# **SRF-18**

# **SERVICE MANUAL**

Ver. 1.1 2012.03



E Model

#### **SPECIFICATIONS**

#### Frequency range:

FM: 87.5 MHz - 108 MHz AM: 530 kHz - 1,710 kHz

#### Speaker

Approx. 3.6 cm (1  $^{7}/_{16}$  inches) dia, 7.2  $\Omega$  (2)

#### Input

AUDIO IN jack (\$\phi\$ 3.5 mm stereo minijack) (1)

#### Outputs

∴ (headphones) jack (\$\phi\$ 3.5 mm stereo minijack) (1) AUDIO OUT jack (\$\phi\$ 3.5 mm stereo minijack) (1)

#### Power output:

80 mW + 80 mW (JEITA\*)

#### Power requirements:

3 V DC, two size AA (R6) batteries

#### **Dimensions:**

Approx. 155 mm  $\times$  78.5 mm  $\times$  32.5 mm (6  $^{1}/_{8}$  inches  $\times$  3  $^{1}/_{8}$  inches  $\times$  1  $^{5}/_{16}$  inches) (w/h/d, projecting parts not included) Approx. 155.4 mm  $\times$  80.3 mm  $\times$  34.2 mm (6  $^{1}/_{8}$  inches  $\times$  3  $^{1}/_{4}$  inches  $\times$  1  $^{3}/_{8}$  inches) (w/h/d, projecting parts included) (IEITA\*)

#### Mass:

Approx. 198 g (7 oz) (batteries included)

\* JEITA (Japan Electronics and Information Technology Industries Association) standards.

#### Supplied accessories

Operating Instructions (1) Audio connecting cable (stereo mini plug  $\longleftrightarrow$  stereo mini plug) (1)

Design and specifications are subject to change without notice.

# **On Copyrights**

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#### 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.

#### **UNLEADED SOLDER**

Boards requiring use of unleaded solder are printed with the leadfree mark (LF) indicating the solder contains no lead.

(**Caution:** Some printed circuit boards may not come printed with the lead free mark due to their particular size)

# : LEAD FREE MARK

Unleaded solder has the following characteristics.

- Unleaded solder melts at a temperature about 40 °C higher than ordinary solder.
  - Ordinary soldering irons can be used but the iron tip has to be applied to the solder joint for a slightly longer time.
  - Soldering irons using a temperature regulator should be set to about 350 °C.
  - **Caution:** The printed pattern (copper foil) may peel away if the heated tip is applied for too long, so be careful!
- Strong viscosity
  - Unleaded solder is more viscous (sticky, less prone to flow) than ordinary solder so use caution not to let solder bridges occur such as on IC pins, etc.
- Usable with ordinary solder
  - It is best to use only unleaded solder but unleaded solder may also be added to ordinary solder.

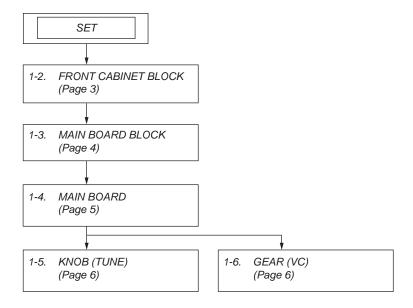
FM STEREO/AM RADIO



# SECTION 1 DISASSEMBLY

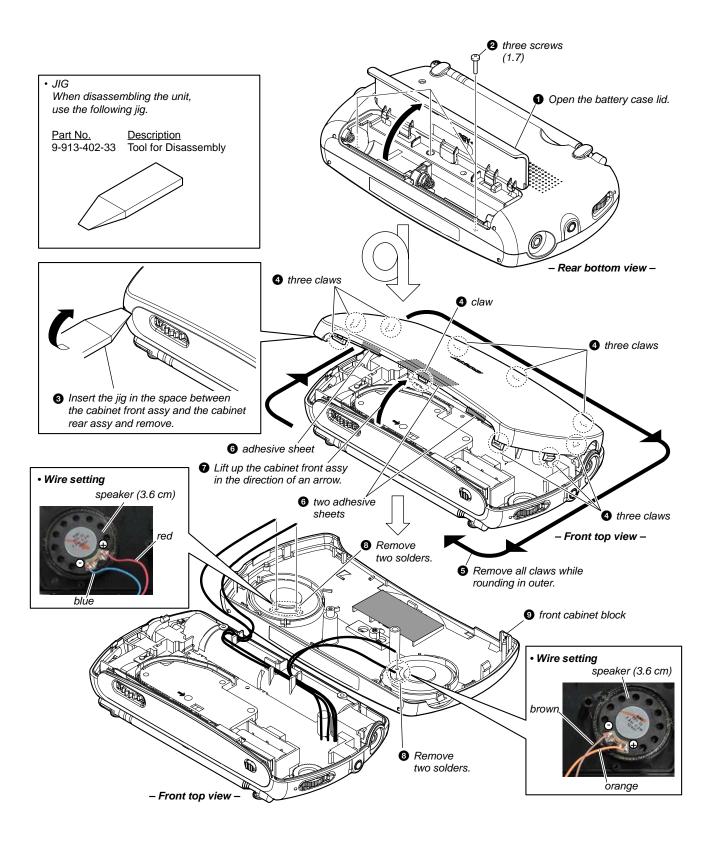
• This set can be disassembled in the order shown below.

