

# MDR-RF975R

## SERVICE MANUAL

*US Model*

Ver 1.1 2001.06



MDR-RF975R is the component model block one in the MDR-RF975RK.

### COMPONENT MODEL NAME FOR MDR-RF975RK

Headphones	MDR-RF975R
Transmitter	TMR-RF975R

### SPECIFICATIONS

#### Headphones

Power source	DC 2.4 V: Built-in rechargeable battery
Mass	Approx. 350 g (12.3 oz.) incl. built-in rechargeable battery

#### Built-in Ni-MH rechargeable battery

Model name	NH-AAC
Voltage	1.2 V
Capacity	1,000 mAh

Design and specifications are subject to change without notice.

## HEADPHONES

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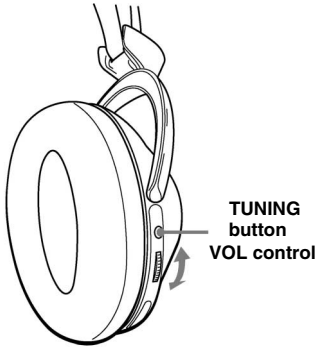
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This section is extracted from instruction manual.

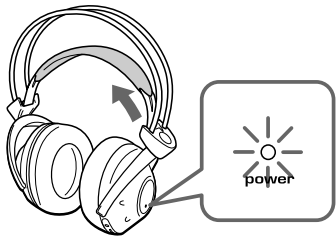
- 5** Turn up the volume to a moderate level with the VOL control.
- Press the TUNING button briefly for automatic tuning of the headphones.
- If you do not receive a clear audio signal, press it again.



Try the above steps 3 and 5 until the receiving performance becomes better.

**Auto power on/off function**

When you remove the headphones from your head, the power turns off automatically. Do not allow the self adjusting band to be pulled up, otherwise the headphones will be switched on.



The power turns on.

**Flexible Circuit Board Repairing**

- Keep the temperature of 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.

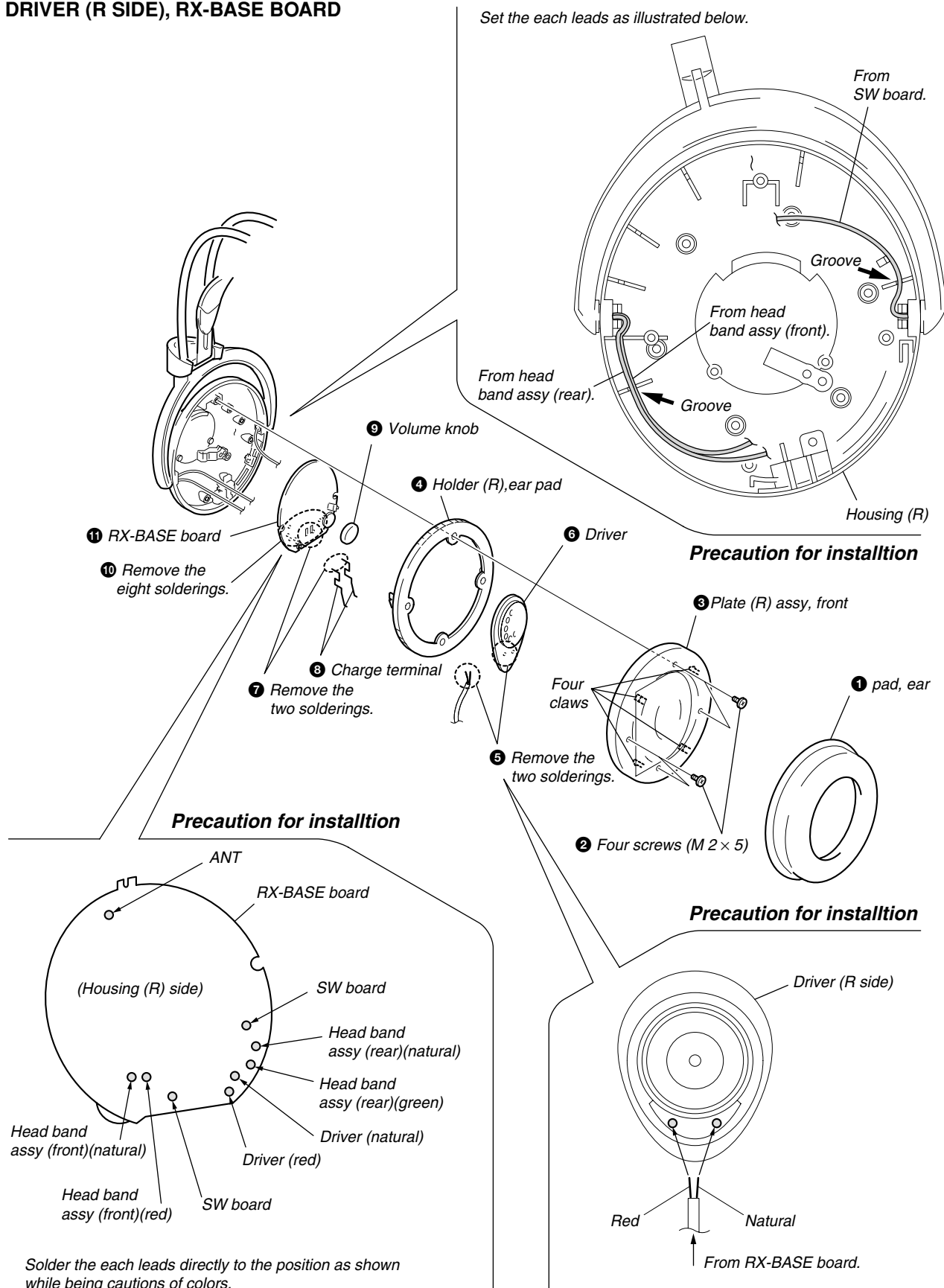
## SECTION 2 DISASSEMBLY

- The equipment can be removed using the following procedure .

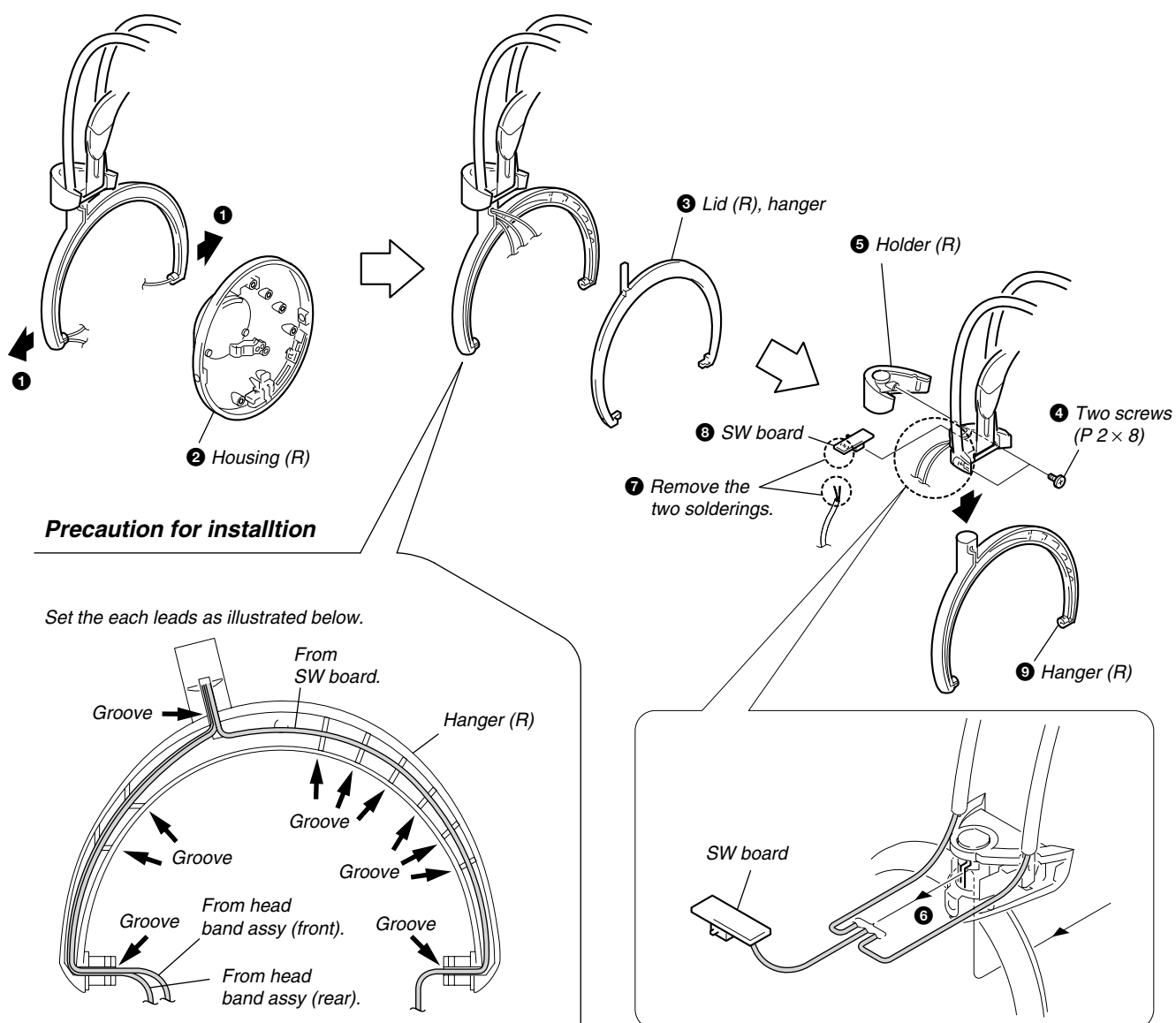
Set  $\rightarrow$  Driver (R side), RX-BASE board  $\rightarrow$  SW board, Hanger (R)  $\rightarrow$  Holder (R)  
 $\rightarrow$  Driver (L side),  $\rightarrow$  Hanger (L)  $\rightarrow$  Holder (L)

