

ST-S590ES

SERVICE MANUAL

AEP Model



SPECIFICATIONS

FM tuner

Frequency range	87.5 - 108 MHz
Antenna terminals	75 Ω unbalanced
Intermediate frequency	10.7 MHz
Sensitivity	(mono S/N 26 dB) 10.3 dBf, 0.9 μ V/75 Ω (stereo S/N 46 dB) 38.5 dBf, 23 μ V/75 Ω
Usable sensitivity	10.3 dBf, 0.9 μ V/75 Ω (IHF)
Signal-to-noise ratio	(at 40 kHz deviation) 80 dB (mono) 76 dB (stereo)
Harmonic distortion	WIDE 0.03% (mono); 0.04% (stereo) NARROW 0.05% (mono); 0.07% (stereo)
Frequency response	15 Hz - 15 kHz, (\pm 0.2 dB)
Separation	60 dB (at 1 kHz)
Selectivity	(at 400kHz) WIDE 80 dB NARROW 90 dB (at 300kHz) WIDE 45 dB NARROW 70 dB
Output	(at 40 kHz deviation) 600 mV

AM tuner

Frequency range	Italy MW: 522 - 1,611 kHz (9 kHz step) LW: 144 - 288 kHz (1 kHz step) Other MW: 531 - 1,602 kHz (9 kHz step) LW: 153 - 279 kHz (1 kHz step)
Intermediate frequency	450 kHz
Usable sensitivity	(with AM loop antenna) MW: 250 μ V/m LW: 700 μ V/m
Signal-to-noise ratio	54 dB
Harmonic distortion	0.3%
Selectivity	32 dB

General

Power requirements	220 - 230 V AC, 50/60 Hz (adjustable to 240 V AC by Sony personnel)
Power consumption	14 W
Dimensions	Approx. 430 mm (W) x 85 mm (H) x 345 mm (D) (17 x 3 ³ / ₈ x 13 ³ / ₈ inches)
Weight	Approx. 4.0 kg (8 lb. 13 oz.)
Accessories supplied	Remote control cord (1); Connecting cord (1); AM loop antenna (1)

Design and specifications are subject to change without notice.





FM STEREO / FM-AM TUNER
SONY[®]

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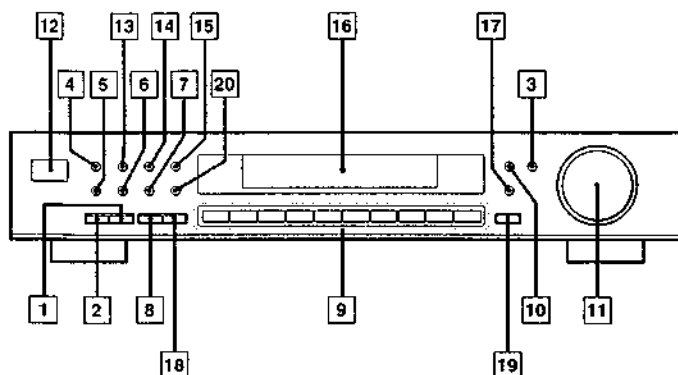
SAFETY-RELATED COMPONENT WARNING!!

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.

SECTION 1 GENERAL

This section is extracted from instruction manual.

Identifying the Controls



- 1** RDS button (46, 48)
- 2** AF button (46)
- 3** PTY button (48)
- 4** ANT button (10)
- 5** ANT ATT button (24)
- 6** IF BAND button (24)
- 7** MUTING button (22)
- 8** MEMORY button (26, 28)
- 9** Preset buttons (12, 26, 30, 36)
- 10** TUNING/PRESET button (16, 18, 32, 34, 44, 52)
- 11** TUNING/CHARACTER/PTY SELECT knob (16, 18, 26, 32-36, 44-52)
- 12** Power switch
- 13** CHARACTER button (36)
- 14** DISPLAY button (30, 44)
- 15** DISPLAY MODE button (12)
- 16** Display window
- 17** TUNE MODE button (16, 18, 28, 32, 34, 44, 48, 52)
- 18** BAND button (16-20)
- 19** SHIFT button (26, 30, 36)
- 20** FM MODE button (24)

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

SECTION 2 ADJUSTMENTS

- Refer to Adjustment Location on page 6.

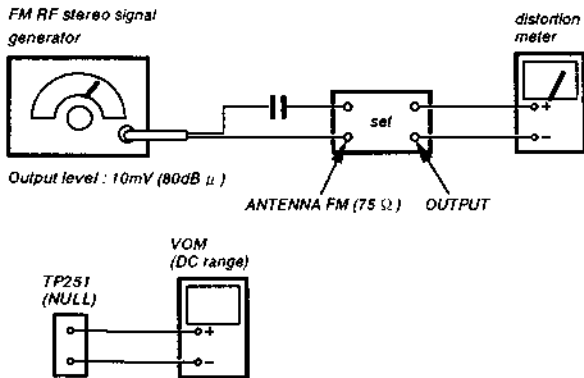
Note : As a front-end (FE101, 421 etc.) is difficult to repair if faulty, replace it with new one.

FM SECTION

- Standard Setting of FM Stereo RF Signal Generator.

STEREO STANDARD SIGNAL	MONAURAL STANDARD SIGNAL
Carrier frequency : 98MHz Modulation : Audio 1kHz, 16.25kHz (21.7%) deviation Subchannel 38kHz, 16.25kHz (21.7%) deviation Pilot 19kHz, 7.5kHz deviation (13.3%)	98MHz 1kHz, 40kHz deviation (53%)

FM Discriminator Adjustment (NULL and MONO Distortion)

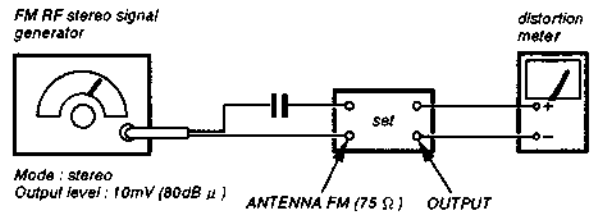


Procedure :

1. Tune the set to 98MHz.
2. Adjust T252 for 0V reading on the VOM.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.

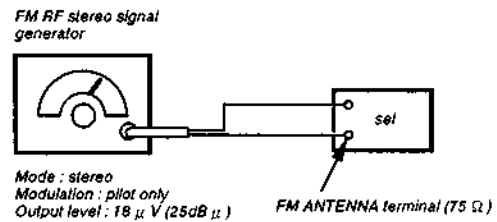
FM Stereo Distortion Adjustment



Procedure :

1. Tune the set to 98MHz.
Set SSG output level to 80dB μ
2. Adjust IFT in FE101 for a minimum reading on the distortion meter.

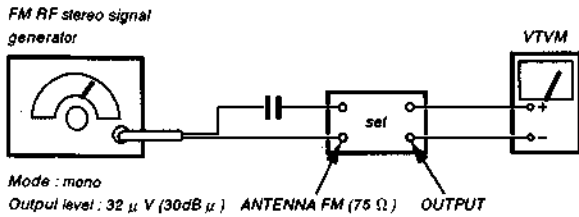
FM Stereo Indication Lighting Level Adjustment



Procedure :

1. Tune the set to 98MHz.
MUTING "OFF", FM MODE "AUTO STEREO"
Set SSG output level to 25dB μ
2. Adjust RV251 to the place where "STEREO", "TUNED" indication lights.

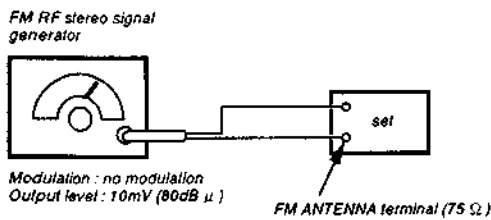
FM Muting Level Adjustment



Procedure :

1. Tune the set to 98MHz.
2. Push the MUTING switch and put on the light the "MUTING" indicator in the fluorescent display.
3. Set SSG output level to 32 μ V (30dB μ).
4. Adjust RV252 so that the reading of VTVM becomes within 25 μ V (28dB μ) - 40 μ V (32dB μ).

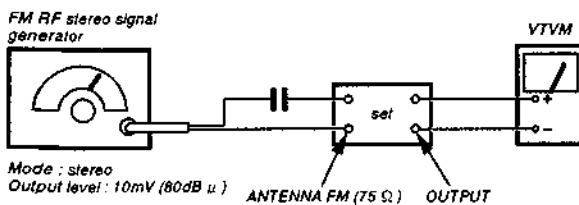
FM Signal Level Adjustment



Procedure :

1. Tune the set to 98MHz.
2. Push the display button to change the display mode for signal strength indication.
3. Adjust RV221 to the place where level 10 in the signal strength bar indicator lights and "75dB" indication lights on fluorescent tube.

FM Stereo Separation Adjustment



Procedure :

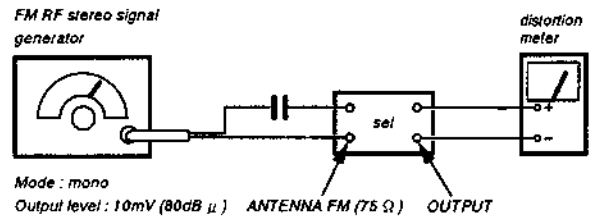
FM stereo signal generator output channel	VTVM connection	VTVM reading (dB)
L-CH	L-CH	(A)
R-CH	L-CH	(B) Adjust RV301 minimum reading.
R-CH	R-CH	(C)
L-CH	R-CH	(D) Adjust RV 301 for minimum reading.

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

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

The separation of both channels should be equal.

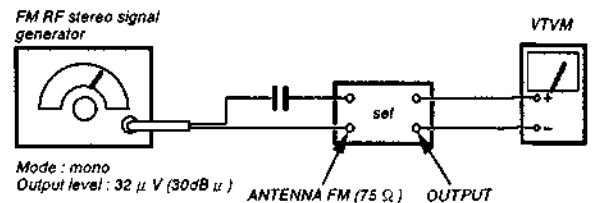
FM Narrow Distortion Adjustment



Procedure :

1. Tune the set to 98MHz.
2. Push the IF BAND switch and put on the light the "NARROW" indicator in the fluorescent display.
3. Set SSG output level to 80dB μ
4. Adjust RV232 for a minimum reading on the distortion meter.

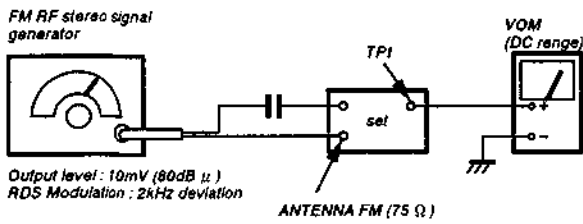
FM Narrow Gain Adjustment



Procedure :

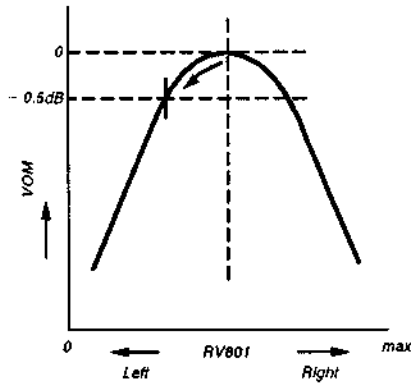
1. Tune the set to 98MHz.
2. Push the IF BAND switch and put on the light the "NARROW" indicator in the fluorescent display.
3. Set SSG output level to 32 μ V (30dB μ).
4. Adjust RV231 so that the reading on VTVM becomes within 25 μ V (28dB μ) - 40 μ V (32dB μ).

RDS, BPF Adjustment

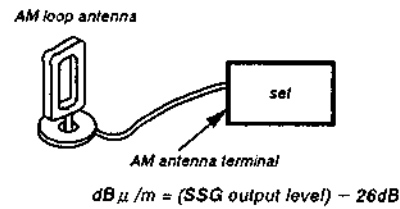
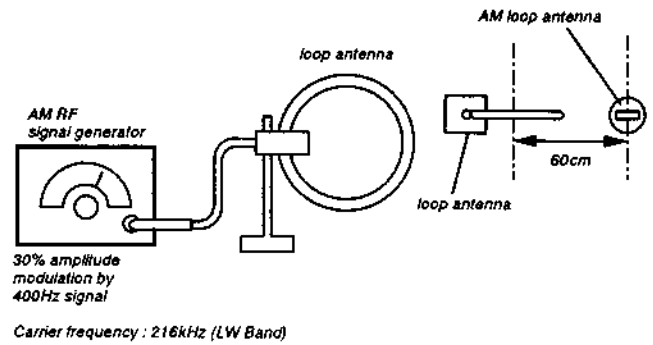


Procedure :

1. Tune RV801 to counterclockwise (left) and set the level below 0.5dB than maximum reading on the VOM. (refer to below drawing.)



