

ST-SA3ES

SERVICE MANUAL

AEP Model



SPECIFICATIONS

FM tuner section

Frequency range	87.5 - 108.0 MHz
Antenna terminals	75 ohms, unbalanced
Intermediate frequency	10.7 MHz
Sensitivity	at 26 dB quieting (mono) 10.3 dBf, 0.9 μ V/75 Ω at 46 dB quieting (stereo) 38.5 dBf, 23 μ V/75 Ω
Usable sensitivity (IHF)	10.3 dBf, 0.9 μ V/ 75 Ω
S/N	at 40 kHz deviation 80 dB (mono), 76 dB (stereo)
Harmonic distortion	WIDE 0.02% (mono), 0.03 % (stereo) NARROW 0.05% (mono), 0.07 % (stereo)
Frequency response	15 Hz - 15 kHz (+0.2/-0.5 dB)

Separation	60 dB at 1 kHz
Selectivity	at 400 kHz WIDE 80 dB NARROW 90 dB at 300 kHz WIDE 45 dB NARROW 70 dB
Output	at 40 kHz deviation 600 mV

AM tuner section

Frequency range	MW: 531 - 1,602 kHz (9 kHz step) LW: 153 - 279 kHz (1 kHz step)
Intermediate frequency	450 kHz
Usable Sensitivity	(with AM loop aerial) MW: 200 μ V/m LW: 700 μ V/m
Signal-to-noise ratio	MW: 54 dB (50 mV/m, 999 kHz) LW: 50 dB (50 mV/m, 216 kHz)

— Continued on next page —

FM STEREO FM/AM TUNER
SONY®



TABLE OF CONTENTS

Harmonic distortion	0.3% (50 mV/m, 400 Hz)
Selectivity	50 dB
General	
Power requirements	220-230 V, AC 50/60 Hz
Power consumption	13 W
Input impedance	75 ohms
Input connector	IEC-male
Dimensions	430 x 98 x 340 mm
Weight	4.5 kg
Supplied accessories	Audio cord (1) AM loop aerial (1) FM wire aerial (1)

Design and specifications are subject to
change without notice.

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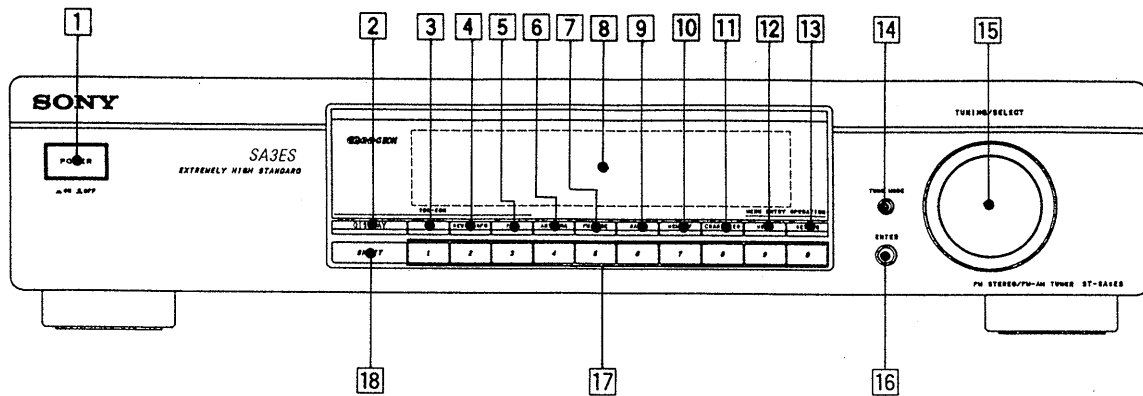
SAFETY-RELATED COMPONENT WARNING !!

COMPONENTS IDENTIFIED BY MARK Δ OR DOTTED
LINE WITH MARK Δ 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

Front Panel



- 1 POWER switch
- 2 DISPLAY button
- 3 TA button
- 4 NEWS/INFO button
- 5 PTY button
- 6 ANTENNA button
- 7 FM MODE button
- 8 Display window
- 9 BAND button
- 10 MEMORY button
- 11 CHARACTER button
- 12 MENU button
- 13 RETURN button
- 14 TUNE MODE button
- 15 TUNING/SELECT knob
- 16 ENTER button
- 17 Preset buttons
- 18 SHIFT button

SECTION 3

TEST MODE

1. Circuit Check Mode

Set to the reception frequency that the circuit can STEREO RDS stations. (Set the input level to above 70 dB.)

1. Turn OFF the power.
2. While pressing **[4]** and **[MENU]** together, turn ON **[POWER]**.

• The items in the following table will be checked automatically in order every 2 seconds.

Display	Items	DISPLAY		NG
		FM RDS	AM (MW, LW)	
Tuned	$\overline{AST}$ signal =LOW	OK or NG	/	IC251 NG, RV251 adjustments
IF Frq	IF COUNT OK	OK or NG	OK or NG	FE101, IC251 NG, or IF count buffer amp (Q251, Q401) NG
Sig Level	SI LEVEL $\geq$ 70dB	OK or NG	OK or NG	IC221 NG, RV221 adjustments
Stereo	$\overline{ST}$ signal=LOW	OK or NG	/	IC301 NG, RV301 adjustments
RDS Signal	RDS DATA OK	OK or NG	/	IC801 NG

NOTE : The preset data will be erased when this test mode is used. Therefore, take down the data before setting this mode and preset the data again after completing operations in this mode.

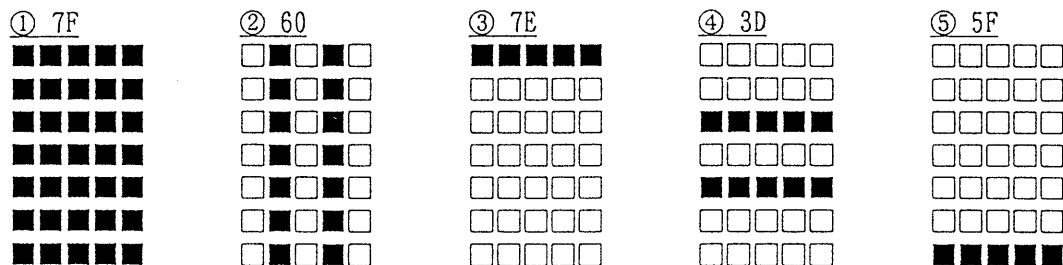
2. Display Tube Check and KEY Check mode

NOTE : Do not perform this check mode when replacing display tubes or excepting when replacing a microcomputer.

1. Turn OFF the power.
2. While pressing [1] and [MENU] together, turn ON [POWER].
3. While continuously pressing [1] and [MENU] together, check the following.

Microcomputer version indication (1 sec) → All light up "7F" → Dot area only "60" → Dot area only "7E"
 ↑ Dot area only "5F" ← Dot area only "3D" ↓

Indication test pattern



* The indication test patterns from ② to ⑤ are indicated on only even grids.

The display changes every 1 sec.

4. Release [1] and [MENU]. The KEY CHECK mode will be set.
5. All key numbers will be displayed.
Key Number : 24
6. Each time the key is pressed, the key number will be counted down.
Each key will be counted only once, at the first time.
7. When all keys have been pressed, the process will end.

NOTE : As contents of the Factory Preset will be written into memory after completing this check mode, delete contents of memory according to 4. Forced RESET.

3. Entering the Factory Preset (In case perform just to write memory of the Factory Preset.)

1. Turn OFF the power.
2. While pressing [3] and [MENU] together, turn ON [POWER].

4. Forced RESET (Used to delete the contents of Factory Preset when it is written into the preset memory.)

Clears all the RAMs and sets the initial state

1. Turn OFF the power.
2. While pressing [5] and [MENU] together, turn ON [POWER].

SECTION 3

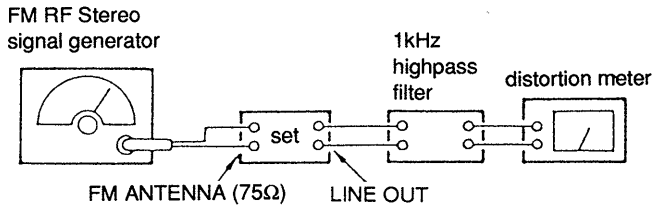
ELECTRICAL ADJUSTMENTS

Precautions in Repairing

If the front end unit fails, it is difficult to repair the inner circuits, so replace the entire front end unit.

FM SECTION

0dB = 1μV



- Standard Setting of FM Stereo RF Signal Generator.

STEREO STANDARD SIGNAL	MONAURAL STANDARD SIGNAL
Carrier frequency : 98MHz	Carrier frequency : 98MHz
Modulation : Audio 1kHz	Modulation : Audio
Main channel (L+R) : 33.75kHz deviation	1kHz
Sub channel (L-R) : 33.75kHz deviation	75kHz
Pilot : 7.5kHz deviation	

How to switch IF BAND WIDE/NARROW

Method 1 :

1. Push the MENU key and turn the TUNING/SELECT to indicate "Reception" on the fluorescent display tube, then press the ENTER key.
2. Turn the TUNING/SELECT to indicate "ATT/IF Band" on the fluorescent display tube, then press the ENTER key.
3. Turn the TUNING/SELECT to indicate "ANT ATT: OFF" on the fluorescent display tube, then press the ENTER key.
4. Turn the TUNING/SELECT to indicate "IF: NARROW" or "IF: WIDE" on the fluorescent display tube, then press the ENTER key.

When the IF BAND: NARROW is set, "NARROW" is indicated on the fluorescent display tube.

5. Set WIDE after the operation.

Method 2 :

After the test modes "2. Display Tube Check and KEY Check mode" or "3. Entering the Factory Preset", "IF : NARROW" and "IF : WIDE" are switched every time pressing [RETURN] key.

