

MDR-RF915R/RF945R

SERVICE MANUAL

Ver 1.1 2001.06

*US Model
Canadian Model*



Photo : MDR-RF945R

MDR-RF915R is the component model block one in the MDR-RF915RK.
MDR-RF945R is the component model block one in the MDR-RF945RK.

COMPONENT MODEL NAME FOR MDR-RF915RK/ MDR-RF945RK

	MDR-RF915RK	MDR-RF945RK
Wireless Stereo Headphones	MDR-RF915R	MDR-RF945
Transmitter	TMR-RF915R	TMR-RF945

SPECIFICATIONS

Headphones

Power source DC 2.4 V: Built-in rechargeable battery
Mass Approx. 240 g (8.5 oz.) incl. built-in rechargeable battery

Built-in Ni-Cd rechargeable battery

Model name NC-AA
Voltage 1.2 V
Capacity 700 mAh

Design and specifications are subject to change without notice.

HEADPHONES

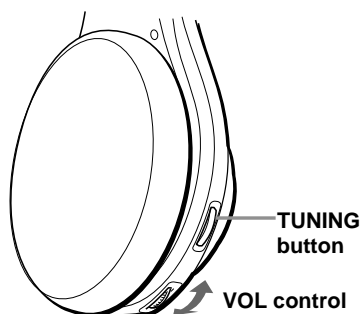
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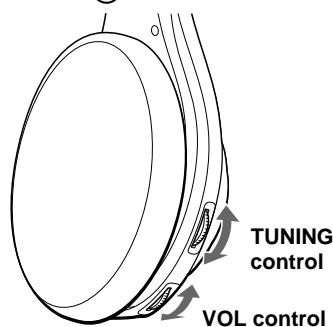
SECTION 1
GENERAL

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.

Ⓐ MDR-RF945RK

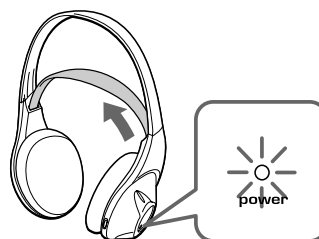
- 5-Ⓑ** Turn up the volume to a moderate level with the VOL control, then tune the headphones in to the frequency of the transmitter with the TUNING control until you can hear the audio signal loud and clear.

Ⓑ MDR-RF915RK

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.

SAFETY CHECK-OUT

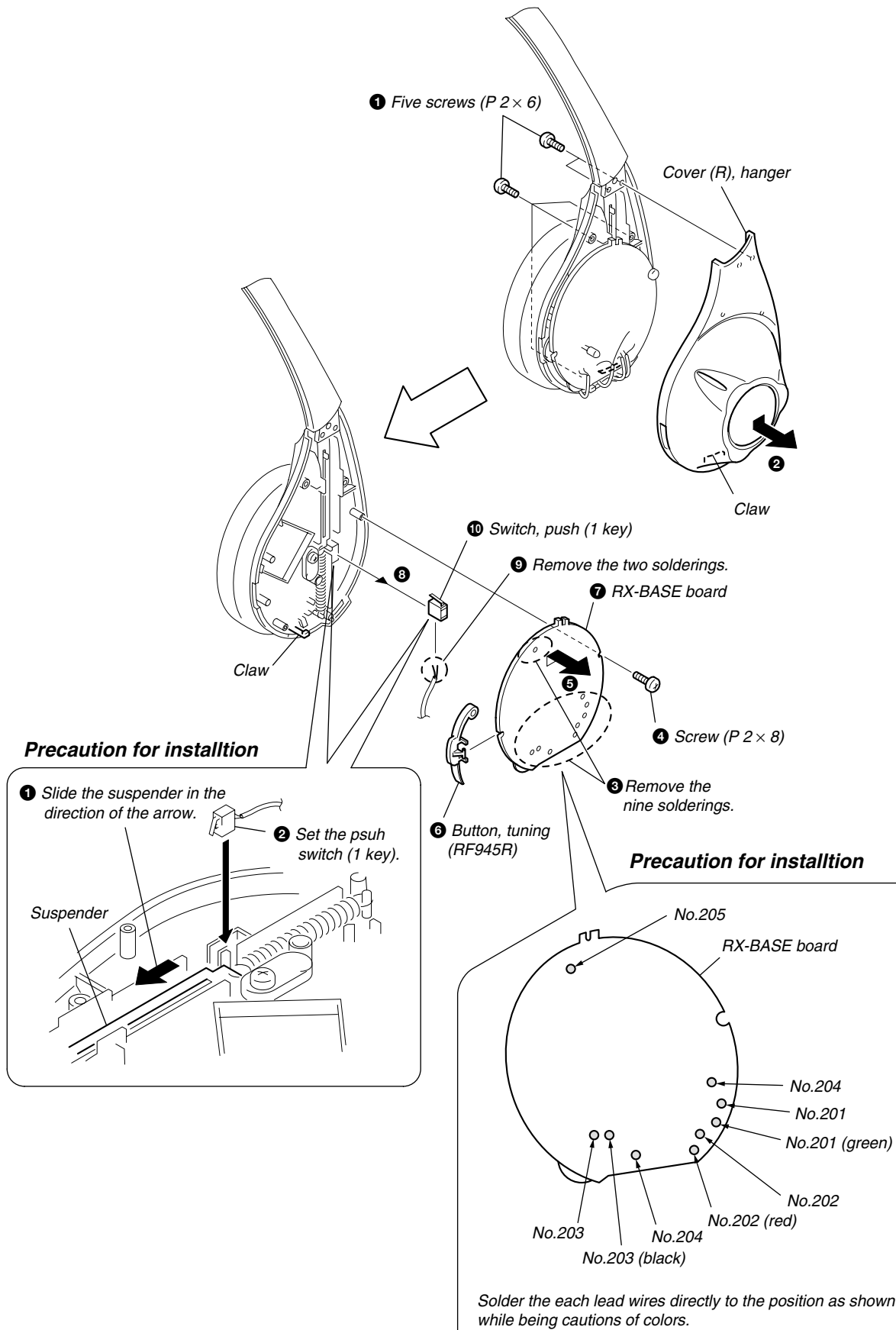
After correcting the original service problem, perform the following safety checks before releasing the set to the customer.