AM SECTION

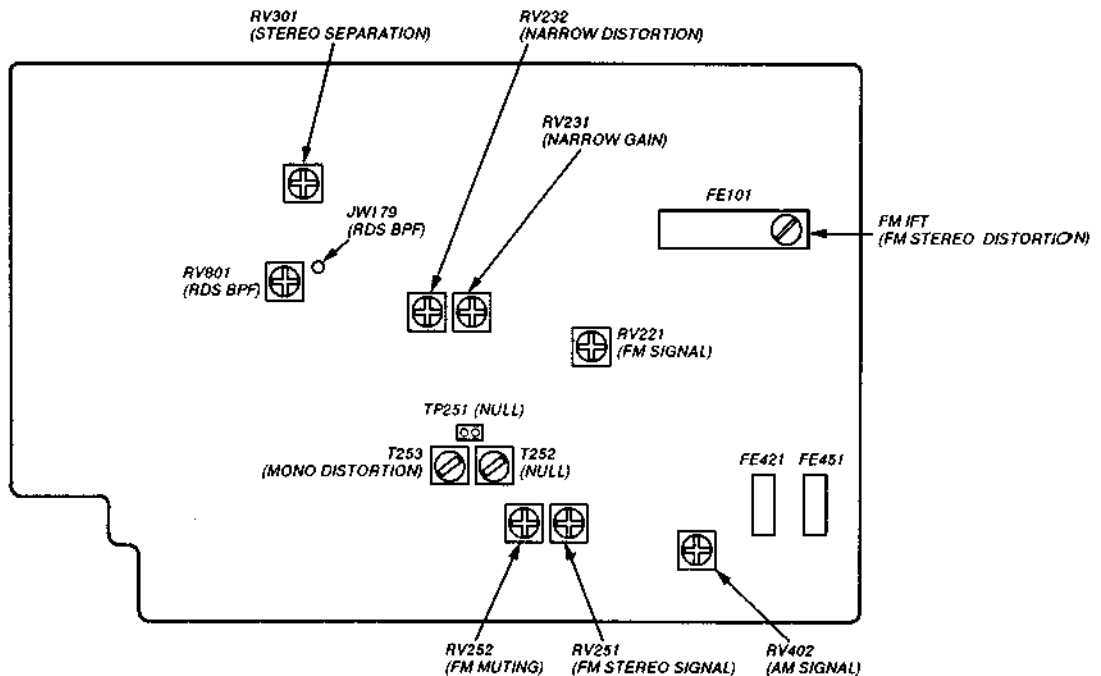


AM Signal Level Adjustment

Procedure :

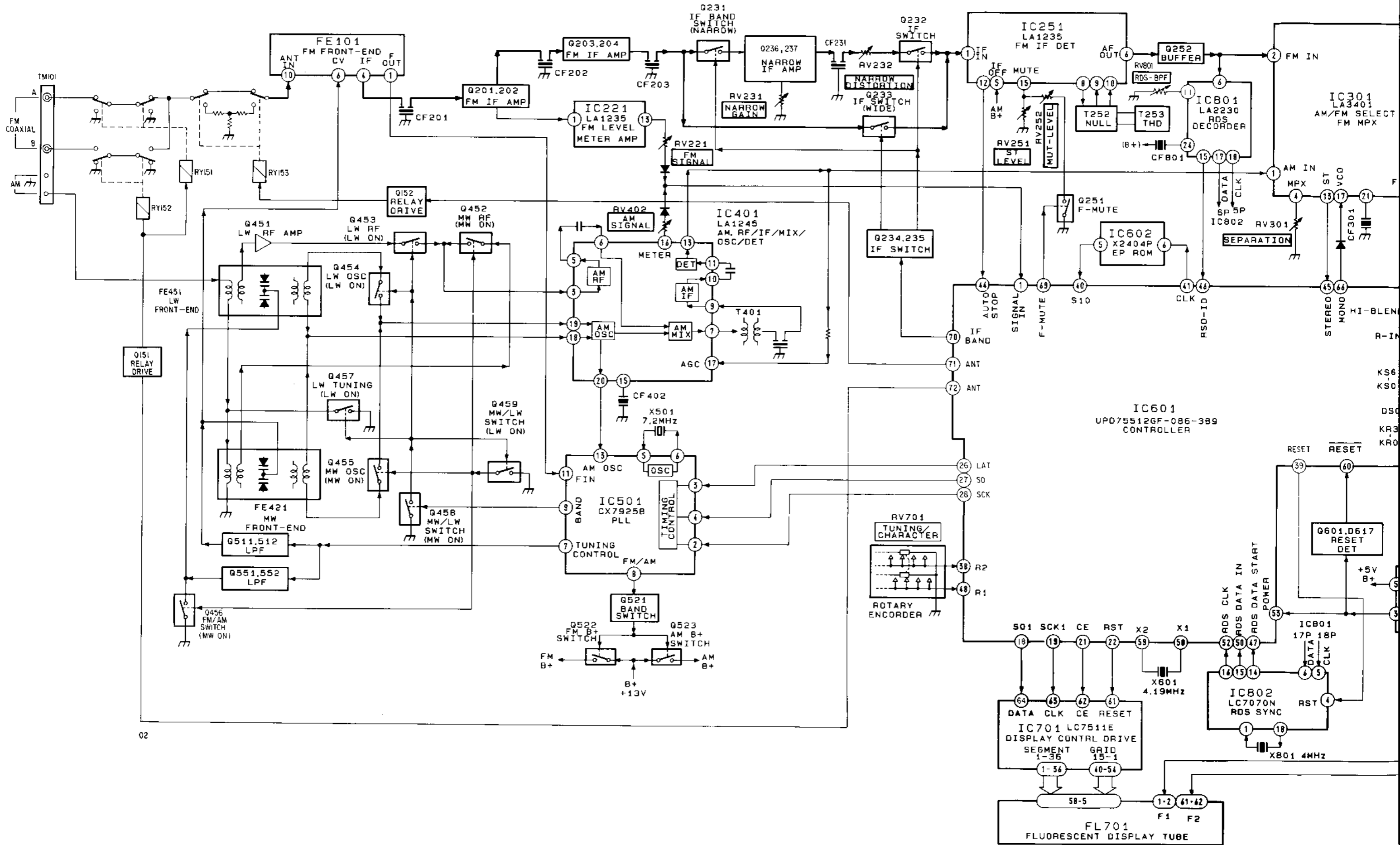
1. Set SSG output level so that antenna input level of the set becomes 5.0mV (74dB μ / m).
2. Adjust RV402 to the place where level 10 in the signal strength indicator turns from dark to light.

Adjustment Location : TUNER BOARD (Component Side)

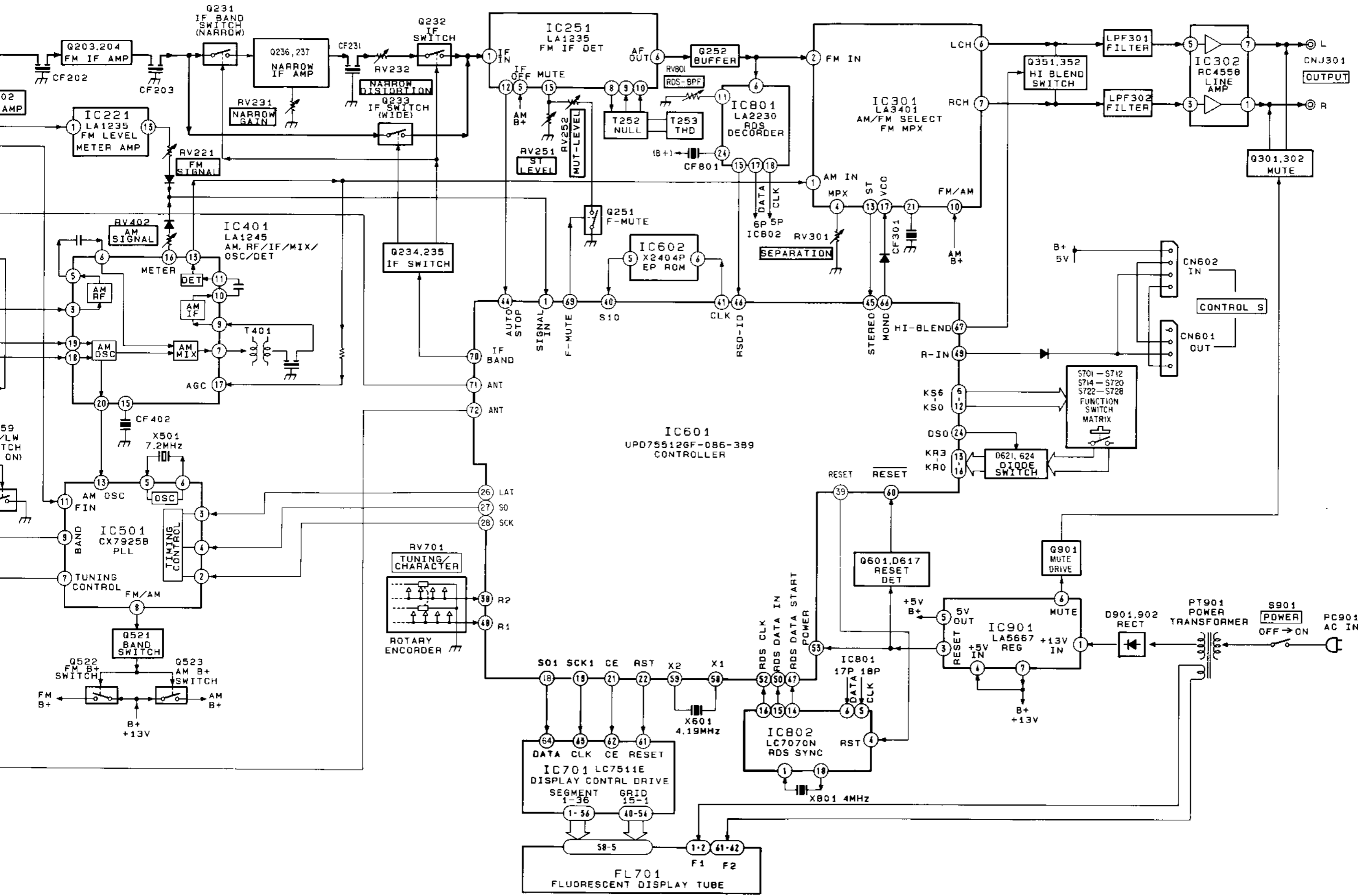


SECTION 3
DIAGRAMS

3-1. BLOCK DIAGRAM

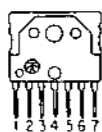


02

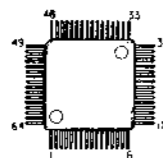


● SEMICONDUCTOR LEAD LAYOUTS

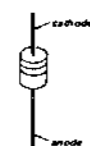
LA5667 2SK246-GR3



LC75711E



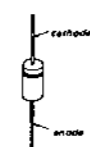
11ES2
HZS27-2L
HZS7B2L



2SA1175-HFE
2SC3623A-LK
DTC114TS
DTC144ES



1N4148M



2SC2603-EF
2SC2669-OY
DTA144ES



2SK161-YGR



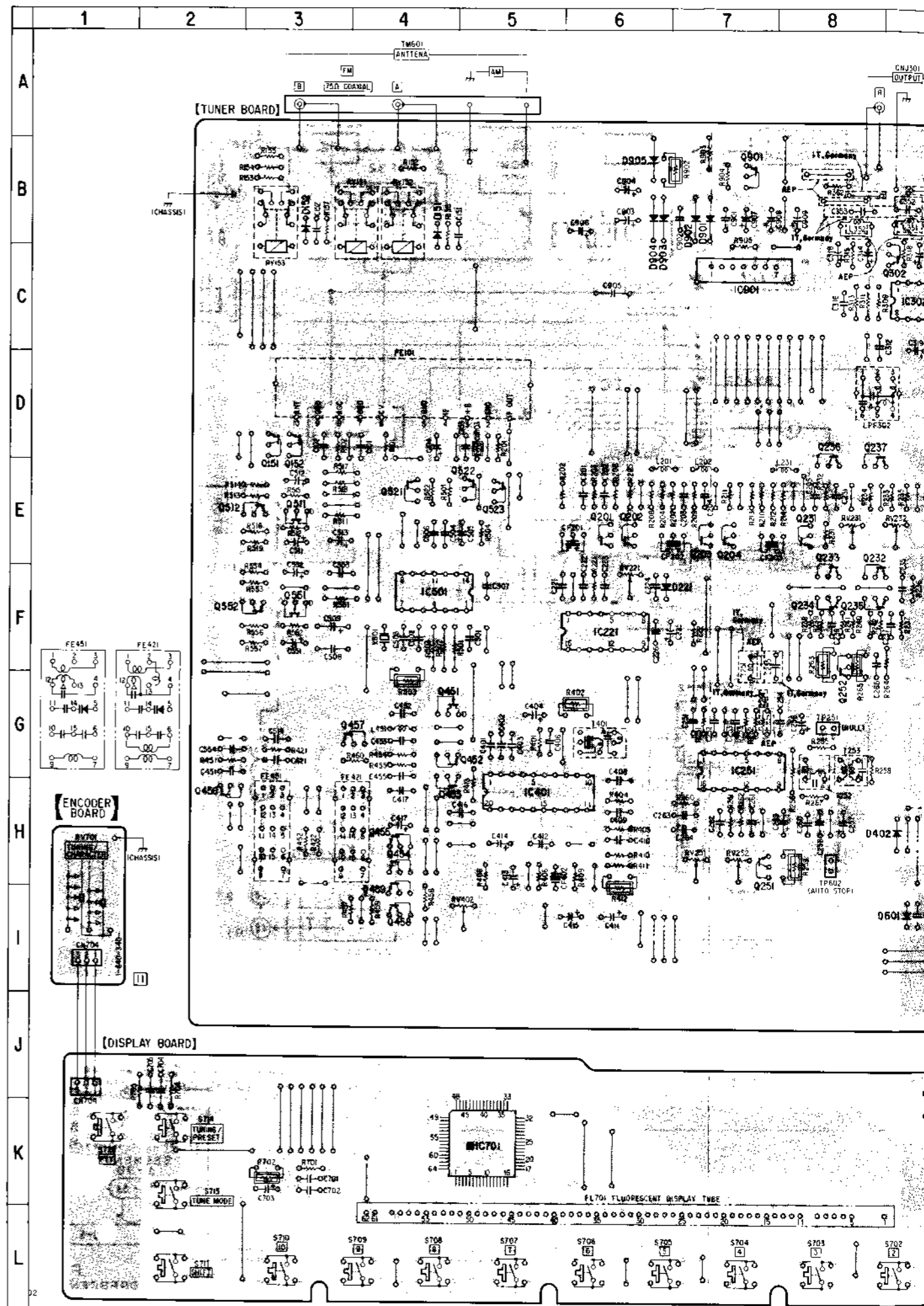
● SEMICONDUCTOR LOCATION

Ref. No.	Location	Ref. No.	Location
D151	B-4	Q301	C-9
D152	B-3	Q302	C-9
D221	F-6	Q351	D-11
D301	B-10	Q352	D-10
D402	H-9	Q451	G-4
D601	I-9	Q452	G-4
D615	B-12	Q453	H-4
D616	G-11	Q454	H-4
D617	G-10	Q455	H-4
D618	E-11	Q456	H-2
D621	I-11	Q457	G-4
D623	I-11	Q458	I-4
D624	I-11	Q459	H-4
D901	B-7	Q511	E-3
D902	B-7	Q512	E-3
D903	B-6	Q521	E-4
D904	B-6	Q522	E-5
D905	B-6	Q523	E-5
D906	H-13	Q551	F-3
		Q552	F-3
IC221	F-6	Q601	G-10
IC251	G-7	Q901	B-7
IC301	C-10		
IC302	C-9		
IC401	H-5		
IC501	F-4		
IC601	H-11		
IC602	H-12		
IC701	K-5		
IC801	E-10		
IC802	F-10		
IC901	C-7		
Q151	D-3		
Q152	D-3		
Q201	E-6		
Q202	E-7		
Q203	E-7		
Q204	E-8		
Q231	E-8		
Q232	E-8		
Q233	F-8		
Q234	F-8		
Q235	D-8		
Q236	D-8		
Q237	H-7		
Q251	F-8		
Q252	F-8		

Note:

- : parts extracted from the component side.
- : parts mounted on the conductor side.
- : indicates side identified with part number.
- ▨ : Pattern on the side which is seen.