This function does not work if the power is turned off once.

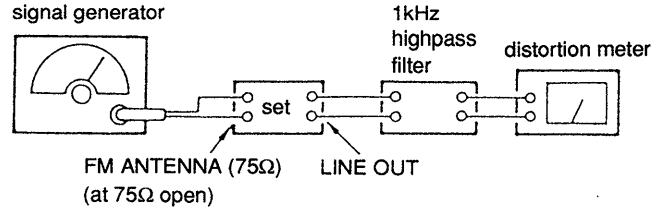
Set "WIDE" after the all adjustments.

FM Discriminator ADJUSTMENT (NULL and MONO Distortion Adjustment)

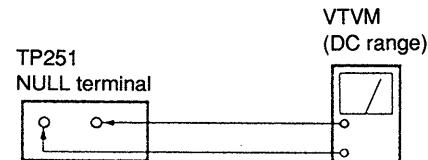
Setting :

IF BAND : WIDE

FM RF Stereo signal generator



Modulation : Monaural Standard signal
Output level : 6mV (76dBμ)



Procedure :

1. Tune the set to 98 MHz.
2. Adjust T252 for 0V reading on the VTVM.
..... NULL
3. Adjust T253 for a minimum reading on the distortion meter.
..... MONO Distortion
4. Repeat the adjustments of 2 and 3 several times.

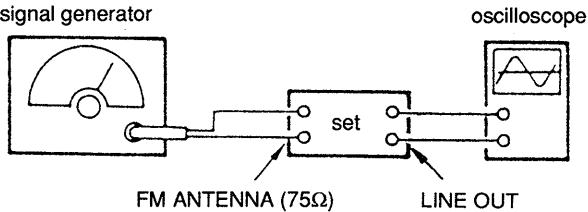
Note : When replacing the ceramic filter, perform this alignment.

Front End IFT/STEREO Distortion Rate Adjustment

Setting :

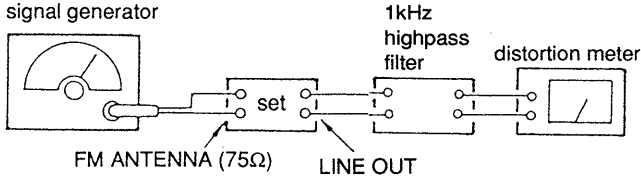
IF BAND : WIDE

FM RF Stereo
signal generator



Modulation : Monaural Standard signal
Output level : $2.2\mu\text{V}$ (7dB μ) (at 75Ω open)

FM RF Stereo
signal generator



Modulation : Stereo Standard signal
Output level : 6mV (76dB μ) (at 75Ω open)

Procedure :

1. Tune the set to 98 MHz.
2. Remove the top cover of the front end (FE101).
3. Adjust IFT1 of the front end (FE101) to put the noise up-and-down and symmetrically on the waveform of the oscilloscope.
4. Adjust the front end (FE101) IFT1 to minimize the STEREO distortion rate.
5. Attach the removed top cover of the front end (FE101) as it was.

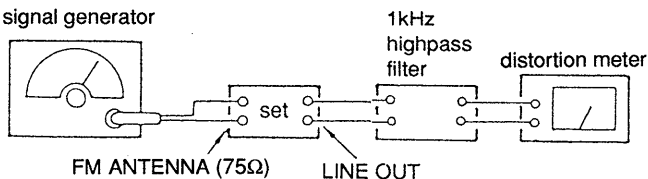
Note : Do not turn more than a half turn from the core position which is adjusted on the front end IFT adjustment.

Narrow THD Adjustment

Setting :

IF BAND : NARROW

FM RF Stereo
signal generator



Modulation : Stereo Standard signal
Output level : 10mV (80dB μ) (at 75Ω open)

Procedure :

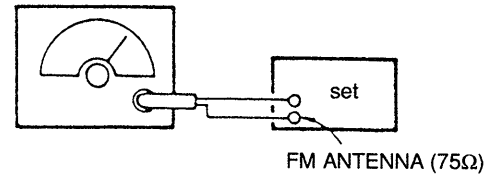
1. Tune the set to 98 MHz.
2. Set "IF BAND : NARROW" according to the procedure of "How to switch IF BAND WIDE/NARROW" on page 6.
3. Set SSG output level to 80dB μ .
4. Adjust RV232 for a minimum reading on the distortion meter.

Stereo Level Adjustment

Setting :

IF BAND : WIDE

FM RF Stereo
signal generator



Modulation : Stereo Standard signal
Output level : $32\mu\text{V}$ (30dB) (at 75Ω open)

Procedure :

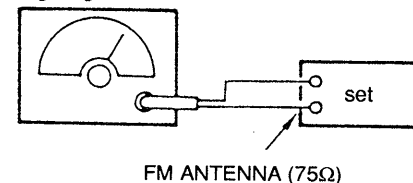
1. Tune the set to 98 MHz.
2. Adjust RV251 so that the "STEREO" indicator goes on.

Narrow Gain Adjustment

Setting :

IF BAND : NARROW

FM RF Stereo
signal generator



Modulation : Stereo Standard signal
Output level : $32\mu\text{V}$ (30dB) (at 75Ω open)

Procedure :

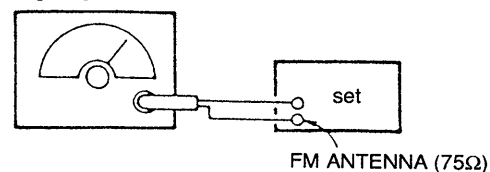
1. Tune the set to 98 MHz.
2. Set "IF BAND : NARROW" according to the procedure of "How to switch IF BAND WIDE/NARROW" on page 6.
3. Adjust RV231 so that the "STEREO" indicator goes on.

FM Meter Level Adjustment

Setting :

IF BAND : WIDE

FM RF Stereo
signal generator



Modulation : Stereo Standard signal
Output level : 3mV (76dB μ) (at 75Ω open)

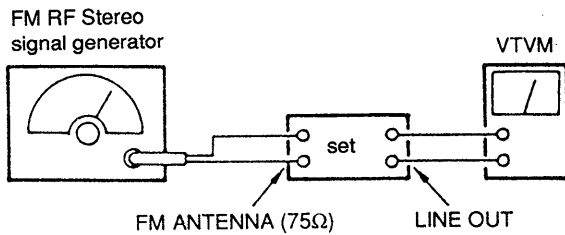
Procedure :

1. Tune the set to 98 MHz.
2. Press [DISPLAY] key to display the digital signal, then adjust RV221 to be displayed as "SIG 70dB".

Stereo Separation Adjustment

Setting :

IF BAND : NARROW (NARROW SEPARATION)
WIDE (WIDE SEPARATION)



Modulation : Stereo Standard signal
Output level : 6mV (76dBμ) (at 75Ω open)

Procedure :

1. Refer to "How to switch IF BAND WIDE/NARROW" on page 6.

FM stereo Signal generator Output channel	VTVM connection	VTVM reading (dB)
L-CH	L-CH	Ⓐ
R-CH	L-CH	Ⓑ [ⓑ] IF BAND WIDE : Adjust RV301 for minimum reading on VTVM IF BAND NARROW : Adjust RV302 for minimum reading on VTVM
R-CH	R-CH	ⓒ
L-CH	R-CH	Ⓓ [ⓓ] IF BAND WIDE : Adjust RV301 for minimum reading on VTVM IF BAND NARROW : Adjust RV302 for minimum reading on VTVM

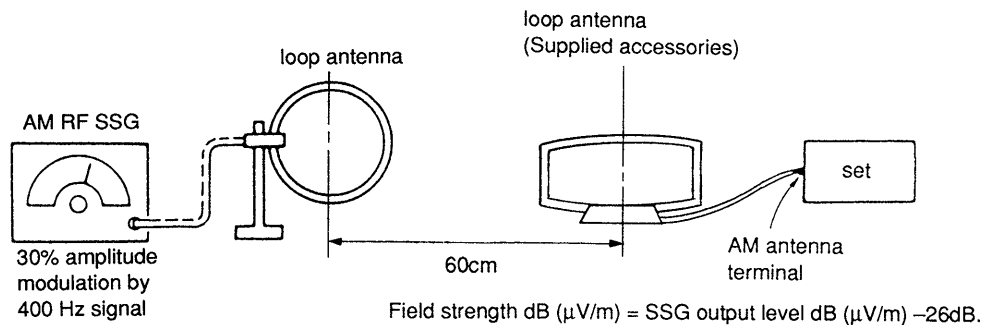
L-CH Stereo separation : Ⓐ - Ⓑ

R-CH Stereo separation : ⓒ - Ⓓ

The separations of both channels should be equal.

