

ST-JX741

SERVICE MANUAL

US Model



ST-JX741 is the tuner section in STU-741.

SPECIFICATIONS

FM tuner section

Tuning range	87.5 – 108 MHz
Antenna terminals	75 ohms unbalanced 300 ohms balanced
Intermediate frequency	10.7 MHz
Sensitivity (at 50 dB quieting)	22.1 dBf, 7 μ V (mono), 42.1 dBf, 70 μ V (stereo)
Usable sensitivity	19.5 dBf, 5 μ V (IHF)
Signal-to-noise ratio (at 75 kHz deviation)	80 dB (mono), 75 dB (stereo)
Harmonic distortion	0.3% (mono), 0.5% (stereo) at 1 kHz
Separation	35 dB at 1 kHz
Frequency response	30 Hz – 15 kHz $+0.5_{-2.0}$ dB
Selectivity	55 dB at 400 kHz
AM suppression ratio	54 dB
Image response ratio	50 dB
IF response ratio	90 dB
Spurious response ratio	70 dB
Automatic tuning threshold	17.8 μ V (30 dBf)
Output	775 mV, 4.7 kilohms (at 75 kHz deviation)

AM tuner section

Tuning range	530 – 1,710 kHz (10 kHz) 531 – 1,710 kHz (9 kHz)
Antenna	AM loop antenna, External antenna terminal
Intermediate frequency	450 kHz
Usable sensitivity	AM loop antenna: 500 μ V/m (1,000 kHz)
Signal-to-noise ratio	54 dB
Harmonic distortion	0.5%
Selectivity	38 dB (10 kHz)

General

Power requirements	120 V AC, 60 Hz
Power consumption	8 W
Dimensions	Approx. 430 x 80 x 295 mm (w/h/d) (17 x 3 $\frac{1}{4}$ x 11 $\frac{5}{8}$ inches)
Mass	Approx. 2.6 kg (5 lb 12 oz)
Accessories supplied with the tuner	CONTROL S cord (1) Audio connecting cord (4) AM loop antenna (1) FM wire antenna (1) System control cord (1) Remote commander (1) Sony batteries SUM-3 (NS) (2)

Design and specifications are subject to change without notice.

FM STEREO/FM-AM TUNER
SONY®

SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety check before releasing the set to the customer:
Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microampers). Leakage current can be measured by any one of three methods.

- 1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
- 2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
- 3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2 V AC range are suitable. (See Fig. A)

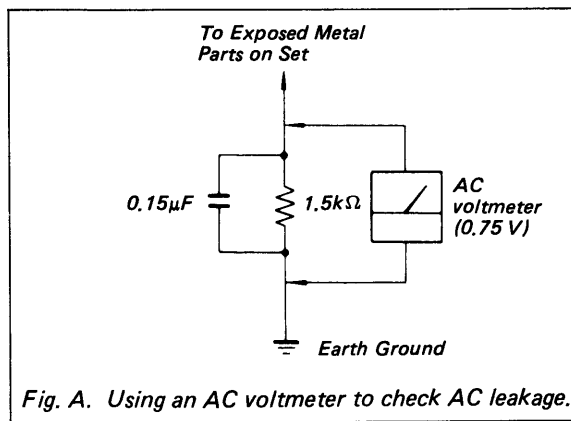


TABLE OF CONTENTS

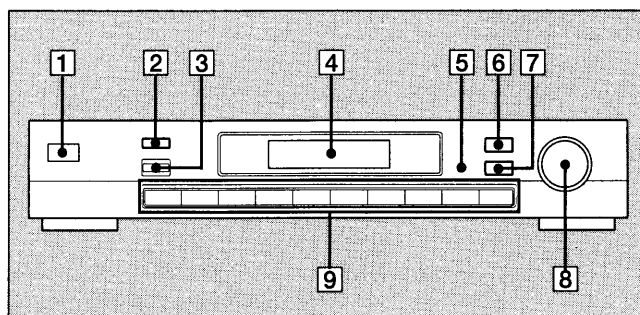
Section	Title	Page
1.	GENERAL	3
2.	ELECTRICAL ADJUSTMENTS	4
3.	DIAGRAMS	
3-1.	IC Pin Function	
	• IC601 Display Control (TMP47C1270AN-H228)	5
3-2.	Semiconductor Lead Layouts	7
3-3.	Printed Wiring Boards	8
3-4.	Schematic Diagram	11
4.	EXPLODED VIEW	15
5.	ELECTRICAL PARTS LIST	16

SAFETY-RELATED COMPONENT WARNING!!
COMPONENTS IDENTIFIED BY MARK OR DOTTED LINE WITH MARK ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

SECTION 1 GENERAL

This section is extracted
from instruction manual.

Location of Controls



- 1 POWER switch**
- 2 MEMORY SCAN button**
- 3 MEMORY button**
- 4 Display window**
- 5 STEREO/MONO button**
- 6 BAND button**
- 7 SHIFT button**
- 8 TUNING/PRESET control**
- 9 Numeric buttons**

SECTION 2

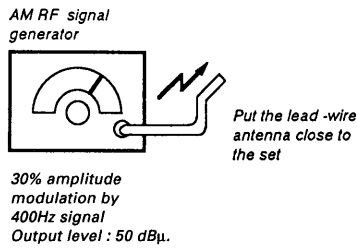
ELECTRICAL ADJUSTMENTS

Note : Be sure to perform the AM adjustment first, because the FM adjustment is affected by the AM adjustment.

AM SECTION

• AM Tuned Indication Lighting Level Adjustment

Setting :



Procedure :

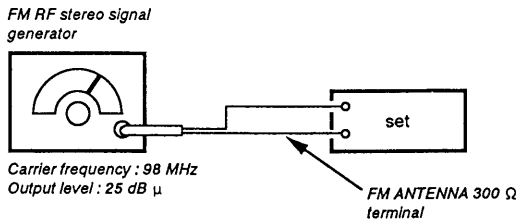
1. Tune the set to 1,050 kHz.
2. Adjust RV1 so that the TUNED LED goes on.