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

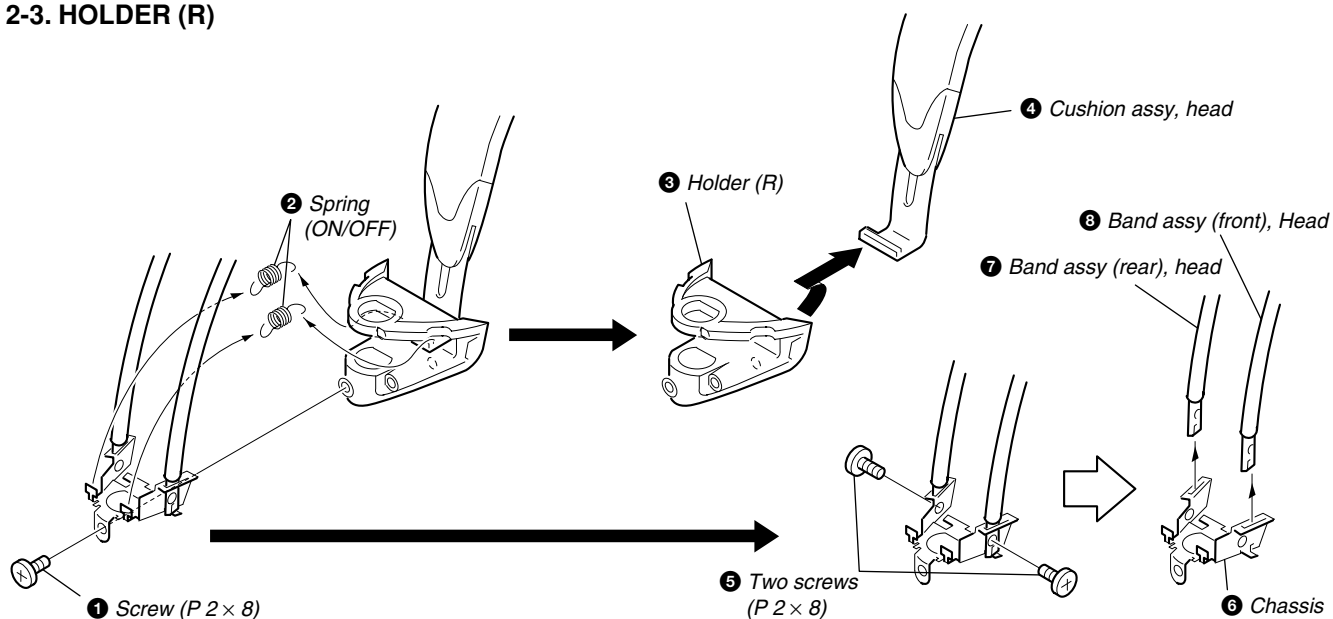
### 2-1. DRIVER (R SIDE), RX-BASE BOARD



## 2-2. SW BOARD, HANGER (R)

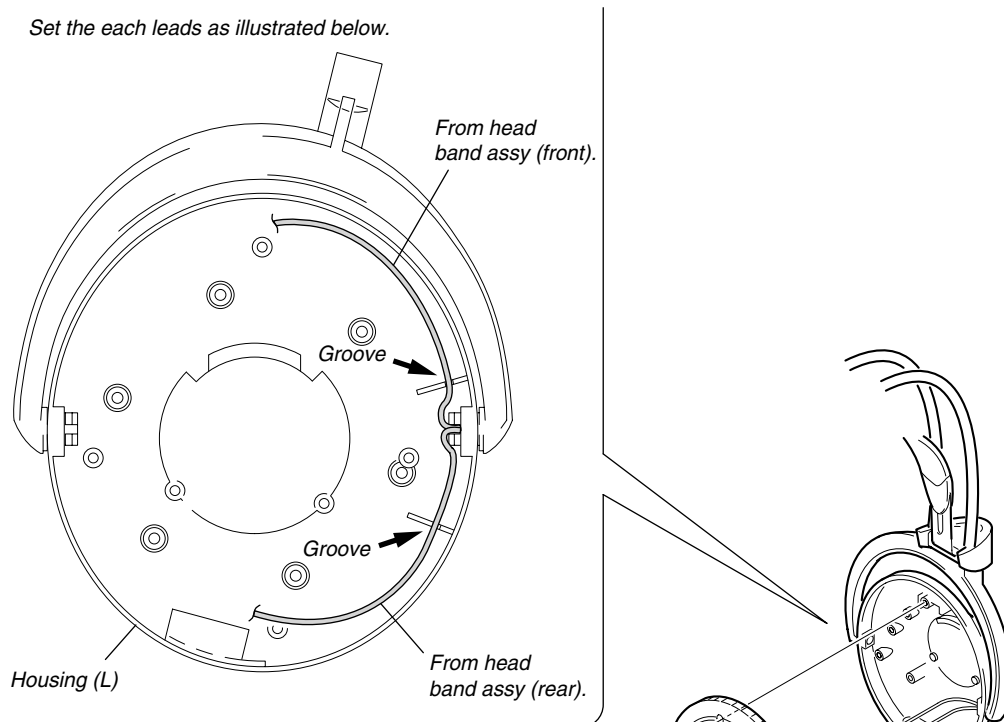


## 2-3. HOLDER (R)

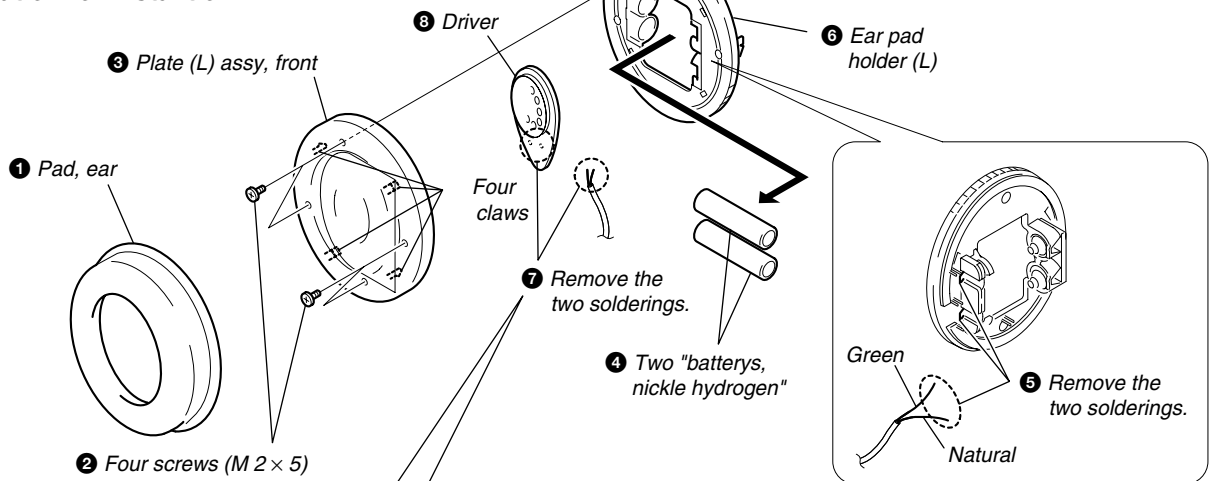


## 2-4. DRIVER (L SIDE)

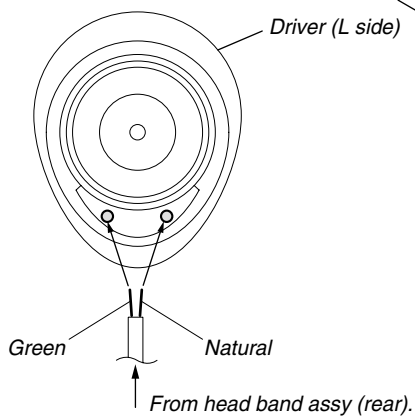
Set the each leads as illustrated below.