# 1-1. DISASSEMBLY FLOW

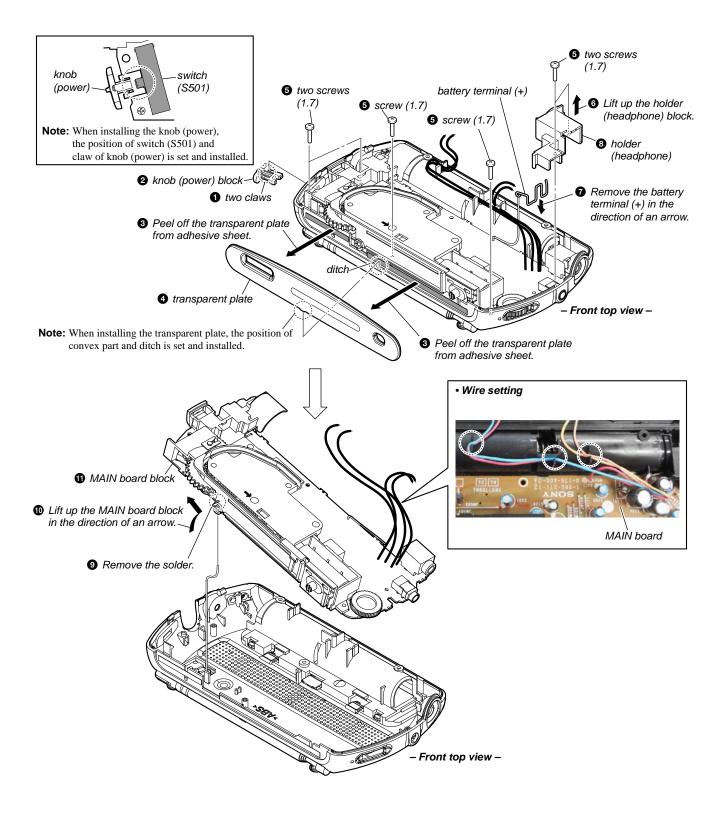


**Note:** Follow the disassembly procedure in the numerical order given.

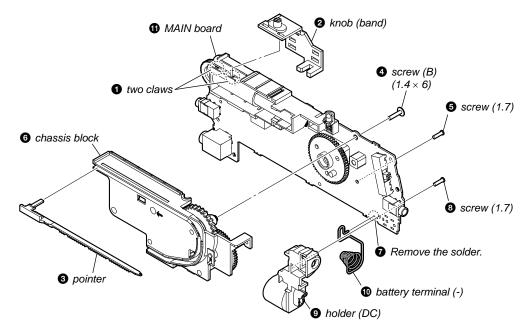
#### 1-2. FRONT CABINET BLOCK

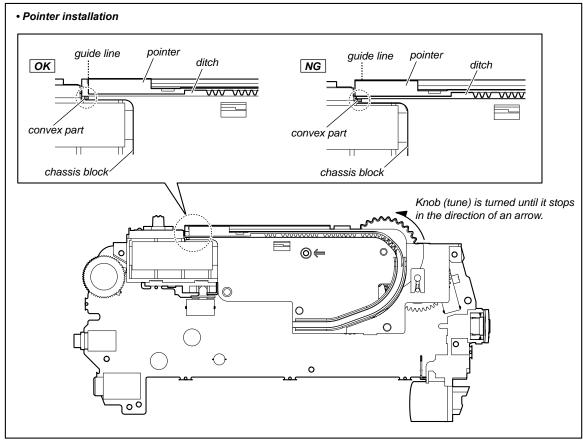


#### 1-3. MAIN BOARD BLOCK

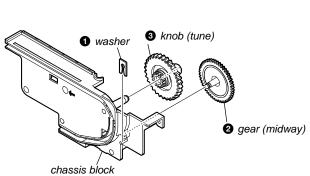


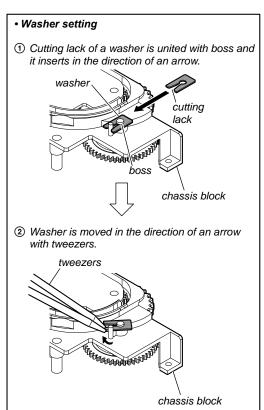
#### 1-4. MAIN BOARD



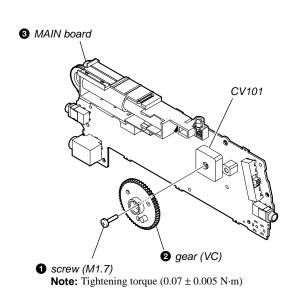


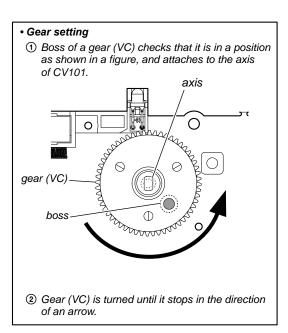
# 1-5. KNOB (TUNE)





# 1-6. GEAR (VC)





# **SECTION 2 ELECTRICAL ADJUSTMENTS**

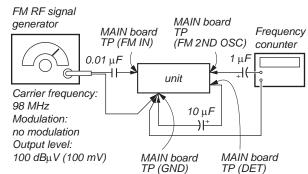
 $0 \text{ dB} = 1 \mu V$ 

#### FM 2ND OSC ADJUSTMENT

Refer to the connecting location and adjustment location.