1. Check the area of your repair for unsoldered or poorly-soldered connections. Check the entire board surface for solder splashes and bridges.
2. Check the interboard wiring to ensure that no wires are "pinched" or contact high-wattage resistors.
3. Look for unauthorized replacement parts, particularly transistors, that were installed during a previous repair. Point them out to the customer and recommend their replacement.
4. Look for parts which, through functioning, show obvious signs of deterioration. Point them out to the customer and recommend their replacement.
5. Check the B+ voltage to see it is at the values specified.
6. 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

SECTION 2 DISASSEMBLY

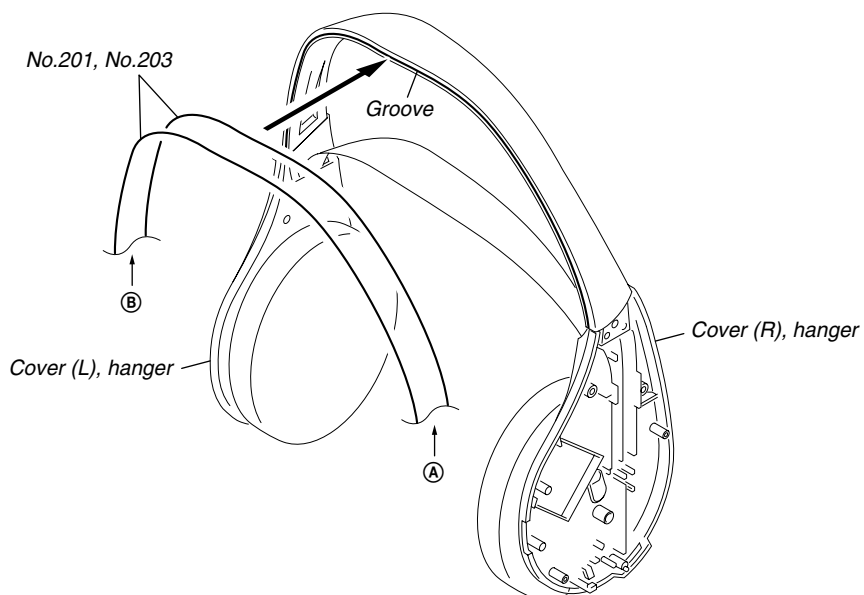
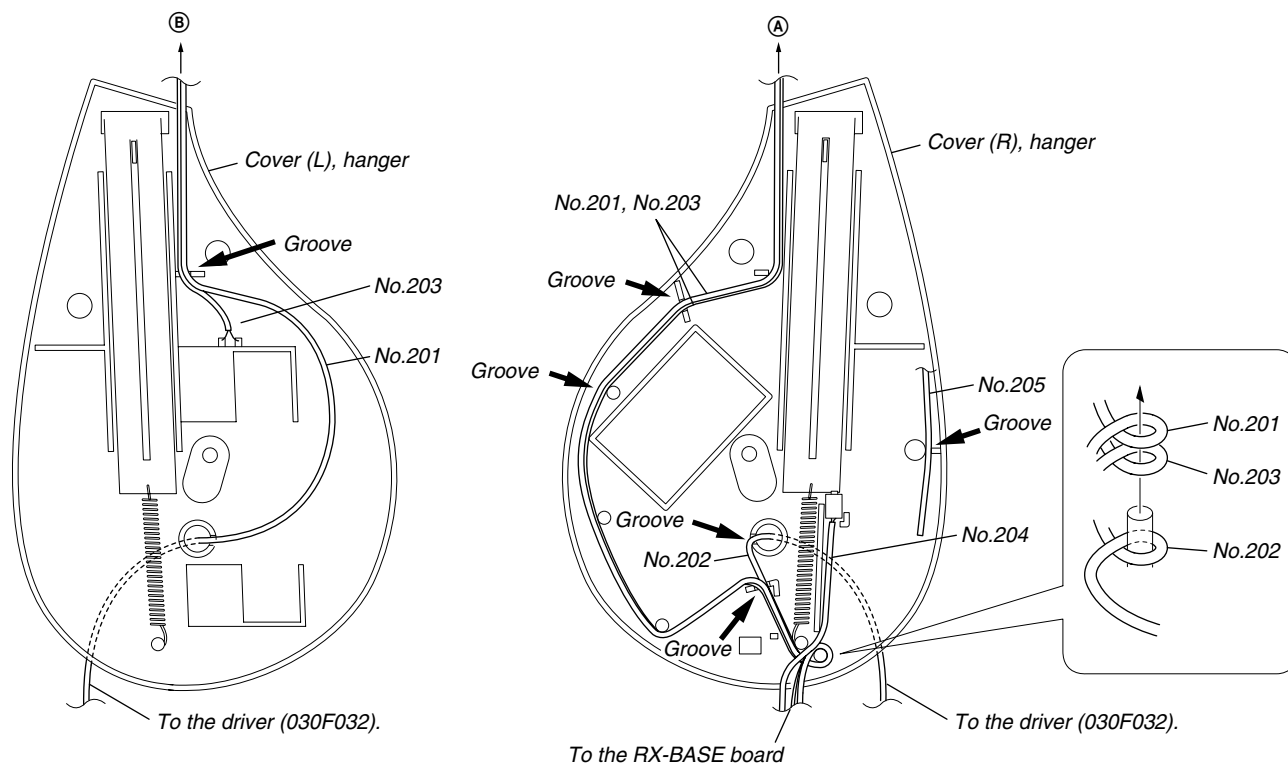
- This set can be disassembled in the order shown below.

2-1. RX-BASE BOARD



Set the lead wires

Set the each lead wires as illustrated below.



SECTION 3 ELECTRICAL ADJUSTMENTS

MRD-RF915R

Notes:

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

Headphones:MDR-RF915R

Transmitter:TMR-RF915R

Procedure:

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

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 confirmation for less than 5 minutes.

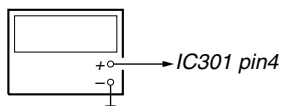
2. Check the transmitter power indicator (red) lights.
3. Set the transmitter CHANNEL switch to 1.
4. Set the RV303 (TUNE) to the center position.
5. Connect a frequency counter to IC301 pin 4 and GND on the RX-BASE board, then confirm the frequency within 76kHz \pm 50Hz
6. When the frequency dose not 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 33 k Ω resistor between IC301 pin 4 and pin 7.