FM SECTION

Note : As a front end (FE1) is difficult to repair if faulty, replace it with new one.

• FM TUNING LEVEL Adjustment

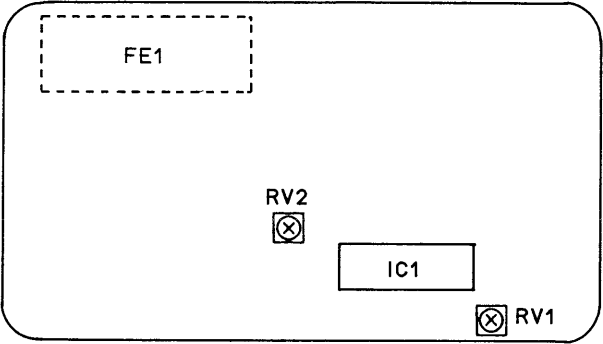
Setting :



Procedure :

1. Tune the set to 98 MHz.
2. Adjust RV2 so that the TUNED LED goes on.

-TUNER BOARD- (Component side)



SECTION 3 DIAGRAMS

3-1. IC PIN FUNCTION

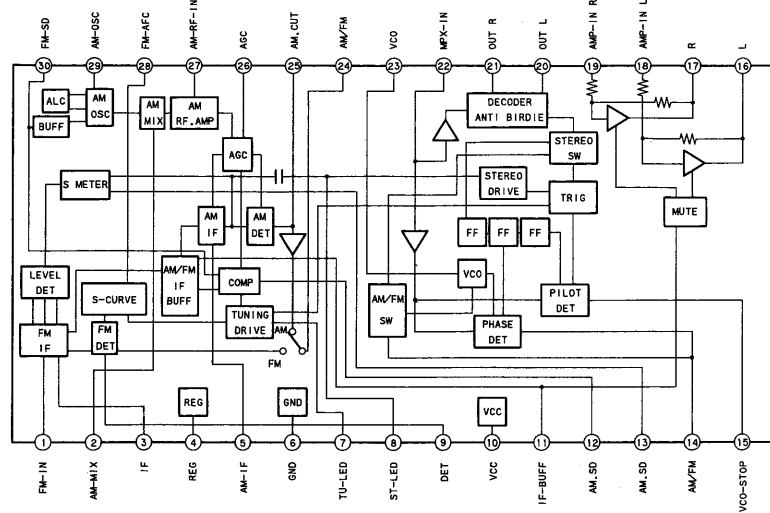
• IC601 DISPLAY CONTROL (TMP47C1270AN-H228)

Pin No.	Pin Name	I/O	Function
1	V _{KK}	—	–29V power supply for driving fluorescent display.
2	S15	O	Fluorescent display driving
3	S14	O	
4	S13	O	
5	S12	O	
6	S11	O	
7	S10	O	
8	S9	O	
9	S8	O	
10	S7	O	
11	S6	O	
12	S5	O	
13	S4	O	
14	K00	I	Key input
15	K01	I	
16	K02	I	
17	K03	I	
18	TEST	—	Test terminal
19	X IN	I	System clock (8.388608 MHz) connected to crystal oscillator.
20	X OUT	O	
21	HOLD	I	
22	RESET	I	System reset input
23	—	—	IF count NG (F monitor) output
24	R60	I	Key input
25	—	—	Not used
26	R62	I	Diode input
27	R63	I	
28	P10	O	Key output
29	P11	O	
30	P12	O	
31	P13	O	
32	GND	—	GND
33	P20	O	Key output
34	P21	O	
35	P22	—	Not used
36	P23	—	Not used
37	—	—	Not used
38	MUTING	O	MUTING output
39	TUNED IN	I	TUNED input
40	STEREO IN	I	STEREO input

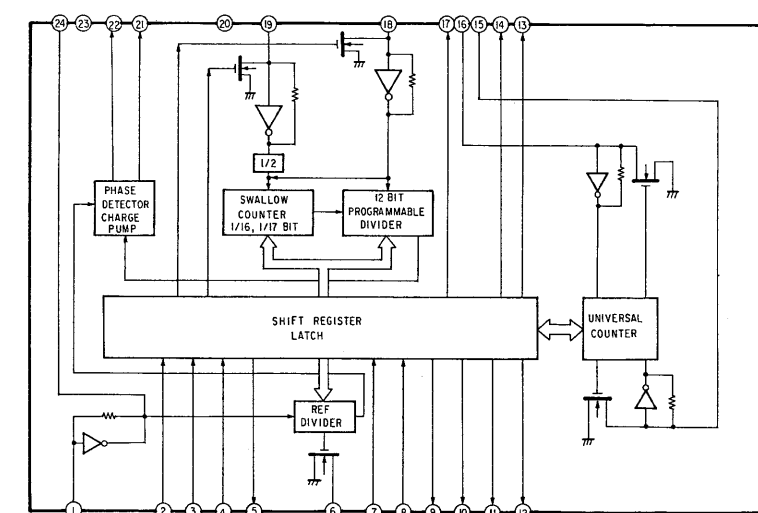
Pin No.	Pin Name	I/O	Function
41	SIRCS	I	SIRCS input
42	—	—	Not used
43	—	—	Not used
44	CE	O	Chip select to tuner PLL IC (LC7218)
45	SI	I	Serial data from tuner PLL IC (LC7218)
46	SO	O	Serial data to tuner PLL IC (LC7218)
47	SCK	O	Serial clock to tuner PLL IC (LC7218)
48	—	—	} Not used
49	—	—	
50	1G	O	} Fluorescent display driving
51	2G	O	
52	3G	O	
53	4G	O	
54	5G	O	
55	6G	O	
56	7G	O	
57	8G	O	
58	9G	O	
59	10G	O	
60	S0	O	
61	S1	O	
62	S2	O	
63	S3	O	
64	VDD	—	+5V power supply

