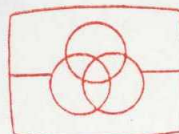


TCS-2000

SERVICE MANUAL

US Model
Canadian Model
AEP Model
UK Model
E Model



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SPECIFICATIONS

Recording system	4-track 2-channel stereo
Speaker	Approx. 6.6 cm (2 5/8 inches) × 3.8 cm (1 1/2 inches)
Frequency response	100-10,000 Hz
Input	Microphone input jack (PLUG IN POWER) (stereo minijack) sensitivity 0.3 mV (−68 dB) for 3 kilohms or lower impedance microphone
Output	Headphones output jack (stereo minijack) load impedance 8 to 300 ohms
Power output	Headphones: 6 mW + 6 mW (16 ohms, at 10% harmonic distortion) Speaker: 230 mW (at 10% harmonic distortion)
Power requirements	6V DC, four size AA (R6) batteries DC IN 6V jack accepts: optional Sony AC-D4M AC power adaptor for use on 120V AC, 60Hz optional Sony DCC-127A car battery cord for use on 12V car battery

Battery life (hours)

Batteries	Recording	Playback (speaker)	Playback (headphones)
Sony alkaline battery AM3(N)	Approx. 5	Approx. 5	Approx. 5.5

For maximum performance, we recommend the use of alkaline batteries.

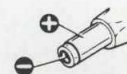
Dimensions	Approx. 131 × 42.2 × 202.8 mm (w/h/d) (5 1/4 × 1 11/16 × 8 inches) incl. projecting parts and controls
Weight	Approx. 700 g (1 lb 9 oz) incl. batteries, not incl. other accessories
Supplied accessory	Carrying case (1)
Optional accessories	AC power adaptor AC-D4M Car battery cord DCC-127A Electret condenser stereo microphone ECM-202 Stereo headphones MDR-A10L Head demagnetizer HE-5C Head cleaner KK-31 Foot switch FS-10A

Your dealer may not handle some of the above listed optional accessories. Please ask the dealer for detailed information about the optional accessories available in your country.

Design and specifications subject to change without notice.

Model Name	Using Similar Mechanism	New
Tape Transport Mechanism Type		MT-2000-61

Note: Use only the recommended AC power adaptor or car battery cord manufactured by Sony. Polarity of the plugs of other manufacturers may be different.



polarity of the Sony plug

FEATURES

- **Sound scan function** plays back recorded material at approximately 1/4th the time spent for recording, by skipping parts of the contents at certain intervals. This function allows you to quickly check what is recorded on the tape.
- **Cue marker** marks an inaudible cue marker signal at a desired position of the tape during recording. **Auto stop function** quickly locates the cue marker position while playing back.
- **Stereo recording.** Stereo playback is possible with optional stereo headphones.
- **NOISE REDUCTION switch** decreases tape hiss.

STEREO CASSETTE RECORDER
SONY®

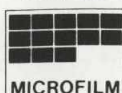
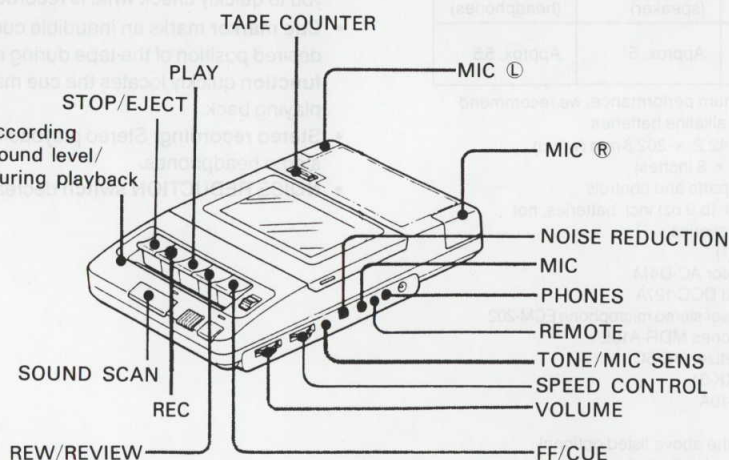


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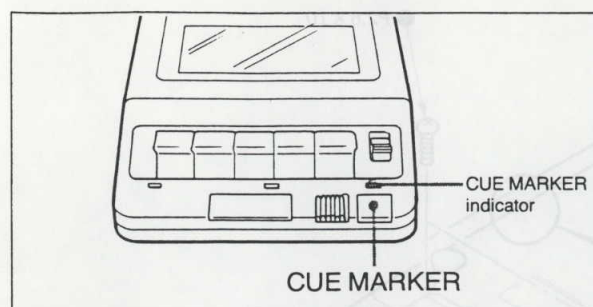
<u>Section</u>	<u>Title</u>	<u>Page</u>	<u>Section</u>	<u>Title</u>	<u>Page</u>
1. GENERAL			4. ELECTRICAL ADJUSTMENTS		
1-1.	Parts Identification	2	4-1.	Tape Recorder Section	6
1-2.	Recording a Cue Marker	3	5. DIAGRAMS		
1-3.	Locating Cue Markers	3	5-1.	Printed Wiring Boards	10
1-4.	Scanning Sound	3	5-2.	Schematic Diagrams	15
2. DISASSEMBLY			6. EXPLODED VIEWS		
2-1.	Cabinet Rear Assy	4	6-1.	Cabinet Section	19
2-2.	Main Board	4	6-2.	Mechanism Section (1) (MT-2000-61)	20
2-3.	Mechanism Deck and Main Board Block	5	6-3.	Mechanism Section (2) (MT-2000-61)	21
2-4.	FR Belt (Bottom) Replacement	5	7. ELECTRICAL PARTS LIST		22
3. MECHANICAL ADJUSTMENTS		6			

SECTION 1
GENERAL

1-1. PARTS IDENTIFICATION



1-2. RECORDING A CUE MARKER

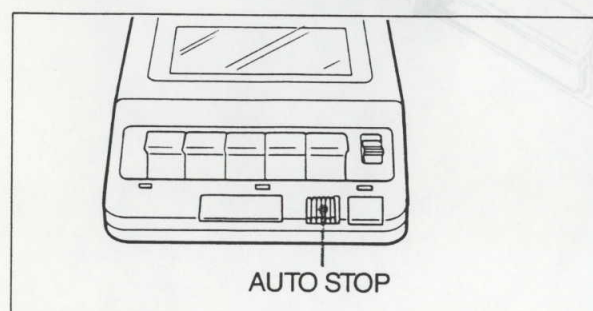


During recording, press CUE MARKER at the position you want to listen to later. The CUE MARKER indicator lights up, and a cue marker is recorded.

Notes on the cue marker

- You can record as many cue markers as you want.
- If you press STOP immediately after pressing CUE MARKER, the cue marker is not recorded.
- After pressing CUE MARKER, wait until the indicator goes out before continuing to record.

1-3. LOCATING CUE MARKERS

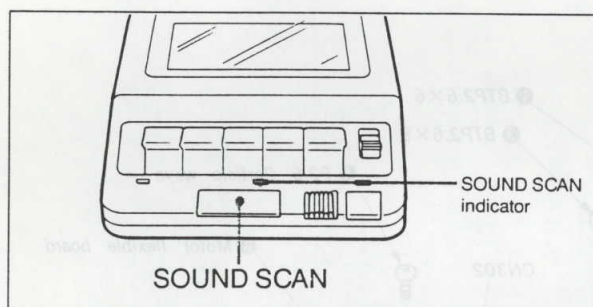


- 1 Play back the tape with the cue markers.
- 2 Set AUTO STOP to ON.
- 3 Keep pressing FF/CUE or REW/REVIEW. At the cue marker position, a beep tone is heard and the tape stops automatically. (The beep tone may not be heard if the volume is very low.)
- 4 Release FF/CUE or REW/REVIEW to start playback.

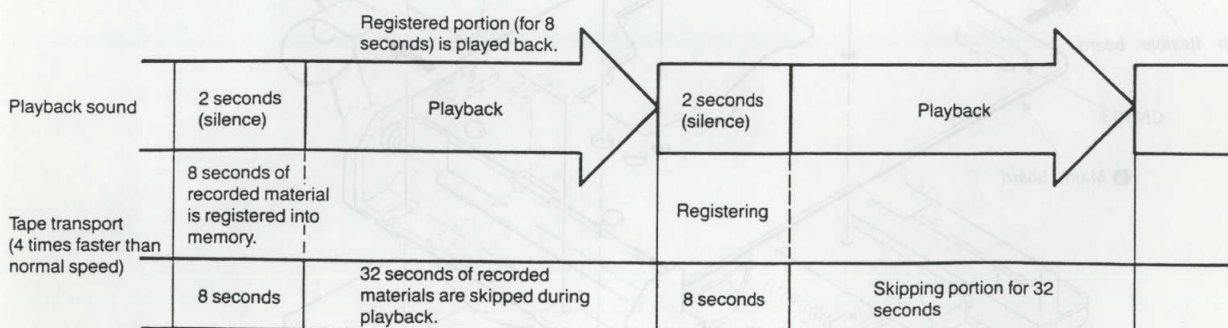
Notes

- The beep tone (cue marker signal) is not heard during normal playback.
- With a tape on which very low frequency sounds are recorded, the tape may stop at an unexpected position.

1-4. SCANNING SOUND



Press SOUND SCAN during playback. The SOUND SCAN indicator lights, and the tape is transported 4 times faster than the normal speed.