AM SECTION

Setting :
BAND : LW



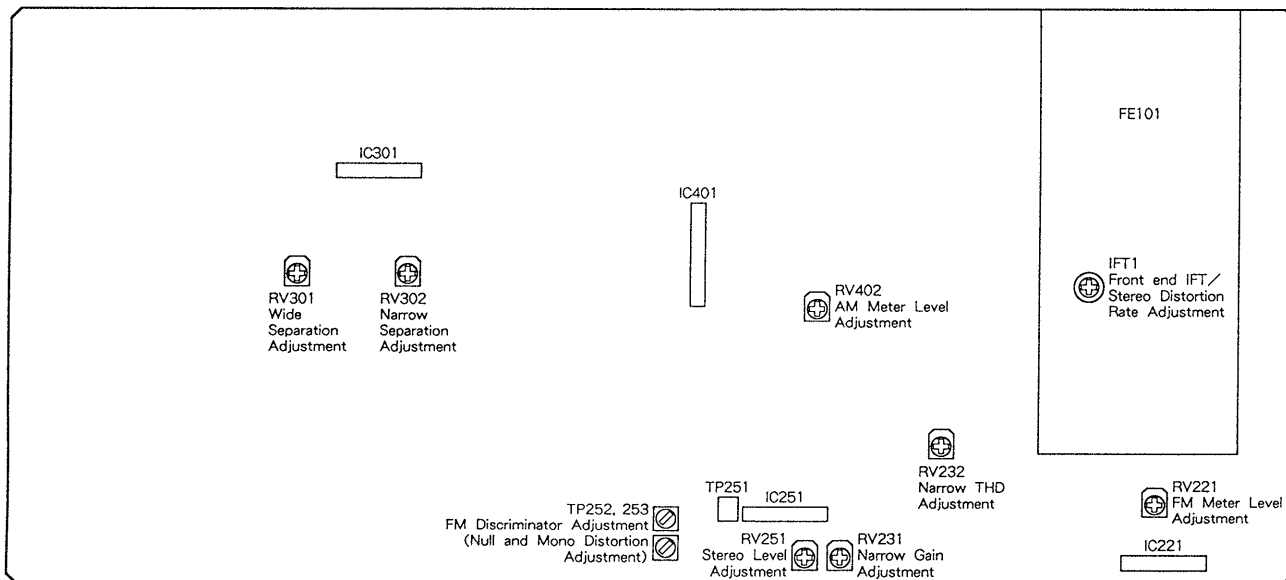
AM Meter Level Adjustment

Setting :
Carrier frequency : 216kHz
Modulation : 400Hz, 30% modulation

Procedure :

1. Set AM RF signal generator so that the AM antenna input level becomes 74dBμ/m.
2. Adjust RV402 so that 1 to 10 indication bars light up on the signal meter.

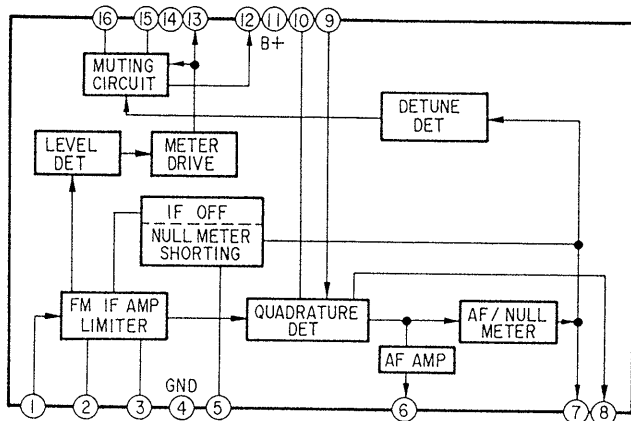
Adjustment Location :



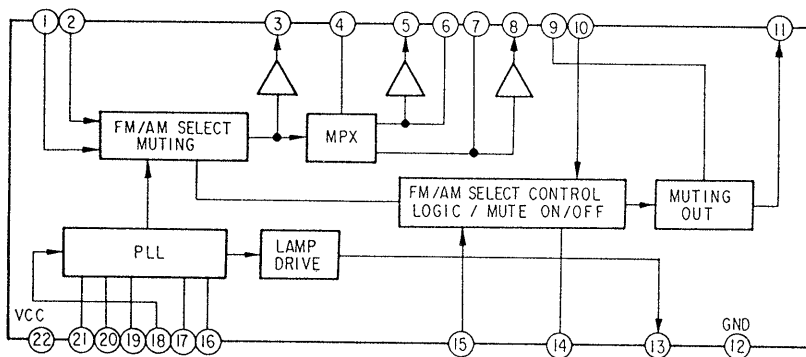
SECTION 4 DIAGRAMS

4-1. IC BLOCK DIAGRAMS

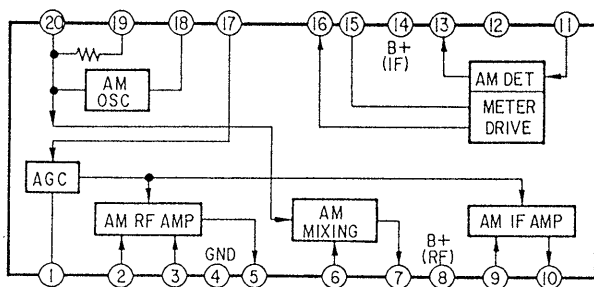
IC221, IC251 LA1235



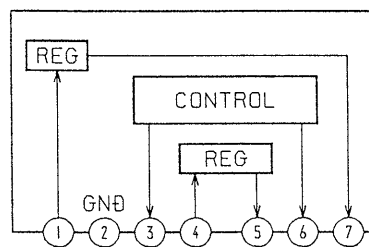
IC301 LA3401



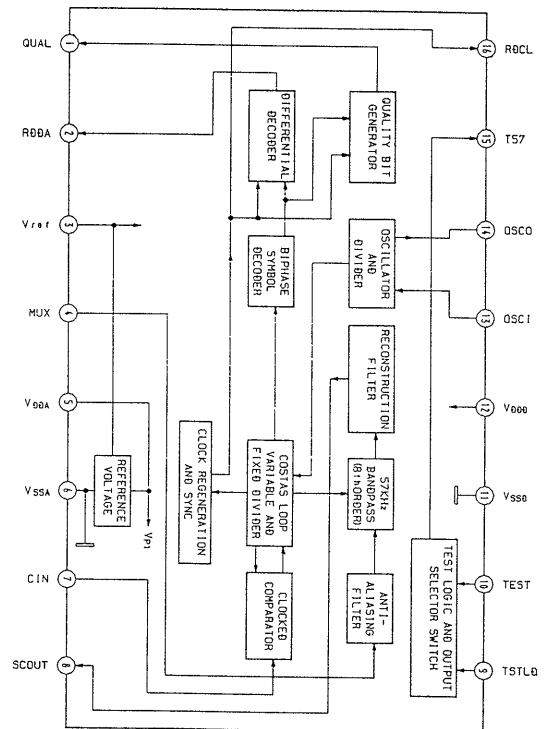
IC401 LA1245



IC901 LA5667



IC801 SAA6579T



4-2. IC PIN FUNCTION

• IC701 μ PD780205GF (SYSTEM CONTROL FL DRIVE)

Pin No.	Pin Name	I/O	Function												
1	V _{DD}	—	Power supply (+5V)												
2	$\overline{\text{ANT}}$	O	ANT A/B switching output (open)												
3	ATT	O	ANT ATT on/off switching output (open)												
4	$\overline{\text{BAND1}}$	O	FM/AM BAND switching output (open)												
5	$\overline{\text{BAND2}}$	O	AM BAND MW/LW switching output (open)												
6	IF-B	O	IF BAND WIDE/NARROW switching output (open)												
7	NC	—	Not used (open)												
8	MONO	O	Forced FM MONO on/off output (open)												
9	TUN	O	TUNING action detection output (open)												
10	$\overline{\text{RESET}}$	I	System reset input												
11	4.19	O	} Main system clock (4.19 MHz)												
12	4.19	I													
13	GND	I	Single chip MODE select input (GND)												
14	NC	—	Not used (open)												
15	$\overline{\text{LOCK}}$	I	PROGRAM SW on/off detection input												
16	V _{DD}	—	Power supply (+5V)												
17	PLL $\overline{\text{CLK}}$	O	Serial clock output for PLL LC72130												
18	PLL DATA	O	Serial data output for PLL LC72130												
19	PLL DIN	I	IF COUNT data input and PLL condition detection												
20	PLL CE	O	CE signal output for PLL LC72130												
21	$\overline{\text{BLN}}$	O	HI-BLEND on/off switching output												
22	$\overline{\text{ST}}$	I	STEREO display detection input												
23	CAL	O	CAL TONE on/off switching output												
24	$\overline{\text{AST}}$	I	AUTO STOP signal detection input												
25	A _{VSS}	—	GND of the A/D converter												
26	$\overline{\text{MUTE}}$	O	Muting signal on/off switching output												
27	EON	O	Receive Reception, outside control output												
28	$\overline{\text{PGM}}$	I	PROGRAM SW SET/OFF detection input												
29	RDS DATA	I	RDS DATA input												
30	R2	I	Rotary encoder phase detection input												
31, 32	KEY2, KEY1	I	Key input												
33	SI	I	SIGNAL LEVEL input												
34	A _{VDD}	—	Analog power supply of the A/D converter (+5V)												
35	A _{VREF}	I	Reference voltage of the A/D converter (+5V)												
36	$\overline{\text{RIN}}$	I	Remote controller signal input												
37	R1	I	Rotary encoder number of rotations detection input												
38	$\overline{\text{RDS CLK}}$	I	Clock input for RDS DATA from SAA6579T												
39	POWER	I	Power on/off monitor input												
40	V _{SS}	—	System GND												
41, 42	IS5, IS4	I	Model and function setting input												
43 to 45	IS3 to IS1	I	Destination detection setting input <table border="1"> <tr> <td></td><td>S1</td><td>S2</td><td>S3</td></tr> <tr> <td>AEP, German, Italian model</td><td>L</td><td>L</td><td>L</td></tr> <tr> <td>EE model</td><td>H</td><td>L</td><td>L</td></tr> </table>		S1	S2	S3	AEP, German, Italian model	L	L	L	EE model	H	L	L
	S1	S2	S3												
AEP, German, Italian model	L	L	L												
EE model	H	L	L												
46	V _{DD}	—	Power supply (+5V)												
47 to 78	P1 to P32	O	Segment signal output to the FL tube (FL701)												
79	V _{LOAD}	—	Power supply to the FL tube (FL701) (–30V)												
80 to 84	P33 to P37	O	Segment signal output to the FL tube (FL701)												
85 to 100	I6G to 1G	O	Grid signal output to the FL tube (FL701)												