Setting :

Frequency counter

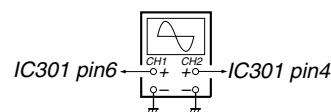


3-2. Receive Frequency Check and Adjustment

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. Set the RV303 (TUNE) to the center position.
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. Set the transmitter CHANNEL switch to 1.
11. Adjust the RV303 (TUNE) to receive a signal.
Confirm the signal with stereo.
12. Check same step 8.
13. Set the transmitter CHANNEL switch to 3.
14. Adjust the RV303 (TUNE) to receive a signal.
Confirm the signal with stereo.
15. Check same step 8.

Setting :

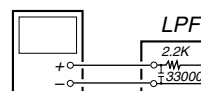
OSCILLOSCOPE



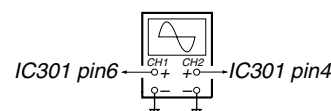
3-3. Carrier Modulation Check

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. Adjust the tuning control (RV303) 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 26mVrms \pm 2mV

Setting :

Digital voltmeter
(AC range)

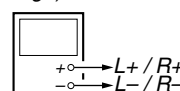
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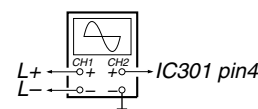
3-4. Separation Check

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. Adjust the tuning control (RV303) to 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 20dB.
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 20dB.

Setting :

Digital voltmeter
(AC range)

OSCILLOSCOPE



MRD-RF945R

Notes:

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

Headphones:MDR-RF945R

Transmitter:TMR-RF945R

Procedure:

1. Connect an oscillator with attenuator and terminator (600 Ω) 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 corrector and GND on the RX board.
4. Connect a DC 2.4V to the +B power line externally.
5. Connect lead wires to IC301 pin 4, pin 6, pin 7 and GND on the RX-BASE board.
6. Connect a resistor 33k Ω between IC301 pin 4 and pin 7.
7. Connect lead wires to the speakers' terminals (L+,L-,R+,R-) on the RX-BASE board.

3-5. 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.

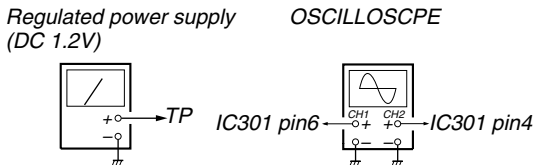
Perform confirmation for less than 5 minutes.

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.

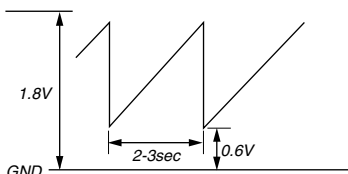
7. Remove a 33 k Ω resistor between IC301 pin 4 and pin 7.

Setting :



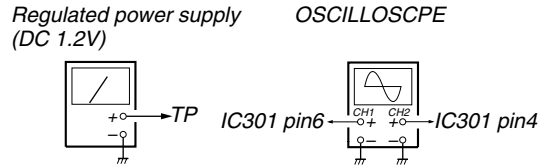
3-6. Receive Frequency Check and Adjustment

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 DC1.2V 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.

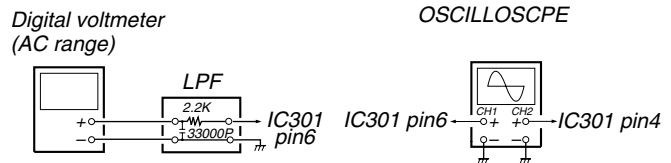
Setting :



3-7. 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 headphone 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 26mVrms \pm 2mV

Setting :

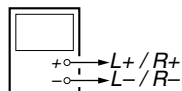


3-8. Separation Check

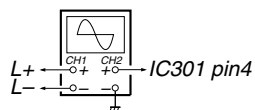
1. Set the transmitter CHANNEL switch to 2.
2. Set the transmitter NOISE FILTER switch to OFF.
3. Input a signal of 1kHz, 316mVrms to transmitter AUDIO IN-A (L-ch) connector only.
4. Connect an oscilloscope CH1 to speakers terminal (L+,L-) and CH2 to IC301 pin 4 and GND.
5. Push the headphones tuning switch (S301) to 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 20dB.
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 20 dB.

Digital voltmeter
(AC range)

