

ST-S211

SERVICE MANUAL

Discard ST-S211 Service Manual
(No. 9-957-970-11) previously issued.
This Service Manual contains it.

*US Model
Canadian Model
AEP Model
UK Model
E Model*



SPECIFICATIONS

FM tuner

Frequency range	87.5-108MHz
Antenna terminals	75 Ω unbalanced
Intermediate frequency	10.7 MHz
Sensitivity	(at 26 dB quieting) 12.1 dBf, 1.1 μ V (at 46 dB quieting) 40.0 dBf, 24.5 μ V
Usable sensitivity (IHF)	19.5 dBf, (5 μ V)
Signal-to-noise ratio	(at 40 kHz deviation) 74 dB (mono) 69 dB (stereo)
Harmonic distortion	0.3% (mono); 0.5% (stereo) (at 1 kHz)
Frequency response	30 Hz - 15 kHz, (+0.5 dB, -1.0 dB)
Separation	40 dB (at 1 kHz)
Selectivity	60 dB (at 300 kHz) 80 dB (at 400 kHz)
Output	600 mV (at 40 kHz deviation)

AM tuner

Frequency range	AEP, G, EE, UK MODEL : MW : 531-1,602kHz (9kHz step) LW : 153-279kHz (1kHz step) IT MODEL : MW : 522-1,611kHz (9kHz step) LW : 144-288kHz (1kHz step) US, CND, E MODEL : AM : 531-1,602kHz (9kHz step) 530-1,710kHz (10kHz step)
Intermediate frequency	450 kHz
Usable sensitivity (with AM loop antenna)	300 μ V/m (999 kHz); 1 mV/m (216 kHz)
Signal-to-noise ratio	54 dB (50 mV/m, 999 kHz) 50 dB (50 mV/m, 216 kHz)
Harmonic distortion	0.5% (50 mV/m, 400 Hz)
Selectivity	32 dB

General

Power requirements	UK MODEL : 240V AC, 50/60Hz US, CND, E MODEL : 110-120V/220-240V AC, 50/60Hz AEP, IT, G, EE MODEL : 220-230V AC, 50/60Hz
Power consumption	10 W
Dimensions	Approx. 430 mm (W) x 85 mm (H) x 295 mm (D) (17 x 3 ³ / ₈ x 11 ³ / ₅ inches)
Mass	Approx. 2.8 kg (6 lb. 3 oz.)
Accessories supplied	Connecting cord (1); AM loop antenna (1); FM antenna (1)
Design and specifications are subject to change without notice.	

* CND : Canadian model
EE : East European model
IT : Italian model
G : German model





FM STEREO / FM-AM TUNER
SONY®


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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.

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

LES COMPOSANTS IDENTIFIÉS PAR UNE MARQUE  SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

US, CND, E MODEL

The AM tuning interval is preset at the factory to either 9 kHz or 10 kHz. Do the procedure below if you have to change the setting to match the frequency allocation system in your area.

- 1 Turn on the power.
 - 2 Tune in any AM station.
 - 3 Turn off the power.
 - 4 To set the 10 kHz interval, press and hold 0 (on the preset buttons). Then press POWER.
- or
- To set the 9 kHz interval, press and hold 9 (on the preset buttons). Then press POWER.

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 microamperes). 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 .2V AC range are suitable. (See Fig. A)

