

ST-JX205L/JX220L

SERVICE MANUAL

AEP Model
UK Model

cht: valt geregeld uit.
: verbinding via
schroeven print
via kast slecht;
draad solderen.



ST-JX205L (Silver Type)

Note: ST-JX205L is an FM stereo LW/MW tuner unit in SEN-205.



ST-JX220L (Black Type)

SPECIFICATIONS

FM tuner section

Tuning range	87.5 – 108 MHz
Antenna terminals	75 ohms unbalanced 300 ohms balanced
Intermediate frequency	10.7 MHz

	(at 40 kHz deviation)
Sensitivity	at 46 dB quieting 17.3 dBf, 4 μV (mono) 38.3 dBf, 45 μV (stereo)
Usable sensitivity	10.3 dBf, 1.8 μV (IHF) 1.7 μV (S/N = 26 dB)
Signal-to-noise ratio	ST-JX205L: 74 dB (mono) 69 dB (stereo) ST-JX220L: 76 dB (mono) 71 dB (stereo)
Harmonic distortion at 1 kHz	AEP, UK model 0.2% (mono) 0.4% (stereo) G-AEP model 0.3% (mono) 0.5% (stereo)
Separation at 1 kHz	45 dB
Frequency response	40 Hz – 12.5 kHz ±0.5 dB 30 Hz – 15 kHz +0.5 dB –2.0 dB
Selectivity	at 400 kHz 55 dB (AEP, UK model) 80 dB (G-AEP model)
Image response ratio	50 dB (AEP, UK model) 80 dB (G-AEP model)
IF rejection ratio	90 dB

Capture ratio	1.0 dB
AM suppression ratio	54 dB
Spurious response ratio	70 dB
RF intermodulation	60 dB (IHF)
Output level/impedance at 75 kHz deviation	750 mV, 3.3 kilohms

AM (MW/LW) tuner section

	MW	LW
Tuning range	531 – 1,602 kHz (9 kHz step)	153 – 344 kHz
Antenna	Layout-free AM antenna, External antenna terminal	
Intermediate frequency	450 kHz	
Usable sensi- tivity	Layout-free AM antenna	300 μV/m (999 kHz) 700 μV/m (230 kHz)
	External antenna	30 μV (999 kHz) 200 μV (230 kHz)
Signal-to-noise ratio (50 mV/m)	54 dB	
Harmonic distortion (50 mV/m, 400 Hz)	0.3%	
Selectivity	35 dB (9 kHz)	

– Continued on page 2 –

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY SHADING AND 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.

FM STEREO/FM-AM TUNER
SONY®

AUD



ST-JX205L/JX220L**General****System**

FM stereo, FM/AM superheterodyne tuner
Quartz-locked digital synthesizer system

Power requirements

ST-JX220L:

AEP, G-AEP model: Operates on 220V ac,
50 Hz

UK model: Operates on 240V ac, 50 Hz

E model: Operates on 120, 220 or 240V ac,
50/60 Hz adjustable

ST-JX205L:

Taken from POWER AMPLIFIER TA-AX205.

Power consumption

ST-JX220L:

8 watts

ST-JX205L:

Taken from POWER AMPLIFIER TA-AX205.

Dimensions

Approx. 430 x 55 x 255 mm (w/h/d)

(17 x 2 $\frac{1}{4}$ x 10 $\frac{1}{8}$ inches)

including projecting parts and controls

Weight

ST-JX220L:

AEP model: 2 kg (5 lbs 2 oz)

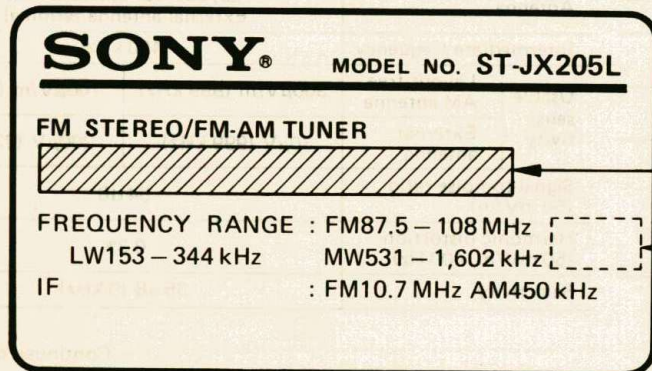
UK, E model: 2.4 kg (5 lbs 5 oz)

ST-JX205L:

2 kg (5 lbs 2 oz)

MODEL IDENTIFICATION

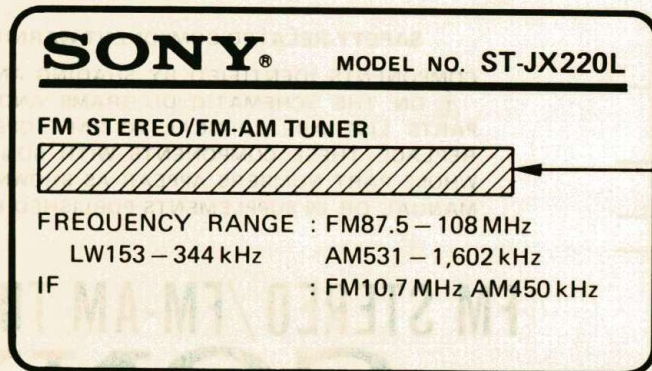
—Specification Label—

ST-JX205L model

{ AEP model: 220V ~ 50 Hz 8 W
UK model: 240V ~ 50 Hz 8 W

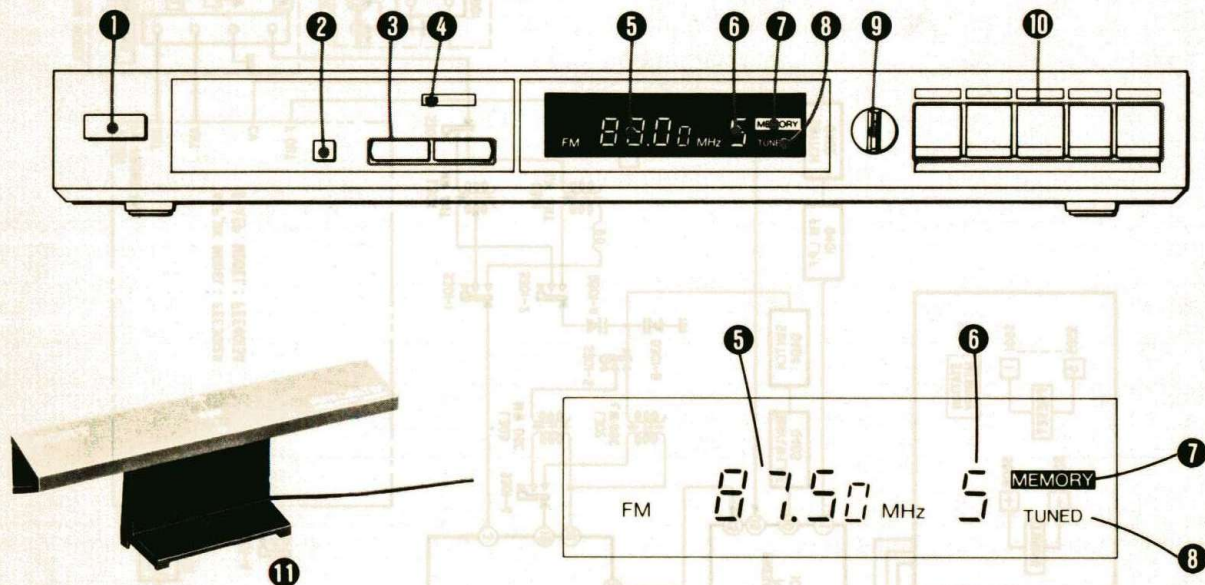
(G-AEP model)

FTZ

ST-JX220L model

{ AEP model: 220V ~ 50 Hz 8 W
UK model: 240V ~ 50 Hz 8 W

FUNCTION OF CONTROLS



1 POWER switch

2 MEMORY switch

Press to operate memory circuit. The MEMORY indicator will appear in the display window for a few seconds indicating that the memory circuit is standing by.

3 TUNING buttons

Press either button to change the frequency. Press the left button (-) to go to a lower frequency and the right button (+) to go to a higher. To change the frequency continuously until the desired frequency is received, keep the button pressed. The frequency figures will change rapidly. To change the frequency slowly, successively press and immediately release the button.

4 STEREO indicator

This indicator will light when an FM stereo program of sufficient signal strength is tuned in.

5 Band/frequency-display

Permits reading the received frequency at a glance from the figures.

6 Station preset button indicator

When the station PRESET button is pressed, a figure from 1 to 5 corresponding to the pressed button will appear.

7 MEMORY indicator

When the MEMORY switch is pressed, "MEMORY" will appear for a few seconds indicating that the memory circuit is standing by.

8 TUNED indicator

This indicator illuminates when a sufficiently strong signal is tuned in.

9 BAND selector

Selects the desired band: FM, MW or LW. The selected band will be indicated in the band/frequency-display.