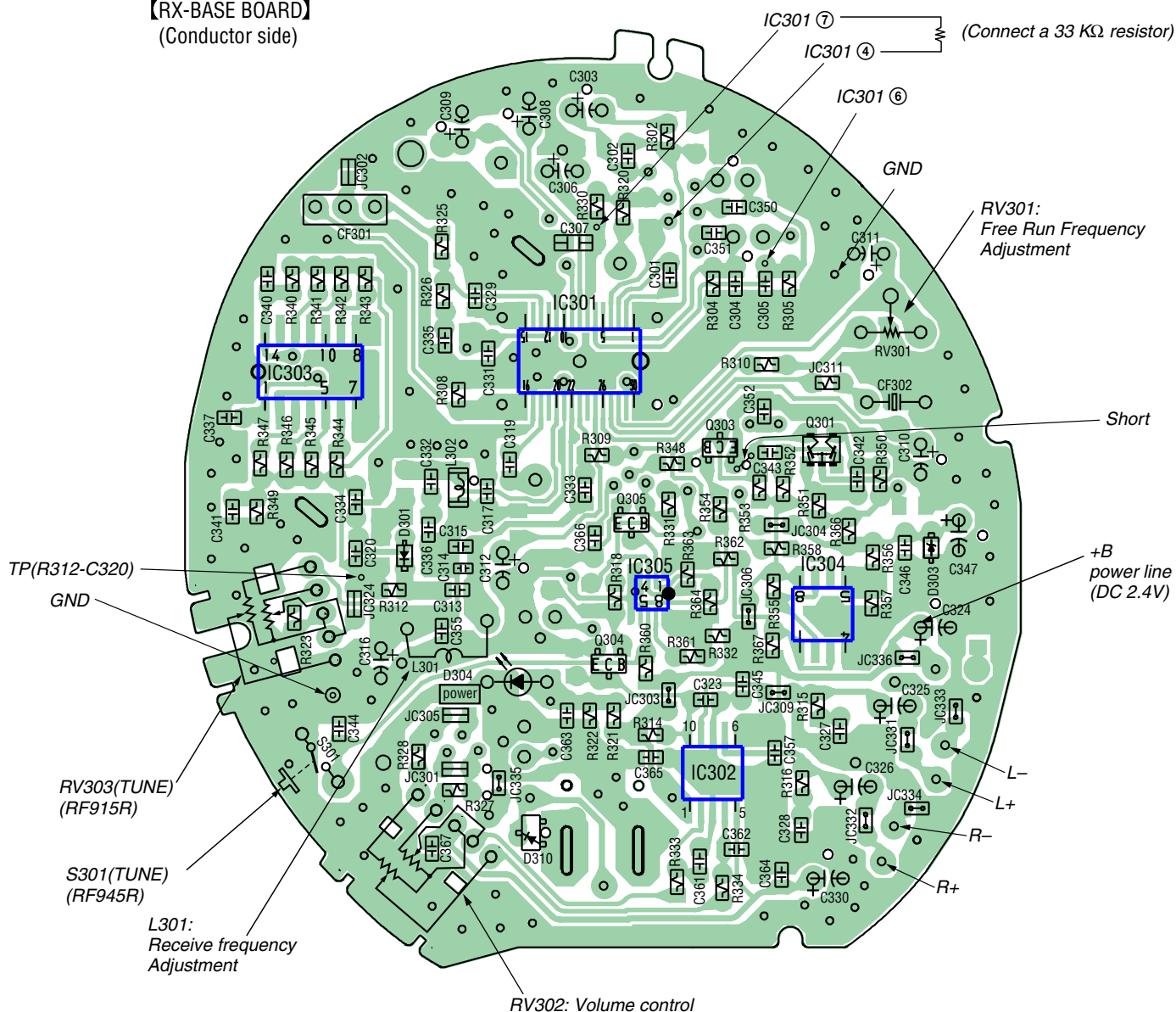


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Adjustment Location :

【RX-BASE BOARD】
(Conductor side)