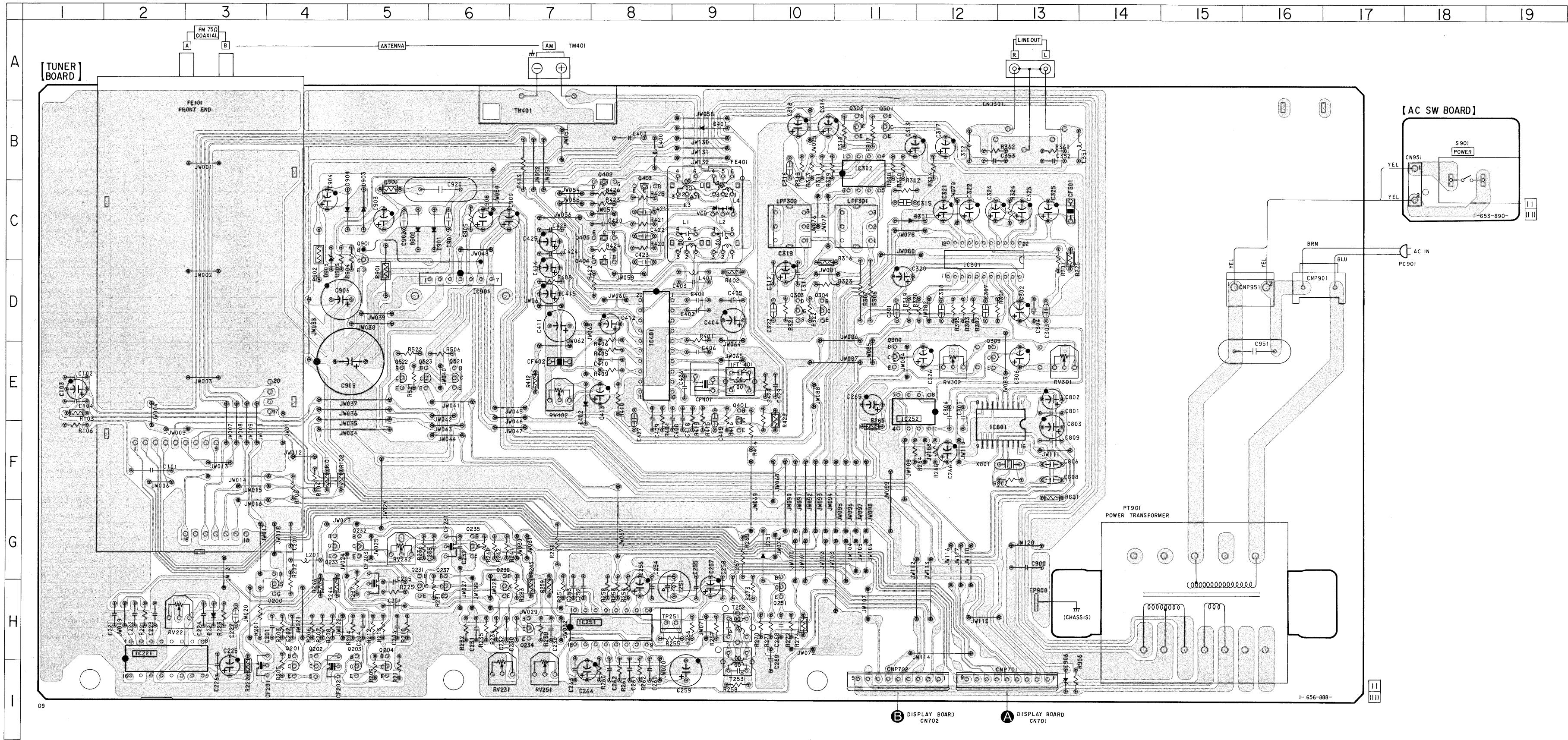
4-3. PRINTED WIRING BOARD — TUNER SECTION —

• Semiconductor Location

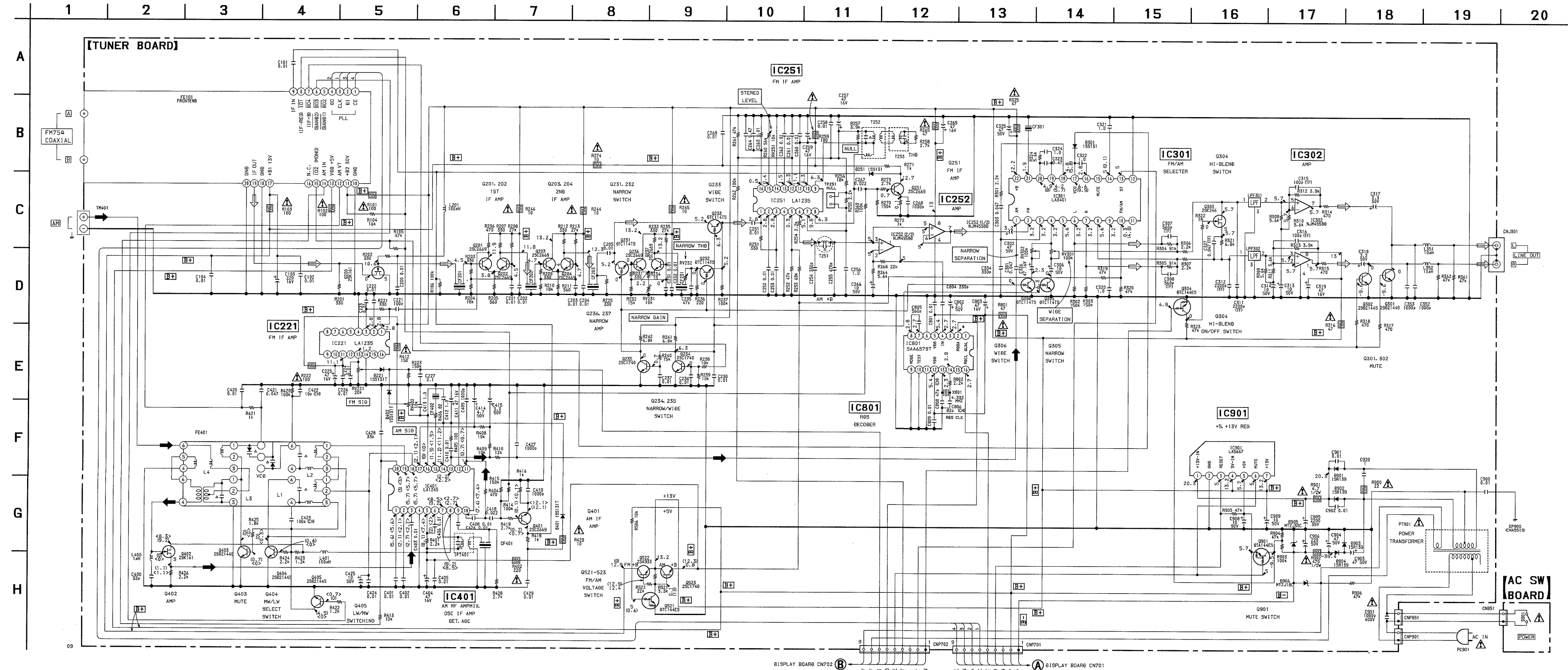
Ref. No.	Location
D221	H-3
D251	G-10
D301	C-11
D401	B-9
D402	E-7
D901	C-6
D902	C-5
D903	C-5
D904	C-4
D905	C-4
D906	I-13
IC221	H-2
IC251	H-8
IC252	E-11
IC301	C-12
IC302	B-11
IC401	E-8
IC801	E-13
IC901	D-6
Q200	G-3
Q201	I-4
Q202	I-4
Q203	I-5
Q204	I-5
Q231	G-5
Q232	G-5
Q233	G-4
Q234	H-7
Q235	G-6
Q236	G-6
Q237	G-6
Q251	H-10
Q301	B-11
Q302	B-11
Q303	D-10
Q304	D-10
Q305	E-12
Q306	E-11
Q401	E-9
Q402	B-8
Q403	C-8
Q404	C-8
Q405	C-8
Q521	E-6
Q522	E-5
Q523	E-5
Q901	C-5

Note:

- : parts extracted from the component side.
- : parts extracted from the conductor side.
- △ : internal component.
- : Pattern from the side which enable seeing.



4-4. SCHEMATIC DIAGRAM — TUNER SECTION —
• See page 10 for IC Block Diagrams.



NOTE

- All capacitors are in μF unless otherwise noted. $\text{pF}:\mu\text{F}$ 50W 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.
- Δ : internal component.
- $\square$: nonflammable resistor.
- $\square$: panel designation.

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

- $B+$: B+ Line.
- $B-$: B- Line.
- $\square$: adjustment for repair.

