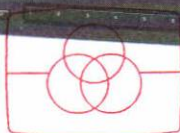
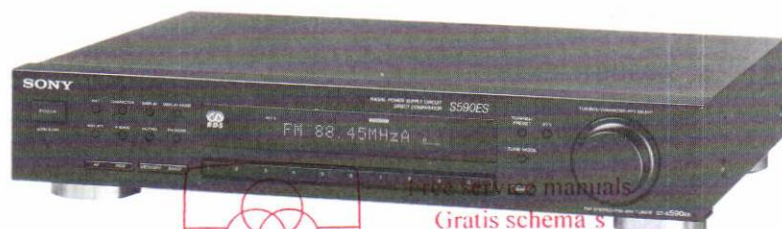


# ST-S590ES

## SERVICE MANUAL

*AEP Model*

Gratis schema s

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### SPECIFICATIONS

**FM tuner**

Frequency range	87.5 - 108 MHz
Antenna terminals	75 $\Omega$ unbalanced
Intermediate frequency	10.7 MHz
Sensitivity	(mono S/N 26 dB) 10.3 dBf, 0.9 $\mu$ V/75 $\Omega$ (stereo S/N 46 dB) 38.5 dBf, 23 $\mu$ V/75 $\Omega$
Usable sensitivity	10.3 dBf, 0.9 $\mu$ V/75 $\Omega$ (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 $\mu$ V/m LW: 700 $\mu$ 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 <sup>3</sup> / <sub>8</sub> x 13 <sup>5</sup> / <sub>8</sub> 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**®

## SECTION 2 ADJUSTMENTS

- Refer to Adjustment Location on page 6.

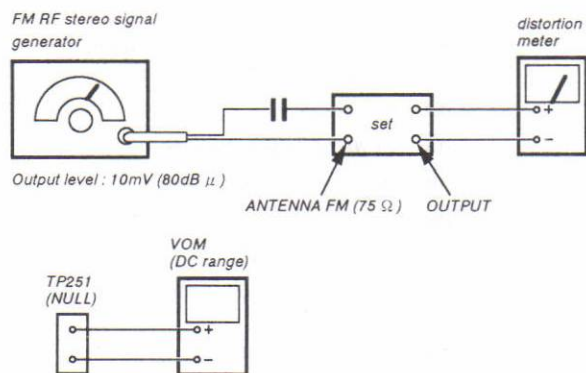
**Note :** As a front-end (FE101, 421 etc. ) is difficult to repair if faulty, replace it with new one.

### FM SECTION

- Standard Setting of FM Stereo RF Signal Generator.

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

### FM Discriminator Adjustment (NULL and MONO Distortion)

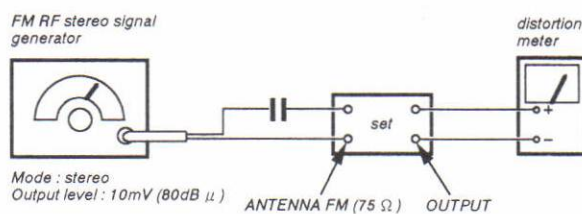


#### Procedure :

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.

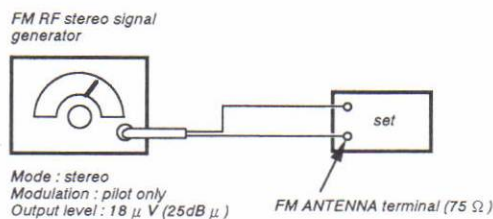
### FM Stereo Distortion Adjustment



#### Procedure :

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

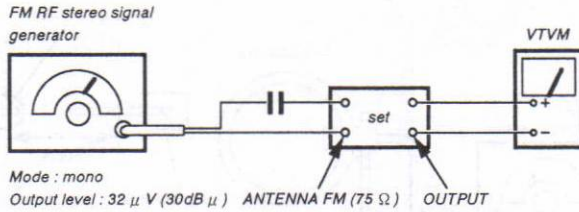
### FM Stereo Indication Lighting Level Adjustment



#### Procedure :

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

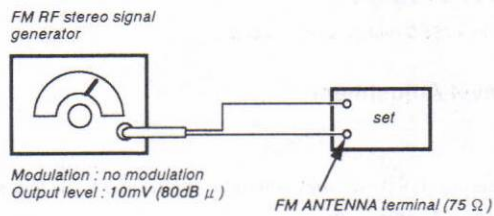
### FM Muting Level Adjustment



#### 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  $\mu$  V (30dB  $\mu$ ).
4. Adjust RV252 so that the reading of VTVM becomes within 25  $\mu$  V (28dB  $\mu$ ) – 40  $\mu$  V (32dB  $\mu$ ).

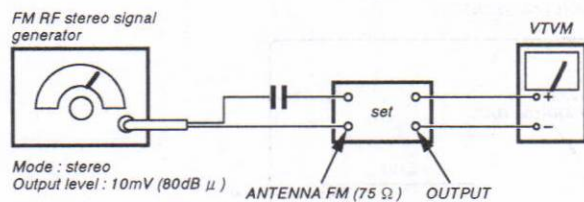
### FM Signal Level Adjustment



#### 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 :

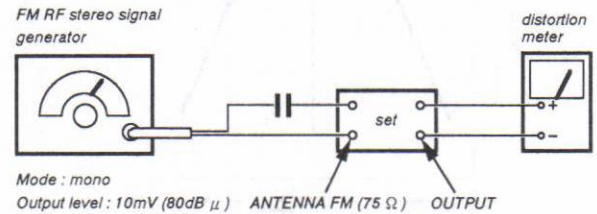
FM stereo signal generator output channel	VTVM connection	VTVM reading (dB)
L-CH	L-CH	(A)
R-CH	L-CH	(B) Adjust RV301 minimum reading.
R-CH	R-CH	(C)
L-CH	R-CH	(D) Adjust RV 301 for minimum reading.

L-CH Stereo separation : (A) – (B)

R-CH Stereo separation : (C) – (D)

The separation of both channels should be equal.

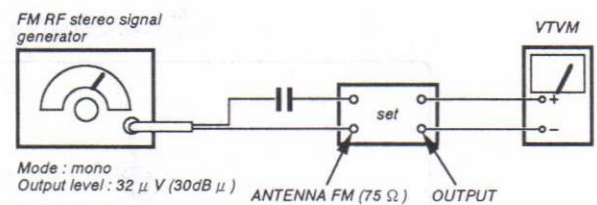
### FM Narrow Distortion Adjustment



#### 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  $\mu$
4. Adjust RV232 for a minimum reading on the distortion meter.