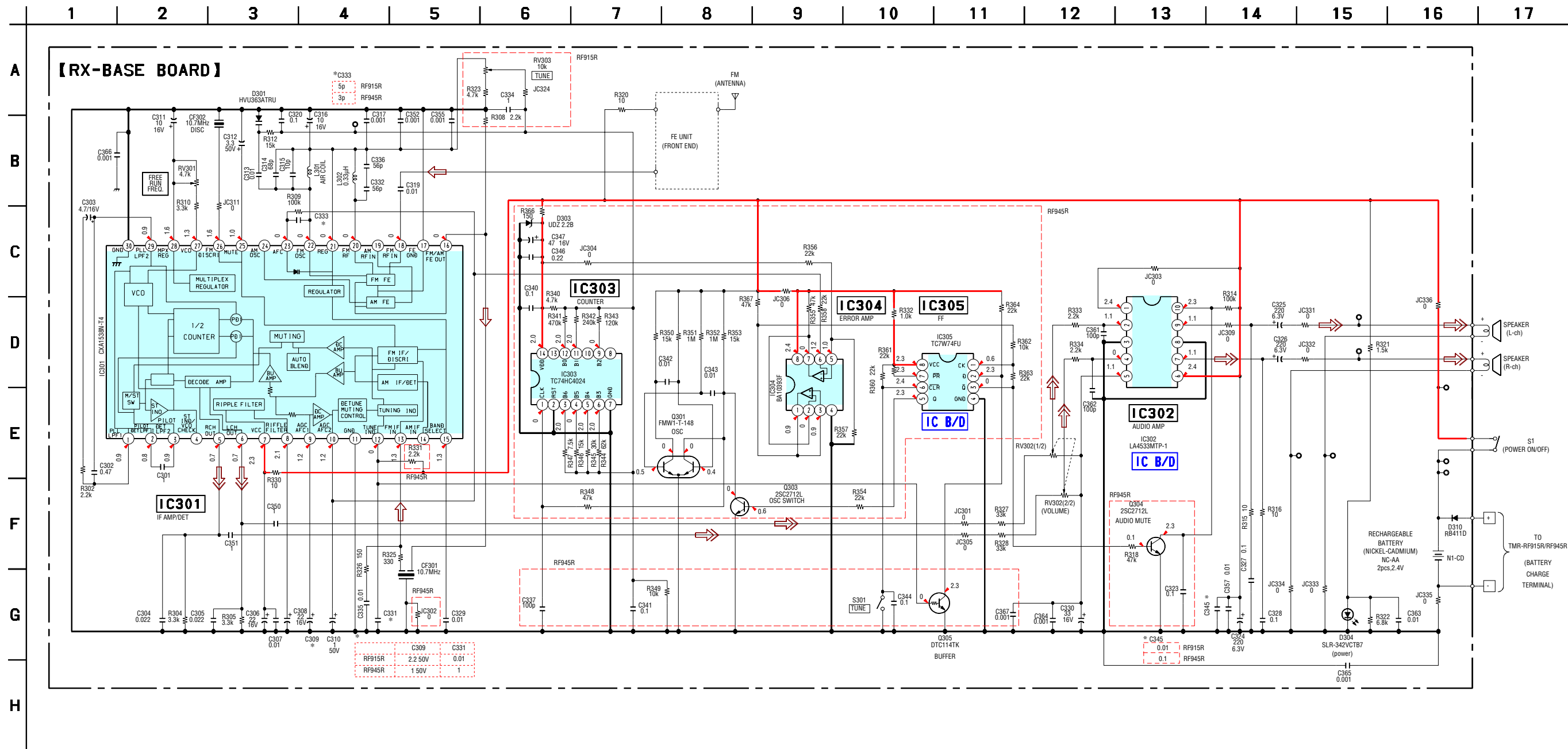


SECTION 4

DIAGRAMS

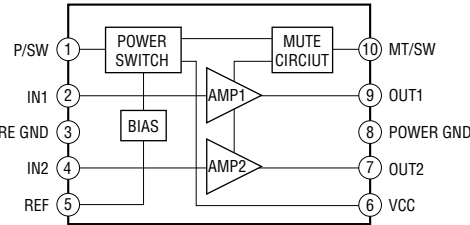


4-2. SCHEMATIC DIAGRAM

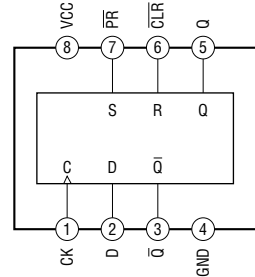


• IC BLOCK DIAGRAMS

IC302 LA4533MTP-1



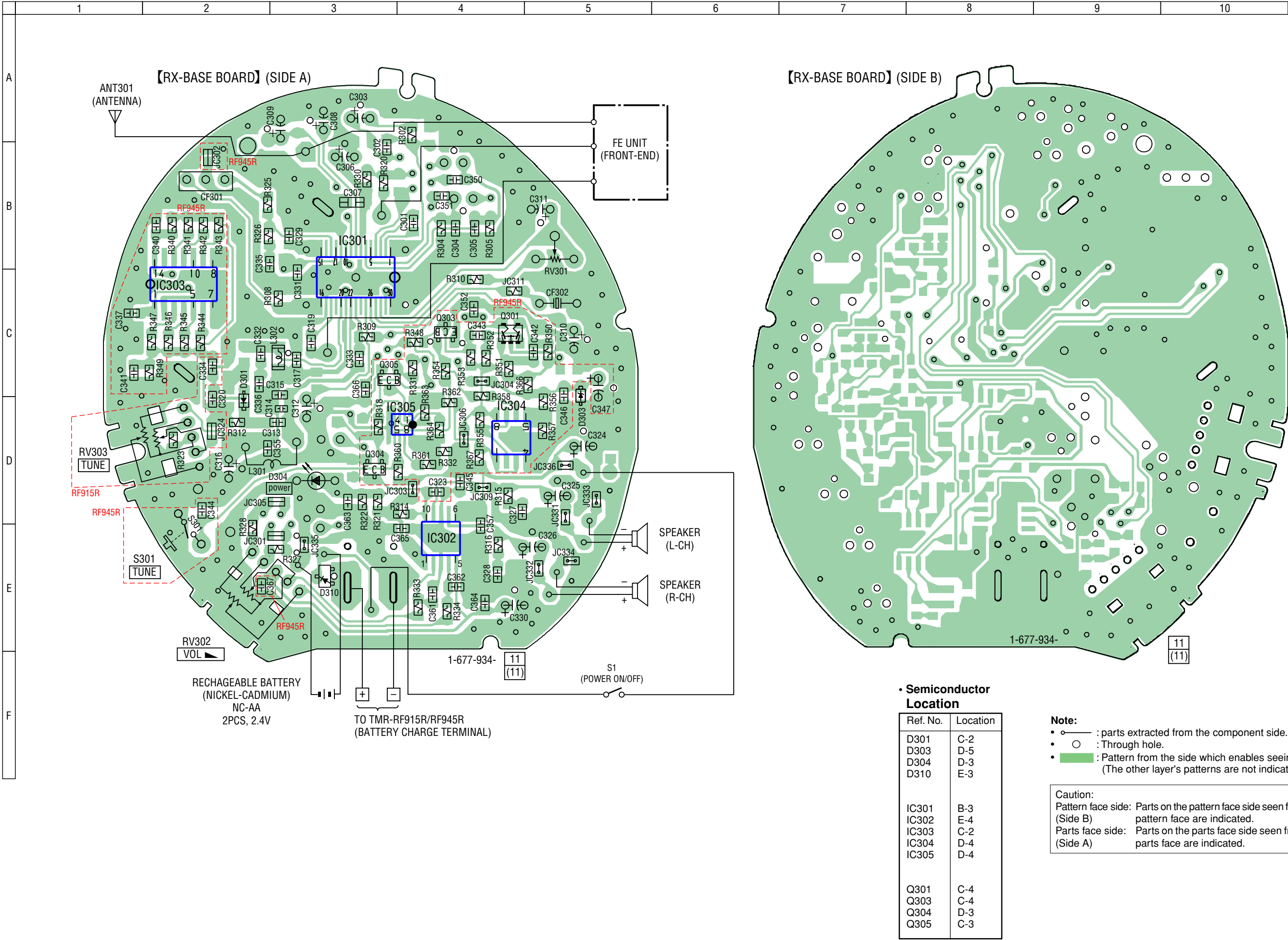
IC305 TC7W74FU



Note on schematic diagrams.

- Note:**
- All capacitors are in μF unless otherwise noted. pF : μF 50 WV or less are not indicated except for electrolytics and tantalums.
 - All resistors are in Ω and $1/4\text{W}$ or less unless otherwise specified.
 - — : 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 $10\text{M}\Omega$).

- Signal path.
- → : FM
- → : AUDIO



1-677-934-

11
(11)

• Semiconductor
Location

Ref. No.	Location
D301	C-2
D303	D-5
D304	D-5
D310	E-3
IC301	B-3
IC302	E-4
IC303	C-2
IC304	D-4
IC305	D-4
Q301	C-4
Q303	C-4
Q304	D-3
Q305	C-3

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.