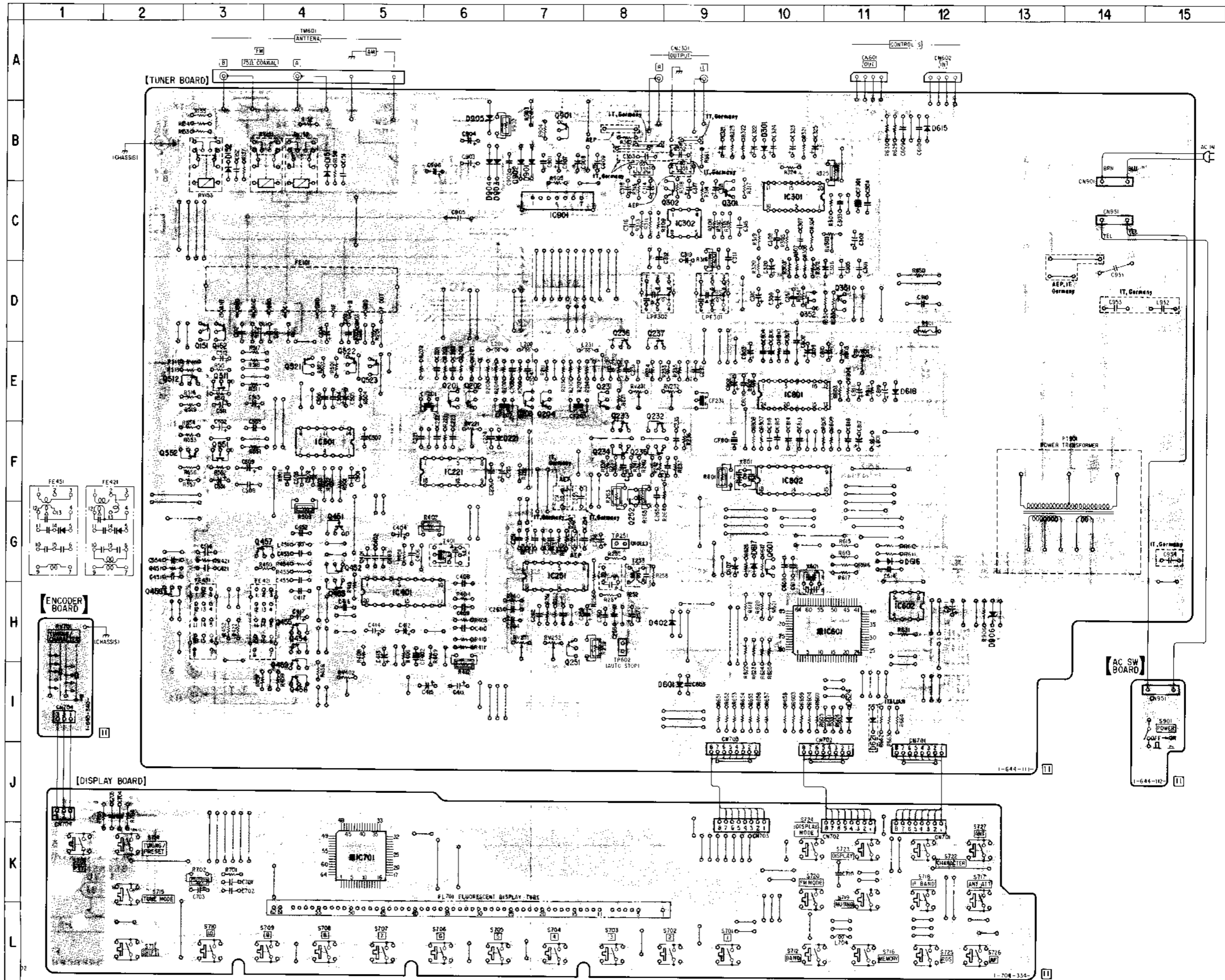
3-2. PRINTED WIRING BOARDS



3-2. PRINTED WIRING BOARDS

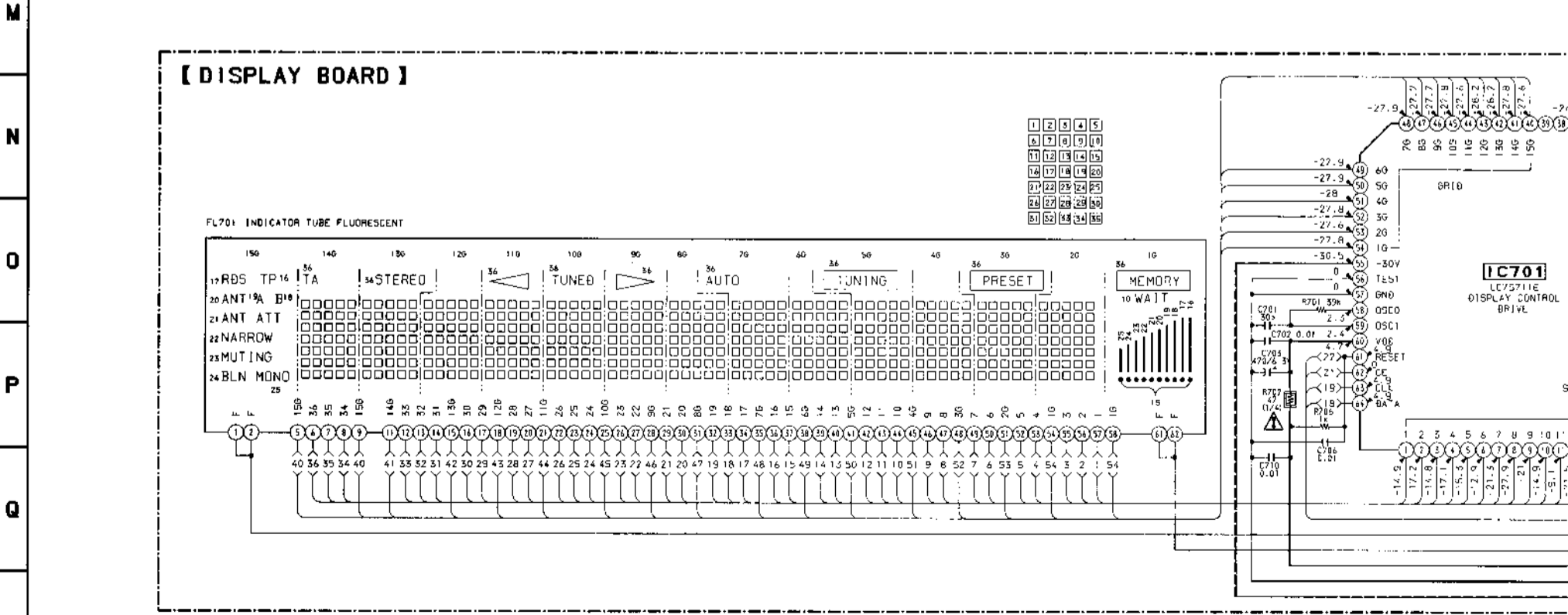
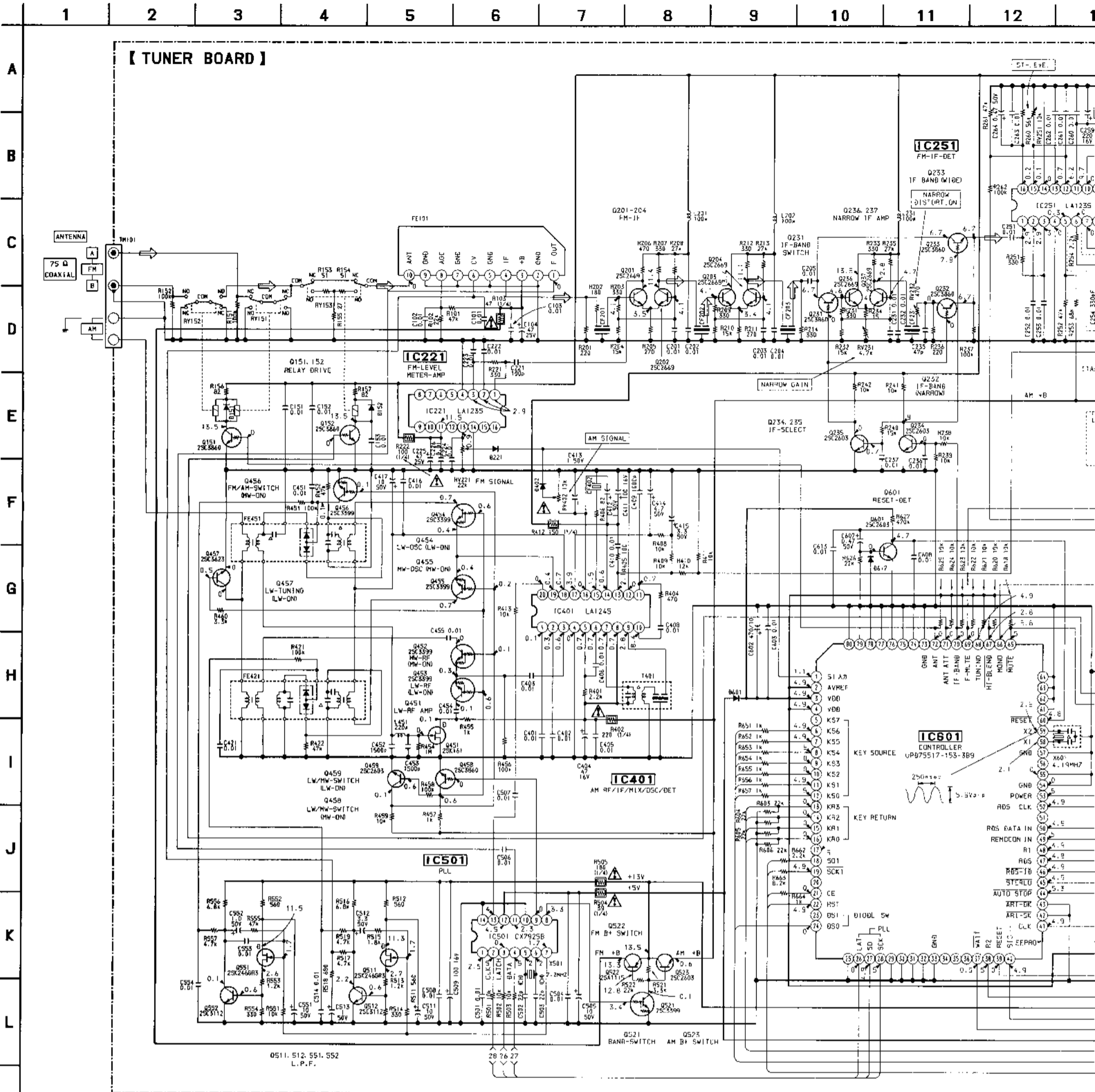
CONDUCTOR LOCATION