When SOUND SCAN is pressed

In about 2 seconds, 8 seconds of recorded material will be registered in the built-in memory. (Nothing is heard during this period.) Then the registered sound will be played back for 8 seconds. During these 8 seconds, 32 seconds of recording will be skipped. These steps will be repeated, allowing you to check roughly the contents of the tape in about 1/4th of the time spent for recording.

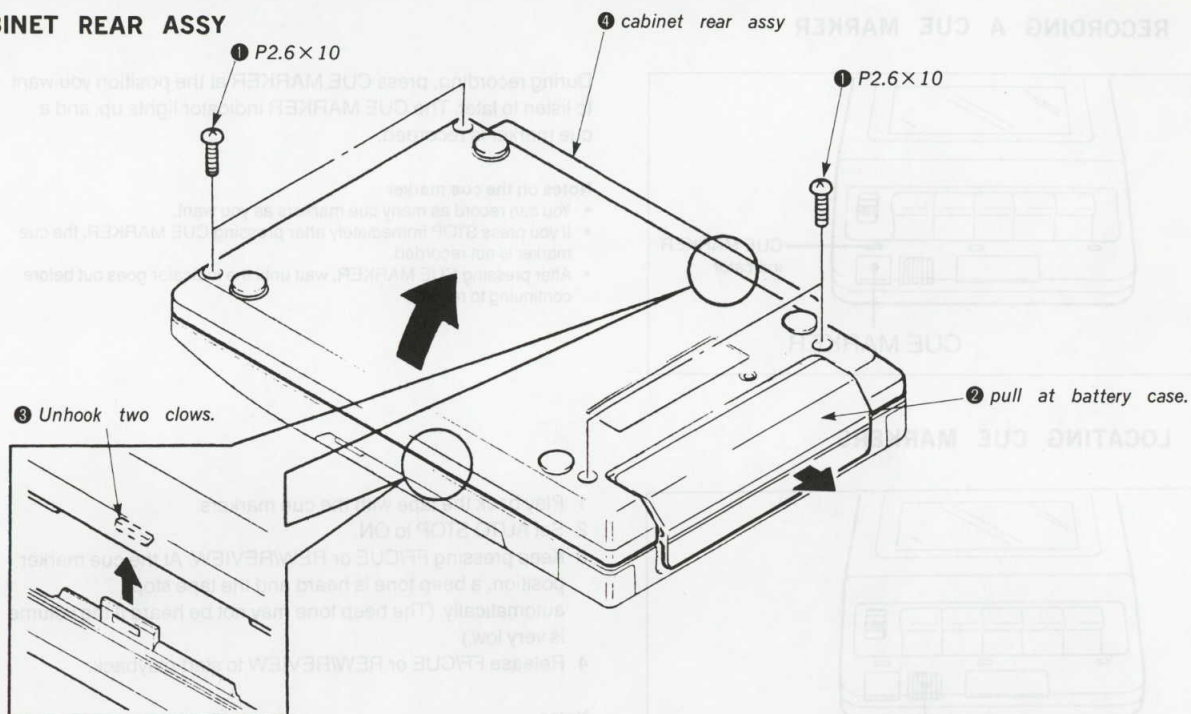
To stop scanning, press SOUND SCAN, FF/CUE, or REW REVIEW. The unit returns to a normal playback.

Note: The sound is monaural during sound scanning, and the sound quality may differ from the normal playback sound.

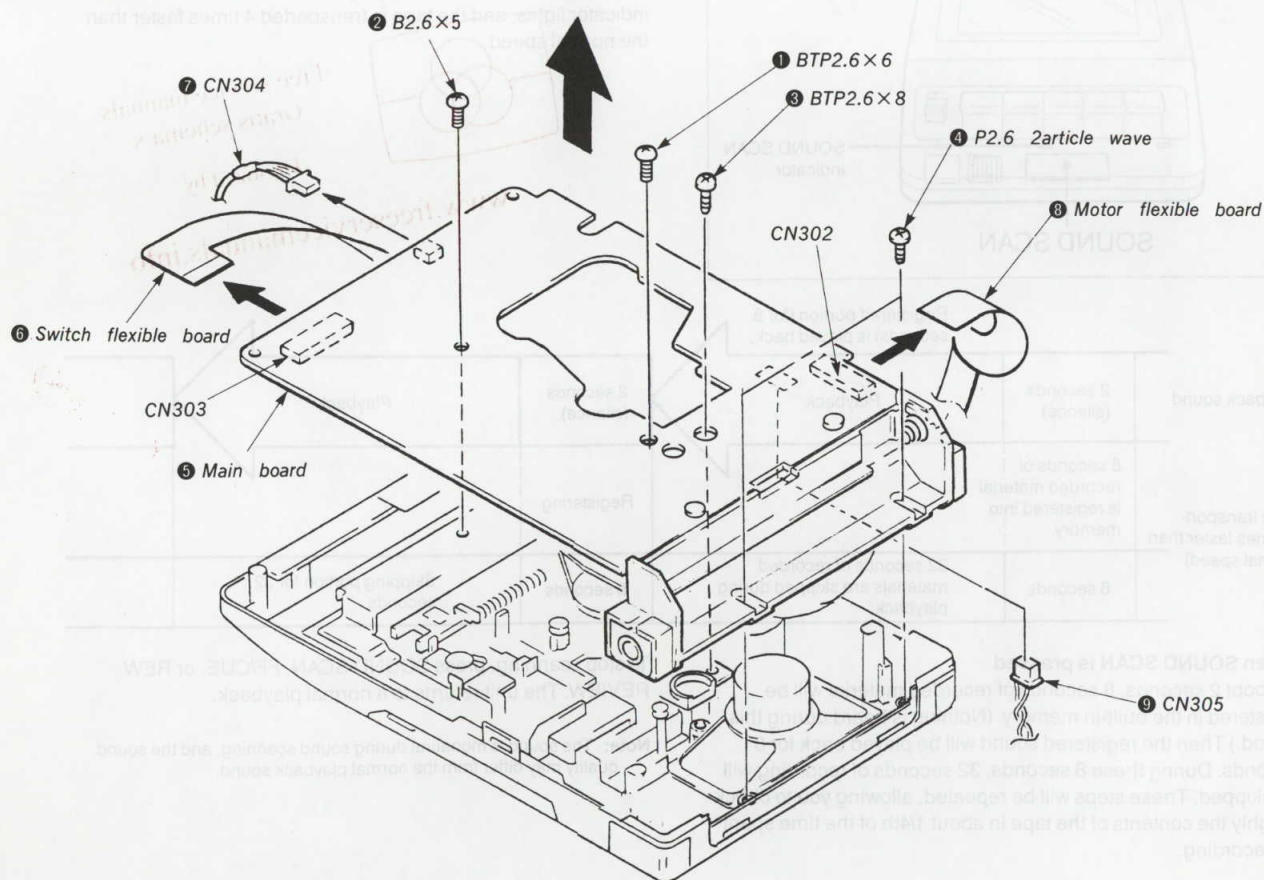
SECTION 2 DISASSEMBLY

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

2-1. CABINET REAR ASSY



2-2. MAIN BOARD



● Semiconductor Location	
Ref. No.	Location
D301	E-16
D302	E-15
D303	E-16
D304	H-8
D401	B-8
D402	A-4
D403	G-7
D404	C-11
D405	C-11
D406	C-12
D407	C-11
D408	E-4
D409	C-6
D410	D-7
D412	B-8
D413	I-5
D414	I-5
D415	A-3
D416	C-13
D601	G-5
D602	F-5
D603	H-5
D604	G-5
D901	E-2
D902	G-2
D903	H-2
IC301	F-15
IC302	C-14
IC303	H-6
IC401	G-15
IC402	D-11
IC403	E-4
IC404	B-12
IC405	B-11
IC406	E-5
IC407	C-5
IC408	B-29
IC601	F-4
IC602	G-5
IC603	H-4
IC604	I-4
Q301	J-10
Q302	H-14
Q303	B-16
Q304	I-15
Q305	H-15
Q306	E-15
Q307	D-15
Q308	D-14
Q309	I-8
Q310	G-7
Q311	H-16
Q312	H-16

Ref. No.	Location
Q313	B-9
Q314	B-6
Q315	H-14
Q316	H-7
Q401	B-8
Q402	B-9
Q403	C-12
Q404	D-11
Q405	H-6
Q406	I-6
Q407	D-4
Q408	C-11
Q409	F-4
Q410	E-11
Q411	C-4
Q412	A-5
Q413	B-4
Q414	H-6
Q415	B-10
Q416	D-8
Q417	D-7
Q418	D-7
Q419	C-29
Q420	C-29
Q421	C-28
Q422	D-28
Q423	E-29
Q424	D-30
Q425	F-29
Q426	E-29
Q427	E-29
Q428	E-28
Q429	D-29
Q430	C-11
Q431	D-6
Q432	D-4
Q601	G-4
Q602	F-5
Q603	H-4
Q604	F-5
Q605	G-5
Q606	F-5
Q607	F-5

- : parts extracted from the component side.
- : parts extracted from the conductor side.
- : Through hole.
- : Pattern on the side which is seen.
- : Pattern of the rear side.

5-1. PRINTED WIRING BOARDS ●Refer to page 18 for Semiconductor Lead Layouts.

