) switch (S703-1) input terminal “L”: no protection, “H”: protected
37	HOLD SW	I	Hold detect input from the HOLD switch (S704) “L”: hold, “H”: hold off
38, 39	NC	—	Not used (open)
40	VOR SW	I	VOR switch (S301) input terminal “L”: VOR off, “H”: VOR on

Pin No.	Pin Name	I/O	Description
41	SPEED SW	I	Recording time mode selection signal input from the REC TIME switch (S1) “L”: normal, “H”: double (1/2 speed)
42	RESTART	O	Motor restart control signal output to the capstan/reel motor driver (IC601) “H”: fast forward/rewinding
43	MOTOR CTL	O	Motor start control signal output to the capstan/reel motor driver (IC601) “L”: the motor is rotating, “H”: the motor is stopped
44, 45	NC	—	Not used (open)
46	MOTOR DIR	O	Motor direction control signal output to the capstan/reel motor driver (IC601) Output “L” only when rewinding “L”: counterclockwise, “H”: clockwise
47	BEEP	O	BEEP sound signal output to the PB amp (IC301)
48	TAPE SW	I	Cassette tape detect switch (S702-2) input terminal “L”: cassette detected, “H”: no cassette
49	NC	—	Not used (open)
50	WAKE UP	I	Input of acknowledge signal for the key entry Acknowledge signal is input to accept key entry in the power off status or hold the key status “H”: key is pressed
51	SPCON OFF	O	Variable/not variable switching signal output to the playback speed control circuit Output “H” only when playback “H”: playback speed is variable
52	SPEED CTL	O	Switching signal of recording time mode output to the speed control circuit for motor rotation and recording bias control circuit “L”: double (1/2 speed), “H”: normal
53	CS	O	Chip select signal output to the LCD driver (IC1)
54	SD	O	Serial data output to the LCD driver (IC1)
55	SCK	O	Serial data transfer clock signal output to the LCD driver (IC1)
56	NC	—	Not used (open)
57	AVSS	—	Ground terminal (for A/D converter)
58	NC	—	Not used (open)
59	AVR	I	Reference voltage (+3V) input for the A/D converter
60	KEY IN2	I	Key input terminal (A/D input) S8 to S10 (COUNTER RESET, EASY SERCH +/-)
61	KEY IN1	I	Key input terminal (A/D input) S2 to S7 (STOP■, PLAY/DIR◀▶, FF/CUE▶▶, REW/REVIEW◀◀, REC, PAUSE■)
62	MD SW	I	A tape rotating direction detect signal input from the direction switch (S701) (A/D input) “L”: FWD direction, center voltage: REV direction, “H”: stop
63	BATT DET	I	Battery voltage detection signal input (A/D input)
64	NC	—	Not used (open)

SECTION 7

EXPLODED VIEWS

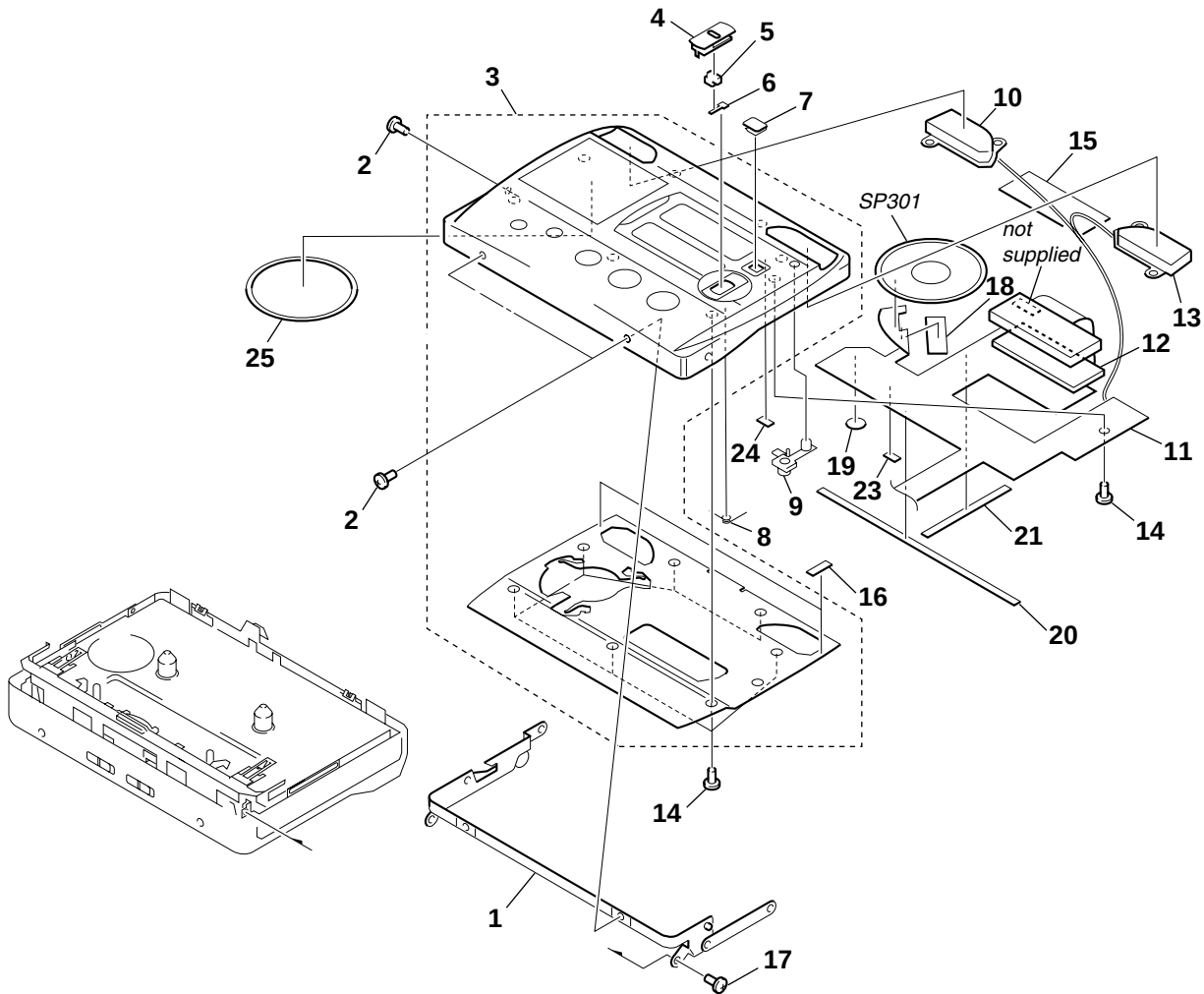
NOTE:

- XX and -X mean standardized parts, so they may have some difference from the original one.
- Color Indication of Appearance Parts
Example:
KNOB, BALANCE (WHITE) . . . (RED)

Parts Color Cabinet's Color

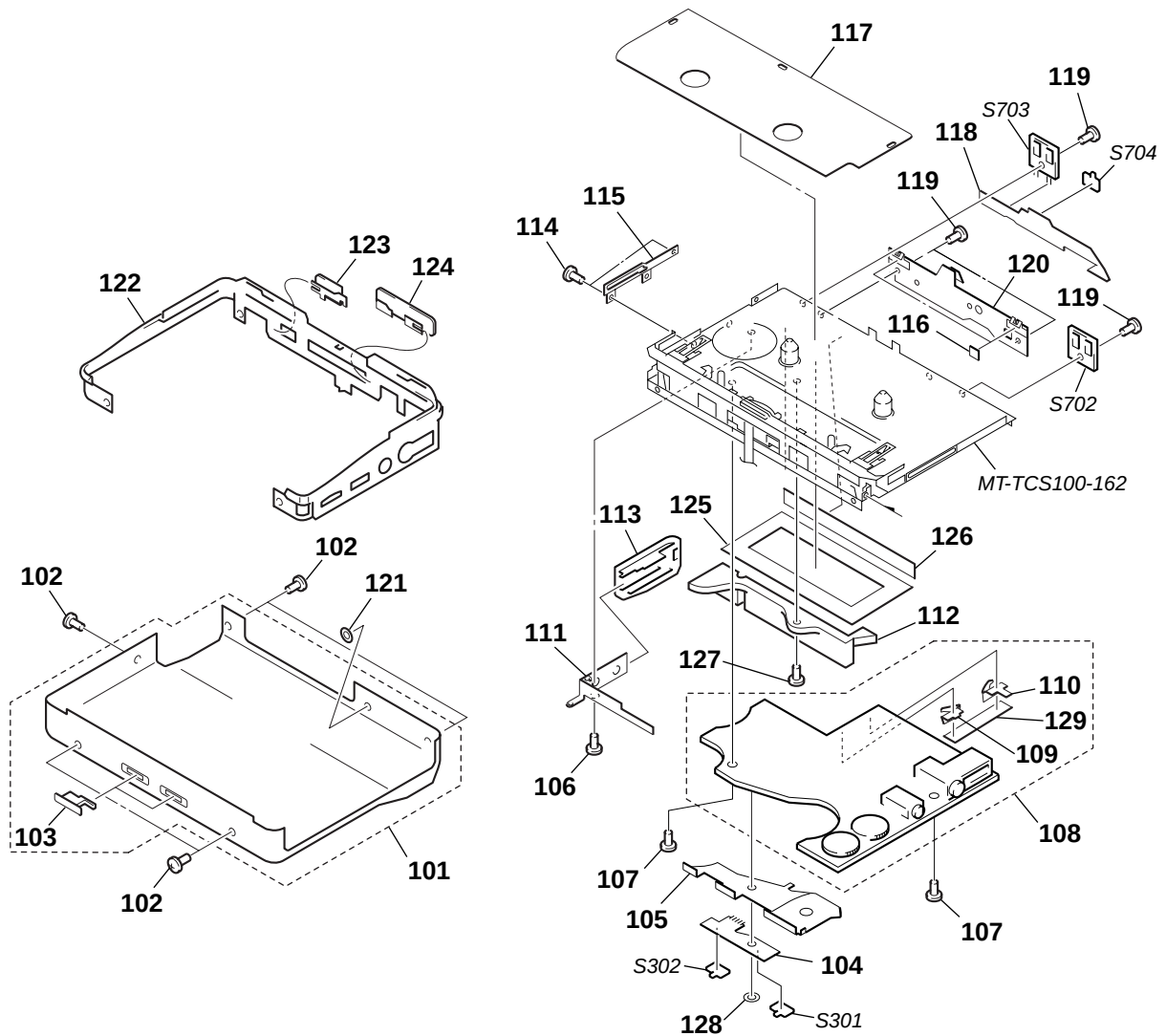
- Items marked “*” are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Accessories and packing materials are given in the last of the electrical parts list.