● IC Block Diagrams

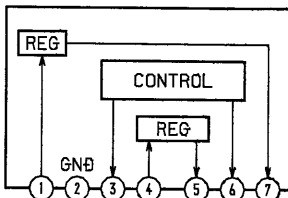
IC1 LA1835



IC51 LC7218

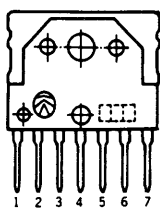


IC901 LA5667



3-2. SEMICONDUCTOR LEAD LAYOUTS

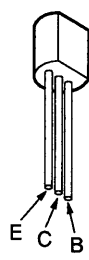
LA5667



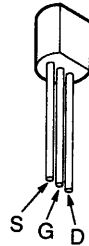
2SC2603-EF
2SC2669OY
DTA114ES
DTC114ES



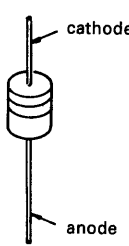
2SC3112-B



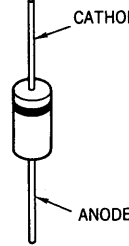
2SK246-GR3



11ES2
HZS30-2L
HZS6C1L



1N4148M

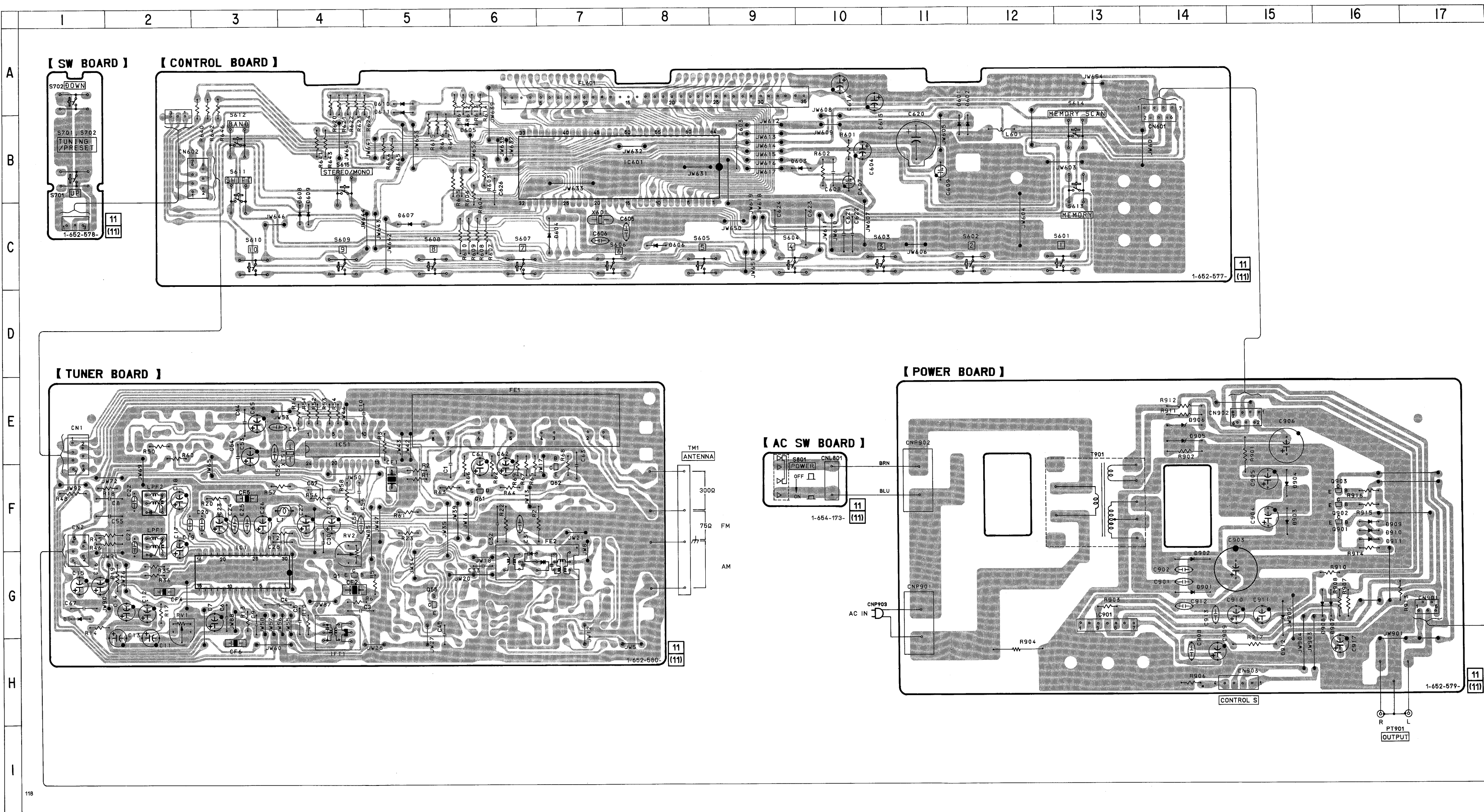


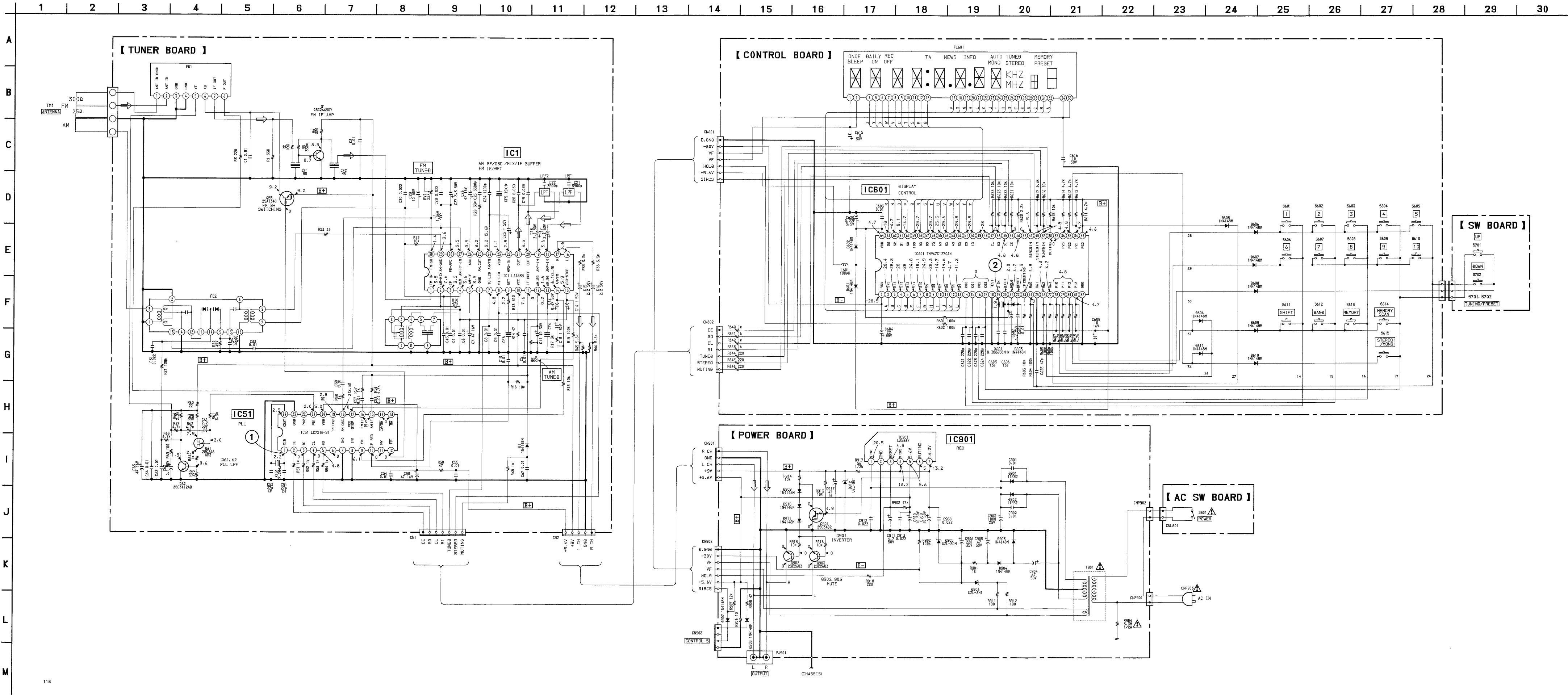
● Semiconductor Location

Ref. No.	Location
D1	G - 1
D601	B - 11
D602	B - 11
D603	B - 10
D604	C - 7
D605	B - 6
D606	C - 8
D607	C - 5
D608	C - 4
D609	C - 4
D610	A - 5
D611	A - 5
D901	G - 14
D902	G - 14
D903	F - 15
D904	F - 15
D905	E - 14
D906	E - 14
D907	G - 16
D908	G - 16
D909	F - 16
D910	F - 16
D911	F - 16
D912	G - 15
IC1	G - 3
IC51	E - 4
IC601	B - 7
IC901	G - 13
Q1	G - 4
Q55	G - 5
Q61	F - 6
Q62	F - 7
Q901	F - 16
Q902	F - 16
Q903	F - 16