• Voltages and waveforms are dc with respect to ground under detuned conditions.

no mark: FM
() : MW
< : LW
> : VHF

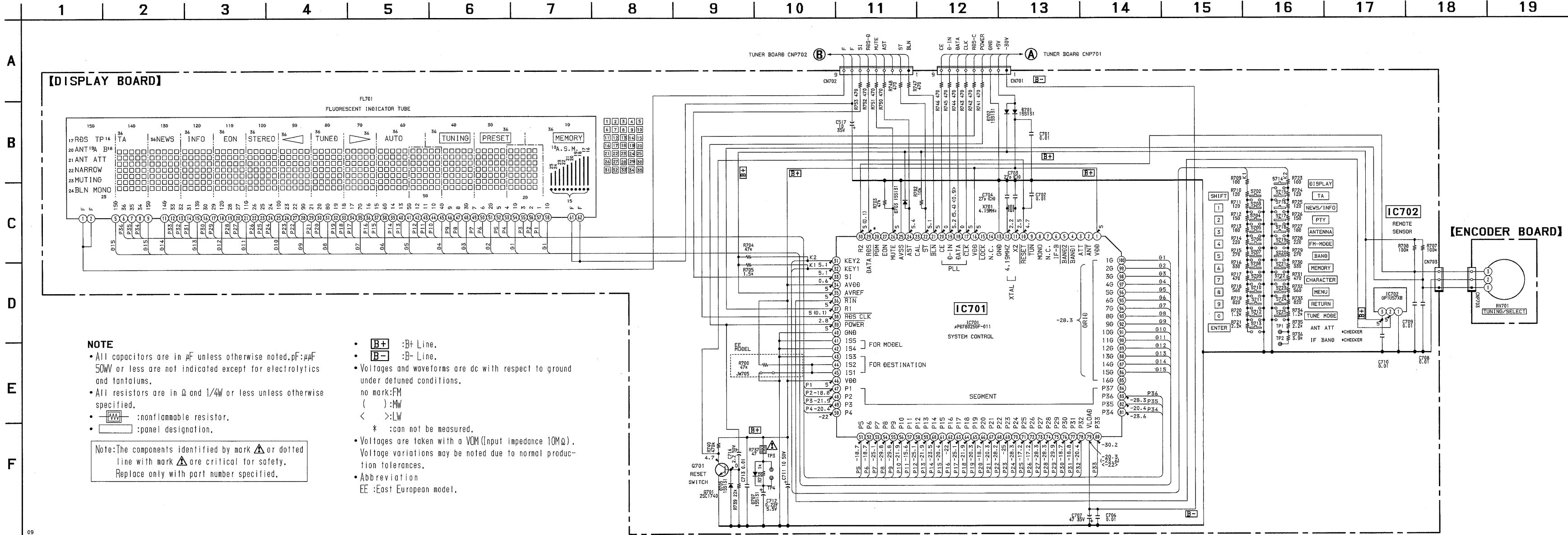
* : can not be measured.

• Voltages are taken with a VOM (Input impedance $10\text{M}\Omega$). Voltage variations may be noted due to normal production tolerances.

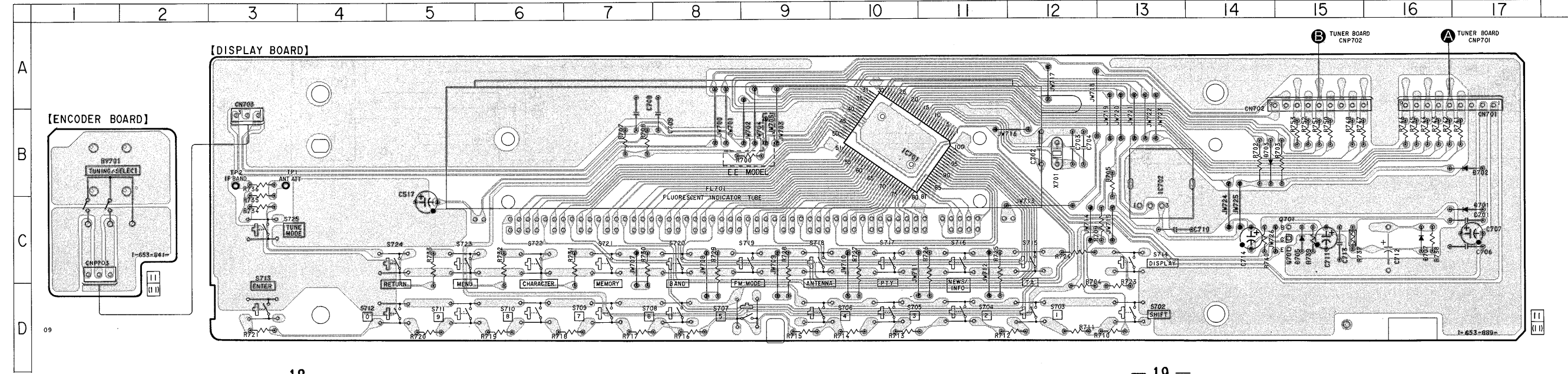
• Signal path.

→ : FM
→ : AM

4-5. SCHEMATIC DIAGRAM — DISPLAY SECTION — • See page 11 for IC Pin Function. (IC701)



4-6. PRINTED WIRING BOARD — DISPLAY SECTION —



• Semiconductor Location

Ref. No.	Location
D701	C-17
D702	B-17
D703	B-14
D705	C-15
D707	C-16
IC701	B-10
IC702	B-13
Q701	C-15

- Note:**
- $\circ$: parts extracted from the component side.
 - $\square$: Pattern from the side which enable seeing.
 - Abbreviation
 - IT : Italian model.
 - EE : East European model.

SECTION 5

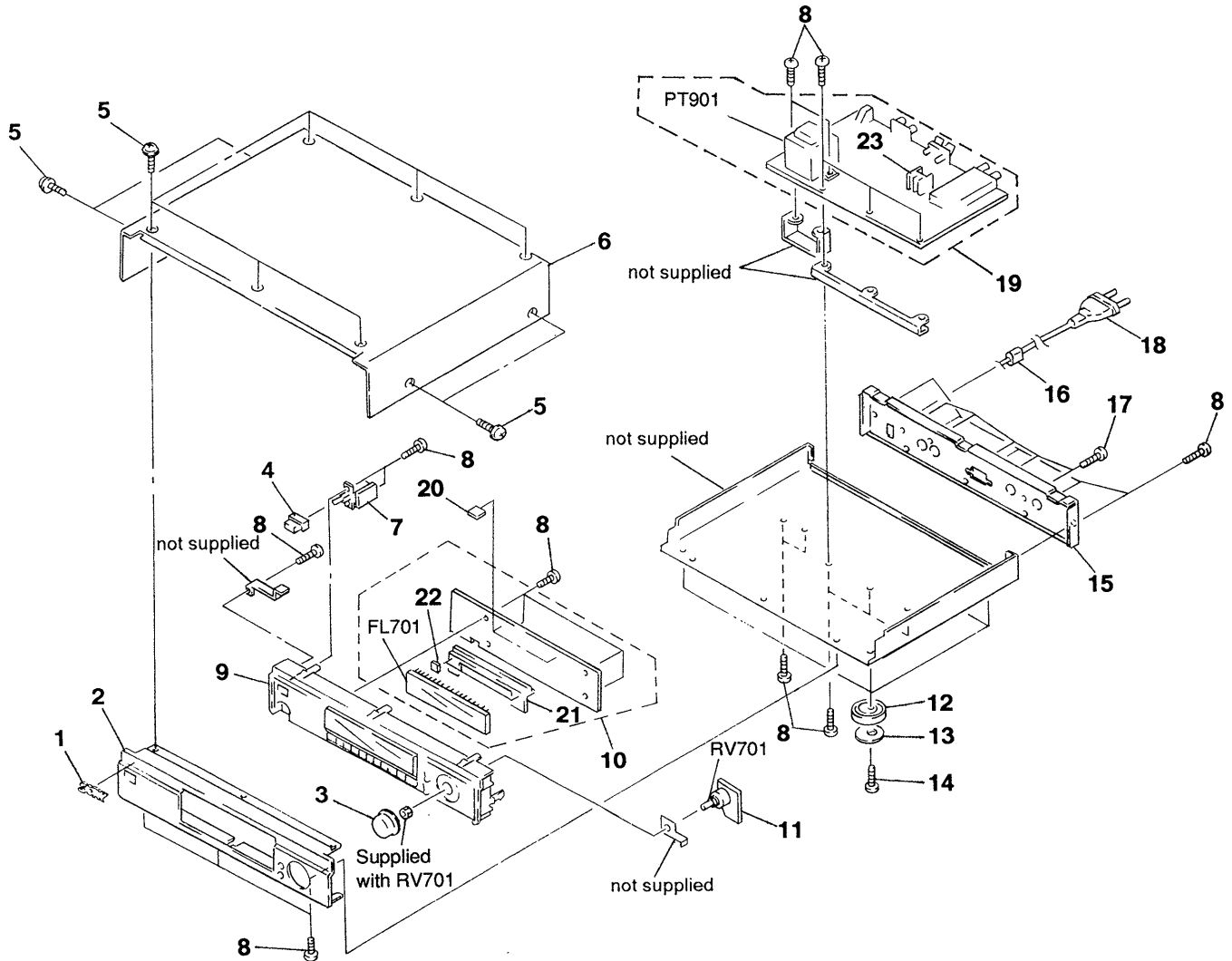
EXPLODED VIEW

NOTE:

- -XX, -X mean standardized parts, so they may have some difference from the original one.
- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.