(1) COVER SECTION



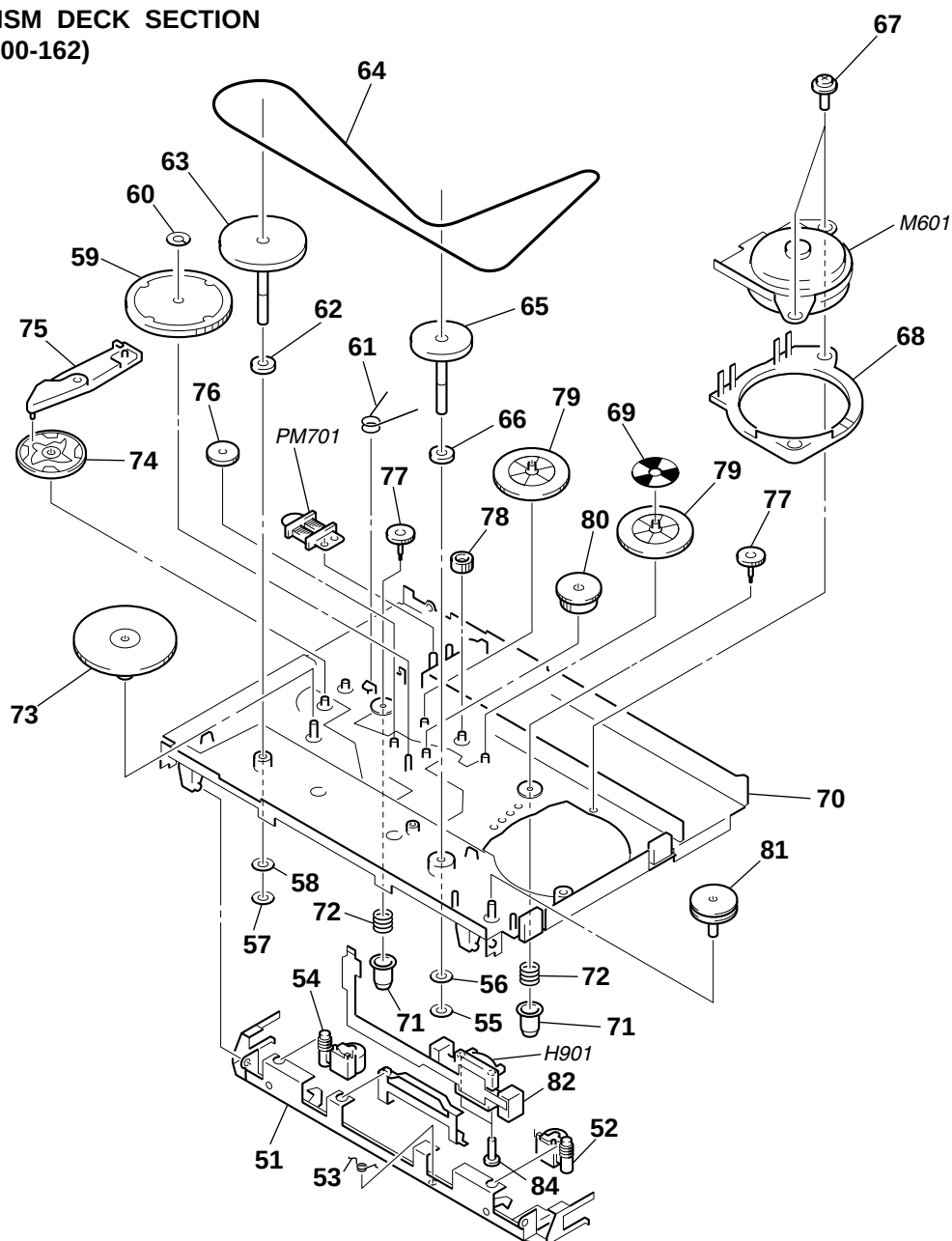
<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Remark</u>	<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Remark</u>
1	X-3376-279-1	BRACKET (CASSETTE) ASSY		14	3-375-114-41	SCREW	
2	3-704-197-11	SCREW (M1.4X2.0), LOCKING		15	4-017-441-01	CUSHION (B)	
3	X-3379-175-1	LID ASSY, CASSETTE		16	3-047-911-01	CUSHION (CASSETTE LID)	
4	3-044-961-01	KNOB (REC)		17	3-365-630-41	SCREW (M1.4)	
5	3-044-962-01	BUTTON (REC)		18	3-831-441-99	CUSHION	
6	3-044-963-01	SPRING (REC BUTTON), LEAF		19	3-831-441-99	CUSHION	
7	3-044-960-01	KNOB (REC-T)		20	3-047-820-01	SHEET (A)	
8	3-044-977-01	SPRING (REC), RETURN		21	3-047-821-01	SHEET (B)	
9	3-044-981-01	BUTTON (COUNTER RESET)		23	3-016-413-01	SHEET (SW)	
10	A-3052-185-A	MICROPHONE SUB ASSY (L)		24	3-328-483-11	SHEET	
11	1-418-745-11	KEY BOARD UNIT (INCLUDING D1,IC1, S1-10)		25	3-047-833-01	CUSHION (SP)	
12	3-044-979-01	CUSHION (LCD)		SP301	1-529-606-11	SPEAKER (3.6 cm)	
13	A-3052-184-A	MICROPHONE SUB ASSY (R)					

(2) MAIN SECTION



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
101	X-3378-651-1	CASE ASSY		119	3-366-892-01	SCREW (M1.4)	
102	3-704-197-21	SCREW (M1.4X2.5), LOCKING		120	X-3378-645-1	BRACKET (A) ASSY	
103	3-044-976-01	KNOB (VM)		121	3-010-287-01	COLLAR (DC IN)	
104	1-677-406-11	VOR FLEXIBLE BOARD		122	3-044-989-11	ORNAMENT, REEL	
105	3-044-992-01	BRACKET (SW)		123	3-044-991-01	KNOB (HOLD)	
106	3-375-114-41	SCREW		124	3-044-990-01	KNOB (OPEN)	
107	3-345-648-71	SCREW (M1.4), TOOTHED LOCK		125	3-044-953-01	SHEET, INSULATING (M)	
108	A-3021-321-A	MAIN BOARD, COMPLETE		126	3-044-954-01	SHEET, INSULATING (MS)	
109	3-919-622-01	TERMINAL BOARD		127	3-704-197-91	SCREW (M 1.4 X 1.8), LOCKING	
110	3-919-621-01	TERMINAL BOARD		128	3-029-276-01	WASHER (STOPPER R)	
111	X-3378-644-1	TERMINAL BOARD ASSY, BATTERY		129	3-048-215-01	CUSHION (N)	
112	3-044-993-01	GUIDE, BATTERY		S301	1-572-922-11	SWITCH, SLIDE (VOR)	
113	3-044-978-01	LID, BATTERY CASE		S302	1-572-922-11	SWITCH, SLIDE (MIC SENS)	
114	3-366-892-11	SCREW (M1.4X1.4)		S702	1-692-101-21	SWITCH, LEAF (REC PROTECT DETECT (REV), TAPE DETECT)	
115	3-029-217-01	LEVER (B), LOCK		S703	1-692-100-11	SWITCH, LEAF (REC PROTECT DETECT (FWD), ATS)	
116	3-328-483-11	SHEET		S704	1-572-922-11	SWITCH, SLIDE (HOLD)	
117	3-044-952-11	COVER, MD					
118	1-677-407-11	ATS FLEXIBLE BOARD					

(3) MECHANISM DECK SECTION
(MT-TCS100-162)