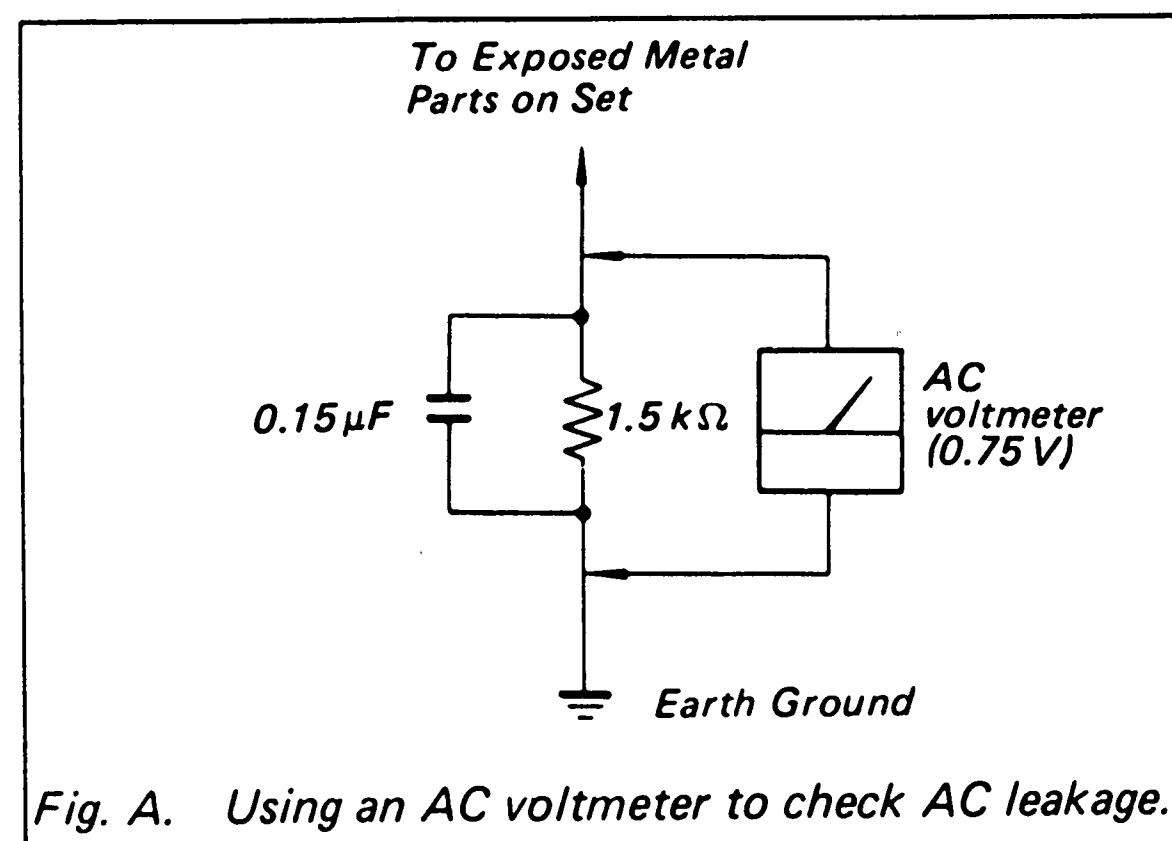
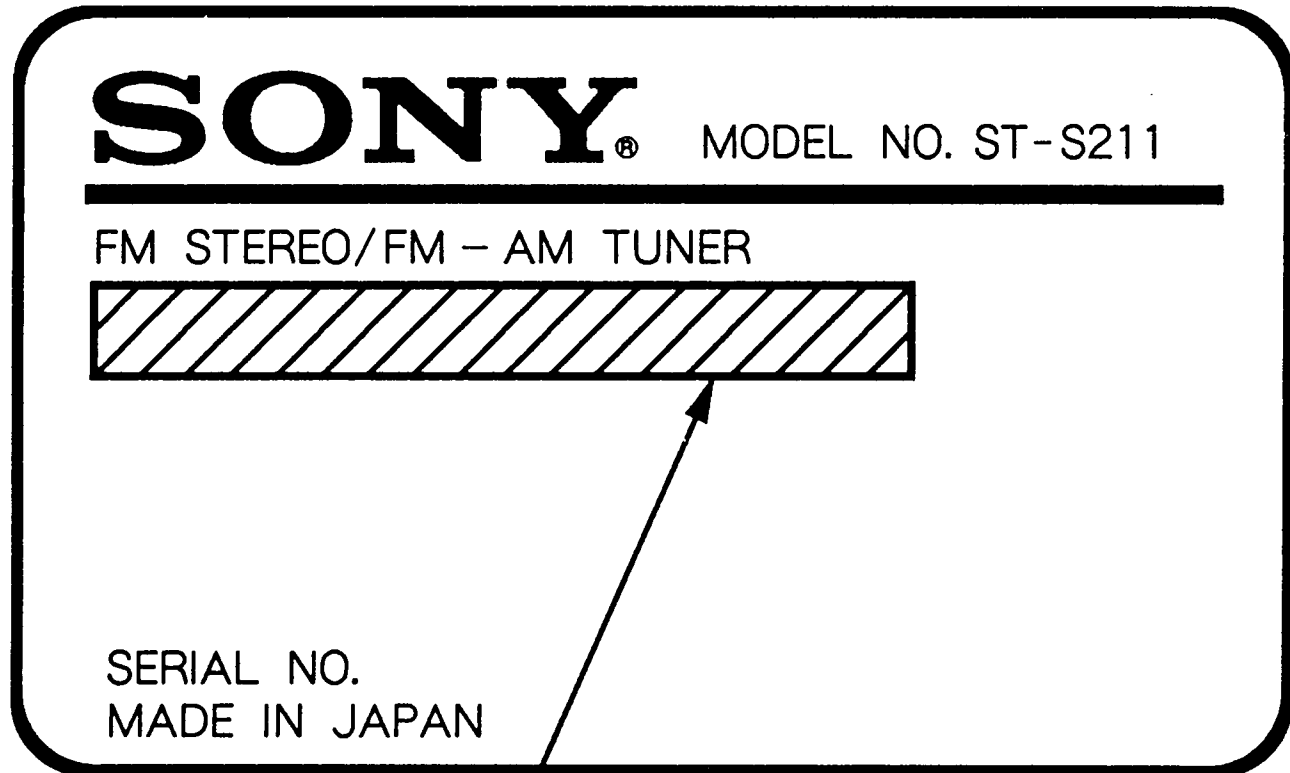


Fig. A. Using an AC voltmeter to check AC leakage.

MODEL IDENTIFICATION

— Specification Label —



AEP, German, Italian

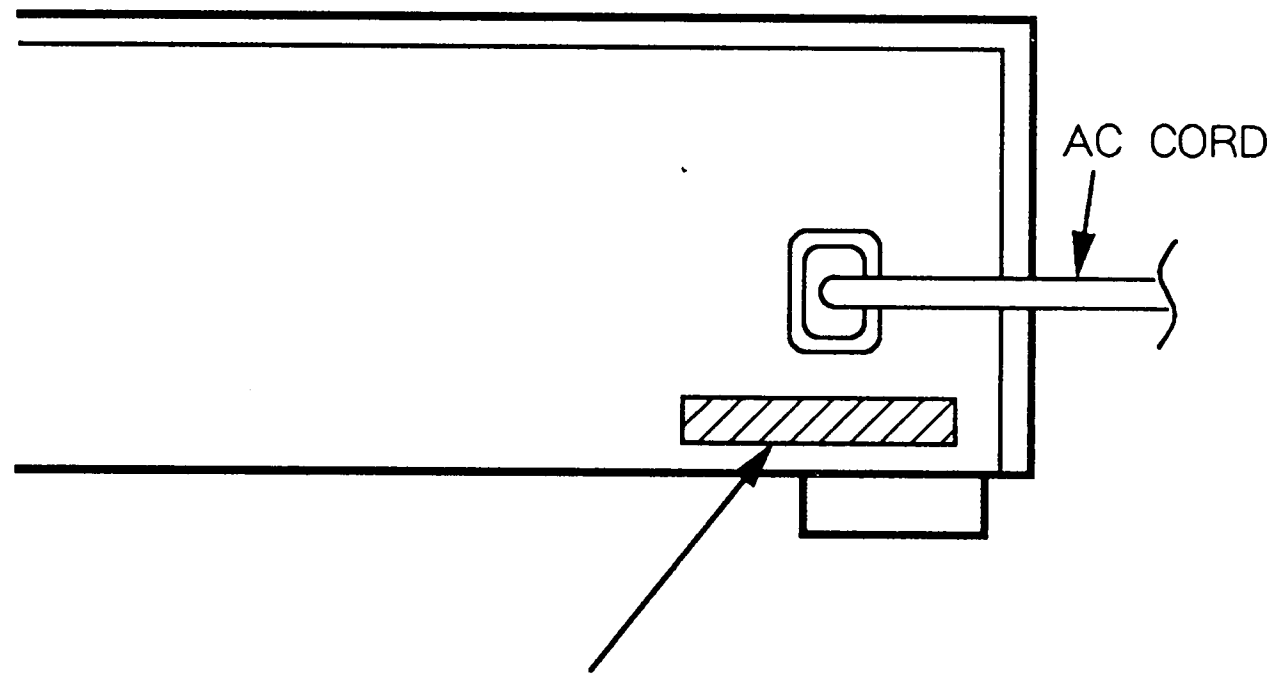
East European Model : AC 220 - 230~50/60Hz 10W