10 Station PRESET buttons

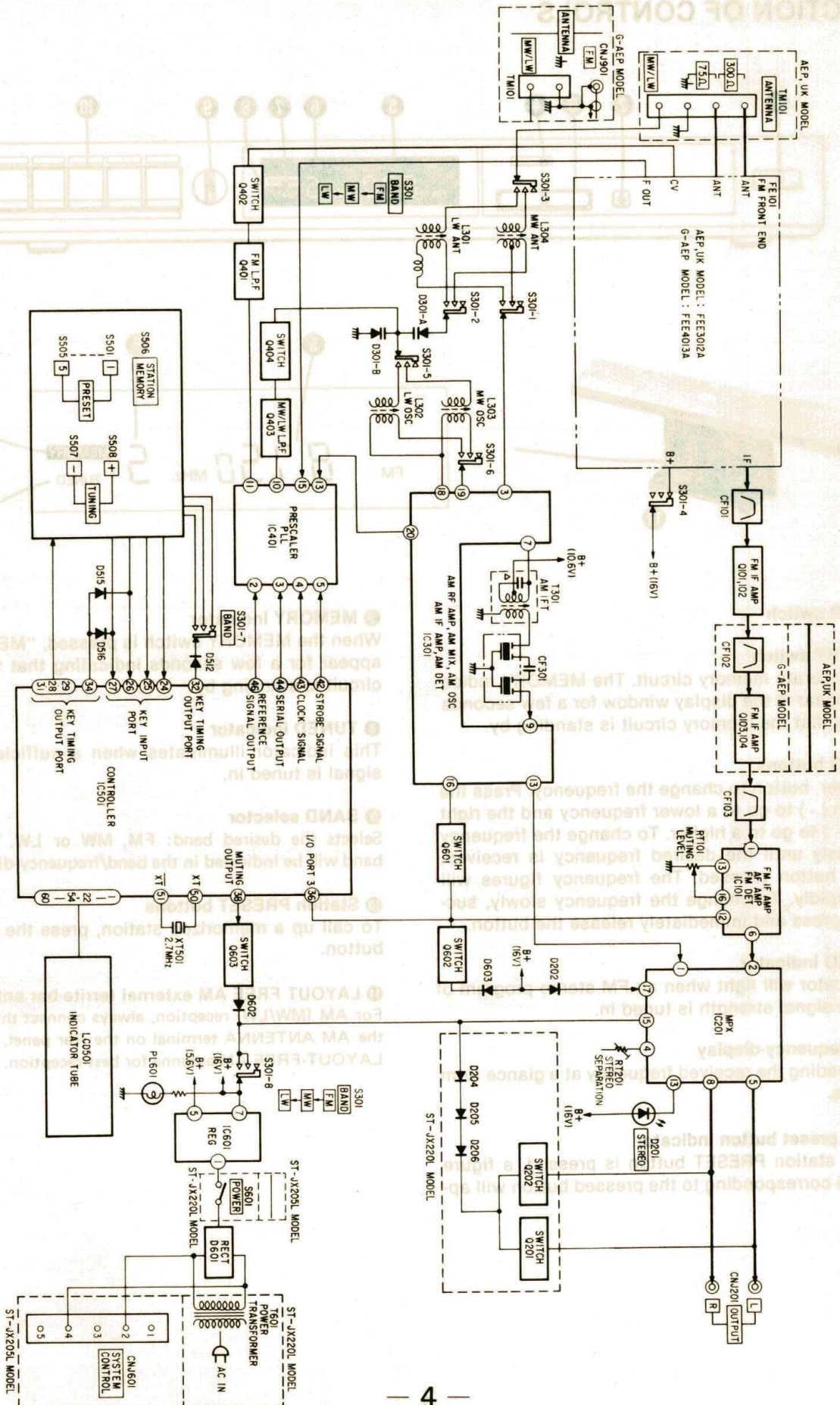
To call up a memorized station, press the appropriate button.

11 LAYOUT FREE AM external ferrite-bar antenna

For AM (MW/LW) reception, always connect this antenna to the AM ANTENNA terminal on the rear panel. Position the LAYOUT-FREE AM antenna for best reception.

SECTION 1

BLOCK DIAGRAM

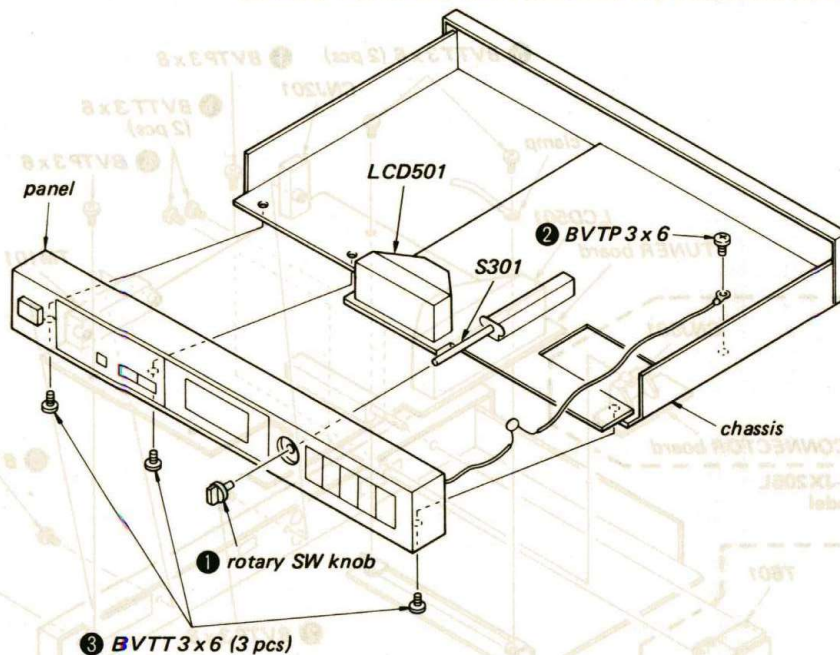


SECTION 2 DISASSEMBLY

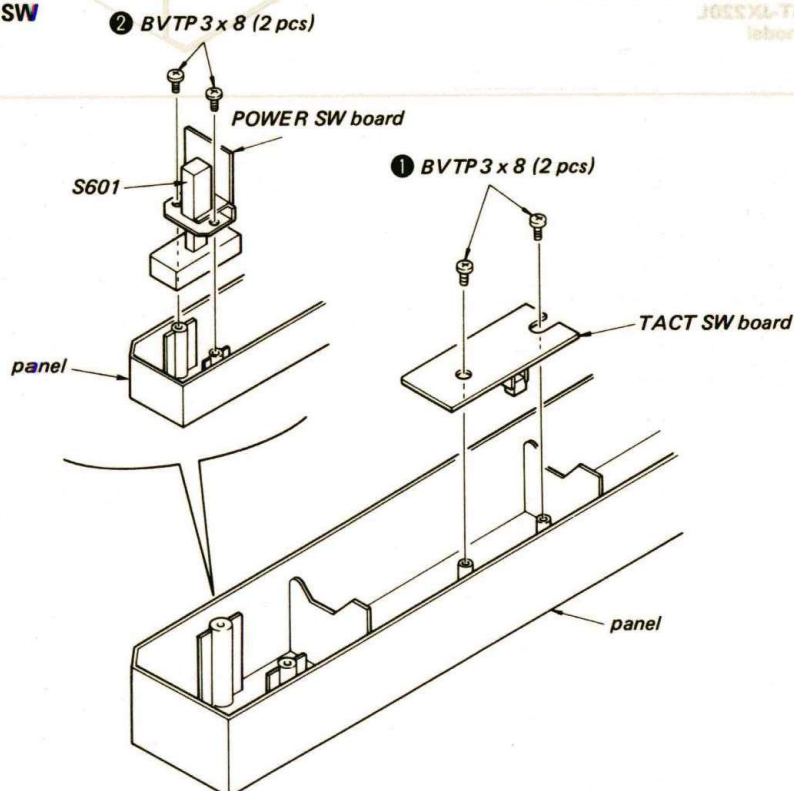
Remove the case.

- Follow the disassembly procedure in the numerical order given.

PANEL



POWER SW BOARD/TACT SW BOARD (ST-JX220L model)

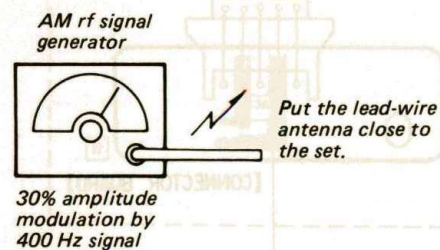


SECTION 3 ADJUSTMENTS

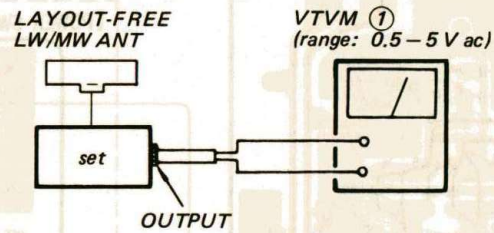
LW/MW SECTION

Setting:

Band Selector: LW/MW

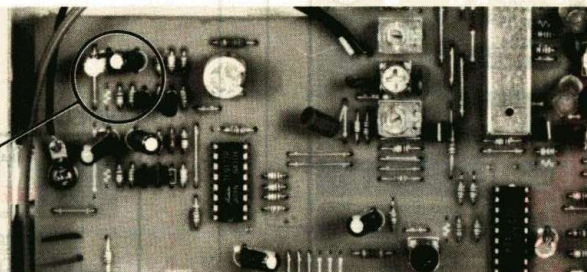


Note:
Tracking adjustment of LW section should be made earlier than that of MW section.



- Repeat the procedures in each adjustment several times, and the frequency coverage and tracking adjustments should be finally done by the trimmer capacitors.