- Hardware (# mark) list and accessories and packing materials are given in the last of this parts list.
- Abbreviation
 G : German model
 IT : Italian model
 EE : East European model

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



Ref. No.	Part No.	Description	Remark
1	4-942-568-01	EMBLEM (NO. 5), SONY	
2	4-970-683-51	PANEL, FRONT	
3	4-970-684-01	KNOB (T)	
4	4-917-460-01	KNOB, POWER	
5	3-704-366-01	SCREW (CASE) (M3X8)	
6	4-974-321-11	CASE	
* 7	1-656-890-11	AC SW BOARD	
8	4-967-961-01	SCREW (3X8) (SPECIAL)	
9	X-4946-076-1	BASE ASSY (B/3), PANEL	
* 10	A-4377-994-A	DISPLAY BOARD, COMPLETE (AEP, IT, G)	
* 10	A-4377-995-A	DISPLAY BOARD, COMPLETE (EE)	
* 11	1-656-891-11	ENCODER BOARD	
12	4-970-123-01	FOOT (F50180S)	
13	4-970-124-01	CUSHION (F50180S)	
14	7-685-650-79	SCREW +BVTP 3X16 TYPE2 IT-3	

Ref. No.	Part No.	Description	Remark
* 15	4-974-313-11	PANEL, BACK (AEP, IT, G)	
* 15	4-974-313-21	PANEL, BACK (EE)	
16	3-703-244-00	BUSHING, CORD	
17	3-704-515-41	SCREW (BV/RING)	
Δ 18	1-575-651-21	CORD, POWER	
* 19	A-4377-992-A	TUNER BOARD, COMPLETE (AEP, IT, G)	
* 19	A-4377-993-A	TUNER BOARD, COMPLETE (EE)	
20	9-911-842-XX	CUSHION (S)	
* 21	4-945-292-01	HOLDER, INDICATION TUBE	
* 22	4-921-941-71	CUSHION (FL)	
* 23	4-911-383-01	HEAT SINK	
FL701	1-517-177-21	INDICATOR TUBE, FLUORESCENT	
Δ PT901	1-423-525-11	TRANSFORMER, POWER	
RV701	1-466-336-22	ENCODER, ROTARY (TUNING/SELECT)	

SECTION 6

AC SW

DISPLAY

ELECTRICAL PARTS LIST

NOTE:

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 name.

- 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.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- RESISTORS
All resistors are in ohms
METAL: Metal-film resistor
METAL OXIDE: Metal Oxide-film resistor
F : nonflammable

- 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
- Abbreviation
G : German model
IT : Italian model
EE : East European model

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
*	1-656-890-11	AC SW BOARD ***** < SWITCH >				< IC >	
Δ S901	1-572-267-51	SWITCH, PUSH (AC POWER) (1 KEY) (POWER)		IC701	8-759-338-20	IC uPD780205GF-011-3B9	
*****				IC702	8-749-923-43	IC GP1U57XB	
*	A-4377-994-A	DISPLAY BOARD, COMPLETE (AEP, IT, G) *****				< TRANSISTOR >	
*	A-4377-995-A	DISPLAY BOARD, COMPLETE (EE) *****		Q701	8-729-119-78	TRANSISTOR 2SC2785-HFE	
*	4-921-941-71	CUSHION (FL)				< RESISTOR >	
*	4-945-292-01	HOLDER, INDICATION TUBE < CAPACITOR >		R700	1-249-437-11	CARBON 47K 5% 1/4W (EE)	
C517	1-126-051-11	ELECT 47uF 20% 35V		R702	1-249-429-11	CARBON 10K 5% 1/4W	
C701	1-162-306-11	CERAMIC 0.01uF 30% 16V		R703	1-249-437-11	CARBON 47K 5% 1/4W	
C702	1-162-306-11	CERAMIC 0.01uF 30% 16V		R704	1-249-437-11	CARBON 47K 5% 1/4W	
C703	1-162-209-31	CERAMIC 27PF 5% 50V		R705	1-249-419-11	CARBON 1.5K 5% 1/4W F	
C704	1-162-209-31	CERAMIC 27PF 5% 50V		R707	1-249-441-11	CARBON 100K 5% 1/4W	
C706	1-162-306-11	CERAMIC 0.01uF 30% 16V		R708	1-249-441-11	CARBON 100K 5% 1/4W	
C707	1-126-051-11	ELECT 47uF 20% 35V		R709	1-247-807-31	CARBON 100 5% 1/4W	
C708	1-162-306-11	CERAMIC 0.01uF 30% 16V		R710	1-249-406-11	CARBON 120 5% 1/4W F	
C709	1-162-306-11	CERAMIC 0.01uF 30% 16V		R711	1-249-406-11	CARBON 120 5% 1/4W F	
C710	1-162-306-11	CERAMIC 0.01uF 30% 16V		R712	1-249-407-11	CARBON 150 5% 1/4W F	
C711	1-126-059-11	ELECT 10uF 20% 50V		R713	1-249-408-11	CARBON 180 5% 1/4W F	
C712	1-104-905-11	CAP, DOUBLE LAYERS 0.22F		R714	1-247-815-91	CARBON 220 5% 1/4W	
C713	1-162-306-11	CERAMIC 0.01uF 30% 16V		R715	1-249-410-11	CARBON 270 5% 1/4W F	
C714	1-126-045-11	ELECT 2.2uF 20% 50V		R716	1-249-411-11	CARBON 330 5% 1/4W	
		< DIODE >		R717	1-249-413-11	CARBON 470 5% 1/4W F	
D701	8-719-815-85	DIODE 1S1585		R718	1-249-414-11	CARBON 560 5% 1/4W F	
D702	8-719-815-85	DIODE 1S1585		R719	1-249-416-11	CARBON 820 5% 1/4W F	
D703	8-719-815-85	DIODE 1S1585		R720	1-249-418-11	CARBON 1.2K 5% 1/4W F	
D705	8-719-815-85	DIODE 1S1585		R721	1-249-421-11	CARBON 2.2K 5% 1/4W F	
D707	8-719-815-85	DIODE 1S1585		R723	1-247-807-31	CARBON 100 5% 1/4W	
		< FLUORESCENT INDICATOR >		R724	1-249-406-11	CARBON 120 5% 1/4W F	
FL701	1-517-177-21	INDICATOR TUBE, FLUORESCENT		R725	1-249-406-11	CARBON 120 5% 1/4W F	
				R726	1-249-407-11	CARBON 150 5% 1/4W F	
				R727	1-249-408-11	CARBON 180 5% 1/4W F	
				R728	1-247-815-91	CARBON 220 5% 1/4W	
				R729	1-249-410-11	CARBON 270 5% 1/4W F	
				R730	1-249-411-11	CARBON 330 5% 1/4W	
				R731	1-249-413-11	CARBON 470 5% 1/4W F	
				R732	1-249-414-11	CARBON 560 5% 1/4W F	
				R733	1-249-416-11	CARBON 820 5% 1/4W F	
				R734	1-249-418-11	CARBON 1.2K 5% 1/4W F	
				R735	1-249-421-11	CARBON 2.2K 5% 1/4W F	
				R736	1-249-424-11	CARBON 3.9K 5% 1/4W F	

TUNER

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	Ref. No.	Part No.	Description			Remark
C263	1-162-306-11	CERAMIC	0. 01uF	30%	16V	C420	1-162-306-11	CERAMIC	0. 01uF	30%	16V
C264	1-126-043-11	ELECT	0. 47uF	20%	50V	C421	1-136-161-00	FILM	0. 047uF	5%	50V
C265	1-126-022-11	ELECT	47uF	20%	16V	C422	1-164-019-11	CERAMIC	10PF	0. 5PF	50V
C266	1-126-059-11	ELECT	10uF	20%	50V	C423	1-102-973-00	CERAMIC	100PF	5%	50V
C267	1-161-494-00	CERAMIC	0. 022uF		25V	C424	1-162-306-11	CERAMIC	0. 01uF	30%	16V
C268	1-162-294-31	CERAMIC	0. 001uF	10%	50V	C425	1-126-059-11	ELECT	10uF	20%	50V
C269	1-162-306-11	CERAMIC	0. 01uF	30%	16V	C426	1-162-306-11	CERAMIC	0. 01uF	30%	16V
C301	1-136-161-00	FILM	0. 047uF	5%	50V	C427	1-102-074-00	CERAMIC	0. 001uF	10%	50V
C302	1-126-059-11	ELECT	10uF	20%	50V	C428	1-162-211-31	CERAMIC	33PF	5%	50V
C303	1-136-161-00	FILM	0. 047uF	5%	50V	C429	1-162-306-11	CERAMIC	0. 01uF	30%	16V
C304	1-162-288-31	CERAMIC	330PF	10%	50V	C801	1-162-306-11	CERAMIC	0. 01uF	30%	16V
C306	1-126-059-11	ELECT	10uF	20%	50V	C802	1-126-045-11	ELECT	2. 2uF	20%	50V
C307	1-130-468-00	MYLAR	560PF	5%	50V	C803	1-126-022-11	ELECT	47uF	20%	16V
C308	1-130-468-00	MYLAR	560PF	5%	50V	C804	1-162-288-31	CERAMIC	330PF	10%	50V
C311	1-162-302-11	CERAMIC	0. 0022uF	30%	16V	C805	1-162-291-31	CERAMIC	560PF	10%	50V
C312	1-162-302-11	CERAMIC	0. 0022uF	30%	16V	C806	1-102-527-11	CERAMIC	82PF	5%	50V
C313	1-126-059-11	ELECT	10uF	20%	50V	C808	1-101-880-00	CERAMIC	47PF	5%	50V
C314	1-126-059-11	ELECT	10uF	20%	50V	C809	1-162-306-11	CERAMIC	0. 01uF	30%	16V
C315	1-110-335-11	MYLAR	100PF	5%	50V	C900	1-162-306-11	CERAMIC	0. 01uF	30%	16V
C316	1-110-335-11	MYLAR	100PF	5%	50V	C901	1-101-004-00	CERAMIC	0. 01uF		50V
C317	1-126-303-11	ELECT	3. 3uF	20%	50V	C902	1-101-004-00	CERAMIC	0. 01uF		50V
C318	1-126-303-11	ELECT	3. 3uF	20%	50V	C903	1-126-051-11	ELECT	47uF	20%	50V
C319	1-126-022-11	ELECT	47uF	20%	16V	C904	1-126-051-11	ELECT	47uF	20%	50V
C320	1-126-044-11	ELECT	1uF	20%	50V	C905	1-124-602-00	ELECT	2200uF	20%	35V
C321	1-126-044-11	ELECT	1uF	20%	50V	C906	1-126-053-11	ELECT	220uF	20%	50V
C322	1-126-044-11	ELECT	1uF	20%	50V	C908	1-126-059-11	ELECT	10uF	20%	50V
C323	1-126-043-11	ELECT	0. 47uF	20%	50V	C909	1-126-059-11	ELECT	10uF	20%	50V
C324	1-126-044-11	ELECT	1uF	20%	50V	C920	1-130-789-00	FILM	1uF	5%	100V
C325	1-126-051-11	ELECT	47uF	20%	50V	△C951	1-161-741-00	CERAMIC	0. 001uF	10%	400V
C326	1-126-022-11	ELECT	47uF	20%	16V						
C327	1-136-161-00	FILM	0. 047uF	5%	50V			< FILTER >			
C352	1-162-294-31	CERAMIC	0. 001uF	10%	50V	CF201	1-567-389-11	FILTER, CERAMIC			
C353	1-162-294-31	CERAMIC	0. 001uF	10%	50V	CF202	1-567-389-11	FILTER, CERAMIC			
C400	1-162-211-31	CERAMIC	33PF	5%	50V	CF203	1-567-389-11	FILTER, CERAMIC			
C401	1-162-306-11	CERAMIC	0. 01uF	30%	16V	CF231	1-567-107-71	FILTER, CERAMIC			
C402	1-162-306-11	CERAMIC	0. 01uF	30%	16V	CF301	1-567-250-11	OSCILLATOR, CERAMIC			
C403	1-162-306-11	CERAMIC	0. 01uF	30%	16V	CF401	1-527-826-00	FILTER, CERAMIC			
C404	1-126-022-11	ELECT	47uF	20%	16V	CF402	1-527-981-00	FILTER, CERAMIC			
C405	1-162-306-11	CERAMIC	0. 01uF	30%	16V			< CONNECTOR >			
C406	1-162-306-11	CERAMIC	0. 01uF	30%	16V	CNJ301	1-568-250-21	JACK, PIN 2P (LINE OUT)			
C408	1-162-306-11	CERAMIC	0. 01uF	30%	16V			< CONNECTOR >			
C409	1-162-294-31	CERAMIC	0. 001uF	10%	50V	CNP701	1-766-282-11	PIN, CONNECTOR (PC BOARD)	9P		
C410	1-162-306-11	CERAMIC	0. 01uF	30%	16V	CNP702	1-766-282-11	PIN, CONNECTOR (PC BOARD)	9P		
C411	1-126-022-11	ELECT	47uF	20%	16V	CNP901	1-580-230-11	PIN, CONNECTOR (PC BOARD)	2P		
C412	1-126-044-11	ELECT	1uF	20%	50V	CNP951	1-564-321-00	PIN, CONNECTOR	2P		
C413	1-126-044-11	ELECT	1uF	20%	50V			< DIODE >			
C414	1-126-163-11	ELECT	4. 7uF	20%	50V	D221	8-719-815-85	DIODE	1S1585		
C415	1-126-303-11	ELECT	3. 3uF	20%	50V						
C418	1-161-494-00	CERAMIC	0. 022uF		25V						
C419	1-102-074-00	CERAMIC	0. 001uF	10%	50V						