UK Model : AC 240~50/60Hz

US, Canadian, E Model : AC 110-120V/220-240V

50/60Hz 10W

— Back Panel —



AEP, Italian East European Model : 4-957-884-01

AEP Model : 4-957-884-11

German Model : 4-957-884-21

UK Model : 4-957-884-31

E Model : 4-957-884-41

US, Canadian Model : 4-957-884-51

SECTION 1 GENERAL

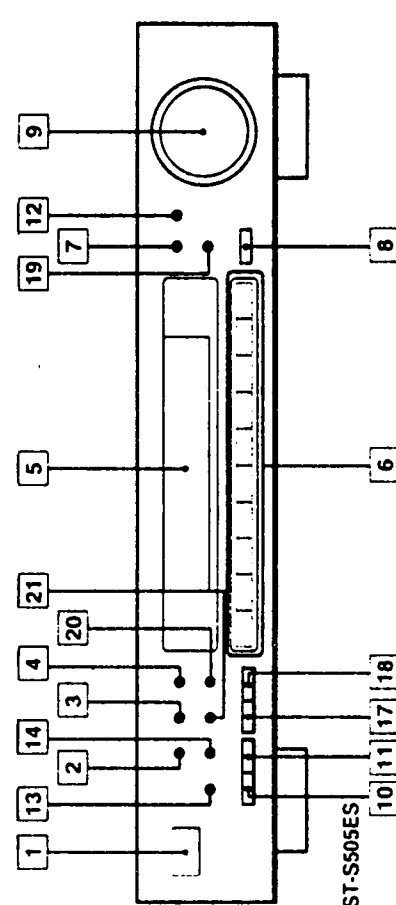
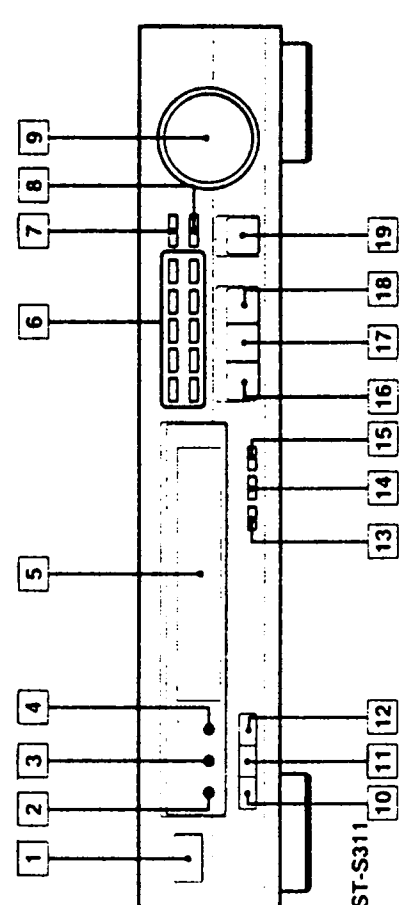
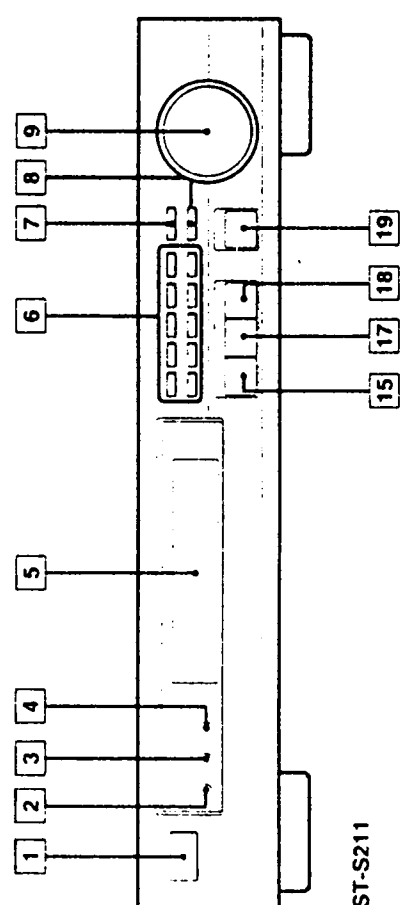
This section is extracted from instruction manual (ST-S211/S311/S505ES).

Identifying the Controls

ST-S211/ST-S311/ST-S505ES

- 1 Power switch (5, 11, 12)
- 2 CHARACTER button (17)
- 3 DISPLAY button (14, 21)
- 4 DISPLAY MODE button (5)
- 5 Display window
- 6 Preset buttons (5, 8, 13, 14, 17)
- 7 TUNING/PRESET button (6, 7, 15, 16)
- 8 SHIFT button (13, 14, 17)
- 9 TUNING/CHARACTER/PTY SELECT knob (ST-S211: TUNING/CHARACTER) (6, 7, 15-17, 24, 25)
- 10 TA button (22) (ST-S311/S505ES only)
- 11 NEWS/INFO button (23) (ST-S311/S505ES only)
- 12 PTY button (24, 25) (ST-S311/S505ES only)
- 13 ANT ATT button (10) (ST-S311/S505ES only)
- 14 IF BAND button (10) (ST-S311/S505ES only)
- 15 STEREO/MUTE button (9)
- 16 DIRECT button (8) (ST-S311 only)
- 17 MEMORY button (11-13, 17)
- 18 BAND button (6-8)
- 19 TUNE MODE button (6, 7, 15, 16, 24)
- 20 FM MODE button (ST-S505ES only) (9)
- 21 MUTING button (ST-S505ES only) (9, 10)

(The numbers in parenthesis indicate the page(s) where the control is described.)



