

TCM-4050

SERVICE MANUAL

AEP Model
UK Model
E Model



Model Name Using Similar Mechanism	NEW
Tape Transport Mechanism Type	MT-4050

SPECIFICATIONS

Input
MIC MIX: monaural minijack

Power requirements
6 V DC --- , R14 x 4

Power consumption
2.5 W

Battery life
Sony alkaline AM2 (N): approx. 7 h
Sony SUM-2 (NS): approx. 3.5 h

Dimensions
Approx. 393 x 178 x 154 mm (w/h/d)
(15 1/2 x 7 1/8 x 6 1/8 inches) incl. projecting parts and controls

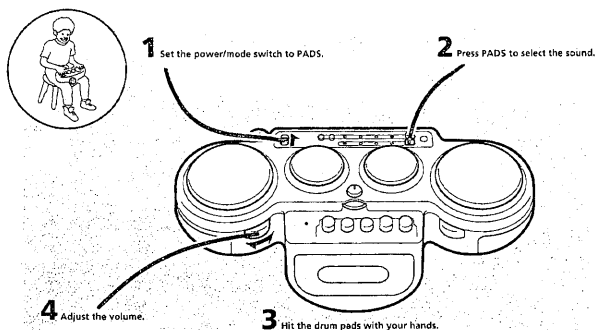
Mass
Approx. 1.5 kg (3 lb. 6 oz.) not incl. batteries

Supplied accessory
Microphone (1)

Design and specifications subject to change without notice.

SECTION 1 GENERAL

Making sound with the drum pads



Adjusting the volume
Use the VOL control to adjust the overall volume. Use the MIC/PADS VOL control to adjust the volume of the microphone and drum pads without changing the tape volume.

Set the power/mode switch to OFF after playing.

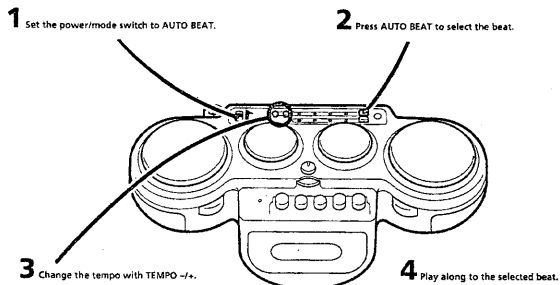
Playing the DEMO beat

- 1 Set the power/mode switch to PADS or AUTO BEAT.
- 2 Press DEMO.

To stop the demo sound, press DEMO again.

CASSETTE-CORDER
SONY®

Playing along to the Auto beat

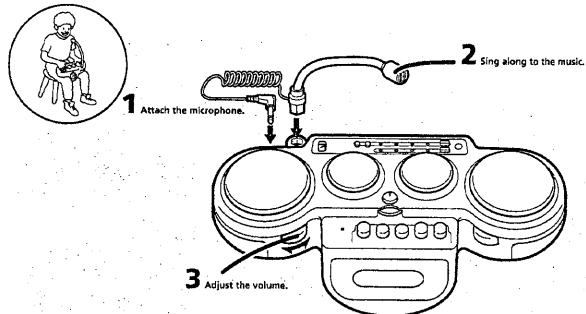


Note
The tempo can be changed in 16 steps. To go back to the normal tempo, slide the power/mode switch to another position and slide it back to AUTO BEAT.

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Using the microphone

You can sing along while beating the drums and/or playing a tape.



Adjusting the volume

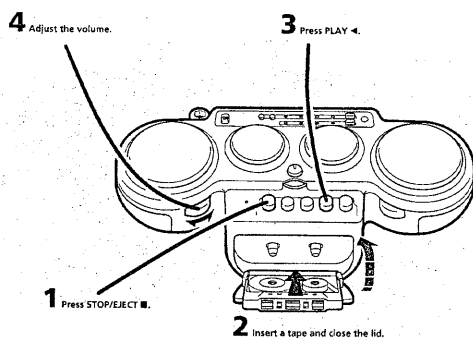
Use the VOL control to adjust the overall volume. Use the MIC/PADS VOL control to adjust the volume of the microphone and drum pads without changing the tape volume.

Notes

- Do not let the stem or cord of the microphone get wrapped around the child's neck.
- Do not bend the same part of the stem of the microphone repeatedly.
- Disconnect the microphone plug after use. Otherwise the microphone continues to pick up sound.

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Playing a tape



Additional operations

Press to stop playback.

Press to fast-forward.

Press to rewind.

Turn to change the playback speed. (This control does not function while recording.)

Adjusting the volume

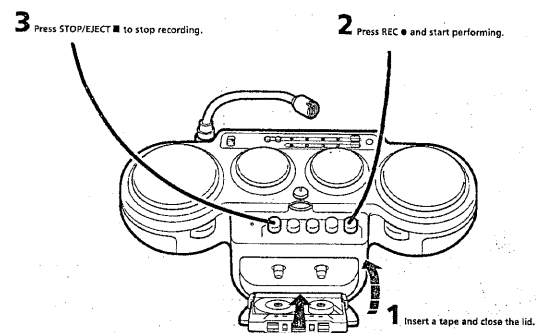
Use the VOL control to adjust the overall volume. Use the MIC/PADS VOL control to adjust the volume of the microphone and drum pads without changing the tape volume.

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Recording

You can record your own performance on a tape!



Notes

- The recording level is adjusted automatically.
- Ensure to rehearse and make all the necessary adjustments before you start recording.
- Recording will be carried out in normal speed even if you turn TAPE SPEED control.

To play what you have recorded

- 1 Press REW to rewind the tape.
- 2 Press STOP/EJECT.
- 3 Press PLAY.

11

14

13

15

SECTION 2 ELECTRICAL ADJUSTMENTS

PRECAUTION

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

record/playback head	pinch roller
erase head	rubber belts
capstan	idlers
2. Demagnetize the record/playback head with a head demagnetizer. (Do not bring the head demagnetizer close to the erase head.)
3. Do not use a magnetized screwdriver for the adjustments.
4. After the adjustments, apply suitable locking compound to the parts adjusted.
5. The adjustments should be performed with the rated power supply voltage unless otherwise noted.
6. Power supply voltage : 6V dc.

Torque Measurement

Torque	Torque Meter	Meter Reading
Forward	CQ-102C	30 – 70g•cm (0.42 – 0.97oz•inch)
Fast Forward and Rewind	CQ-201B	more than 60g•cm (0.84oz•inch)
Forward Back Tension	CQ-102C	1.5 – 5.5g•cm (0.021 – 0.076oz•inch)

Tape Tension Measurement

Meter	Meter Reading
CQ-403A	more than 100g (3.53oz)

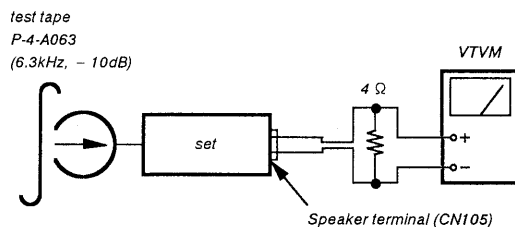
• Test Tape

Type	Signal	Used for
WS-48A	3kHz, 0dB	tape speed adjustment
P-4-A063	6.3kHz, – 10dB	head azimuth adjustment

Record/Playback Head Azimuth Adjustment

Procedure :

1. Mode : playback

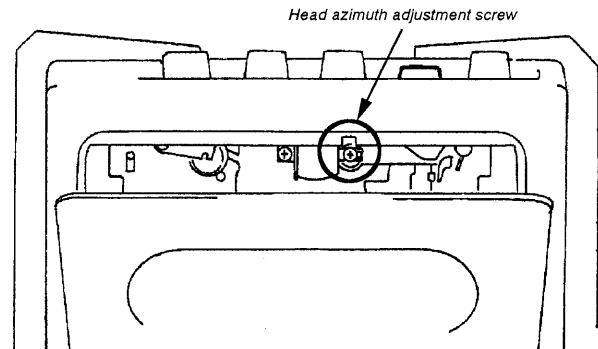


2. Turn the adjustment screw to obtain the maximum reading on VTVM.

Note : Several peaks may appear, but take the maximum.