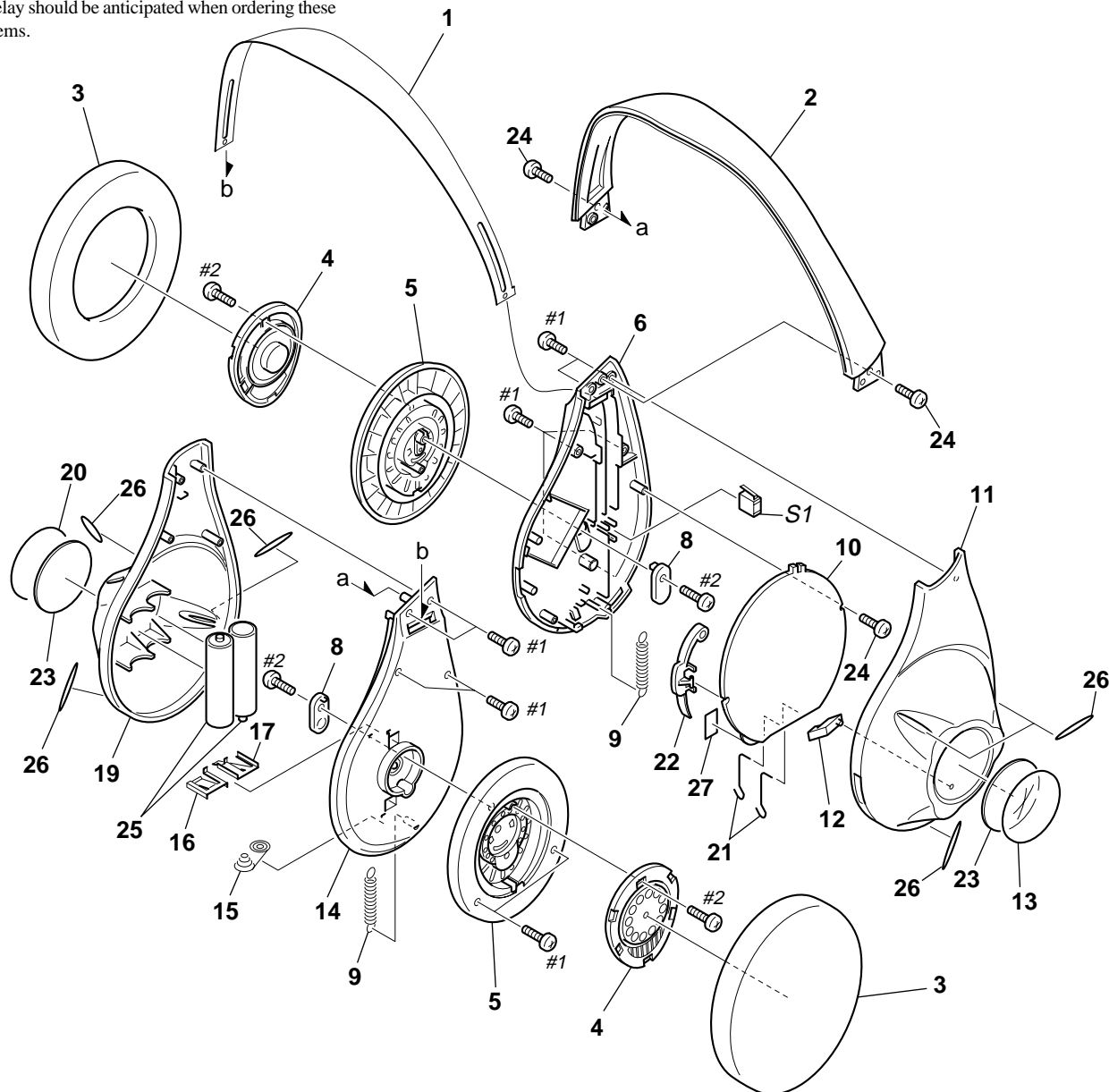
Parts face side: Parts on the parts face side seen from the
(Side A) parts face are indicated.

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	3-046-672-01	SUSPENDER		14	3-046-674-01	HANGER (L) (RF945R)	
2	3-046-671-01	BAND, HEAD (RF945R)		14	3-046-674-11	HANGER (L) (RF915R)	
2	3-046-671-11	BAND, HEAD (RF915R)		15	3-048-267-01	TERMINAL (MIDWAY), BATTERY	
3	3-046-692-01	PAT, EAR		16	3-048-265-01	TERMINAL (+), BATTERY	
4	1-542-400-11	DRIVER (030F032)		17	3-048-266-01	TERMINAL (-), BATTERY	
5	3-046-685-01	PLATE (L), FRONT		19	3-046-676-01	COVER (L), HANGER (RF945R)	
6	3-046-675-41	HANGER (R) (RF915R:US)		19	3-046-676-11	COVER (L), HANGER (RF915R)	
6	3-046-675-51	HANGER (R) (RF915R:CND)		20	3-046-678-41	CAP (L), ORNAMENTAL (RF915R)	
6	3-046-675-61	HANGER (R) (RF945R:US)		20	3-046-678-51	CAP (L), ORNAMENTAL (RF945R)	
6	3-046-675-71	HANGER (R) (RF945R:CND)		21	3-046-682-01	TERMINAL, CHARGE	
8	4-992-281-01	HOLDER, BALL SHAFT		22	3-046-680-01	BUTTON, TUNING (RF945R)	
9	4-981-975-01	SPRING, TENSION		23	3-048-264-01	SHEET, ORNAMENTAL CAP ADHESIVE	
* 10	A-3062-556-A	RX-BASE BORAD, COMPLETE (RF915R)		24	3-223-909-01	SCREW (B2)	
* 10	A-3062-564-A	RX-BASE BORAD, COMPLETE (RF945R)		25	1-756-112-31	BATTERY, NICKEL CADMIUM	
11	3-046-677-01	COVER (R), HANGER (RF945R)		26	3-224-743-01	SHEET, HOLE (RF945R)	
11	3-046-677-11	COVER (R), HANGER (RF915R)		27	3-846-312-01	SPACER	
12	3-049-799-01	LIGHT, MDR GUIDE		S1	1-771-249-11	SWITCH, PUSH (1 KEY) (POWER ON/OFF)	
13	3-046-679-41	CAP (R), ORNAMENTAL (RF915R)		#1	7-685-104-19	SCREW +P 2X6 TYPE2 NON-SLIT	
13	3-046-679-51	CAP (R), ORNAMENTAL (RF945R)		#2	7-685-105-19	SCREW +P 2X8 TYPE2 NON-SLIT	

SECTION 6

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.
- -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: μ F
RESISTORS
All resistors are in ohms.
METAL: metal-film resistor
METAL OXIDE: Metal Oxide-film resistor
F: nonflammable
- COILS
uH: μ H