SECTION 2 ADJUSTMENTS

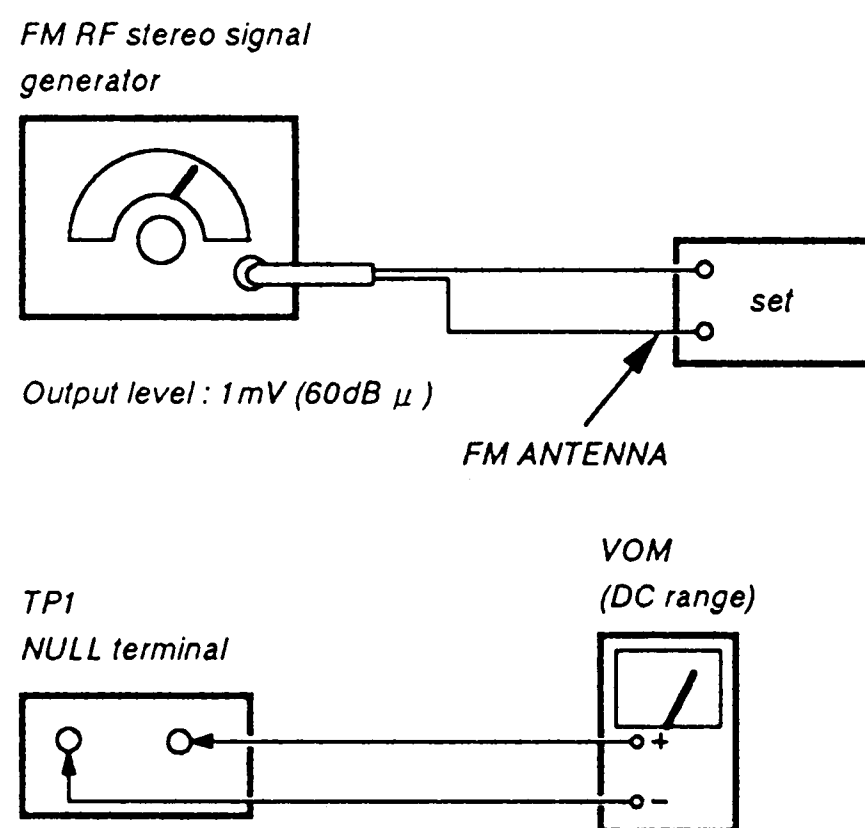
FM SECTION

():US, CND, E Model

SSG	Carrier frequency	98MHz
	Modulation	MONO: 1kHz, 40kHz (75kHz) deviation
		STEREO : Audio 1kHz, 16.25kHz deviation Pilot 19kHz, 7.5kHz deviation Sub-carrier 38kHz, 16.25kHz deviation

• FM Discriminator Alignment (NULL check)

Setting :



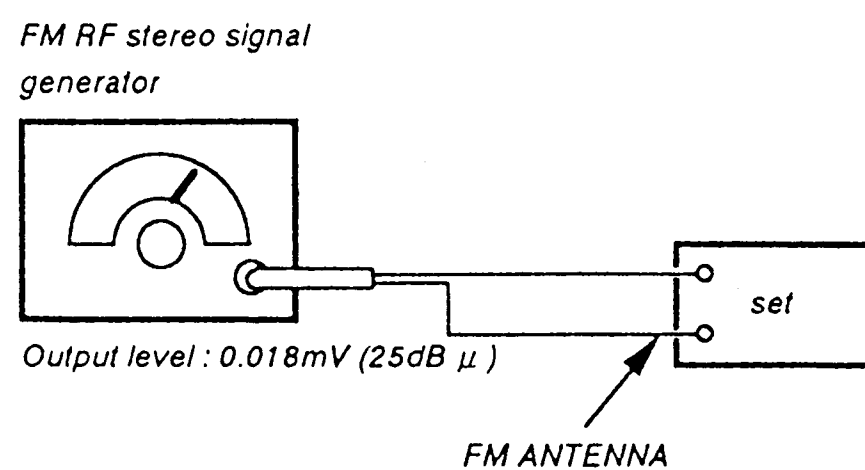
Procedure:

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

Note : FM tuning level adjustment should be made after FM discriminator alignment.

• FM Tuning Level Adjustment

Setting :

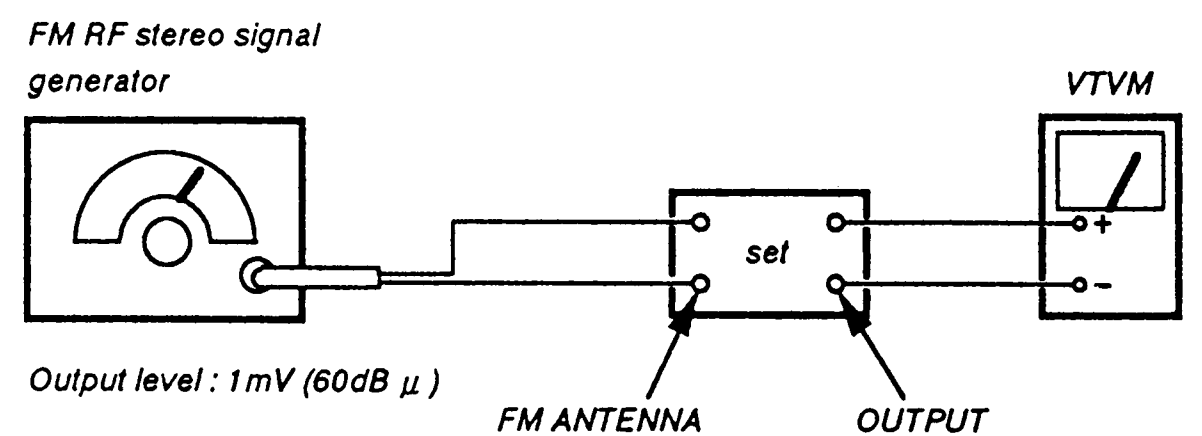


Procedure :

1. Tune the set to 98MHz.
2. Adjust RV24 so that the TUNE LED goes on.

• FM Stereo Separation Adjustment

Setting :



Procedure :

Tune the set to 98MHz

FM stereo Signal generator Output	VTVM connection	VTVM reading (dB)
L-CH	L-CH	(A)
R-CH	L-CH	(B) Adjust RV21 for minimum reading
R-CH	R-CH	(C)
L-CH	R-CH	(D) Adjust RV21 for minimum reading

L-CH Stereo separation : (A) - (B)

R-CH Stereo separation : (C) - (D)

The separations of both channels should be equal.