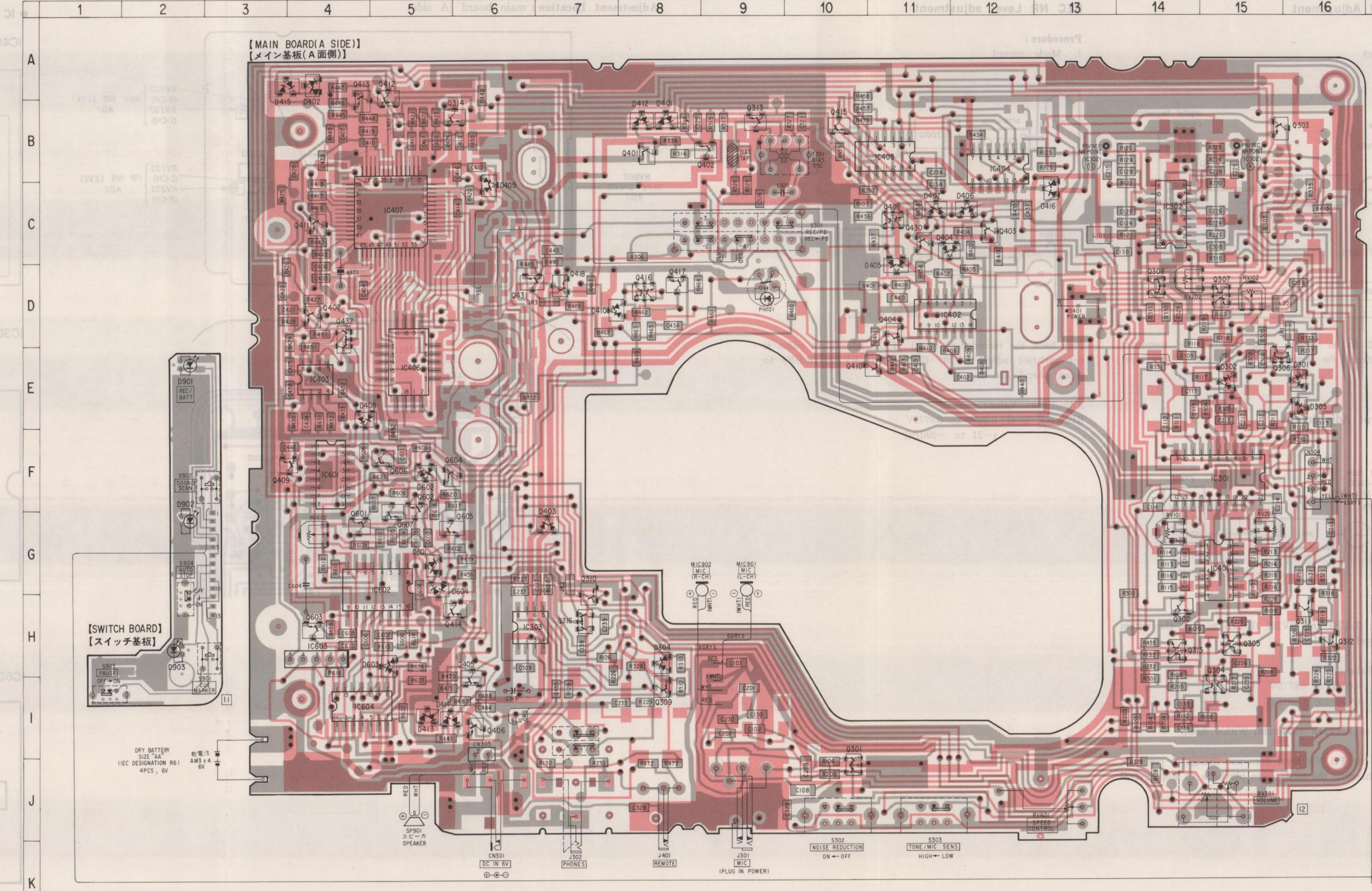


Diagram of the SWITCH FLEXIBLE BOARD (スイッチフレキシブル基板).

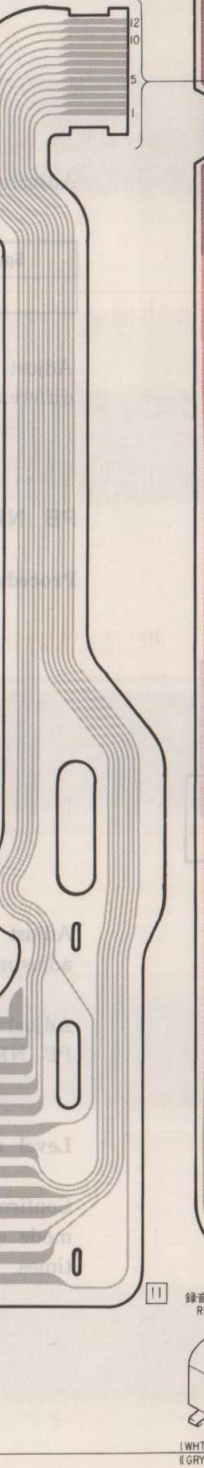


Diagram of the MAIN BOARD (B SIDE) (メイン基板 (B 面側)).