3. After the adjustment, lock the adjustment screw with suitable locking compound.

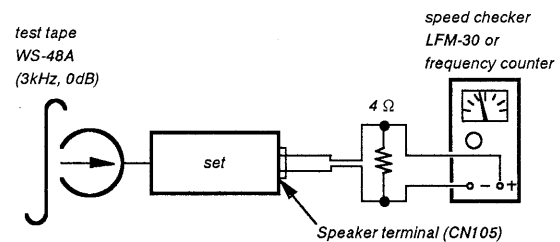
Adjustment Location :



Tape Speed Adjustment

Procedure :

Mode : playback



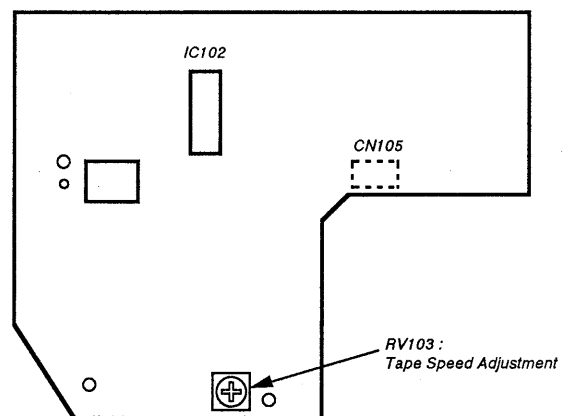
Adjustment Value :

Speed checker	frequency counter
± 1%	2,970 – 3,030Hz

Frequency difference between the beginning and the end of the tape should be within 1%(30Hz).

Adjustment Location :

AUDIO BOARD (Component side)



SECTION 3

EXPLANATION OF IC TERMINALS

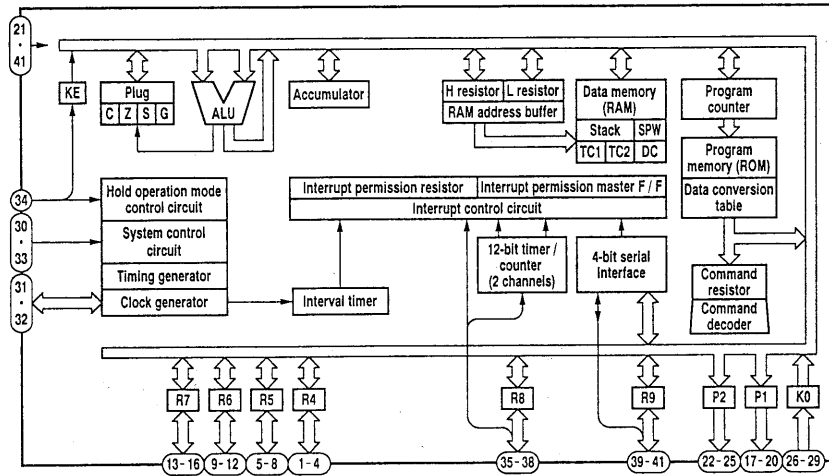
IC202 (TMP47C200BN-G981)

Pin No.	Port No.	Pin Name	I/O	Description
1	R40	PAD. A	I	PAD. A input terminal.
2	R41	PAD. B	I	PAD. B input terminal.
3	R42	PAD. C	I	PAD. C input terminal.
4	R43	PAD. D	I	PAD. D input terminal.
5	R50	$\overline{\text{BUSY1}}$	I	BUSY1 input terminal.
6	R51	$\overline{\text{BUSY2}}$	I	BUSY2 input terminal.
7	R52	NAR1	O	NAR1 output terminal.
8	R53	NAR2	O	NAR2 output terminal.
9	R60	AUTO	I	AUTO BEAT/PADS/OFF KEY input terminal.
10	R61	P. ON	I	Voltage detect input terminal.
11	R62	DEMO	I	Key input terminal.
12	R63	MUTE	O	Mute signal output terminal.
13	R70	$\overline{\text{ST1}}$	O	ST1 output terminal.
14	R71	$\overline{\text{ST2}}$	O	ST2 output terminal.
15	R72	$\overline{\text{CH1}}$	O	CH1 output terminal.
16	R73	$\overline{\text{CH2}}$	O	CH2 output terminal.
17	P10	LED1	O	LED1 drive terminal
18	P11	LED2	O	LED2 drive terminal.
19	P12	LED3	O	LED3 drive terminal.
20	P13	LED4	O	LED4 drive terminal.
21	VSS	VSS	—	0V (GND)
22	P20	COM1	O	PADS for LED drive.
23	P21	COM2	O	AUTO BEAT for LED drive.
24	P22	—	—	Not used for this unit.
25	P23	—	—	Not used for this unit.
26	K00	DOWN	I	Key input terminal.
27	K01	UP	I	Key input terminal.
28	K02	TONE	I	Key input terminal.
29	K03	ABEAT	I	Key input terminal.
30	TEST	TEST	I	TESTterminal. (For IC202, GND connection)
31	XIN	XIN	I	Oscillator connection terminal. For an external clock input, this is input to XIN, XOUT is disconnected.
32	XOUT	XOUT	O	
33	$\overline{\text{RESET}}$	$\overline{\text{RESET}}$	I	Reset signal input terminal.
34	$\overline{\text{HOLD}} (\overline{\text{KE}} \phi)$	$\overline{\text{HOLD}} (\overline{\text{KE}} \phi)$	—	For IC202, GND connection.
35	R80		—	
36	R81		—	
37	R82($\overline{\text{INT1}}$)	$\overline{\text{INT1}}$	—	
38	R83		—	
39	R90		—	
40	R91	SD	O	S DATA output terminal.
41	R92($\overline{\text{SCK}}$)	SCK	O	Serial clock input terminal.
42	VDD	VDD	—	For IC202, VDD connection.

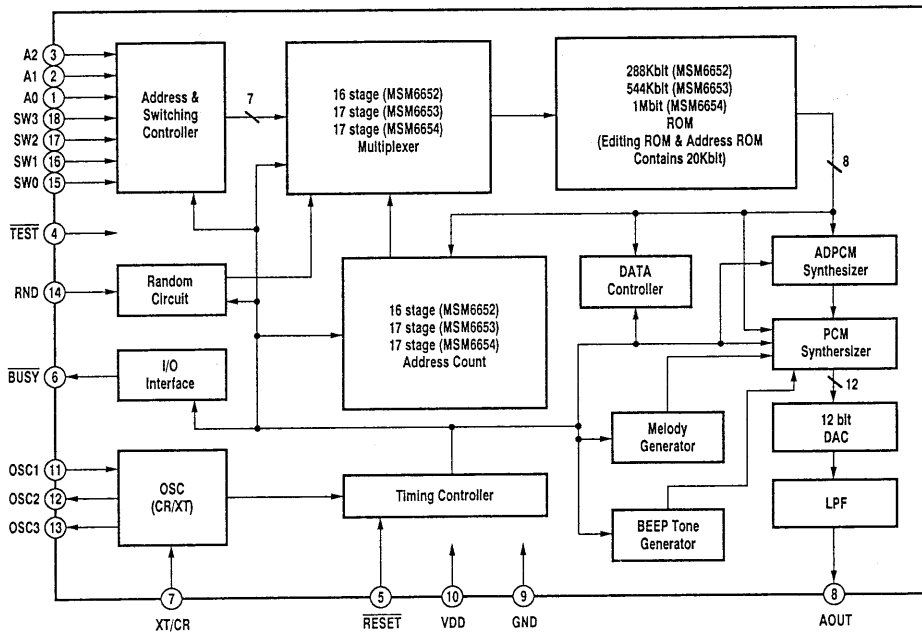
SECTION 4 DIAGRAMS

● IC BLOCK DIAGRAMS

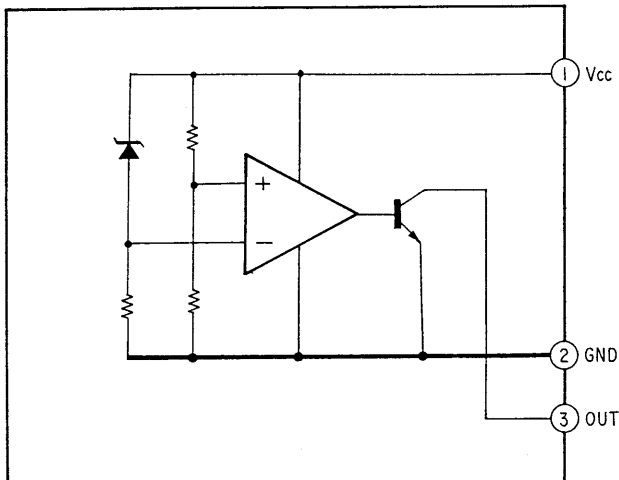
IC202 (TMP47C200BN-G981)