TUNER

Ref. No.	Part No.	Description	Remarks
C72	1-163-035-00	CERAMIC CHIP 0.047uF	50V (AEP, UK, G, IT, EE)
C81	1-102-961-00	CERAMIC 27PF	5% 50V
C82	1-102-961-00	CERAMIC 27PF	5% 50V
C83-85	1-164-232-11	CERAMIC CHIP 0.01uF	50V
C86	1-124-477-11	ELECT 47uF	20% 25V
C87	1-164-232-11	CERAMIC CHIP 0.01uF	50V
C88	1-164-096-11	CERAMIC 0.01uF	50V
C101	1-124-925-11	ELECT 2.2uF	20% 100V
C102	1-124-463-00	ELECT 0.1uF	20% 50V
C103	1-164-232-11	CERAMIC CHIP 0.01uF	50V
C104	1-164-232-11	CERAMIC CHIP 0.01uF	50V
C105	1-124-477-11	ELECT 47uF	20% 25V
C106	1-136-173-00	FILM 0.47uF	5% 50V (AEP, UK, G, IT, EE)
C107	1-124-463-00	ELECT 0.1uF	20% 50V (AEP, UK, G, IT, EE)
C108	1-163-037-11	CERAMIC CHIP 0.022uF	10% 25V (AEP, UK, G, IT, EE)
C109	1-163-105-00	CERAMIC CHIP 33PF	5% 50V
C152	1-123-382-00	ELECT 3.3uF	20% 100V
C153	1-124-907-11	ELECT 10uF	20% 50V
C154	1-163-117-00	CERAMIC CHIP 100PF	5% 50V (AEP, UK, E, G, IT, EE)
C155	1-124-120-11	ELECT 220uF	20% 25V
C162	1-123-382-00	ELECT 3.3uF	20% 100V
C163	1-124-907-11	ELECT 10uF	20% 50V
C164	1-163-117-00	CERAMIC CHIP 100PF	5% 50V (AEP, UK, E, G, IT, EE)
< FILTER >			
CF1	1-579-374-71	FILTER, CERAMIC	
CF2	1-579-374-71	FILTER, CERAMIC	
CF3	1-579-374-71	FILTER, CERAMIC (AEP, UK, G, IT, EE)	
CF21	1-577-075-11	OSCILLATOR, CERAMIC 19.0KHz	
< COMPOSITION CIRCUIT BLOCK >			
CFT21	1-404-853-11	TRANSFORMER, IF (CERAMIC FILTER)	
< JACK >			
* CNJ1	1-564-666-11	PIN, CONNECTOR 10P	
* CNJ2	1-564-341-11	PIN, CONNECTOR 7P	
* CNJ3	1-506-503-11	PIN, CONNECTOR 9P	
* CNJ4	1-564-337-00	PIN, CONNECTOR 3P	
< DIODE >			
D21-24	8-719-016-74	DIODE 1SS352	
D61	8-719-016-74	DIODE 1SS352 (AEP, UK, G, IT, EE)	
< FRONTEND >			
FE1	1-463-862-21	FRONT END, FM (US, CND, AEP, UK, E)	
FE1	1-463-857-11	FRONT END (FM) (G, IT)	
FE1	1-465-560-11	FRONT END (FM 3 GANG) (EE)	
FE61	1-236-461-11	ENCAPSULATED COMPONENT (US, CND, E)	
FE61	1-236-462-11	ENCAPSULATED COMPONENT (AEP, UK, G, IT, EE)	
FE62	1-236-463-11	ENCAPSULATED COMPONENT (AEP, UK, G, IT, EE)	

Ref. No.	Part No.	Description	Remarks
< IC >			
IC21	8-759-821-45	IC LA1851N	
IC81	8-759-175-87	IC LC7218-ST	
IC91	8-759-145-58	IC UPC4558C	
< COIL >			
L1	1-410-482-31	INDUCTOR 100uH	
L2	1-410-482-31	INDUCTOR 100uH	(AEP, UK, G, IT, EE)
L21	1-407-500-00	INDUCTOR 4.7mH	
L61	1-408-425-00	INDUCTOR 220uH	(AEP, UK, G, IT, EE)
L151	1-410-470-11	INDUCTOR 10uH	(G, IT)
L161	1-410-470-11	INDUCTOR 10uH	(G, IT)
< FILTER >			
LPF21	1-235-164-00	FILTER, LOW PASS	
LPF22	1-235-164-00	FILTER, LOW PASS	
< TRANSISTOR >			
Q1	8-729-230-XX	TRANSISTOR 2SC26690	
Q2	8-729-230-XX	TRANSISTOR 2SC26690	
Q3	8-729-230-XX	TRANSISTOR 2SC26690	(AEP, UK, G, IT, EE)
Q4	8-729-230-XX	TRANSISTOR 2SC26690	(AEP, UK, G, IT, EE)
Q21	8-729-119-78	TRANSISTOR 2SC403SP-51	
Q22	8-729-119-78	TRANSISTOR 2SC403SP-51	
Q23	8-729-900-61	TRANSISTOR DTA114ES	
Q24	8-729-900-80	TRANSISTOR DTC114ES	
Q26	8-729-900-80	TRANSISTOR DTC114ES	
Q27	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q28	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q61-63	8-729-900-80	TRANSISTOR DTC114ES	(AEP, UK, G, IT, EE)
Q64	8-729-620-05	TRANSISTOR 2SC2603-EF	(AEP, UK, G, IT, EE)
Q65	8-729-821-04	TRANSISTOR 2SA1317-STU	(AEP, UK, G, IT, EE)
Q66	8-729-900-80	TRANSISTOR DTC114ES	(AEP, UK, G, IT, EE)
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	
Q85	8-729-202-67	TRANSISTOR 2SK246-GR3	(AEP, UK, G, IT, EE)
Q86	8-729-230-93	TRANSISTOR 2SC3113-AB	(AEP, UK, G, IT, EE)
< RESISTOR >			
ΔR1	1-249-401-11	CARBON 47 5% 1/4W F	(US, CND, AEP, UK, E, EE)
ΔR1	1-249-397-11	CARBON 22 5% 1/4W F	(G, IT)
R3-5	1-216-037-00	METAL CHIP 330 5% 1/10W	
R6	1-216-079-00	METAL CHIP 18K 5% 1/10W	
R7	1-216-037-00	METAL CHIP 330 5% 1/10W	
R8	1-216-043-00	METAL CHIP 560 5% 1/10W	
R9	1-216-083-00	METAL CHIP 27K 5% 1/10W	
R10	1-216-037-00	METAL CHIP 330 5% 1/10W	(AEP, UK, G, IT, EE)
R11	1-216-079-00	METAL CHIP 18K 5% 1/10W	(AEP, UK, G, IT, EE)
R12	1-216-037-00	METAL CHIP 330 5% 1/10W	(AEP, UK, G, IT, EE)