#### Setting:

Band: FM



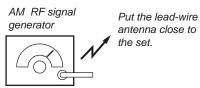
#### Procedure:

- 1. Connect the frequency counter to TP (FM 2ND OSC) as shown the figure.
- 2. Tune the unit to 98 MHz.
- 3. Adjust L102 so that the reading is set to standard value on frequency counter.

Standard value: 56.5 to 57.0 MHz

# [AM] Setting:

Band: AM Volume: max

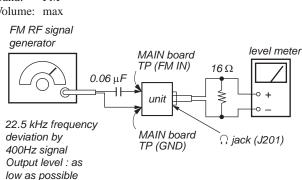


30% amplitude modulation by 400Hz

Output level : as low as possible

# [FM] Setting:

Band: FM Volume: max



- · Repeat the procedures in each adjustment several times, and the tracking adjustments should be finally done by the trimmer capacitors.
- Remove FM antenna in FM adjustment.

Refer to the connecting location and adjustment location.

#### AM FREQUENCY COVERAGE ADJUSTMENT Adjust for a maximum reading on level meter. 520 kHz L103 CT101-4 1750 kHz

AM TRACKING ADJUSTMENT							
Adjust for	r a maximum reading on level meter.						
L105 620 kHz							
CT101-3 1400 kHz							

FM FREQUENCY COVERAGE ADJUSTMENT							
Adjust fo	Adjust for a maximum reading on level meter.						
L106 86.5 MHz							
CT101-1 109.5 MHz							

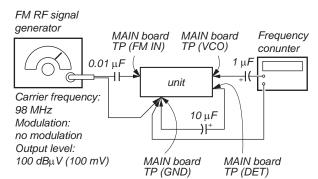
FM TRACKING ADJUSTMENT						
Adjust for a maximum reading on level meter.						
L101 86.5 MHz						
CT101-2	109.5 MHz					

#### FM VCO ADJUSTMENT

Refer to the connecting location and adjustment location.

#### Setting:

Band: FM

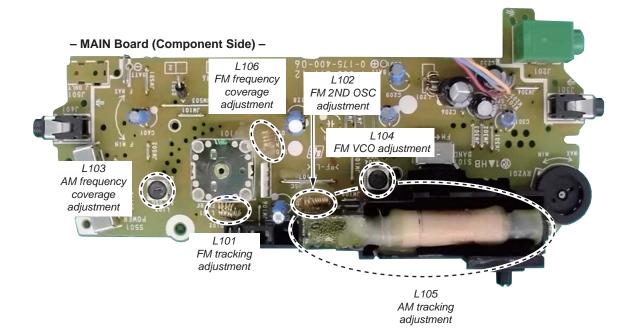


#### Procedure:

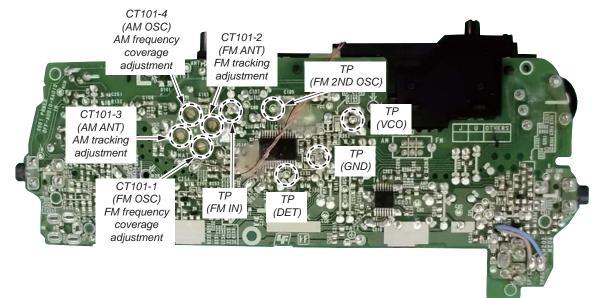
- 1. Connect the frequency counter to TP (VCO) as shown the fig-
- 2. Tune the unit to 98 MHz.
- 3. Adjust L104 so that the reading is set to standard value on frequency counter.

Standard value: 37.95 to 38.05 kHz

#### Connectiong and adjustment location:



# - MAIN Board (Conductor Side) -



SRF-18

# **SECTION 3 DIAGRAMS**

### THIS NOTE IS COMMON FOR PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS. (In addition to this, the necessary note is printed in each block.)

# For Printed Wiring Boards.

#### Note:

- -: Parts extracted from the component side.
- -: Parts extracted from the conductor side.
- []- : Indicates side identified with part number. • Pattern from the side which enables seeing.
- (The other layers' patterns are not indicated.)

# For Schematic Diagrams.

- All capacitors are in µF unless otherwise noted. (p: pF) 50 WV or less are not indicated except for electrolytics and
- All resistors are in  $\Omega$  and 1/4 W or less unless otherwise specified.
- Panel designation.
- ■: B+ Line.
- : Adjustment for repair.
- Power voltage is dc 3 V and fed with regurated dc power supply from TP (BATT+) and TP (BATT-) on the MAIN board
- Voltages are dc with respect to ground under no-signal (detuned) conditions. no mark: FM

( ): AM

\* : Impossible to measure

- Voltages are taken with VOM (Input impedance 10 M $\Omega$ ). Voltage variations may be noted due to normal production tolerances.
- · Signal path. ⇒ : FM