— tuner board —

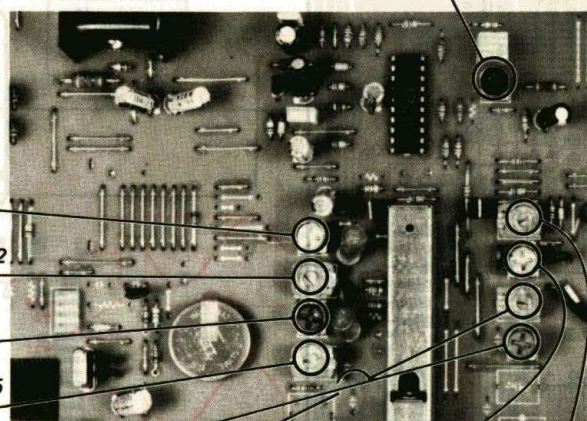


AM IF ADJUSTMENT

Adjust for a maximum reading on VTVM ①.

450 kHz T301

— tuner board —



L304	CT304	L301	CT301
603 kHz	1,404 kHz	170 kHz	310 kHz
Adjust for a maximum reading on VTVM ①.		Adjust for a maximum reading on VTVM ①.	
MW TRACKING ADJUSTMENT		LW TRACKING ADJUSTMENT	

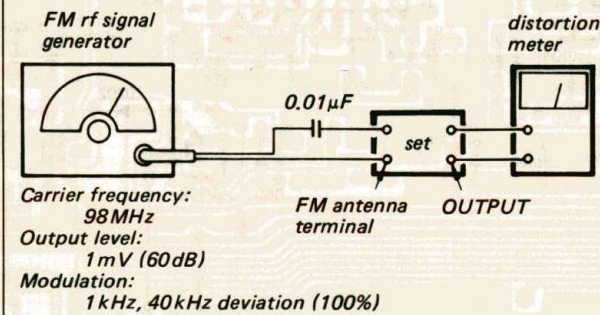
The FM front-end is carefully adjusted at the factory and is supplied as one whole block for replacement.

FM SECTION

FM Discriminator Alignment

Note: Repeat the secondary-side and primary-side adjustments several times.
For step 3, adjust after removing VOM.

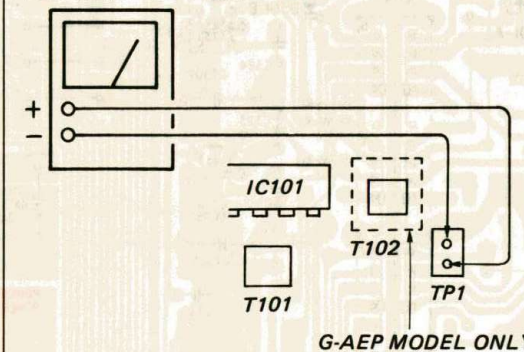
Procedure:



- Tune the set to 98 MHz.
- Connect a VOM to NULL test point (TP1) and adjust the primary-side core of T101 for 0 V DC reading on the VOM.
- Adjust the secondary-side core T102 for a minimum reading on the distortion meter.

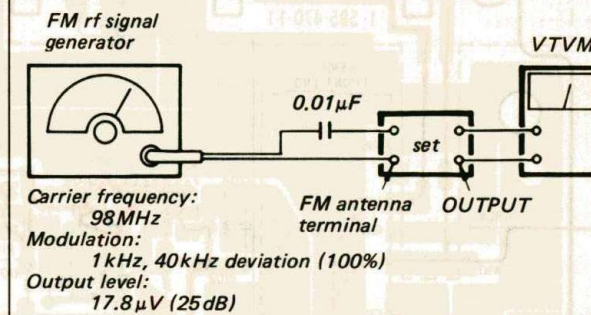
G-AEP model only

VOM (range: 2.5 V DC)



FM Muting Level Adjustment

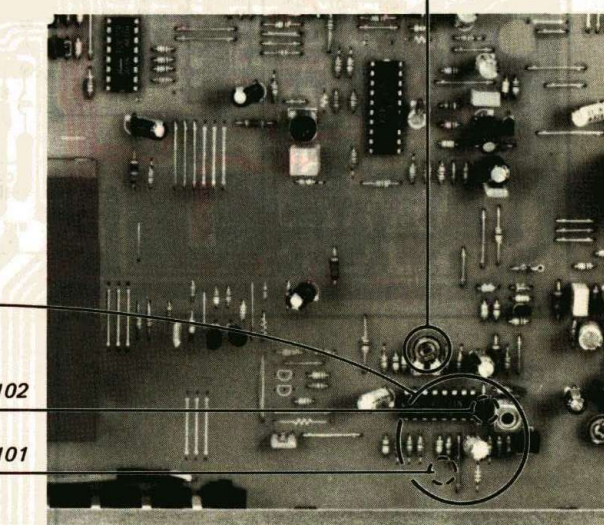
Procedure:



- Tune the set to 98 MHz by pressing the TUNING switches.
- Adjust RT101 for a 0 V reading on the VTVM.

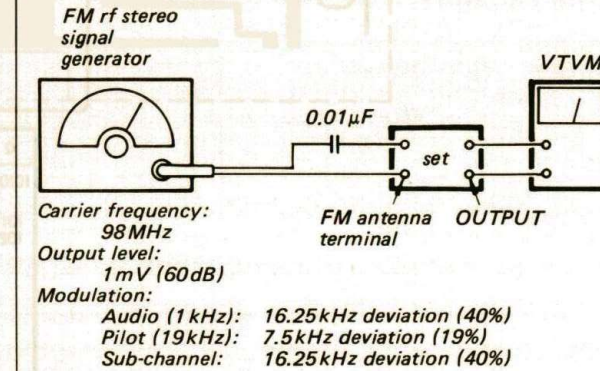
RT101

— tuner board —



FM Stereo Separation Adjustment

Procedure:

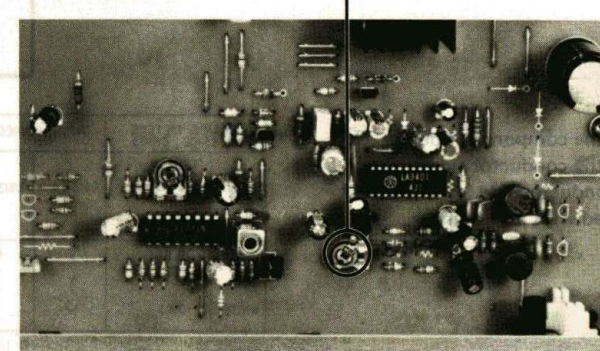


FM stereo signal generator output channel	VTVM connection	VTVM reading (dB)
L-CH	L-CH	Ⓐ
R-CH	L-CH	Ⓑ [Ⓐ] Adjust RT201 for minimum reading.
R-CH	R-CH	Ⓒ
L-CH	R-CH	Ⓓ [Ⓒ] Adjust RT201 for minimum reading.

L-CH Stereo separation: Ⓐ - Ⓑ[Ⓐ]
R-CH Stereo separation: Ⓒ - Ⓓ[Ⓒ]

The separations of both channels should be equal.

— tuner board —



FM
MW
LW
BAND

O : CONNECTED
X : NOT CONNECTED

O : CONNECTED
X : NOT CONNECTED

SECTION 5

EXPLODED VIEWS AND PARTS LIST

NOTE:

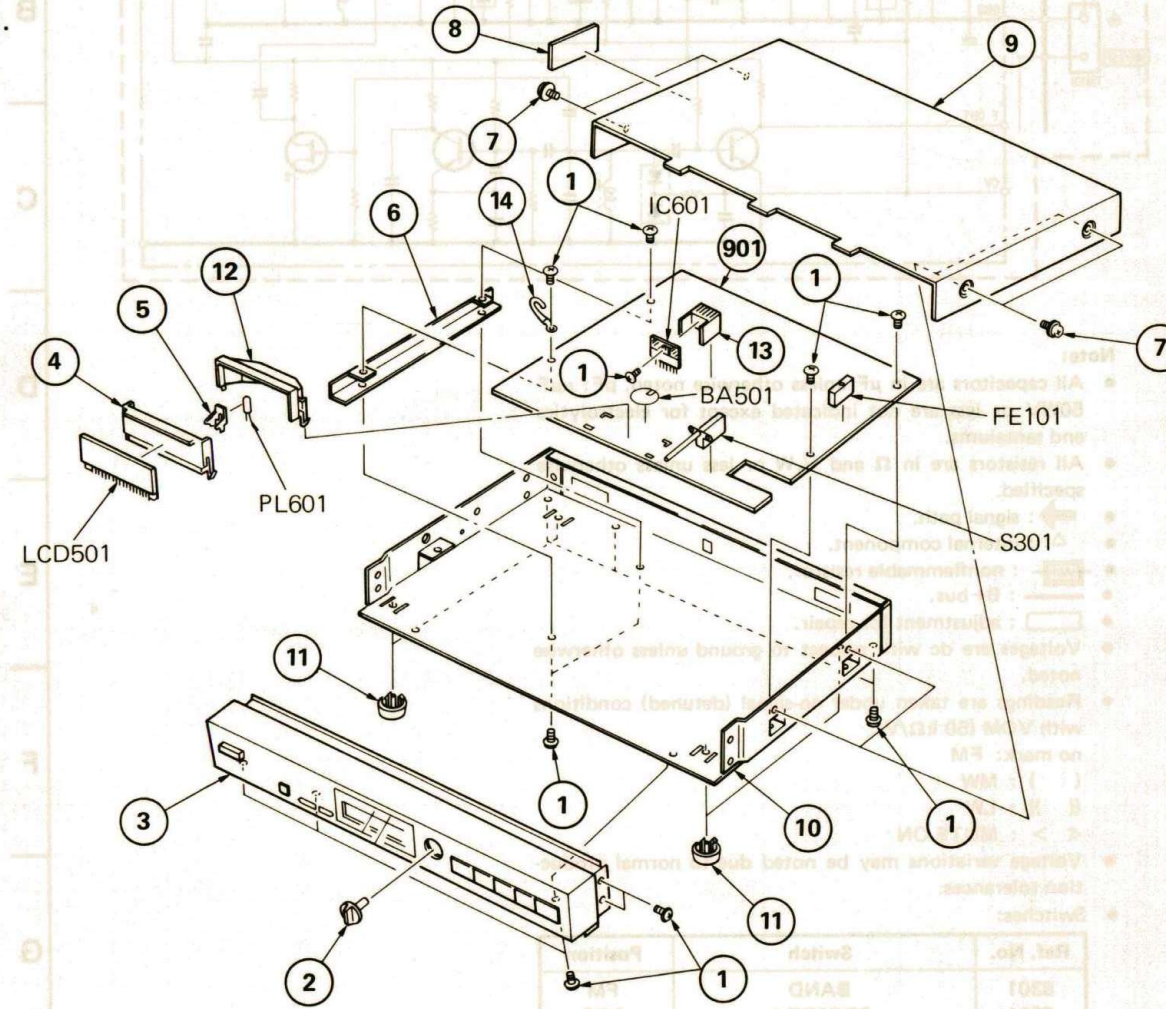
The mechanical parts with no reference number in the exploded views are not supplied.

Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

The construction parts of an assembled part are indicated with a collation number in the remark column.

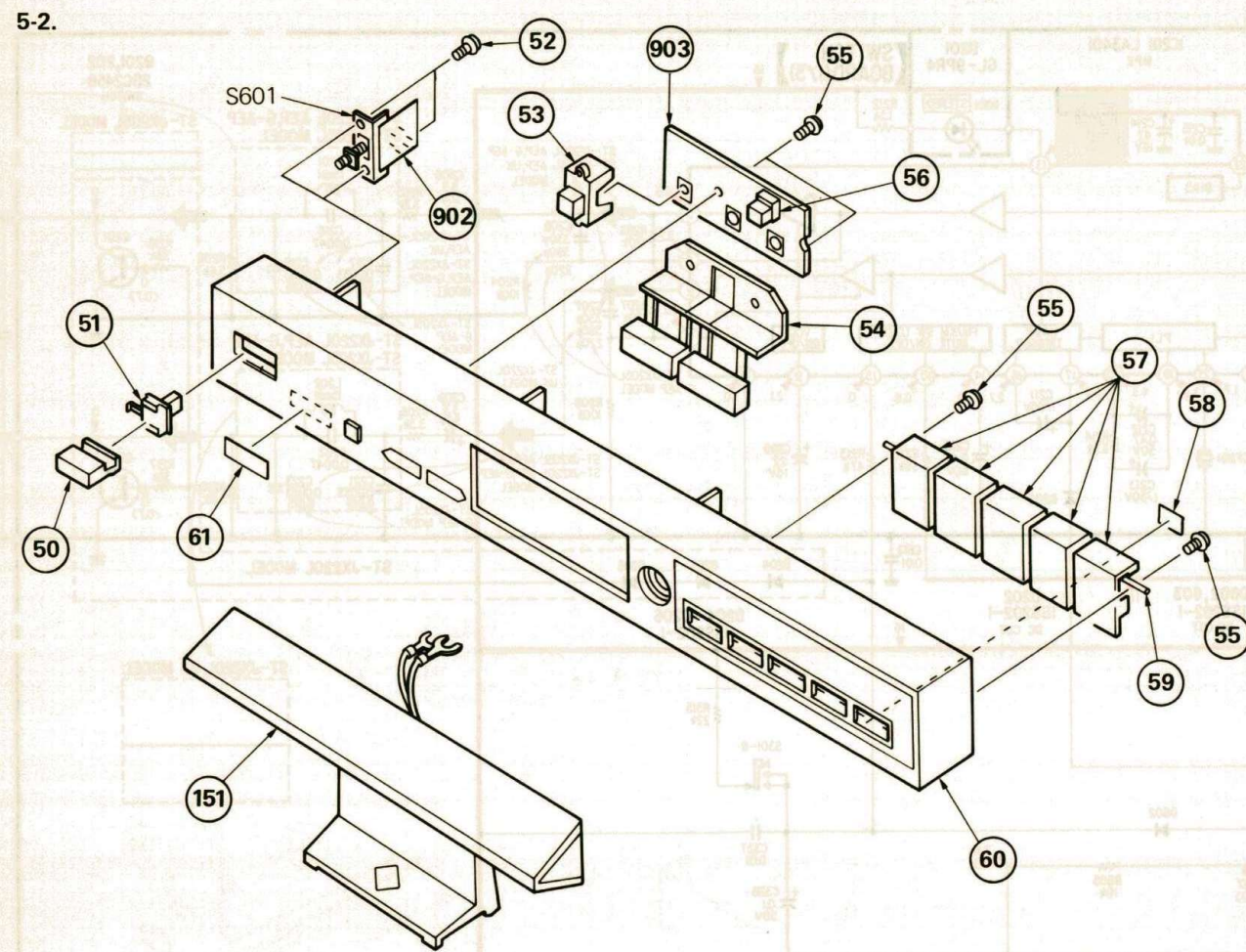
The components identified by shading and mark  are critical for safety. Replace only with part number specified.

5-1.



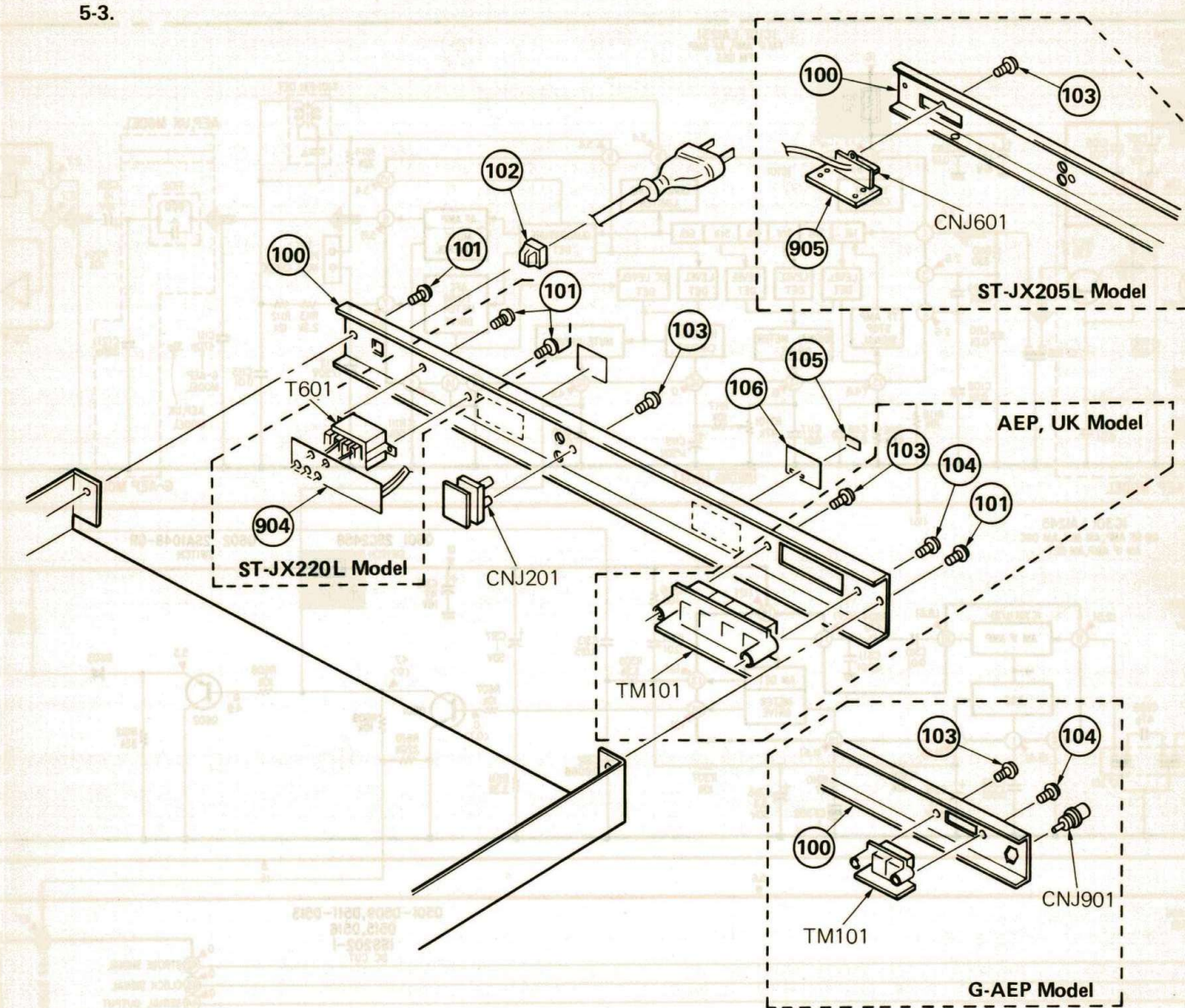
No.	Part No.	Description	REMARKS	No.	Part No.	Description	REMARKS
1	7-685-871-01	SCREW +BVT 3X6 (S)		9	4-904-548-01	(JAPAN MADE ONLY:SILVER)....CASE	
2	4-884-847-11	(BLACK)....KNOB (ST), ROTARY SWITCH		10	4-904-548-11	(JAPAN MADE ONLY:BLACK)....CASE	
3	4-884-847-61	(SILVER)....KNOB (ST), ROTARY SWITCH		11	4-904-548-21	(FRANCE MADE ONLY:SILVER)....CASE	
4	X-4904-514-1	(ST-JX220L:SILVER)....PANEL (A) ASSY		12	4-904-548-31	(FRANCE MADE ONLY:BLACK)....CASE	
5	X-4904-515-1	(ST-JX220L:BLACK)....PANEL (A) ASSY		13	4-904-481-31	(ST-JX220L:AEP)....CHASSIS	
6	X-4904-509-1	(ST-JX205L:SILVER)....PANEL (B) ASSY		14	X-3701-069-0	FOOT ASSY, M.F	
7	X-4904-510-1	(ST-JX205L:BLACK)....PANEL (B) ASSY		15	*4-904-515-01	HOUSE, LAMP	
8	*4-904-514-01	ILLUMINATOR		16	*4-904-146-11	(ST-JX205L)....HEAT SINK, V OUT	
9	*4-904-507-01	BLIND, LAMP		17	*4-904-545-01	(ST-JX220L)....HEAT SINK	
10	*4-904-479-01	FRAME (S)		18	3-701-748-00	(ST-JX220L)....CLAMP	
11	4-889-321-01	(SILVER)....SCREW		19	*A-4351-429-A	(ST-JX220L:AEP)....MOUNTED PCB, TUNER	
12	4-889-321-11	(BLACK)....SCREW		20	*A-4351-430-A	(ST-JX220L:G-AEP)....MOUNTED PCB, TUNER	
13	3-703-079-21	(ST-JX220L:UK)....LABEL, CAUTION (BACK)		21	*A-4351-431-A	(ST-JX220L:UK)....MOUNTED PCB, TUNER	
14				22	*A-4351-434-A	(ST-JX205L:AEP)....MOUNTED PCB, TUNER	
15				23	*A-4351-435-A	(ST-JX205L:G-AEP)....MOUNTED PCB, TUNER	
16				24	*A-4351-436-A	(ST-JX205L:UK)....MOUNTED PCB, TUNER	