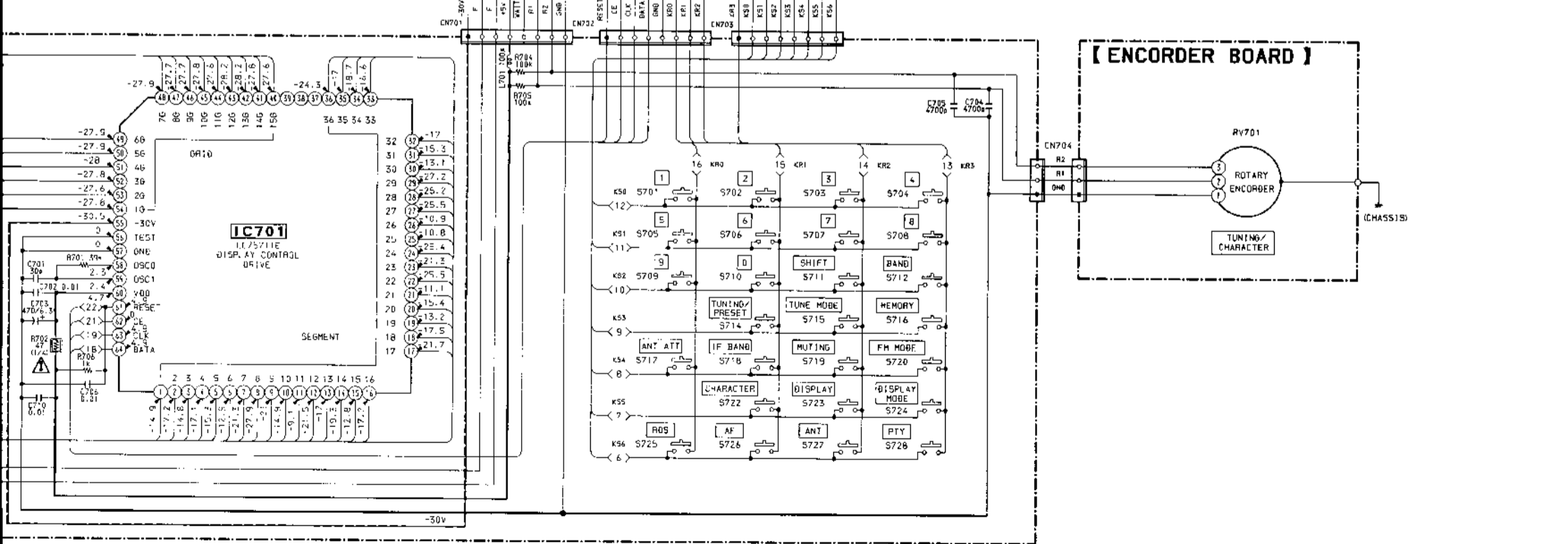
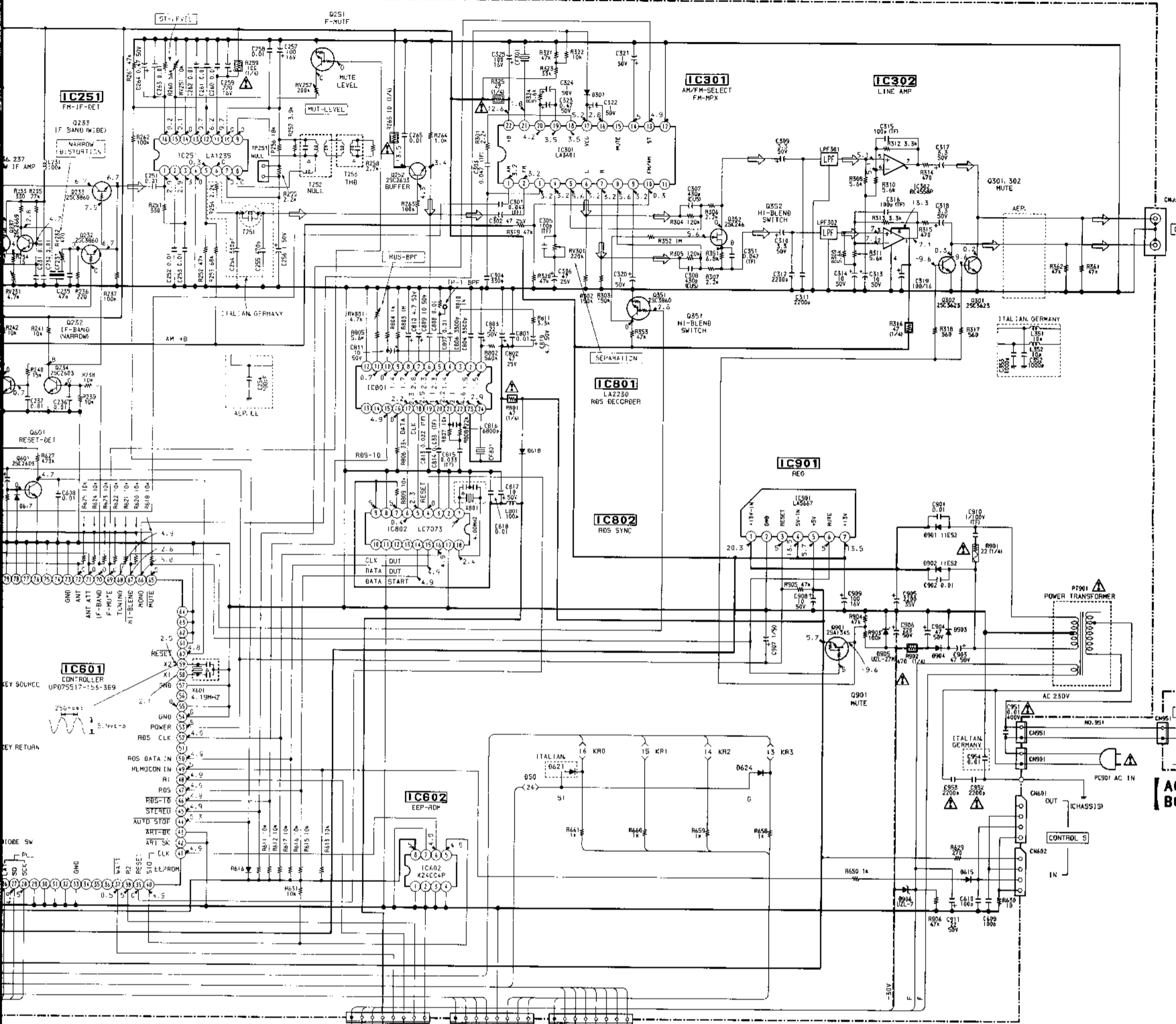
Location	Ref. No.	Location
B-4	Q301	C-9
B-3	Q302	C-9
F-6	Q351	D-11
B-10	Q352	D-10
H-9	Q451	G-4
I-9	Q452	G-4
B-12	Q453	H-4
G-11	Q454	H-4
G-10	Q455	H-4
E-11	Q456	H-2
I-11	Q457	G-4
I-11	Q458	I-4
I-11	Q459	H-4
B-7	Q511	E-3
B-7	Q512	E-3
B-6	Q521	E-4
B-6	Q522	E-5
B-6	Q523	E-5
H-13	Q551	F-3
	Q552	F-3
F-6	Q601	G-10
G-7	Q901	B-7
C-10		
C-9		
H-5		
F-4		
H-11		
H-12		
K-5		
E-10		
F-10		
C-7		
D-3		
D-3		
E-6		
E-6		
F-7		
E-7		
E-8		
E-8		
F-8		
F-8		
O-8		
D-8		
H-7		
F-8		



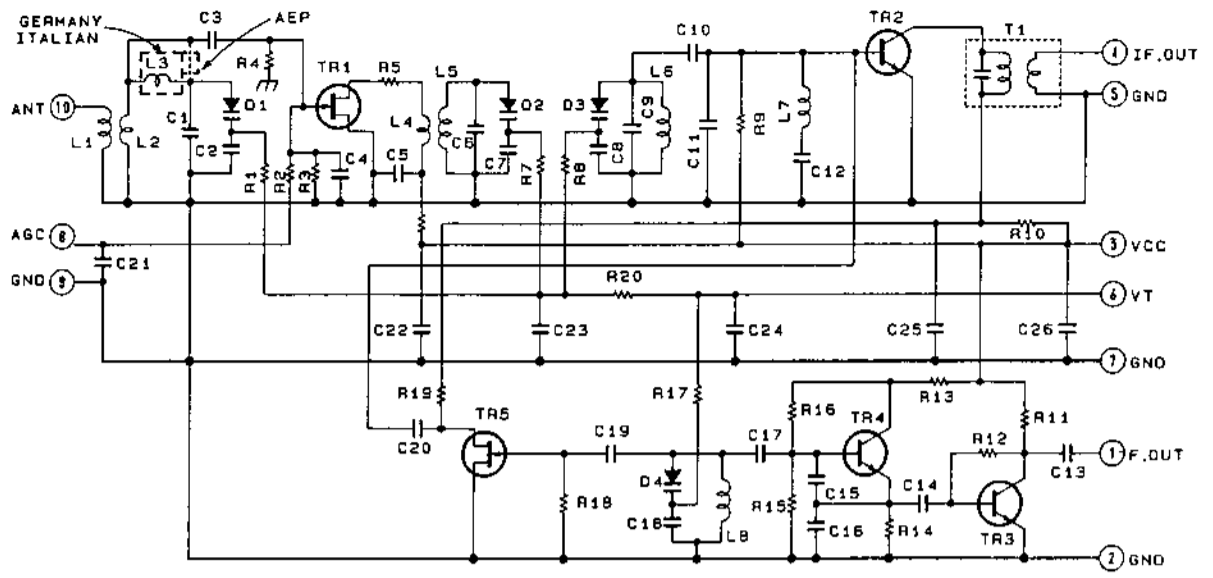
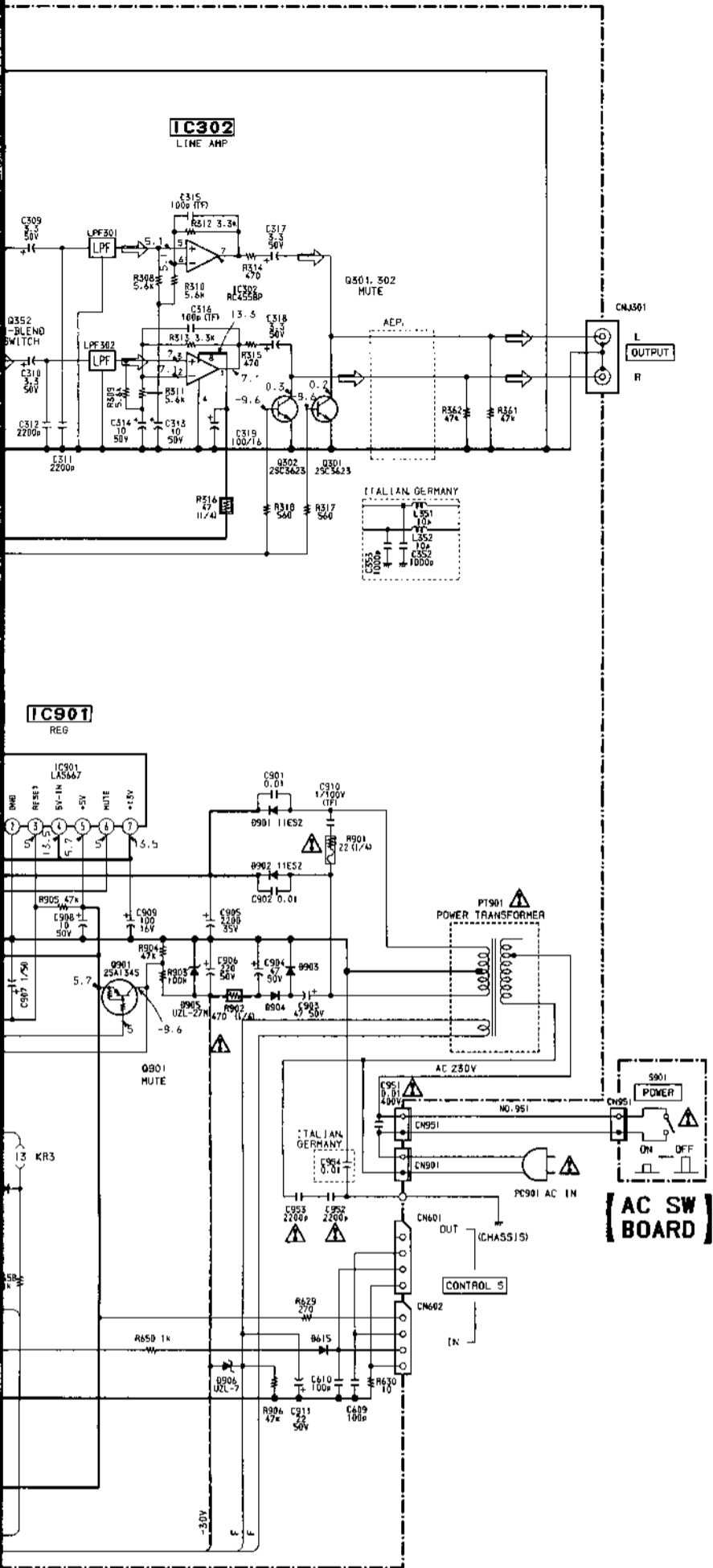
is extracted from the component side.
 is mounted on the conductor side.
 indicates side identified with part number.
 pattern on the side which is seen.

3-3. SCHEMATIC DIAGRAM





3-4. FM FRONT-END (EF01)
- AEP, IT, G Model -



Note :

- All capacitors are in μF unless otherwise noted. pF: $\mu\mu F$ 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and $\frac{1}{2}W$ or less unless otherwise specified.
- Δ : internal component.
- \square : nonflammable resistor.
- $\text{---} \text{---}$: fusible resistor.

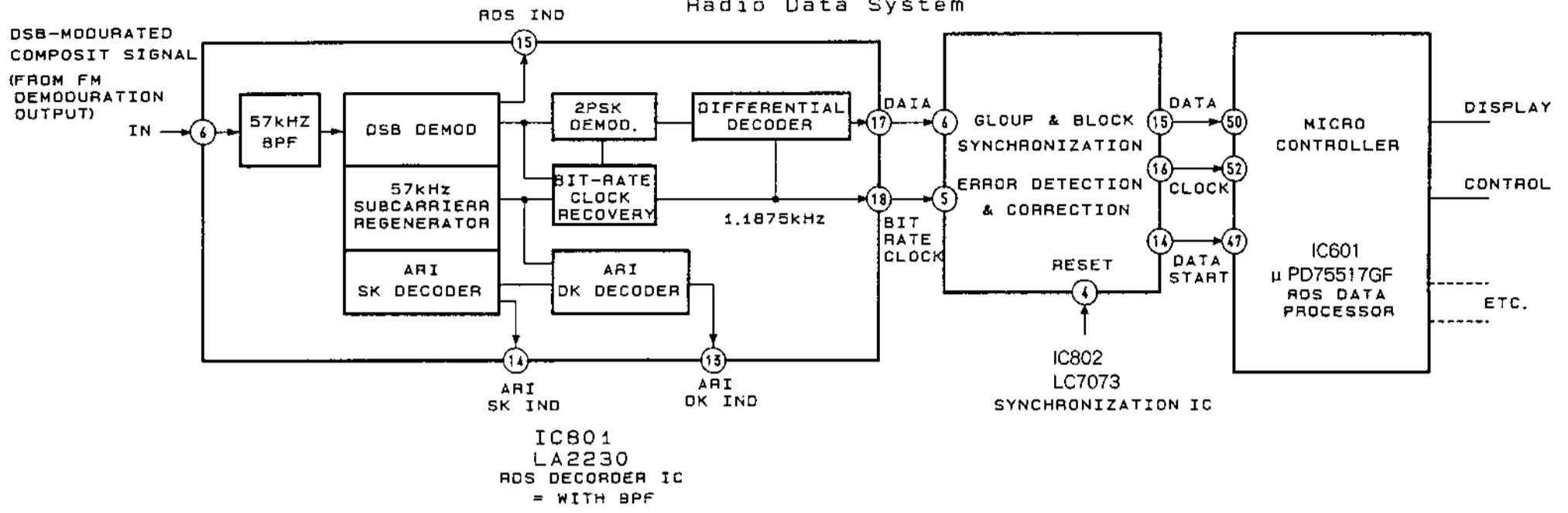
Note : The components identified by mark Δ or dotted line with mark Δ are critical for safety. Replace only with part number specified.