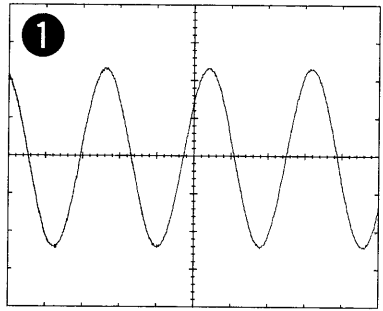
Note:
● ○ : parts extracted from the component side.

3-3. PRINTED WIRING BOARDS

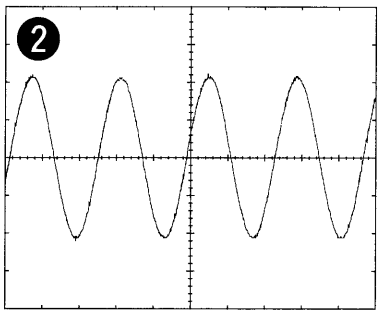




● Waveforms



IC51 ① Pin
2.38V 7.2MHz



IC601 ①9 Pin
2.2V 8.388608MHz

Note:

- All capacitors are in μF unless otherwise noted. pF : μF 50WV 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.
- % : indicates tolerance.

Note: The components identified by mark  or dotted line with mark  are critical for safety. Replace only with part number specified.

-  : B+ Line
-  : B- Line
-  : adjustment for repair.
- Voltage and waveforms are dc with respect to ground under no-signal (detuned) conditions.
() : AM
- Voltages are taken with a VOM (Input Impedance $10\text{M}\Omega$). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with an oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
⇒ : FM

SECTION 4
EXPLODED VIEWS

NOTE:

● -XX, -X mean standardized parts, so they may have some differences from the original one.