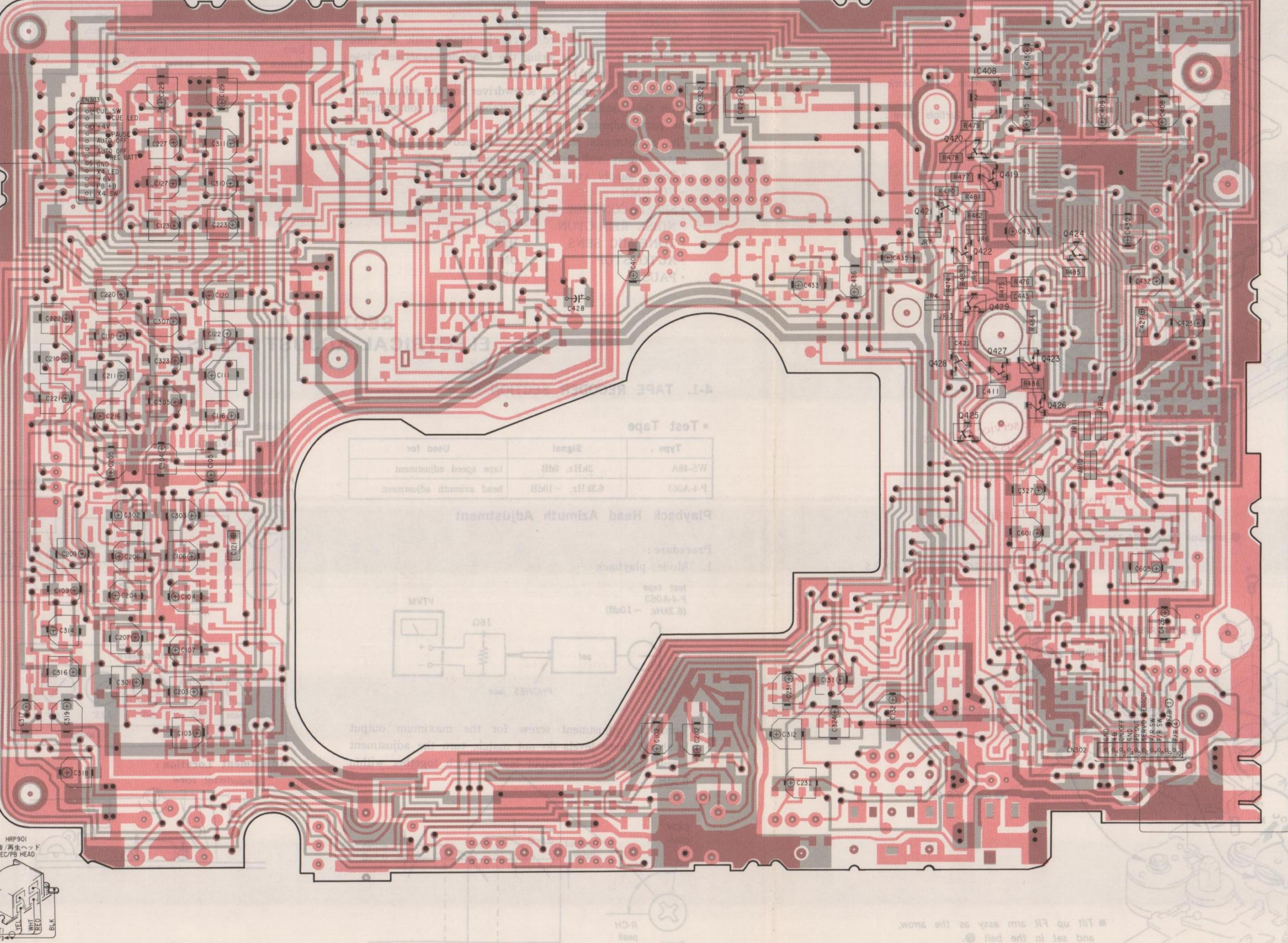
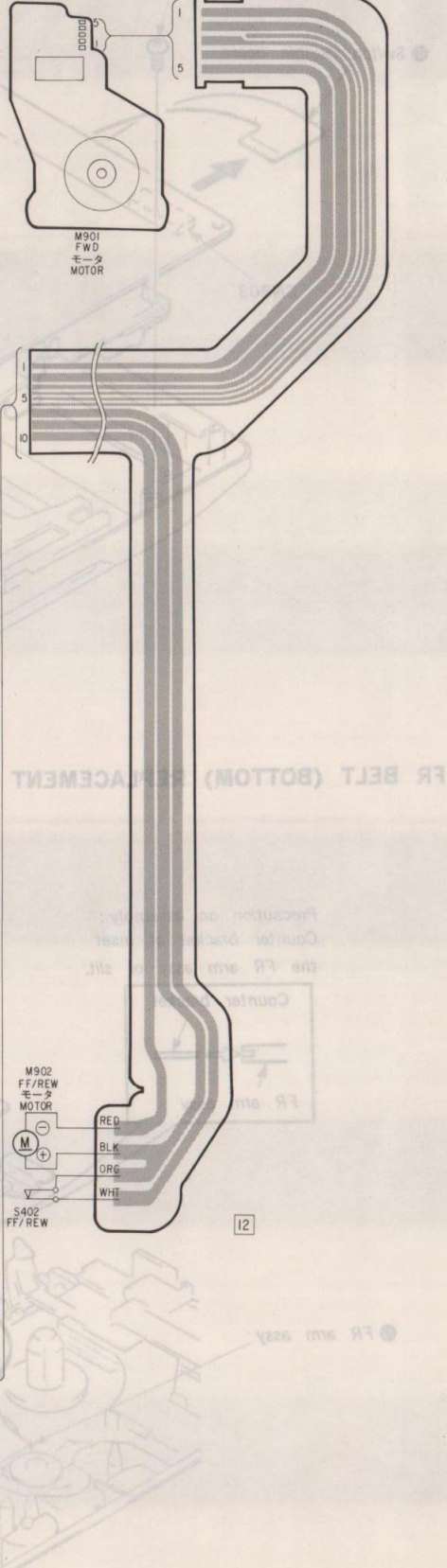
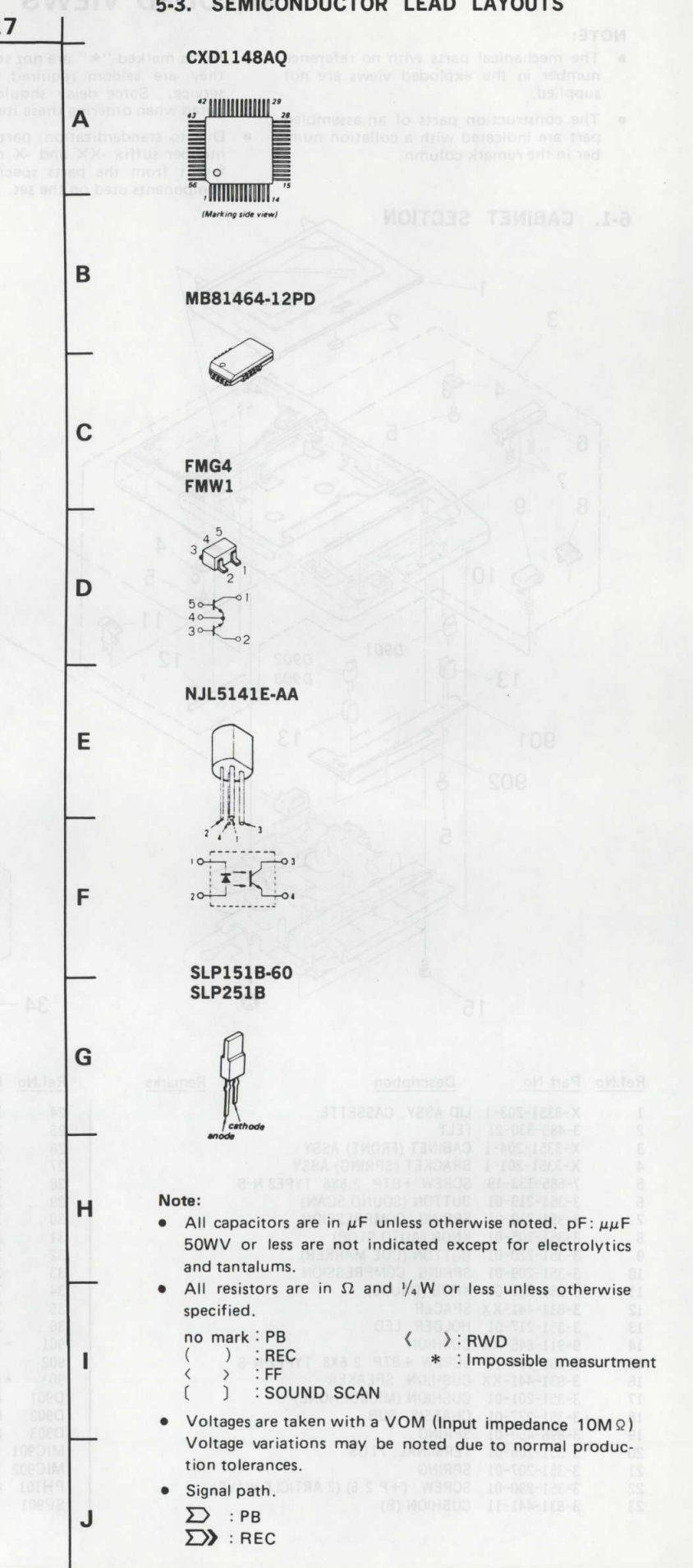


Diagram of the MOTOR FLEXIBLE BOARD (モータフレキシブル基板).



5-3. SEMICONDUCTOR LEAD LAYOUTS

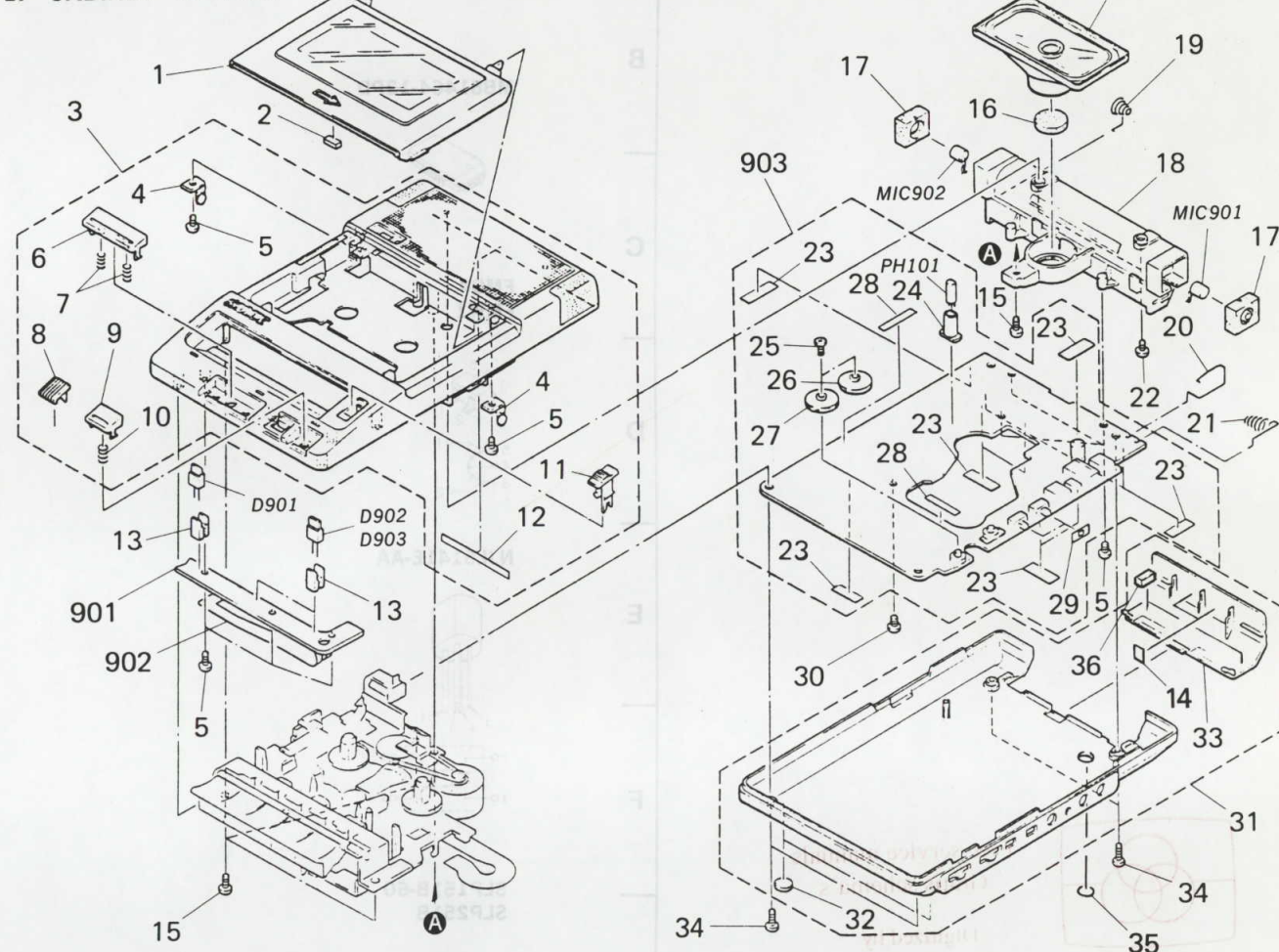


SECTION 6 EXPLODED VIEWS

NOTE:

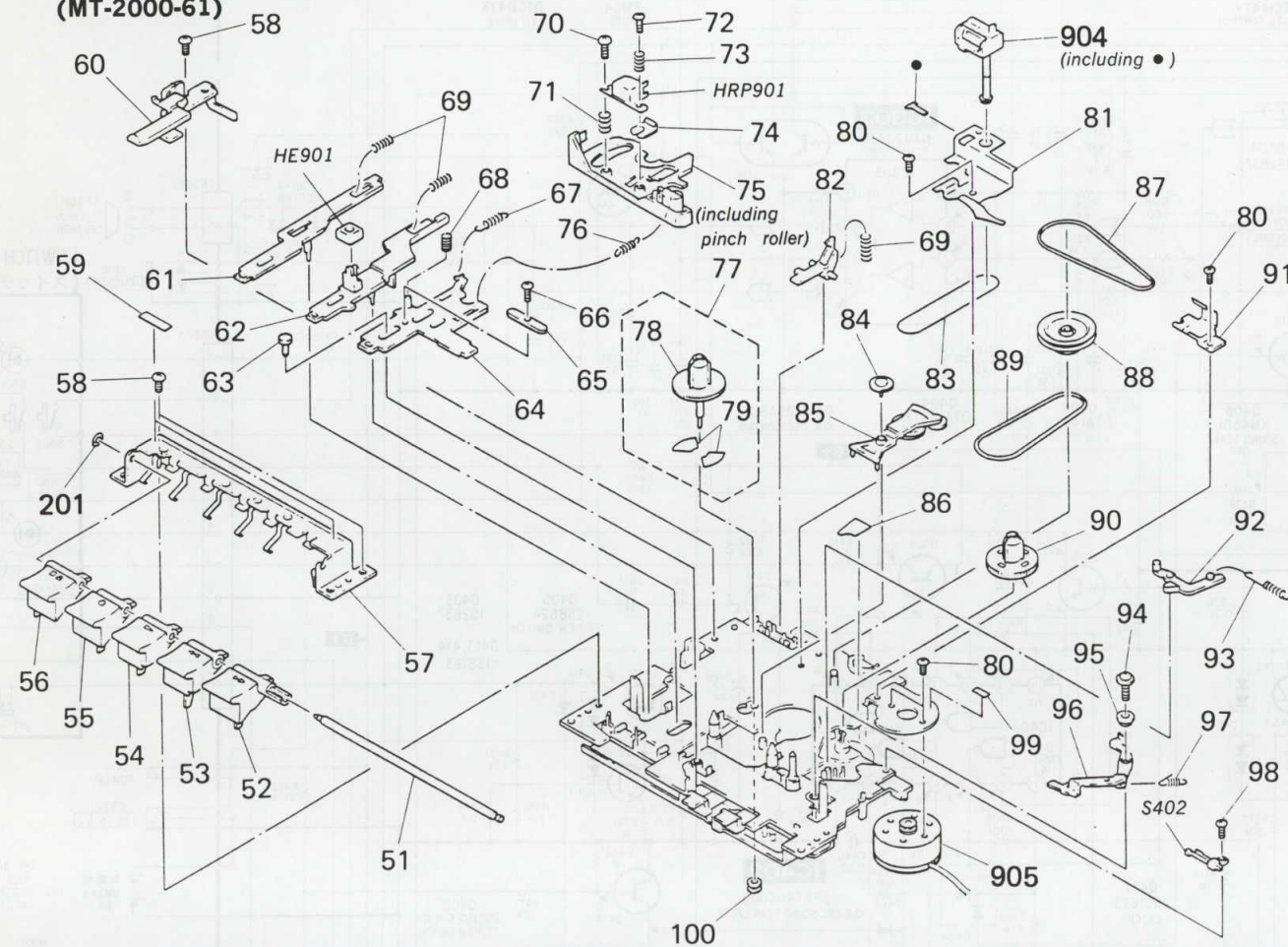
- The mechanical parts with no reference number in the exploded views are not supplied.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- Due to standardization, parts with part number suffix -XX and -X may be different from the parts specified in the components used on the set.
- Color Indication of Appearance Parts
Example:
(RED) ... KNOB, BALANCE (WHITE)
Cabinet's Color Parts' Color

6-1. CABINET SECTION



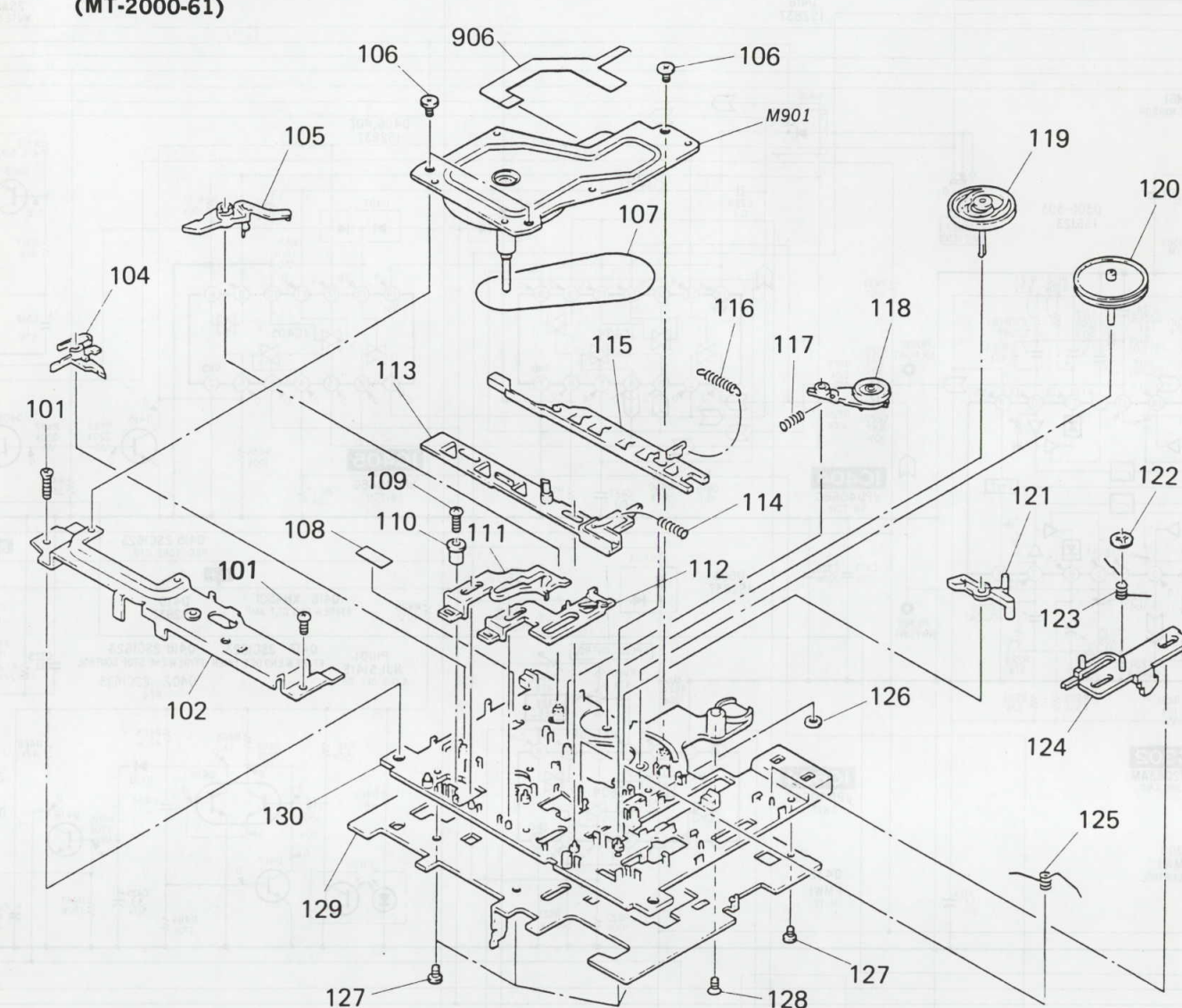
Ref.No	Part No.	Description	Remarks
1	X-3351-203-1	LID ASSY, CASSETTE	
2	3-485-330-21	FELT	
3	X-3351-204-1	CABINET (FRONT) ASSY	
4	X-3351-201-1	BRACKET (SPRING) ASSY	
5	7-685-133-19	SCREW +BTP 2.6X6 TYPE2 N-S	
6	3-351-219-01	BUTTON (SOUND SCAN)	
7	3-351-210-01	SPRING, COMPRESSION	
8	3-351-205-01	KNOB (AUTO STOP)	
9	3-351-220-01	BUTTON (CUE MARKER)	
10	3-351-209-01	SPRING, COMPRESSION	
11	3-351-221-01	KNOB (PAUSE)	
12	3-831-441-XX	SPACER	
13	3-351-217-01	HOLDER, LED	
14	9-911-845-XX	CUSHION	
15	7-685-134-19	SCREW +BTP 2.6X8 TYPE2 N-S	
16	3-831-441-XX	CUSHION, SPEAKER	
17	3-351-201-01	CUSHION (MONOPHONE)	
18	* 3-351-227-01	CHASSIS, SUB	
19	3-896-450-01	SPRING	
20	3-351-206-01	TERMINAL, PLUS	
21	3-351-207-01	SPRING	
22	3-351-290-01	SCREW, (+P 2.6) (2 ARTICLE WAVE)	
23	3-831-441-11	CUSHION (B)	
24	3-351-224-01	HOLDER (SENSOR)	
25	3-714-118-01	SCREW (1.7X4)	
26	3-351-214-01	KNOB (SPEED)	
27	3-351-215-01	KNOB (VOL)	
28	3-831-441-11	CUSHION (B)	
29	3-305-653-00	PLATE (A), BLIND	
30	7-621-770-87	SCREW +B 2.6X5	
31	X-3351-213-1	CABINET (REAR) ASSY	
32	3-319-288-01	FOOT	
33	3-351-226-01	LID BATTERY CASE	
34	7-685-135-19	SCREW +P 2.6X10 TYPE2 SLIT	
35	3-342-380-01	SHEET, SPEED HOLE	
36	3-831-441-XX	CUSHION (B), CABINET	
901	* 1-629-354-11	PC BOARD, SWITCH	
902	1-629-355-11	PC BOARD, SWITCH FLEXIBLE	
903	* A-3015-719-A	PC BOARD ASSY, MAIN	
D901	8-719-938-11	DIODE SLP151B-60	
D902	8-719-938-11	DIODE SLP151B-60	
D903	8-719-902-51	DIODE SLP251B	
MIC901	1-542-092-11	MICROPHONE, ELECTRET CONDENSER	
MIC902	1-542-092-11	MICROPHONE, ELECTRET CONDENSER	
PH101	8-719-751-42	DIODE NUL5141E-AA	
SP901	1-544-118-11	SPEAKER	