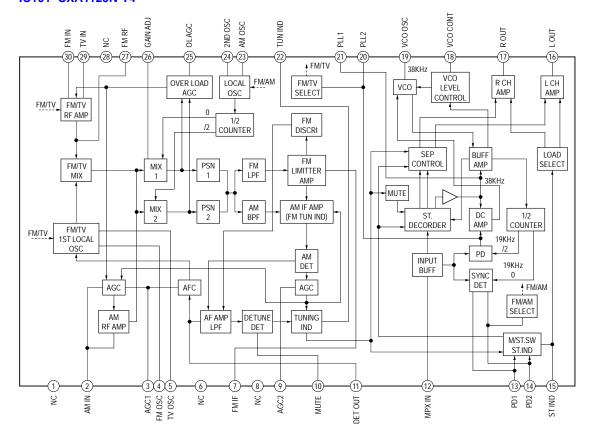
: AM

 $\sum$ 

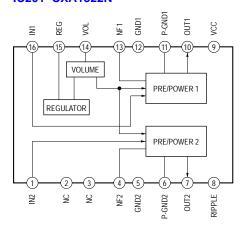
: AUDIO IN

#### • IC Block Diagrams

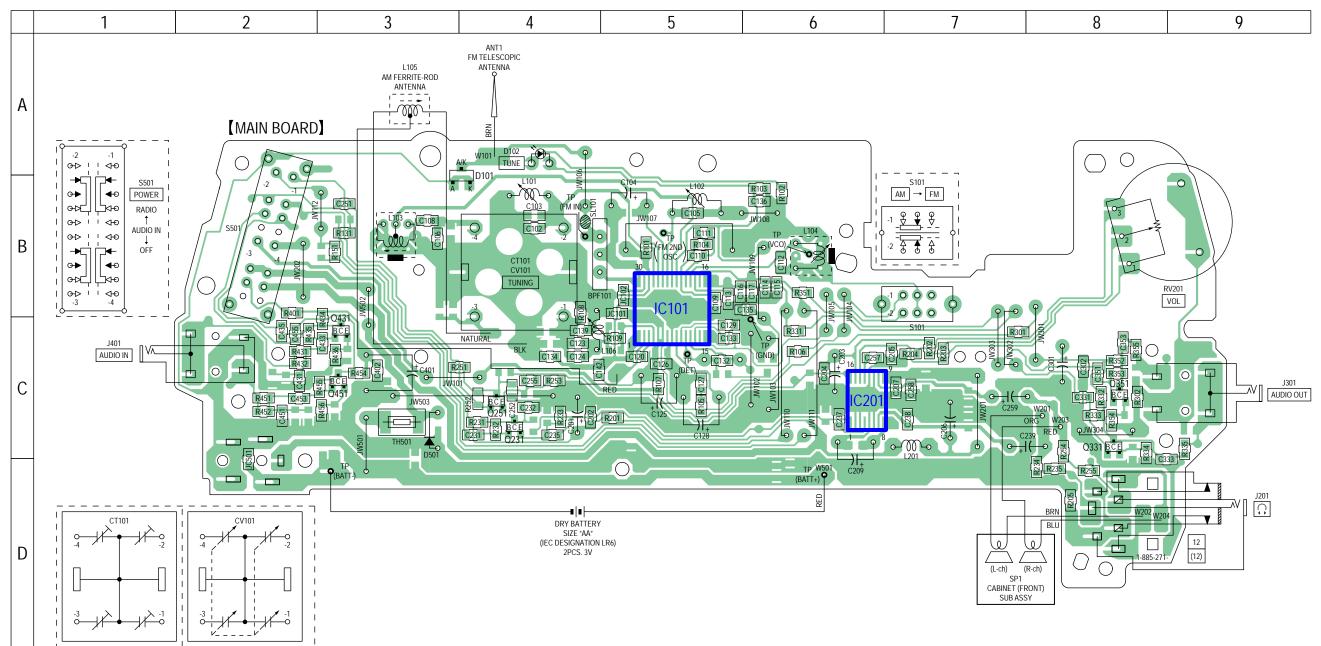
#### - MAIN Board -IC101 CXA1129N-T4



### IC201 CXA1522N



# 3-1. PRINTED WIRING BOARD • **!** : Uses unleaded solder.



# 3-2. SCHEMATIC DIAGRAM • See page 8 for IC Block Diagrams. 10 11 13 14 15 [MAIN BOARD] R332 ≱ R352 ≱ TP (FM 2ND OSC) IC101 FM/AM RF AMP, MIX, VCO, MPX IC101 CXA1129N R131 33k R151 33k L105 AM FERRITE-ROD ANTENNA SP1 CABINET (FRONT) SUB ASSY R254 R255 150 0 IC201 CV101 TUNING D101 MC2837 AUDIO IN Q431, 451 LINE AMP

# SECTION 4 EXPLODED VIEWS

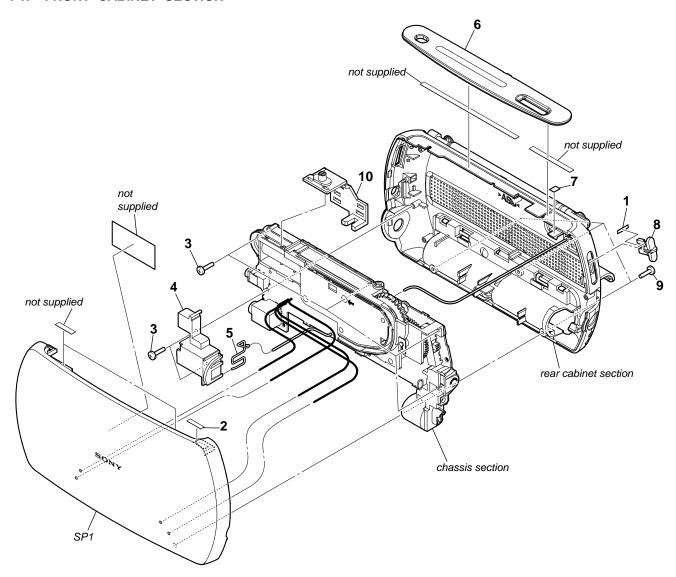
#### Note:

- -XX and -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.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Color Indication of Appearance Parts Example:

KNOB, BALANCE (WHITE) . . . (RED)

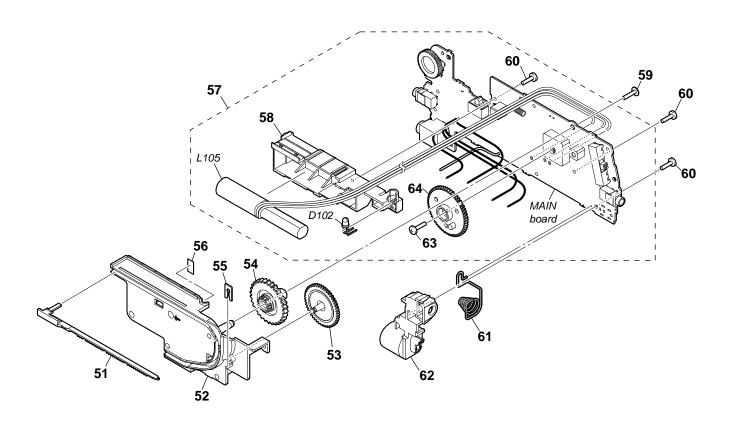
Parts Color Cabinet's Color

# 4-1. FRONT CABINET SECTION



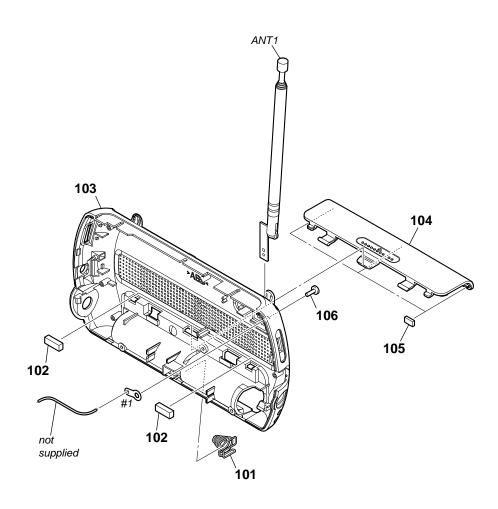
Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	<u>Description</u>	Remark
1	3-846-310-21	SPACER		8	4-294-733-21	KNOB (POWER) (for PINK)	
2	4-412-614-01	ADHESIVE SHEET A		9	3-252-825-01	SCREW (1.7) (for WHITE, PINK)	
3	3-252-825-01	SCREW (1.7)					
4	4-294-737-01	HOLDER (HEADPHONE) (for BLACK)		9	3-252-825-11	SCREW (1.7) (for BLACK)	
4	4-294-737-11	HOLDER (HEADPHONE) (for WHITE)		10	4-294-732-01	KNOB (BAND) (for BLACK)	
				10	4-294-732-11	KNOB (BAND) (for WHITE)	
4	4-294-737-21	HOLDER (HEADPHONE) (for PINK)		10	4-294-732-21	KNOB (BAND) (for PINK)	
5	4-294-741-01	TERMINAL (+) BATTERY		SP1	X-2584-348-1	CABINET (FRONT) SUB ASSY	
6	4-294-740-31	PLATE TRANSPARENT (for BLACK)				(Including SPEAKER (3.6 cm))	(for BLACK)
6	4-294-740-41	PLATE TRANSPARENT (for WHITE)					
6	4-294-740-51	PLATE TRANSPARENT (for PINK)		SP1	X-2584-349-1	CABINET (FRONT) SUB ASSY	
						(Including SPEAKER (3.6 cm))	(for WHITE)
7	4-412-613-01	SPACER A		SP1	X-2584-350-1	CABINET (FRONT) SUB ASSY	
8	4-294-733-01	KNOB (POWER) (for BLACK)				(Including SPEAKER (3.6 cm	)) (for PINK)
8	4-294-733-11	KNOB (POWER) (for WHITE)				·	