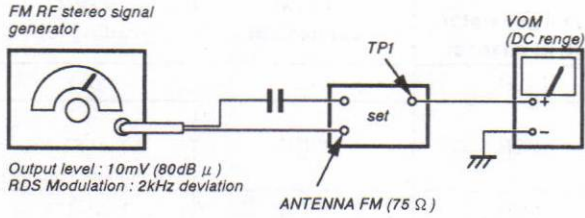
### FM Narrow Gain Adjustment



#### Procedure :

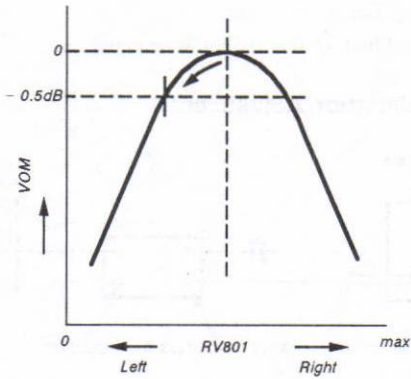
1. Tune the set to 98MHz.
2. Push the IF BAND switch and put on the light the "NARROW" indicator in the fluorescent display.
3. Set SSG output level to 32  $\mu$  V (30dB  $\mu$ ).
4. Adjust RV231 so that the reading on VTVM becomes within 25  $\mu$  V (28dB  $\mu$ ) – 40  $\mu$  V (32dB  $\mu$ ).

**RDS, BPF Adjustment**

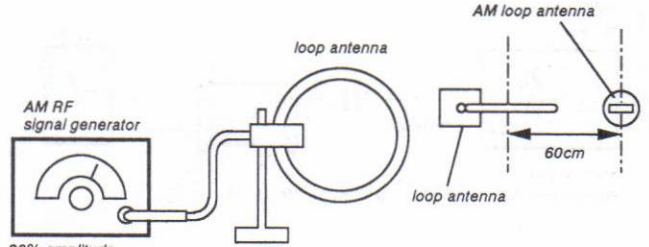


**Procedure :**

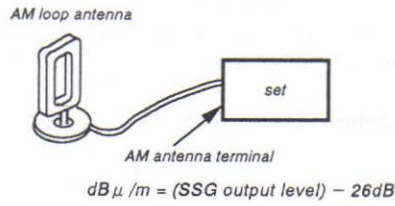
1. Tune RV801 to counterclockwise (left) and set the level below 0.5dB than maximum reading on the VOM. (refer to below drawing.)



**AM SECTION**



30% amplitude modulation by 400Hz signal  
Carrier frequency : 216kHz (LW Band)