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
51	X-3376-550-1	HOLDER (F) ASSY		70	X-3378-438-1	CHASSIS (T) ASSY	
52	X-3379-016-1	PINCH LEVER (RT) ASSY		71	3-010-274-02	TABLE, REEL	
53	3-029-271-01	SPRING (HD)		72	3-010-954-01	SPRING (BT), COMPRESSION	
54	X-3377-227-1	LEVER (N) ASSY, PINCH		73	3-046-863-01	GEAR (Y)	
55	3-029-276-01	WASHER (STOPPER R)		74	3-029-285-01	GEAR, CAM	
56	3-029-289-01	WASHER		75	3-029-284-01	LEVER, TRIGGER	
57	3-029-275-01	WASHER (STOPPER N)		76	3-029-281-01	GEAR, IDLER (B)	
58	3-029-278-01	WASHER		77	3-010-273-02	GEAR (REEL)	
59	X-3376-813-1	CLUTCH ASSY (F)		78	3-029-273-01	GEAR (FR)	
60	3-932-724-21	WASHER		79	3-029-283-01	GEAR, IDLER (A)	
61	3-029-287-01	SPRING (TG), TORSION		80	3-029-286-01	GEAR (NR)	
62	3-386-694-01	WASHER		81	3-029-288-01	PULLEY, REVERSE	
63	X-3378-628-1	WHEEL (N) ASSY, FLY		82	3-032-575-01	LEVER, HEAD	
64	3-032-576-01	BELT		84	3-042-480-01	SCREW (M1.4)	
65	X-3378-629-1	WHEEL (R2) ASSY, FLY		H901	1-500-643-11	HEAD, MAGNETIC (REC/PB/ERASE)	
66	3-007-428-01	WASHER (R)		M601	1-763-458-11	MOTOR, DC (WITH PULLEY) (CAPSTAN/REEL)	
67	3-029-765-01	SCREW (M1.4), TOOTHED LOCK		PM701	1-454-674-31	SOLENOID, PLUNGER	
68	3-044-748-01	RETAINER (T), MOTOR					
69	3-007-433-01	SHEET (N), REFLECTION					

SECTION 8 ELECTRICAL PARTS LIST

MAIN

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
All resistors are in ohms.
METAL: Metal-film resistor.
METAL OXIDE: Metal oxide-film resistor.
F: nonflammable

- Items marked “*” are not stocked since they are seldom required for routine service.
Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
In each case, u: μ , for example:
uA. . : μ A. . uPA. . : μ PA. .
uPB. . : μ PB. . uPC. . : μ PC. .
uPD. . : μ PD. .
- CAPACITORS
uF: μ F
• COILS
uH: μ H

Ref. No.	Part No.	Description	Remark			Ref. No.	Part No.	Description	Remark		
	A-3021-321-A	MAIN BOARD, COMPLETE *****				C207	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
						C208	1-164-677-11	CERAMIC CHIP	0.033uF	10%	16V
						C209	1-164-677-11	CERAMIC CHIP	0.033uF	10%	16V
	3-919-621-01	TERMINAL BOARD				C210	1-162-969-11	CERAMIC CHIP	6800PF	10%	25V
	3-919-622-01	TERMINAL BOARD				C211	1-115-467-11	CERAMIC CHIP	0.22uF	10%	10V
		< CAPACITOR >				C212	1-162-967-11	CERAMIC CHIP	0.0033uF	10%	50V
C101	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V	C213	1-162-967-11	CERAMIC CHIP	0.0033uF	10%	50V
C102	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	C214	1-115-156-11	CERAMIC CHIP	1uF		10V
C103	1-115-156-11	CERAMIC CHIP	1uF		10V	C215	1-115-156-11	CERAMIC CHIP	1uF		10V
C104	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V	C216	1-115-156-11	CERAMIC CHIP	1uF		10V
C105	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	C217	1-135-151-21	TANTALUM CHIP	4.7uF	20%	4V
C106	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V	C218	1-115-156-11	CERAMIC CHIP	1uF		10V
C107	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	C219	1-115-156-11	CERAMIC CHIP	1uF		10V
C108	1-164-677-11	CERAMIC CHIP	0.033uF	10%	16V	C220	1-104-847-11	TANTALUM CHIP	22uF	20%	4V
C109	1-164-677-11	CERAMIC CHIP	0.033uF	10%	16V	C221	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C110	1-162-969-11	CERAMIC CHIP	6800PF	10%	25V	C222	1-164-677-11	CERAMIC CHIP	0.033uF	10%	16V
C111	1-115-467-11	CERAMIC CHIP	0.22uF	10%	10V	C223	1-115-156-11	CERAMIC CHIP	1uF		10V
C112	1-162-967-11	CERAMIC CHIP	0.0033uF	10%	50V	C224	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C113	1-162-967-11	CERAMIC CHIP	0.0033uF	10%	50V	C225	1-115-156-11	CERAMIC CHIP	1uF		10V
C114	1-115-156-11	CERAMIC CHIP	1uF		10V	C226	1-115-156-11	CERAMIC CHIP	1uF		10V
C115	1-115-156-11	CERAMIC CHIP	1uF		10V	C227	1-164-245-11	CERAMIC CHIP	0.015uF	10%	25V
C116	1-115-156-11	CERAMIC CHIP	1uF		10V	C228	1-115-156-11	CERAMIC CHIP	1uF		10V
C117	1-135-151-21	TANTALUM CHIP	4.7uF	20%	4V	C229	1-115-156-11	CERAMIC CHIP	1uF		10V
C118	1-115-156-11	CERAMIC CHIP	1uF		10V	C230	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C119	1-115-156-11	CERAMIC CHIP	1uF		10V	C231	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C120	1-104-847-11	TANTALUM CHIP	22uF	20%	4V	C301	1-135-259-11	TANTALUM CHIP	10uF	20%	6.3V
C121	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V	C302	1-115-156-11	CERAMIC CHIP	1uF		10V
C122	1-164-677-11	CERAMIC CHIP	0.033uF	10%	16V	C303	1-135-149-21	TANTALUM CHIP	2.2uF	20%	10V
C123	1-115-156-11	CERAMIC CHIP	1uF		10V	C304	1-125-837-11	CERAMIC CHIP	1uF	10%	6.3V
C124	1-164-156-11	CERAMIC CHIP	0.1uF		25V	C305	1-135-337-11	TANTALUM CHIP	1uF	20%	6.3V
C125	1-115-156-11	CERAMIC CHIP	1uF		10V	C306	1-165-128-11	CERAMIC CHIP	0.22uF		16V
C126	1-115-156-11	CERAMIC CHIP	1uF		10V	C307	1-115-156-11	CERAMIC CHIP	1uF		10V
C127	1-164-245-11	CERAMIC CHIP	0.015uF	10%	25V	C308	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C128	1-115-156-11	CERAMIC CHIP	1uF		10V	C309	1-104-847-11	TANTALUM CHIP	22uF	20%	4V
C129	1-115-156-11	CERAMIC CHIP	1uF		10V	C310	1-164-690-11	CERAMIC CHIP	0.0022uF	5%	50V
C130	1-164-156-11	CERAMIC CHIP	0.1uF		25V	C311	1-115-156-11	CERAMIC CHIP	1uF		10V
C131	1-164-156-11	CERAMIC CHIP	0.1uF		25V	C312	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C201	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V	C313	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C202	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	C314	1-119-663-11	TANTALUM CHIP	47uF	20%	2.5V
C203	1-115-156-11	CERAMIC CHIP	1uF		10V	C315	1-119-663-11	TANTALUM CHIP	47uF	20%	2.5V
C204	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V	C316	1-135-337-11	TANTALUM CHIP	1uF	20%	6.3V
C205	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	C317	1-135-151-21	TANTALUM CHIP	4.7uF	20%	4V
C206	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V	C318	1-135-151-21	TANTALUM CHIP	4.7uF	20%	4V