● Color Indication of Appearance Parts

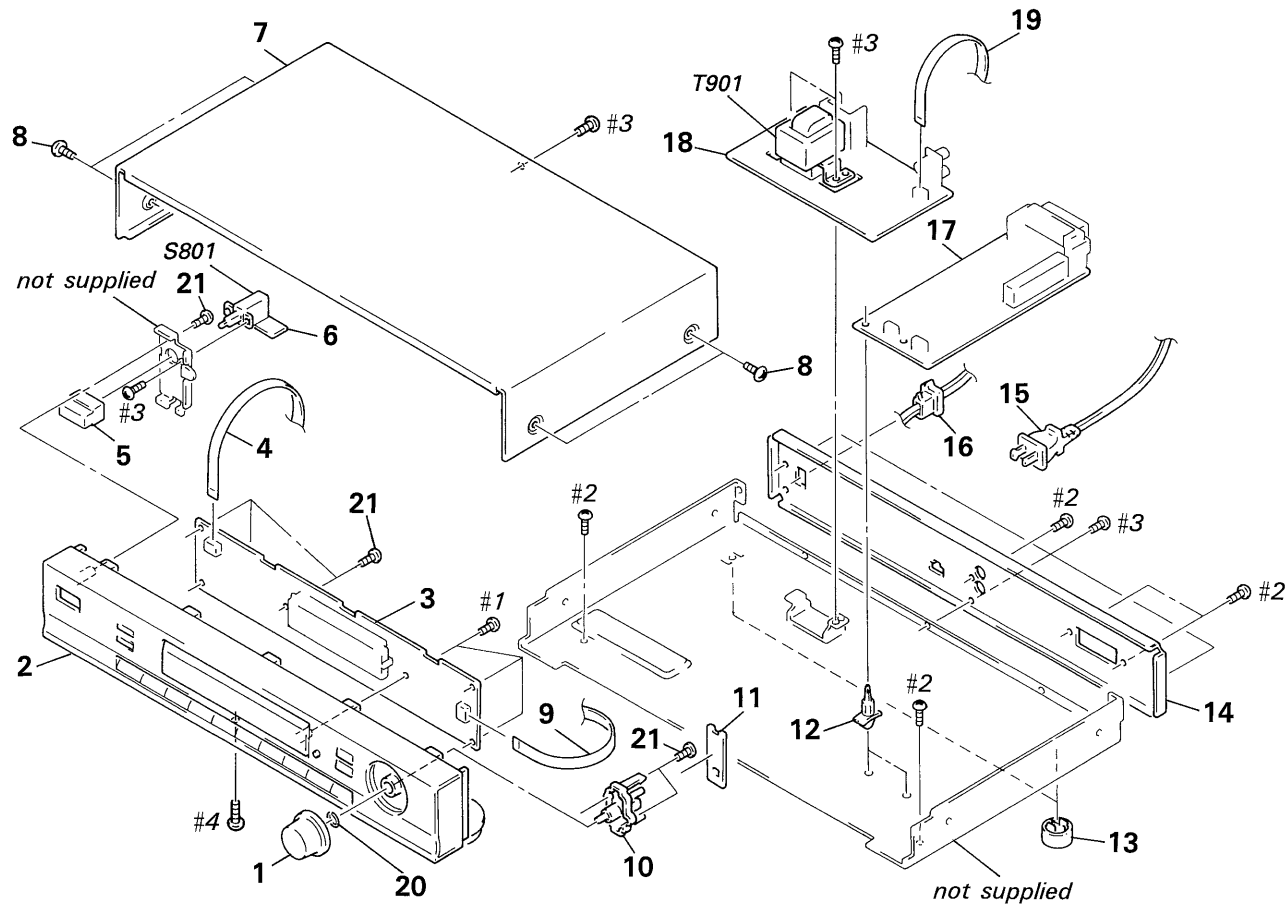
Example:

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

↑ ↑
Parts color Cabinet's color

- 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.

The components identified by mark  or dotted line with mark  are critical for safety. Replace only with part number specified.



Ref. No.	Part No.	Description	Remark
1	4-943-466-01	KNOB (TUNING)	
2	X-4944-906-2	PANEL ASSY, FRONT	
* 3	A-4371-168-A	CONTROL BOARD, COMPLETE	
4	1-751-827-31	WIRE (FLAT TYPE) (7 CORE)	
5	4-917-460-01	KNOB, POWER	
* 6	1-654-173-11	AC SW BOARD	
7	4-923-457-51	CASE	
8	3-363-099-01	SCREW (CASE 3 TP2)	
9	1-575-731-11	WIRE, FLAT TYPE (7 CORE)	
10	X-4905-269-1	SHAFT ASSY, TUNING	
* 11	1-652-578-11	SW BOARD	

Ref. No.	Part No.	Description	Remark
* 12	3-346-265-11	HOLDER, PC BOARD	
13	4-933-601-01	FOOT	
* 14	4-966-343-01	PANEL, BACK	
 15	1-558-945-21	CORD, POWER (POLAR SPT-1)	
* 16	3-703-571-11	BUSHING (S) (4516), CORD	
* 17	A-4371-170-A	TUNER BOARD, COMPLETE	
* 18	A-4371-167-A	POWER BOARD, COMPLETE	
19	1-696-919-11	WIRE (FLAT TYPE) (5 CORE)	
20	4-946-017-21	SPRING, RING	
21	4-951-620-01	SCREW (2. 6X8), +BVTP	
 S801	1-572-267-21	SWITCH, PUSH (AC POWER) (1 KEY)	
 T901	1-450-387-11	TRANSFORMER, POWER	

SECTION 5
ELECTRICAL PARTS LIST

AC SW CONTROL

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.
- RESISTORS
All resistors are in ohms.
METAL: Metal-film resistor.
METAL OXIDE: Metal oxide-film resistor.
F: nonflammable
- Items marked “*” are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
In each case, u : μ , for example:
uA... : μ A..., uPA... : μ PA..., uPB... : μ PB...,
uPC... : μ PC..., uPD... : μ PD...
- CAPACITORS
uF : μ F
- COILS
uH : μ H

The components identified by mark Δ or dotted line with mark Δ are critical for safety. Replace only with part number specified.

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

Ref. No.	Part No.	Description	Remark			
*	1-654-173-11	AC SW BOARD *****				
< REED >						
CNL801	1-690-123-51	REED (WITH CONNECTOR) (2 CORE)				
< SWITCH >						
△S801	1-572-267-21	SWITCH, PUSH (AC POWER) (1 KEY) *****				
*	A-4371-168-A	CONTROL BOARD, COMPLETE *****				
*	4-921-941-01	CUSHION (FL)				
*	4-923-103-01	HOLDER, FL TUBE				
< CAPACITOR >						
C603	1-161-379-00	CERAMIC	0.01uF	20%	25V	
C604	1-124-916-11	ELECT	22uF	20%	63V	
C605	1-164-022-91	CERAMIC	13PF	5%	50V	
C606	1-164-022-91	CERAMIC	13PF	5%	50V	
C607	1-126-163-11	ELECT	4.7uF	20%	50V	
C608	1-161-379-00	CERAMIC	0.01uF	20%	25V	
C609	1-126-157-11	ELECT	10uF	20%	16V	
C615	1-124-907-11	ELECT	10uF	20%	50V	
C616	1-124-907-11	ELECT	10uF	20%	50V	
C620	1-125-486-11	DOUBLE LAYERS	0.22F		5.5V	
C621	1-162-286-31	CERAMIC	220PF	10%	50V	
C622	1-162-286-31	CERAMIC	220PF	10%	50V	
C623	1-162-286-31	CERAMIC	220PF	10%	50V	
C624	1-162-286-31	CERAMIC	220PF	10%	50V	
C625	1-162-215-31	CERAMIC	47PF	5%	50V	
< CONNECTOR >						
* CN601	1-568-850-11	SOCKET, CONNECTOR 7P				
* CN602	1-568-850-11	SOCKET, CONNECTOR 7P				
< DIODE >						
D601	8-719-987-63	DIODE	1N4148M			
D602	8-719-987-63	DIODE	1N4148M			

