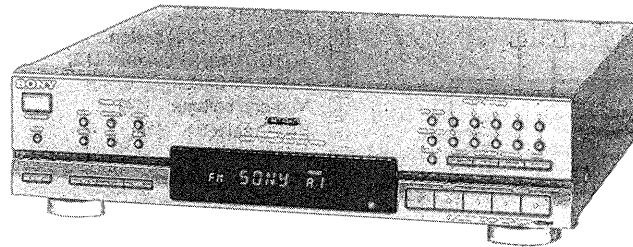


# ST-A70

## SERVICE MANUAL

*E Model  
Australian Model  
Tourist Model*



• This set is the TUNER section in LBT-A50/A50CD/A50CDM/A60/A60CD/A60CDM/A70/A70CD/A70CDM.

### SPECIFICATIONS

System	FM stereo FM/AM superheterodyne tuner	Power requirements	240 V AC, 50/60 Hz
FM tuner section		Power consumption	10 W
Tuning range	87.5 to 108 MHz	AC outlet	2 switched, total 450 W max.
Antenna	75 ohms unbalanced	Weight	Approx. 2.7 kg (6 lbs 5 oz)
Intermediate frequency	10.7 MHz	Dimensions	Approx. 355 x 95 x 310 mm (14 x 3 <sup>3</sup> / <sub>4</sub> x 12 <sup>1</sup> / <sub>4</sub> inches) (w/h/d, including projections)
AM tuner section			
Tuning range	MW: 531 to 1,602 kHz LW: 153 to 279 kHz		
Antenna	AM loop antenna External antenna terminal		
Intermediate frequency	450 kHz		

Design and specifications are subject to change without notice.

#### Note

This appliance conforms with EEC Directive 87/308/EEC regarding interference suppression.

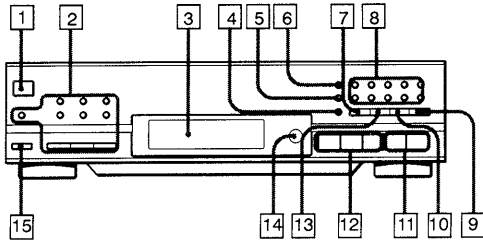


FM STEREO/FM-AM TIMER TUNER  
**SONY**®

## SECTION 1 GENERAL

This section is extracted  
from instruction manual.



### Location of Controls



- 1 SYSTEM POWER switch (8)
- 2 Buttons for setting the clock and timer (40, 42)
- 3 Display window
- 4 MEMORY button (14)
- 5 MEMORY SCAN button (16)
- 6 AUTO TUNING button (12)
- 7 DISPLAY button (16, 40)
- 8 Numeric buttons (14)
- 9 BAND selector (12)
- 10 ST/MUTE button (12)
- 11 TUNING +/- buttons (12)
- 12 SHIFT buttons (A, B, C) (14)
- 13 CHARACTER button (15)
- 14 Remote sensor
- 15 SLEEP button (41)

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#### 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 2 ELECTRICAL ADJUSTMENTS

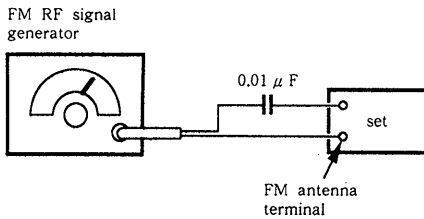
## 2-1. FM SECTION

### FM NULL Adjustment

**Setting :**

BAND switch : FM

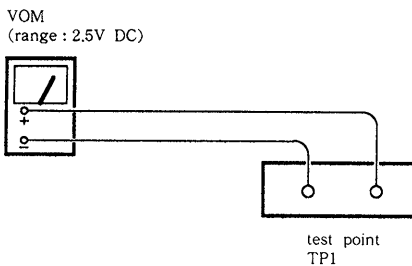
**Procedure :**



Carrier frequency : 98MHz  
Output level : 1mV (60dB)  
Modulation : 1kHz, 75kHz deviation (100%)

1. Tune the set to 98MHz.
2. Adjust T21 for a 0V reading on the VOM.

**Note :** When the ceramic filter is replaced, these adjustments should be made.



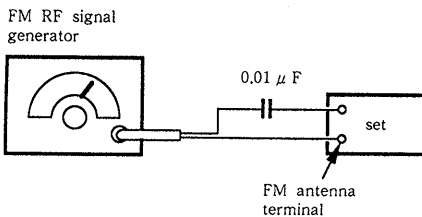
### STEREO Indication Lighting Level Adjustment

**Setting :**

STEREO/MUTE switch : OFF

BAND switch : FM

**Procedure :**



Carrier frequency : 98MHz  
Output level : 17.9  $\mu$ V (25dB)  
Mode : Stereo  
Modulation :  
Audio (1kHz) : 33.75kHz deviation (45%)  
Pilot (19kHz) : 7.5kHz deviation (10%)  
Sub-channel (38kHz) : 33.75kHz deviation (45%)

1. Tune the set to 98MHz.
2. Adjust RV24 so that the STEREO indicator goes on.

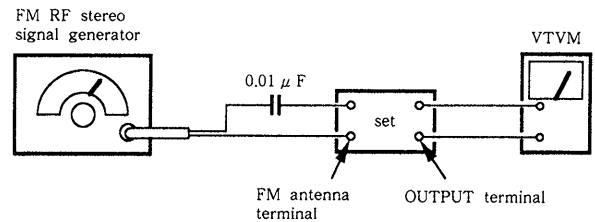
### FM Stereo Separation Adjustment

**Setting :**

STEREO/MUTE switch : ON (STEREO)

BAND switch : FM

**Procedure :**



Carrier frequency : 98MHz  
Output level : 1mV (60dB)  
Mode : Stereo  
Modulation :  
Audio (1kHz) : 33.75kHz deviation (45%)  
Pilot (19kHz) : 7.5kHz deviation (10%)  
Sub-channel (38kHz) : 33.75kHz deviation (45%)

FM stereo signal generator output channel	VTVM connection	VTVM reading (dB)
L-CH	L-CH	Ⓐ
R-CH	L-CH	Ⓑ Adjust RV21 for minimum reading.
R-CH	R-CH	Ⓒ
L-CH	R-CH	Ⓓ Adjust RV21 for minimum reading.