MAIN

Ref. No.	Part No.	Description				Remark	Ref. No.	Part No.	Description				Remark
C319	1-135-337-11	TANTALUM CHIP	1uF	20%	6.3V		D704	8-719-422-37	DIODE	MA8051			
C320	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V		D705	8-719-422-37	DIODE	MA8051			
C321	1-110-569-11	TANTALUM CHIP	47uF	20%	4V								
C322	1-135-151-21	TANTALUM CHIP	4.7uF	20%	4V				< FERRITE BEAD >				
C323	1-109-930-11	TANTALUM CHIP	220uF	20%	2.5V								
							FB101	1-414-760-21	EMI FERRITE (SMD)				
C324	1-104-847-11	TANTALUM CHIP	22uF	20%	4V		FB102	1-414-760-21	EMI FERRITE (SMD)				
C325	1-117-863-11	CERAMIC CHIP	0.47uF	10%	6.3V		FB201	1-414-760-21	EMI FERRITE (SMD)				
C326	1-117-863-11	CERAMIC CHIP	0.47uF	10%	6.3V		FB202	1-414-760-21	EMI FERRITE (SMD)				
C327	1-164-677-11	CERAMIC CHIP	0.033uF	10%	16V		FB301	1-414-760-21	EMI FERRITE (SMD)				
C328	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V								
							FB302	1-414-760-21	EMI FERRITE (SMD)				
C329	1-104-847-11	TANTALUM CHIP	22uF	20%	4V		FB701	1-414-760-21	EMI FERRITE (SMD)				
C330	1-135-201-11	TANTALUM CHIP	10uF	20%	4V								
C331	1-164-156-11	CERAMIC CHIP	0.1uF		25V				< IC >				
C332	1-164-156-11	CERAMIC CHIP	0.1uF		25V								
C333	1-164-156-11	CERAMIC CHIP	0.1uF		25V		IC301	8-759-579-12	IC	TA2123AF (EL)			
							IC302	8-759-428-23	IC	LA3235W			
C334	1-164-156-11	CERAMIC CHIP	0.1uF		25V		IC303	8-759-289-74	IC	NJM2076M (TE2)			
C335	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V		IC304	8-759-559-89	IC	NJU7015R-TE2			
C336	1-164-156-11	CERAMIC CHIP	0.1uF		25V		IC305	8-759-380-80	IC	LA7473V-TLM			
C337	1-164-156-11	CERAMIC CHIP	0.1uF		25V								
C338	1-115-156-11	CERAMIC CHIP	1uF		10V		IC306	8-759-701-51	IC	NJM2072M			
							IC601	8-759-996-13	IC	TLP326ADB			
C339	1-115-156-11	CERAMIC CHIP	1uF		10V		IC701	8-759-677-70	IC	MB-89133LPFV-G-570BND			
C340	1-164-156-11	CERAMIC CHIP	0.1uF		25V		IC702	8-759-661-39	IC	XC6371C301PR			
C601	1-117-863-11	CERAMIC CHIP	0.47uF	10%	6.3V		IC703	8-759-497-26	IC	XC61AN2502MR			
C602	1-135-337-11	TANTALUM CHIP	1uF	20%	6.3V								
C603	1-135-337-11	TANTALUM CHIP	1uF	20%	6.3V				< JACK >				
C604	1-115-467-11	CERAMIC CHIP	0.22uF	10%	10V		J301	1-794-154-21	JACK (㊤)				
C605	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V		J302	1-794-084-11	JACK (MIC)				
C606	1-135-337-11	TANTALUM CHIP	1uF	20%	6.3V		J701	1-785-383-11	JACK, DC (POLARITY UNIFIED TYPE)				(DC IN 1.5V)
C607	1-164-492-11	CERAMIC CHIP	0.15uF	10%	16V								
C608	1-110-563-11	CERAMIC CHIP	0.068uF	10%	16V								
									< RESISTOR >				
C609	1-135-201-11	TANTALUM CHIP	10uF	20%	4V								
C610	1-164-156-11	CERAMIC CHIP	0.1uF		25V		JC301	1-216-864-11	METAL CHIP	0	5%	1/16W	
C611	1-164-156-11	CERAMIC CHIP	0.1uF		25V								
C612	1-164-156-11	CERAMIC CHIP	0.1uF		25V				< COIL >				
C701	1-164-505-11	CERAMIC CHIP	2.2uF		16V								
							L701	1-469-644-21	INDUCTOR		100uH		
C702	1-115-156-11	CERAMIC CHIP	1uF		10V								
C703	1-119-750-11	TANTALUM CHIP	22uF	20%	6.3V				< PHOTO INTERRUPTER >				
C704	1-104-852-11	TANTALUM CHIP	22uF	20%	10V								
C705	1-164-505-11	CERAMIC CHIP	2.2uF		16V		PH701	8-749-014-43	PHOTO	PR-20-T			
C706	1-115-416-11	CERAMIC CHIP	1000PF	5%	25V								
									< TRANSISTOR >				
C707	1-126-236-11	ELECT	330uF	20%	2V		Q301	8-729-038-05	FET		HN1K02FU (T5RSONY)		
C708	1-115-416-11	CERAMIC CHIP	1000PF	5%	25V		Q302	8-729-038-05	FET		HN1K02FU (T5RSONY)		
C709	1-115-156-11	CERAMIC CHIP	1uF		10V		Q303	8-729-426-42	TRANSISTOR		XP1217-TXE		
C710	1-164-156-11	CERAMIC CHIP	0.1uF		25V		Q304	8-729-425-89	TRANSISTOR		XP1115		
C711	1-115-156-11	CERAMIC CHIP	1uF		10V		Q305	8-729-425-89	TRANSISTOR		XP1115		
C712	1-164-156-11	CERAMIC CHIP	0.1uF		25V		Q306	8-729-422-39	TRANSISTOR		XN4404		
C713	1-115-416-11	CERAMIC CHIP	1000PF	5%	25V		Q307	8-729-800-71	TRANSISTOR		2SB815B7-TB		
CB301	1-127-678-21	CERAMIC CHIP	330PF		50V		Q308	8-729-037-78	TRANSISTOR		UN9217J- (TX).SO		
		< CONNECTOR >					Q309	8-729-141-75	TRANSISTOR		2SD596DV345		
* CN1	1-573-925-11	CONNECTOR, FFC/FPC (ZIF) 16P					Q310	8-729-028-27	FET		2SK2009 (TE85L)		
CN301	1-573-349-21	CONNECTOR, FFC/FPC 9P					Q311	8-729-028-27	FET		2SK2009 (TE85L)		
		< DIODE >					Q312	8-729-028-27	FET		2SK2009 (TE85L)		
							Q313	8-729-038-05	FET		HN1K02FU (T5RSONY)		
D301	8-719-422-37	DIODE	MA8051				Q314	8-729-037-75	TRANSISTOR		UN9214J- (TX).SO		
D701	8-719-073-01	DIODE	MA111- (K8).SO				Q315	8-729-028-27	FET		2SK2009 (TE85L)		
D702	8-719-072-70	DIODE	MA2ZD14001SO				Q316	8-729-800-71	TRANSISTOR		2SB815B7-TB		
D703	8-719-422-37	DIODE	MA8051				Q317	8-729-032-62	FET		2SJ347-TE85L		