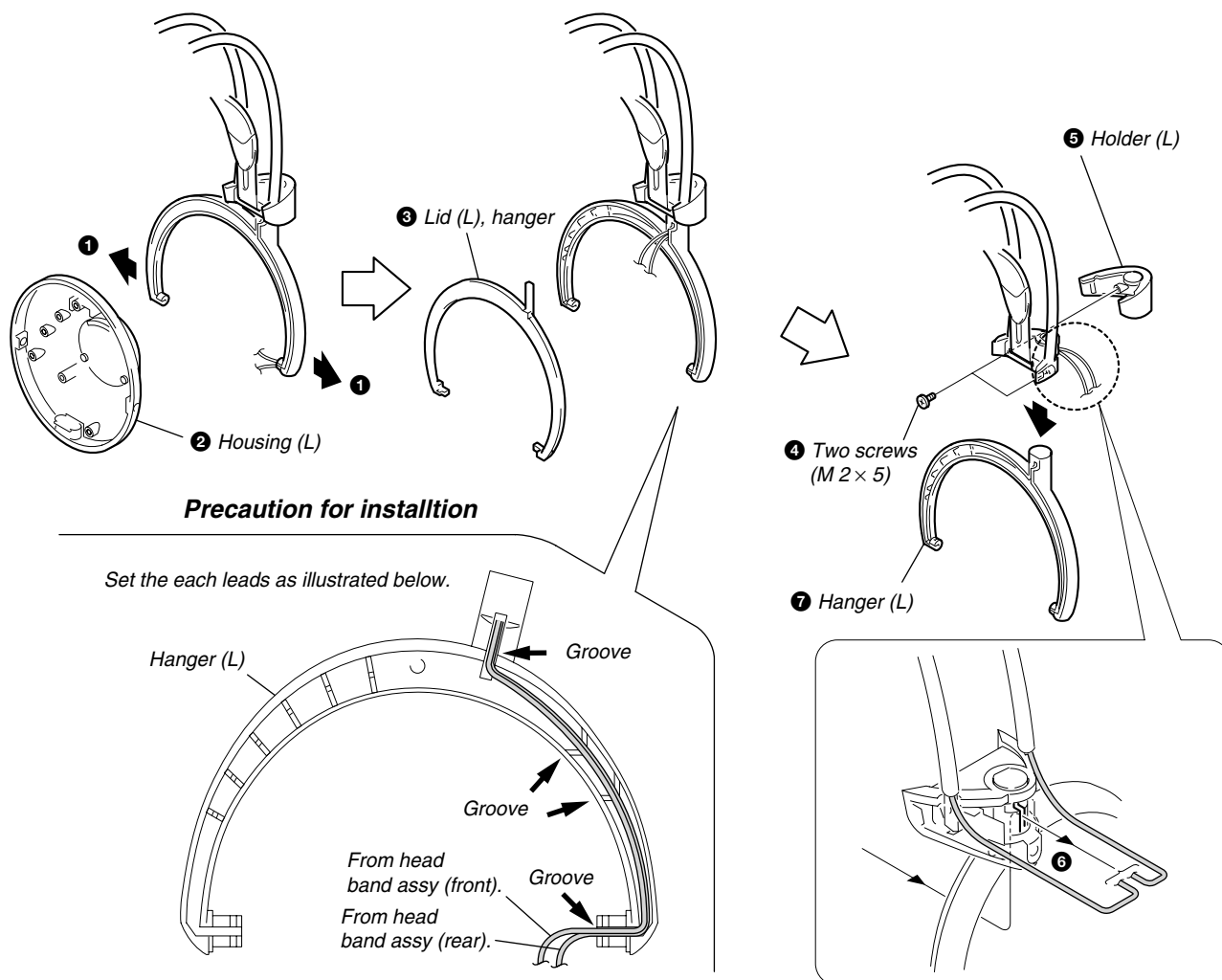
### Precaution for installtion



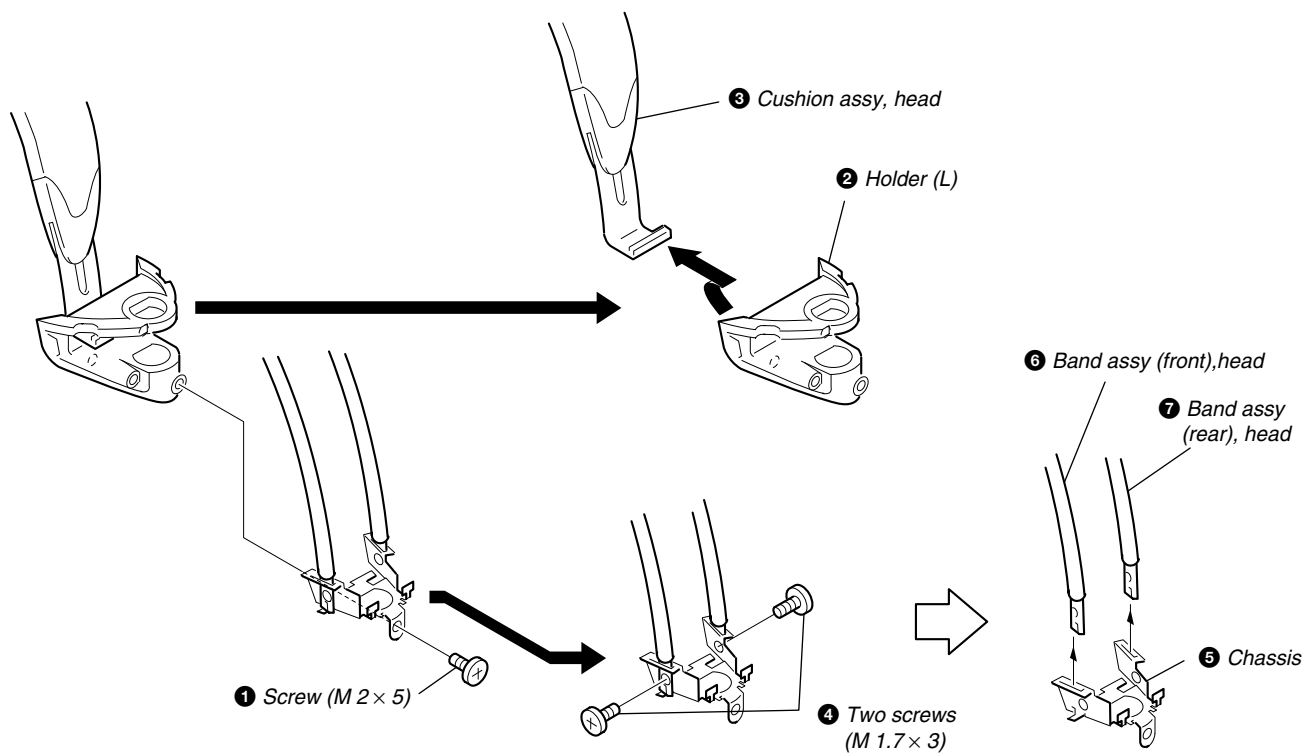
### Precaution for installtion



## 2-5. HANGER (L)



## 2-6. HOLDER (L)



## SECTION 3 ELECTRICAL ADJUSTMENTS

**MDR-RF975R**  
**Ver 1.1 2001.06**

### Notes:

1. Use transmitter with check and adjustment already completed.
2. On adjusting the headphones section, use the transmitter as a jig.

Headphones:MDR-RF975R  
Transmitter:TMR-RF975R

### Procedure:

1. Connect an oscillator with attenuator and terminator (600  $\Omega$ ) to the transmitter AUDIO IN-A connector (J402).
2. Connect an AC adapter to the transmitter DC IN 9V jack (J404).
3. Short between Q303 collector and GND on the RX board.
4. Connect DC 2.4V to the +B power line externally.
5. Connect lead wires to IC301 pin 4, pin 6, pin 7, IC 307 pin 7, IC 308 pin 7 and GND on the RX-BASE board.
6. Connect a 33k $\Omega$  resistor between IC301 pin 4 and pin 7.
7. Connect lead wires to the speakers' terminals (L+,L-,R+,R-) on the RX-BASE board. (See page 9)

### 3-1. Free Run Frequency Check and Adjustment

1. Set the transmitter AUDIO IN-A connector (J402) to no signal.
- Note:** In this case, operation time is about 5 or 10 minutes.

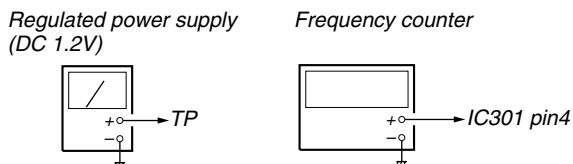
Perform the confirmation for less than 5 minutes.

2. Check the transmitter power indicator (red) lights.
3. Set the transmitter CHANNEL switch to 1.
4. Connect DC 1.2V across TP and GND.
5. Connect a frequency counter to IC301 pin 4 and GND on the RX-BASE board, then confirm the frequency within 76KHz  $\pm$  50Hz.
6. When the frequency dose not satisfy the specified value, adjust the value of the frequency counter to specification by RV301 on the RX-BASE board.

Specified values: 76kHz  $\pm$  50Hz.

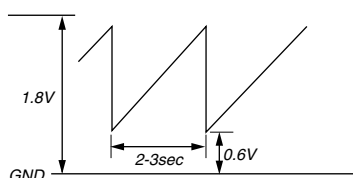
7. Remove a 33k $\Omega$  resistor between IC301 pin 4 and pin 7.