# 4-2. CHASSIS SECTION



Ref. No.	Part No.	<u>Description</u>	Remark	Ref. No.	Part No.	<u>Description</u>	Remark
51	4-294-739-01	POINTER		59	3-318-201-61	SCREW (B) (1.4X6), TAPPING	
52	4-294-730-02	CHASSIS		60	3-252-825-01	SCREW (1.7)	
53	4-294-736-01	GEAR (MIDWAY)		61	4-294-742-01	TERMINAL (-) BATTERY	
54	4-294-734-01	KNOB (TUNE) (for BLACK)		62	4-294-738-01	HOLDER (DC) (for BLACK)	
54	4-294-734-11	KNOB (TUNE) (for WHITE)		62	4-294-738-11	HOLDER (DC) (for WHITE)	
54	4-294-734-21	KNOB (TUNE) (for PINK)		62	4-294-738-21	HOLDER (DC) (for PINK)	
55	3-877-234-01	WASHER		63	3-254-148-01	SCREW (M1.7)	
56	2-582-365-01	CUSHION (BUTTON)		64	4-294-735-01	GEAR (VC)	
57	A-1861-503-A	MAIN BOARD, COMPLETE		D102	6-501-544-01	LED L-1154HD (TUNE)	
58	4-294-731-02	HOLDER (FERRITE-ROD ANTENNA)		L105	1-460-469-11	BAR ANTENNA COIL (AM)	

# 4-3. REAR CABINET SECTION



Ref. No.	Part No.	Description	<u>Remark</u>	Ref. No.	Part No.	Description	Remark
101	4-142-818-01	BATTERY TERMINAL +- (A)		104	4-294-728-21	LID, BATTERY CASE (for PINK)	
102	3-014-055-01	FOOT, RUBBER		105	2-596-904-01	CUSHION (LEVER)	
103	4-294-727-32	CABINET REAR (for BLACK)		106	3-245-709-11	SCREW (for BLACK)	
103	4-294-727-42	CABINET REAR (for WHITE)					
103	4-294-727-52	CABINET REAR (for PINK)		106	3-245-709-31	SCREW (for WHITE, PINK)	
				ANT1	1-501-247-61	ANTENNA, TELESCOPIC (FM)	
104	4-294-728-01	LID, BATTERY CASE (for BLACK)		#1	7-623-507-01	LUG, 2.6	
104	4-294-728-11	LID, BATTERY CASE (for WHITE)					

# MAIN

# SECTION 5 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 and -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.
- RESISTORS
  - All resistors are in ohms. METAL: Metal-film resistor.

METAL OXIDE: Metal oxide-film resistor.