Ref. No.	Part No.	Description	Remark			Ref. No.	Part No.	Description	Remark		
Q318	8-729-037-75	TRANSISTOR	UN9214J- (TX).SO			R126	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
Q319	8-729-427-72	TRANSISTOR	XP4501			R127	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
Q320	8-729-426-42	TRANSISTOR	XP1217-TXE			R128	1-216-845-11	METAL CHIP	100K	5%	1/16W
Q321	8-729-030-31	TRANSISTOR	2SA1182-0 (TE85L)			R129	1-216-845-11	METAL CHIP	100K	5%	1/16W
Q322	8-729-030-31	TRANSISTOR	2SA1182-0 (TE85L)			R130	1-216-831-11	METAL CHIP	6.8K	5%	1/16W
Q323	8-729-800-71	TRANSISTOR	2SB815B7-TB			R131	1-216-821-11	METAL CHIP	1K	5%	1/16W
Q324	8-729-037-75	TRANSISTOR	UN9214J- (TX).SO			R132	1-216-857-11	METAL CHIP	1M	5%	1/16W
Q325	8-729-037-78	TRANSISTOR	UN9217J- (TX).SO			R133	1-216-845-11	METAL CHIP	100K	5%	1/16W
Q326	8-729-032-62	FET	2SJ347-TE85L			R134	1-216-835-11	METAL CHIP	15K	5%	1/16W
Q327	8-729-037-63	TRANSISTOR	UN9115J- (TX).SO			R135	1-216-849-11	METAL CHIP	220K	5%	1/16W
Q328	8-729-425-46	TRANSISTOR	XP4315-TXE			R136	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
Q329	8-729-427-74	TRANSISTOR	XP4601			R137	1-216-815-11	METAL CHIP	330	5%	1/16W
Q330	8-729-427-72	TRANSISTOR	XP4501			R138	1-216-845-11	METAL CHIP	100K	5%	1/16W
Q331	8-729-037-58	TRANSISTOR	UN9110J- (TX).SO			R201	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
Q332	8-729-037-58	TRANSISTOR	UN9110J- (TX).SO			R202	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
Q333	8-729-400-56	TRANSISTOR	2SD1328-T			R203	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
Q601	8-729-038-05	FET	HN1K02FU (T5RSONY)			R204	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
Q602	8-729-038-05	FET	HN1K02FU (T5RSONY)			R205	1-216-841-11	METAL CHIP	47K	5%	1/16W
Q603	8-729-425-89	TRANSISTOR	XP1115			R206	1-216-839-11	METAL CHIP	33K	5%	1/16W
Q604	8-729-425-89	TRANSISTOR	XP1115			R207	1-216-839-11	METAL CHIP	33K	5%	1/16W
Q605	8-729-037-75	TRANSISTOR	UN9214J- (TX).SO			R208	1-216-839-11	METAL CHIP	33K	5%	1/16W
Q606	8-729-037-78	TRANSISTOR	UN9217J- (TX).SO			R209	1-216-835-11	METAL CHIP	15K	5%	1/16W
Q607	8-729-047-68	FET	SSM3K03FE (TPL3)			R210	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
Q608	8-729-047-68	FET	SSM3K03FE (TPL3)			R211	1-216-835-11	METAL CHIP	15K	5%	1/16W
Q609	8-729-427-74	TRANSISTOR	XP4601			R212	1-216-835-11	METAL CHIP	15K	5%	1/16W
Q610	8-729-429-98	TRANSISTOR	XP1401			R213	1-216-833-11	RES-CHIP	10K	5%	1/16W
Q701	8-729-425-46	TRANSISTOR	XP4315-TXE			R214	1-216-833-11	RES-CHIP	10K	5%	1/16W
Q702	8-729-013-60	TRANSISTOR	RN1110-TE85L			R215	1-216-817-11	METAL CHIP	470	5%	1/16W
Q703	8-729-800-71	TRANSISTOR	2SB815B7-TB			R216	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
Q704	8-729-038-08	FET	HN1J02FU (T5RSONY)			R217	1-216-831-11	METAL CHIP	6.8K	5%	1/16W
Q705	8-729-037-52	TRANSISTOR	2SD2216J-QR (TX).SO			R218	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
< RESISTOR >						R219	1-216-821-11	METAL CHIP	1K	5%	1/16W
R101	1-216-825-11	METAL CHIP	2.2K	5%	1/16W	R220	1-216-839-11	METAL CHIP	33K	5%	1/16W
R102	1-216-829-11	METAL CHIP	4.7K	5%	1/16W	R221	1-216-811-11	METAL CHIP	150	5%	1/16W
R103	1-216-829-11	METAL CHIP	4.7K	5%	1/16W	R222	1-216-831-11	METAL CHIP	6.8K	5%	1/16W
R104	1-216-825-11	METAL CHIP	2.2K	5%	1/16W	R223	1-216-789-11	METAL CHIP	2.2	5%	1/16W
R105	1-216-841-11	METAL CHIP	47K	5%	1/16W	R224	1-216-849-11	METAL CHIP	220K	5%	1/16W
R106	1-216-839-11	METAL CHIP	33K	5%	1/16W	R225	1-216-823-11	METAL CHIP	1.5K	5%	1/16W
R107	1-216-839-11	METAL CHIP	33K	5%	1/16W	R226	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R108	1-216-839-11	METAL CHIP	33K	5%	1/16W	R227	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R109	1-216-835-11	METAL CHIP	15K	5%	1/16W	R228	1-216-845-11	METAL CHIP	100K	5%	1/16W
R110	1-216-825-11	METAL CHIP	2.2K	5%	1/16W	R229	1-216-845-11	METAL CHIP	100K	5%	1/16W
R111	1-216-835-11	METAL CHIP	15K	5%	1/16W	R230	1-216-831-11	METAL CHIP	6.8K	5%	1/16W
R112	1-216-835-11	METAL CHIP	15K	5%	1/16W	R231	1-216-821-11	METAL CHIP	1K	5%	1/16W
R113	1-216-833-11	RES-CHIP	10K	5%	1/16W	R232	1-216-857-11	METAL CHIP	1M	5%	1/16W
R114	1-216-833-11	RES-CHIP	10K	5%	1/16W	R233	1-216-845-11	METAL CHIP	100K	5%	1/16W
R115	1-216-817-11	METAL CHIP	470	5%	1/16W	R234	1-216-835-11	METAL CHIP	15K	5%	1/16W
R116	1-216-825-11	METAL CHIP	2.2K	5%	1/16W	R235	1-216-849-11	METAL CHIP	220K	5%	1/16W
R117	1-216-831-11	METAL CHIP	6.8K	5%	1/16W	R236	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R118	1-216-827-11	METAL CHIP	3.3K	5%	1/16W	R237	1-216-815-11	METAL CHIP	330	5%	1/16W
R119	1-216-821-11	METAL CHIP	1K	5%	1/16W	R238	1-216-845-11	METAL CHIP	100K	5%	1/16W
R120	1-216-839-11	METAL CHIP	33K	5%	1/16W	R301	1-216-817-11	METAL CHIP	470	5%	1/16W
R121	1-216-811-11	METAL CHIP	150	5%	1/16W	R302	1-216-817-11	METAL CHIP	470	5%	1/16W
R122	1-216-831-11	METAL CHIP	6.8K	5%	1/16W	R303	1-216-809-11	METAL CHIP	100	5%	1/16W
R123	1-216-789-11	METAL CHIP	2.2	5%	1/16W	R304	1-216-821-11	METAL CHIP	1K	5%	1/16W
R124	1-216-849-11	METAL CHIP	220K	5%	1/16W	R305	1-216-859-11	RES-CHIP	1.5M	5%	1/16W
R125	1-216-823-11	METAL CHIP	1.5K	5%	1/16W	R306	1-216-789-11	METAL CHIP	2.2	5%	1/16W