### Setting :



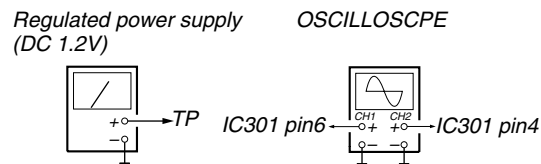
### 3-2. Receive Frequency Check and Adjustment

1. Set the transmitter CHANNEL switch to 2.
2. Set the transmitter NOISE FILTER switch to OFF.
3. Input a signal of 1kHz, 316mVrms to transmitter AUDIO IN-A(L-ch) connector only.
4. Keep distance between transmitter and headphones to 5 meters over.
5. Set the headphones volume (RV302) to minimum.
6. Connect DC 1.2V across TP and GND.
7. Connect an oscilloscope CH1 and CH2 to IC301 pin 6 and pin 4.
8. Check the waveform of the oscilloscope to CH1 is demodulated 1kHz signal and CH2 is GND.
9. If CH1 and CH2 are not satisfied in step 8, adjust the coil (L301) on the RX board to satisfied step 8.
10. Open between Q303 corrector and GND on the RX board.
11. When the transmitter off, check the waveform of the oscilloscope as follows:



12. Set the transmitter CHANNEL switch to 1.
13. Push the headphones tuning switch (S301) to receive radio frequency.
14. Check same step 8.
15. Set the transmitter CHANNEL switch to 3.
16. Push the headphones tuning switch (S301) to receive radio frequency.
17. Check same step 8.

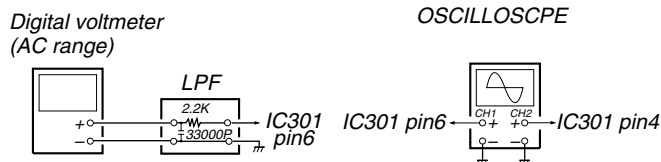
### Setting :



### 3-3. Carrier Modulation Check

1. Set the transmitter CHANNEL switch to 2.
2. Set the transmitter NOISE FILTER switch to OFF.
3. Input a signal of 1kHz, 316mVrms to transmitter AUDIO IN-A (L-ch) connector only.
4. Set the headphones volume (RV302) to minimum.
5. Connect an oscilloscope CH1 and CH2 to IC301 pin 6 and pin 4.
6. Push the headphones tuning switch (S301) to receive radio frequency.
7. Check the waveform of the oscilloscope that the CH1 is demodulated 1kHz signal and CH2 is GND.
8. Connect an AC voltmeter with LPF to IC301 pin 6 and GND.
9. Check the value of the AC voltmeter to 40mVrms  $\pm$  5mV

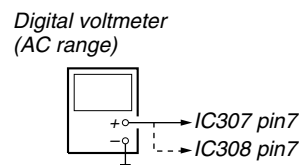
### Setting :



### 3-4. Expander Output Check

1. Set the transmitter CHANNEL switch to 2.
2. Input a signal of 1kHz, 316mVrms to transmitter AUDIO IN-A L and R connector.
3. Connect an AC voltmeter to IC307 pin 7 and IC308 pin 7.
4. Measure the value of the AC voltmeter.
5. Input a signal of 1kHz, 31.6mVrms to transmitter AUDIO IN-A L and R connector.
6. Measure the value of the AC voltmeter.
7. Check the difference of the step 4 and step 6 to more than 20 dB  $\pm$  3 dB.

### Setting :



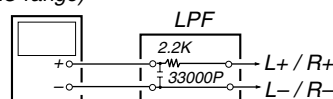
### 3-5. Separation Check

1. Set the transmitter CHANNEL switch to 2.
2. Set the transmitter NOISE FILTER switch to OFF.
3. Input a signal of 1kHz, 316mVrms to transmitter AUDIO IN-A (L-ch) connector only.
4. Connect an oscilloscope CH1 to speakers terminal (L+,L-) and CH2 to IC301 pin 4 and GND.
5. Push the headphones tuning switch (S301) receive radio frequency.

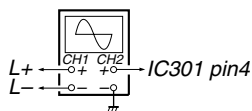
6. Check the waveform of the oscilloscope that the CH1 is demodulated 1kHz signal and CH2 is GND.
7. Connect an AC voltmeter with LPF to speakers terminal (L+,L-).
8. Adjust the value of the AC voltmeter to specification by headphones volume RV302.  
Specified values: 155mVrms
9. Connect an AC voltmeter with LPF to speakersterminal (R+,R-).
10. Measure the value of the AC voltmeter.
11. Check the difference of the L and R to more than 25dB.
12. Input a signal of 1kHz, 316mVrms to transmitter AUDIO IN-A (R-ch) connector only.
13. Connect an AC voltmeter with LPF to speakers terminal (R+,R-).
14. Adjust the value of the AC voltmeter to specification by headphones volume RV302.  
Specified values: 155mVrms
15. Connect an AC voltmeter with LPF to speakers terminal (L+,L-).
16. Measure the value of the AC voltmeter.
17. Check the difference of the L and R to more than 25dB.

## Setting :

Digital voltmeter  
(AC range)

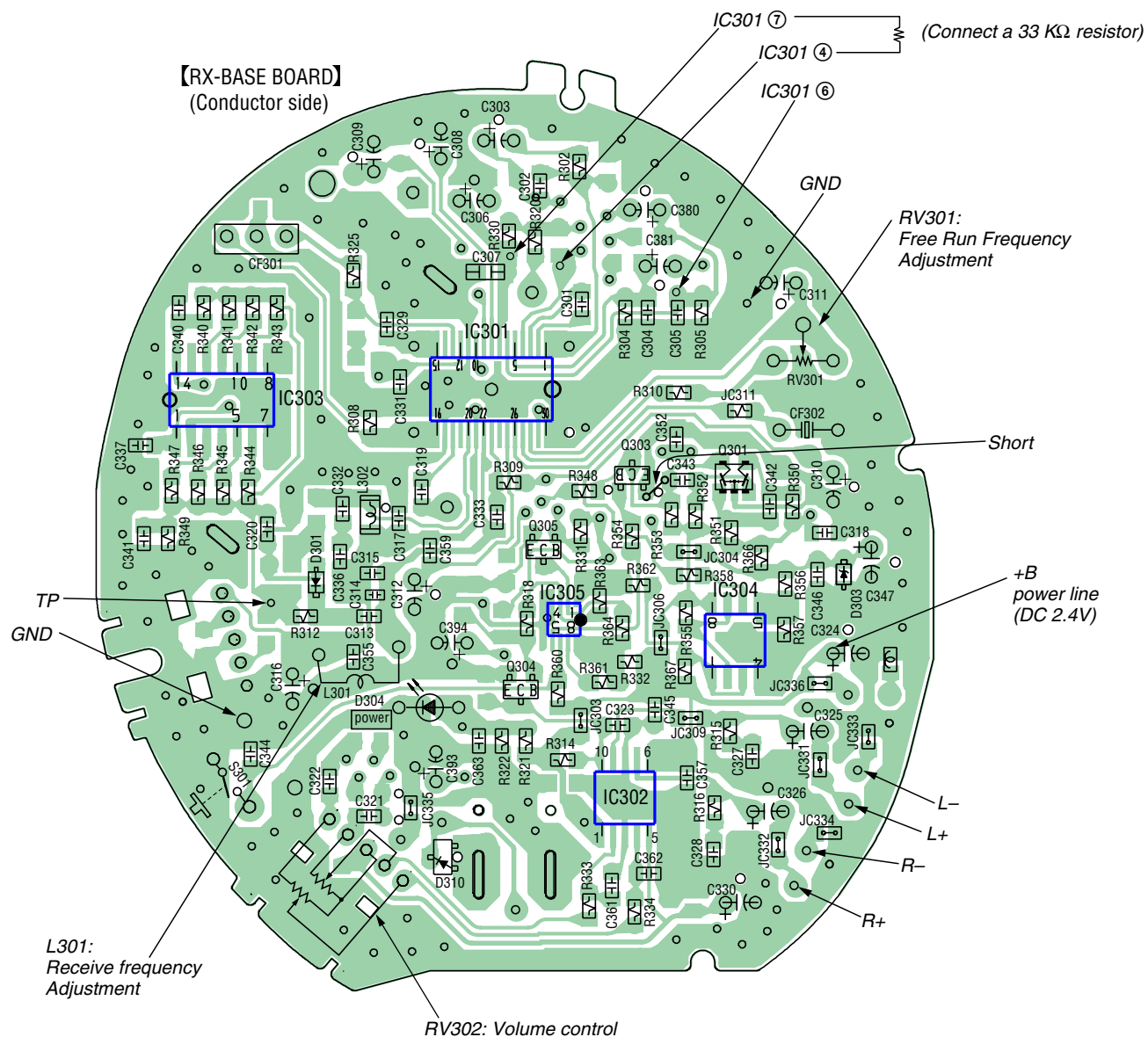


OSCILLOSCOPE



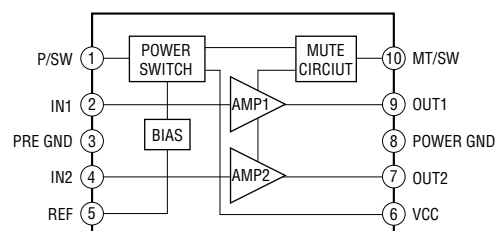
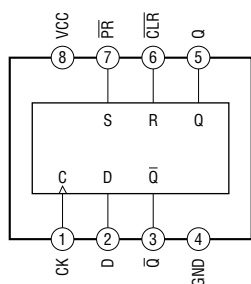