• SEMICONDUCTORS

In each case, u: μ , for example:
uA...: μ A..., uPA..., μ PA...,
uPB..., μ PB..., uPC..., μ PC...,
uPD..., μ 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-3062-556-A	RX-BASE BOARD, COMPLETE (RF915R)		C335	1-163-021-91	CERAMIC CHIP 0.01uF 10%	50V
*	A-3062-564-A	RX-BASE BOARD, COMPLETE (RF945R)	*****	C336	1-163-245-11	CERAMIC CHIP 56PF 5%	50V
	3-046-682-01	TERMINAL, CHARGE		C337	1-163-251-11	CERAMIC CHIP 100PF 5%	50V (RF945R)
		< CAPACITOR >		C340	1-163-038-00	CERAMIC CHIP 0.1uF	25V (RF945R)
C301	1-164-346-11	CERAMIC CHIP 1uF	16V	C341	1-163-038-00	CERAMIC CHIP 0.1uF	25V (RF945R)
C302	1-164-005-11	CERAMIC CHIP 0.47uF	25V	C342	1-163-021-91	CERAMIC CHIP 0.01uF 10%	50V (RF945R)
C303	1-124-259-11	ELECT 4.7uF 20%	16V	C343	1-163-021-91	CERAMIC CHIP 0.01uF 10%	50V (RF945R)
C304	1-163-037-11	CERAMIC CHIP 0.022uF 10%	25V	C344	1-163-038-00	CERAMIC CHIP 0.1uF	25V (RF945R)
C305	1-163-037-11	CERAMIC CHIP 0.022uF 10%	25V	C345	1-163-021-91	CERAMIC CHIP 0.01uF 10%	50V (RF915R)
C306	1-124-234-00	ELECT 22uF 20%	16V	C345	1-163-038-00	CERAMIC CHIP 0.1uF	25V (RF945R)
C307	1-163-059-91	CERAMIC CHIP 0.01uF 10%	50V	C346	1-164-489-11	CERAMIC CHIP 0.22uF 10%	16V (RF945R)
C308	1-124-234-00	ELECT 22uF 20%	16V				
C309	1-104-942-11	ELECT 1uF 20%	50V (RF945R)	C347	1-124-589-11	ELECT 47uF 20%	16V (RF945R)
C309	1-124-257-00	ELECT 2.2uF 20%	50V (RF915R)	C350	1-164-346-11	CERAMIC CHIP 1uF	16V
C310	1-104-942-11	ELECT 1uF 20%	50V	C351	1-164-346-11	CERAMIC CHIP 1uF	16V
C311	1-124-233-11	ELECT 10uF 20%	16V	C352	1-163-009-11	CERAMIC CHIP 0.001uF 10%	50V
C312	1-126-162-11	ELECT 3.3uF 20%	50V	C355	1-163-009-11	CERAMIC CHIP 0.001uF 10%	50V
C313	1-163-021-91	CERAMIC CHIP 0.01uF 10%	50V	C357	1-163-021-91	CERAMIC CHIP 0.01uF 10%	50V
C314	1-164-441-11	CERAMIC CHIP 68PF 5%	50V	C361	1-163-251-11	CERAMIC CHIP 100PF 5%	50V
C315	1-163-227-11	CERAMIC CHIP 10PF 0.50PF	50V	C362	1-163-251-11	CERAMIC CHIP 100PF 5%	50V
C316	1-124-233-11	ELECT 10uF 20%	16V	C363	1-163-021-91	CERAMIC CHIP 0.01uF 10%	50V
C317	1-163-009-11	CERAMIC CHIP 0.001uF 10%	50V	C364	1-163-009-11	CERAMIC CHIP 0.001uF 10%	50V
C319	1-163-021-91	CERAMIC CHIP 0.01uF 10%	50V	C365	1-163-009-11	CERAMIC CHIP 0.001uF 10%	50V
C320	1-163-038-00	CERAMIC CHIP 0.1uF	25V	C366	1-163-009-11	CERAMIC CHIP 0.001uF 10%	50V
C323	1-163-038-00	CERAMIC CHIP 0.1uF	25V (RF945R)	C367	1-163-009-11	CERAMIC CHIP 0.001uF 10%	50V (RF945R)
C324	1-124-635-00	ELECT 220uF 20%	6.3V			< CERAMIC FILTER >	
C325	1-124-635-00	ELECT 220uF 20%	6.3V	CF301	1-577-588-11	FILTER, CERAMIC	
C326	1-124-635-00	ELECT 220uF 20%	6.3V	CF302	1-577-572-11	FILTER, CERAMIC	
C327	1-163-038-91	CERAMIC CHIP 0.1uF	25V			< DIODE >	
C328	1-163-038-91	CERAMIC CHIP 0.1uF	25V	D301	8-719-083-90	DIODE HVU363ATRU	
C329	1-163-021-91	CERAMIC CHIP 0.01uF 10%	50V	D303	8-719-056-71	DIODE UDZ-TE-17-2.2B (RF945R)	
C330	1-124-242-00	ELECT 33uF 20%	25V	D304	8-719-077-16	LED TLSU124(TPJ52) (power)	
C331	1-163-021-91	CERAMIC CHIP 0.01uF 10%	50V (RF915R)	D310	8-719-975-40	DIODE RB411D	
C331	1-164-346-11	CERAMIC CHIP 1uF	16V (RF945R)			< IC >	
C332	1-163-245-11	CERAMIC CHIP 56PF 5%	50V	IC301	8-752-072-12	IC CXA1538N	
C333	1-163-220-11	CERAMIC CHIP 3PF 0.25PF	50V (RF945R)	IC302	8-759-802-75	IC LA4533M	
C333	1-163-222-11	CERAMIC CHIP 5PF 0.25PF	50V (RF915R)				
C334	1-164-346-11	CERAMIC CHIP 1uF	16V (RF915R)				