L-CH Stereo separation : Ⓐ - Ⓑ

R-CH Stereo separation : Ⓒ - Ⓓ

The separations of both channels should be equal.

## 2-2. AM SECTION

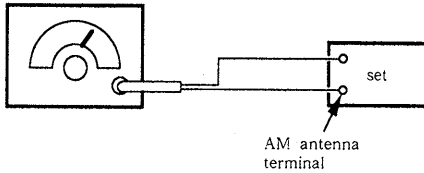
### SIGNAL LEVEL METER Lighting Level Adjustment

#### Setting :

BAND switch : AM

#### Procedure :

AM RF signal generator

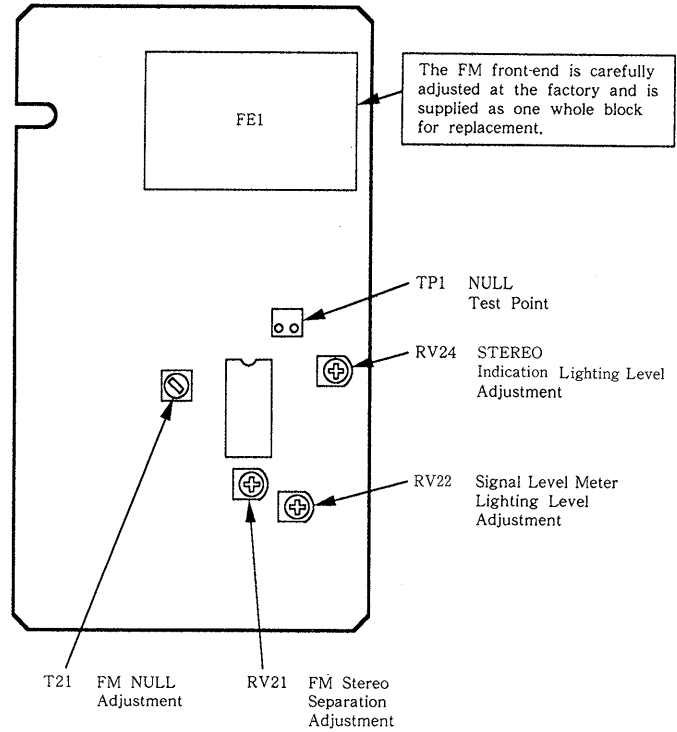


Carrier frequency : 999kHz  
 Output level : 94dB  $\mu$ m  
 Modulation : 400Hz, 30% modulation

1. Tune the set to 999kHz.
2. Adjust RV22 until the scale-5 on SIGNAL METER indicator lights up.

## 2-3. ADJUSTING PARTS LOCATION

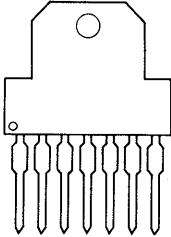
Tuner Board --Component Side--



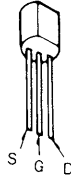
# SECTION 3 DIAGRAMS

## 3-1. SEMICONDUCTOR LEAD LAYOUTS

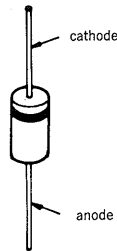
LA5667



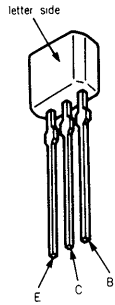
2SK246-GR3



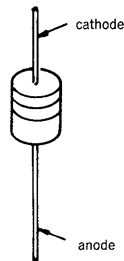
1N4148M  
10E2N



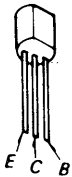
2SC2785-HFE



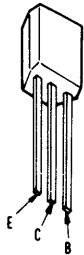
HZS30-2L  
UZP-5.6B



2SB1116A-L



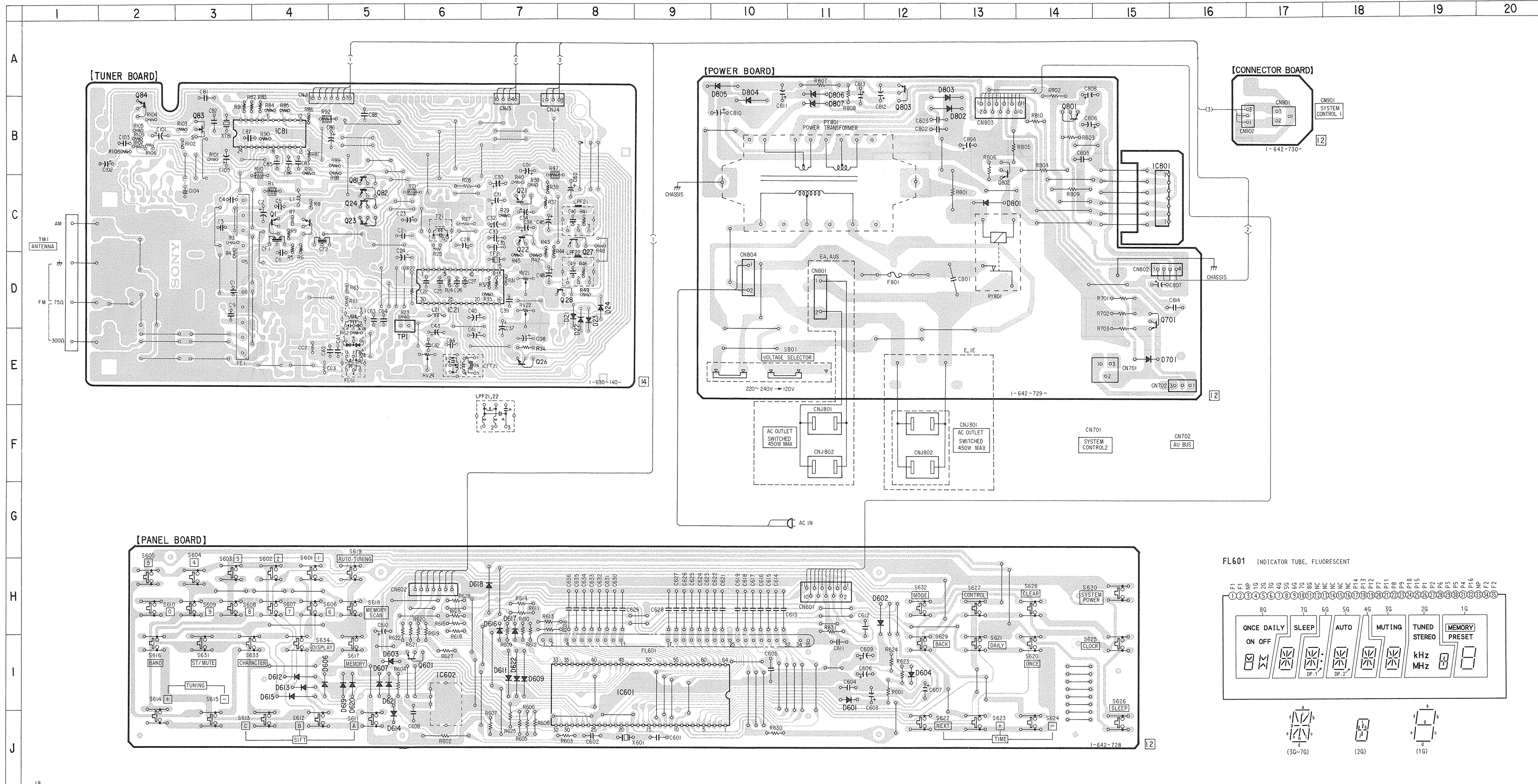
2SC2603-EF  
2SC2669-OY  
2SC3113-AB  
DTA114ES  
DTC114ES  
DTC124ES