- F: nonflammable
   CAPACITORS
  - uF: μF
- COILS uH: µH

#### • SEMICONDUCTORS

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

 $uPD.\ .\ : \overset{\cdot}{\mu}PD.\ .$ 

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

Dof No	Dort No	Description			Domark	Dof No	Dort No	Description			Domark
Ref. No.	Part No.	<u>Description</u>			<u>Remark</u>	Ref. No.	Part No.	Description			<u>Remark</u>
	A-1861-503-A	MAIN BOARD, C				C207	1-115-156-11	CERAMIC CHIP	1uF		10V
		*******	*****			C209	1-126-514-11	ELECT	22uF	20%	16V
		0.005111 (4.3)				C231	1-115-156-11	CERAMIC CHIP	1uF		10V
	3-252-825-01	SCREW (1.7)				C232	1-115-156-11	CERAMIC CHIP	1uF		10V
	3-254-148-01	SCREW (M1.7)	TE DOD AN	TENINIA)		COOF	1 115 15/ 11	CEDAMIC CUID	1		101/
	4-294-731-02	HOLDER (FERRI	TE-ROD AN	I ENNA)		C235	1-115-156-11	CERAMIC CHIP	1uF	10%	10V 10V
	4-294-735-01	GEAR (VC)				C237 C238	1-165-908-11	CERAMIC CHIP	1uF	10%	10V 10V
		< BAND PASS FI	ITED.			C238 C239	1-115-156-11	CERAMIC CHIP ELECT	1uF 220uF	200/	4V
		< BAIND PASS FI	LIEK >			C239 C251	1-126-781-11 1-115-156-11	CERAMIC CHIP	1uF	20%	4 V 10 V
BPF101	1-236-711-21	FILTER, BAND PA	224			0231	1-113-130-11	CLIVAIVIIC CI III	Tui		10 V
DITIOI	1 250 7 11 21	TILILIN, DAND TA	100			C252	1-115-156-11	CERAMIC CHIP	1uF		10V
		< CAPACITOR >				C255	1-115-156-11	CERAMIC CHIP	1uF		10V
						C257	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C102	1-162-915-11	CERAMIC CHIP	10PF	0.5PF	50V	C258	1-115-156-11	CERAMIC CHIP	1uF	1070	10V
C103	1-162-915-11	CERAMIC CHIP	10PF	0.5PF	50V	C259	1-126-781-11	ELECT	220uF	20%	4V
C104	1-126-794-11	ELECT	4.7uF	20%	50V						
C105	1-162-927-11	CERAMIC CHIP	100PF	5%	50V	C301	1-126-514-11	ELECT	22uF	20%	16V
C106	1-162-907-11	CERAMIC CHIP	2PF	0.25PF	50V	C302	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
						C331	1-115-156-11	CERAMIC CHIP	1uF		10V
C108	1-112-514-91	CERAMIC CHIP	1500PF	5%	50V	C333	1-115-156-11	CERAMIC CHIP	1uF		10V
C109	1-115-156-11	CERAMIC CHIP	1uF		10V	C351	1-115-156-11	CERAMIC CHIP	1uF		10V
C110	1-127-715-11	CERAMIC CHIP	0.22uF	10%	16V						
C111	1-115-156-11	CERAMIC CHIP	1uF		10V	C353	1-115-156-11	CERAMIC CHIP	1uF		10V
C112	1-114-371-91	CERAMIC CHIP	0.0047uF	5%	50V	C401	1-126-514-11	ELECT	22uF	20%	16V
						C402	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C113	1-127-715-11	CERAMIC CHIP	0.22uF	10%	16V	C431	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C114	1-164-245-11	CERAMIC CHIP	0.015uF	10%	25V	C433	1-115-156-11	CERAMIC CHIP	1uF		10V
C115	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V						
C116	1-164-245-11	CERAMIC CHIP	0.015uF	10%	25V	C435	1-115-156-11	CERAMIC CHIP	1uF		10V
C117	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V	C451	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
						C453	1-115-156-11	CERAMIC CHIP	1uF		10V
C120	1-115-156-11	CERAMIC CHIP	1uF		10V	C455	1-115-156-11	CERAMIC CHIP	1uF		10V
C123	1-164-230-11	CERAMIC CHIP	220PF	5%	50V						
C124	1-162-923-11	CERAMIC CHIP	47PF	5%	50V			< VARIABLE CAP	PACITOR >		
C125	1-126-382-11	ELECT	100uF	20%	16V						
C126	1-115-156-11	CERAMIC CHIP	1uF		10V	CT101	1-141-709-11	CAP, VAR			
						CV101	1-141-709-11	CAP, VAR (TUNII	NG)		
C127	1-115-156-11	CERAMIC CHIP	1uF		10V			51055			
C128	1-124-239-00	ELECT	6.8uF	20%	10V			< DIODE >			
C129	1-115-156-11	CERAMIC CHIP	1uF		10V	D404	/ F04 F70 04	DIODE MOSSO			
C132	1-115-156-11	CERAMIC CHIP	1uF		10V	D101	6-501-579-01	DIODE MC2837			
C133	1-115-156-11	CERAMIC CHIP	1uF		10V	D102	6-501-544-01	LED L-1154HD (			
0124	1 1 / 4 222 11	OEDAMIO OLUB	2220	E0/	F0) /	D501	6-501-582-01	DIODE 1N4002-	B5		
C134		CERAMIC CHIP		5%	50V			.10			
C135	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V			< IC >			
C136	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	10101	0.752.257.41	IC CVA1120N T	4		
C139	1-162-919-11	CERAMIC CHIP	22PF	5%	50V	IC101	8-753-356-41 8-752-065-32	IC CXA1129N-T	4		
C142	1-164-230-11	CERAMIC CHIP	220PF	5%	50V	IC201	8-752-065-32	IC CXA1522N			
C201	1-126-514-11	ELECT	22uF	20%	16V			< JACK >			
C201	1-120-314-11	CERAMIC CHIP	1uF	2070	10V 10V			371010			
C202	1-126-514-11	ELECT	22uF	20%	16V	J201	1-815-325-11	JACK (Ω)			
C204	1-115-156-11	CERAMIC CHIP	1uF	_0,0	10V	J301	1-563-857-91	JACK, HEADPHO	NF (ALIDIO	(TIJO)	
C205	1-115-156-11	CERAMIC CHIP	1uF		10V	J401	1-563-857-91	JACK, HEADPHO			
0200		-2.0 01111				5 10 1	. 555 557 71	2.10.1, 112.101 110	, 10010	,	
C206	1-128-110-11	ELECT	470uF	20%	4V						
					١						