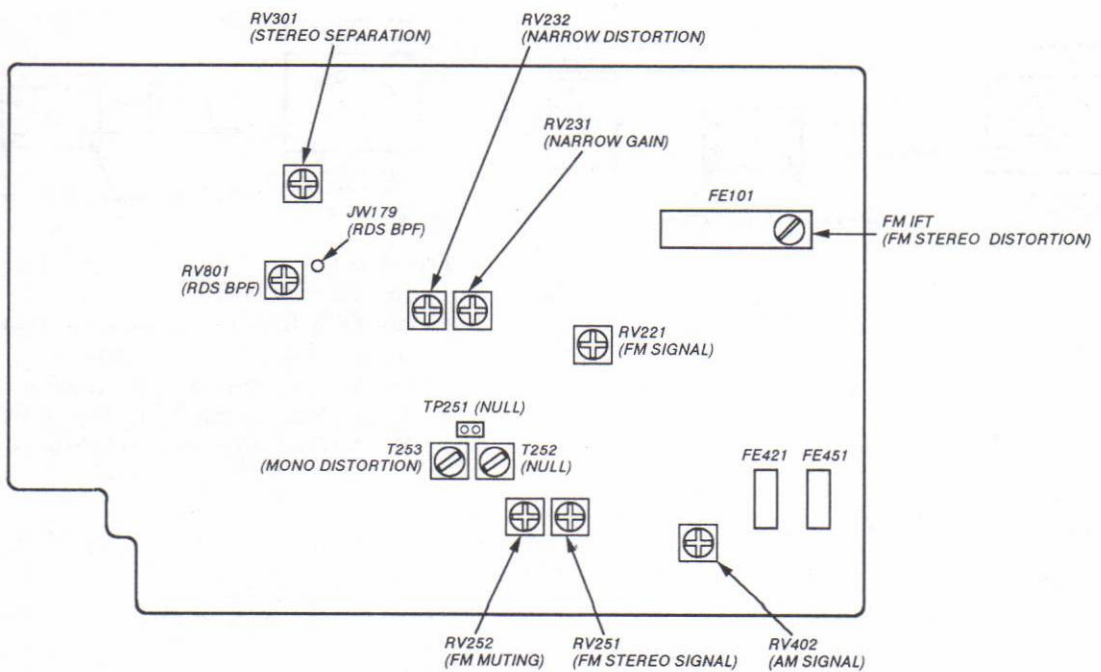


**AM Signal Level Adjustment**

**Procedure :**

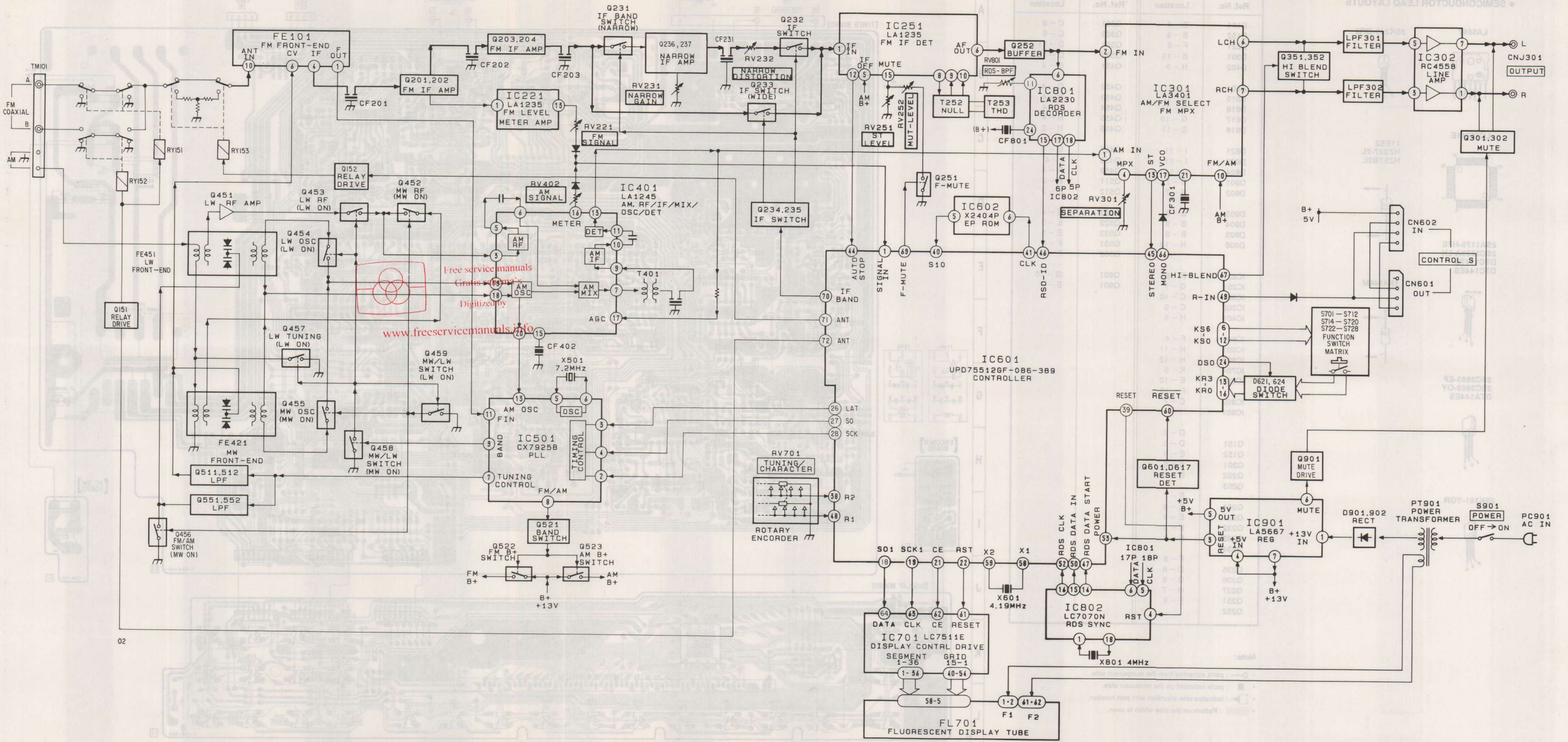
1. Set SSG output level so that antenna input level of the set becomes 5.0mV (74dB $\mu$  / m).
2. Adjust RV402 to the place where level 10 in the signal strength indicator turns from dark to light.