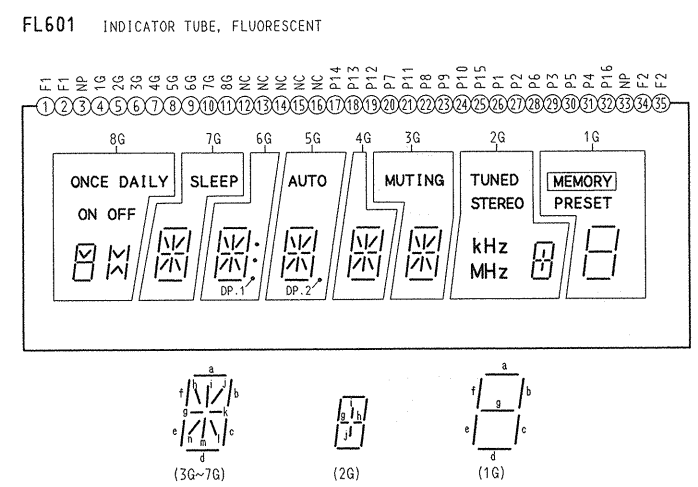
3-2. PRINTED WIRING BOARDS

● Semiconductor Location

Ref. No.	Location	Ref. No.	Location
D21	D-8	IC21	D-6
D22	D-8	IC81	B-4
D23	D-8	IC601	I-8
D24	D-8	IC602	I-6
D601	I-11	IC801	C-15
D602	H-12		
D603	I-5	Q1	C-4
D604	I-12	Q2	C-4
D606	I-5	Q21	C-7
D607	I-5	Q22	C-7
D609	I-7	Q23	C-5
D611	I-7	Q24	C-5
D612	I-4	Q26	E-7
D613	I-4	Q27	C-8
D614	J-5	Q28	D-8
D615	I-4	Q81	B-5
D616	H-7	Q82	C-5
D617	H-7	Q83	B-3
D618	H-7	Q84	B-2
D619	I-5	Q601	I-6
D620	I-5	Q701	D-15
D621	I-5	Q801	B-14
D622	I-7	Q802	B-13
D701	E-15	Q803	A-12
D801	C-13		
D802	B-13		
D803	A-13		
D804	A-10		
D805	A-10		
D806	A-11		
D807	B-11		



**Note:**  
 ● ○ : parts extracted from the component side.  
 ● ■ : parts mounted on the conductor side.  
 EA: Saudi Arabia  
 AUS: Australian  
 JE: Tourist







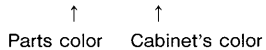
# SECTION 4 EXPLODED VIEWS

**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)



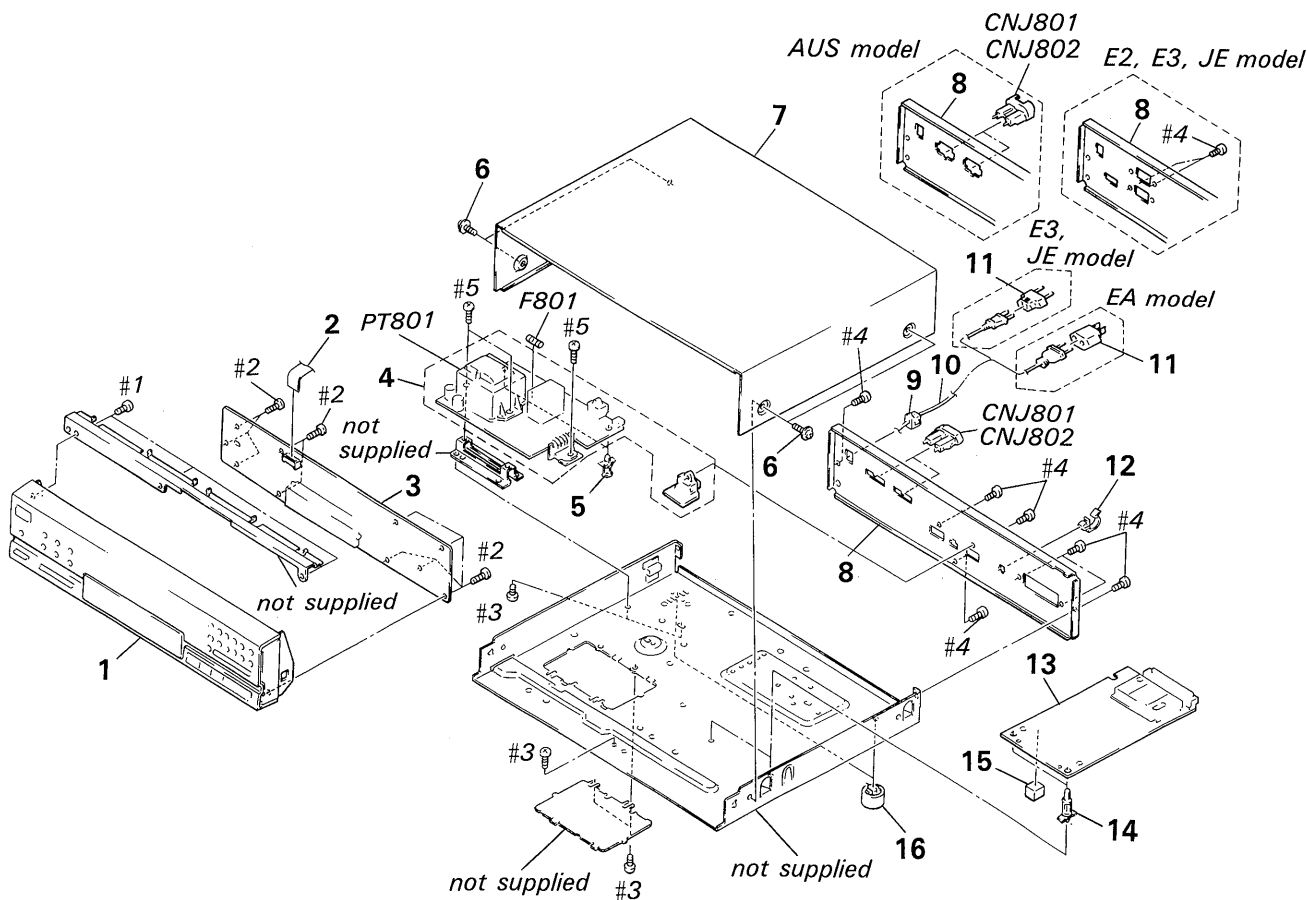
- Items marked " \* " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- hardware (#mark) list is given in the last of this parts list.