6-2. MECHANISM SECTION (1) (MT-2000-61)



Ref.No	Part No.	Description	Remarks
51	3-351-235-01	SHAFT (BUTTON)	
52	7-627-852-07	BUTTON (FF)	
53	* 3-351-257-01	BRACKET (COUNTER)	
54	3-343-345-01	LEVER, SAFETY	
55	3-351-249-01	BELT	
56	3-351-262-01	BUTTON (STOP)	
57	* X-3351-207-1	GUIDE ASSY, BUTTON	
58	7-627-553-37	PRECISION SCREW +P 2X3 TYPE 3	
59	3-831-441-11	CUSHION (B)	
60	X-3351-208-1	HOLDER ASSY, EJECT	
61	3-343-335-01	LEVER, STOP	
62	3-351-258-01	LEVER, REC	
63	3-351-278-01	SHAFT (LEVER STOPPER)	
64	3-343-342-17	LEVER, PLAY	
65	* 3-343-339-01	STOPPER, HEAD BASE	
66	3-336-735-11	SCREW (1.4X3), TAPPING	
67	3-351-277-01	SPRING, TENSION	
68	* 3-343-264-61	COLLAR, SPRING	
69	3-343-346-01	SPRING, COMPRESSION	
70	3-342-067-01	SCREW (2X3.5), AZIMUTH	
71	3-342-068-01	SPRING, COMPRESSION	
72	7-627-553-87	SCREW, PRECISION +P 2X7	
73	3-318-813-21	SPRING, COTTER POLYETHYLENE	
74	1-550-463-11	COUNTER, TAPE (ULTRA SMALL)	
75	3-336-274-11	SHIM (T=0.1)	
76	3-336-274-11	SHIM (T=0.2)	
77	X-3351-205-1	BASE ASSY, HEAD (including pinch roller)	
78	3-351-276-01	SPRING, TENSION	
79	X-3343-336-1	GEAR ASSY, S REEL	
80	3-342-013-01	GEAR, S REEL	
81	3-351-254-01	BRACKET (MOTOR)	
82	3-351-253-01	LEVER (B), SHUT-OFF	
83	3-303-809-51	SCREW (M1.7X5.0), SPECIAL HEAD	
84	3-343-359-01	BUSHING	
85	X-3351-210-1	ARM ASSY, FR	
86	* 3-349-756-01	SPACER (FF GEAR)	
87	3-831-441-11	BELT	
88	3-351-231-01	PULLEY (MIDWAY)	
89	3-351-239-01	BELT	
90	X-3343-322-1	GEAR ASSY, T REEL	
91	X-3351-206-1	SPRING ASSY	
92	* X-3351-212-1	LEVER (P) ASSY, JOINT	
93	3-343-339-01	LEVER, FF	
94	3-319-501-41	SCREW (+ PTPWH) (2.6X5)	
95	3-343-256-01	SPACER (D)	
96	* 3-345-840-11	LEVER (FR)	
97	3-343-374-01	SPRING, TENSION	
98	3-343-253-21	SCREW (M1.6X3.8)	
99	* 3-329-460-01	SPACER	
100	3-351-242-01	PULLEY (COUNTER)	
101	3-318-813-21	SPRING, COTTER POLYETHYLENE	
102	1-550-463-11	COUNTER, TAPE (ULTRA SMALL)	
904	A-3133-368-A	MOTOR BLOCK ASSY (INCLUDING M902)	
HE901	1-543-474-11	HEAD, MAGNETIC (ERASE)	
HRP901	1-543-526-11	HEAD, MAGNETIC (REC/PB)	
S402	1-571-348-11	SWITCH, LEAF (FF/REW)	

6-3. MECHANISM SECTION (2) (MT-2000-61)



Ref.No	Part No.	Description	Remarks
101	7-627-452-58	SCREW +K 2X6 TYPE1	
102	* 3-351-254-01	BRACKET (MOTOR)	
103	X-3351-209-1	PULLEY ASSY, MIDWAY	
104	3-345-814-01	LEVER (S), SHAFT OFF	
105	3-303-809-51	SCREW (M1.7X5.0), SPECIAL HEAD	
106	3-351-230-01	BELT	
107	3-831-441-11	CUSHION (B)	
108	7-627-552-77	SCREW, PRECISION +P 1.7X6	
109	3-349-752-01	SPACER (FF)	
110	3-343-340-01	LEVER, FF	
111	3-343-339-01	LEVER, REW	
112	3-351-250-04	SLIDER, POWER	
113	3-343-346-01	SPRING, COMPRESSION	
114	* X-3351-211-1	PLATE ASSY, B	
115	3-351-259-01	SLIDER, LOCK	
116	3-351-283-01	SPRING, TENSION	
117	3-342-034-01	SPRING, TENSION	
118	X-3343-337-1	ARM ASSY, IDLER	
119	X-3343-307-1	PLATE ASSY, T REEL	
120	X-3351-209-1	PULLEY ASSY, MIDWAY	
121	3-342-010-01	ARM, CR	
122	3-342-841-01	NUT, F PUSH	
123	3-351-274-01	SPRING, TORSION	
124	3-351-238-01	SLIDER, EJECT	
125	3-342-035-01	SPRING (FR)	
126	3-570-615-00	POLY-WASHER (DIA 1.2)	
127	3-343-254-51	SCREW (B1.7X2.8), TAPPING	
128	3-351-279-01	PLATE ASSY, B	
129	* X-3351-211-1	BRACKET, LEVER	
130	1-630-106-11	PC BOARD, MOTOR FLEXIBLE	
M901	1-541-656-11	MOTOR (FWD)	

SECTION 7 ELECTRICAL PARTS LIST

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.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- If there are two or more same circuits in a set such as a stereophonic machine, only typical circuit parts may be indicated and capacitors and resistors in other same circuits may be omitted.

CAPACITORS:
MF: μ F, PF: μ F.

RESISTORS

- All resistors are in ohms.
- F: nonflammable

COILS

- MMH: mH, UH: μ H

SEMICONDUCTORS

In each case, U: μ , for example:
UA...: μ A..., UPA...: μ PA...,
UPC...: μ PC, UPD...: μ PD...

Ref.No	Part No.	Description
901	* 1-629-354-11	PC BOARD, SWITCH
902	1-629-355-11	PC BOARD, SWITCH FLEXIBLE
903	* A-3015-719-A	PC BOARD ASSY, MAIN
904	1-550-463-11	COUNTER, TAPE (ULTRA SMALL)
905	A-3133-368-A	MOTOR BLOCK ASSY (INCLUDING M902)
906	1-630-106-11	PC BOARD, MOTOR FLEXIBLE

CAPACITOR

Ref.No	Part No.	Description	Value	Remarks
C101	1-163-810-00	CERAMIC CHIP	0.03MF	10% 25V
C102	1-124-778-00	ELECT CHIP	22MF	20% 6.3V
C103	1-126-193-11	ELECT CHIP	1MF	20% 50V
C104	1-126-193-11	ELECT CHIP	1MF	20% 50V
C105	1-126-191-11	ELECT CHIP	0.47MF	20% 50V
C106	1-124-779-00	ELECT CHIP	10MF	20% 16V
C107	1-126-193-11	ELECT CHIP	1MF	20% 50V
C108	1-162-638-11	CERAMIC CHIP	1MF	20% 16V
C109	1-124-778-00	ELECT CHIP	22MF	20% 6.3V
C110	1-126-193-11	ELECT CHIP	1MF	20% 50V

Ref.No	Part No.	Description	Value	Remarks
C111	1-126-193-11	ELECT CHIP	1MF	20% 50V
C112	1-164-161-11	CERAMIC CHIP	0.0022MF	10% 50V
C113	1-164-161-11	CERAMIC CHIP	0.0022MF	10% 50V
C114	1-163-117-00	CERAMIC CHIP	100PF	5% 50V
C115	1-163-015-00	CERAMIC CHIP	0.0033MF	10% 50V

Ref.No	Part No.	Description	Value	Remarks
C116	1-124-779-00	ELECT CHIP	10MF	20% 16V
C117	1-163-015-00	CERAMIC CHIP	0.0033MF	10% 50V
C118	1-163-015-00	CERAMIC CHIP	0.0033MF	10% 50V
C119	1-163-017-00	CERAMIC CHIP	0.0047MF	10% 50V
C120	1-126-196-11	ELECT CHIP	3.3MF	20% 50V