**Adjustment Location : TUNER BOARD (Component Side)**



SECTION 3  
DIAGRAMS

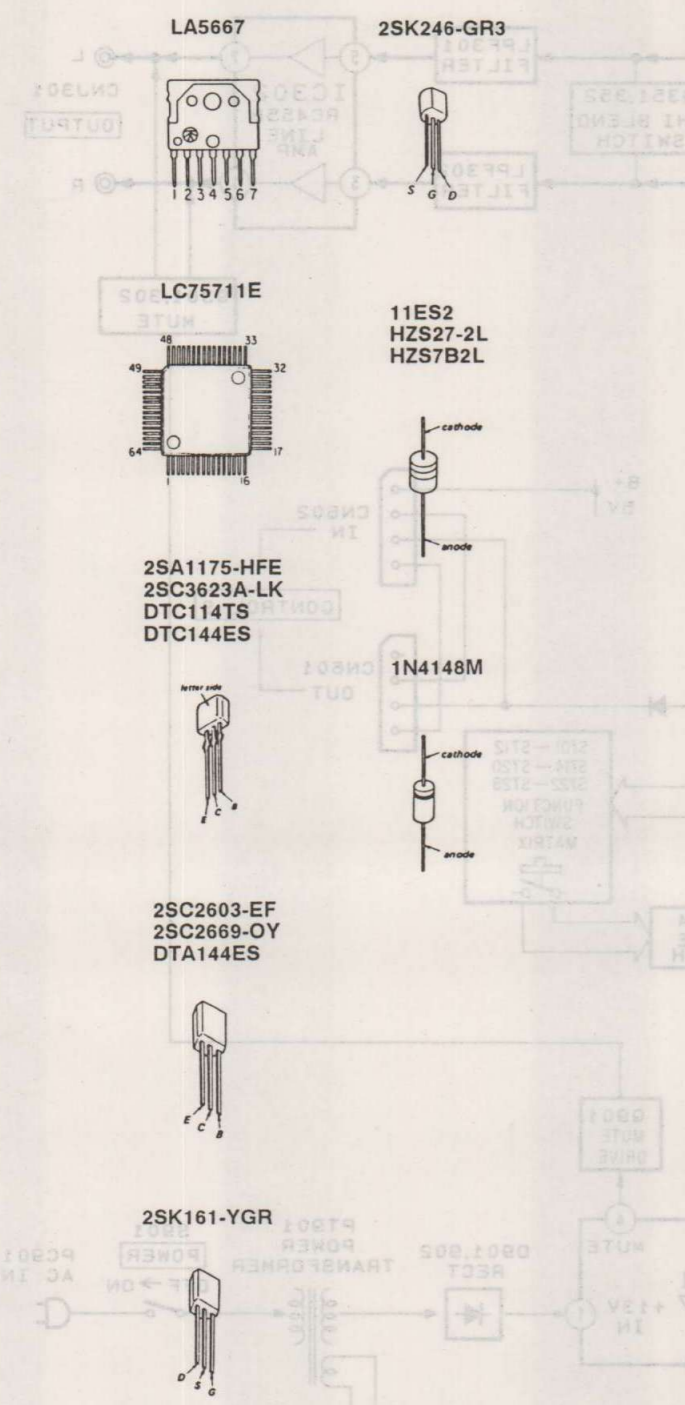
3-1. BLOCK DIAGRAM



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