Asjument Location :

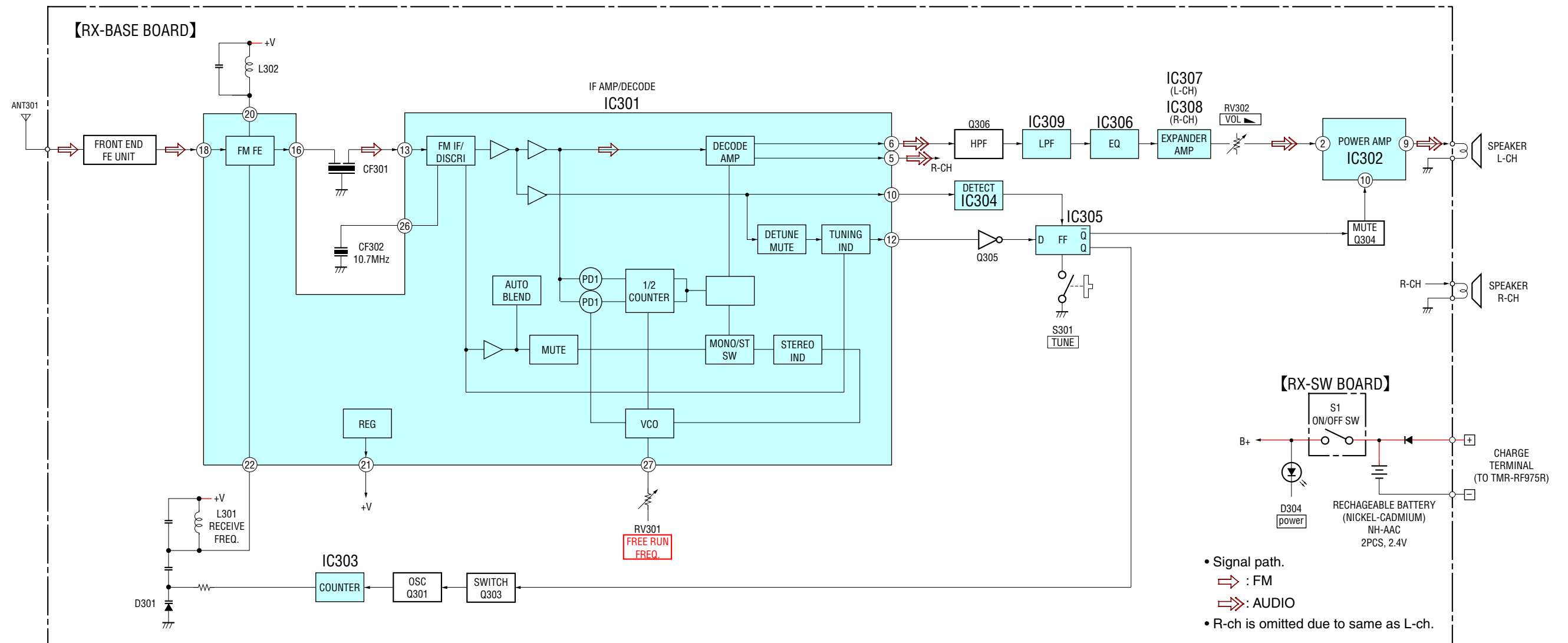


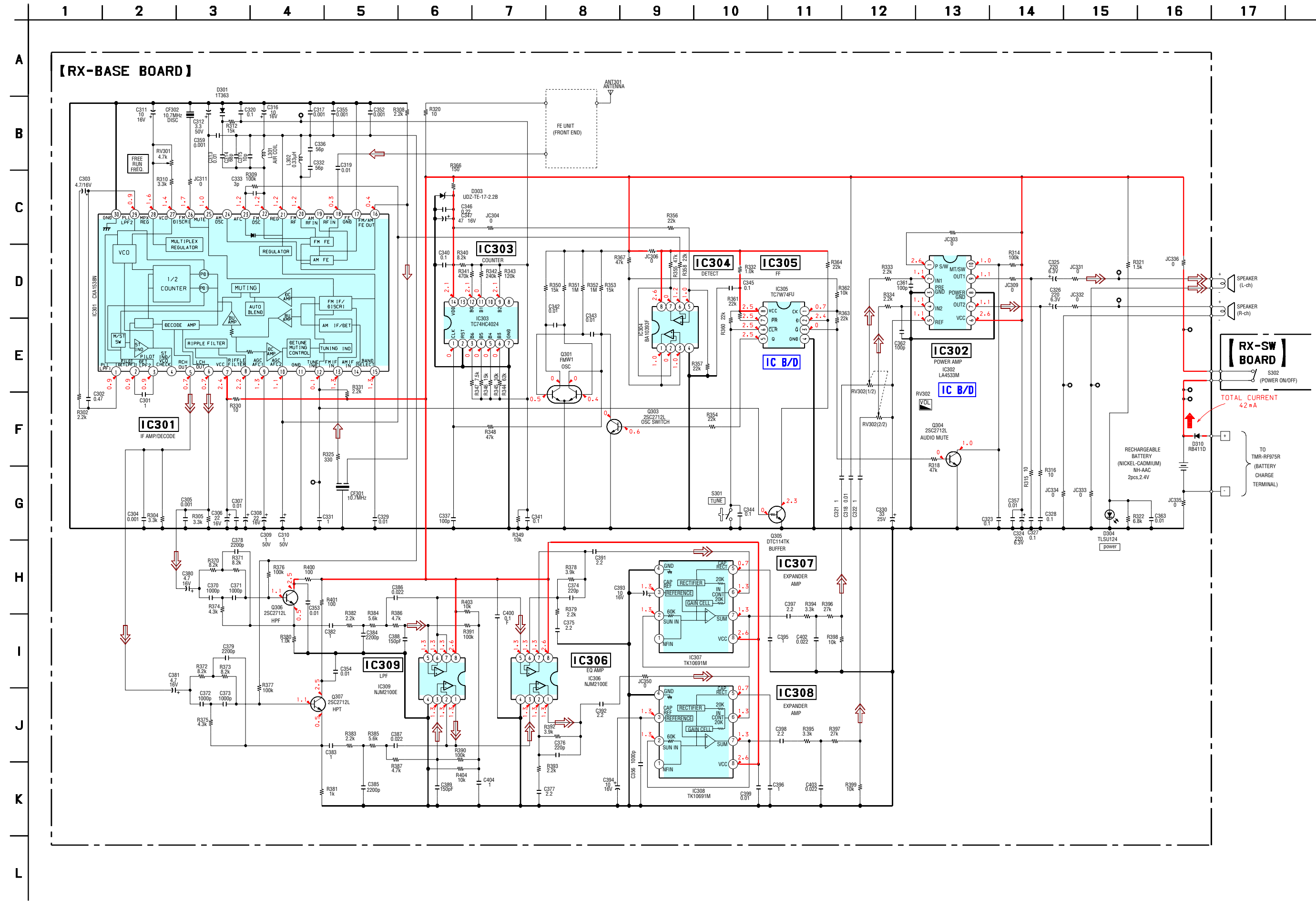
**Note on schematic diagrams.****Note:**

- All capacitors are in  $\mu\text{F}$  unless otherwise noted. pF:  $\mu\text{F}$  50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in  $\Omega$  and  $\frac{1}{4}\text{W}$  or less unless otherwise specified.
- $\triangle$  : internal component.
- — : B+ Line.
- □ : adjustment for repair.
- Power voltage is dc 2.4V and fed with regulated dc power supply from battery terminal.
- Voltages are dc with respect to ground under no-signal conditions.
- Voltages are taken with a VOM (Input impedance 10 M $\Omega$ ).
- Signal path.
- ⇨ : FM
- ⇨⇨ : AUDIO