- --- : B+ Line
- --- : B - Line
- \square : adjustment for repair.
- Voltage and waveforms are dc with respect to ground under no-signal (detuned) conditions. no mark : FM
- Voltages are taken with a VOM (Input impedance 10M Ω). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with an oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Signal path. \Rightarrow : FM

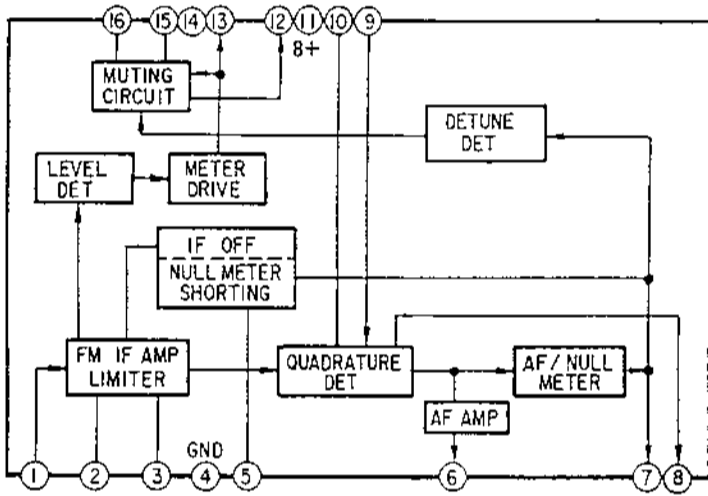
3-5. IC BLOCK DIAGRAMS

IC601 μ PD75517GF
 IC801 LA2230
 IC802 LC7073

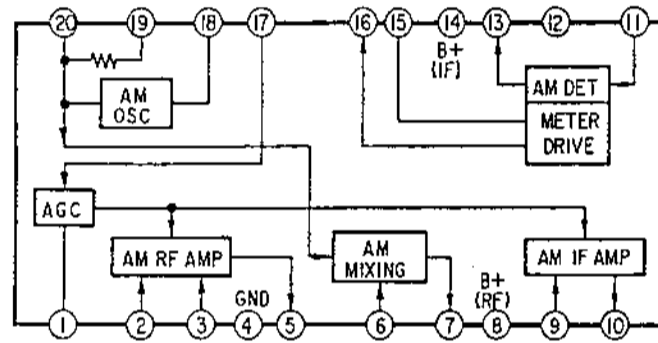
RDS DECODER IC's
 Radio Data System



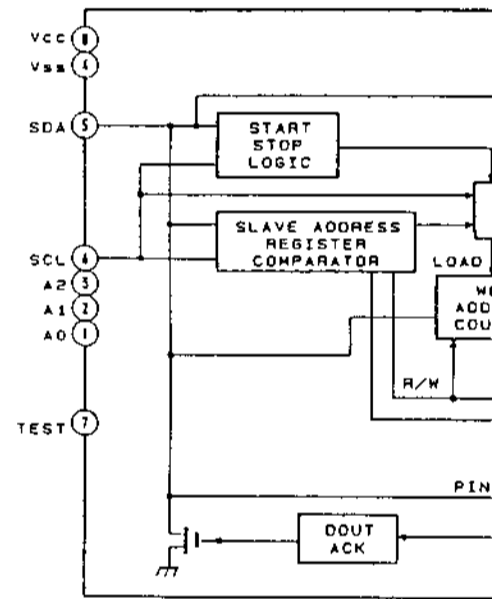
IC221, 251 LA1235



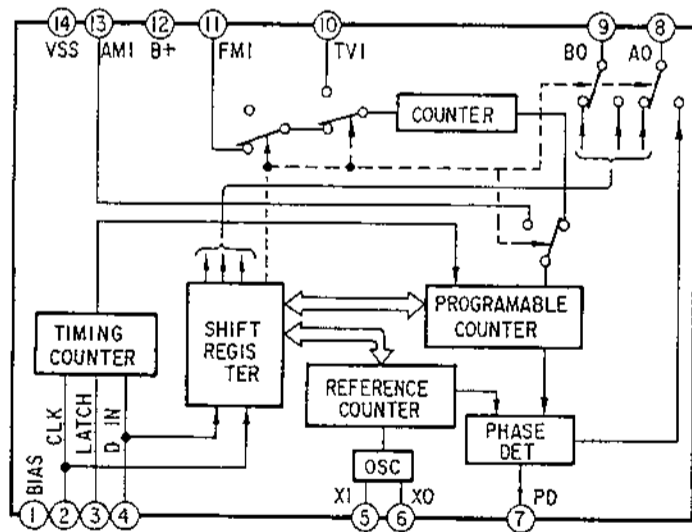
IC401 LA1245



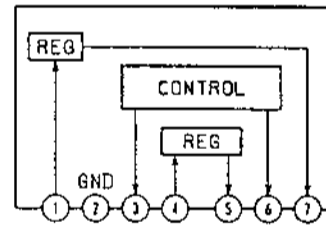
IC602 X24C04P



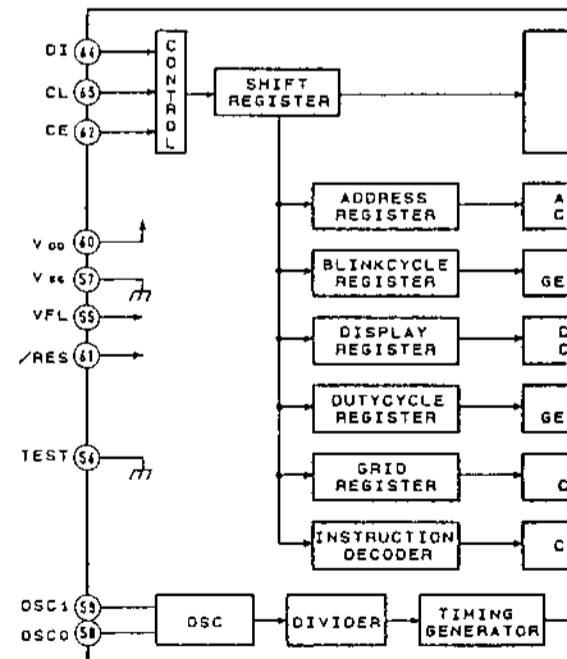
IC501 CX7925B



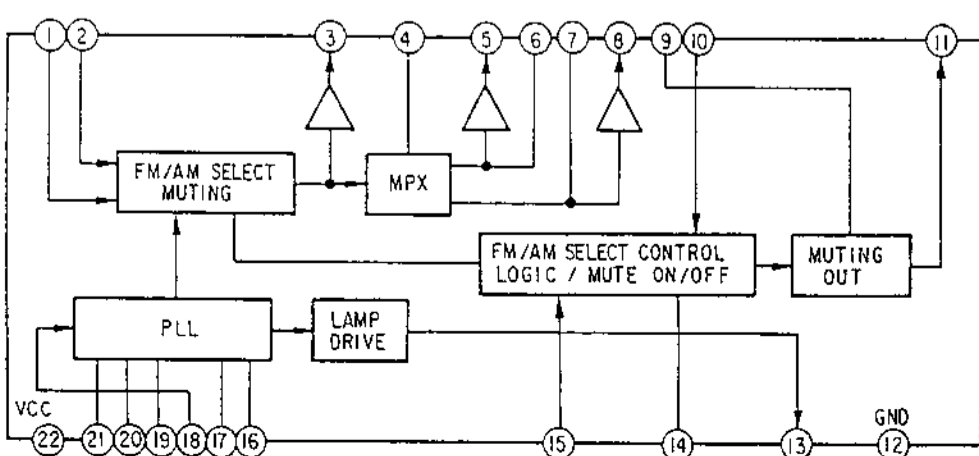
IC901 LA5667



IC701 LC7511E

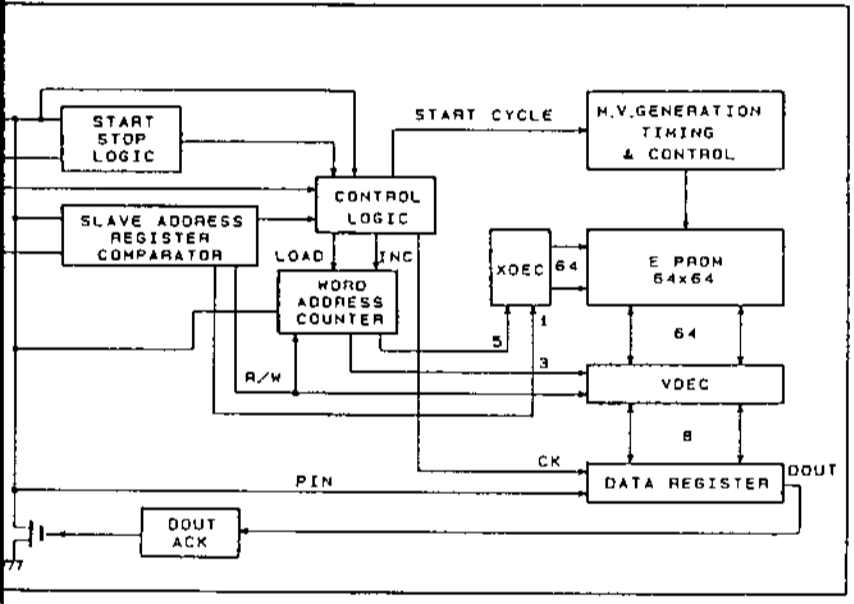


IC301 LA3401

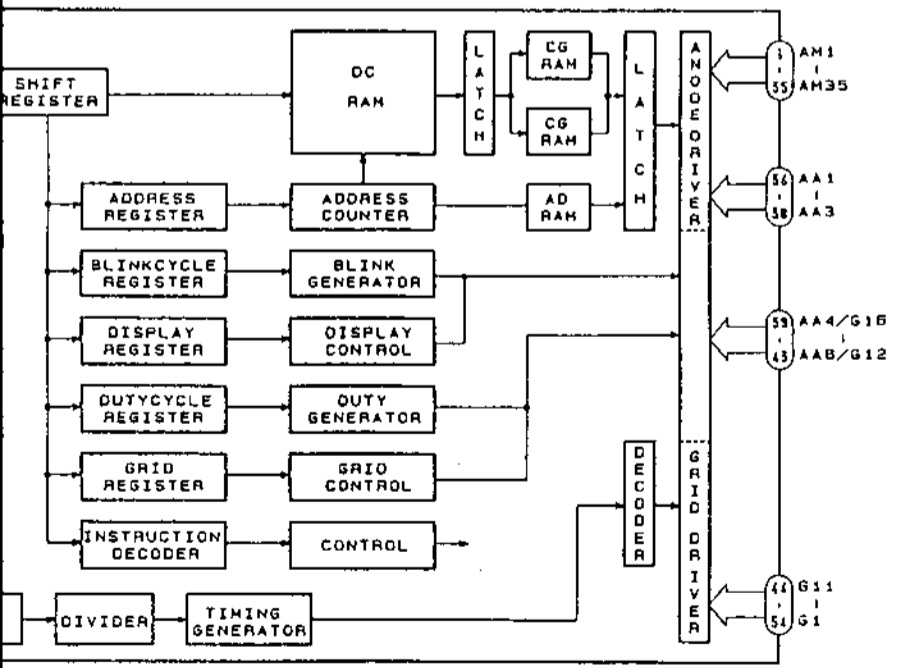


ER
CONTROL
GF
A
OR
ETC.

OC04P



1E



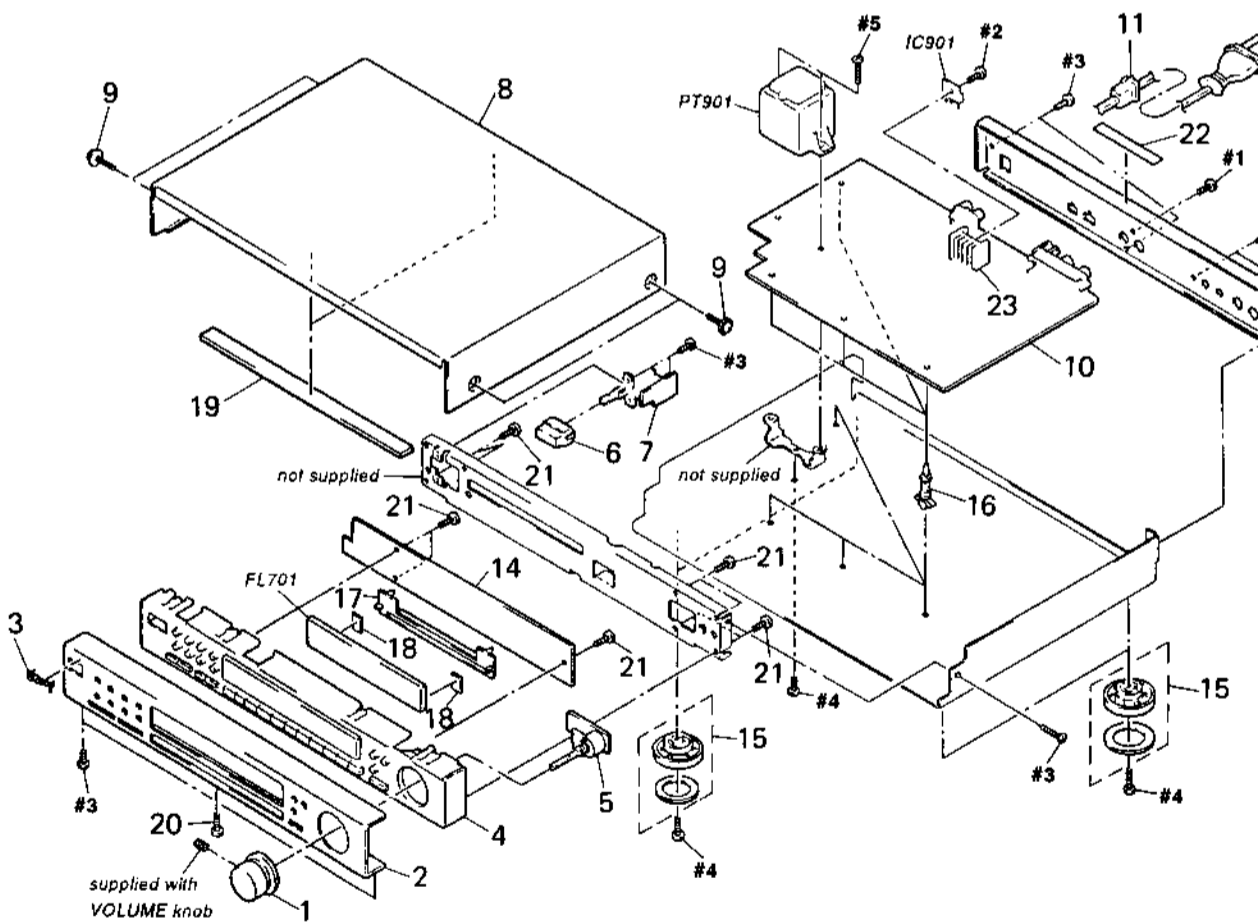
SECTION 4 EXPLODED VIEW

NOTE:

- -XX, -X mean standardized parts, so they may have some differences from the original one.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Color indication of Appearance Parts
Example:
KNOB, BALANCE (WHITE)....(RED)
Parts color Cabinet's color
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list is given in the last of this parts list.