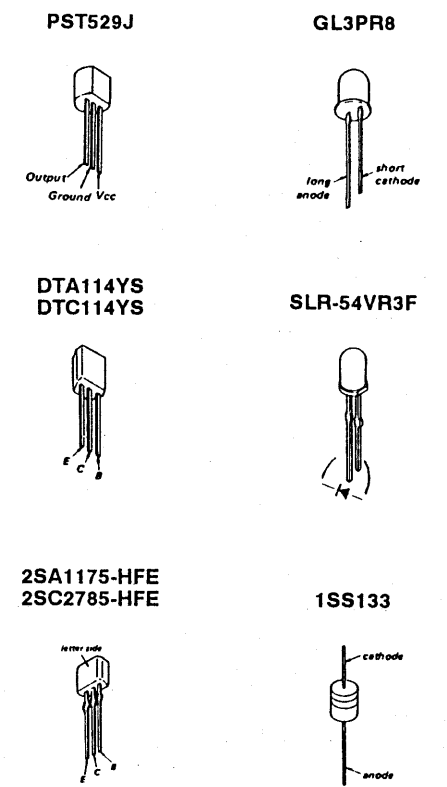
IC204 MSM6653-304RS/IC205 MSM6652-305RS



IC206 PST529J



● SEMICONDUCTOR LEAD LAYOUTS

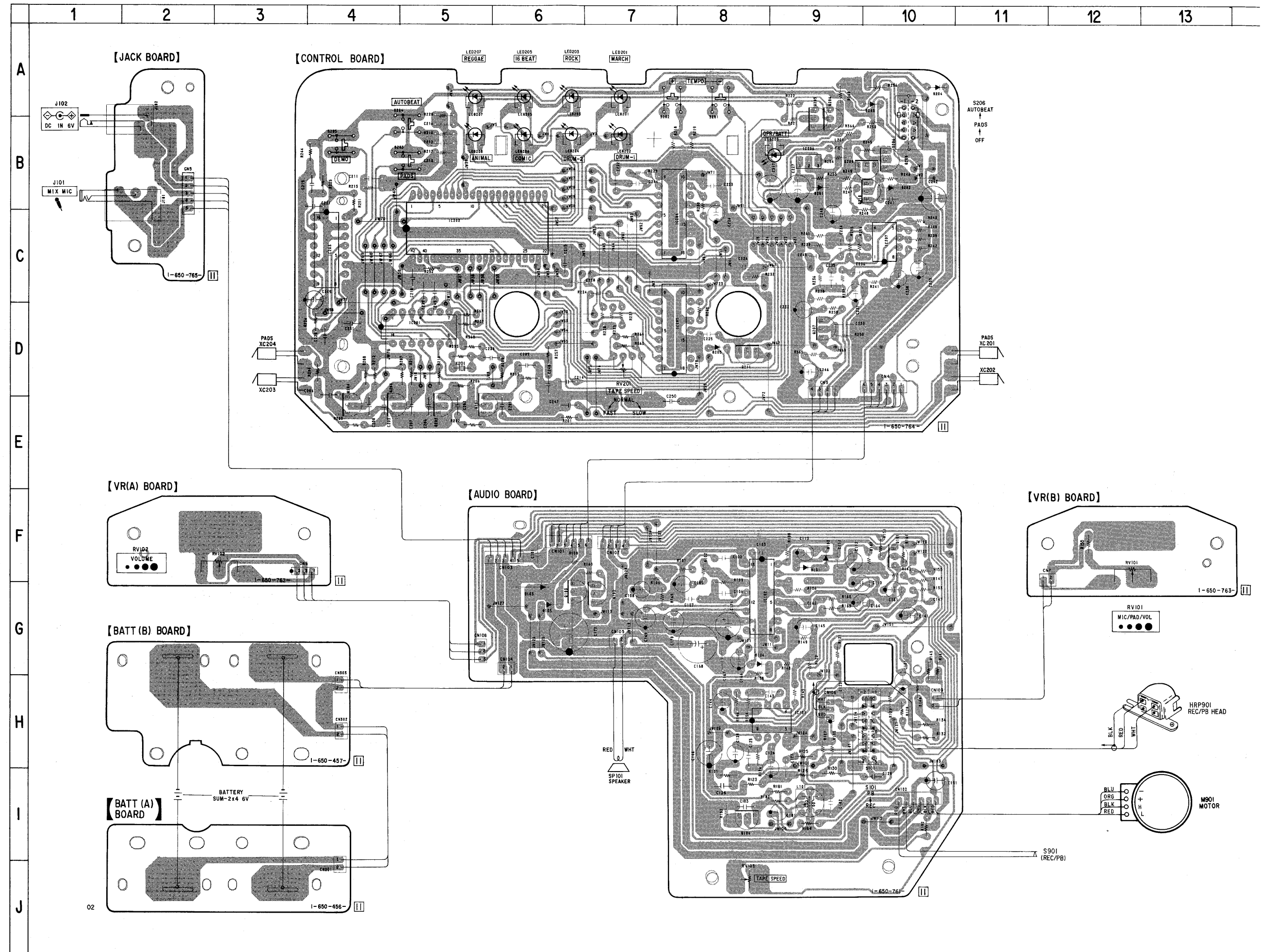


● SEMICONDUCTOR LOCATION

Ref. No.	Location	Ref. No.	Location
D101	F-9	IC201	D-5
D102	F-9	IC202	C-5
D103	G-6	IC203	C-4
D104	G-8	IC204	C-7
D105	G-6	IC205	D-7
D201	B-9	IC206	B-9
D202	B-10	IC207	C-10
D203	A-10		
D204	A-10		
D205	D-8		
LED201	A-7	Q101	F-10
LED202	B-7	Q102	G-7
LED203	A-6	Q103	G-6
LED204	B-6	Q104	I-8
LED205	A-6	Q201	E-5
LED206	B-6	Q202	E-5
LED207	A-5	Q203	E-4
LED208	B-5	Q204	E-4
LED209	B-9	Q205	A-9
		Q206	A-9
		Q207	D-9
		Q208	B-10
		Q209	B-10
		Q210	B-10
IC101	H-9	Q211	D-8
IC102	G-8		

Note:
• ○ : parts extracted from the component side.
• ▨ : Pattern on the side which is seen.