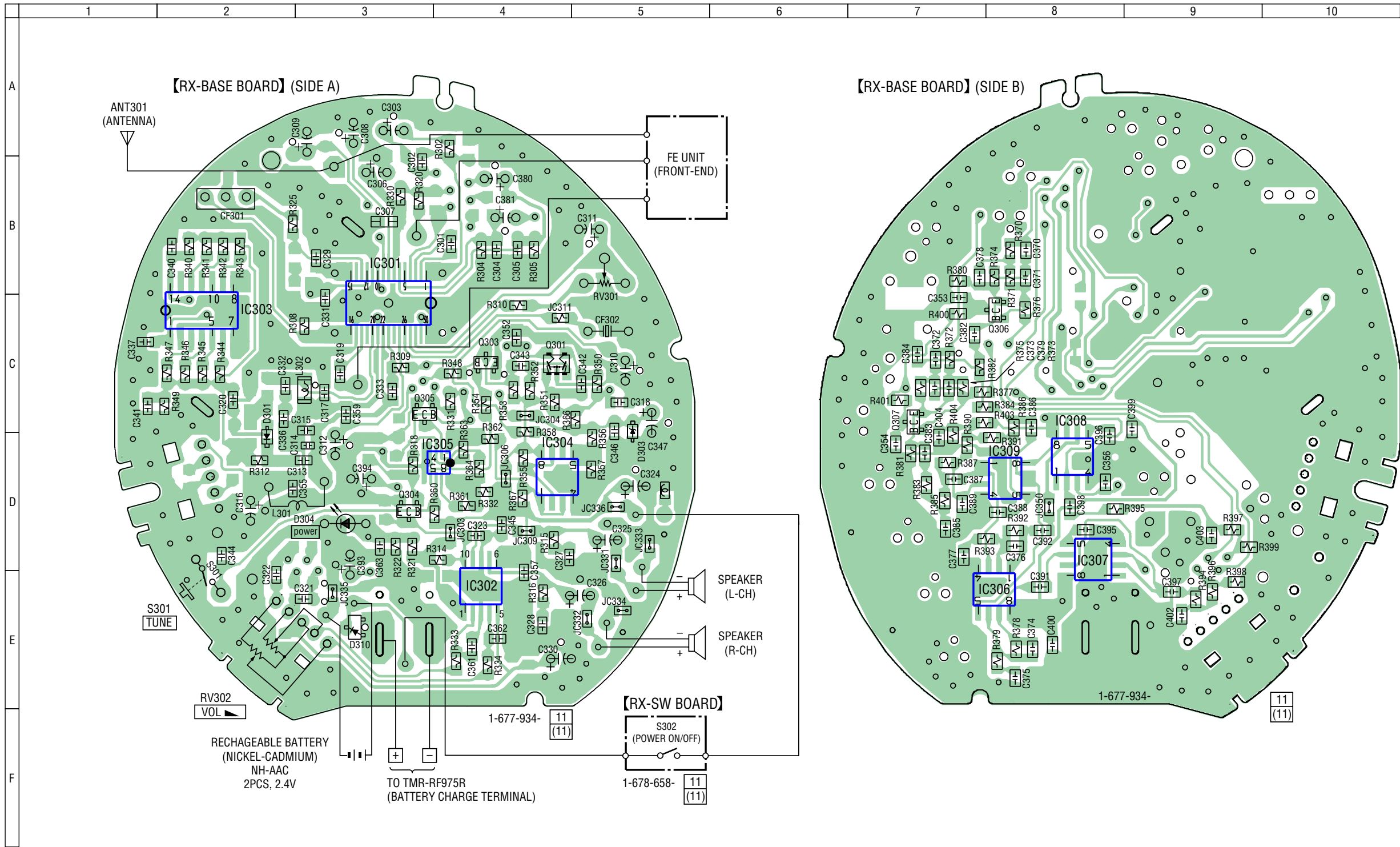
**• IC BLOCK DIAGRAMS****IC302 LA4533M TP-1****IC305 TC7W74FU (TE12R)**

#### 4-1. BLOCK DIAGRAMS





4-3. PRINTED WIRING BOARD



Semiconductor Location	
Ref. No.	Location
D301	C-2
D303	D-5
D304	D-3
D310	E-3
IC301	B-3
IC302	E-4
IC303	C-2
IC304	D-4
IC305	D-4
IC306	E-8
IC307	D-8
IC308	D-8
IC309	D-8
Q301	C-4
Q303	C-4
Q304	D-3
Q305	C-3
Q306	C-8
Q307	C-7

**Note:**

- : parts extracted from the component side.
- : Through hole.
- : Pattern from the side which enables seeing. (The other layer's patterns are not indicated.)

**Caution:**

Pattern face side: Parts on the pattern face side seen from the (Side B) pattern face are indicated.

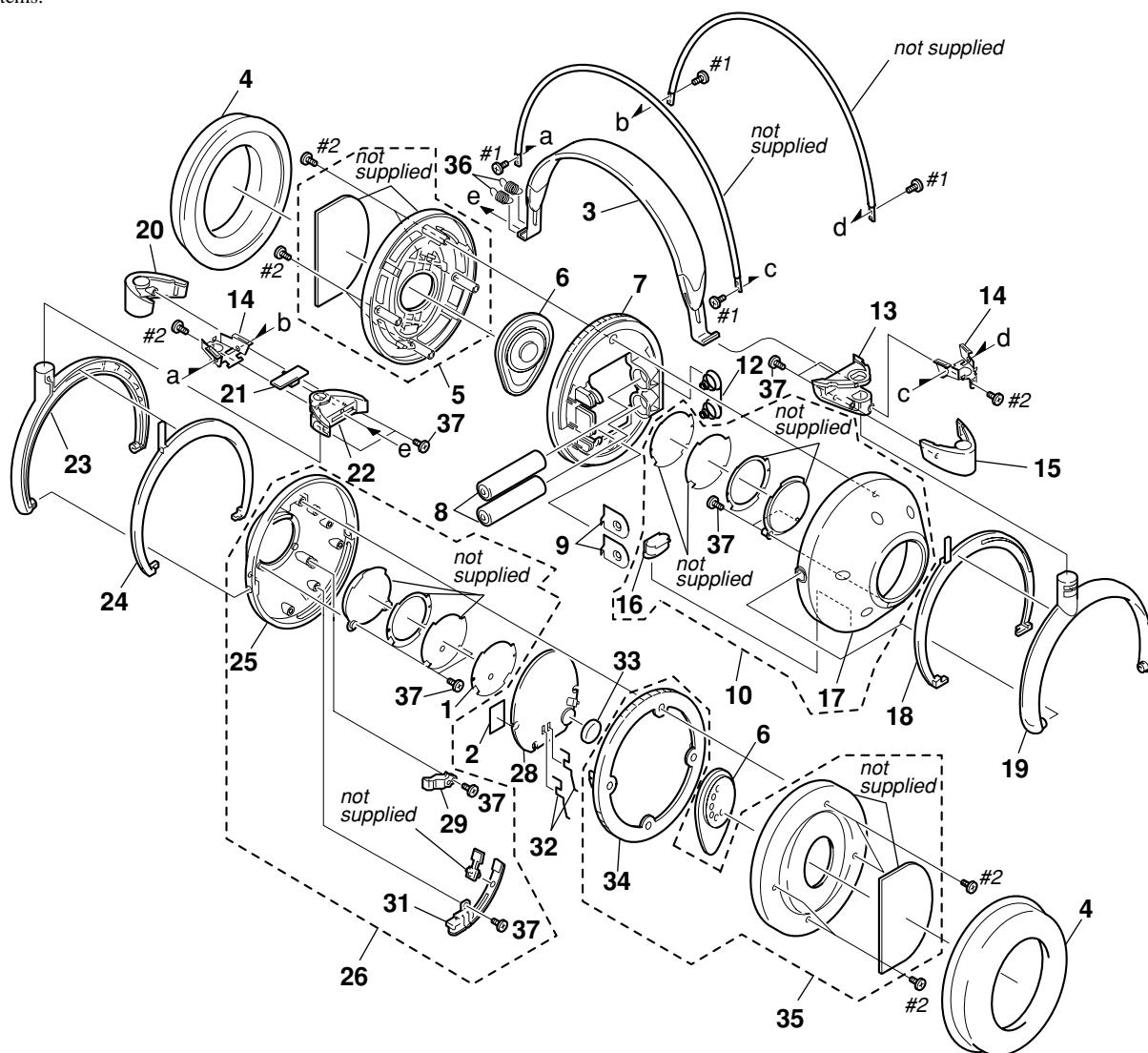
Parts face side: Parts on the parts face side seen from the (Side A) parts face are indicated.

## SECTION 5 EXPLODED VIEWS

## NOTE:

- -XX, -X mean standardized parts, so they may have some differences from the original one.
- 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 and accessories and packing materials are given in the last of this parts list.