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

When indicating parts by reference number, please include board.



Ref.No.	Part No.	Description	Remark	Ref.No.	Part No.	Description
1	4-945-871-01	KNOB (DIA. 50)		* 13	4-950-075-41	PANEL, BACK
2	4-952-984-01	PANEL, FRONT		* 14	A-4347-587-A	DISPLAY BOARD, COMPLETE
3	4-908-848-01	EMBLEM, SONY		15	X-3304-944-1	FOOT ASSY
4	X-4942-750-1	PANEL (BASE) ASSY		* 16	3-346-265-11	HOLDER, PC BOARD
* 5	1-640-340-11	ENCODER BOARD		* 17	4-945-292-01	HOLDER, INDICATION TUBE
6	3-354-912-01	KNOB, POWER		* 18	4-932-810-11	CUSHION (FL)
* 7	1-644-112-11	AC SW (A) BOARD		* 19	4-916-782-41	DAMPER
8	4-923-420-71	CASE		20	3-703-685-21	SCREW (+BV 3X8)
9	3-704-366-01	SCREW (CASE) (M3X8)		21	4-928-635-01	SCREW, +BV (2.6X8) TAPPING
* 10	A-4347-585-A	TUNER BOARD, COMPLETE(AEP)		22	3-839-335-01	CUSHION
* 10	A-4347-588-A	TUNER BOARD, COMPLETE(Germany)		* 23	4-911-383-01	HEAT SINK
* 10	A-4347-589-A	TUNER BOARD, COMPLETE(ITALIAN)		FL701	1-519-719-11	INDICATOR TUBE, FLUORESCENT
* 11	3-703-244-00	BUSHING (2104), CORD		IC901	8-759-820-09	IC LA5667
12	3-704-242-01	SCREW, TERMINAL, + BVTP CLAW		Δ PC901	1-574-383-11	CORD, POWER
				Δ PT901	1-450-408-11	TRANSFORMER, POWER

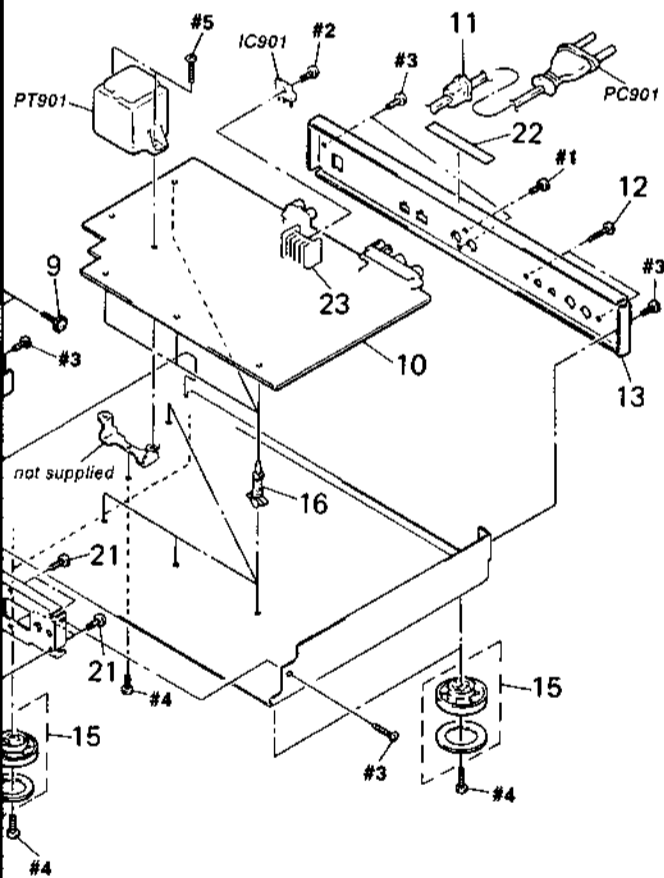
ON 4
ED VIEW

* are not stocked
seldom required for
Some delay should be
ordering these items.
parts with no reference
exploded views are not

mark) list is given in the
list.

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 refer-
ence number, please include the
board.



Ref.No.	Part No.	Description	Remark
* 13	4-950-075-41	PANEL, BACK	
* 14	A-4347-587-A	DISPLAY BOARD, COMPLETE	
15	X-3304-944-1	FOOT ASSY	
* 16	3-346-265-11	HOLDER, PC BOARD	
* 17	4-945-292-01	HOLDER, INDICATION TUBE	
* 18	4-932-810-11	CUSHION (FL)	
* 19	4-916-782-41	DAMPER	
20	3-703-685-21	SCREW (+BV 3X8)	
21	4-928-635-01	SCREW, +BV (2.6X8) TAPPING	
22	3-839-335-01	CUSHION	
* 23	4-911-383-01	HEAT SINK	
FL701	1-519-719-11	INDICATOR TUBE, FLUORESCENT	
IC901	8-759-820-09	IC LA5667	
Δ PC901	1-574-383-11	CORD, POWER	
Δ PT901	1-450-408-11	TRANSFORMER, POWER	

**ENCODER DISPLAY SECTION 5
ELECTRICAL PARTS LIST**

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
All resistors are in ohms
METAL: Metal-film resistor
METAL OXIDE: Metal oxide-film resistor
F: nonflammable

- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
In each case, u: μ , for example:
uA: μ A, uPA: μ PA
uPB: μ PB, uPC: μ PC
uPD: μ PD
- CAPACITORS
uF: μ F
- COILS
uH: μ H

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

When indicating parts by refer-
ence number, please include the
board.

Ref.No.	Part No.	Description	Remark
*	1-640-340-11	ENCODER BOARD *****	
		< VARIABLE RESISTOR >	
RV701	1-466-336-11	ENCODER, ROTARY(TUNING/CHARACTER/PTY) *****	
*	A-4347-587-A	DISPLAY BOARD, COMPLETE *****	
*	4-932-810-11	CUSHION (FL)	
*	4-945-292-01	HOLDER, INDICATION TUBE	
		< CAPACITOR >	
C701	1-102-962-00	CERAMIC 30PF 5% 50V	
C702	1-164-095-11	CERAMIC 0.01uF 10% 16V	
C703	1-128-183-11	ELECT 470uF 20% 6.3V	
C704	1-161-377-00	CERAMIC 0.0047uF 30% 16V	
C705	1-161-377-00	CERAMIC 0.0047uF 30% 16V	
C706	1-161-379-00	CERAMIC 0.01uF 20% 25V	
C710	1-161-379-00	CERAMIC 0.01uF 20% 25V	
		< CONNECTOR >	
* CN701	1-564-342-11	PIN, CONNECTOR 8P	
* CN702	1-564-342-61	PIN, CONNECTOR 8P	
* CN703	1-564-342-11	PIN, CONNECTOR 8P	
		< FILTER >	
FL701	1-519-719-11	INDICATOR TUBE, FLUORESCENT	
		< IC >	
IC701	8-759-823-57	IC LC75711E	

Ref.No.	Part No.	Description	Remark
		< COIL >	
L701	1-410-977-11	INDUCTOR 100uH	
		< RESISTOR >	
R701	1-249-436-11	CARBON 39K 5% 1/4W	
Δ R702	1-249-401-11	CARBON 47 5% 1/4W	
R704	1-249-441-11	CARBON 100K 5% 1/4W	
R705	1-249-441-11	CARBON 100K 5% 1/4W	
R706	1-249-417-11	CARBON 1K 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(SHIFT)	
S712	1-554-303-21	SWITCH, TACTILE(BAND)	
S714	1-554-303-21	SWITCH, TACTILE(TUNING/PRESET)	
S715	1-554-303-21	SWITCH, TACTILE(TUNE MODE)	
S716	1-554-303-21	SWITCH, TACTILE(MEMORY)	
S717	1-554-303-21	SWITCH, TACTILE(ANT ATT)	
S718	1-554-303-21	SWITCH, TACTILE(IF BAND)	
S719	1-554-303-21	SWITCH, TACTILE(MUTING)	
S720	1-554-303-21	SWITCH, TACTILE(FW MODE)	
S722	1-554-303-21	SWITCH, TACTILE(CHARACTER)	
S723	1-554-303-21	SWITCH, TACTILE(DISPLAY)	
S724	1-554-303-21	SWITCH, TACTILE(DISPLAY MODE)	

DISPLAY

AC SW(A)

TUNER

Ref. No.	Part No.	Description	Remark
S725	1-554-303-21	SWITCH, TACTILE(RDS)	
S726	1-554-303-21	SWITCH, TACTILE(AF)	
S727	1-572-184-11	SWITCH, KEYBOARD(ANT)	
S728	1-572-184-11	SWITCH, KEYBOARD(PHY)	

*	1-644-112-11	AC SW (A) BOARD *****	
		< SWITCH >	
S901	1-572-267-51	SWITCH, PUSH (AC POWER)(1 KEY)(POWER)	

*	A-4347-585-A	TUNER BOARD, COMPLETE(AEP) *****	
*	A-4347-588-A	TUNER BOARD, COMPLETE(Germany) *****	
*	A-4347-589-A	TUNER BOARD, COMPLETE(ITALIAN) *****	
*	4-911-383-01	HEAT SINK	
	7-682-548-09	SCREW +B 3X8	
		< CAPACITOR >	
C101	1-161-379-00	CERAMIC 0.01uF 20% 25V	
C102	1-161-379-00	CERAMIC 0.01uF 20% 25V	
C103	1-161-379-00	CERAMIC 0.01uF 20% 25V	
C104	1-126-022-11	ELECT 47uF 20% 25V	
C151	1-161-379-00	CERAMIC 0.01uF 20% 25V	
C152	1-161-379-00	CERAMIC 0.01uF 20% 25V	
C153	1-161-379-00	CERAMIC 0.01uF 20% 25V	
C201	1-161-379-00	CERAMIC 0.01uF 20% 25V	
C202	1-161-379-00	CERAMIC 0.01uF 20% 25V	
C203	1-161-379-00	CERAMIC 0.01uF 20% 25V	
C204	1-161-379-00	CERAMIC 0.01uF 20% 25V	
C205	1-161-379-00	CERAMIC 0.01uF 20% 25V	
C221	1-162-282-31	CERAMIC 100PF 10% 50V	
C222	1-161-379-00	CERAMIC 0.01uF 20% 25V	
C223	1-161-379-00	CERAMIC 0.01uF 20% 25V	
C224	1-161-379-00	CERAMIC 0.01uF 20% 25V	
C225	1-126-022-11	ELECT 47uF 20% 25V	
C226	1-161-379-00	CERAMIC 0.01uF 20% 25V	
C231	1-161-379-00	CERAMIC 0.01uF 20% 25V	
C232	1-161-379-00	CERAMIC 0.01uF 20% 25V	
C235	1-162-215-31	CERAMIC 47PF 5% 50V	
C236	1-161-379-00	CERAMIC 0.01uF 20% 25V	
C237	1-161-379-00	CERAMIC 0.01uF 20% 25V	
C251	1-161-379-00	CERAMIC 0.01uF 20% 25V	

Ref. No.	Part No.	Description	Remark
C252	1-161-379-00	CERAMIC 0.01uF 20% 25V	
C253	1-161-379-00	CERAMIC 0.01uF 20% 25V	
C254	1-162-282-31	CERAMIC 100PF 10% 50V (AEP, EE)	
C254	1-162-288-31	CERAMIC 330PF 10% 50V (Germany, ITALIAN)	
C255	1-162-290-31	CERAMIC 470PF 10% 50V (Germany, ITALIAN)	
C256	1-126-044-11	ELECT 1uF 20% 50V	
C257	1-126-023-11	ELECT 100uF 20% 16V	
C258	1-161-379-00	CERAMIC 0.01uF 20% 25V	
C259	1-126-024-11	ELECT 220uF 20% 16V	
C260	1-161-379-00	CERAMIC 0.01uF 20% 25V	
C261	1-161-379-00	CERAMIC 0.01uF 20% 25V	
C262	1-161-379-00	CERAMIC 0.01uF 20% 25V	
C263	1-161-379-00	CERAMIC 0.01uF 20% 25V	
C264	1-126-043-11	ELECT 0.47uF 20% 50V	
C265	1-161-379-00	CERAMIC 0.01uF 20% 25V	
C301	1-136-161-00	FILM 0.047uF 5% 50V	
C302	1-126-022-11	ELECT 47uF 20% 25V	
C303	1-136-161-00	FILM 0.047uF 5% 50V	
C304	1-162-288-31	CERAMIC 330PF 10% 50V	
C305	1-110-335-11	MYLAR 100PF 5% 50V	
C306	1-126-022-11	ELECT 47uF 20% 25V	
C307	1-104-293-11	POLYSTYRENE 430PF 5% 50V	
C308	1-104-293-11	POLYSTYRENE 430PF 5% 50V	
C309	1-123-382-00	ELECT 3.3uF 20% 100V	
C310	1-123-382-00	ELECT 3.3uF 20% 100V	
C311	1-161-375-00	CERAMIC 0.0022uF 20% 50V	
C312	1-161-375-00	CERAMIC 0.0022uF 20% 50V	
C313	1-126-059-11	ELECT 10uF 20% 50V	
C314	1-126-059-11	ELECT 10uF 20% 50V	
C315	1-110-335-11	MYLAR 100PF 5% 50V	
C316	1-110-335-11	MYLAR 100PF 5% 50V	
C317	1-123-382-00	ELECT 3.3uF 20% 100V	
C318	1-123-382-00	ELECT 3.3uF 20% 100V	
C319	1-126-023-11	ELECT 100uF 20% 16V	
C320	1-126-044-11	ELECT 1uF 20% 50V	
C321	1-126-044-11	ELECT 1uF 20% 50V	
C322	1-126-044-11	ELECT 1uF 20% 50V	
C323	1-126-043-11	ELECT 0.47uF 20% 50V	
C324	1-126-044-11	ELECT 1uF 20% 50V	
C325	1-126-023-11	ELECT 100uF 20% 16V	
C351	1-136-161-00	FILM 0.047uF 5% 50V	
C352	1-162-294-31	CERAMIC 0.001uF 10% 50V (Germany, ITALIAN)	
C353	1-162-294-31	CERAMIC 0.001uF 10% 50V (Germany, ITALIAN)	
C401	1-161-379-00	CERAMIC 0.01uF 20% 25V	