5-2.



No.	Part No.	Description	REMARKS	No.	Part No.	Description	REMARKS
50	3-318-911-01	(ST-JX220L:SILVER)....KNOB(POWER.L), T MOLD		58	3-831-441-XX	SEAL, MICROPHONE	
51	3-318-911-11	(ST-JX220L:BLACK)....KNOB(POWER.L), T MOLD		59	*4-904-458-11	SHAFT	
52	*4-902-831-01	(ST-JX220L)....JOINT (G), KNOB		60	X-4904-514-1	(ST-JX220L:SILVER)....PANEL (A) ASSY	
53	7-685-646-71	SCREW +BVT 3X8 TYPE2 N-S		61	X-4904-509-1	(ST-JX205L:SILVER)....PANEL (B) ASSY	
54	4-904-547-01	KNOB (B), CONTORL		62	X-4904-510-1	(ST-JX205L:BLACK)....PANEL (B) ASSY	
55	4-904-546-01	KNOB (A), CONTORL		63	X-4904-515-1	(ST-JX220L:BLACK)....PANEL (A) ASSY	
56	7-685-647-14	SCREW +BVT 3X10 TYPE2 N-S		64	3-701-690-01	(ST-JX220L:UK)....LABEL (MADE IN JAPAN)	
57	*4-904-475-01	HOLDER, LED		65	*1-615-423-11	(ST-JX220L)....PC BOARD, POWER SWITCH	
58	4-904-462-21	(SILVER)....KNOB (PUSH D), T		66	*1-615-422-11	PC BOARD, TACT	
59	4-904-462-31	(BLACK)....KNOB (PUSH D), T					

5-3.



No.	Part No.	Description	REMARKS	No.	Part No.	Description	REMARKS
100	*4-904-537-11	(JAPAN MADE ONLY(ST-JX220L:AEP))		101	7-685-871-01	SCREW +BVT 3X6 (S)	
	*4-904-552-01	(FRANCE MADE ONLY(ST-JX220L:AEP))		102	3-703-244-00	(ST-JX220L)....BUSHING (2104), CORD	
				103	7-685-646-71	SCREW +BVT 3X8 TYPE2 N-S	
				104	3-703-473-00	SCREW, TERMINAL	
				105	4-302-759-00	LABEL, SERIAL NUMBER	
				106	*4-904-581-01	(ST-JX220L:AEP)....LABEL, MODEL NUMBER	
				107	*1-615-425-11	(ST-JX220L)....PC BOARD, TRANSLATION	
				108	*1-615-424-11	(ST-JX205L)....PC BOARD, CONNECTOR	

SECTION 6

ELECTRICAL PARTS LIST

NOTE:

Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

If there are two or more same circuits in a set such as a stereophonic machine, only typical circuit parts may be indicated and capacitors and resistors in other same circuits may be omitted.

CAPACITORS:
MF:μF, PF:μμF.

RESISTORS
All resistors are in ohms.
F : nonflammable

COILS
MMH : mH, UH : μH

SEMICONDUCTORS

In each case, U : μ, for example:
UA....: μA...., UPA....: μPA...., UPC....: μPC,
UPD....: μPD....

The components identified by shading and mark  are critical for safety. Replace only with part number specified.

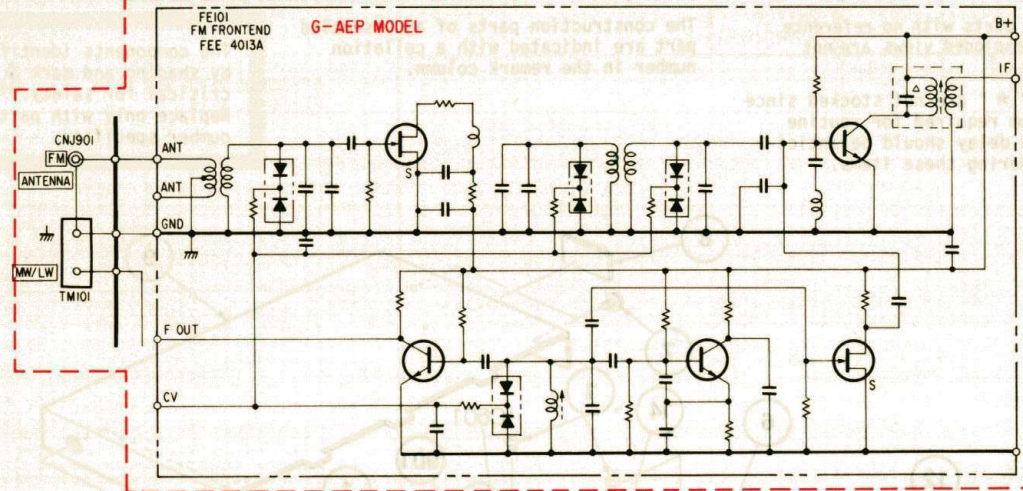
ELECTRICAL PARTS

Ref.No.	Part No.	Description			
901	*A-4351-429-A	(ST-JX220L:AEP)....MOUNTED PCB, TUNER			
	*A-4351-430-A	(ST-JX220L:G-AEP)....MOUNTED PCB, TUNER			
	*A-4351-431-A	(ST-JX220L:UK)....MOUNTED PCB, TUNER			
	*A-4351-434-A	(ST-JX205L:AEP)....MOUNTED PCB, TUNER			
	*A-4351-435-A	(ST-JX205L:G-AEP)....MOUNTED PCB, TUNER			
	*A-4351-436-A	(ST-JX205L:UK)....MOUNTED PCB, TUNER			
902	*1-615-423-11	(ST-JX220L)....PC BOARD, POWER SWITCH			
903	*1-615-422-11	PC BOARD, TACT			
904	*1-615-425-11	(ST-JX220L)....PC BOARD, TRANSLATION			
905	*1-615-424-11	(ST-JX205L)....PC BOARD, CONNECTOR			
906	*1-535-114-31	(ST-JX205L:G-AEP)....TERMINAL			
907	*1-560-060-00	PIN, CONNECTOR 2P			
908	*1-560-062-00	PIN, CONNECTOR 4P			
909	 1-551-427-11	(ST-JX220L:AEP, G-AEP)....CORD, POWER, EURO PLUG			
909	 1-556-560-00	(ST-JX220L:UK)....CORD, POWER			
BA501	1-528-120-00	BATTERY, LITHIUM (CR-2025)			
C101	1-162-306-31	CERAMIC 0.01MF	20%	16V	
C102	1-162-306-31	CERAMIC 0.01MF	20%	16V	
C103	1-123-321-00	ELECT 220MF	20%	16V	
C104	1-162-207-31	CERAMIC 22PF	5%	50V	
C105	1-162-306-31	CERAMIC 0.01MF	20%	16V	
C106	1-162-306-31	CERAMIC 0.01MF	20%	16V	
C107	1-123-356-00	ELECT 10MF	20%	16V	
C108	1-162-306-31	CERAMIC 0.01MF	20%	16V	
C109	1-162-306-31	CERAMIC 0.01MF	20%	16V	
C110	1-162-306-31	CERAMIC 0.01MF	20%	16V	
C111	1-162-211-31	(AEP, UK)....CERAMIC 33PF	5%	50V	
C111	1-162-290-00	(G-AEP)....CERAMIC 470PF	10%	50V	
C112	1-123-380-00	ELECT 1MF	20%	50V	
C113	1-162-306-31	CERAMIC 0.01MF	20%	16V	
C114	1-123-332-00	ELECT 47MF	20%	16V	
C115	1-162-306-31	CERAMIC 0.01MF	20%	16V	
C116	1-162-306-31	CERAMIC 0.01MF	20%	16V	
C117	1-162-306-31	CERAMIC 0.01MF	20%	16V	
C118	1-162-306-31	CERAMIC 0.01MF	20%	16V	
C119	1-123-380-00	ELECT 1MF	20%	50V	
C120	1-162-306-00	(G-AEP)....CERAMIC 0.01MF	20%	16V	
C121	1-162-286-00	(G-AEP)....CERAMIC 220PF	10%	50V	
C201	1-123-356-00	ELECT 10MF	20%	16V	
C202	1-162-288-31	CERAMIC 330PF	10%	50V	
C203	1-101-006-00	CERAMIC 0.047MF	50V		
C204	1-123-356-00	ELECT 10MF	20%	16V	
C205	1-162-286-00	(ST-JX205L:G-AEP)....CERAMIC 220PF	10%	50V	
C205	1-162-288-31	(ST-JX205L:AEP, UK/ST-JX220L:AEP, G-AEP)....CERAMIC 330PF	10%	50V	
C205	1-162-289-00	(ST-JX220L:UK)....CERAMIC 390PF	10%	50V	