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

Note:
Les composants identifiés par une marque Δ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

TUNER

Ref. No.	Part No.	Description	Quantity	Power	Notes	Remarks
R13	1-216-047-00	METAL CHIP	820	5%	1/10W	(AEP, UK, G, IT, EE)
R14	1-216-083-00	METAL CHIP	27K	5%	1/10W	(AEP, UK, G, IT, EE)
R15	1-216-097-00	METAL CHIP	100K	5%	1/10W	(G, IT)
R16	1-216-089-91	METAL GLAZE	47K	5%	1/10W	(G, IT)
△R21	1-249-404-00	CARBON	82	5%	1/4W	
R22	1-216-081-00	METAL CHIP	22K	5%	1/10W	
R23	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R24	1-216-085-00	METAL CHIP	33K	5%	1/10W	
R25	1-216-071-00	METAL CHIP	8.2K	5%	1/10W	
R27	1-216-079-00	METAL CHIP	18K	5%	1/10W	
R28	1-216-061-00	METAL CHIP	3.3K	5%	1/10W	
R29	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R31	1-216-041-00	METAL CHIP	470	5%	1/10W	
R32	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R33	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R34	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	
R35	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R37	1-216-097-00	METAL CHIP	100K	5%	1/10W	
R38	1-216-105-00	METAL CHIP	220K	5%	1/10W	
R39	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R40	1-216-055-00	METAL CHIP	1.8K	5%	1/10W	
R42	1-216-097-00	METAL CHIP	100K	5%	1/10W	
R43	1-216-105-00	METAL CHIP	220K	5%	1/10W	
R44	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R45	1-216-055-00	METAL CHIP	1.8K	5%	1/10W	
△R47	1-249-409-11	CARBON	220	5%	1/4W	F
R48	1-216-097-00	METAL CHIP	100K	5%	1/10W	
R49	1-216-097-00	METAL CHIP	100K	5%	1/10W	
R60	1-216-295-11	METAL GLAZE	0	5%	1/10W	(US, CND, E)
R61	1-216-097-00	METAL CHIP	100K	5%	1/10W	
R62	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R63	1-216-009-00	METAL CHIP	22	5%	1/10W	(US, CND, E)
R64	1-216-081-00	METAL CHIP	22K	5%	1/10W	(AEP, UK, G, IT, EE)
R65	1-216-089-91	METAL GLAZE	47K	5%	1/10W	(AEP, UK, G, IT, EE)
R66	1-216-121-00	METAL CHIP	1M	5%	1/10W	(AEP, UK, G, IT, EE)
R66	1-216-295-11	METAL GLAZE	0	5%	1/10W	(US, CND, E)
R67	1-216-097-00	METAL CHIP	100K	5%	1/10W	(AEP, UK, G, IT, EE)
R68	1-216-083-00	METAL CHIP	27K	5%	1/10W	(AEP, UK, G, IT, EE)
R69	1-216-081-00	METAL CHIP	22K	5%	1/10W	(AEP, UK, G, IT, EE)
R70	1-216-041-00	METAL CHIP	470	5%	1/10W	(AEP, UK, G, IT, EE)
R71	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	(AEP, UK, G, IT, EE)
R72	1-216-081-00	METAL CHIP	22K	5%	1/10W	(AEP, UK, G, IT, EE)
R73	1-216-073-00	METAL CHIP	10K	5%	1/10W	(AEP, UK, G, IT, EE)
R74	1-216-073-00	METAL CHIP	10K	5%	1/10W	(AEP, UK, G, IT, EE)
R75	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	(AEP, UK, G, IT, EE)
R81-84						
	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R85	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R86	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R87	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R88	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	
R89	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R90	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	
R91	1-216-049-00	METAL CHIP	1K	5%	1/10W	
△R92	1-249-401-11	CARBON	47	5%	1/4W	F
R101	1-216-061-00	METAL CHIP	3.3K	5%	1/10W	
R102	1-216-043-00	METAL CHIP	560	5%	1/10W	
R103	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R104	1-216-035-00	METAL CHIP	270	5%	1/10W	
R105	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	
R106	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R107	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	
R108	1-216-025-00	METAL CHIP	100	5%	1/10W	
R109	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	
△R110	1-247-807-31	CARBON	100	5%	1/4W	F
R111	1-216-061-00	METAL CHIP	3.3K	5%	1/10W	(AEP, UK, G, IT, EE)
R112	1-216-043-00	METAL CHIP	560	5%	1/10W	(AEP, UK, G, IT, EE)
R113	1-216-049-00	METAL CHIP	1K	5%	1/10W	(AEP, UK, G, IT, EE)
R114	1-216-035-00	METAL CHIP	270	5%	1/10W	(AEP, UK, G, IT, EE)
R115	1-216-081-00	METAL CHIP	22K	5%	1/10W	(AEP, UK, G, IT, EE)
R116	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	(AEP, UK, G, IT, EE)
R117	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	(AEP, UK, G, IT, EE)
R118	1-216-025-00	METAL CHIP	100	5%	1/10W	(AEP, UK, G, IT, EE)
R151	1-216-067-00	METAL CHIP	5.6K	5%	1/10W	
R152	1-216-067-00	METAL CHIP	5.6K	5%	1/10W	(AEP, UK, E, G, IT, EE)
R153	1-216-295-11	METAL GLAZE	0	5%	1/10W	(US, CND)
R153	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	(AEP, UK, E, G, IT, EE)
R154	1-216-041-00	METAL CHIP	470	5%	1/10W	
△R155	1-249-401-11	CARBON	47	5%	1/4W	F
R161	1-216-067-00	METAL CHIP	5.6K	5%	1/10W	
R162	1-216-067-00	METAL CHIP	5.6K	5%	1/10W	(AEP, UK, E, G, IT, EE)
R163	1-216-295-11	METAL GLAZE	0	5%	1/10W	(US, CND)
R163	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	(AEP, UK, E, G, IT, EE)
R164	1-216-041-00	METAL CHIP	470	5%	1/10W	
R555	1-216-097-00	METAL CHIP	100K	5%	1/10W	