4-1. PRINTED WIRING BOARDS



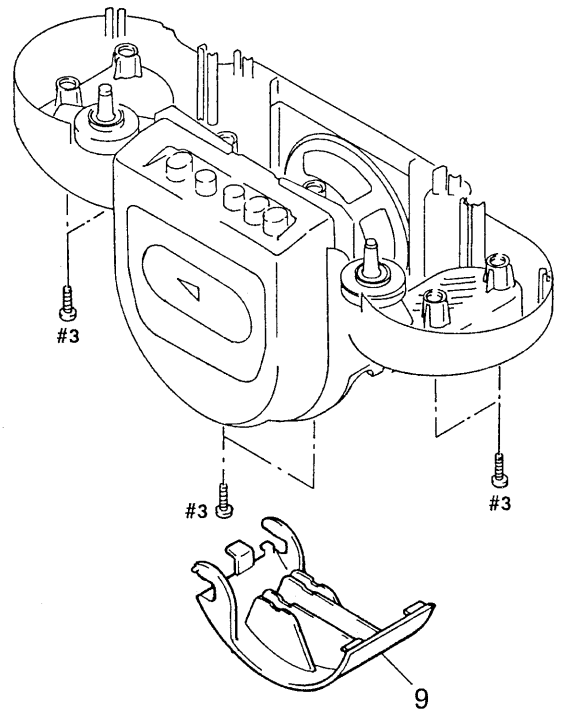
SECTION 5 EXPLODED VIEWS

NOTE :

- 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.
- Hardware (# mark) list is given in the last of this parts list.

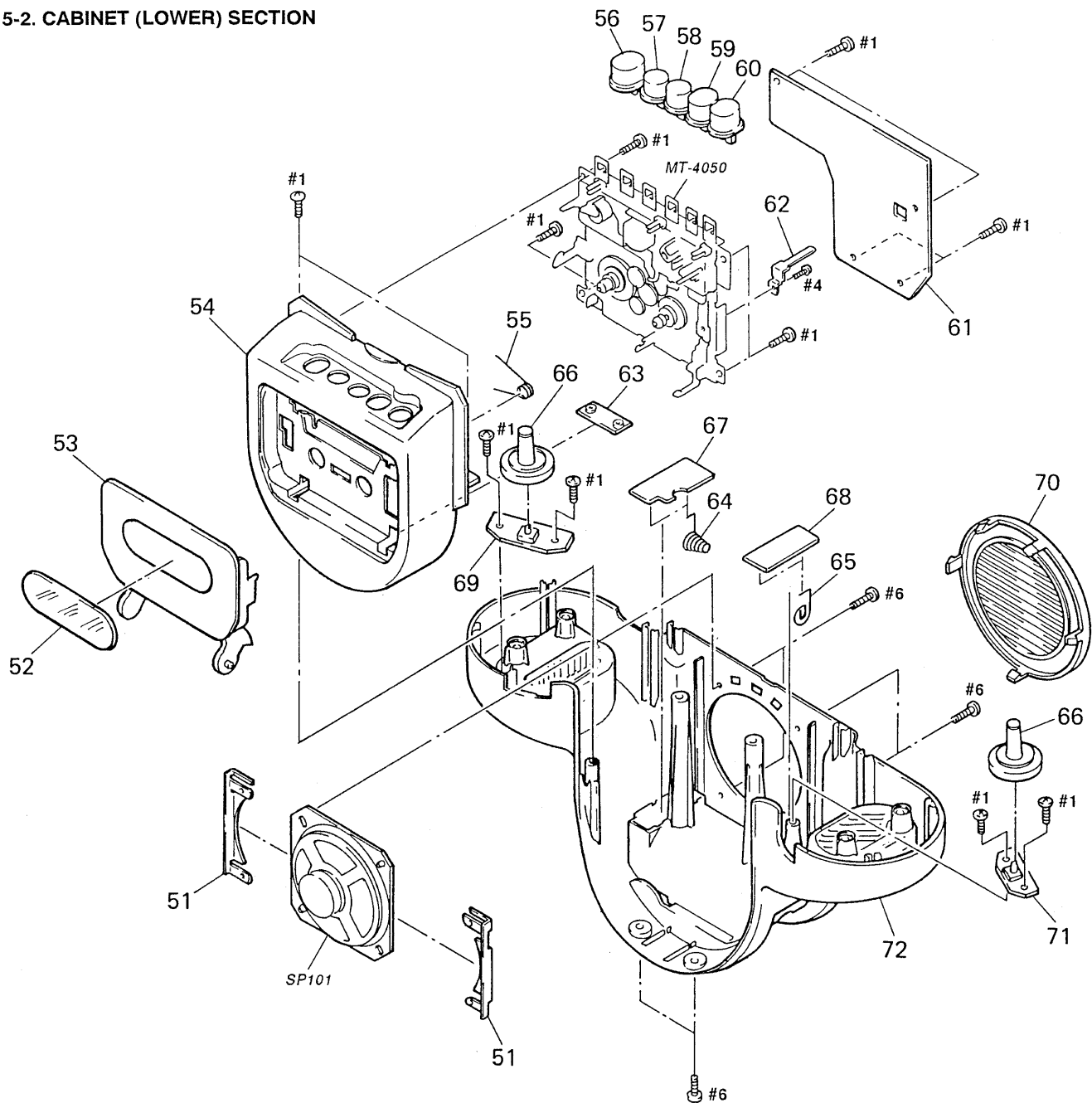
Parts color	Cabinet's color
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5-1. CABINET (UPPER) SECTION



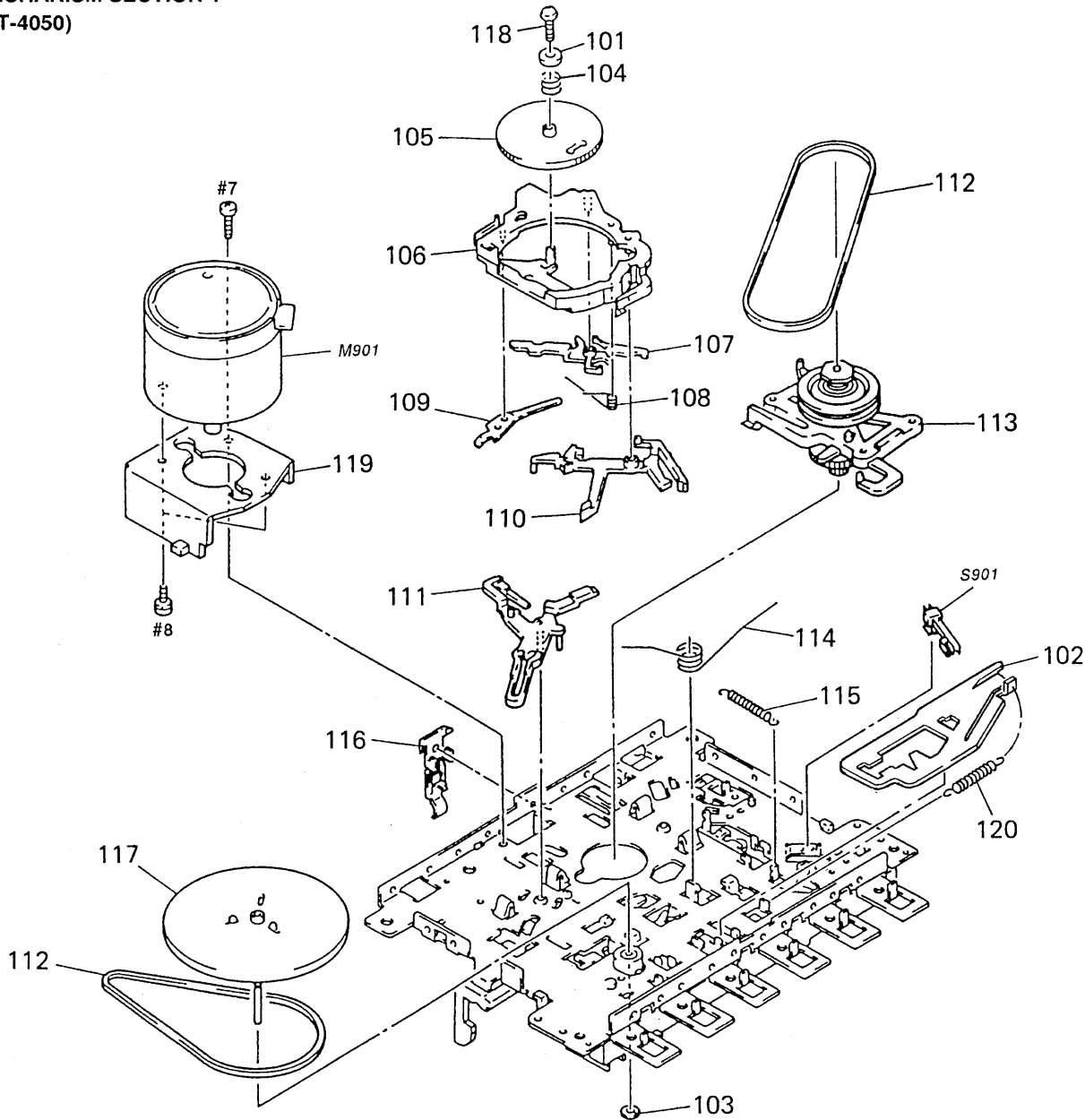
<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Remark</u>
6	X-3367-542-1	PAD (LARGE), ASSY	
7	X-3367-543-1	PAD (SMALL), ASSY	
8	3-906-683-01	PANEL, CONTROL	
9	3-906-681-01	LID, BATTERY CASE	
10	3-906-673-01	BUTTON, POWER	