Ref. No.	Part No.	Description	Remark			
D603	8-719-987-63	DIODE	1N4148M			
D604	8-719-987-63	DIODE	1N4148M			
D605	8-719-987-63	DIODE	1N4148M			
D606	8-719-987-63	DIODE	1N4148M			
D607	8-719-987-63	DIODE	1N4148M			
D608	8-719-987-63	DIODE	1N4148M			
D609	8-719-987-63	DIODE	1N4148M			
D610	8-719-987-63	DIODE	1N4148M			
D611	8-719-987-63	DIODE	1N4148M			
< FLUORESCENT INDICATOR TUBE >						
FL601	1-517-265-21	INDICATOR TUBE, FLUORESCENT				
< IC >						
IC601	8-759-281-45	IC	TMP47C1270AN-H228			
< COIL >						
L601	1-410-521-11	INDUCTOR	100uH			
< RESISTOR >						
R601	1-249-441-11	CARBON	100K	5%	1/4W	
R602	1-249-441-11	CARBON	100K	5%	1/4W	
R603	1-249-429-11	CARBON	10K	5%	1/4W	
R604	1-249-441-11	CARBON	100K	5%	1/4W	
R605	1-249-441-11	CARBON	100K	5%	1/4W	
R606	1-249-441-11	CARBON	100K	5%	1/4W	
R607	1-249-425-11	CARBON	4.7K	5%	1/4W	
R608	1-249-425-11	CARBON	4.7K	5%	1/4W	
R609	1-249-425-11	CARBON	4.7K	5%	1/4W	
R610	1-249-425-11	CARBON	4.7K	5%	1/4W	
R611	1-249-425-11	CARBON	4.7K	5%	1/4W	
R612	1-249-425-11	CARBON	4.7K	5%	1/4W	
R613	1-249-425-11	CARBON	4.7K	5%	1/4W	
R614	1-249-425-11	CARBON	4.7K	5%	1/4W	
R615	1-249-429-11	CARBON	10K	5%	1/4W	
R616	1-249-429-11	CARBON	10K	5%	1/4W	
R617	1-249-423-11	CARBON	3.3K	5%	1/4W	
R620	1-249-421-11	CARBON	2.2K	5%	1/4W	

CONTROL

POWER

Ref. No.	Part No.	Description	Remark		
R621	1-249-429-11	CARBON	10K	5%	1/4W
R622	1-249-429-11	CARBON	10K	5%	1/4W
R623	1-249-429-11	CARBON	10K	5%	1/4W
R624	1-249-429-11	CARBON	10K	5%	1/4W
R640	1-249-417-11	CARBON	1K	5%	1/4W
R641	1-249-417-11	CARBON	1K	5%	1/4W
R642	1-249-417-11	CARBON	1K	5%	1/4W
R643	1-249-417-11	CARBON	1K	5%	1/4W
R644	1-249-409-11	CARBON	220	5%	1/4W
R645	1-249-409-11	CARBON	220	5%	1/4W
R646	1-249-409-11	CARBON	220	5%	1/4W

< SWITCH >

S601	1-554-303-21	SWITCH, TACTILE (1)			
S602	1-554-303-21	SWITCH, TACTILE (2)			
S603	1-554-303-21	SWITCH, TACTILE (3)			
S604	1-554-303-21	SWITCH, TACTILE (4)			
S605	1-554-303-21	SWITCH, TACTILE (5)			
S606	1-554-303-21	SWITCH, TACTILE (6)			
S607	1-554-303-21	SWITCH, TACTILE (7)			
S608	1-554-303-21	SWITCH, TACTILE (8)			
S609	1-554-303-21	SWITCH, TACTILE (9)			
S610	1-554-303-21	SWITCH, TACTILE (10)			
S611	1-554-303-21	SWITCH, TACTILE (SHIFT)			
S612	1-554-303-21	SWITCH, TACTILE (BAND)			
S613	1-554-303-21	SWITCH, TACTILE (MEMORY)			
S614	1-554-303-21	SWITCH, TACTILE (MEMORY SCAN)			
S615	1-554-303-21	SWITCH, TACTILE (STEREO/MONO)			

< VIBRATOR >

X601	1-579-564-11	VIBRATOR, CRYSTAL (8.388608MHz)			
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*	A-4371-167-A	POWER BOARD, COMPLETE			

	7-685-646-79	SCREW +BVTP	3X8	TYPE2	N-S

< CAPACITOR >

C901	1-164-096-11	CERAMIC	0.01uF		50V
C902	1-164-096-11	CERAMIC	0.01uF		50V
C903	1-124-557-11	ELECT	1000uF	20%	25V
C904	1-124-910-11	ELECT	47uF	20%	50V
C905	1-124-910-11	ELECT	47uF	20%	50V
C906	1-124-484-11	ELECT	220uF	20%	35V
C908	1-164-097-11	CERAMIC	0.022uF		50V
C909	1-124-907-11	ELECT	10uF	20%	50V
C910	1-124-907-11	ELECT	10uF	20%	50V
C911	1-124-927-11	ELECT	4.7uF	20%	100V