MAIN

Ref. No.	Part No.	Description			Remark	Ref. No.	Part No.	Description			Remark	
R307	1-216-827-11	METAL CHIP	3.3K	5%	1/16W	R701	1-216-823-11	METAL CHIP	1.5K	5%	1/16W	
R308	1-216-855-11	METAL CHIP	680K	5%	1/16W		R702	1-216-855-11	METAL CHIP	680K	5%	1/16W
R309	1-216-793-11	RES-CHIP	4.7	5%	1/16W		R703	1-216-849-11	METAL CHIP	220K	5%	1/16W
R310	1-216-809-11	METAL CHIP	100	5%	1/16W		R704	1-216-845-11	METAL CHIP	100K	5%	1/16W
R311	1-216-809-11	METAL CHIP	100	5%	1/16W		R705	1-216-841-11	METAL CHIP	47K	5%	1/16W
R312	1-216-853-11	METAL CHIP	470K	5%	1/16W	R706	1-216-849-11	METAL CHIP	220K	5%	1/16W	
R313	1-216-845-11	METAL CHIP	100K	5%	1/16W		R707	1-216-853-11	METAL CHIP	470K	5%	1/16W
R314	1-216-845-11	METAL CHIP	100K	5%	1/16W		R708	1-216-839-11	METAL CHIP	33K	5%	1/16W
R315	1-216-845-11	METAL CHIP	100K	5%	1/16W		R709	1-216-853-11	METAL CHIP	470K	5%	1/16W
R316	1-216-845-11	METAL CHIP	100K	5%	1/16W		R710	1-216-853-11	METAL CHIP	470K	5%	1/16W
R317	1-216-829-11	METAL CHIP	4.7K	5%	1/16W	R711	1-216-853-11	METAL CHIP	470K	5%	1/16W	
R318	1-216-793-11	METAL CHIP	4.7	5%	1/16W		R712	1-216-853-11	METAL CHIP	470K	5%	1/16W
R319	1-216-817-11	METAL CHIP	470	5%	1/16W		R713	1-216-853-11	METAL CHIP	470K	5%	1/16W
R320	1-218-446-11	METAL CHIP	1	5%	1/16W		R714	1-216-853-11	METAL CHIP	470K	5%	1/16W
R321	1-218-446-11	METAL CHIP	1	5%	1/16W		R715	1-216-821-11	METAL CHIP	1K	5%	1/16W
R322	1-216-833-11	RES-CHIP	10K	5%	1/16W	R716	1-218-895-11	METAL CHIP	100K	0.5%	1/16W	
R323	1-216-809-11	METAL CHIP	100	5%	1/16W		R717	1-218-907-11	METAL CHIP	330K	0.5%	1/16W
R324	1-216-845-11	METAL CHIP	100K	5%	1/16W		R718	1-216-853-11	METAL CHIP	470K	5%	1/16W
R325	1-216-853-11	METAL CHIP	470K	5%	1/16W		R719	1-216-845-11	METAL CHIP	100K	5%	1/16W
R326	1-216-827-11	METAL CHIP	3.3K	5%	1/16W		< VARIABLE RESISTOR >					
R327	1-216-821-11	METAL CHIP	1K	5%	1/16W	RV301	1-225-684-21	RES, VAR, CARBON 30K/30K (VOL)				
R328	1-216-839-11	METAL CHIP	33K	5%	1/16W	RV601	1-227-158-11	RES, VAR, CARBON 4.7K (SPEED CONTROL)				
R329	1-216-833-11	RES-CHIP	10K	5%	1/16W	RV602	1-241-593-11	RES, ADJ, CARBON 4.7K				
R330	1-216-817-11	METAL CHIP	470	5%	1/16W	RV603	1-225-870-21	RES, ADJ, CARBON 10K				
R331	1-216-853-11	METAL CHIP	470K	5%	1/16W	< SWITCH >						
R332	1-216-845-11	METAL CHIP	100K	5%	1/16W	S701	1-771-475-21	SWITCH, SLIDE (DIRECTION)				
R333	1-216-837-11	METAL CHIP	22K	5%	1/16W	< TRANSFORMER >						
R334	1-216-833-11	RES-CHIP	10K	5%	1/16W	T301	1-429-374-11	TRANSFORMER, BIAS OSCILLATION				
R335	1-216-845-11	METAL CHIP	100K	5%	1/16W	< THERMISTOR (POSITIVE) >						
R336	1-216-821-11	METAL CHIP	1K	5%	1/16W	THP601	1-803-950-21	THERMISTOR, POSITIVE				
R337	1-216-817-11	METAL CHIP	470	5%	1/16W	THP602	1-810-722-11	THERMISTOR, POSITIVE				