3-2. PRINTED WIRING BOARDS

SEMICONDUCTOR LEAD LAYOUTS

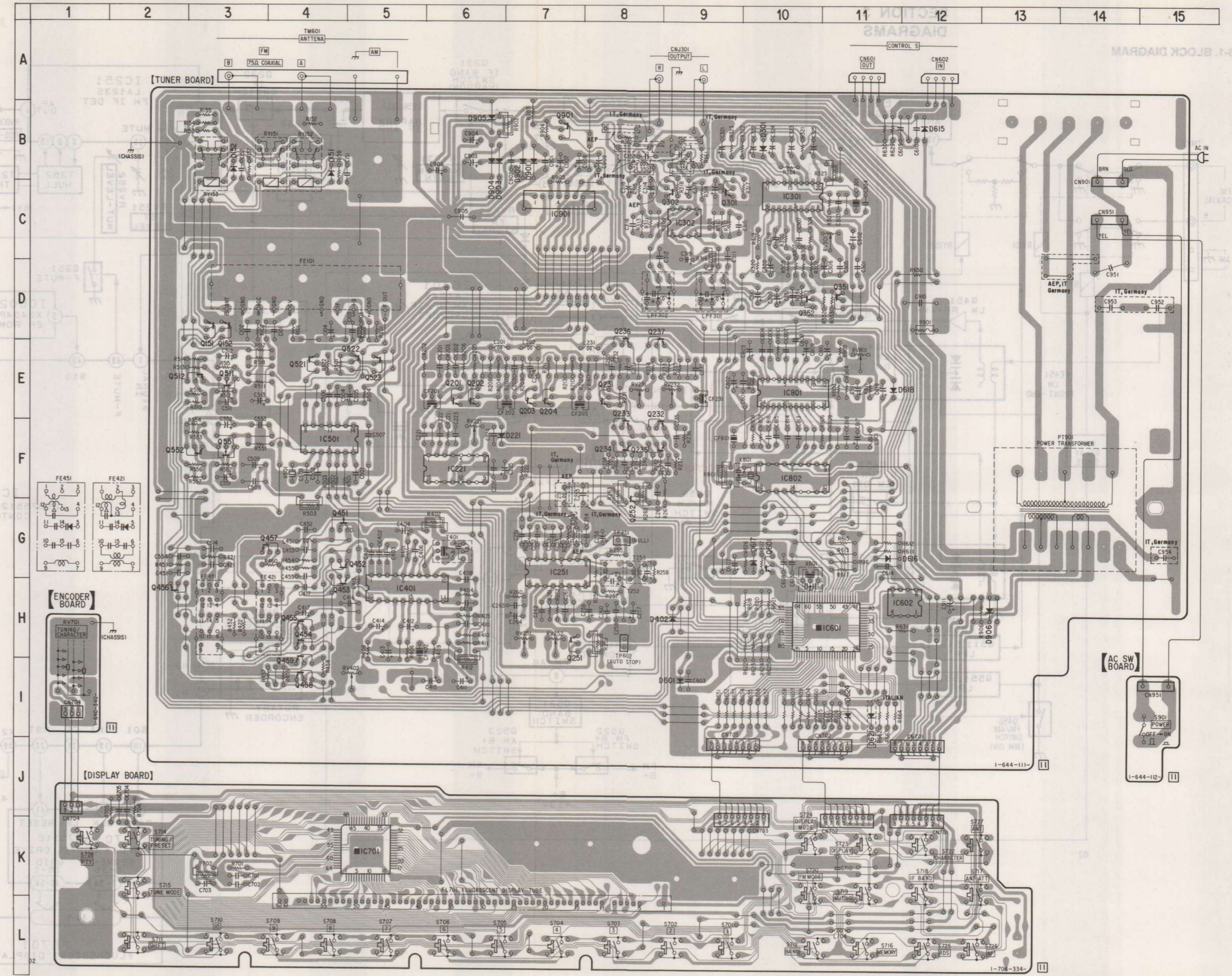


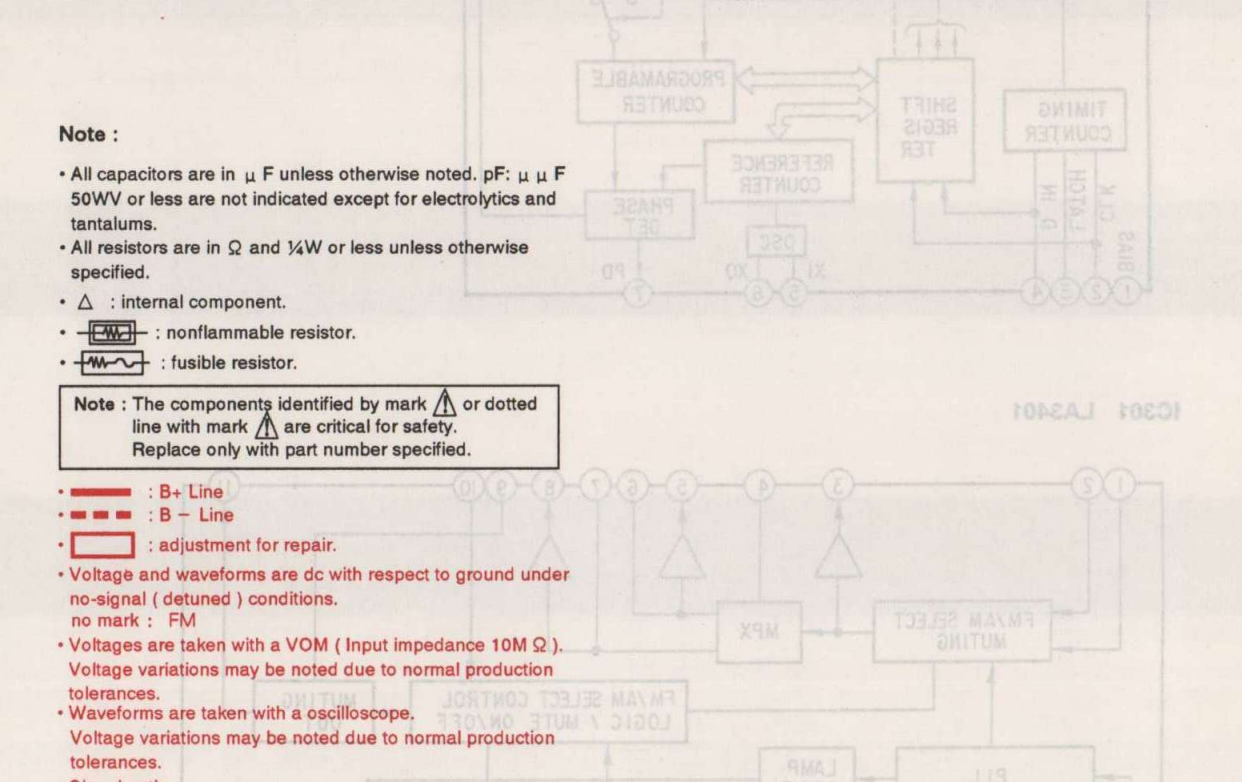