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

EA: Saudi Arabia

AUS: Australian

JE: Tourist



Ref. No.	Part No.	Description	Remark
1	X-4942-443-1	PANEL ASSY (50), FRONT (FOR LBT-A50)	
1	X-4942-446-1	PANEL ASSY (607), FRONT (FOR LBT-A60)	
1	X-4942-732-1	PANEL ASSY (70), FRONT (FOR LBT-A70)	
2	1-575-666-11	WIRE, FLAT TYPE (11 CORE)	
* 3	A-4347-293-A	PANEL BOARD, COMPLETE	
* 4	A-4347-279-A	POWER BOARD, COMPLETE (E2, E3, JE)	
* 4	A-4347-285-A	POWER BOARD, COMPLETE (EA, AUS)	
* 5	3-349-025-31	HOLDER, PC BOARD	
6	3-363-099-01	SCREW (CASE +3X8 TP2)	
* 7	4-939-802-31	CASE	
* 8	4-950-668-51	PANEL, BACK (E2, E3, JE)	
* 8	4-950-668-61	PANEL, BACK (EA)	
* 8	4-950-668-71	PANEL, BACK (AUS)	
* 9	3-703-244-00	BUSHING (2104), CORD (EA, AUS)	
* 9	3-703-571-11	BUSHING (S) (4516), CORD (E2, E3, JE)	
	1-575-651-11	CORD, POWER (EA)	

Ref. No.	Part No.	Description	Remark
	1-575-653-11	CORD, POWER (E2, E3, JE)	
	1-590-083-11	CORD, POWER (AUS)	
11	1-569-007-11	ADAPTER, CONVERSION 2P (E3, JE)	
11	1-569-008-11	ADAPTER, CONVERSION 2P (EA)	
* 12	4-949-235-01	HOOK	
* 13	A-4347-287-A	TUNER (2QJ) BOARD, COMPLETE	
* 14	4-924-098-31	HOLDER, PC BOARD	
15	9-911-849-XX	CUSHION	
16	4-931-169-01	FOOT	
	F801	1-532-299-00 FUSE, TIME-LAG (5A 250V)	
	CNJ801	1-526-794-11 OUTLET, AC (EA)	
	CNJ801	1-540-196-11 OUTLET, AC (AUS)	
	CNJ802	1-526-794-11 OUTLET, AC (EA)	
	CNJ802	1-540-196-11 OUTLET, AC (AUS)	
	PT801	1-449-978-11 TRANSFORMER, POWER	



# SECTION 5 ELECTRICAL PARTS LIST

**PANEL**

**POWER**

**CONNECTOR**

**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 differences 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:  $\mu$ , for example:  
uA...:  $\mu$ A..., uPA...:  $\mu$ PA...,  
uPB...:  $\mu$ PB..., uPC...:  $\mu$ PC...,  
uPD...:  $\mu$ PD...
- CAPACITORS  
uF:  $\mu$ F
- COILS  
uH:  $\mu$ H

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

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

EA: Saudi Arabia

AUS: Australian

JE: Tourist

Ref. No.	Part No.	Description	Remark			
*	A-4347-293-A	PANEL BOARD, COMPLETE *****				
*	A-4347-279-A	POWER BOARD, COMPLETE (E, JE)				
*	A-4347-285-A	POWER BOARD, COMPLETE (EA, AUS) *****				
		CONNECTOR BOARD *****				
*	4-921-941-01	CUSHION (FL)				
*	4-923-103-01	HOLDER, FL TUBE				
		< CAPACITOR >				
C601	1-162-201-31	CERAMIC	12PF	5%	50V	
C602	1-162-203-31	CERAMIC	15PF	5%	50V	
C603	1-126-163-11	ELECT	4.7uF	20%	50V	
C604	1-164-096-11	CERAMIC	0.01uF		50V	
C605	1-161-379-00	CERAMIC	0.01uF	20%	25V	
C606	1-126-177-11	ELECT	100uF	20%	10V	
C607	1-124-916-11	ELECT	22uF	20%	63V	
C608	1-164-096-11	CERAMIC	0.01uF		50V	
C609	1-126-157-11	ELECT	10uF	20%	16V	
C610	1-126-157-11	ELECT	10uF	20%	16V	
C611	1-164-096-11	CERAMIC	0.01uF		50V	
C612	1-164-096-11	CERAMIC	0.01uF		50V	
C613	1-162-207-31	CERAMIC	22PF	5%	50V	
C614	1-162-207-31	CERAMIC	22PF	5%	50V	
C615	1-162-207-31	CERAMIC	22PF	5%	50V	
C616	1-162-207-31	CERAMIC	22PF	5%	50V	
C617	1-162-207-31	CERAMIC	22PF	5%	50V	
C618	1-162-207-31	CERAMIC	22PF	5%	50V	
C619	1-162-207-31	CERAMIC	22PF	5%	50V	
C621	1-162-207-31	CERAMIC	22PF	5%	50V	