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
C206	1-123-382-00	ELECT 3.3MF	20%	50V	
C207	1-162-286-00	(ST-JX205L:G-AEP)....CERAMIC 220PF	10%	50V	
C207	1-162-288-31	(ST-JX205L:AEP, UK/ST-JX220L:AEP, G-AEP)....CERAMIC 330PF	10%	50V	
C207	1-162-289-00	(ST-JX220L:UK)....CERAMIC 390PF	10%	50V	
C208	1-123-382-00	ELECT 3.3MF	20%	50V	
C209	1-123-330-00	ELECT 22MF	20%	16V	
C210	1-123-379-00	ELECT 0.47MF	20%	50V	
C211	1-123-380-00	ELECT 1MF	20%	50V	
C212	1-123-379-00	ELECT 0.47MF	20%	50V	
C213	1-123-380-00	ELECT 1MF	20%	50V	
C214	1-123-332-00	ELECT 47MF	20%	16V	
C215	1-162-306-31	CERAMIC 0.01MF	20%	16V	
C217	1-106-184-00	(ST-JX205L:AEP, UK/ST-JX220L:AEP, G-AEP)....MYLAR 0.0033MF	5%	50V	
C217	1-108-240-00	(ST-JX205L:G-AEP)....MYLAR 0.015MF	10%	50V	
C218	1-106-188-00	(ST-JX205L/ST-JX220L:AEP, G-AEP)....MYLAR 0.0047MF	5%	50V	
C219	1-106-184-00	(ST-JX205L:AEP, UK/ST-JX220L:AEP, G-AEP)....MYLAR 0.0033MF	5%	50V	
C219	1-108-240-00	(ST-JX205L:G-AEP)....MYLAR 0.015MF	10%	50V	
C221	1-106-184-00	(ST-JX205L:AEP, UK/ST-JX220L:AEP, G-AEP)....MYLAR 0.0033MF	5%	50V	
C221	1-108-240-00	(ST-JX205L:G-AEP)....MYLAR 0.015MF	10%	50V	
C222	1-106-188-00	(ST-JX205L/ST-JX220L:AEP, G-AEP)....MYLAR 0.0047MF	5%	50V	
C223	1-106-184-00	(ST-JX205L:AEP, UK/ST-JX220L:AEP, G-AEP)....MYLAR 0.0033MF	5%	50V	
C223	1-108-240-00	(ST-JX205L:G-AEP)....MYLAR 0.015MF	10%	50V	
C224	1-102-074-00	(ST-JX205L:G-AEP)....CERAMIC 0.001MF	10%	50V	
C225	1-102-074-00	(ST-JX205L:G-AEP)....CERAMIC 0.001MF	10%	50V	
C301	1-162-306-31	CERAMIC 0.01MF	20%	16V	
C302	1-102-803-00	CERAMIC 27PF	5%	50V	
C303	1-162-294-31	CERAMIC 0.001MF	10%	50V	
C304	1-101-006-00	CERAMIC 0.047MF	50V		
C305	1-162-306-31	CERAMIC 0.01MF	20%	16V	
C306	1-162-306-31	CERAMIC 0.01MF	20%	16V	
C307	1-162-306-31	CERAMIC 0.01MF	20%	16V	
C308	1-123-356-00	ELECT 10MF	20%	16V	
C309	1-162-215-31	CERAMIC 47PF	5%	50V	
C310	1-162-306-31	CERAMIC 0.01MF	20%	16V	
C311	1-162-294-31	CERAMIC 0.001MF	10%	50V	
C312	1-162-305-31	CERAMIC 0.0068MF	20%	16V	
C313	1-108-240-00	MYLAR 0.015MF	10%	50V	

26	27	28	29
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- **Switches:**

Ref. No.	Switch	Position
S301	BAND	FM
S501	PRESET 1	OFF
S502	PRESET 2	OFF
S503	PRESET 3	OFF
S504	PRESET 4	OFF
S505	PRESET 5	OFF
S506	MEMORY	OFF
S507	TUNING -	OFF
S508	TUNING +	OFF
S601	POWER SWITCH	OFF

Note: The components identified by shading and mark  are critical for safety. Replace only with part number specified.

ELECTRICAL PARTS

Ref.No.	Part No.	Description	Ref.No.	Part No.	Description
C314	1-162-306-31	CERAMIC	0.01MF	20%	16V
C315	1-123-332-00	ELECT	47MF	20%	16V
C316	1-123-382-00	ELECT	3.3MF	20%	50V
C317	1-123-380-00	ELECT	1MF	20%	50V
C318	1-123-369-00	ELECT	4.7MF	20%	50V
C319	1-123-369-00	ELECT	4.7MF	20%	50V
C320	1-162-306-31	CERAMIC	0.01MF	20%	16V
C321	1-162-306-31	CERAMIC	0.01MF	20%	16V
C322	1-162-199-31	CERAMIC	10PF	5%	50V
C323	1-102-761-00	CERAMIC	75PF	5%	50V
C324	1-103-707-00	POLYSTYRENE	180PF	5%	50V
C325	1-162-306-31	CERAMIC	0.01MF	20%	16V
C326	1-123-607-00	ELECT	0.1MF	20%	50V
C327	1-162-306-31	CERAMIC	0.01MF	20%	16V
C330	1-102-120-00	CERAMIC	0.0018MF	10%	50V
C331	1-162-295-00	CERAMIC	0.0015MF	30%	16V
C332	1-102-261-00	CERAMIC	8PF	10%	50V
C333	1-104-069-00	POLYSTYRENE	470PF	5%	50V
C401	1-124-184-00	ELECT	3.3MF	20%	50V
C402	1-123-381-00	ELECT	2.2MF	20%	50V
C403	1-162-294-31	CERAMIC	0.001MF	10%	50V
C404	1-162-306-31	CERAMIC	0.01MF	20%	16V
C405	1-123-356-00	ELECT	10MF	20%	16V
C406	1-162-306-31	CERAMIC	0.01MF	20%	16V
C407	1-162-306-31	CERAMIC	0.01MF	20%	16V
C408	1-123-321-00	ELECT	220MF	20%	16V
C409	1-124-184-00	ELECT	3.3MF	20%	50V
C410	1-123-380-00	ELECT	1MF	20%	50V
C501	1-101-004-00	CERAMIC	0.01MF	20%	50V
C502	1-162-306-31	CERAMIC	0.01MF	20%	16V
C503	1-102-852-00	CERAMIC	47PF	5%	50V
C504	1-102-852-00	CERAMIC	47PF	5%	50V
C505	1-162-306-31	CERAMIC	0.01MF	20%	16V
C506	1-123-332-00	ELECT	47MF	20%	16V
C601	1-101-004-00	CERAMIC	0.01MF	20%	50V
C602	1-101-004-00	CERAMIC	0.01MF	20%	50V
C603	1-101-004-00	CERAMIC	0.01MF	20%	50V
C604	1-101-004-00	CERAMIC	0.01MF	20%	50V
C605	1-101-004-00	CERAMIC	0.01MF	20%	50V
C606	1-123-349-00	ELECT	1000MF	20%	35V
C607	1-123-380-00	ELECT	1MF	20%	50V
C608	1-123-369-00	ELECT	4.7MF	20%	50V
C609	1-123-369-00	ELECT	4.7MF	20%	50V
C610	1-162-199-31	CERAMIC	10PF	5%	50V
C611	1-162-296-00	(ST-JX205L:G-AEP)...CERAMIC	0.0022MF	30%	16V