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Ref.No.	Part No.	Description	Remark	Ref.No.	Part No.	Description	Remark
D251	8-719-815-85	DIODE	1S1585	Q202	8-729-230-99	TRANSISTOR	2SC26690Y-TPE4
D301	8-719-815-85	DIODE	1S1585	Q203	8-729-230-99	TRANSISTOR	2SC26690Y-TPE4
D401	8-719-815-85	DIODE	1S1585	Q204	8-729-230-99	TRANSISTOR	2SC26690Y-TPE4
D402	8-719-815-85	DIODE	1S1585				
D901	8-719-970-02	DIODE	1SR139-400	Q231	8-729-904-39	TRANSISTOR	DTC114TS
D902	8-719-970-02	DIODE	1SR139-400	Q232	8-729-904-39	TRANSISTOR	DTC114TS
D903	8-719-970-02	DIODE	1SR139-400	Q233	8-729-904-39	TRANSISTOR	DTC114TS
D904	8-719-970-02	DIODE	1SR139-400	Q234	8-729-119-78	TRANSISTOR	2SC2785-HFE
D905	8-719-982-21	DIODE	MTZJ-30C	Q235	8-729-119-78	TRANSISTOR	2SC2785-HFE
D906	8-719-922-03	DIODE	MTZJ-18C	Q236	8-729-230-99	TRANSISTOR	2SC26690Y-TPE4
		< GROUND PLATE >		Q237	8-729-230-99	TRANSISTOR	2SC26690Y-TPE4
EP900	4-957-933-01	PLATE, GROUND		Q251	8-729-230-99	TRANSISTOR	2SC26690Y-TPE4
		< FRONTEND >		Q301	8-729-922-37	TRANSISTOR	2SD2144S-UVW
FE101	1-233-384-11	ENCAPSULATED COMPONENT (ANTENNA) (EE)		Q302	8-729-922-37	TRANSISTOR	2SD2144S-UVW
FE101	1-693-289-11	FRONT END (ANTENNA) (AEP, IT, G)		Q303	8-729-202-67	TRANSISTOR	2SK246-GR3
FE401	1-233-312-11	ENCAPSULATED COMPONENT		Q304	8-729-900-89	TRANSISTOR	DTC144ES
		< IC >		Q305	8-729-904-39	TRANSISTOR	DTC114TS
IC221	8-759-812-35	IC	LA1235	Q306	8-729-904-39	TRANSISTOR	DTC114TS
IC251	8-759-812-35	IC	LA1235	Q401	8-729-230-99	TRANSISTOR	2SC26690Y-TPE4
IC252	8-759-634-51	IC	M5218AP				
IC301	8-759-801-80	IC	LA3401	Q402	8-729-231-20	TRANSISTOR	2SK161-YGR
IC302	8-759-634-51	IC	M5218AP	Q403	8-729-922-37	TRANSISTOR	2SD2144S-UVW
IC401	8-759-812-45	IC	LA1245	Q404	8-729-922-37	TRANSISTOR	2SD2144S-UVW
IC801	8-759-065-98	IC	SAA6579T	Q405	8-729-922-37	TRANSISTOR	2SD2144S-UVW
IC901	8-759-820-09	IC	LA5667	Q521	8-729-900-89	TRANSISTOR	DTC144ES
		< IFT >		Q522	8-729-119-76	TRANSISTOR	2SA1175-HFE
IFT401	1-404-326-00	TRANSFORMER, IF		Q523	8-729-119-78	TRANSISTOR	2SC2785-HFE
		< COIL >		Q901	8-729-900-65	TRANSISTOR	DTA144ES
L201	1-410-521-11	INDUCTOR	100uH			< RESISTOR >	
L351	1-410-509-11	INDUCTOR	10uH	△R101	1-249-405-11	CARBON	100 5% 1/4W F
L352	1-410-509-11	INDUCTOR	10uH	△R102	1-249-405-11	CARBON	100 5% 1/4W F
L400	1-414-142-11	INDUCTOR	1uH	△R103	1-249-405-11	CARBON	100 5% 1/4W F
L401	1-410-521-11	INDUCTOR	100uH	R104	1-249-429-11	CARBON	10K 5% 1/4W
		< FILTER >		R105	1-249-437-11	CARBON	47K 5% 1/4W
LPF301	1-235-164-00	FILTER, LOW PASS					
LPF302	1-235-164-00	FILTER, LOW PASS		R106	1-249-441-11	CARBON	100K 5% 1/4W
		< TRANSFORMER >		R201	1-249-411-11	CARBON	330 5% 1/4W
△PT901	1-423-525-11	TRANSFORMER, POWER		R202	1-249-411-11	CARBON	330 5% 1/4W
		< TRANSISTOR >		R203	1-249-411-11	CARBON	330 5% 1/4W
Q200	8-729-231-20	TRANSISTOR	2SK161-YGR	R204	1-249-432-11	CARBON	18K 5% 1/4W
Q201	8-729-230-99	TRANSISTOR	2SC26690Y-TPE4	R205	1-249-414-11	CARBON	560 5% 1/4W F
				R206	1-249-413-11	CARBON	470 5% 1/4W F
				R207	1-249-411-11	CARBON	330 5% 1/4W
				R208	1-249-434-11	CARBON	27K 5% 1/4W
				R209	1-249-411-11	CARBON	330 5% 1/4W
				R210	1-249-432-11	CARBON	18K 5% 1/4W
				R211	1-249-414-11	CARBON	560 5% 1/4W F
				R212	1-249-411-11	CARBON	330 5% 1/4W
				R213	1-249-434-11	CARBON	27K 5% 1/4W
				R221	1-249-411-11	CARBON	330 5% 1/4W
				△R222	1-249-405-11	CARBON	100 5% 1/4W F
				R223	1-247-883-00	CARBON	150K 5% 1/4W