C912	1-164-097-11	CERAMIC	0.022uF		50V
C913	1-164-097-11	CERAMIC	0.022uF		50V
C917	1-124-477-11	ELECT	47uF	20%	25V

< CONNECTOR >

* CN901	1-568-824-11	SOCKET, CONNECTOR 5P			
* CN902	1-568-826-11	SOCKET, CONNECTOR 7P			
CN903	1-564-980-11	PIN, CONNECTOR 4P (CONTROL S)			
CNP901	1-580-230-11	PIN, CONNECTOR (PC BOARD)			
CNP902	1-564-321-00	PIN, CONNECTOR 2P			

< DIODE >

D901	8-719-200-82	DIODE	11ES2		
D902	8-719-200-82	DIODE	11ES2		
D903	8-719-987-63	DIODE	1N4148M		
D904	8-719-987-63	DIODE	1N4148M		
D905	8-719-934-22	DIODE	HZS30-2L		
D906	8-719-933-39	DIODE	HZS6C1L		
D907	8-719-987-63	DIODE	1N4148M		
D908	8-719-987-63	DIODE	1N4148M		
D909	8-719-987-63	DIODE	1N4148M		
D910	8-719-987-63	DIODE	1N4148M		
D911	8-719-987-63	DIODE	1N4148M		
D912	8-719-001-21	DIODE	UZL-9H1		

< IC >

IC901	8-759-820-09	IC	LA5667		
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< JACK >

* PJ901	1-580-691-21	JACK, PIN 2P (OUTPUT)			
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< TRANSISTOR >

Q901	8-729-900-80	TRANSISTOR	DTC114ES		
Q902	8-729-620-05	TRANSISTOR	2SC2603-EF		
Q903	8-729-620-05	TRANSISTOR	2SC2603-EF		

< RESISTOR >

R901	1-249-417-11	CARBON	1K	5%	1/4W
R902	1-249-441-11	CARBON	100K	5%	1/4W
R903	1-249-437-11	CARBON	47K	5%	1/4W
△R904	1-202-725-00	SOLID	3.3M	10%	1/2W
R906	1-249-393-11	CARBON	10	5%	1/4W
R907	1-249-430-11	CARBON	12K	5%	1/4W
R908	1-249-401-11	CARBON	47	5%	1/4W
R910	1-249-409-11	CARBON	220	5%	1/4W
R911	1-247-807-31	CARBON	100	5%	1/4W
R912	1-247-807-31	CARBON	100	5%	1/4W
R913	1-249-429-11	CARBON	10K	5%	1/4W

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mark △ or dotted line with mark
△ are critical for safety.
Replace only with part number
specified.

POWER

SW

TUNER

Ref. No.	Part No.	Description	Remark		
R914	1-249-429-11	CARBON	10K	5%	1/4W
R915	1-249-429-11	CARBON	10K	5%	1/4W
R916	1-249-429-11	CARBON	10K	5%	1/4W
R917	1-247-736-11	CARBON	56	5%	1/2W

< TRANSFORMER >

△T901 1-450-387-11 TRANSFORMER, POWER

* 1-652-578-11 SW BOARD

< SWITCH >

S701 1-554-303-21 SWITCH, TACTILE (TUNING/PRESET (UP))

S702 1-554-303-21 SWITCH, TACTILE (TUNING/PRESET (DOWN))

* A-4371-170-A TUNER BOARD, COMPLETE

< CAPACITOR >

C1	1-161-379-00	CERAMIC	0.01uF	20%	25V
C3	1-161-379-00	CERAMIC	0.01uF	20%	25V
C4	1-161-379-00	CERAMIC	0.01uF	20%	25V
C5	1-161-379-00	CERAMIC	0.01uF	20%	25V
C6	1-161-379-00	CERAMIC	0.01uF	20%	25V
C7	1-124-477-11	ELECT	47uF	20%	25V
C8	1-161-379-00	CERAMIC	0.01uF	20%	25V
C9	1-161-379-00	CERAMIC	0.01uF	20%	25V
C10	1-161-379-00	CERAMIC	0.01uF	20%	25V
C11	1-124-907-11	ELECT	10uF	20%	50V
C12	1-124-902-00	ELECT	0.47uF	20%	50V
C13	1-124-903-11	ELECT	1uF	20%	50V
C14	1-124-903-11	ELECT	1uF	20%	50V
C15	1-124-925-11	ELECT	2.2uF	20%	100V
C16	1-124-925-11	ELECT	2.2uF	20%	100V
C17	1-124-925-11	ELECT	2.2uF	20%	100V
C18	1-124-925-11	ELECT	2.2uF	20%	100V
C19	1-136-160-00	FILM	0.039uF	5%	50V
C20	1-136-160-00	FILM	0.039uF	5%	50V
C21	1-137-436-11	FILM	0.0039uF	5%	50V
C22	1-137-436-11	FILM	0.0039uF	5%	50V
C23	1-124-903-11	ELECT	1uF	20%	50V
C24	1-164-086-11	CERAMIC	0.0012uF	10%	50V
C25	1-164-092-11	CERAMIC	0.0033uF	10%	25V
C26	1-124-477-11	ELECT	47uF	20%	25V
C27	1-126-962-11	ELECT	3.3uF	20%	50V
C28	1-161-494-00	CERAMIC	0.022uF		25V
C29	1-124-907-11	ELECT	10uF	20%	50V
C30	1-161-494-00	CERAMIC	0.022uF		25V

Ref. No.	Part No.	Description	Remark		
C31	1-161-055-00	CERAMIC	0.022uF	10%	50V
C32	1-162-198-31	CERAMIC	8.2PF	10%	50V
C33	1-161-379-00	CERAMIC	0.01uF	20%	25V
C45	1-161-379-00	CERAMIC	0.01uF	20%	25V
C51	1-102-961-00	CERAMIC	27PF	5%	50V
C52	1-102-961-00	CERAMIC	27PF	5%	50V

C53	1-124-477-11	ELECT	47uF	20%	25V
C54	1-161-379-00	CERAMIC	0.01uF	20%	25V
C55	1-161-379-00	CERAMIC	0.01uF	20%	25V
C56	1-161-379-00	CERAMIC	0.01uF	20%	25V
C57	1-161-379-00	CERAMIC	0.01uF	20%	25V