5-2. CABINET (LOWER) SECTION



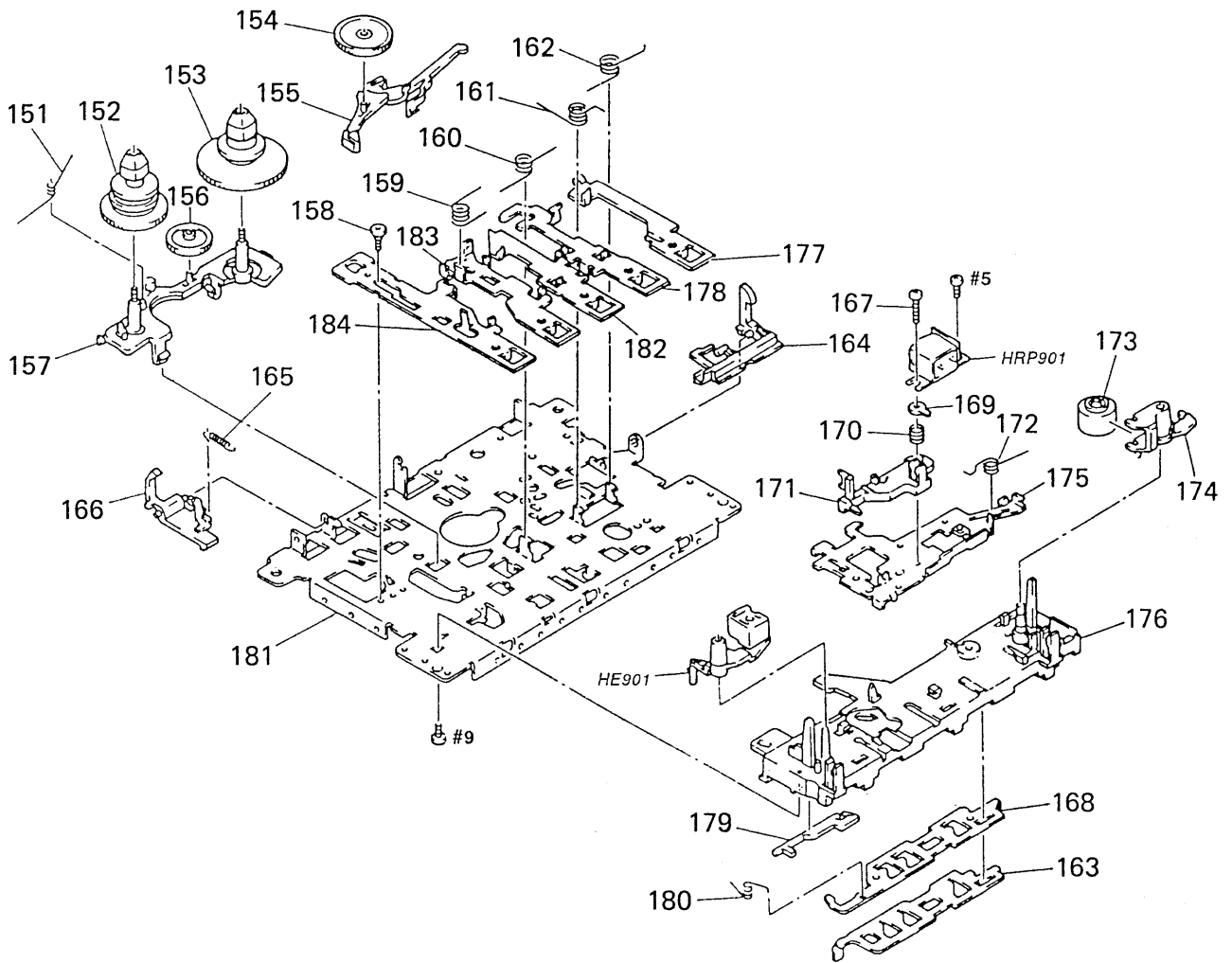
Ref.No.	Part No.	Description	Remark	Ref.No.	Part No.	Description	Remark
* 51	3-906-662-01	BRACKET, SP		* 63	3-908-085-01	BRACKET, CABINET	
52	3-368-163-01	WINDOW, CASSETTE		64	3-906-665-01	TERMINAL (B), BATTERY	
53	3-906-680-01	LID, CASSETTE		65	3-906-664-01	TERMINAL (A), BATTERY	
54	3-906-679-01	CABINET, CASSETTE		66	3-906-685-01	BUTTON, VOL	
55	3-906-663-01	SPRING, CASSETTE UP		* 67	1-650-457-11	BATT (B) BOARD	
56	3-906-669-01	BUTTON, STOP		* 68	1-650-456-11	BATT (A) BOARD	
57	3-906-671-01	BUTTON, FF		* 69	1-650-762-11	VR(A) BOARD	
58	3-906-670-01	BUTTON, REW		70	3-906-682-01	GRILLE	
59	3-906-668-01	BUTTON, PLAY		* 71	1-650-763-11	VR(B) BOARD	
60	3-906-672-01	BUTTON, REC		72	3-906-678-01	CABINET (LOWER)	
* 61	A-3060-860-A	AUDIO BOARD, COMPLETE		SP101	1-504-466-11	SPEAKER	
* 62	3-906-686-01	LEVER, REC					

5-3. MECHANISM SECTION-1
(MT-4050)



Ref.No.	Part No.	Description	Remark	Ref.No.	Part No.	Description	Remark
101	3-369-961-01	WASHER		112	3-907-721-01	BELT	
102	3-379-844-01	PLATE, STOP, FR		113	3-362-969-01	IDLER ASSY, PF	
103	3-362-980-01	WASHER		114	3-362-970-01	SPRING	
104	3-369-962-01	SPRING, COMPRESSION		115	3-362-971-01	SPRING	
105	3-362-974-01	GEAR, CAM		116	3-908-176-01	SPRING, CASSETTE	
106	3-362-973-01	AS (BASE)		117	3-907-720-01	FW ASSY	
107	3-362-976-01	LEVER, CONTROL		118	3-366-352-01	SCREW	
108	3-362-977-01	SPRING		* 119	3-362-988-01	HOLDER, MOTOR	
109	3-362-978-01	SPRING, PLATE		120	3-379-843-01	SPRING	
110	3-362-975-01	LEVER, SENSOR		M901	3-907-723-01	MOTOR ASSY	
111	3-907-719-01	SENSOR		S901	1-572-538-11	SWITCH, LEAF	

5-4. MECHANISM SECTION-2 (MT-4050)