<p>Note: The components identified by mark Δ or dotted line with mark Δ are critical for safety. Replace only with part number specified.</p>	<p>Note: Les composants identifiés par une marque Δ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.</p>
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TUNER

DISPLAY

POWER SUPPLY

ENCORDER

AC SW

Ref. No.	Part No.	Description	Remarks
		< VARIABLE RESISTOR >	
RV21	1-238-015-11	RES, ADJ, CARBON 4.7K	
RV22	1-241-631-11	RES, ADJ, CARBON 22K	
RV23	1-238-021-11	RES, ADJ, CARBON 220K	
RV24	1-238-019-11	RES, ADJ, CARBON 47K	
		< TRANSFORMER >	
T21	1-404-807-11	TRANSFORMER, DISCRIMINATOR	
T23	1-235-126-00	ENCAPSULATED COMPONENT (G, IT)	
		< TERMINAL >	
* TM1	1-537-225-11	TERMINAL BOARD (ANT (F) TYPE) (US, CND, E)	
* TM1	1-537-138-31	TERMINAL BOARD (ANT) (AEP, UK, G, IT, EE)	
		< TEST PIN >	
* TP1	1-560-060-00	PIN, CONNECTOR 2P	
		< VIBRATOR >	
XT81	1-577-126-21	VIBRATOR, CRYSTAL 7.2MHz	

*	A-4360-469-A	DISPLAY BOARD, COMPLETE (AEP, UK, G)	

*	A-4360-470-A	DISPLAY BOARD, COMPLETE (IT)	

*	A-4360-471-A	DISPLAY BOARD, COMPLETE (EE)	

*	A-4360-474-A	DISPLAY BOARD, COMPLETE (E)	

*	A-4365-583-A	DISPLAY BOARD, COMPLETE (CND)	

*	A-4365-586-A	DISPLAY BOARD, COMPLETE (US)	

*	1-647-237-11	POWER SUPPLY BOARD	

*	1-647-238-11	ENCORDER BOARD	

*	1-647-239-11	AC SW BOARD	

*	4-925-125-11	HOLDER, FL TUBE	
	7-685-646-81	SCREW +BVTP 3X8 TYPE2	
		< CAPACITOR >	
C501	1-101-004-00	CERAMIC 0.01uF 50V	
C502	1-101-004-00	CERAMIC 0.01uF 50V	
C503	1-126-105-11	ELECT 1000uF 20% 35V	
C504	1-124-910-11	ELECT 47uF 20% 50V	
C506	1-101-005-00	CERAMIC 22000PF 50V	
C507	1-124-907-11	ELECT 10uF 20% 50V	
C508	1-124-907-11	ELECT 10uF 20% 50V	
C509	1-101-005-00	CERAMIC 22000PF 50V	
C510	1-124-925-11	ELECT 2.2uF 20% 100V	
C511	1-101-005-00	CERAMIC 22000PF 50V	
C512	1-124-910-11	ELECT 47uF 20% 50V	

Ref. No.	Part No.	Description	Remarks
C513	1-124-911-11	ELECT 220uF 20% 50V	
C551	1-161-744-00	CERAMIC 0.01uF 400V	
C701	1-126-157-11	ELECT 10uF 20% 16V	
C702	1-161-379-00	CERAMIC 0.01uF 20% 25V	
C703	1-125-486-11	DOUBLE LAYERS 0.22F 5.5V	
C704	1-126-163-11	ELECT 4.7uF 20% 50V	
C705-707			
	1-161-379-00	CERAMIC 0.01uF 20% 25V	
C708-732			
	1-162-286-31	CERAMIC 220PF 10% 50V	
C734	1-126-301-11	ELECT 1uF 20% 50V	
C740	1-126-157-11	ELECT 10uF 20% 16V	
		< FILTER >	
CF701	1-577-360-11	VIBRATOR, CERAMIC 6MHz	
		< CONNECTOR >	
* CN1	1-506-503-11	PIN, CONNECTOR 9P	
* CN4	1-564-337-00	PIN, CONNECTOR 3P	
* CN501	1-564-321-00	PIN, CONNECTOR 2P	
CN502	1-564-321-00	PIN, CONNECTOR 2P	
* CN702	1-564-341-11	PIN, CONNECTOR 7P	
* CN703	1-564-666-11	PIN, CONNECTOR 10P	
* CN704	1-564-337-00	PIN, CONNECTOR 3P	
CNL1	1-690-880-11	LEAD (WITH CONNECTOR)	
CNL901	1-690-122-41	REED (WITH CONNECTOR) (2 CORE)	
		< COMPOSITION CIRCUIT BLOCK >	
CP701	1-239-729-11	COMPOSITION CIRCUIT BLOCK 24KX10	
CP702	1-239-730-11	COMPOSITION CIRCUIT BLOCK 24KX11	
		< DIODE >	
D501	8-719-200-82	DIODE 11ES2	
D502	8-719-200-82	DIODE 11ES2	
D503	8-719-987-63	DIODE 1N4148M	
D504	8-719-987-63	DIODE 1N4148M	
D505	8-719-001-21	DIODE UZL-9H1	
D506	8-719-002-48	DIODE UZL-27H	
D701-703			
	8-719-987-63	DIODE 1N4148M	
D704	8-719-987-63	DIODE 1N4148M (US, CND, EE)	
D705	8-719-987-63	DIODE 1N4148M (US, CND, IT)	
D706	8-719-987-63	DIODE 1N4148M (E)	
D709-718			
	8-719-987-63	DIODE 1N4148M	
D719	8-719-110-49	DIODE RD18ES-B2	
D722	8-719-987-63	DIODE 1N4148M	
		< FILTER >	
FL701	1-519-602-21	INDICATOR TUBE, FLUORESCENT	
		< IC >	
IC501	8-759-820-09	IC LA5667	
IC701	8-759-161-79	IC TMP47C1270AN-H217	
IC702	8-759-145-58	IC UPC4558C	
IC703	8-749-923-43	IC GP1U57XB	