C58	1-164-095-11	CERAMIC	0.01uF	10%	16V
C61	1-124-925-11	ELECT	2.2uF	20%	100V
C62	1-124-463-00	ELECT	0.1uF	20%	50V
C63	1-161-379-00	CERAMIC	0.01uF	20%	25V
C64	1-161-379-00	CERAMIC	0.01uF	20%	25V

C65	1-124-477-11	ELECT	47uF	20%	25V
C67	1-161-379-00	CERAMIC	0.01uF	20%	25V

< FILTER >

CF1	1-567-389-11	FILTER, CERAMIC			
CF2	1-567-389-11	FILTER, CERAMIC			
CF4	1-527-981-00	FILTER, CERAMIC			
CF5	1-577-075-11	OSCILLATOR, CERAMIC (19kHz)			
CF6	1-760-220-21	FILTER, CERAMIC			

< CONNECTOR >

* CN1	1-568-826-11	SOCKET, CONNECTOR 7P			
* CN2	1-568-824-11	SOCKET, CONNECTOR 5P			

< DIODE >

D1	8-719-987-63	DIODE 1N4148M			
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< FRONTEND >

FE1	1-465-673-11	FRONT END (2 BAND)			
FE2	1-239-634-21	ENCAPSULATED COMPONENT, AM. RF			

< IC >

IC1	8-759-176-03	IC LA1835			
IC51	8-759-175-87	IC LC7218-ST			

< IFT >

IFT1	1-404-713-11	TRANSFORMER, IF			
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< COIL >

L1	1-410-688-31	INDUCTOR	1.5mH		
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TUNER

Ref. No.	Part No.	Description	Remark
< FILTER >			
LPF1	1-239-597-11	FILTER, LOW PASS	
LPF2	1-239-597-11	FILTER, LOW PASS	
< TRANSISTOR >			
Q1	8-729-230-XX	TRANSISTOR 2SC26690Y-TPE4	
Q55	8-729-900-61	TRANSISTOR DTA114ES	
Q61	8-729-202-67	TRANSISTOR 2SK246-GR3	
Q62	8-729-201-84	TRANSISTOR 2SC3112-B	
< RESISTOR >			
R1	1-249-411-11	CARBON 330 5% 1/4W	
R2	1-249-405-11	CARBON 100 5% 1/4W	
R3	1-249-409-11	CARBON 220 5% 1/4W	
R5	1-247-891-00	CARBON 330K 5% 1/4W	
R6	1-249-411-11	CARBON 330 5% 1/4W	
R10	1-249-437-11	CARBON 47K 5% 1/4W	
R12	1-249-429-11	CARBON 10K 5% 1/4W	
R13	1-249-442-11	CARBON 510 5% 1/4W	
R14	1-249-401-11	CARBON 47 5% 1/4W	
R16	1-249-429-11	CARBON 10K 5% 1/4W	
R17	1-247-842-11	CARBON 3K 5% 1/4W	
R18	1-249-429-11	CARBON 10K 5% 1/4W	
R19	1-249-441-11	CARBON 100K 5% 1/4W	
R20	1-249-435-11	CARBON 33K 5% 1/4W	
R21	1-249-441-11	CARBON 100K 5% 1/4W	
R22	1-249-437-11	CARBON 47K 5% 1/4W	
R23	1-249-399-11	CARBON 33 5% 1/4W	
R35	1-249-423-11	CARBON 3.3K 5% 1/4W	
R36	1-249-423-11	CARBON 3.3K 5% 1/4W	
R45	1-249-426-11	CARBON 5.6K 5% 1/4W	
R46	1-249-426-11	CARBON 5.6K 5% 1/4W	
R48	1-249-417-11	CARBON 1K 5% 1/4W	
R50	1-249-401-11	CARBON 47 5% 1/4W	
R51	1-249-417-11	CARBON 1K 5% 1/4W	
R52	1-249-417-11	CARBON 1K 5% 1/4W	
R53	1-249-417-11	CARBON 1K 5% 1/4W	
R54	1-249-417-11	CARBON 1K 5% 1/4W	
R56	1-249-425-11	CARBON 4.7K 5% 1/4W	
R57	1-249-417-11	CARBON 1K 5% 1/4W	
R58	1-249-417-11	CARBON 1K 5% 1/4W	
R60	1-249-397-11	CARBON 22 5% 1/4W	
R61	1-249-423-11	CARBON 3.3K 5% 1/4W	
R62	1-249-425-11	CARBON 4.7K 5% 1/4W	
R63	1-249-414-11	CARBON 560 5% 1/4W	
R64	1-249-417-11	CARBON 1K 5% 1/4W	
R65	1-249-410-11	CARBON 270 5% 1/4W	
R66	1-249-421-11	CARBON 2.2K 5% 1/4W	

Ref. No.	Part No.	Description	Remark
R67	1-249-425-11	CARBON 4.7K 5% 1/4W	
R68	1-249-425-11	CARBON 4.7K 5% 1/4W	
R69	1-247-807-31	CARBON 100 5% 1/4W	
< VARIABLE RESISTOR >			
RV1	1-238-601-11	RES, ADJ, CARBON 22K (AM TUNED)	
RV2	1-238-601-11	RES, ADJ, CARBON 22K (FM TUNED)	
< TERMINAL >			
TM1	1-537-264-11	TERMINAL BOARD (ANTENNA)	
< VIBRATOR >			
XT51	1-577-126-21	VIBRATOR, CRYSTAL (7.2MHz)	

MISCELLANEOUS			

4	1-751-827-31	WIRE (FLAT TYPE) (7 CORE)	
9	1-575-731-11	WIRE, FLAT TYPE (7 CORE)	
△15	1-558-945-21	CORD, POWER (POLAR. SPT-1)	
19	1-696-919-11	WIRE (FLAT TYPE) (5 CORE)	

HARDWARE LIST			

#2	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S	
#3	7-682-548-04	SCREW +BVTT 3X8 (S)	
#4	7-682-550-04	SCREW +BVTT 3X12 (S)	

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