Ref. No.	Part No.	Description			Remark	Ref. No.	Part No.	Description			Remark
		< JUMPER RES	STOR >			R354	1-216-801-11	METAL CHIP	22	5%	1/10W
10101	1 01/ 0/4 11	CHODE OHID	0			R355	1-216-864-11	SHORT CHIP	0	F0/	1/10/4/
JC101 JC102	1-216-864-11 1-216-864-11	SHORT CHIP SHORT CHIP	0			R401 R431	1-216-809-11 1-216-849-11	METAL CHIP METAL CHIP	100 220K	5% 5%	1/10W 1/10W
JC501	1-216-864-11	SHORT CHIP	0			17431	1-210-047-11	WIL TAL CITII	220K	370	1/1000
30001	. 2.0 00	00	Ü			R432	1-216-849-11	METAL CHIP	220K	5%	1/10W
		< COIL >				R434	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
			_			R435	1-216-845-11	METAL CHIP	100K	5%	1/10W
L101	1-428-309-11	COIL, AIR-CORE				R436	1-216-797-11	METAL CHIP	10	5%	1/10W
L102 L103	1-409-991-11 1-460-527-11	COIL, AIR-CORE				R451	1-216-849-11	METAL CHIP	220K	5%	1/10W
L103	1-460-527-11	COIL, OSCILLAT		)		R452	1-216-849-11	METAL CHIP	220K	5%	1/10W
L105	1-460-469-11	BAR ANTENNA		,		R454	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
			, ,			R455	1-216-845-11	METAL CHIP	100K	5%	1/10W
L106	1-460-515-11	COIL, AIR-CORE				R456	1-216-797-11	METAL CHIP	10	5%	1/10W
L201	1-410-294-41	INDUCTOR	38uH					VADIADIEDE	CICTOD		
		< TRANSISTOR	_					< VARIABLE RE	:SISTUR >		
		< TRANSISTOR	/			RV201	1-227-617-11	RES, VAR, CAR	BON 50K (\	/OL)	
Q231	6-552-408-01	TRANSISTOR	DSC500	100L					,	•	
Q251	6-552-408-01	TRANSISTOR	DSC500					< SWITCH >			
Q331	6-552-408-01	TRANSISTOR	DSC500			0404	4 570 550 44	OMITALL OLIDE	· /=== ====		
Q351 Q431	6-552-408-01 6-552-408-01	TRANSISTOR TRANSISTOR	DSC500 DSC500			S101 S501	1-572-552-41 1-786-936-21	SWITCH, SLIDE SWITCH, SLIDE	,		
Q431	0-332-408-01	TRANSISTUR	D2C200	TUUL		3301	1-780-930-21	SWITCH, SLIDE	(POWER)		
Q451	6-552-408-01	TRANSISTOR	DSC500	100L				< THERMISTOR	< >		
		< RESISTOR >				TH501	1-805-671-11	) THERMISTOR ( *******		****	* * * * * * * * * * * * * * * * *
R101	1-216-813-11	METAL CHIP	220	5%	1/10W	*****	~~~~~~~~~~~~~	· • • • • • • • • • • • • • • • • • • •	*****	*****	*****
R102	1-216-825-11	METAL CHIP	2.2K	5%	1/10W			MISCELLANEO	US		
R103	1-216-823-11	METAL CHIP	1.5K	5%	1/10W			******			
R104	1-216-827-11	METAL CHIP	3.3K	5%	1/10W						
R105	1-216-797-11	METAL CHIP	10	5%	1/10W	ANT1	1-501-247-61	ANTENNA, TEL	,	,	
D10/	1 01/ 000 11	METAL OLUD	101/	F0/	1/10/1/	SP1	X-2584-348-1	CABINET (FRO	,		)) /f DI A QI/)
R106 R107	1-216-833-11 1-216-789-11	METAL CHIP METAL CHIP	10K 2.2	5% 5%	1/10W 1/10W	SP1	X-2584-349-1	(Includii CABINET (FRO	NG SPEAKE NIT) SLID AS	R (3.6 cm	)) (for BLACK)
R107	1-216-769-11	METAL CHIP	330	5%	1/10W	JF I	X-2004-347-1				)) (for WHITE)
R109	1-216-864-11	SHORT CHIP	0	070	171011	SP1	X-2584-350-1	CABINET (FRO			,, (ioi <b>ii</b> iiiiz)
R131	1-216-839-11	METAL CHIP	33K	5%	1/10W						m)) (for PINK)
						******	*********	**********	*******	*******	*******
R151	1-216-839-11	METAL CHIP	33K	5%	1/10W			ACCECCODIEC			
R201 R202	1-216-809-11 1-216-825-11	METAL CHIP METAL CHIP	100 2.2K	5% 5%	1/10W 1/10W			ACCESSORIES ********			
R203	1-216-864-11	SHORT CHIP	0	370	171000						
R204	1-216-825-11	METAL CHIP	2.2K	5%	1/10W		1-839-478-21	CORD (WITH P	LUG) (Audio	connecti	ng cable
											reo mini plug))
R205	1-216-864-11	SHORT CHIP	0	=0.	4.4.014.		4-297-963-21	MANUAL, INST			
R231 R232	1-216-805-11 1-216-841-11	METAL CHIP METAL CHIP	47 47K	5% 5%	1/10W 1/10W			ı	RADITIONA	AL CHINE	SE, KOREAN)
R232 R233	1-216-825-11	METAL CHIP	2.2K	5%	1/10W						
R234	1-216-811-11	METAL CHIP	150	5%	1/10W						
R235	1-216-864-11	SHORT CHIP	0	_							
R251	1-216-805-11	METAL CHIP	47	5%	1/10W						
R252	1-216-841-11 1-216-825-11	METAL CHIP	47K	5%	1/10W						
R253 R254	1-216-823-11	METAL CHIP METAL CHIP	2.2K 150	5% 5%	1/10W 1/10W						
11201	121001111	WEINE OIL	100	070	171011						
R255	1-216-864-11	SHORT CHIP	0								
R301	1-216-809-11	METAL CHIP	100	5%	1/10W						
R302	1-216-864-11	SHORT CHIP	0 15V	E0/	1/10\4/						
R331	1-216-835-11	METAL CHIP	15K 2.2K	5% 5%	1/10W 1/10W						
R332	1-216-825-11	METAL CHIP	Z.ZN	5%	1/1000						
R333	1-216-843-11	METAL CHIP	68K	5%	1/10W						
R334	1-216-801-11	METAL CHIP	22	5%	1/10W						
R335	1-216-864-11	SHORT CHIP	0								
R351	1-216-835-11	METAL CHIP	15K	5%	1/10W						
R352	1-216-825-11	METAL CHIP	2.2K	5%	1/10W						
R353	1-216-843-11	METAL CHIP	68K	5%	1/10W						
	0 0 10 11			0.0		•					

# **REVISION HISTORY**

Checking the version allows you to jump to the revised page. Also, clicking the version at the top of the revised page allows you to jump to the next revised page.

Ver.	Date	Description of Revision	
1.0	2012.02	New	
1.1	2012.03	Addition of Mexican and Taiwan models	
		Change of Part No. for L103, L104 on MAIN board	(SMR-11066)