TUNER

Ref.No.	Part No.	Description	Remark			Ref.No.	Part No.	Description	Remark		
C402	1-161-379-00	CERAMIC	0.01uF	20%	25V	C804	1-161-327-00	CERAMIC	0.0033uF	30%	16V
C403	1-161-379-00	CERAMIC	0.01uF	20%	25V	C806	1-161-327-00	CERAMIC	0.0033uF	30%	16V
C404	1-126-022-11	ELECT	47uF	20%	25V	C807	1-161-379-00	CERAMIC	0.01uF	20%	25V
C405	1-161-379-00	CERAMIC	0.01uF	20%	25V	C808	1-161-379-00	CERAMIC	0.01uF	20%	25V
C406	1-161-379-00	CERAMIC	0.01uF	20%	25V	C809	1-126-059-11	ELECT	10uF	20%	50V
C408	1-161-379-00	CERAMIC	0.01uF	20%	25V	C810	1-126-163-11	ELECT	4.7uF	20%	50V
C409	1-162-294-31	CERAMIC	0.001uF	10%	50V	C811	1-126-059-11	ELECT	10uF	20%	50V
C410	1-161-379-00	CERAMIC	0.01uF	20%	25V	C813	1-136-157-00	FILM	0.022uF	5%	50V
C411	1-126-023-11	ELECT	100uF	20%	16V	C814	1-136-159-00	FILM	0.033uF	5%	50V
C412	1-126-044-11	ELECT	1uF	20%	50V	C815	1-136-159-00	FILM	0.033uF	5%	50V
C413	1-126-044-11	ELECT	1uF	20%	50V	C816	1-161-329-00	CERAMIC	0.0068uF	30%	16V
C414	1-126-163-11	ELECT	4.7uF	20%	50V	C817	1-126-059-11	ELECT	10uF	20%	50V
C415	1-123-382-00	ELECT	3.3uF	20%	100V	C818	1-161-379-00	CERAMIC	0.01uF	20%	25V
C416	1-161-379-00	CERAMIC	0.01uF	20%	25V	C819	1-126-163-11	ELECT	4.7uF	20%	50V
C417	1-126-059-11	ELECT	10uF	20%	50V	C901	1-101-004-00	CERAMIC	0.01uF		50V
C421	1-161-379-00	CERAMIC	0.01uF	20%	25V	C902	1-101-004-00	CERAMIC	0.01uF		50V
C451	1-161-379-00	CERAMIC	0.01uF	20%	25V	C903	1-126-051-11	ELECT	47uF	20%	50V
C452	1-161-374-11	CERAMIC	0.0015uF	20%	50V	C904	1-126-051-11	ELECT	47uF	20%	50V
C453	1-161-374-11	CERAMIC	0.0015uF	20%	50V	C905	1-124-602-00	ELECT	2200uF	20%	35V
C454	1-161-379-00	CERAMIC	0.01uF	20%	25V	C906	1-126-053-11	ELECT	220uF	20%	50V
C455	1-161-379-00	CERAMIC	0.01uF	20%	25V	C907	1-126-044-11	ELECT	1uF	20%	50V
C501	1-161-379-00	CERAMIC	0.01uF	20%	25V	C908	1-126-059-11	ELECT	10uF	20%	50V
C502	1-102-959-00	CERAMIC	22PF	5%	50V	C909	1-126-023-11	ELECT	100uF	20%	16V
C503	1-102-959-00	CERAMIC	22PF	5%	50V	C910	1-130-789-00	FILM	1uF	5%	100V
C504	1-161-379-00	CERAMIC	0.01uF	20%	25V	C911	1-126-049-11	ELECT	22uF	20%	50V
C505	1-126-059-11	ELECT	10uF	20%	50V	△C951	1-161-744-00	CERAMIC	0.01uF		400V
C506	1-161-379-00	CERAMIC	0.01uF	20%	25V	△C952	1-161-742-00	CERAMIC	0.0022uF	20%	400V
C507	1-161-379-00	CERAMIC	0.01uF	20%	25V	△C953	1-161-742-00	CERAMIC	0.0022uF	20%	400V
C508	1-161-379-00	CERAMIC	0.01uF	20%	25V	C954	1-101-004-00	CERAMIC	0.01uF		50V
C509	1-126-023-11	ELECT	100uF	20%	16V						(Germany, ITALIAN)
C511	1-126-059-11	ELECT	10uF	20%	50V						< FILTER >
C512	1-123-382-00	ELECT	3.3uF	20%	100V	CF201	1-567-389-11	FILTER, CERAMIC			
C513	1-126-044-11	ELECT	1uF	20%	50V	CF202	1-567-389-11	FILTER, CERAMIC			
C514	1-161-379-00	CERAMIC	0.01uF	20%	25V	CF203	1-567-389-11	FILTER, CERAMIC			
C551	1-126-059-11	ELECT	10uF	20%	50V	CF231	1-567-107-71	FILTER, CERAMIC			
C552	1-126-044-11	ELECT	1uF	20%	50V	CF301	1-567-250-11	OSCILLATOR, CERAMIC			
C553	1-161-379-00	CERAMIC	0.01uF	20%	25V	CF402	1-527-981-00	FILTER, CERAMIC			
C554	1-161-379-00	CERAMIC	0.01uF	20%	25V	CF801	1-577-075-11	OSCILLATOR, CERAMIC			
C602	1-124-997-11	ELECT	470uF	20%	10V						< CONNECTOR >
C603	1-161-379-00	CERAMIC	0.01uF	20%	25V	CN601	1-564-980-11	PIN, CONNECTOR 4P (CONTROL-S IN)			
C607	1-126-043-11	ELECT	0.47uF	20%	50V	CN602	1-564-980-11	PIN, CONNECTOR 4P (CONTROL-S OUT)			
C608	1-161-379-00	CERAMIC	0.01uF	20%	25V	* CN701	1-564-342-11	PIN, CONNECTOR 8P			
C609	1-162-282-31	CERAMIC	100PF	10%	50V	* CN702	1-564-342-61	PIN, CONNECTOR 8P			
C610	1-162-282-31	CERAMIC	100PF	10%	50V	* CN703	1-564-342-11	PIN, CONNECTOR 8P			
C613	1-161-379-00	CERAMIC	0.01uF	20%	25V	* CN901	1-564-321-00	PIN, CONNECTOR 2P			
C614	1-161-379-00	CERAMIC	0.01uF	20%	25V	CN951	1-564-321-00	PIN, CONNECTOR 2P			
C801	1-161-379-00	CERAMIC	0.01uF	20%	25V						
C802	1-126-022-11	ELECT	47uF	20%	25V						
C803	1-126-049-11	ELECT	22uF	20%	50V						

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

TUNER

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
		< JACK >					
CNJ301	1-568-250-21	JACK, PIN 2P (OUT PUT)		L351	1-410-971-11	INDUCTOR 10uH (Germany, ITALIAN)	
		< DIODE >		L352	1-410-971-11	INDUCTOR 10uH (Germany, ITALIAN)	
D151	8-719-987-63	DIODE 1N4148M		L451	1-410-979-11	INDUCTOR 220uH	
D152	8-719-987-63	DIODE 1N4148M		L801	1-410-977-11	INDUCTOR 100uH	
D221	8-719-987-63	DIODE 1N4148M				< FILTER >	
D301	8-719-987-63	DIODE 1N4148M		LPF301	1-235-164-00	FILTER, LOW PASS	
D402	8-719-987-63	DIODE 1N4148M		LPF302	1-235-164-00	FILTER, LOW PASS	
		< TRANSFORMER >				< TRANSFORMER >	
D601	8-719-987-63	DIODE 1N4148M		ΔPT901	1-450-408-11	TRANSFORMER, POWER	
D615	8-719-987-63	DIODE 1N4148M				< TRANSISTOR >	
D616	8-719-987-63	DIODE 1N4148M		Q151	8-729-904-39	TRANSISTOR DTC114TS	
D617	8-719-987-63	DIODE 1N4148M		Q152	8-729-904-39	TRANSISTOR DTC114TS	
D618	8-719-987-63	DIODE 1N4148M		Q201	8-729-230-XX	TRANSISTOR 2SC2669-0Y	
D621	8-719-987-63	DIODE 1N4148M (ITALIAN)		Q202	8-729-230-XX	TRANSISTOR 2SC2669-0Y	
D624	8-719-987-63	DIODE 1N4148M		Q203	8-729-230-XX	TRANSISTOR 2SC2669-0Y	
D901	8-719-200-82	DIODE 11ES2		Q204	8-729-230-XX	TRANSISTOR 2SC2669-0Y	
D902	8-719-200-82	DIODE 11ES2		Q231	8-729-904-39	TRANSISTOR DTC114TS	
D903	8-719-987-63	DIODE 1N4148M		Q232	8-729-904-39	TRANSISTOR DTC114TS	
D904	8-719-987-63	DIODE 1N4148M		Q233	8-729-904-39	TRANSISTOR DTC114TS	
D905	8-719-934-18	LED HZS27-2L		Q234	8-729-620-05	TRANSISTOR 2SC2603-EF	
D906	8-719-933-47	DIODE HZS7B2L		Q235	8-729-620-05	TRANSISTOR 2SC2603-EF	
		< FRONT END >		Q236	8-729-230-XX	TRANSISTOR 2SC2669-0Y	
FE101	1-463-857-11	FRONT END (FM) (Germany, ITALIAN)		Q237	8-729-230-XX	TRANSISTOR 2SC2669-0Y	
FE101	1-465-219-11	FRONT END (AEP)		Q251	8-729-900-89	TRANSISTOR DTC144ES	
FE421	1-236-462-11	ENCAPSULATED COMPONENT (MW)		Q252	8-729-620-05	TRANSISTOR 2SC2603-EF	
FE451	1-236-463-11	ENCAPSULATED COMPONENT (LW)		Q301	8-729-141-30	TRANSISTOR 2SC3623A-LK	
		< IC >		Q302	8-729-141-30	TRANSISTOR 2SC3623A-LK	
IC221	8-759-812-35	IC LA1235		Q351	8-729-904-39	TRANSISTOR DTC114TS	
IC251	8-759-812-35	IC LA1235		Q352	8-729-202-67	TRANSISTOR 2SK246-GR3	
IC301	8-759-801-80	IC LA3401		Q451	8-729-231-20	TRANSISTOR 2SK161-YGR	
IC302	8-759-945-58	IC RC4558P		Q452	8-729-900-89	TRANSISTOR DTC144ES	
IC401	8-759-812-45	IC LA1245		Q453	8-729-900-89	TRANSISTOR DTC144ES	
IC501	8-757-925-20	IC CX7925B		Q454	8-729-900-89	TRANSISTOR DTC144ES	
IC601	8-759-087-64	IC μPD75517GF-153-3B9		Q455	8-729-900-89	TRANSISTOR DTC144ES	
IC602	8-759-720-89	IC X24C04P		Q456	8-729-900-89	TRANSISTOR DTC144ES	
IC801	8-759-823-61	IC LA2230		Q457	8-729-141-30	TRANSISTOR 2SC3623A-LK	
IC802	8-759-062-26	IC LC7073		Q458	8-729-904-39	TRANSISTOR DTC114TS	
IC901	8-759-820-09	IC LA5667		Q459	8-729-620-05	TRANSISTOR 2SC2603-EF	
		< COIL >		Q511	8-729-202-67	TRANSISTOR 2SK246-GR3	
L201	1-410-977-11	INDUCTOR 100uH		Q512	8-729-201-84	TRANSISTOR 2SC3112-B	
L202	1-410-977-11	INDUCTOR 100uH		Q521	8-729-900-89	TRANSISTOR DTC144ES	
L231	1-410-977-11	INDUCTOR 100uH		Q522	8-729-119-76	TRANSISTOR 2SA1175-HFE	
				Q523	8-729-620-05	TRANSISTOR 2SC2603-EF	
				Q551	8-729-202-67	TRANSISTOR 2SK246-GR3	
				Q552	8-729-201-84	TRANSISTOR 2SC3112-B	