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
151	3-372-120-01	SPRING		169	3-363-230-01	LUG	
152	3-362-963-01	REEL, S		170	3-362-985-01	SPRING	
153	3-362-962-01	REEL ASSY, T		171	3-362-986-01	HOLDER, HEAD	
154	3-362-960-01	PULLEY, IDLER		172	3-362-983-01	SPRING	
155	3-362-959-01	ARM, IDLER		173	3-362-982-01	PINCH ROLLER	
156	3-362-965-01	IDLER, FF		174	3-362-981-01	PINCH ARM	
157	3-362-961-01	SPINDLE (BASE)		* 175	3-362-984-01	HEAD (BASE)	
158	3-362-958-01	SCREW		176	3-362-942-01	FRAME ASSY	
159	3-362-954-01	SPRING		* 177	3-362-951-01	LEVER, SE	
160	3-362-955-01	SPRING		* 178	3-362-950-01	LEVER, FF	
161	3-362-956-01	SPRING		179	3-362-944-01	STOPPER, REC	
162	3-907-718-01	SPRING		180	3-362-945-01	SPRING	
* 163	3-362-946-01	LEVER, SW		* 181	3-362-941-01	CHASSIS	
164	3-362-968-01	LEVER, EJECT		* 182	3-362-949-01	LEVER, REW	
165	3-907-722-01	SPRING		* 183	3-362-948-01	LEVER, PLAY	
166	3-362-966-01	INTER LOCK		* 184	3-362-947-01	LEVER, REC	
167	3-363-229-01	SCREW		HE901	1-543-777-11	HEAD, MAGNETIC (ERASING)	
* 168	3-362-943-01	PLATE, FUNCTION		HRP901	1-543-424-21	HEAD (RECORD/PLAYBACK)	

SECTION 6 ELECTRICAL PARTS LIST

AUDIO

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, -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

When indicating parts by reference number, please include the board.

Ref.No.	Part No.	Description	Remark		Ref.No.	Part No.	Description	Remark	
*	A-3060-860-A	AUDIO BOARD, COMPLETE *****			C168	1-124-473-11	ELECT	1000uF	20% 10V
		< CAPACITOR >			C169	1-126-176-11	ELECT	220uF	20% 10V
C101	1-161-057-00	CERAMIC	0.033uF	10% 50V	C170	1-126-176-11	ELECT	220uF	20% 10V
C102	1-161-020-11	CERAMIC	0.039uF	10% 16V	C171	1-124-472-11	ELECT	470uF	20% 10V
C103	1-162-840-11	CERAMIC	0.012uF	10% 16V	C172	1-126-927-11	ELECT	2200uF	20% 10V
C105	1-124-903-11	ELECT	1uF	20% 50V					
C106	1-162-288-31	CERAMIC	330PF	10% 50V	C181	1-124-126-00	ELECT	47uF	20% 10V
					C182	1-161-329-00	CERAMIC	0.0068uF	20% 16V
C107	1-162-306-11	CERAMIC	0.01uF	20% 16V	C183	1-162-286-31	CERAMIC	220PF	10% 50V
C108	1-124-443-00	ELECT	100uF	20% 10V	C191	1-126-176-11	ELECT	220uF	20% 10V
C110	1-124-907-11	ELECT	10uF	20% 50V					
C111	1-162-306-11	CERAMIC	0.01uF	20% 16V			< CONNECTOR >		
C112	1-124-907-11	ELECT	10uF	20% 50V	* CN101	1-573-484-11	PIN, CONNECTOR (PC BOARD)	6P	
					* CN102	1-573-484-11	PIN, CONNECTOR (PC BOARD)	6P	
C113	1-124-126-00	ELECT	47uF	20% 10V	* CN103	1-573-483-11	PIN, CONNECTOR (PC BOARD)	5P	
C121	1-124-927-11	ELECT	4.7uF	20% 100V	* CN104	1-573-480-11	PIN, CONNECTOR (PC BOARD)	2P	
C122	1-161-040-00	CERAMIC	0.0012uF	16V	* CN105	1-573-480-11	PIN, CONNECTOR (PC BOARD)	2P	
C124	1-124-927-11	ELECT	4.7uF	20% 100V	* CN106	1-573-481-11	PIN, CONNECTOR (PC BOARD)	3P	
C125	1-162-284-31	CERAMIC	150PF	10% 50V	* CN107	1-573-482-11	PIN, CONNECTOR (PC BOARD)	4P	
					* CN108	1-565-384-11	HOLDER, CABLE	3P	
C126	1-162-294-31	CERAMIC	0.001uF	10% 50V	* CN109	1-565-384-11	HOLDER, CABLE	3P	
C127	1-162-840-11	CERAMIC	0.012uF	10% 16V			< DIODE >		
C128	1-124-903-11	ELECT	1uF	20% 50V	D101	8-719-901-33	DIODE	1SS133	
C129	1-161-375-00	CERAMIC	0.0022uF	20% 50V	D102	8-719-901-33	DIODE	1SS133	
C141	1-124-907-11	ELECT	10uF	20% 50V	D103	8-719-200-02	DIODE	10E2	
					D104	8-719-901-33	DIODE	1SS133	
C143	1-161-057-00	CERAMIC	0.033uF	10% 50V	D105	8-719-901-33	DIODE	1SS133	
C144	1-124-927-11	ELECT	4.7uF	20% 100V			< IC >		
C145	1-124-443-00	ELECT	100uF	20% 10V	IC101	8-759-710-98	IC	NJM2100D	
C146	1-124-472-11	ELECT	470uF	20% 10V	IC102	8-759-200-49	IC	TA7628P	
C147	1-162-842-11	CERAMIC	0.018uF	10% 16V			< COIL >		
					L101	1-433-268-00	TRANSFORMER, BIAS OSCILLATOR		
C161	1-124-902-00	ELECT	0.47uF	20% 50V					
C162	1-162-290-31	CERAMIC	470PF	10% 50V					
C164	1-124-443-00	ELECT	100uF	20% 10V					
C166	1-124-443-00	ELECT	100uF	20% 10V					
C167	1-136-163-00	MYLAR	0.068uF	10% 50V					

AUDIO**BATT (A)****BATT (B)****CONTROL**

Ref.No.	Part No.	Description	Remark
< TRANSISTOR >			
Q101	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q102	8-729-904-36	TRANSISTOR DTC114YS	
Q103	8-729-820-94	TRANSISTOR 2SB1127	
Q104	8-729-119-78	TRANSISTOR 2SC2785-HFE	
< RESISTOR >			
R101	1-249-423-11	CARBON 3.3K 5% 1/4W	
R102	1-249-418-11	CARBON 1.2K 5% 1/4W	
R103	1-249-433-11	CARBON 22K 5% 1/4W	
R104	1-249-418-11	CARBON 1.2K 5% 1/4W	
R106	1-249-421-11	CARBON 2.2K 5% 1/4W	
R107	1-249-406-11	CARBON 120 5% 1/4W	
R108	1-247-901-11	CARBON 820K 5% 1/4W	
R109	1-249-419-11	CARBON 1.5K 5% 1/4W	
R121	1-249-421-11	CARBON 2.2K 5% 1/4W	
R122	1-249-438-11	CARBON 56K 5% 1/4W	
R123	1-249-411-11	CARBON 330 5% 1/4W	
R124	1-247-883-00	CARBON 150K 5% 1/4W	
R125	1-249-430-11	CARBON 12K 5% 1/4W	
R126	1-249-434-11	CARBON 27K 5% 1/4W	
R127	1-249-441-11	CARBON 100K 5% 1/4W	
R128	1-249-432-11	CARBON 18K 5% 1/4W	
R129	1-249-423-11	CARBON 3.3K 5% 1/4W	
R130	1-249-431-11	CARBON 15K 5% 1/4W	
R131	1-249-413-11	CARBON 470 5% 1/4W	
R132	1-249-429-11	CARBON 10K 5% 1/4W	
R133	1-249-441-11	CARBON 100K 5% 1/4W	
R134	1-249-429-11	CARBON 10K 5% 1/4W	
R141	1-249-429-11	CARBON 10K 5% 1/4W	
R142	1-249-429-11	CARBON 10K 5% 1/4W	
R143	1-249-429-11	CARBON 10K 5% 1/4W	
R144	1-249-429-11	CARBON 10K 5% 1/4W	
R145	1-249-414-11	CARBON 560 5% 1/4W	
R146	1-249-433-11	CARBON 22K 5% 1/4W	
R147	1-249-431-11	CARBON 15K 5% 1/4W	
R148	1-249-417-11	CARBON 1K 5% 1/4W	
R149	1-249-418-11	CARBON 1.2K 5% 1/4W	
R150	1-247-807-31	CARBON 100 5% 1/4W	
R151	1-247-831-31	CARBON 1K 5% 1/4W	
R152	1-249-430-11	CARBON 12K 5% 1/4W	
R153	1-249-422-11	CARBON 2.7K 5% 1/4W	
R154	1-249-431-11	CARBON 15K 5% 1/4W	
R160	1-249-412-11	CARBON 390 5% 1/4W	
R161	1-249-425-11	CARBON 4.7K 5% 1/4W	
R162	1-249-438-11	CARBON 56K 5% 1/4W	
R163	1-249-408-11	CARBON 180 5% 1/4W	
R165	1-249-426-11	CARBON 5.6K 5% 1/4W	