Ref. No.	Part No.	Description	Remarks	Ref. No.	Part No.	Description	Remarks
1	3-224-689-01	SHEET (R), LIGHT PREVENTION		* 21	1-678-658-11	RX-SW BOARD	
2	3-846-312-01	SPACER		22	3-046-697-02	HOLDER (R)	
3	X-3379-301-1	CUSHION ASSY, HEAD		23	3-046-706-01	HANGER (R)	
4	3-046-718-01	PAD, EAR		24	3-049-954-21	LID (R), HANGER	
5	X-3379-304-1	PLATE (L) ASSY, FRONT		25	3-046-708-01	HOUSING (R)	
6	X-3380-120-1	DRIVER ASSY		26	X-3380-845-1	HOUSING (R) ASSY	
7	3-046-723-01	HOLDER (L), EAR PAD		* 28	A-3062-570-A	RX-BASE BOARD, COMPLETE	
8	1-756-109-11	BATTERY, NICKEL HYDROGEN		29	3-049-797-01	LIGHT, MDR GUIDE	
9	3-046-717-01	TERMINAL (SMALL), BATTERY		31	3-220-124-01	PLATE (R), HOUSING ORNAMENTAL	
10	X-3380-844-1	HOUSING (L) ASSY		32	3-046-715-01	TERMINAL, CHARGE	
11	3-046-709-11	CAP (L), ORNAMENTAL		33	3-049-951-01	KNOB, VOLUME	
12	3-046-716-01	TERMINAL (LARGE), BATTERY		34	3-046-724-01	HOLDER (R), EAR PAD	
13	3-046-696-01	HOLDER (L)		35	X-3380-341-1	PLATE (R) ASSY, FRONT	
14	3-046-695-01	CHASSIS		36	3-224-569-01	SPRING (ON/OFF)	
15	3-046-698-01	LID (L), HOLDER		37	3-223-909-01	SCREW (B2)	
16	3-220-123-01	PLATE (L), HOUSING ORNAMENTAL		38	3-224-572-01	SHEET, HOLOGRAM (L) ADHESIVE	
17	3-046-707-01	HOUSING (L)		39	3-224-688-01	SHEET (L), LIGHT PREVENTION	
18	3-049-953-21	LID (L), HANGER		#1	7-627-553-28	SCREW, PRECISION +P 2X2.5	
19	3-046-705-01	HANGER (L)		#2	7-685-104-14	SCREW +P 2X6 TYPE2 NON-SLIT	
20	3-046-699-01	LID (R), HOLDER					

# SECTION 6 ELECTRICAL PARTS LIST

MDR-RF975R

RX-BASE

## 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.
- Items marked "\*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

- CAPACITORS:  
uF:  $\mu$ F
- RESISTORS  
All resistors are in ohms.  
METAL: metal-film resistor  
METAL OXIDE: Metal Oxide-film resistor  
F: nonflammable
- COILS  
uH:  $\mu$ H

- SEMICONDUCTORS  
In each case, u:  $\mu$ , for example:  
uA...:  $\mu$ A..., uPA...,  $\mu$ PA...,  
uPB...,  $\mu$ PB..., uPC...,  $\mu$ PC...,  
uPD...,  $\mu$ PD...

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

Ref. No.	Part No.	Description	Remarks	Ref. No.	Part No.	Description	Remarks
*	A-3062-570-A	RX-BASE BOARD, COMPLETE *****		C346	1-164-489-11	CERAMIC CHIP 0.22uF 10%	16V
				C347	1-124-589-11	ELECT 47uF 20%	16V
	3-046-715-01	TERMINAL, CHARGE		C352	1-163-009-11	CERAMIC CHIP 0.001uF 10%	50V
	3-049-951-01	KNOB, VOLUME		C353	1-163-021-91	CERAMIC CHIP 0.01uF 10%	50V
		< CAPACITOR >		C354	1-163-021-91	CERAMIC CHIP 0.01uF 10%	50V
C301	1-164-346-11	CERAMIC CHIP 1uF	16V	C355	1-163-009-11	CERAMIC CHIP 0.001uF 10%	50V
C302	1-164-005-11	CERAMIC CHIP 0.47uF	25V	C356	1-163-009-11	CERAMIC CHIP 0.001uF 10%	50V
C303	1-124-259-11	ELECT 4.7uF 20%	16V	C357	1-163-021-91	CERAMIC CHIP 0.01uF 10%	50V
C304	1-163-009-11	CERAMIC CHIP 0.001uF 10%	50V	C359	1-163-009-11	CERAMIC CHIP 0.001uF 10%	50V
C305	1-163-009-11	CERAMIC CHIP 0.001uF 10%	50V				
C306	1-124-234-00	ELECT 22uF 20%	16V	C361	1-163-251-11	CERAMIC CHIP 100PF 5%	50V
C307	1-163-059-91	CERAMIC CHIP 0.01uF 10%	50V	C362	1-163-251-11	CERAMIC CHIP 100PF 5%	50V
C308	1-124-234-00	ELECT 22uF 20%	16V	C363	1-163-021-91	CERAMIC CHIP 0.01uF 10%	50V
C309	1-104-942-11	ELECT 1uF 20%	50V	C370	1-163-009-11	CERAMIC CHIP 0.001uF 10%	50V
C310	1-104-942-11	ELECT 1uF 20%	50V	C371	1-163-009-11	CERAMIC CHIP 0.001uF 10%	50V
C311	1-124-233-11	ELECT 10uF 20%	16V	C372	1-163-009-11	CERAMIC CHIP 0.001uF 10%	50V
C312	1-126-162-11	ELECT 3.3uF 20%	50V	C373	1-163-009-11	CERAMIC CHIP 0.001uF 10%	50V
C313	1-163-021-91	CERAMIC CHIP 0.01uF 10%	50V	C374	1-163-259-91	CERAMIC CHIP 220PF 5%	50V
C314	1-164-441-11	CERAMIC CHIP 68PF 5%	50V	C375	1-164-505-11	CERAMIC CHIP 2.2uF	16V
C315	1-163-227-11	CERAMIC CHIP 10PF 0.50PF	50V	C376	1-163-259-91	CERAMIC CHIP 220PF 5%	50V
C316	1-124-233-11	ELECT 10uF 20%	16V	C377	1-164-505-11	CERAMIC CHIP 2.2uF	16V
C317	1-163-009-11	CERAMIC CHIP 0.001uF 10%	50V	C378	1-164-161-11	CERAMIC CHIP 0.0022uF 10%	100V
C318	1-163-021-91	CERAMIC CHIP 0.01uF 10%	50V	C379	1-164-161-11	CERAMIC CHIP 0.0022uF 10%	100V
C319	1-163-021-91	CERAMIC CHIP 0.01uF 10%	50V	C380	1-124-259-11	ELECT 4.7uF 20%	16V
C320	1-163-038-00	CERAMIC CHIP 0.1uF	25V	C381	1-124-259-11	ELECT 4.7uF 20%	16V
C321	1-164-346-11	CERAMIC CHIP 1uF	16V	C382	1-164-346-11	CERAMIC CHIP 1uF	16V
C322	1-164-346-11	CERAMIC CHIP 1uF	16V	C383	1-164-346-11	CERAMIC CHIP 1uF	16V
C323	1-163-038-00	CERAMIC CHIP 0.1uF	25V	C384	1-164-161-11	CERAMIC CHIP 0.0022uF 10%	100V
C324	1-124-635-00	ELECT 220uF 20%	6.3V	C385	1-164-161-11	CERAMIC CHIP 0.0022uF 10%	100V
C325	1-124-635-00	ELECT 220uF 20%	6.3V	C386	1-163-037-11	CERAMIC CHIP 0.022uF 10%	25V
C326	1-124-635-00	ELECT 220uF 20%	6.3V	C387	1-163-037-11	CERAMIC CHIP 0.022uF 10%	25V
C327	1-163-038-00	CERAMIC CHIP 0.1uF	25V	C388	1-163-255-11	CERAMIC CHIP 150PF 5%	50V
C328	1-163-038-00	CERAMIC CHIP 0.1uF	25V	C389	1-163-255-11	CERAMIC CHIP 150PF 5%	50V
C329	1-163-021-91	CERAMIC CHIP 0.01uF 10%	50V	C391	1-164-505-11	CERAMIC CHIP 2.2uF	16V
C330	1-124-242-00	ELECT 33uF 20%	25V	C392	1-164-505-11	CERAMIC CHIP 2.2uF	16V
C331	1-164-346-11	CERAMIC CHIP 1uF	16V	C393	1-124-233-11	ELECT 10uF 20%	16V
C332	1-163-245-11	CERAMIC CHIP 56PF 5%	50V	C394	1-124-233-11	ELECT 10uF 20%	16V
C333	1-163-220-11	CERAMIC CHIP 3PF 0.25PF	50V	C395	1-164-346-11	CERAMIC CHIP 1uF	16V
C336	1-163-245-11	CERAMIC CHIP 56PF 5%	50V	C396	1-164-346-11	CERAMIC CHIP 1uF	16V
C337	1-163-251-11	CERAMIC CHIP 100PF 5%	50V	C397	1-164-505-11	CERAMIC CHIP 2.2uF	16V
C340	1-163-038-00	CERAMIC CHIP 0.1uF	25V	C398	1-164-505-11	CERAMIC CHIP 2.2uF	16V
C341	1-163-038-00	CERAMIC CHIP 0.1uF	25V	C399	1-163-021-91	CERAMIC CHIP 0.01uF 10%	50V
C342	1-163-021-91	CERAMIC CHIP 0.01uF 10%	50V	C400	1-163-038-00	CERAMIC CHIP 0.1uF	25V
C343	1-163-021-91	CERAMIC CHIP 0.01uF 10%	50V	C402	1-163-037-11	CERAMIC CHIP 0.022uF 10%	25V
C344	1-163-038-00	CERAMIC CHIP 0.1uF	25V	C403	1-163-037-11	CERAMIC CHIP 0.022uF 10%	25V
C345	1-163-038-00	CERAMIC CHIP 0.1uF	25V	C404	1-164-346-11	CERAMIC CHIP 1uF	16V