Ref. No.	Part No.	Description	Remark			
C622	1-162-207-31	CERAMIC	22PF	5%	50V	
C623	1-162-207-31	CERAMIC	22PF	5%	50V	
C624	1-162-207-31	CERAMIC	22PF	5%	50V	
C625	1-162-207-31	CERAMIC	22PF	5%	50V	
C626	1-162-207-31	CERAMIC	22PF	5%	50V	
C627	1-162-207-31	CERAMIC	22PF	5%	50V	
C628	1-162-207-31	CERAMIC	22PF	5%	50V	
C629	1-162-282-31	CERAMIC	100PF	10%	50V	
C630	1-162-207-31	CERAMIC	22PF	5%	50V	
C631	1-162-207-31	CERAMIC	22PF	5%	50V	
C632	1-162-282-31	CERAMIC	100PF	10%	50V	
C633	1-162-207-31	CERAMIC	22PF	5%	50V	
C634	1-162-282-31	CERAMIC	100PF	10%	50V	
C635	1-162-207-31	CERAMIC	22PF	5%	50V	
C636	1-162-207-31	CERAMIC	22PF	5%	50V	
C801	1-161-744-00	CERAMIC	0.01uF		400V	
C802	1-101-004-00	CERAMIC	0.01uF		50V	
C803	1-101-004-00	CERAMIC	0.01uF		50V	
C804	1-126-105-11	ELECT	1000uF	20%	35V	
C805	1-164-096-11	CERAMIC	0.01uF		50V	
C806	1-126-022-11	ELECT	47uF	20%	16V	
C807	1-126-022-11	ELECT	47uF	20%	16V	
C808	1-126-163-11	ELECT	4.7uF	20%	50V	
C810	1-124-918-11	ELECT	47uF	20%	63V	
C811	1-124-572-11	ELECT	100uF	20%	63V	
C812	1-124-910-11	ELECT	47uF	20%	50V	
C813	1-126-059-11	ELECT	10uF	20%	50V	
C814	1-161-494-00	CERAMIC	0.022uF		25V	
		< CONNECTOR >				
* CN601	1-568-854-11	SOCKET, CONNECTOR 11P				
* CN602	1-568-273-11	SOCKET, CONNECTOR 7P				
* CN701	1-156-625-11	SOCKET, CONNECTOR 3P				
* CN702	1-565-561-11	PIN, CONNECTOR 3P				

# PANEL

# POWER

# CONNECTOR

Ref. No.	Part No.	Description	Remark
CN801	1-535-139-00	BASE POST 22MM (10MM PITCH) 2P (EA, AUS)	
* CN802	1-568-308-11	SOCKET, CONNECTOR 4P	
* CN803	1-568-830-11	SOCKET, CONNECTOR 11P	
* CN804	1-564-321-00	PIN, CONNECTOR 2P	
* CN901	1-569-625-41	SOCKET, CONNECTOR 3P	
CN902	1-568-269-11	SOCKET, CONNECTOR 3P	

< OUTLET >

△ CNJ801 1-540-040-11 OUTLET, AC (NONPOLAR) (2P) (E, JE)

< DIODE >

D601	8-719-987-63	DIODE	1N4148M
D602	8-719-987-63	DIODE	1N4148M
D603	8-719-987-63	DIODE	1N4148M
D604	8-719-987-63	DIODE	1N4148M
D606	8-719-987-63	DIODE	1N4148M
D607	8-719-987-63	DIODE	1N4148M
D609	8-719-987-63	DIODE	1N4148M
D611	8-719-987-63	DIODE	1N4148M
D612	8-719-987-63	DIODE	1N4148M
D613	8-719-987-63	DIODE	1N4148M
D614	8-719-987-63	DIODE	1N4148M
D615	8-719-987-63	DIODE	1N4148M
D616	8-719-987-63	DIODE	1N4148M
D617	8-719-987-63	DIODE	1N4148M
D618	8-719-987-63	DIODE	1N4148M
D619	8-719-987-63	DIODE	1N4148M
D620	8-719-987-63	DIODE	1N4148M
D621	8-719-987-63	DIODE	1N4148M
D622	8-719-987-63	DIODE	1N4148M
D701	8-719-987-63	DIODE	1N4148M
D801	8-719-987-63	DIODE	1N4148M
D802	8-719-200-77	DIODE	10E2N
D803	8-719-200-77	DIODE	10E2N
D804	8-719-200-77	DIODE	10E2N
D805	8-719-200-77	DIODE	10E2N
D806	8-719-934-22	DIODE	HZS30-2L
D807	8-719-014-66	DIODE	UZP-5.6B

< FUSE >

△ F801 1-532-299-00 FUSE, TIME-LAG (5A 250V)

< FUSE HOLDER >

\* FH801 1-533-213-31 HOLDER, FUSE  
\* FH802 1-533-213-31 HOLDER, FUSE

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
		< FLUORESCENT INDICATOR >	
FL601	1-519-728-11	INDICATOR TUBE, FLUORESCENT	
		< IC >	
IC601	8-759-053-98	IC TMP47C1270AN-H204	
IC602	8-741-100-48	IC SBX1610-59	
IC801	8-759-820-09	IC LA5667	

< TRANSFORMER >

△ PT801 1-449-978-11 TRANSFORMER, POWER

< TRANSISTOR >

Q601	8-729-900-36	TRANSISTOR	DTC124ES
Q701	8-729-620-05	TRANSISTOR	2SC2603-EF
Q801	8-729-140-04	TRANSISTOR	2SB1116A-L
Q802	8-729-620-05	TRANSISTOR	2SC2603-EF
Q803	8-729-140-04	TRANSISTOR	2SB1116A-L