Ref.No.	Part No.	Description	Remark
R181	1-249-397-11	CARBON 22 5% 1/4W	
R182	1-249-437-11	CARBON 47K 5% 1/4W	
R183	1-249-402-11	CARBON 56 5% 1/4W	
R184	1-247-807-31	CARBON 100 5% 1/4W	
R192	1-249-421-11	CARBON 2.2K 5% 1/4W	
< VARIABLE RESISTOR >			
RV103	1-241-035-11	RES, ADJ, CARBON 470	
< SWITCH >			
S101	1-571-255-11	SWITCH, SLIDE (PB/REC)	

*	1-650-456-11	BATT (A) BOARD	

	3-906-664-01	TERMINAL (A), BATTERY	
< CONNECTOR >			
* CN301	1-573-287-11	HOLDER, CABLE 2P	

*	1-650-457-11	BATT (B) BOARD	

	3-906-665-01	TERMINAL (B), BATTERY	
* CN302	1-573-287-11	HOLDER, CABLE 2P	
* CN303	1-573-287-11	HOLDER, CABLE 2P	

*	A-3060-856-A	CONTROL BOARD, COMPLETE	

	3-906-687-01	HOLDER, LED	
< CAPACITOR >			
C201	1-136-850-11	FILM 0.1uF 10% 63V	
C202	1-136-850-11	FILM 0.1uF 10% 63V	
C203	1-136-850-11	FILM 0.1uF 10% 63V	
C204	1-136-850-11	FILM 0.1uF 10% 63V	
C205	1-130-773-11	FILM 0.27uF 10% 63V	
C206	1-130-773-11	FILM 0.27uF 10% 63V	
C207	1-130-773-11	FILM 0.27uF 10% 63V	
C208	1-130-773-11	FILM 0.27uF 10% 63V	
C209	1-124-126-00	ELECT 47uF 20% 10V	
C211	1-162-294-31	CERAMIC 0.001uF 10% 50V	
C212	1-162-294-31	CERAMIC 0.001uF 10% 50V	
C213	1-162-294-31	CERAMIC 0.001uF 10% 50V	
C214	1-162-294-31	CERAMIC 0.001uF 10% 50V	
C215	1-162-294-31	CERAMIC 0.001uF 10% 50V	

CONTROL

Ref.No.	Part No.	Description	Remark
C216	1-162-294-31	CERAMIC	0.001uF 10% 50V
C217	1-124-443-00	ELECT	100uF 20% 10V
C218	1-162-851-11	CERAMIC	0.1uF 16V
C219	1-162-282-31	CERAMIC	100PF 10% 50V
C220	1-162-215-31	CERAMIC	47PF 5% 50V
C221	1-162-851-11	CERAMIC	0.1uF 16V
C222	1-162-306-11	CERAMIC	0.01uF 20% 16V
C223	1-162-851-11	CERAMIC	0.1uF 16V
C224	1-162-306-11	CERAMIC	0.01uF 20% 16V
C225	1-162-851-11	CERAMIC	0.1uF 16V
C226	1-124-126-00	ELECT	47uF 20% 10V
C227	1-126-176-11	ELECT	220uF 20% 10V
C228	1-161-494-00	CERAMIC	0.022uF 25V
C229	1-162-211-31	CERAMIC	33PF 5% 50V
C230	1-162-282-31	CERAMIC	100PF 10% 50V
C231	1-162-851-11	CERAMIC	0.1uF 16V
C232	1-124-925-11	ELECT	2.2uF 20% 100V
C233	1-162-306-11	CERAMIC	0.01uF 20% 16V
C234	1-162-288-31	CERAMIC	330PF 10% 50V
C235	1-162-832-11	CERAMIC	0.0027uF 10% 16V
C236	1-162-288-31	CERAMIC	330PF 10% 50V
C237	1-124-903-11	ELECT	1uF 20% 50V
C238	1-124-443-00	ELECT	100uF 20% 10V
C239	1-124-443-00	ELECT	100uF 20% 10V
C240	1-124-443-00	ELECT	100uF 20% 10V
C241	1-162-306-11	CERAMIC	0.01uF 20% 16V
C242	1-124-443-00	ELECT	100uF 20% 10V
C244	1-162-562-11	CERAMIC	0.22uF 16V
C245	1-162-562-11	CERAMIC	0.22uF 16V
C246	1-124-903-11	ELECT	1uF 20% 50V
C247	1-162-282-31	CERAMIC	100PF 10% 50V
C248	1-162-199-31	CERAMIC	10PF 5% 50V
C249	1-162-215-31	CERAMIC	47PF 5% 50V
C250	1-162-294-31	CERAMIC	0.001uF 10% 50V

< CONNECTOR >

* CN3 1-565-385-11 HOLDER, CABLE 4P

< DIODE >

D201	8-719-901-33	DIODE	1SS133
D202	8-719-901-33	DIODE	1SS133
D203	8-719-901-33	DIODE	1SS133
D204	8-719-901-33	DIODE	1SS133
D205	8-719-901-33	DIODE	1SS133
LED201	8-719-970-18	LED	SLR-54VR3F (MARCH)
LED202	8-719-970-18	LED	SLR-54VR3F (DRUM-1)
LED203	8-719-970-18	LED	SLR-54VR3F (POCK)
LED204	8-719-970-18	LED	SLR-54VR3F (DRUM-2)

Ref.No.	Part No.	Description	Remark
LED205	8-719-970-18	LED	SLR-54VR3F (16 BEET)
LED206	8-719-970-18	LED	SLR-54VR3F (COMIC)
LED207	8-719-970-18	LED	SLR-54VR3F (REGGAE)
LED208	8-719-970-18	LED	SLR-54VR3F (ANIMAL)
LED209	8-719-938-69	LED	GL3PR8 (OPR/BATT)

< IC >

IC201	8-759-916-14	IC	SN74HC04AN
IC202	8-759-192-96	IC	TMP47C200BN-G981
IC203	8-759-239-47	IC	TC74HC123AP
IC204	8-759-192-92	IC	MSM6653-304RS
IC205	8-759-192-94	IC	MSM6652-305RS

IC206	8-759-970-47	IC	PST529J
IC207	8-759-710-98	IC	NJM2100D

< COIL >

L201	1-410-509-11	INDUCTOR	10uH
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< TRANSISTOR >

Q201	8-729-119-78	TRANSISTOR	2SC2785-HFE
Q202	8-729-119-78	TRANSISTOR	2SC2785-HFE
Q203	8-729-119-78	TRANSISTOR	2SC2785-HFE
Q204	8-729-119-78	TRANSISTOR	2SC2785-HFE
Q205	8-729-902-80	TRANSISTOR	DTA114YS

Q206	8-729-902-80	TRANSISTOR	DTA114YS
Q207	8-729-902-80	TRANSISTOR	DTA114YS
Q208	8-729-119-76	TRANSISTOR	2SA1175-HFE
Q209	8-729-119-78	TRANSISTOR	2SC2785-HFE
Q210	8-729-119-78	TRANSISTOR	2SC2785-HFE