Ref.No	Part No.	Description	Value	Remarks
C121	1-135-145-11	TANTAL. CHIP	0.47MF	10% 35V
C122	1-126-191-11	ELECT CHIP	0.47MF	20% 50V
C123	1-126-196-11	ELECT CHIP	3.3MF	20% 50V
C124	1-163-019-00	CERAMIC CHIP	0.0068MF	10% 50V
C125	1-163-810-00	CERAMIC CHIP	0.03MF	10% 25V

Ref.No	Part No.	Description	Value	Remarks
C126	1-163-809-11	CERAMIC CHIP	0.047MF	10% 25V
C127	1-126-192-11	ELECT CHIP	0.68MF	20% 50V
C128	1-163-017-00	CERAMIC CHIP	0.0047MF	10% 50V
C129	1-126-191-11	ELECT CHIP	0.47MF	20% 50V
C130	1-163-810-00	CERAMIC CHIP	0.03MF	10% 25V

Ref.No	Part No.	Description	Value	Remarks
C131	1-126-207-11	ELECT CHIP	33MF	20% 4V
C132	1-126-246-11	ELECT CHIP	220MF	20% 4V
C133	1-163-038-00	CERAMIC CHIP	0.1MF	25V
C134	1-163-038-00	CERAMIC CHIP	0.1MF	25V
C135	1-163-135-00	CERAMIC CHIP	560PF	5% 50V

Ref.No	Part No.	Description	Value	Remarks
C136	1-163-009-11	CERAMIC CHIP	0.001MF	10% 50V
C137	1-163-015-00	CERAMIC CHIP	0.0033MF	10% 50V
C138	1-163-810-00	CERAMIC CHIP	0.03MF	10% 25V
C139	1-164-005-11	CERAMIC CHIP	0.47MF	25V
C201	1-630-106-11	PC BOARD, MOTOR FLEXIBLE	0.03MF	10% 25V

Ref.No	Part No.	Description	Value	Remarks
C202	1-124-778-00	ELECT CHIP	22MF	20% 6.3V
C203	1-126-193-11	ELECT CHIP	1MF	20% 50V
C204	1-126-193-11	ELECT CHIP	1MF	20% 50V
C205	1-126-191-11	ELECT CHIP	0.47MF	20% 50V
C206	1-124-779-00	ELECT CHIP	10MF	20% 16V

Ref.No	Part No.	Description	Value	Remarks
C207	1-126-193-11	ELECT CHIP	1MF	20% 50V

Ref.No	Part No.	Description	Value	Remarks
C208	1-162-638-11	CERAMIC CHIP	1MF	20% 16V
C209	1-124-778-00	ELECT CHIP	22MF	20% 6.3V
C210	1-126-193-11	ELECT CHIP	1MF	20% 50V
C211	1-126-193-11	ELECT CHIP	1MF	20% 50V
C212	1-164-161-11	CERAMIC CHIP	0.0022MF	10% 50V

Ref.No	Part No.	Description	Value	Remarks
C213	1-164-161-11	CERAMIC CHIP	0.0022MF	10% 50V
C214	1-163-117-00	CERAMIC CHIP	100PF	5% 50V
C215	1-163-015-00	CERAMIC CHIP	0.0033MF	10% 50V
C216	1-124-779-00	ELECT CHIP	10MF	20% 16V
C217	1-163-015-00	CERAMIC CHIP	0.0033MF	10% 50V

C218	1-163-015-00	CERAMIC CHIP	0.0033MF	10%	5
C219	1-163-017-00	CERAMIC CHIP	0.0047MF	10%	5
C220	1-126-196-11	ELECT CHIP	3.3MF	20%	5
C221	1-126-191-11	ELECT CHIP	0.47MF	20%	5
C222	1-126-191-11	ELECT CHIP	0.47MF	20%	5

Ref.No	Part No.	Description			
C324	1-126-191-11	ELECT CHIP	0.47MF	20%	50V
C325	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C326	1-163-021-00	CERAMIC CHIP	0.01MF	10%	50V
C327	1-124-778-00	ELECT CHIP	22MF	20%	6.3V
C328	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C329	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C401	1-126-193-11	ELECT CHIP	1MF	20%	50V
C402	1-164-222-11	CERAMIC CHIP	0.22MF		25V
C403	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C404	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C405	1-163-111-00	CERAMIC CHIP	56PF	5%	50V
C406	1-163-111-00	CERAMIC CHIP	56PF	5%	50V
C407	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C408	1-124-779-00	ELECT CHIP	10MF	20%	16V
C409	1-126-208-11	ELECT CHIP	47MF	20%	4V
C410	1-163-111-00	CERAMIC CHIP	56PF	5%	50V
C411	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C412	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C413	1-124-779-00	ELECT CHIP	10MF	20%	16V
C414	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C415	1-126-191-11	ELECT CHIP	0.47MF	20%	50V
C416	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C417	1-163-014-00	CERAMIC CHIP	0.0027MF	10%	50V
C418	1-163-145-00	CERAMIC CHIP	0.0015MF	10%	50V
C419	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C420	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C421	1-163-023-00	CERAMIC CHIP	0.015MF	10%	50V
C422	1-163-809-11	CERAMIC CHIP	0.047MF	10%	25V
C423	1-126-195-11	ELECT CHIP	2.2MF	20%	50V
C424	1-135-145-11	TANTAL. CHIP	0.47MF	10%	35V
C425	1-163-809-11	CERAMIC CHIP	0.047MF	10%	25V
C426	1-124-779-00	ELECT CHIP	10MF	20%	16V
C427	1-135-148-21	TANTAL. CHIP	1.5MF	10%	16V
C428	1-135-202-21	TANTAL. CHIP	22MF	20%	6.3V
C429	1-126-209-11	ELECT CHIP	100MF	20%	4V
C430	1-126-193-11	ELECT CHIP	1MF	20%	50V
C431	1-126-206-11	ELECT CHIP	100MF	20%	6.3V
C432	1-126-208-11	ELECT CHIP	47MF	20%	4V
C433	1-126-193-11	ELECT CHIP	1MF	20%	50V
C434	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C435	1-126-196-11	ELECT CHIP	3.3MF	20%	50V
C436	1-126-208-11	ELECT CHIP	47MF	20%	4V
C437	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C438	1-163-021-00	CERAMIC CHIP	0.01MF	10%	50V
C439	1-163-037-11	CERAMIC CHIP	0.022MF	10%	25V
C440	1-164-222-11	CERAMIC CHIP	0.22MF		25V
C441	1-162-638-11	CERAMIC CHIP	1MF		16V
C442	1-162-638-11	CERAMIC CHIP	1MF		16V
C443	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C444	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C445	1-164-234-11	CERAMIC CHIP	1MF		10V
C446	1-164-234-11	CERAMIC CHIP	1MF		10V
C601	1-124-779-00	ELECT CHIP	10MF	20%	16V
C602	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C603	1-124-779-00	ELECT CHIP	10MF	20%	16V
C604	1-130-736-11	FILM	0.01MF	5%	50V
C605	1-163-810-00	CERAMIC CHIP	0.03MF	10%	25V
C606	1-163-021-00	CERAMIC CHIP	0.01MF	10%	50V
C607	1-163-021-00	CERAMIC CHIP	0.01MF	10%	50V
C608	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C609	1-163-021-00	CERAMIC CHIP	0.01MF	10%	50V
C610	1-163-810-00	CERAMIC CHIP	0.03MF	10%	25V
C611	1-163-021-00	CERAMIC CHIP	0.01MF	10%	50V
CN301	1-562-961-11	JACK (DC IN 6V)			
CN302	1-566-683-11	HOUSING, CONNECTOR (FPC) 10P			