< RESISTOR >

R601	1-249-441-11	CARBON	100K	5%	1/4W
R602	1-249-429-11	CARBON	10K	5%	1/4W
R603	1-249-441-11	CARBON	100K	5%	1/4W
R604	1-249-441-11	CARBON	100K	5%	1/4W
R605	1-249-429-11	CARBON	10K	5%	1/4W
R606	1-249-429-11	CARBON	10K	5%	1/4W
R607	1-249-429-11	CARBON	10K	5%	1/4W
R608	1-249-429-11	CARBON	10K	5%	1/4W
R609	1-249-429-11	CARBON	10K	5%	1/4W
R610	1-249-429-11	CARBON	10K	5%	1/4W
R611	1-249-429-11	CARBON	10K	5%	1/4W
R612	1-249-429-11	CARBON	10K	5%	1/4W
R613	1-249-425-11	CARBON	4.7K	5%	1/4W
R614	1-249-429-11	CARBON	10K	5%	1/4W
R615	1-249-429-11	CARBON	10K	5%	1/4W
R616	1-249-423-11	CARBON	3.3K	5%	1/4W
R618	1-249-417-11	CARBON	1K	5%	1/4W
R619	1-249-429-11	CARBON	10K	5%	1/4W
R620	1-249-429-11	CARBON	10K	5%	1/4W
R621	1-249-429-11	CARBON	10K	5%	1/4W
R622	1-249-429-11	CARBON	10K	5%	1/4W
R623	1-249-405-11	CARBON	100	5%	1/4W
R624	1-249-417-11	CARBON	1K	5%	1/4W
R625	1-249-441-11	CARBON	100K	5%	1/4W
R626	1-249-429-11	CARBON	10K	5%	1/4W
R627	1-249-429-11	CARBON	10K	5%	1/4W
R628	1-249-417-11	CARBON	1K	5%	1/4W
R629	1-249-417-11	CARBON	1K	5%	1/4W
R630	1-249-441-11	CARBON	100K	5%	1/4W

# PANEL

# POWER

# CONNECTOR

# TUNER

Ref. No.	Part No.	Description	Remark		
R631	1-249-385-11	CARBON	2.2	5%	1/4W
R701	1-249-425-11	CARBON	4.7K	5%	1/4W
R702	1-249-429-11	CARBON	10K	5%	1/4W
R703	1-249-393-11	CARBON	10	5%	1/4W
▲R801	1-215-864-00	METAL OXIDE	150	5%	1W F
R802	1-249-429-11	CARBON	10K	5%	1/4W
R803	1-249-425-11	CARBON	4.7K	5%	1/4W
R804	1-249-425-11	CARBON	4.7K	5%	1/4W
R805	1-249-417-11	CARBON	1K	5%	1/4W
R806	1-249-433-11	CARBON	22K	5%	1/4W
▲R807	1-247-702-11	CARBON	150	5%	1/4W F
R808	1-249-425-11	CARBON	4.7K	5%	1/4W
R809	1-249-437-11	CARBON	47K	5%	1/4W
R810	1-249-417-11	CARBON	1K	5%	1/4W
< RELAY >					
RY801	1-515-617-11	RELAY			
< 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 (0)			
S611	1-554-303-21	SWITCH, TACTILE (SHIFT A)			
S612	1-554-303-21	SWITCH, TACTILE (SHIFT B)			
S613	1-554-303-21	SWITCH, TACTILE (SHIFT C)			
S614	1-554-303-21	SWITCH, TACTILE (TUNING +)			
S615	1-554-303-21	SWITCH, TACTILE (TUNING -)			
S616	1-554-303-21	SWITCH, TACTILE (BAND)			
S617	1-554-303-21	SWITCH, TACTILE (MEMORY)			
S618	1-554-303-21	SWITCH, TACTILE (MEMORY SCAN)			
S619	1-554-303-21	SWITCH, TACTILE (AUTO TUNING)			
S620	1-554-303-21	SWITCH, TACTILE (ONCE)			
S621	1-554-303-21	SWITCH, TACTILE (DAILY)			
S622	1-554-303-21	SWITCH, TACTILE (TIME NEXT)			
S623	1-554-303-21	SWITCH, TACTILE (TIME +)			
S624	1-554-303-21	SWITCH, TACTILE (TIME -)			
S625	1-554-303-21	SWITCH, TACTILE (CLOCK)			
S626	1-554-303-21	SWITCH, TACTILE (SLEEP)			
S627	1-554-303-21	SWITCH, TACTILE (CONTROL)			
S628	1-554-303-21	SWITCH, TACTILE (CLEAR)			
S629	1-554-303-21	SWITCH, TACTILE (BACK)			
S630	1-554-303-21	SWITCH, TACTILE (SYSTEM POWER)			

Ref. No.	Part No.	Description	Remark		
S631	1-554-303-21	SWITCH, TACTILE (ST/MUTE)			
S632	1-554-303-21	SWITCH, TACTILE (MODE)			
S633	1-554-303-21	SWITCH, TACTILE (CHARACTER)			
S634	1-554-303-21	SWITCH, TACTILE (DISPLAY)			
▲S801	1-571-722-11	SWITCH, VOLTAGE SELECTION			
< CRYSTAL >					
X601	1-579-564-11	VIBRATOR, CRYSTAL (8.389MHZ)			
*****					
*	A-4347-287-A	TUNER BOARD, COMPLETE	*****		
	1-630-140-14	TUNER BOARD			
*	4-924-988-11	PLATE (ST), GROUND			
< CAPACITOR >					
C1	1-162-294-31	CERAMIC	0.001uF	20%	25V
C2	1-124-477-11	ELECT	47uF	20%	25V
C3	1-163-059-00	CERAMIC CHIP	0.01uF	20%	16V
C4	1-162-294-31	CERAMIC	0.001uF	20%	25V
C5	1-163-059-00	CERAMIC CHIP	0.01uF	20%	16V
C6	1-163-059-00	CERAMIC CHIP	0.01uF	20%	16V
C9	1-163-059-00	CERAMIC CHIP	0.01uF	20%	16V
C21	1-101-006-00	CERAMIC	0.047uF		50V
C22	1-163-059-00	CERAMIC CHIP	0.01uF	20%	16V
C23	1-124-119-00	ELECT	330uF	20%	16V
C24	1-123-382-00	ELECT	3.3uF	20%	100V
C25	1-163-059-00	CERAMIC CHIP	0.01uF	20%	16V
C26	1-162-527-11	CERAMIC CHIP	0.0068uF	20%	12V
C27	1-162-516-11	CERAMIC CHIP	100PF	10%	50V
C28	1-124-903-11	ELECT	1uF	20%	50V
C30	1-124-903-11	ELECT	1uF	20%	50V
C31	1-124-902-00	ELECT	0.47uF	20%	50V
C32	1-124-463-00	ELECT	0.1uF	20%	50V
C33	1-130-481-00	MYLAR	0.0068uF	5%	50V
C34	1-123-382-00	ELECT	3.3uF	20%	100V
C35	1-130-481-00	MYLAR	0.0068uF	5%	50V
C36	1-123-382-00	ELECT	3.3uF	20%	100V
C37	1-124-907-11	ELECT	10uF	20%	50V
C38	1-124-907-11	ELECT	10uF	20%	50V
C39	1-163-059-00	CERAMIC CHIP	0.01uF	20%	16V
C40	1-124-463-00	ELECT	0.1uF	20%	50V
C41	1-124-927-11	ELECT	4.7uF	20%	100V
C42	1-163-059-00	CERAMIC CHIP	0.01uF	20%	16V
C43	1-126-176-11	ELECT	220uF	20%	10V
C44	1-163-059-00	CERAMIC CHIP	0.01uF	20%	16V
C45	1-123-382-00	ELECT	3.3uF	20%	100V
C46	1-162-524-11	CERAMIC	0.0022uF	20%	25V
C48	1-123-382-00	ELECT	3.3uF	20%	100V