ELECTRICAL PARTS

Ref.No.	Part No.	Description	Ref.No.	Part No.	Description
CF101	1-527-968-71	(ST-JX205L:AEP,UK)...FILTER, CERAMIC	CF101	1-567-389-71	(ST-JX205L:G-AEP/ST-JX220L)
CF101	1-567-389-71	(ST-JX205L:G-AEP/ST-JX220L)	CF102	1-567-389-71	(G-AEP)...FILTER, CERAMIC
CF102	1-567-389-71	(G-AEP)...FILTER, CERAMIC	CF103	1-527-968-71	(ST-JX205L:AEP,UK)...FILTER, CERAMIC
CF103	1-567-389-71	(ST-JX205L:G-AEP/ST-JX220L)	CF103	1-567-389-71	(ST-JX205L:G-AEP/ST-JX220L)
CF201	1-567-250-11	OSCILLATOR, CERAMIC	CF301	1-527-937-00	FILTER, CERAMIC
CF301	1-527-937-00	FILTER, CERAMIC	CF302	1-527-981-00	FILTER, CERAMIC
CNJ201	1-507-807-00	JACK, PIN 2P (OUTPUT L/R)	CNJ601	1-562-067-00	(ST-JX205L)...SOCKET, CONNECTOR 5P
CNJ601	1-562-067-00	(ST-JX205L)...SOCKET, CONNECTOR 5P	CNJ901	1-561-919-00	(G-AEP)...SOCKET, CONNECTOR (FM)
CT301	1-141-171-00	CAP, TRIMMER 20P	CT302	1-141-171-00	CAP, TRIMMER 20P
CT302	1-141-171-00	CAP, TRIMMER 20P	CT304	1-141-180-00	CAP, TRIMMER 15P
CT304	1-141-180-00	CAP, TRIMMER 15P	CT305	1-141-180-00	CAP, TRIMMER 15P
D201	8-719-919-04	DIODE GL-9PR4	D202	8-719-107-94	DIODE 1SS202-1
D202	8-719-107-94	DIODE 1SS202-1	D204	8-719-107-94	(ST-JX220L)...DIODE 1SS202-1
D205	8-719-107-94	(ST-JX220L)...DIODE 1SS202-1	D206	8-719-107-94	(ST-JX220L)...DIODE 1SS202-1
D301	8-719-902-79	DIODE KVI236Z	D501	8-719-107-94	DIODE 1SS202-1
D501	8-719-107-94	DIODE 1SS202-1	D502	8-719-107-94	DIODE 1SS202-1
D502	8-719-107-94	DIODE 1SS202-1	D503	8-719-107-94	DIODE 1SS202-1
D504	8-719-107-94	DIODE 1SS202-1	D505	8-719-107-94	DIODE 1SS202-1
D505	8-719-107-94	DIODE 1SS202-1	D507	8-719-107-94	DIODE 1SS202-1
D512	8-719-107-94	DIODE 1SS202-1	D513	8-719-107-94	DIODE 1SS202-1
D515	8-719-107-94	DIODE 1SS202-1	D516	8-719-107-94	DIODE 1SS202-1
D517	8-719-107-94	DIODE 1SS202-1	D518	8-719-107-94	DIODE 1SS202-1
D601	8-719-511-20	DIODE S1V820	D602	8-719-107-94	DIODE 1SS202-1
D602	8-719-107-94	DIODE 1SS202-1	D603	8-719-107-94	DIODE 1SS202-1
FE101	1-463-609-11	(AEP,UK)...FRONT END, FM (FEE-3012A)	FE101	1-463-611-11	(G-AEP)...FRONT END, FM (FEE-4013A)
IC101	8-759-812-31	IC LA1231	IC201	8-759-801-80	IC LA3401
IC201	8-759-801-80	IC LA3401	IC301	8-759-812-45	IC LA1245
IC401	8-759-202-63	IC TC9172P	IC501	8-759-204-24	IC TC9302F-005
IC501	8-759-204-24	IC TC9302F-005	IC601	8-759-801-79	IC LA5665

ELECTRICAL PARTS

Ref.No.	Part No.	Description
L201	1-408-259-00	(ST-JX205L:G-AEP)...MICRO INDUCTOR 15MMH
L201	1-408-926-00	(ST-JX205L:AEP,UK/ST-JX220L:AEP,G-AEP) ...MICRO INDUCTOR 15MMH
L202	1-408-259-00	(ST-JX205L:G-AEP)...MICRO INDUCTOR 15MMH
L202	1-408-926-00	(ST-JX205L:AEP,UK/ST-JX220L:AEP,G-AEP) ...MICRO INDUCTOR 15MMH
L301	1-402-071-11	COIL (ANT)
L302	1-406-090-11	COIL (OSC)
L304	1-402-069-11	COIL (ANT)
L305	1-408-579-00	(ST-JX205L/ST-JX220L:AEP,G-AEP) ...MICRO INDUCTOR 220UH
L306	1-406-089-11	COIL (OSC)
LCD501	1-806-874-11	INDICATOR, L-CRYSTAL LT5056
PL601	1-518-511-00	LAMP, PILOT
Q101	8-729-266-93	TRANSISTOR 2SC2669
Q102	8-729-266-93	TRANSISTOR 2SC2669
Q103	8-729-266-93	(G-AEP)...TRANSISTOR 2SC2669
Q104	8-729-266-93	(G-AEP)...TRANSISTOR 2SC2669
Q201	8-729-245-83	(ST-JX220L)...TRANSISTOR 2SC2458
Q202	8-729-245-83	(ST-JX220L)...TRANSISTOR 2SC2458
Q401	8-729-202-67	TRANSISTOR 2SK246-GR3
Q402	8-729-245-83	TRANSISTOR 2SC2458
Q403	8-729-202-67	TRANSISTOR 2SK246-GR3
Q404	8-729-245-83	TRANSISTOR 2SC2458
Q601	8-729-245-83	TRANSISTOR 2SC2458
Q602	8-729-205-83	TRANSISTOR 2SA1048-GR
Q603	8-729-245-83	TRANSISTOR 2SC2458
R101	1-247-115-00	CARBON 220 5% 1/4W F
R102	1-247-815-00	CARBON 220 5% 1/6W
R103	1-247-809-00	CARBON 120 5% 1/6W
R104	1-247-819-00	CARBON 330 5% 1/6W
R105	1-247-861-00	CARBON 18K 5% 1/6W
R106	1-247-825-00	CARBON 560 5% 1/6W
R107	1-247-819-00	CARBON 330 5% 1/6W
R108	1-247-865-00	CARBON 27K 5% 1/6W
R109	1-247-111-00	CARBON 150 5% 1/4W F
R110	1-247-819-00	CARBON 330 5% 1/6W
R111	1-247-873-00	CARBON 56K 5% 1/6W
R112	1-247-857-00	CARBON 12K 5% 1/6W
R113	1-247-839-00	CARBON 2.2K 5% 1/6W
R114	1-247-863-00	CARBON 22K 5% 1/6W
R115	1-247-111-00	CARBON 150 5% 1/4W F
R116	1-247-879-00	CARBON 100K 5% 1/6W
R117	1-247-855-00	CARBON 10K 5% 1/6W
R118	1-247-855-00	CARBON 10K 5% 1/6W
R119	1-247-819-00	(G-AEP)...CARBON 330 5% 1/6W

ELECTRICAL PARTS

Ref.No.	Part No.	Description
R120	1-247-861-00	(G-AEP)...CARBON 18K 5% 1/6W
R121	1-247-829-00	(G-AEP)...CARBON 820 5% 1/6W
R122	1-247-819-00	(G-AEP)...CARBON 330 5% 1/6W
R123	1-247-865-00	(G-AEP)...CARBON 27K 5% 1/6W
R201	1-247-855-00	CARBON 10K 5% 1/6W
R202	1-247-831-00	CARBON 1K 5% 1/6W
R203	1-247-881-00	CARBON 120K 5% 1/6W
R204	1-247-879-00	CARBON 100K 5% 1/6W
R205	1-247-843-00	CARBON 3.3K 5% 1/6W
R206	1-247-849-00	CARBON 5.6K 5% 1/6W
R207	1-247-881-00	CARBON 120K 5% 1/6W
R208	1-247-879-00	CARBON 100K 5% 1/6W
R209	1-247-843-00	CARBON 3.3K 5% 1/6W
R210	1-247-849-00	CARBON 5.6K 5% 1/6W
R211	1-247-873-00	CARBON 56K 5% 1/6W
R212	1-247-135-00	CARBON 1.5K 5% 1/4W
R213	1-247-871-00	CARBON 47K 5% 1/6W
R214	1-247-843-00	CARBON 3.3K 5% 1/6W
R215	1-247-111-00	CARBON 150 5% 1/4W F
R216	1-247-867-00	(ST-JX220L)...CARBON 33K 5% 1/6W
R217	1-247-867-00	(ST-JX220L)...CARBON 33K 5% 1/6W
R301	1-247-855-00	CARBON 10K 5% 1/6W
R302	1-247-839-00	CARBON 2.2K 5% 1/6W
R303	1-247-123-00	CARBON 470 5% 1/4W F
R304	1-247-823-00	CARBON 470 5% 1/6W
R305	1-247-843-00	CARBON 3.3K 5% 1/6W
R306	1-247-807-00	CARBON 100 5% 1/6W
R307	1-247-855-00	CARBON 10K 5% 1/6W
R308	1-247-855-00	CARBON 10K 5% 1/6W
R309	1-247-115-00	CARBON 220 5% 1/4W F
R310	1-247-799-00	CARBON 47 5% 1/6W
R311	1-247-843-00	CARBON 3.3K 5% 1/6W
R312	1-247-847-00	CARBON 4.7K 5% 1/6W
R313	1-247-801-00	CARBON 56 5% 1/6W
R314	1-247-855-00	CARBON 10K 5% 1/6W
R315	1-247-863-00	CARBON 22K 5% 1/6W
R316	1-247-903-00	CARBON 1M 5% 1/6W
R318	1-247-801-00	CARBON 56 5% 1/6W
R401	1-247-831-00	CARBON 1K 5% 1/6W
R402	1-247-831-00	CARBON 1K 5% 1/6W
R403	1-247-831-00	CARBON 1K 5% 1/6W
R404	1-247-855-00	CARBON 10K 5% 1/6W
R405	1-247-839-00	CARBON 2.2K 5% 1/6W
R406	1-247-843-00	CARBON 3.3K 5% 1/6W
R407	1-247-829-00	CARBON 820 5% 1/6W

The components identified by shading and mark  are critical for safety. Replace only with part number specified.