## RX-BASE

Ref. No.	Part No.	Description	Remarks	Ref. No.	Part No.	Description	Remarks
< CERAMIC FILTER >				R320	1-216-001-00	METAL CHIP	10 5% 1/10W
CF301	1-577-588-11	FILTER, CERAMIC		R321	1-216-053-00	METAL CHIP	1.5K 5% 1/10W
CF302	1-577-572-11	FILTER, CERAMIC		R322	1-216-069-00	METAL CHIP	6.8K 5% 1/10W
< DIODE >				R325	1-216-037-00	METAL CHIP	330 5% 1/10W
D301	8-719-002-81	DIODE 1T363		R330	1-216-001-00	METAL CHIP	10 5% 1/10W
D303	8-719-056-71	DIODE UDZ-TE-17-2.2B		R331	1-216-057-00	METAL CHIP	2.2K 5% 1/10W
D304	8-719-077-16	LED TLSU124(TPJ52) (power)		R332	1-216-049-11	RES-CHIP	1K 5% 1/10W
D310	8-719-975-40	DIODE RB411D		R333	1-216-057-00	METAL CHIP	2.2K 5% 1/10W
< IC >				R334	1-216-057-00	METAL CHIP	2.2K 5% 1/10W
IC301	8-752-072-12	IC CXA1538N		R340	1-216-071-00	METAL CHIP	8.2K 5% 1/10W
IC302	8-759-802-75	IC LA4533M		R341	1-216-113-00	METAL CHIP	470K 5% 1/10W
IC303	8-759-453-43	IC TC74HC4024AF(EL)		R342	1-216-106-00	METAL CHIP	240K 5% 1/10W
IC304	8-759-510-73	IC BA10393F-E2		R343	1-216-099-00	METAL CHIP	120K 5% 1/10W
IC305	8-759-083-94	IC TC7W74FU		R344	1-216-092-00	RES-CHIP	62K 5% 1/10W
IC306	8-759-344-00	IC NJM2100E(Te2)		R345	1-216-084-00	METAL CHIP	30K 5% 1/10W
IC307	8-759-384-90	IC TK10691M		R346	1-216-077-00	RES-CHIP	15K 5% 1/10W
IC308	8-759-384-90	IC TK10691M		R347	1-216-070-00	METAL CHIP	7.5K 5% 1/10W
IC309	8-759-344-00	IC NJM2100E(Te2)		R348	1-216-089-91	RES-CHIP	47K 5% 1/10W
< JUMPER RESISTER >				R349	1-216-073-00	RES-CHIP	10K 5% 1/10W
JC303	1-216-295-91	SHORT	0	R350	1-216-077-00	RES-CHIP	15K 5% 1/10W
JC304	1-216-295-91	SHORT	0	R351	1-216-121-11	RES-CHIP	1M 5% 1/10W
JC306	1-216-295-91	SHORT	0	R352	1-216-121-11	RES-CHIP	1M 5% 1/10W
JC309	1-216-295-91	SHORT	0	R353	1-216-077-00	RES-CHIP	15K 5% 1/10W
JC311	1-216-295-91	SHORT	0	R354	1-216-081-00	METAL CHIP	22K 5% 1/10W
JC331	1-216-295-91	SHORT	0	R355	1-216-089-91	RES-CHIP	47K 5% 1/10W
JC332	1-216-295-91	SHORT	0	R356	1-216-081-00	METAL CHIP	22K 5% 1/10W
JC333	1-216-295-91	SHORT	0	R357	1-216-081-00	METAL CHIP	22K 5% 1/10W
JC334	1-216-295-91	SHORT	0	R358	1-216-081-00	METAL CHIP	22K 5% 1/10W
JC335	1-216-295-91	SHORT	0	R360	1-216-081-00	METAL CHIP	22K 5% 1/10W
JC336	1-216-295-91	SHORT	0	R361	1-216-081-00	METAL CHIP	22K 5% 1/10W
JC350	1-216-295-91	SHORT	0	R362	1-216-073-00	RES-CHIP	10K 5% 1/10W
< COIL >				R363	1-216-081-00	METAL CHIP	22K 5% 1/10W
L301	1-422-317-31	COIL, AIR-CORE		R364	1-216-081-00	METAL CHIP	22K 5% 1/10W
L302	1-412-933-11	INDUCTOR	0.33uH	R366	1-216-029-00	METAL CHIP	150 5% 1/10W
< TRANSISTOR >				R367	1-216-089-91	RES-CHIP	47K 5% 1/10W
Q301	8-729-903-10	TRANSISTOR FMW1		R370	1-216-071-00	METAL CHIP	8.2K 5% 1/10W
Q303	8-729-200-72	TRANSISTOR 2SC2712L-TE85L		R371	1-216-071-00	METAL CHIP	8.2K 5% 1/10W
Q304	8-729-200-72	TRANSISTOR 2SC2712L-TE85L		R372	1-216-071-00	METAL CHIP	8.2K 5% 1/10W
Q305	8-729-027-44	TRANSISTOR DTC114TKA-T146		R373	1-216-071-00	METAL CHIP	8.2K 5% 1/10W
Q306	8-729-200-72	TRANSISTOR 2SC2712L-TE85L		R374	1-216-064-00	METAL CHIP	4.3K 5% 1/10W
Q307	8-729-200-72	TRANSISTOR 2SC2712L-TE85L		R375	1-216-064-00	METAL CHIP	4.3K 5% 1/10W
< RESISTER >				R376	1-216-097-11	RES-CHIP	100K 5% 1/10W
R302	1-216-057-00	METAL CHIP	2.2K 5% 1/10W	R377	1-216-097-11	RES-CHIP	100K 5% 1/10W
R304	1-216-061-00	RES-CHIP	3.3K 5% 1/10W	R378	1-216-063-91	RES-CHIP	3.9K 5% 1/10W
R305	1-216-061-00	RES-CHIP	3.3K 5% 1/10W	R379	1-216-057-00	METAL CHIP	2.2K 5% 1/10W
R308	1-216-057-00	METAL CHIP	2.2K 5% 1/10W	R380	1-216-049-11	RES-CHIP	1K 5% 1/10W
R309	1-216-097-11	RES-CHIP	100K 5% 1/10W	R381	1-216-049-11	RES-CHIP	1K 5% 1/10W
R310	1-216-061-00	RES-CHIP	3.3K 5% 1/10W	R382	1-216-057-00	METAL CHIP	2.2K 5% 1/10W
R312	1-216-077-00	RES-CHIP	15K 5% 1/10W	R383	1-216-057-00	METAL CHIP	2.2K 5% 1/10W
R314	1-216-097-11	RES-CHIP	100K 5% 1/10W	R384	1-216-067-00	METAL CHIP	5.6K 5% 1/10W
R315	1-216-001-00	METAL CHIP	10 5% 1/10W	R385	1-216-067-00	METAL CHIP	5.6K 5% 1/10W
R316	1-216-001-00	METAL CHIP	10 5% 1/10W	R386	1-216-065-91	RES-CHIP	4.7K 5% 1/10W
R318	1-216-089-91	RES-CHIP	47K 5% 1/10W	R387	1-216-065-91	RES-CHIP	4.7K 5% 1/10W
				R390	1-216-097-11	RES-CHIP	100K 5% 1/10W
				R391	1-216-097-11	RES-CHIP	100K 5% 1/10W
				R392	1-216-063-91	RES-CHIP	3.9K 5% 1/10W
				R393	1-216-057-00	METAL CHIP	2.2K 5% 1/10W
				R394	1-216-061-00	RES-CHIP	3.3K 5% 1/10W
				R395	1-216-061-00	RES-CHIP	3.3K 5% 1/10W
				R396	1-216-083-00	METAL CHIP	27K 5% 1/10W



RX-BASE

RX-SW

Ref. No.	Part No.	Description	Remarks
R397	1-216-083-00	METAL CHIP	27K 5% 1/10W
R398	1-216-073-00	RES-CHIP	10K 5% 1/10W
R399	1-216-073-00	RES-CHIP	10K 5% 1/10W
R400	1-216-025-11	RES-CHIP	100 5% 1/10W
R401	1-216-025-11	RES-CHIP	100 5% 1/10W
R403	1-216-073-00	RES-CHIP	10K 5% 1/10W
R404	1-216-073-00	RES-CHIP	10K 5% 1/10W
< VARIABLE RESISTOR >			
RV301	1-241-763-11	RES, ADJ, CARBON 4.7K (FREE RUN FREQ.)	
RV302	1-227-189-11	RES, VAR CARBON 20K/20K (VOL ▲)	
< SWITCH >			
S301	1-771-980-11	SWITCH, TACTILE (TUNE)	
*****			
* 1-678-658-11		RX-SW BOARD	
*****			
< SWITCH >			
S302	1-572-467-61	SWITCH, PUSH (1 KEY) (POWER ON/OFF)	
*****			
MISCELLANEOUS			
*****			
6	X-3380-120-1	DRIVER ASSY	
8	1-756-109-11	BATTERY, NICKEL HYDROGEN	

Ref. No.	Part No.	Description	Remarks
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## REVISION HISTORY

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