Q211	8-729-904-36	TRANSISTOR	DTC114YS
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< RESISTOR >

R201	1-249-441-11	CARBON	100K 5% 1/4W
R202	1-249-441-11	CARBON	100K 5% 1/4W
R203	1-249-441-11	CARBON	100K 5% 1/4W
R204	1-249-441-11	CARBON	100K 5% 1/4W
R205	1-249-433-11	CARBON	22K 5% 1/4W

R206	1-249-431-11	CARBON	15K 5% 1/4W
R207	1-249-431-11	CARBON	15K 5% 1/4W
R208	1-249-433-11	CARBON	22K 5% 1/4W
R209	1-249-441-11	CARBON	100K 5% 1/4W
R210	1-249-441-11	CARBON	100K 5% 1/4W

R211	1-249-441-11	CARBON	100K 5% 1/4W
R212	1-249-441-11	CARBON	100K 5% 1/4W
R215	1-249-429-11	CARBON	10K 5% 1/4W
R216	1-249-429-11	CARBON	10K 5% 1/4W

CONTROL**JACK****VR(A)****VR(B)**

Ref. No.	Part No.	Description	Remark		
R217	1-249-429-11	CARBON	10K	5%	1/4W
R218	1-249-429-11	CARBON	10K	5%	1/4W
R219	1-249-429-11	CARBON	10K	5%	1/4W
R220	1-249-429-11	CARBON	10K	5%	1/4W
R221	1-249-411-11	CARBON	330	5%	1/4W
R222	1-249-411-11	CARBON	330	5%	1/4W
R223	1-249-417-11	CARBON	1K	5%	1/4W
R224	1-249-417-11	CARBON	1K	5%	1/4W
R225	1-249-437-11	CARBON	47K	5%	1/4W
R226	1-249-437-11	CARBON	47K	5%	1/4W
R227	1-249-417-11	CARBON	1K	5%	1/4W
R228	1-249-417-11	CARBON	1K	5%	1/4W
R229	1-249-417-11	CARBON	1K	5%	1/4W
R230	1-249-417-11	CARBON	1K	5%	1/4W
R231	1-249-417-11	CARBON	1K	5%	1/4W
R232	1-249-417-11	CARBON	1K	5%	1/4W
R233	1-249-436-11	CARBON	39K	5%	1/4W
R234	1-249-437-11	CARBON	47K	5%	1/4W
R235	1-249-414-11	CARBON	560	5%	1/4W
R236	1-249-433-11	CARBON	22K	5%	1/4W
R237	1-249-430-11	CARBON	12K	5%	1/4W
R238	1-249-433-11	CARBON	22K	5%	1/4W
R239	1-249-434-11	CARBON	27K	5%	1/4W
R240	1-249-414-11	CARBON	560	5%	1/4W
R241	1-247-807-31	CARBON	100	5%	1/4W
R242	1-249-417-11	CARBON	1K	5%	1/4W
R243	1-249-418-11	CARBON	1.2K	5%	1/4W
R244	1-249-423-11	CARBON	3.3K	5%	1/4W
R245	1-249-413-11	CARBON	470	5%	1/4W
R246	1-249-425-11	CARBON	4.7K	5%	1/4W
R247	1-249-425-11	CARBON	4.7K	5%	1/4W
R248	1-249-418-11	CARBON	1.2K	5%	1/4W
R249	1-249-425-11	CARBON	4.7K	5%	1/4W
R250	1-249-417-11	CARBON	1K	5%	1/4W
R251	1-249-429-11	CARBON	10K	5%	1/4W
R252	1-249-429-11	CARBON	10K	5%	1/4W
R253	1-249-404-00	CARBON	82	5%	1/4W
R254	1-249-429-11	CARBON	10K	5%	1/4W
R255	1-247-903-00	CARBON	1M	5%	1/4W
R256	1-249-437-11	CARBON	47K	5%	1/4W
R257	1-249-429-11	CARBON	10K	5%	1/4W
R258	1-249-437-11	CARBON	47K	5%	1/4W
R259	1-247-887-00	CARBON	220K	5%	1/4W
R260	1-247-807-31	CARBON	100	5%	1/4W
R261	1-249-436-11	CARBON	39K	5%	1/4W
R262	1-249-417-11	CARBON	1K	5%	1/4W
R363	1-249-419-11	CARBON	1.5K	5%	1/4W
R364	1-249-421-11	CARBON	2.2K	5%	1/4W
R365	1-249-433-11	CARBON	22K	5%	1/4W

Ref. No.	Part No.	Description	Remark		
R366	1-249-416-11	CARBON	820	5%	1/4W
R367	1-249-413-11	CARBON	470	5%	1/4W
R368	1-249-429-11	CARBON	10K	5%	1/4W
< VARIABLE RESISTOR >					
RV201	1-223-540-11	RES, VAR 2K (TAPE SPEED)			
< SWITCH >					
S201	1-554-303-21	SWITCH, TACTILE (TEMPO -)			
S202	1-554-303-21	SWITCH, TACTILE (TEMPO +)			
S203	1-554-303-21	SWITCH, TACTILE (PADS)			
S204	1-554-303-21	SWITCH, TACTILE (AUTO BEAT)			
S205	1-554-303-21	SWITCH, TACTILE (DEMO)			
S206	1-572-992-11	SWITCH, SLIDE (AUTOBEAT/PADS/OFF)			
< CRYSTAL >					
X201	1-567-192-11	OSCILLATOR, CERAMIC 4.00MHz			

*	1-650-765-11	JACK BOARD			

< CONNECTOR >					
* CN5	1-565-386-11	HOLDER, CABLE 5P			
< JACK >					
J101	1-573-548-11	JACK (MIX MIC)			
J102	1-568-907-21	JACK, DC (POLARITY UNIFIED TYPE) (DC IN 6V)			

*	1-650-762-11	VR(A) BOARD			

< CONNECTOR >					
* CN6	1-565-384-11	HOLDER, CABLE 3P			
< VARIABLE RESISTOR >					
RV102	1-223-541-11	RES, VAR 10K (VOLUME)			

*	1-650-763-11	VR(B) BOARD			

< CONNECTOR >					
* CN7	1-573-287-11	HOLDER, CABLE 2P			
< VARIABLE RESISTOR >					
RV101	1-223-542-11	RES, VAR 20K (MIC/PAD/VOL)			

Ref.No.	Part No.	Description	Remark
		MISCELLANEOUS *****	
6	X-3367-542-1	PAD (LARGE), ASSY	
7	X-3367-543-1	PAD (SMALL), ASSY	
SP101	1-504-466-11	SPEAKER	
S901	1-572-538-11	SWITCH, LEAF	
HE901	1-543-777-11	HEAD, MAGNETIC (ERASING)	
HRP901	1-543-424-21	HEAD (RECORD/PLAYBACK)	

		ACCESSORIES & PACKING MATERIALS *****	
	1-542-222-21	MICROPHONE	
	3-757-445-11	MANUAL, INSTRUCTION (ENGLISH, FRENCH, SPANISH, ITALIAN)	
	3-757-445-41	MANUAL, INSTRUCTION (AEP, UK) (GERMAN, DUTCH, SWEDISH, PORTUGUESE)	
*	3-905-230-01	INDIVIDUAL CARTON	
*	3-906-902-11	CUSHION (UPPER)	
*	3-906-903-11	CUSHION (LOWER)	

		***** HARDWARE LIST *****	
#1	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S	
#2	7-685-133-19	SCREW +P 2.6X6 TYPE2	
#3	7-685-648-79	SCREW +BVTP 3X12 TYPE2 N-S	
#4	7-621-255-10	SCREW +PTT 2X3 (S)	
#5	7-621-255-25	SCREW +PTT 2X4 (S)	
#6	7-682-549-09	SCREW +B 3X10	
#7	7-685-861-01	SCREW +BVTT 2.6X5 (S)	
#8	7-628-254-05	SCREW +PS 2.6X5	
#9	7-685-104-19	SCREW +P 2X6 TYPE2 NON-SLIT	