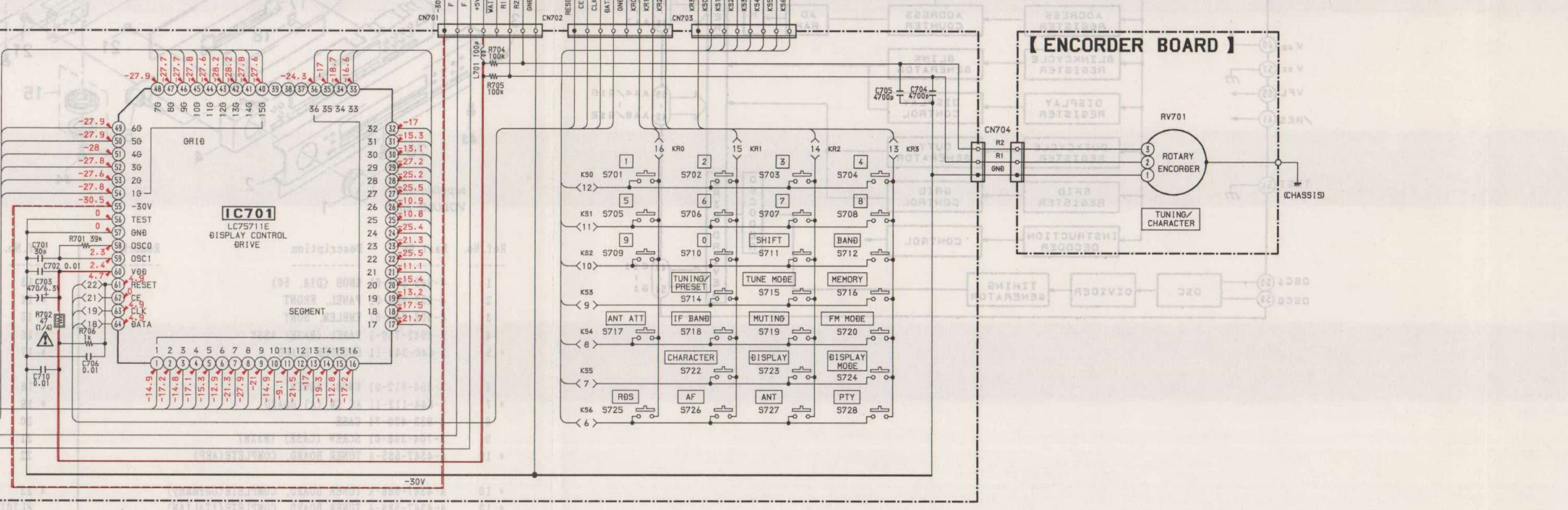
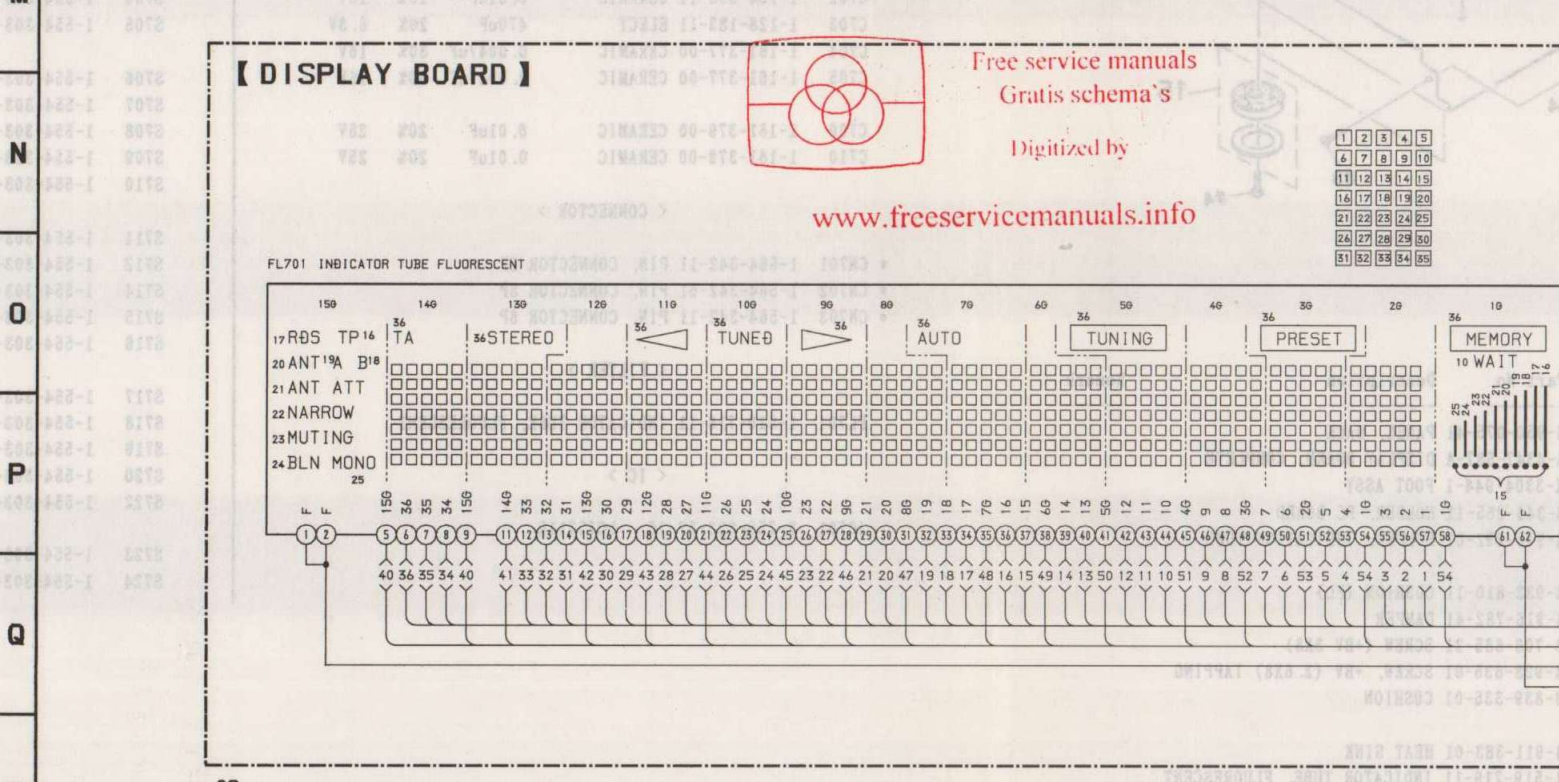
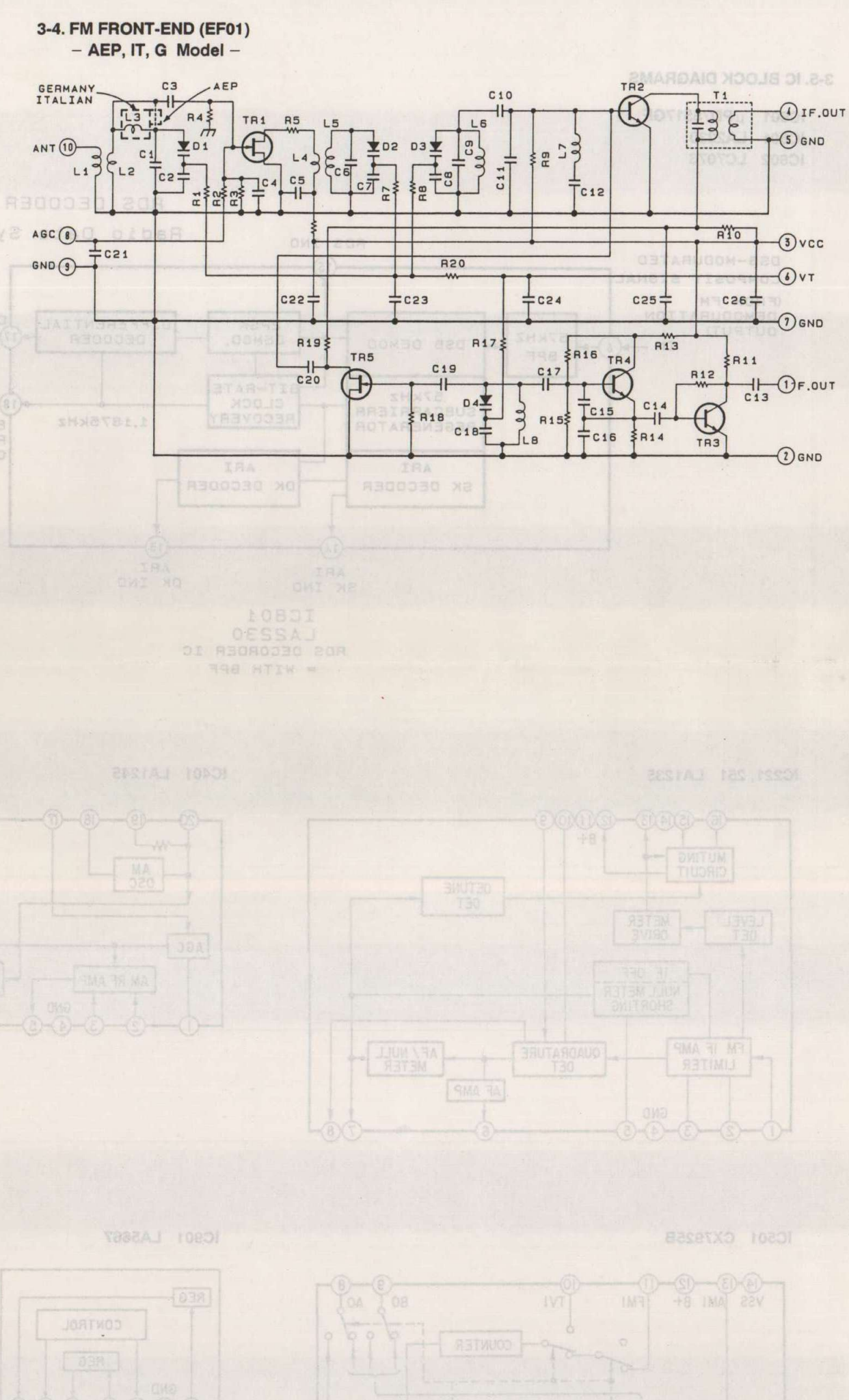
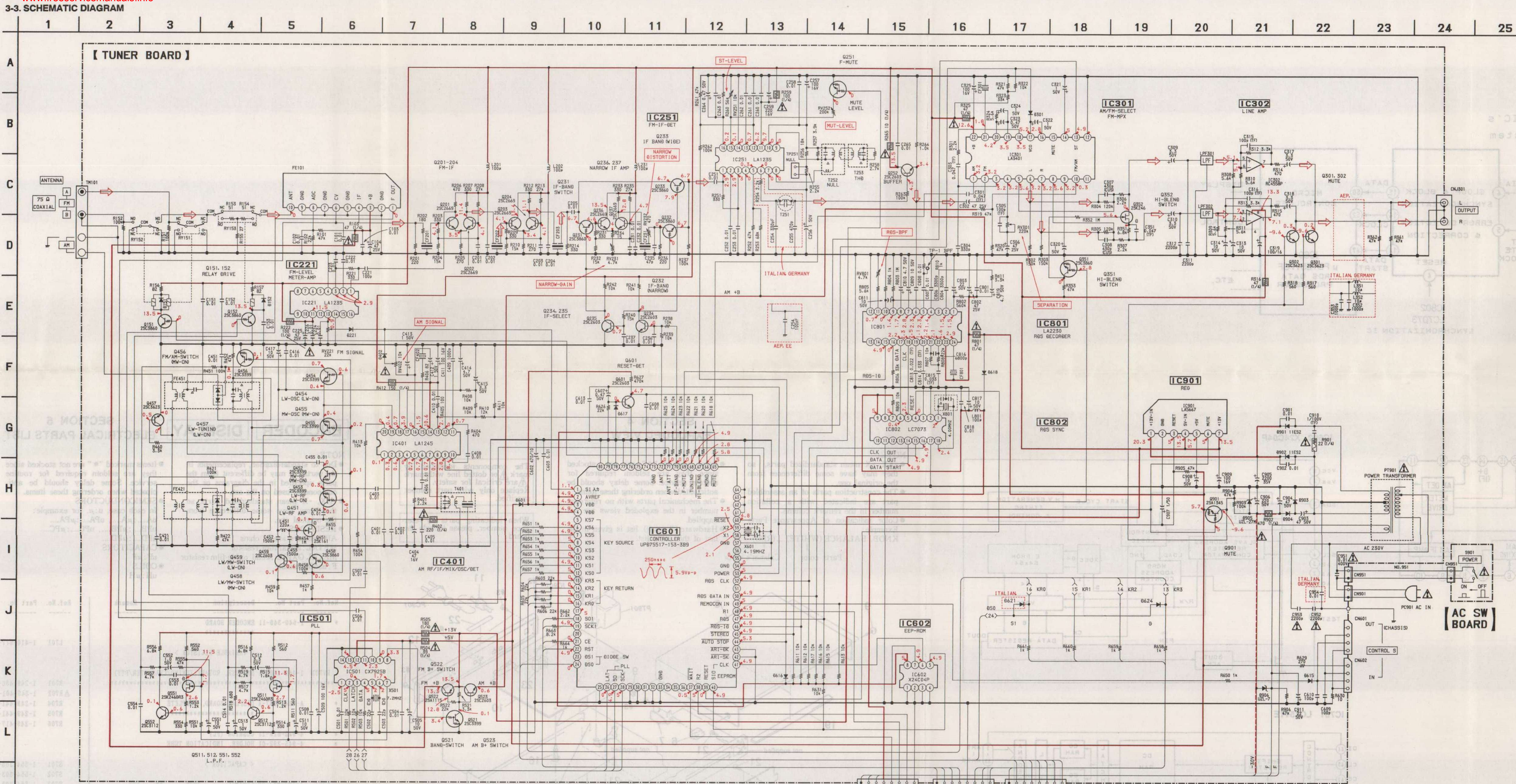
SEMICONDUCTOR LOCATION