Ref. No.	Part No.	Description	Remarks	Ref. No.	Part No.	Description	Remarks
IC303	8-759-453-43	IC TC74HC4024AF (RF945R)		R341	1-216-113-00	METAL CHIP 470K 5%	1/10W
IC304	8-759-510-73	IC BA10393F-E2 (RF945R)					(RF945R)
IC305	8-759-083-94	IC TC7W74FU (RF945R)		R342	1-216-106-00	METAL CHIP 240K 5%	1/10W
		< JUMPER RESISTOR >					(RF945R)
JC301	1-216-295-91	SHORT 0		R343	1-216-099-00	METAL CHIP 120K 5%	1/10W
JC302	1-216-295-91	SHORT 0 (RF945R)					(RF945R)
JC303	1-216-295-91	SHORT 0		R344	1-216-092-00	RES-CHIP 62K 5%	1/10W
JC304	1-216-295-91	SHORT 0 (RF945R)					(RF945R)
JC305	1-216-295-91	SHORT 0		R345	1-216-084-00	METAL CHIP 30K 5%	1/10W
							(RF945R)
JC306	1-216-295-91	SHORT 0 (RF945R)		R346	1-216-077-00	RES-CHIP 15K 5%	1/10W
JC309	1-216-295-91	SHORT 0					(RF945R)
JC311	1-216-295-91	SHORT 0		R347	1-216-070-00	METAL CHIP 7.5K 5%	1/10W
JC324	1-216-295-91	SHORT 0 (RF915R)					(RF945R)
JC331	1-216-295-91	SHORT 0		R348	1-216-089-91	RES-CHIP 47K 5%	1/10W
							(RF945R)
JC332	1-216-295-91	SHORT 0		R349	1-216-073-00	RES-CHIP 10K 5%	1/10W
JC333	1-216-295-91	SHORT 0					(RF945R)
JC334	1-216-295-91	SHORT 0		R350	1-216-077-00	RES-CHIP 15K 5%	1/10W
JC335	1-216-295-91	SHORT 0					(RF945R)
JC336	1-216-295-91	SHORT 0		R351	1-216-121-11	RES-CHIP 1M 5%	1/10W
		< COIL >					(RF945R)
L301	1-422-317-31	COIL, AIR-CORE		R352	1-216-121-11	RES-CHIP 1M 5%	1/10W
L302	1-412-933-11	INDUCTOR 0.33uH					(RF945R)
		< TRANSISTOR >		R353	1-216-077-00	RES-CHIP 15K 5%	1/10W
Q301	8-729-903-10	TRANSISTOR FMW1 (RF945R)					(RF945R)
Q303	8-729-200-72	TRANSISTOR 2SC2712L-TE85L (RF945R)		R354	1-216-081-00	METAL CHIP 22K 5%	1/10W
Q304	8-729-200-72	TRANSISTOR 2SC2712L-TE85L (RF945R)					(RF945R)
Q305	8-729-027-44	TRANSISTOR DTC114TKA-T146 (RF945R)		R355	1-216-089-91	RES-CHIP 47K 5%	1/10W
		< RESISTOR >					(RF945R)
R302	1-216-057-00	METAL CHIP 2.2K 5%	1/10W	R356	1-216-081-00	METAL CHIP 22K 5%	1/10W
R304	1-216-061-00	RES-CHIP 3.3K 5%	1/10W				(RF945R)
R305	1-216-061-00	RES-CHIP 3.3K 5%	1/10W	R357	1-216-081-00	METAL CHIP 22K 5%	1/10W
R308	1-216-057-00	METAL CHIP 2.2K 5%	1/10W				(RF945R)
R309	1-216-097-11	RES-CHIP 100K 5%	1/10W	R358	1-216-081-00	METAL CHIP 22K 5%	1/10W
							(RF945R)
R310	1-216-061-00	RES-CHIP 3.3K 5%	1/10W	R360	1-216-081-00	METAL CHIP 22K 5%	1/10W
R312	1-216-077-00	RES-CHIP 15K 5%	1/10W				(RF945R)
R314	1-216-097-11	RES-CHIP 100K 5%	1/10W	R361	1-216-081-00	METAL CHIP 22K 5%	1/10W
R315	1-216-001-00	METAL CHIP 10 5%	1/10W				(RF945R)
R316	1-216-001-00	METAL CHIP 10 5%	1/10W	R362	1-216-073-00	RES-CHIP 10K 5%	1/10W
							(RF945R)
R318	1-216-089-91	RES-CHIP 47K 5%	1/10W (RF945R)	R363	1-216-081-00	METAL CHIP 22K 5%	1/10W
							(RF945R)
R320	1-216-001-00	METAL CHIP 10 5%	1/10W	R364	1-216-081-00	METAL CHIP 22K 5%	1/10W
R321	1-216-053-00	METAL CHIP 1.5K 5%	1/10W				(RF945R)
R322	1-216-069-00	METAL CHIP 6.8K 5%	1/10W	R366	1-216-029-00	METAL CHIP 150 5%	1/10W
R323	1-216-065-91	RES-CHIP 4.7K 5%	1/10W (RF915R)				(RF945R)
				R367	1-216-089-91	RES-CHIP 47K 5%	1/10W
							(RF945R)
R325	1-216-037-00	METAL CHIP 330 5%	1/10W			< VARIABLE RESISTOR >	
R326	1-216-029-00	METAL CHIP 150 5%	1/10W	RV301	1-241-763-11	RES, ADJ, CARBON 4.7K (FREE RUN FREQ.)	
R327	1-216-085-00	RES-CHIP 33K 5%	1/10W	RV302	1-227-189-11	RES, VAR CARBON 20K/20K (VOL )	
R328	1-216-085-00	RES-CHIP 33K 5%	1/10W	RV303	1-227-190-11	RES, VAR CARBON 10K (TUNE) (RF915R)	
R330	1-216-001-00	METAL CHIP 10 5%	1/10W			< SWITCH >	
				S301	1-771-980-11	SWITCH, TACTILE (TUNE) (RF945R)	
R331	1-216-057-00	METAL CHIP 2.2K 5%	1/10W (RF945R)			*****	
						MISCELLANEOUS	
R332	1-216-049-11	RES-CHIP 1K 5%	1/10W (RF945R)			*****	
R333	1-216-057-00	METAL CHIP 2.2K 5%	1/10W	4	1-542-400-11	DRIVER (030F032)	
R334	1-216-057-00	METAL CHIP 2.2K 5%	1/10W	25	1-756-112-31	BATTERY, NICKEL CADMIUM	
R340	1-216-071-00	METAL CHIP 8.2K 5%	1/10W (RF945R)	S1	1-771-249-11	SWITCH, PUSH (1 KEY) (POWER ON/OFF)	

REVISION HISTORY

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