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	Ref. No.	Part No.	Description	Remark
R225	1-249-411-11	CARBON	330 5% 1/4W	R314	1-249-413-11	CARBON	470 5% 1/4W F
R231	1-249-411-11	CARBON	330 5% 1/4W	R315	1-249-413-11	CARBON	470 5% 1/4W F
R232	1-249-431-11	CARBON	15K 5% 1/4W	△R316	1-249-401-11	CARBON	47 5% 1/4W F
R233	1-249-411-11	CARBON	330 5% 1/4W	R317	1-249-413-11	CARBON	470 5% 1/4W
R234	1-249-395-11	CARBON	15 5% 1/4W F	R318	1-249-413-11	CARBON	470 5% 1/4W
R235	1-249-434-11	CARBON	27K 5% 1/4W	R319	1-249-437-11	CARBON	47K 5% 1/4W
R236	1-247-815-91	CARBON	220 5% 1/4W	R320	1-249-437-11	CARBON	47K 5% 1/4W
R237	1-249-441-11	CARBON	100K 5% 1/4W	R321	1-249-427-11	CARBON	6. 8K 5% 1/4W F
R238	1-249-429-11	CARBON	10K 5% 1/4W	R322	1-247-903-00	CARBON	1M 5% 1/4W
R239	1-249-429-11	CARBON	10K 5% 1/4W	R323	1-249-437-11	CARBON	47K 5% 1/4W
R240	1-249-431-11	CARBON	15K 5% 1/4W	R324	1-249-426-11	CARBON	5. 6K 5% 1/4W
R241	1-249-427-11	CARBON	6. 8K 5% 1/4W F	△R325	1-249-401-11	CARBON	47 5% 1/4W F
R242	1-249-427-11	CARBON	6. 8K 5% 1/4W F	R361	1-249-437-11	CARBON	47K 5% 1/4W
△R244	1-249-393-11	CARBON	10 5% 1/4W F	R362	1-249-437-11	CARBON	47K 5% 1/4W
△R245	1-249-393-11	CARBON	10 5% 1/4W F	R401	1-249-421-11	CARBON	2. 2K 5% 1/4W F
△R246	1-249-393-11	CARBON	10 5% 1/4W F	△R402	1-249-409-11	CARBON	220 5% 1/4W F
R251	1-249-411-11	CARBON	330 5% 1/4W	R404	1-249-413-11	CARBON	470 5% 1/4W F
R252	1-249-437-11	CARBON	47K 5% 1/4W	R405	1-247-807-31	CARBON	100 5% 1/4W
R253	1-249-439-11	CARBON	68K 5% 1/4W	R406	1-249-404-00	CARBON	82 5% 1/4W F
R254	1-249-421-11	CARBON	2. 2K 5% 1/4W F	R408	1-249-429-11	CARBON	10K 5% 1/4W
R255	1-249-421-11	CARBON	2. 2K 5% 1/4W F	R409	1-249-429-11	CARBON	10K 5% 1/4W
R256	1-249-432-11	CARBON	18K 5% 1/4W	R410	1-249-430-11	CARBON	12K 5% 1/4W
R257	1-249-424-11	CARBON	3. 9K 5% 1/4W F	△R412	1-249-407-11	CARBON	150 5% 1/4W F
R258	1-249-422-11	CARBON	2. 7K 5% 1/4W F	R413	1-249-429-11	CARBON	10K 5% 1/4W
△R259	1-249-405-11	CARBON	100 5% 1/4W F	R414	1-249-441-11	CARBON	100K 5% 1/4W
R260	1-249-438-11	CARBON	56K 5% 1/4W	R415	1-247-883-00	CARBON	150K 5% 1/4W
R261	1-249-437-11	CARBON	47K 5% 1/4W	R416	1-249-417-11	CARBON	1K 5% 1/4W F
R262	1-249-441-11	CARBON	100K 5% 1/4W	R418	1-249-417-11	CARBON	1K 5% 1/4W F
R264	1-249-426-11	CARBON	5. 6K 5% 1/4W	R419	1-249-422-11	CARBON	2. 7K 5% 1/4W F
△R265	1-249-401-11	CARBON	47 5% 1/4W F	R420	1-249-441-11	CARBON	100K 5% 1/4W
R268	1-249-433-11	CARBON	22K 5% 1/4W	R421	1-249-417-11	CARBON	1K 5% 1/4W F
R269	1-249-441-11	CARBON	100K 5% 1/4W	R422	1-249-418-11	CARBON	1. 2K 5% 1/4W F
R270	1-247-883-00	CARBON	150K 5% 1/4W	R423	1-249-418-11	CARBON	1. 2K 5% 1/4W F
R271	1-249-417-11	CARBON	1K 5% 1/4W F	R424	1-249-421-11	CARBON	2. 2K 5% 1/4W F
R272	1-249-417-11	CARBON	1K 5% 1/4W F	R425	1-249-420-11	CARBON	1. 8K 5% 1/4W F
R273	1-249-422-11	CARBON	2. 7K 5% 1/4W F	R426	1-249-421-11	CARBON	2. 2K 5% 1/4W F
△R274	1-249-393-11	CARBON	10 5% 1/4W F	△R428	1-249-422-11	CARBON	2. 7K 5% 1/4W F
R301	1-249-421-11	CARBON	2. 2K 5% 1/4W F	△R429	1-249-421-11	CARBON	10 5% 1/4W F
R302	1-247-883-00	CARBON	150K 5% 1/4W	R506	1-249-429-11	CARBON	10K 5% 1/4W
R303	1-247-883-00	CARBON	150K 5% 1/4W	R521	1-249-423-11	CARBON	3. 3K 5% 1/4W F
R304	1-247-878-00	CARBON	91K 5% 1/4W	R522	1-249-433-11	CARBON	22K 5% 1/4W
R305	1-247-878-00	CARBON	91K 5% 1/4W	△R801	1-249-401-11	CARBON	47 5% 1/4W F
R306	1-249-421-11	CARBON	2. 2K 5% 1/4W F	R802	1-249-421-11	CARBON	2. 2K 5% 1/4W F
R307	1-249-421-11	CARBON	2. 2K 5% 1/4W F	△R900	1-249-397-11	CARBON	22 5% 1/4W F
R308	1-249-426-11	CARBON	5. 6K 5% 1/4W	△R901	1-249-482-11	CARBON	4. 7 5% 1/2W F
R309	1-249-426-11	CARBON	5. 6K 5% 1/4W	△R902	1-247-747-11	CARBON	470 5% 1/2W F
R310	1-249-426-11	CARBON	5. 6K 5% 1/4W	R903	1-249-441-11	CARBON	100K 5% 1/4W
R311	1-249-426-11	CARBON	5. 6K 5% 1/4W	R904	1-249-437-11	CARBON	47K 5% 1/4W
R312	1-249-424-11	CARBON	3. 9K 5% 1/4W F	R905	1-249-437-11	CARBON	47K 5% 1/4W
R313	1-249-424-11	CARBON	3. 9K 5% 1/4W F	R906	1-249-437-11	CARBON	47K 5% 1/4W

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
< VARIABLE RESISTOR >			
RV221	1-237-460-11	RES, ADJ, CARBON 20K	
RV231	1-237-459-11	RES, ADJ, CARBON 10K	
RV232	1-237-456-11	RES, ADJ, CARBON 1K	
RV251	1-237-459-11	RES, ADJ, CARBON 10K	
RV301	1-237-462-11	RES, ADJ, CARBON 100K	
RV302	1-237-462-11	RES, ADJ, CARBON 100K	
RV402	1-237-459-11	RES, ADJ, CARBON 10K	
< TRANSFORMER >			
T251	1-235-126-00	ENCAPSULATED COMPONENT	
T252	1-404-845-11	COIL, DISCRI (PRIMARY)	
T253	1-404-846-11	COIL, DISCRI (SECONDARY)	
< TERMINAL >			
TM401	1-537-897-11	TERMINAL BOARD, PUSH(ANTENNA) 2P (ANTENNA)	
< TEST PIN >			
* TP251	1-565-513-11	PIN, CONNECTOR 2P	
< VIBRATOR >			
X801	1-579-900-21	VIBRATOR, CRYSTAL (4.332MHz)	

MISCELLANEOUS			

△18	1-575-651-21	CORD, POWER	
FL701	1-517-177-21	INDICATOR TUBE, FLUORESCENT	
△PT901	1-423-525-11	TRANSFORMER, POWER	
RV701	1-466-336-22	ENCODER, ROTARY (TUNING/SELECT)	

ACCESSORIES & PACKING MATERIALS			

	1-501-594-11	ANTENNA (FM)	
	1-501-761-41	ANTENNA, LOOP	
	1-590-925-31	CORD, CONNECTION (AUDIO 100cm)	
	3-798-043-11	MANUAL, INSTRUCTION	
		(ENGLISH, FRENCH, SPANISH, PORTUGUESE) (AEP, IT)	
	3-798-043-31	MANUAL, INSTRUCTION	
		(GERMAN, DUTCH, SWEDISH, ITALIAN) (AEP, IT)	
	3-798-043-41	MANUAL, INSTRUCTION	
		(ENGLISH, RUSSIAN, POLISH) (EE)	
	3-798-043-61	MANUAL, INSTRUCTION (GERMAN) (G)	
*	4-974-634-11	INDIVIDUAL CARTON	
*	4-974-636-01	CUSHION	

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

ST-SA3ES

SONY SERVICE MANUAL

AEP Model

SUPPLEMENT-1

Subject : GOLD MODEL ADDITION

(ENG-96008)

The Gold model is added.
In this SUPPLEMENT-1, only the differences compared with the Black model are mentioned.
As for not mentioned in this manual, refer to the previous issued service manual.

Page	Ref No.	Black model			Gold model		
		Part No.	Description	Remark	Part No.	Description	Remark
21			*** EXPLODED VIEWS ***			*** EXPLODED VIEWS ***	
	1	4-942-568-01	EMBLEM (NO.5), SONY		4-942-568-21	EMBLEM (NO.5), SONY	
	2	4-970-683-51	PANEL, FRONT		4-970-683-71	PANEL, FRONT	
	3	4-970-684-01	KNOB (T)		4-970-684-11	KNOB (T)	
	4	4-917-460-01	KNOB, POWER		4-917-460-51	KNOB, POWER	
	5	3-704-366-01	SCREW (CASE) (M3X8)		3-704-366-71	SCREW (CASE)	
	6	4-974-321-11	CASE		* 4-974-321-51	CASE	
	9	X-4946-076-1	BASE ASSY (B/3), PANEL		X-4947-487-1	BASE ASSY (N/3), PANEL	