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
D906	H - 13	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		
IC801	F - 10		
IC802	C - 7		
IC901			
Q151	D - 3		
Q152	D - 3		
Q201	E - 6		
Q202	E - 7		
Q203			
Q204	E - 7		
Q231	E - 8		
Q232	E - 8		
Q233	F - 8		
Q234			
Q235	F - 8		
Q236	D - 8		
Q237	H - 7		
Q251	F - 8		
Q252			

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.





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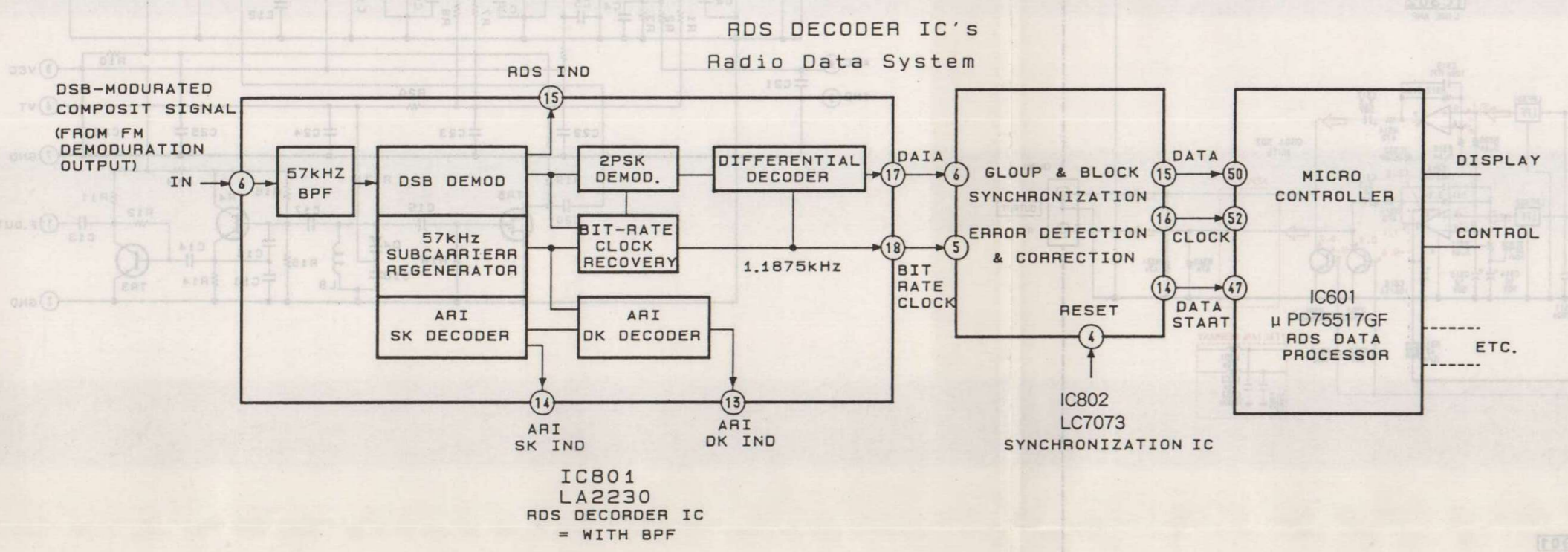
**Note :**

- All capacitors are in  $\mu$ F unless otherwise noted. pF:  $\mu$  F 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in  $\Omega$  and  $\frac{1}{4}$ W or less unless otherwise specified.
- $\Delta$  : internal component.
- $\square$  : nonflammable resistor.
- $\square$  : fusible resistor.

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

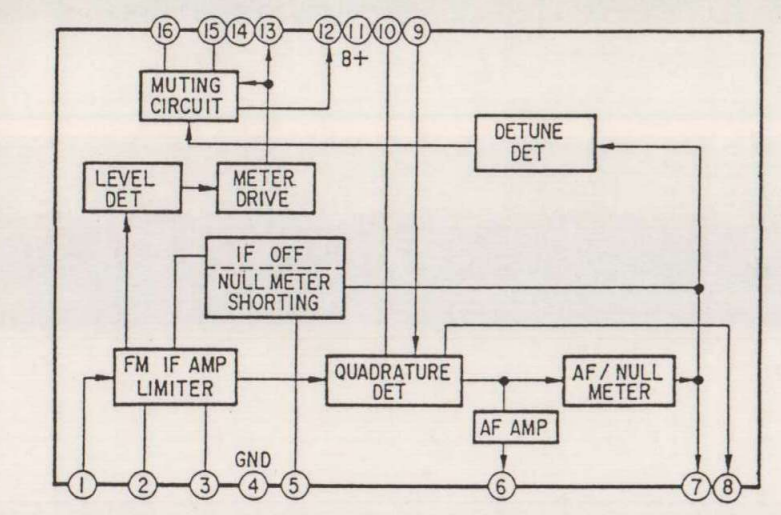
- $\text{---}$  : B+ Line
- $\text{---}$  : B- Line
- $\text{---}$  : adjustment for repair.
- Voltage and waveforms are dc with respect to ground under no-signal (detuned) conditions.
- no mark : FM
- Voltages are taken with a VOM ( Input impedance 10M  $\Omega$  ). Voltage variations may be noted due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