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

## TUNER

Ref. No.	Part No.	Description			Remark
C49	1-162-524-11	CERAMIC	0.0022uF	20%	25V
C51	1-124-477-11	ELECT	47uF	20%	25V
C52	1-124-252-00	ELECT	0.33uF	20%	50V
C61	1-163-063-00	CERAMIC CHIP	0.022uF		25V
C62	1-163-063-00	CERAMIC CHIP	0.022uF		25V
C63	1-163-063-00	CERAMIC CHIP	0.022uF		25V
C64	1-163-063-00	CERAMIC CHIP	0.022uF		25V
C81	1-102-961-00	CERAMIC	27PF	5%	50V
C82	1-102-961-00	CERAMIC	27PF	5%	50V
C83	1-163-059-00	CERAMIC CHIP	0.01uF	20%	16V
C84	1-163-059-00	CERAMIC CHIP	0.01uF	20%	16V
C85	1-163-059-00	CERAMIC CHIP	0.01uF	20%	16V
C86	1-124-477-11	ELECT	47uF	20%	25V
C87	1-163-059-00	CERAMIC CHIP	0.01uF	20%	16V
C88	1-163-059-00	CERAMIC CHIP	0.01uF	20%	16V
C101	1-124-925-11	ELECT	2.2uF	20%	100V
C102	1-124-463-00	ELECT	0.1uF	20%	50V
C103	1-163-059-00	CERAMIC CHIP	0.01uF	20%	16V
C104	1-163-059-00	CERAMIC CHIP	0.01uF	20%	16V
C105	1-124-477-11	ELECT	47uF	20%	25V
< CARBON MELF >					
CC2	1-249-366-11	CARBON MELF	0	5%	1/5W
CC3	1-249-366-11	CARBON MELF	0	5%	1/5W
< CERAMIC FILTER >					
CF1	1-567-389-11	FILTER, CERAMIC			
CF2	1-567-389-11	FILTER, CERAMIC			
CF21	1-577-075-11	OSCILLATOR, CERAMIC			
CFT21	1-404-853-11	TRANSFORMER, IF(CERAMIC FILTER)			
< CONNECTOR >					
* CNJ1	1-568-273-11	SOCKET, CONNECTOR 7P			
* CNJ3	1-568-308-11	SOCKET, CONNECTOR 4P			
CNJ4	1-568-269-11	SOCKET, CONNECTOR 3P			
< DIODE >					
D21	8-719-987-63	DIODE 1N4148M			
D22	8-719-987-63	DIODE 1N4148M			
D23	8-719-987-63	DIODE 1N4148M			
D24	8-719-987-63	DIODE 1N4148M			
< FRONT END >					
FE1	1-463-862-21	FRONT END, FM			
FE61	1-236-461-11	ENCAPSULATED COMPONENT			
< IC >					
IC21	8-759-821-45	IC LA1851N			
IC81	8-759-820-91	IC LC7218			

Ref. No.	Part No.	Description			Remark
< COIL >					
L1	1-410-645-31	INDUCTOR			100uH
L21	1-410-171-11	INDUCTOR			1mH
< FILTER >					
LPF21	1-235-164-00	FILTER, LOW PASS			
LPF22	1-235-164-00	FILTER, LOW PASS			
< TRANSISTOR >					
Q1	8-729-230-XX	TRANSISTOR 2SC2669-0Y			
Q2	8-729-230-XX	TRANSISTOR 2SC2669-0Y			
Q21	8-729-119-78	TRANSISTOR 2SC2785-HFE			
Q22	8-729-119-78	TRANSISTOR 2SC2785-HFE			
Q23	8-729-900-61	TRANSISTOR DTA114ES			
Q24	8-729-900-80	TRANSISTOR DTC114ES			
Q26	8-729-900-80	TRANSISTOR DTC114ES			
Q27	8-729-119-78	TRANSISTOR 2SC2785-HFE			
Q28	8-729-119-78	TRANSISTOR 2SC2785-HFE			
Q81	8-729-900-61	TRANSISTOR DTA114ES			
Q82	8-729-900-80	TRANSISTOR DTC114ES			
Q83	8-729-202-67	TRANSISTOR 2SK246-GR3			
Q84	8-729-230-93	TRANSISTOR 2SC3113-AB			
< RESISTOR >					
△ R1	1-249-401-11	CARBON	47	5%	1/4W F
R3	1-249-329-11	CARBON MELF	330	5%	1/8W
R4	1-249-329-11	CARBON MELF	330	5%	1/8W
R5	1-249-329-11	CARBON MELF	330	5%	1/8W
R6	1-249-350-11	CARBON MELF	18K	5%	1/8W
R7	1-249-329-11	CARBON MELF	330	5%	1/8W
R8	1-249-332-11	CARBON MELF	560	5%	1/8W
R9	1-249-352-11	CARBON MELF	27K	5%	1/8W
△ R21	1-249-404-00	CARBON	82	5%	1/4W F
R22	1-249-430-11	CARBON	12K	5%	1/4W
R23	1-249-335-11	CARBON MELF	1K	5%	1/8W
R24	1-249-353-11	CARBON MELF	33K	5%	1/8W
R25	1-249-346-11	CARBON MELF	8.2K	5%	1/8W
R27	1-249-432-11	CARBON	18K	5%	1/4W
R28	1-249-423-11	CARBON	3.3K	5%	1/4W
R29	1-249-347-11	CARBON MELF	10K	5%	1/8W
R31	1-249-331-11	CARBON MELF	470	5%	1/8W
R32	1-249-347-11	CARBON MELF	10K	5%	1/8W
R33	1-249-347-11	CARBON MELF	10K	5%	1/8W
R34	1-249-425-11	CARBON	4.7K	5%	1/4W
R35	1-249-355-11	CARBON MELF	47K	5%	1/8W
R37	1-249-359-11	CARBON MELF	100K	5%	1/8W
R38	1-249-363-11	CARBON MELF	220K	5%	1/8W
R39	1-249-339-11	CARBON MELF	2.2K	5%	1/8W