Ref.No.	Part No.	Description
R408	1-247-861-00	1/6W
R409	1-247-829-00	1/6W
R410	1-247-819-00	1/6W
R411	1-247-865-00	1/4W F
R412	1-247-855-00	1/4W F
R413	1-247-831-00	1/6W
R414	1-247-881-00	1/6W
R415	1-247-879-00	1/6W
R416	1-247-843-00	1/6W
R417	1-247-849-00	1/6W
R418	1-247-881-00	1/6W
R419	1-247-879-00	1/6W
R501	1-247-843-00	1/6W
R502	1-247-849-00	1/6W
R503	1-247-873-00	1/6W
R504	1-247-873-00	1/6W
R601	1-247-135-00	IDE 120 5% 2W F
R601	1-247-135-00	IDE 51 5% 2W F
R602	1-247-867-00	1/6W
R603	1-247-867-00	1/2W F
R604	1-247-867-00	1/6W
R605	1-247-867-00	1/6W
R606	1-247-867-00	1/6W
R607	1-247-867-00	1/6W
R608	1-247-867-00	1/6W
R609	1-247-867-00	1/6W
R610	1-247-867-00	1/6W
R611	1-247-867-00	1/6W
R612	1-247-867-00	1/6W
RT101	1-228-996-00	96
RT201	1-228-996-00	98
S301	1-554-976-00	7-1
S501	1-553-976-00	6-0 (AND) (FM/MW/LW)
S502	1-553-976-00	5-0
S503	1-553-976-00	-00
S504	1-553-976-00	-00
S505	1-553-976-00	-00
S506	1-553-739-00	21
S507	1-553-739-00	21
S508	1-553-739-00	21
S601	1-570-103-11	1
T101	1-404-419-00	0
T102	1-235-126-00	0
T301	1-404-535-11	1
T601	1-448-033-11	1
TM101	1-536-707-00	0
TM101	1-536-708-00	0
XT501	1-567-125-00	0

ACCESSORY & PACKING MATERIAL

No.	Part No.	Description
151	1-402-082-11	(ST-JX220L)...ANTENNA, FERRITE-ROD(LW/MW/SW)
152	1-501-224-00	(ST-JX220L:AEP,UK)...ANTENNA, FEEDER
153	8-915-122-90	(ST-JX220L)...CORD, CONNECTION
154	3-701-630-00	(ST-JX220L)...BAG, POLYETHYLENE
155	3-760-339-11	(ST-JX220L:AEP,UK)...MANUAL, INSTRUCTION
156	3-760-339-41	(JAPAN MADE ONLY(ST-JX220L:AEP)) ...MANUAL, INSTRUCTION
157	3-760-339-91	(FRANCE MADE ONLY(ST-JX220L:AEP)) ...MANUAL, INSTRUCTION
158	4-879-798-00	SHEET, PROTECTION
159	4-881-536-00	(ST-JX220L:AEP)...CUSHION (UPPER)
160	4-903-240-01	(ST-JX220L:AEP)...CUSHION, ANTENNA
161	4-903-250-01	(ST-JX220L:AEP)...CUSHION (LOWER)
162	4-904-526-01	(ST-JX220L)...CUSHION, LOWER
163	4-904-527-01	(ST-JX220L)...CUSHION (LEFT), UPPER
164	4-904-528-01	(ST-JX220L)...CUSHION (RIGHT), UPPER
165	4-904-542-01	(ST-JX220L)...SPACER
166	4-904-543-01	(ST-JX220L)...INDIVIDUAL CARTON
167	4-904-549-01	(FRANCE MADE ONLY(ST-JX220:AEP)) ...INDIVIDUAL CARTON

The components identified by shading and mark  are critical for safety. Replace only with part number specified.

ELECTRICAL PARTS

Ref.No.	Part No.	Description				
R408	1-247-817-00	CARBON	270	5%	1/6W	
R409	1-247-853-00	CARBON	8.2K	5%	1/6W	
R410	1-247-831-00	CARBON	1K	5%	1/6W	
R411	1-247-095-00	CARBON	33	5%	1/4W	F
R412	1-247-115-00	CARBON	220	5%	1/4W	F
R413	1-247-851-00	CARBON	6.8K	5%	1/6W	
R414	1-247-859-00	CARBON	15K	5%	1/6W	
R415	1-247-843-00	CARBON	3.3K	5%	1/6W	
R416	1-247-829-00	CARBON	820	5%	1/6W	
R417	1-247-817-00	CARBON	270	5%	1/6W	
R418	1-247-853-00	CARBON	8.2K	5%	1/6W	
R419	1-247-831-00	CARBON	1K	5%	1/6W	
R501	1-247-867-00	CARBON	33K	5%	1/6W	
R502	1-247-879-00	CARBON	100K	5%	1/6W	
R503	1-247-847-00	CARBON	4.7K	5%	1/6W	
R504	1-247-847-00	CARBON	4.7K	5%	1/6W	
R601	1-206-642-11	(ST-JX220L)...METAL OXIDE	120	5%	2W	F
R601	1-206-480-00	(ST-JX205L)...METAL OXIDE	51	5%	2W	F
R602	1-247-879-00	CARBON	100K	5%	1/6W	
R603	1-247-232-00	CARBON	470	5%	1/2W	F
R604	1-247-855-00	CARBON	10K	5%	1/6W	
R605	1-247-855-00	CARBON	10K	5%	1/6W	
R606	1-247-855-00	CARBON	10K	5%	1/6W	
R607	1-247-855-00	CARBON	10K	5%	1/6W	
R608	1-247-855-00	CARBON	10K	5%	1/6W	
R609	1-247-855-00	CARBON	10K	5%	1/6W	
R610	1-247-887-00	CARBON	220K	5%	1/6W	
R611	1-247-867-00	CARBON	33K	5%	1/6W	
R612	1-247-867-00	CARBON	33K	5%	1/6W	
RT101	1-228-996-00	RES, ADJ, CARBON 47K				
RT201	1-228-998-00	RES, ADJ, CARBON 220K				
S301	1-554-897-11	SWITCH, ROTARY SLIDE (BAND)(FM/MW/LW)				
S501	1-553-976-00	SWITCH, PUSH (PRESET 1)				
S502	1-553-976-00	SWITCH, PUSH (PRESET 2)				
S503	1-553-976-00	SWITCH, PUSH (PRESET 3)				
S504	1-553-976-00	SWITCH, PUSH (PRESET 4)				
S505	1-553-976-00	SWITCH, PUSH (PRESET 5)				
S506	1-553-739-21	SWITCH, KEY BOARD (STATION MEMORY)				
S507	1-553-739-21	SWITCH, KEY BOARD (TUNING -)				
S508	1-553-739-21	SWITCH, KEY BOARD (TUNING +)				
S601	1-570-103-11	(ST-JX220L)...SWITCH, PUSH(1 KEY)(POWER)				
T101	1-404-419-00	COIL, DISCRIMINATOR				
T102	1-235-126-00	(G-AEP)...ENCAPSULATED COMPONENT				
T301	1-404-535-11	COIL (WITH IFT)				
T601	1-448-033-11	(ST-JX220L)...TRANSFORMER, POWER				
TM101	1-536-707-00	(G-AEP)...TERMINAL BOARD, PUSH 2P(MW/LW)				
TM101	1-536-708-00	(AEP,UK)...TERMINAL BOARD, PUSH 4P (ANTENNA)(FM/MW/LW)				
XT501	1-567-125-00	VIBRATOR, CRYSTAL				

ACCESSORY & PACKING MATERIAL

No.	Part No.	Description
151	1-402-082-11	(ST-JX220L)...ANTENNA, FERRITE-ROD(LW/MW/SW)
152	1-501-224-00	(ST-JX220L:AEP,UK)...ANTENNA, FEEDER
153	8-915-122-90	(ST-JX220L)...CORD, CONNECTION
154	3-701-630-00	(ST-JX220L)...BAG, POLYETHYLENE
155	3-760-339-11	(ST-JX220L:AEP,UK)...MANUAL, INSTRUCTION
156	3-760-339-41	(JAPAN MADE ONLY(ST-JX220L:AEP))MANUAL, INSTRUCTION
157	3-760-339-91	(FRANCE MADE ONLY(ST-JX220L:AEP))MANUAL, INSTRUCTION
158	4-879-798-00	SHEET, PROTECTION
159	4-881-536-00	(ST-JX220L:AEP)...CUSHION (UPPER)
160	4-903-240-01	(ST-JX220L:AEP)...CUSHION, ANTENNA
161	4-903-250-01	(ST-JX220L:AEP)...CUSHION (LOWER)
162	4-904-526-01	(ST-JX220L)...CUSHION, LOWER
163	4-904-527-01	(ST-JX220L)...CUSHION (LEFT), UPPER
164	4-904-528-01	(ST-JX220L)...CUSHION (RIGHT), UPPER
165	4-904-542-01	(ST-JX220L)...SPACER
166	4-904-543-01	(ST-JX220L)...INDIVIDUAL CARTON
167	4-904-549-01	(FRANCE MADE ONLY(ST-JX220:AEP))INDIVIDUAL CARTON

The components identified by shading and mark  are critical for safety. Replace only with part number specified.

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