R338	1-216-821-11	METAL CHIP	1K	5%	1/16W	< VIBRATOR >						
R339	1-216-853-11	METAL CHIP	470K	5%	1/16W	X701	1-767-289-11	VIBRATOR, CERAMIC (4MHz)				
R340	1-216-833-11	RES-CHIP	10K	5%	1/16W	*****						
R341	1-216-833-11	RES-CHIP	10K	5%	1/16W	MISCELLANEOUS						
R342	1-216-857-11	METAL CHIP	1M	5%	1/16W	*****						
R343	1-216-857-11	METAL CHIP	1M	5%	1/16W	11	1-418-745-11	KEY BOARD UNIT (INCLUDING D1, IC1, S1-10)				
R346	1-216-821-11	METAL CHIP	1K	5%	1/16W	104	1-677-406-11	VOR FLEXIBLE BOARD				
R347	1-216-845-11	METAL CHIP	100K	5%	1/16W	118	1-677-407-11	ATS FLEXIBLE BOARD				
R601	1-216-793-11	RES-CHIP	4.7	5%	1/16W	H901	1-500-643-11	HEAD, MAGNETIC (REC/PB/ERASE)				
R602	1-216-825-11	METAL CHIP	2.2K	5%	1/16W	M601	1-763-458-11	MOTOR, DC (WITH PULLEY) (CAPSTAN/REEL)				
R603	1-216-833-11	RES-CHIP	10K	5%	1/16W	PM701	1-454-674-31	SOLENOID, PLUNGER				
R604	1-216-839-11	METAL CHIP	33K	5%	1/16W	S301	1-572-922-11	SWITCH, SLIDE (VOR)				
R605	1-216-853-11	METAL CHIP	470K	5%	1/16W	S302	1-572-922-11	SWITCH, SLIDE (MIC SENS)				
R606	1-216-845-11	METAL CHIP	100K	5%	1/16W	S702	1-692-101-21	SWITCH, LEAF				
R607	1-216-845-11	METAL CHIP	100K	5%	1/16W	S703	1-692-100-11	(REC PROTECT DETECT (REV), TAPE DETECT)				
R608	1-216-853-11	METAL CHIP	470K	5%	1/16W			(REC PROTECT DETECT (FWD), ATS)				
R609	1-216-853-11	METAL CHIP	470K	5%	1/16W	S704	1-572-922-11	SWITCH, SLIDE (HOLD)				
R610	1-216-853-11	METAL CHIP	470K	5%	1/16W	SP301	1-529-606-11	SPEAKER (3.6cm)				
R611	1-216-853-11	METAL CHIP	470K	5%	1/16W	*****						
R614	1-216-845-11	METAL CHIP	100K	5%	1/16W							
R615	1-216-837-11	METAL CHIP	22K	5%	1/16W							
R616	1-216-839-11	METAL CHIP	33K	5%	1/16W							
R617	1-216-831-11	METAL CHIP	6.8K	5%	1/16W							
R618	1-216-817-11	METAL CHIP	470	5%	1/16W							
R619	1-216-809-11	METAL CHIP	100	5%	1/16W							
R620	1-216-809-11	METAL CHIP	100	5%	1/16W							
R621	1-216-809-11	METAL CHIP	100	5%	1/16W							

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Remark</u>
ACCESSORIES & PACKING MATERIALS			

*	1-418-916-11	REMOTE CONTROL UNIT (RM-TCS1)	
	2-283-326-01	LABEL, CAUTION (Tourist)	
	3-042-996-01	MANUAL, INSTRUCTION (Tourist) (JAPANESE)	
	3-042-996-11	MANUAL, INSTRUCTION (US, AEP, Tourist)	
		(ENGLISH, SPANISH)	
	3-042-996-21	MANUAL, INSTRUCTION (AEP) (FRENCH)	
	3-042-996-31	MANUAL, INSTRUCTION (AEP)	
		(GERMAN, DUTCH)	
	3-042-996-41	MANUAL, INSTRUCTION (AEP)	
		(PORTUGUESE, ITALIAN)	
	3-042-996-51	MANUAL, INSTRUCTION (Tourist)	
		(RUSSIAN, KOREAN)	
	3-042-996-61	MANUAL, INSTRUCTION (Tourist) (CHINESE)	
	3-044-622-01	POUCH, CARRYING	
	3-349-265-01	STRAP, HAND	
	8-953-304-90	RECEIVER MDR-E805SP (AEP, Tourist)	
	8-953-733-90	HEADPHONE MDR-W034SP (US)	

REVISION HISTORY

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