Note: 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
Q601	8-729-620-05	TRANSISTOR	2SC2603-EF	R258	1-259-438-11	CARBON	2.7K 5% 1/6W
Q901	8-729-900-65	TRANSISTOR	DTA144ES	△R259	1-249-405-11	CARBON	100 5% 1/4W
< RESISTOR >				R260	1-259-470-11	CARBON	56K 5% 1/6W
R101	1-259-468-11	CARBON	47K 5% 1/6W	R261	1-259-468-11	CARBON	47K 5% 1/6W
R102	1-259-460-11	CARBON	22K 5% 1/6W	R262	1-259-476-11	CARBON	100K 5% 1/6W
△R103	1-249-401-11	CARBON	47 5% 1/4W	R263	1-259-452-11	CARBON	10K 5% 1/6W
R151	1-259-476-11	CARBON	100K 5% 1/6W	R264	1-259-436-11	CARBON	2.2K 5% 1/6W
R152	1-259-476-11	CARBON	100K 5% 1/6W	△R265	1-249-393-11	CARBON	10 5% 1/4W
R153	1-259-397-11	CARBON	51 5% 1/6W	R301	1-259-436-11	CARBON	2.2K 5% 1/6W
R154	1-259-397-11	CARBON	51 5% 1/6W	R302	1-259-480-11	CARBON	150K 5% 1/6W
R155	1-259-390-11	CARBON	27 5% 1/6W	R303	1-259-480-11	CARBON	150K 5% 1/6W
R156	1-259-402-11	CARBON	82 5% 1/6W	R304	1-259-478-11	CARBON	120K 5% 1/6W
R157	1-259-402-11	CARBON	82 5% 1/6W	R305	1-259-478-11	CARBON	120K 5% 1/6W
R201	1-259-412-11	CARBON	220 5% 1/6W	R306	1-259-436-11	CARBON	2.2K 5% 1/6W
R202	1-259-410-11	CARBON	180 5% 1/6W	R307	1-259-436-11	CARBON	2.2K 5% 1/6W
R203	1-259-416-11	CARBON	330 5% 1/6W	R308	1-259-446-11	CARBON	5.6K 5% 1/6W
R204	1-259-456-11	CARBON	15K 5% 1/6W	R309	1-259-446-11	CARBON	5.6K 5% 1/6W
R205	1-259-414-11	CARBON	270 5% 1/6W	R310	1-259-446-11	CARBON	5.6K 5% 1/6W
R206	1-259-420-11	CARBON	470 5% 1/6W	R311	1-259-446-11	CARBON	5.6K 5% 1/6W
R207	1-259-416-11	CARBON	330 5% 1/6W	R312	1-259-440-11	CARBON	3.3K 5% 1/6W
R208	1-259-462-11	CARBON	27K 5% 1/6W	R313	1-259-440-11	CARBON	3.3K 5% 1/6W
R209	1-259-416-11	CARBON	330 5% 1/6W	R314	1-259-420-11	CARBON	470 5% 1/6W
R210	1-259-456-11	CARBON	15K 5% 1/6W	R315	1-259-420-11	CARBON	470 5% 1/6W
R211	1-259-414-11	CARBON	270 5% 1/6W	R316	1-249-401-11	CARBON	47 5% 1/4W
R212	1-259-416-11	CARBON	330 5% 1/6W	R317	1-259-422-11	CARBON	560 5% 1/6W
R213	1-259-462-11	CARBON	27K 5% 1/6W	R318	1-259-422-11	CARBON	560 5% 1/6W
R214	1-259-416-11	CARBON	330 5% 1/6W	R319	1-259-468-11	CARBON	47K 5% 1/6W
R221	1-259-416-11	CARBON	330 5% 1/6W	R320	1-259-468-11	CARBON	47K 5% 1/6W
△R222	1-249-405-11	CARBON	100 5% 1/4W	R321	1-259-468-11	CARBON	47K 5% 1/6W
R231	1-259-416-11	CARBON	330 5% 1/6W	R322	1-259-452-11	CARBON	10K 5% 1/6W
R232	1-259-456-11	CARBON	15K 5% 1/6W	R323	1-259-464-11	CARBON	33K 5% 1/6W
R233	1-259-416-11	CARBON	330 5% 1/6W	R324	1-259-446-11	CARBON	5.6K 5% 1/6W
R234	1-259-384-11	CARBON	15 5% 1/6W	△R325	1-249-401-11	CARBON	47 5% 1/4W
R235	1-259-462-11	CARBON	27K 5% 1/6W	R351	1-259-448-11	CARBON	6.8K 5% 1/6W
R236	1-259-412-11	CARBON	220 5% 1/6W	R352	1-259-500-11	CARBON	1M 5% 1/6W
R237	1-259-476-11	CARBON	100K 5% 1/6W	R353	1-259-468-11	CARBON	47K 5% 1/6W
R238	1-259-452-11	CARBON	10K 5% 1/6W	R361	1-259-468-11	CARBON	47K 5% 1/6W
R239	1-259-452-11	CARBON	10K 5% 1/6W	R362	1-259-468-11	CARBON	47K 5% 1/6W
R240	1-259-456-11	CARBON	15K 5% 1/6W	R401	1-259-436-11	CARBON	2.2K 5% 1/6W
R241	1-259-452-11	CARBON	10K 5% 1/6W	△R402	1-249-409-11	CARBON	220 5% 1/4W
R242	1-259-452-11	CARBON	10K 5% 1/6W	R404	1-259-420-11	CARBON	470 5% 1/6W
R251	1-259-416-11	CARBON	330 5% 1/6W	R405	1-259-404-11	CARBON	100 5% 1/6W
R252	1-259-468-11	CARBON	47K 5% 1/6W	R406	1-259-402-11	CARBON	82 5% 1/6W
R253	1-259-472-11	CARBON	68K 5% 1/6W	R408	1-259-452-11	CARBON	10K 5% 1/6W
R254	1-259-436-11	CARBON	2.2K 5% 1/6W	R409	1-259-452-11	CARBON	10K 5% 1/6W
R255	1-259-436-11	CARBON	2.2K 5% 1/6W	R410	1-259-454-11	CARBON	12K 5% 1/6W
R256	1-259-458-11	CARBON	18K 5% 1/6W	R411	1-259-452-11	CARBON	10K 5% 1/6W
R257	1-259-442-11	CARBON	3.9K 5% 1/6W	△R412	1-249-407-11	CARBON	150 5% 1/4W
				R413	1-259-452-11	CARBON	10K 5% 1/6W

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

TUNER

Ref. No.	Part No.	Description	Remark		
R421	1-259-476-11	CARBON	100K	5%	1/6W
R422	1-259-468-11	CARBON	47K	5%	1/6W
R451	1-259-476-11	CARBON	100K	5%	1/6W
R452	1-259-468-11	CARBON	47K	5%	1/6W
R454	1-259-500-11	CARBON	1M	5%	1/6W
R455	1-259-428-11	CARBON	1K	5%	1/6W
R456	1-259-476-11	CARBON	100K	5%	1/6W
R457	1-259-428-11	CARBON	1K	5%	1/6W
R458	1-259-476-11	CARBON	100K	5%	1/6W
R459	1-259-452-11	CARBON	10K	5%	1/6W
R460	1-259-440-11	CARBON	3.3K	5%	1/6W
R501	1-259-452-11	CARBON	10K	5%	1/6W
R502	1-259-452-11	CARBON	10K	5%	1/6W
R503	1-259-452-11	CARBON	10K	5%	1/6W
△R504	1-249-400-11	CARBON	39	5%	1/4W
△R505	1-249-408-11	CARBON	180	5%	1/4W
R511	1-259-422-11	CARBON	560	5%	1/6W
R512	1-259-422-11	CARBON	560	5%	1/6W
R513	1-259-430-11	CARBON	1.2K	5%	1/6W
R514	1-259-416-11	CARBON	330	5%	1/6W
R515	1-259-434-11	CARBON	1.8K	5%	1/6W
R516	1-259-448-11	CARBON	6.8K	5%	1/6W
R517	1-259-444-11	CARBON	4.7K	5%	1/6W
R518	1-259-424-11	CARBON	680	5%	1/6W
R519	1-259-444-11	CARBON	4.7K	5%	1/6W
R521	1-259-440-11	CARBON	3.3K	5%	1/6W
R522	1-259-460-11	CARBON	22K	5%	1/6W
R551	1-259-452-11	CARBON	10K	5%	1/6W
R552	1-259-422-11	CARBON	560	5%	1/6W
R553	1-259-430-11	CARBON	1.2K	5%	1/6W
R554	1-259-416-11	CARBON	330	5%	1/6W
R555	1-259-468-11	CARBON	47K	5%	1/6W
R556	1-259-448-11	CARBON	6.8K	5%	1/6W
R557	1-259-444-11	CARBON	4.7K	5%	1/6W
R603	1-259-460-11	CARBON	22K	5%	1/6W
R604	1-259-460-11	CARBON	22K	5%	1/6W
R605	1-259-460-11	CARBON	22K	5%	1/6W
R606	1-259-460-11	CARBON	22K	5%	1/6W
R611	1-259-452-11	CARBON	10K	5%	1/6W
R612	1-259-452-11	CARBON	10K	5%	1/6W
R613	1-259-452-11	CARBON	10K	5%	1/6W
R615	1-259-452-11	CARBON	10K	5%	1/6W
R616	1-259-452-11	CARBON	10K	5%	1/6W
R617	1-259-452-11	CARBON	10K	5%	1/6W
R618	1-259-452-11	CARBON	10K	5%	1/6W
R620	1-259-452-11	CARBON	10K	5%	1/6W
R621	1-259-452-11	CARBON	10K	5%	1/6W
R622	1-259-452-11	CARBON	10K	5%	1/6W
R623	1-259-452-11	CARBON	10K	5%	1/6W

Ref. No.	Part No.	Description	Remark		
R624	1-259-452-11	CARBON	10K	5%	1/6W
R625	1-259-452-11	CARBON	10K	5%	1/6W
R626	1-259-460-11	CARBON	22K	5%	1/6W
R627	1-259-492-11	CARBON	470K	5%	1/6W
R629	1-259-414-11	CARBON	270	5%	1/6W
R630	1-259-380-11	CARBON	10	5%	1/6W
R631	1-259-452-11	CARBON	10K	5%	1/6W
R650	1-259-428-11	CARBON	1K	5%	1/6W
R651	1-259-428-11	CARBON	1K	5%	1/6W
R652	1-259-428-11	CARBON	1K	5%	1/6W
R653	1-259-428-11	CARBON	1K	5%	1/6W
R654	1-259-428-11	CARBON	1K	5%	1/6W
R655	1-259-428-11	CARBON	1K	5%	1/6W
R656	1-259-428-11	CARBON	1K	5%	1/6W
R657	1-259-428-11	CARBON	1K	5%	1/6W
R658	1-259-428-11	CARBON	1K	5%	1/6W
R659	1-259-428-11	CARBON	1K	5%	1/6W
R660	1-259-428-11	CARBON	1K	5%	1/6W
R661	1-259-428-11	CARBON	1K	5%	1/6W
R662	1-259-436-11	CARBON	2.2K	5%	1/6W
R663	1-249-428-11	CARBON	8.2K	5%	1/4W
R664	1-259-428-11	CARBON	1K	5%	1/6W
△R801	1-249-401-11	CARBON	47	5%	1/4W
R802	1-259-494-11	CARBON	560K	5%	1/6W
R803	1-259-500-11	CARBON	1M	5%	1/6W
R804	1-259-428-11	CARBON	1K	5%	1/6W
R805	1-259-446-11	CARBON	5.6K	5%	1/6W
R806	1-259-464-11	CARBON	33K	5%	1/6W
R807	1-259-452-11	CARBON	10K	5%	1/6W
R808	1-259-460-11	CARBON	22K	5%	1/6W
R809	1-259-452-11	CARBON	10K	5%	1/6W
R810	1-259-428-11	CARBON	1K	5%	1/6W
R811	1-259-440-11	CARBON	3.3K	5%	1/6W
△R901	1-212-865-00	FUSIBLE	22	5%	1/4W F
△R902	1-249-413-11	CARBON	470	5%	1/4W
R903	1-259-476-11	CARBON	100K	5%	1/6W
R904	1-259-468-11	CARBON	47K	5%	1/6W
R905	1-259-468-11	CARBON	47K	5%	1/6W
R906	1-259-468-11	CARBON	47K	5%	1/6W
< VARIABLE RESISTOR >					
RV221	1-238-601-11	RES. ADJ. CARBON 22K (FM SIGNAL)			
RV231	1-238-599-11	RES. ADJ. CARBON 4.7K (NARROW GAIN)			
RV232	1-238-596-11	RES. ADJ. CARBON 470 (NARROW DISTORTION)			
RV251	1-238-600-11	RES. ADJ. CARBON 10K (MUTE LEVEL)			
RV252	1-238-604-11	RES. ADJ. CARBON 220K (FM MUTING)			
RV301	1-238-604-11	RES. ADJ. CARBON 220K (STEREO SEPARATION)			
RV402	1-238-600-11	RES. ADJ. CARBON 10K (AM SIGNAL)			
RV801	1-238-599-11	RES. ADJ. CARBON 4.7K (BPF ADJ)			

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

TUNER

Ref.No.	Part No.	Description	Remark
		< RELAY >	
RY151	1-515-614-11	RELAY	
RY152	1-515-614-11	RELAY	
RY153	1-515-614-11	RELAY	
		< TRANSFORMER >	
T251	1-235-126-00	ENCAPSULATED COMPONENT (Germany, ITALIAN)	
T252	1-404-845-11	COIL, DISCRI (PRIMARY)	
T253	1-404-846-11	COIL, DISCRI (SECONDARY)	
T401	1-404-713-11	TRANSFORMER, IF	
		< TERMINAL >	
* TM101	1-537-406-11	TERMINAL BOARD (ANT)	
		< TEST PIN >	
* TP251	1-565-513-11	PIN, CONNECTOR 2P (NULL)	
		< VIBRATOR >	
X501	1-567-826-21	VIBRATOR, CRYSTAL (7.2MHz)	
X601	1-577-359-21	VIBRATOR, CERAMIC (4.19MHz)	
X801	1-577-358-21	VIBRATOR, CERAMIC (4.00MHz)	



		MISCELLANEOUS	

△PC901	1-574-383-11	CORD, POWER	

		ACCESSORIES & PACKING MATERIALS	

	1-501-374-11	ANTENNA, LOOP	
	1-558-233-11	CORD (WITH CONNECTOR) (SIRCS) 4P	
	1-558-271-11	CORD, CONNECTION	
	1-559-533-11	CORD, CONNECTION	
	3-755-055-11	MANUAL, INSTRUCTION (ENGLISH, FRENCH, SPANISH, PORTUGUESE) (AEP)	
	3-755-055-41	MANUAL, INSTRUCTION (GERMAN, DUTCH, SWEDISH, ITALIAN) (AEP, IT)	
	3-755-055-51	MANUAL, INSTRUCTION (GERMAN) (G)	
*	4-935-823-31	INDIVIDUAL CARTON (AEP, G, IT)	

Ref.No.	Part No.	Description	Remark
		***** HARDWARE LIST *****	
#1	7-621-849-00	SCREW (BV/RING)	
#2	7-682-548-09	SCREW +B 3X8	
#3	7-682-547-09	SCREW +BVTT 3X6 (S)	
#4	7-682-549-09	SCREW +BVTT 3X10 (S)	
#5	7-682-550-04	SCREW +BVTT 3X12 (S)	

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