DISPLAY **POWER SUPPLY** **ENCORDER** **AC SW**

Ref. No.	Part No.	Description	Remarks
		< JACK >	
J501	1-565-352-11	JACK, PIN 2P (OUTPUT)	
		< COIL >	
L701	1-410-521-11	INDUCTOR 100uH	
		< TRANSFORMER >	
△PT501	1-423-858-11	TRANSFORMER, POWER (US, CND)	
△PT501	1-423-525-11	TRANSFORMER, POWER (AEP, UK, G, IT, EE)	
△PT501	1-423-526-11	TRANSFORMER, POWER (E)	
		< RESISTOR >	
△R501	1-247-728-11	CARBON 12 5% 1/2W F	
R502	1-249-437-11	CARBON 47K 5% 1/4W	
△R503	1-247-752-11	CARBON 1K 5% 1/2W F	
R504	1-249-441-11	CARBON 100K 5% 1/4W	
R551	1-202-725-00	SOLID 3.3M 10% 1/2W (US, CND)	
R701	1-247-807-31	CARBON 100 5% 1/4W	
R702	1-249-441-11	CARBON 100K 5% 1/4W	
R703	1-249-417-11	CARBON 1K 5% 1/4W F	
R704	1-249-411-11	CARBON 330 5% 1/4W	
R705	1-249-411-11	CARBON 330 5% 1/4W	
R706	1-249-429-11	CARBON 10K 5% 1/4W	
R707	1-249-441-11	CARBON 100K 5% 1/4W	
R708	1-249-441-11	CARBON 100K 5% 1/4W	
R709	1-247-807-31	CARBON 100 5% 1/4W	
R710	1-249-429-11	CARBON 10K 5% 1/4W	
R711	1-247-807-31	CARBON 100 5% 1/4W	
R712	1-249-429-11	CARBON 10K 5% 1/4W	
R713	1-249-429-11	CARBON 10K 5% 1/4W	
R715	1-249-417-11	CARBON 1K 5% 1/4W F	
R716-722			
	1-249-423-11	CARBON 3.3K 5% 1/4W F	
R723-730			
	1-249-429-11	CARBON 10K 5% 1/4W	
R750-753			
	1-247-864-11	CARBON 24K 5% 1/4W	
		< SWITCH >	
S701	1-554-303-21	SWITCH, TACTILE (1)	
S702	1-554-303-21	SWITCH, TACTILE (2)	
S703	1-554-303-21	SWITCH, TACTILE (3)	
S704	1-554-303-21	SWITCH, TACTILE (4)	
S705	1-554-303-21	SWITCH, TACTILE (5)	
S706	1-554-303-21	SWITCH, TACTILE (6)	
S707	1-554-303-21	SWITCH, TACTILE (7)	
S708	1-554-303-21	SWITCH, TACTILE (8)	
S709	1-554-303-21	SWITCH, TACTILE (9)	
S710	1-554-303-21	SWITCH, TACTILE (0)	
S711	1-554-303-21	SWITCH, TACTILE (TUNE-MODE)	
S712	1-554-303-21	SWITCH, TACTILE (STEREO MUTE)	
S713	1-554-303-21	SWITCH, TACTILE (BAND)	
S714	1-554-303-21	SWITCH, TACTILE (DISPLAY)	
S715	1-554-303-21	SWITCH, TACTILE (CHARACTER)	

Ref. No.	Part No.	Description	Remarks
S716	1-554-303-21	SWITCH, TACTILE (MEMORY)	
S717	1-554-303-21	SWITCH, TACTILE (SHIFT)	
S718	1-554-303-21	SWITCH, TACTILE (TUNING PRESET)	
S719	1-554-303-21	SWITCH, TACTILE (DISPLAY MODE)	
S722	1-466-513-21	ENCODER, ROTARY (TUNING/CHARACTER)	
△S901	1-572-267-51	SWITCH, PUSH (AC POWER) (1 KEY) (POWER)	
△VS1	1-571-722-11	SWITCH, VOLTAGE SELECTION (VOLTAGE SELECTOR) (E)	

MISCELLANEOUS

15	1-575-651-11	CORD, POWER (AEP, G, IT, EE)
15	1-575-653-11	CORD, POWER (E)
15	1-575-975-11	CORD, POWER (US, CND)
15	1-696-570-21	CORD, POWER (UK)
24	1-569-007-11	ADAPTER, CONVERSION 2P (E)

ACCESSORIES & PACKING MATERIALS

	1-501-374-11	ANTENNA, LOOP
	1-501-594-11	ANTENNA (FM) (AEP, UK, EE)
	1-558-271-11	CORD, CONNECTION
	1-559-533-11	CORD, CONNECTION
	3-756-648-11	MANUAL, INSTRUCTION (ENGLISH/FRENCH/ SPANISH/PORTUGAL/CHINESE) (US, CND, AEP, E)
	3-756-648-41	MANUAL, INSTRUCTION (GERMAN/DUTCH/ SWEDISH/ITALIAN) (AEP, IT)
	3-756-648-51	MANUAL, INSTRUCTION (GERMAN) (G)
	3-756-648-61	MANUAL, INSTRUCTION (ENGLISH/GERMAN/ RUSSIAN/POLISH) (EE)
	3-756-648-81	MANUAL, INSTRUCTION (ENGLISH) (UK)
*	4-930-835-01	CUSHION
*	4-944-049-71	INDIVIDUAL CARTON

HARDWARE LIST

#1	7-685-646-79	SCREW +BVTP 3X8 TYPE2 IT-3
#2	7-621-849-00	SCREW (BV/RING)
#3	7-685-646-81	SCREW +BVTP 3X8 TYPE2
#4	7-682-548-04	SCREW +BVTT 3X8 (S)

<p>Note: The components identified by mark △ or dotted line with mark △ are critical for safety. Replace only with part number specified.</p>	<p>Note: Les composants identifiés par une marque △ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.</p>
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