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

## TUNER

Ref. No.	Part No.	Description	Remark
R40	1-249-338-11	CARBON MELF	1.8K 5% 1/8W
R41	1-249-344-11	CARBON MELF	5.6K 5% 1/8W
R42	1-249-359-11	CARBON MELF	100K 5% 1/8W
R43	1-249-363-11	CARBON MELF	220K 5% 1/8W
R44	1-249-339-11	CARBON MELF	2.2K 5% 1/8W
R45	1-249-338-11	CARBON MELF	1.8K 5% 1/8W
R46	1-249-344-11	CARBON MELF	5.6K 5% 1/8W
△R47	1-249-409-11	CARBON	220 5% 1/4W F
R48	1-249-359-11	CARBON MELF	100K 5% 1/8W
R49	1-249-359-11	CARBON MELF	100K 5% 1/8W
R61	1-249-359-11	CARBON MELF	100K 5% 1/8W
R62	1-249-355-11	CARBON MELF	47K 5% 1/8W
R63	1-249-315-11	CARBON MELF	22 5% 1/8W
R81	1-249-335-11	CARBON MELF	1K 5% 1/8W
R82	1-249-335-11	CARBON MELF	1K 5% 1/8W
R83	1-249-335-11	CARBON MELF	1K 5% 1/8W
R84	1-249-335-11	CARBON MELF	1K 5% 1/8W
R85	1-249-347-11	CARBON MELF	10K 5% 1/8W
R86	1-249-335-11	CARBON MELF	1K 5% 1/8W
R87	1-249-347-11	CARBON MELF	10K 5% 1/8W
R88	1-249-343-11	CARBON MELF	4.7K 5% 1/8W
R89	1-249-335-11	CARBON MELF	1K 5% 1/8W
R90	1-249-347-11	CARBON MELF	10K 5% 1/8W
R91	1-249-335-11	CARBON MELF	1K 5% 1/8W
△R92	1-249-401-11	CARBON	47 5% 1/4W F
R101	1-249-341-11	CARBON MELF	3.3K 5% 1/8W
R102	1-249-332-11	CARBON MELF	560 5% 1/8W
R103	1-249-335-11	CARBON MELF	1K 5% 1/8W
R104	1-249-328-11	CARBON MELF	270 5% 1/8W
R105	1-249-343-11	CARBON MELF	4.7K 5% 1/8W
R106	1-249-339-11	CARBON MELF	2.2K 5% 1/8W
R107	1-249-343-11	CARBON MELF	4.7K 5% 1/8W
R108	1-249-323-11	CARBON MELF	100 5% 1/8W
R109	1-249-343-11	CARBON MELF	4.7K 5% 1/8W
△R110	1-249-405-11	CARBON	100 5% 1/4W F
< VARIABLE RESISTOR >			
RV21	1-238-013-11	RES, ADJ, CARBON 2.2K	
RV22	1-238-017-11	RES, ADJ, CARBON 22K	
RV24	1-238-017-11	RES, ADJ, CARBON 22K	
< TRANSFORMER >			
T21	1-404-807-11	TRANSFORMER, DISCRIMINATOR	
< TERMINAL BOARD >			
TM1	1-537-238-21	TERMINAL BOARD (ANT)	

Ref. No.	Part No.	Description	Remark
< TEST POINT >			
* TP1	1-560-060-00	PIN, CONNECTOR 2P	
< CRYSTAL >			
XT81	1-577-126-11	VIBRATOR, CRYSTAL (7.2MHz)	
*****			
MISCELLANEOUS			
*****			
2	1-575-666-11	WIRE, FLAT TYPE (11 CORE)	
△10	1-575-651-11	CORD, POWER (EA)	
△10	1-575-653-11	CORD, POWER (E2, E3, JE)	
△10	1-590-083-11	CORD, POWER (AUS)	
11	1-569-007-11	ADAPTER, CONVERSION 2P (E3, JE)	
11	1-569-008-11	ADAPTER, CONVERSION 2P (EA)	
△CNJ801	1-526-794-11	OUTLET, AC (EA)	
△CNJ801	1-540-196-11	OUTLET, AC (AUS)	
△CNJ802	1-526-794-11	OUTLET, AC (EA)	
△CNJ802	1-540-196-11	OUTLET, AC (AUS)	
△F801	1-532-299-00	FUSE, TIME-LAG (5A 250V)	
*****			
ACCESSORIES & PACKING MATERIALS			
*****			
	4-920-940-01	SHEET (A), PROTECTION	
*	4-929-563-01	CUSHION	
*****			

## HARDWARE LIST

#1	7-685-134-19	SCREW +BTP 2.6X8 TYPE2 N-S
#2	7-621-773-93	SCREW (PANEL 2.6 TP2)
#3	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S
#4	7-621-849-00	SCREW (BV/RING)
#5	7-685-647-79	SCREW +BVTP 3X10 TYPE2 N-S

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

# ST-A70

## SONY<sup>®</sup> SERVICE MANUAL

*E Model  
Australian Model  
Tourist Model*

### SUPPLEMENT-1

File this supplement with the service manual.

Subject : Malay model added

- Malay model has been added in ST-A70.
- Malay model is the same as Saudi Arabia model.
- Please refer to it in SERVICE MANUAL.