Ref.No	Part No.	Description			
CN303	1-565-180-21	HOUSING, CONNECTOR 12P			
CN304	* 1-566-001-11	PIN, CONNECTOR (PC BOARD) 4P			
CN305	* 1-506-984-11	PIN, CONNECTOR (PC BOARD) 2P			
D301	8-719-800-76	DIODE 1SS226			
D302	8-719-800-76	DIODE 1SS226			
D303	8-719-800-76	DIODE 1SS226			
D304	8-719-100-05	DIODE 1S2837			
D401	8-719-800-76	DIODE 1SS226			
D402	8-719-800-76	DIODE 1SS226			
D403	8-719-100-05	DIODE 1S2837			
D404	8-719-100-05	DIODE 1S2837			
D405	8-719-100-05	DIODE 1S2837			
D406	8-719-100-05	DIODE 1S2837			
D407	8-719-100-05	DIODE 1S2837			
D408	8-719-100-05	DIODE 1S2837			
D409	8-719-908-30	DIODE DA106K			
D410	8-719-100-05	DIODE 1S2837			
D412	8-719-800-76	DIODE 1SS226			
D413	8-719-800-76	DIODE 1SS226			
D414	8-719-800-76	DIODE 1SS226			
D415	8-719-800-76	DIODE 1SS226			
D416	8-719-100-05	DIODE 1S2837			
D601	8-719-800-76	DIODE 1SS226			
D602	8-719-800-76	DIODE 1SS226			
D603	8-719-100-05	DIODE 1S2837			
D604	8-719-800-76	DIODE 1SS226			
D901	8-719-938-11	DIODE SLP151B-60			
D902	8-719-902-51	DIODE SLP251B			
D903	8-719-902-51	DIODE SLP251B			
HE901	1-543-474-11	HEAD, MAGNETIC (ERASE)			
HRP901	1-543-526-11	HEAD, MAGNETIC (REC/PB)			
IC301	8-759-403-67	IC AN7015S			
IC302	8-759-701-07	IC NJM2063AM			
IC303	8-759-701-02	IC NJM2073M			
IC401	8-759-106-23	IC UPD4066BG			
IC402	8-759-204-94	IC TC74HC00F			
IC403	8-759-972-70	IC BA3708F			
IC404	8-759-106-23	IC UPD4066BG			
IC405	8-759-106-23	IC UPD4066BG			
IC406	8-759-942-06	IC MB81464-12PD			
IC407	8-759-972-80	IC CXD1148AQ			
IC408	8-759-984-04	IC SCI7700YNA			
IC601	8-759-106-92	IC UPD74HC161G			
IC602	8-759-909-45	IC CX20084			
IC603	8-759-802-28	IC LA5537			
IC604	8-759-106-23	IC UPD4066BG			
J301	1-507-999-11	JACK (MIC)			
J302	1-507-958-31	JACK (PHONES)			
J401	1-507-933-11	JACK (REMOTE)			
JR1	1-216-295-00	METAL GLAZE	0	5%	1/10W
JR2	1-216-295-00	METAL GLAZE	0	5%	1/10W
JR3	1-216-295-00	METAL GLAZE	0	5%	1/10W
JR4	1-216-295-00	METAL GLAZE	0	5%	1/10W
JR5	1-216-295-00	METAL GLAZE	0	5%	1/10W
JR6	1-216-295-00	METAL GLAZE	0	5%	1/10W
JR7	1-216-295-00	METAL GLAZE	0	5%	1/10W
JR10	1-216-296-00	METAL GLAZE	0	5%	1/8W
JR11	1-216-296-00	METAL GLAZE	0	5%	1/8W
JR12	1-216-296-00	METAL GLAZE	0	5%	1/8W
JR13	1-216-296-00	METAL GLAZE	0	5%	1/8W
L101	1-410-220-31	INDUCTOR CHIP 220UH			
L201	1-410-220-31	INDUCTOR CHIP 220UH			

Ref.No	Part No.	Description
L401	1-410-201-51	INDUCTOR CHIP 5.6UH
M901	1-541-656-11	MOTOR (FWD)
MIC901	1-542-092-11	MICROPHONE, ELECTRET CONDENSER
MIC902	1-542-092-11	MICROPHONE, ELECTRET CONDENSER
PH101	8-719-751-42	DIODE NJL5141E-AA
Q301	8-729-902-93	TRANSISTOR FMG4
Q302	8-729-903-30	TRANSISTOR DTC144TK
Q303	8-729-903-30	TRANSISTOR DTC144TK
Q304	8-729-402-81	TRANSISTOR XN4501
Q305	8-729-402-81	TRANSISTOR XN4501
Q306	8-729-902-93	TRANSISTOR FMG4
Q307	8-729-402-81	TRANSISTOR XN4501
Q308	8-729-903-10	TRANSISTOR FMW1
Q309	8-729-216-22	TRANSISTOR 2SA1162
Q310	8-729-903-30	TRANSISTOR DTC144TK
Q311	8-729-100-66	TRANSISTOR 2SC1623
Q312	8-729-100-66	TRANSISTOR 2SC1623
Q313	8-729-159-64	TRANSISTOR 2SD596
Q314	8-729-100-66	TRANSISTOR 2SC1623
Q315	8-729-402-81	TRANSISTOR XN4501
Q316	8-729-902-93	TRANSISTOR FMG4
Q401	8-729-162-44	TRANSISTOR 2SB624-BV4
Q402	8-729-100-66	TRANSISTOR 2SC1623
Q403	8-729-903-29	TRANSISTOR DTA144TK
Q404	8-729-903-29	TRANSISTOR DTA144TK
Q405	8-729-162-44	TRANSISTOR 2SB624-BV4
Q406	8-729-100-66	TRANSISTOR 2SC1623
Q407	8-729-100-66	TRANSISTOR 2SC1623
Q408	8-729-402-81	TRANSISTOR XN4501
Q409	8-729-100-66	TRANSISTOR 2SC1623
Q410	8-729-216-22	TRANSISTOR 2SA1162
Q411	8-729-903-30	TRANSISTOR DTC144TK
Q412	8-729-162-44	TRANSISTOR 2SB624-BV4
Q413	8-729-100-66	TRANSISTOR 2SC1623
Q414	8-729-903-30	TRANSISTOR DTC144TK
Q415	8-729-100-66	TRANSISTOR 2SC1623
Q416	8-729-402-81	TRANSISTOR XN4501
Q417	8-729-100-66	TRANSISTOR 2SC1623
Q418	8-729-100-66	TRANSISTOR 2SC1623
Q419	8-729-100-66	TRANSISTOR 2SC1623
Q420	8-729-100-66	TRANSISTOR 2SC1623
Q421	8-729-216-22	TRANSISTOR 2SA1162
Q422	8-729-100-66	TRANSISTOR 2SC1623
Q423	8-729-100-66	TRANSISTOR 2SC1623
Q424	8-729-100-66	TRANSISTOR 2SC1623
Q425	8-729-901-46	TRANSISTOR DTA114YK
Q426	8-729-900-52	TRANSISTOR DTC114YK
Q427	8-729-900-52	TRANSISTOR DTC114YK
Q428	8-729-901-46	TRANSISTOR DTA114YK
Q429	8-729-900-52	TRANSISTOR DTC114YK
Q430	8-729-900-52	TRANSISTOR DTC114YK
Q431	8-729-100-66	TRANSISTOR 2SC1623
Q432	8-729-903-10	TRANSISTOR FMW1
Q601	8-729-216-22	TRANSISTOR 2SA1162
Q602	8-729-100-66	TRANSISTOR 2SC1623
Q603	8-729-100-66	TRANSISTOR 2SC1623
Q604	8-729-162-44	TRANSISTOR 2SB624-BV4
Q605	8-729-100-66	TRANSISTOR 2SC1623
Q606	8-729-216-22	TRANSISTOR 2SA1162
Q607	8-729-100-66	TRANSISTOR 2SC1623

RESISTOR

R102	1-216-049-00	METAL GLAZE	1K	5%	1/10W
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Ref.No	Part No.	Description			
R103	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W
R104	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R105	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R106	1-216-037-00	METAL GLAZE	330	5%	1/10W
R107	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R108	1-216-033-00	METAL GLAZE	220	5%	1/10W
R109	1-216-085-00	METAL GLAZE	33K	5%	1/10W
R110	1-216-105-00	METAL GLAZE	220K	5%	1/10W
R111	1-216-077-00	METAL GLAZE	15K	5%	1/10W
R112	1-216-113-00	METAL GLAZE	470K	5%	1/10W
R113	1-216-085-00	METAL GLAZE	33K	5%	1/10W
R114	1-216-117-00	METAL GLAZE	680K	5%	1/10W
R115	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R116	1-216-103-00	METAL GLAZE	180K	5%	1/10W
R117	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R118	1-216-037-00	METAL GLAZE	330	5%	1/10W
R119	1-216-105-00	METAL GLAZE	220K	5%	1/10W
R120	1-216-089-00	METAL GLAZE	47K	5%	1/10W
R121	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R122	1-216-112-00	METAL GLAZE	430K	5%	1/10W
R123	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W
R124	1-216-089-00	METAL GLAZE	47K	5%	1/10W
R125	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R126	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W
R127	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W
R128	1-216-025-00	METAL GLAZE	100	5%	1/10W
R129	1-217-671-11	METAL GLAZE	1	5%	1/10W
R130	1-216-021-00	METAL GLAZE	68	5%	1/10W
R131	1-216-077-00	METAL GLAZE	15K	5%	1/10W
R132	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R202	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R203	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W
R204	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R205	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R206	1-216-037-00	METAL GLAZE	330	5%	1/10W
R207	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R208	1-216-033-00	METAL GLAZE	220	5%	1/10W
R209	1-216-085-00	METAL GLAZE	33K	5%	1/10W
R210	1-216-105-00	METAL GLAZE	220K	5%	1/10W
R211	1-216-077-00	METAL GLAZE	15K	5%	1/10W
R212	1-216-113-00	METAL GLAZE	470K	5%	1/10W
R213	1-216-085-00	METAL GLAZE	33K	5%	1/10W
R214	1-216-117-00	METAL GLAZE	680K	5%	1/10W
R215	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R216	1-216-103-00	METAL GLAZE	180K	5%	1/10W
R217	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R218	1-216-037-00	METAL GLAZE	330	5%	1/10W
R219	1-216-105-00	METAL GLAZE	220K	5%	1/10W
R220	1-216-089-00	METAL GLAZE	47K	5%	1/10W
R221	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R222	1-216-112-00	METAL GLAZE	430K	5%	1/10W
R223	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W
R224	1-216-089-00	METAL GLAZE	47K	5%	1/10W
R225	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R226	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W
R227	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W
R228	1-216-025-00	METAL GLAZE	100	5%	1/10W
R229	1-217-671-11	METAL GLAZE	1	5%	1/10W
R230	1-216-021-00	METAL GLAZE	68	5%	1/10W
R231	1-216-077-00	METAL GLAZE	15K	5%	1/10W
R232	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R301	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R302	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R303	1-216-121-00	METAL GLAZE	1M	5%	1/10W
R304	1-216-105-00	METAL GLAZE	220K	5%	1/10W