IC601  $\mu$ PD75517GF  
IC801 LA2230  
IC802 LC7073

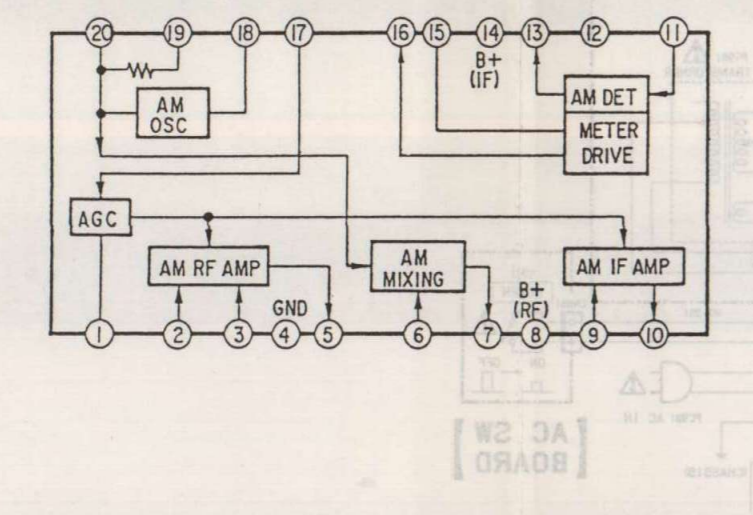


IC801  
LA2230  
RDS DECODER IC  
= WITH BPF

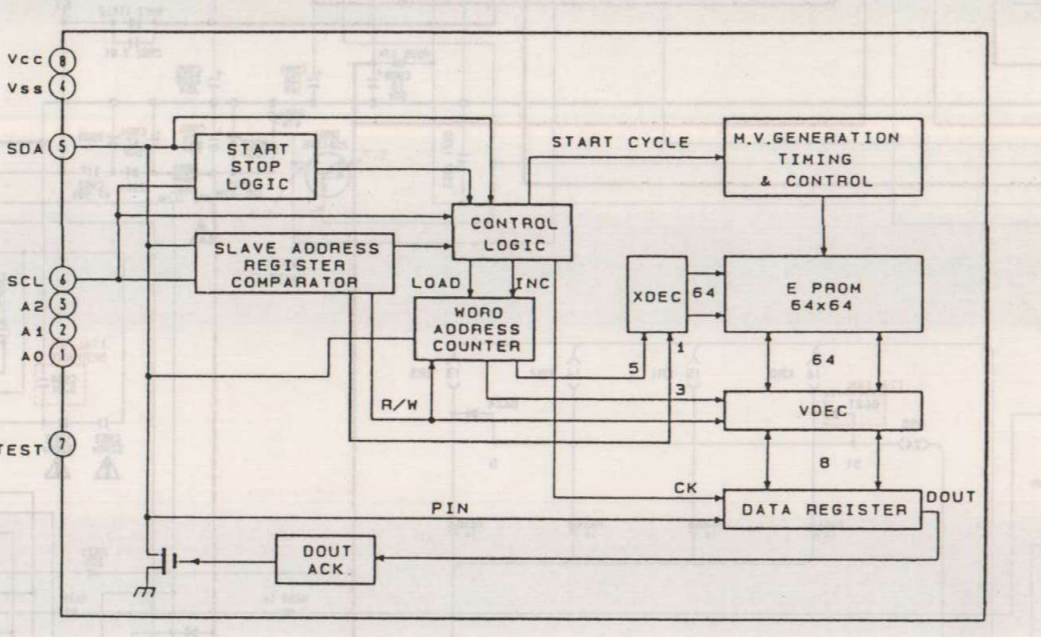
IC221, 251 LA1235



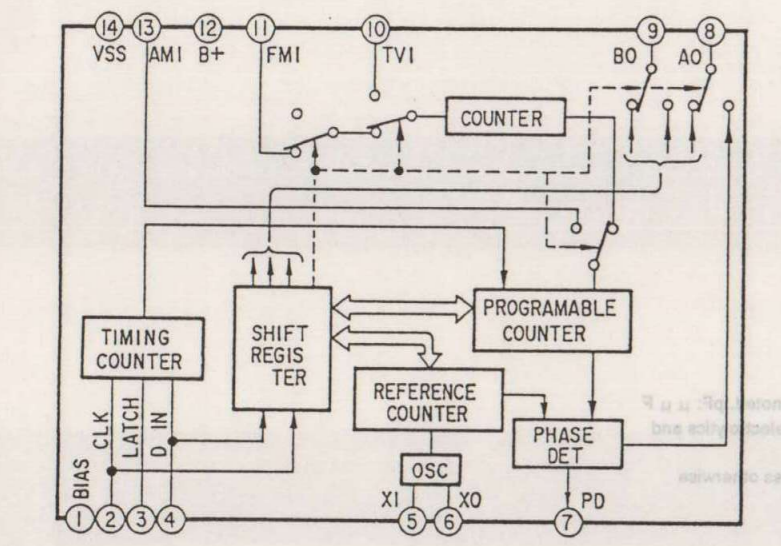
IC401 LA1245



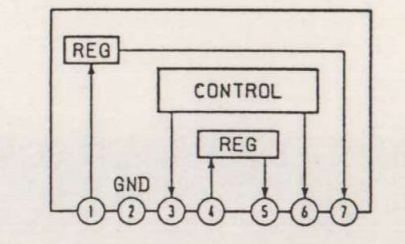
IC602 X24C04P



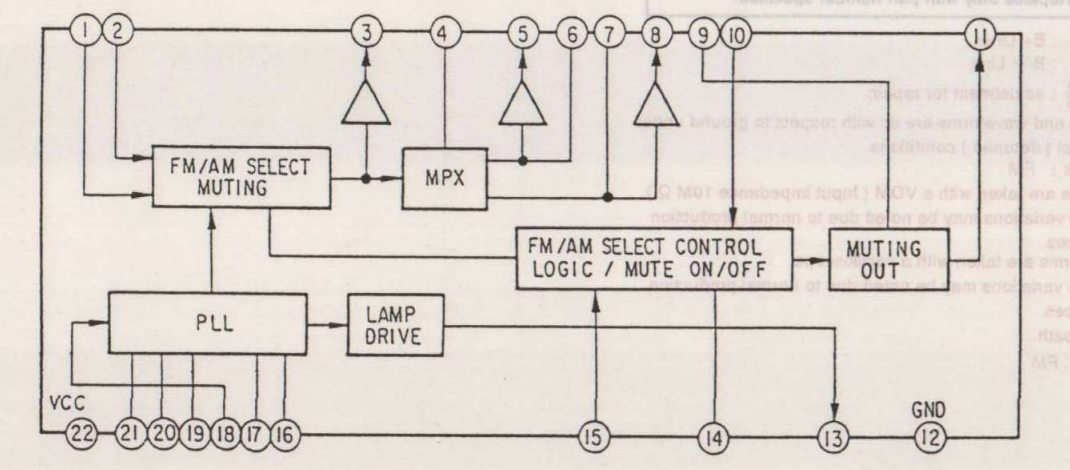
IC501 CX7925B



IC901 LA5667



IC301 LA3401



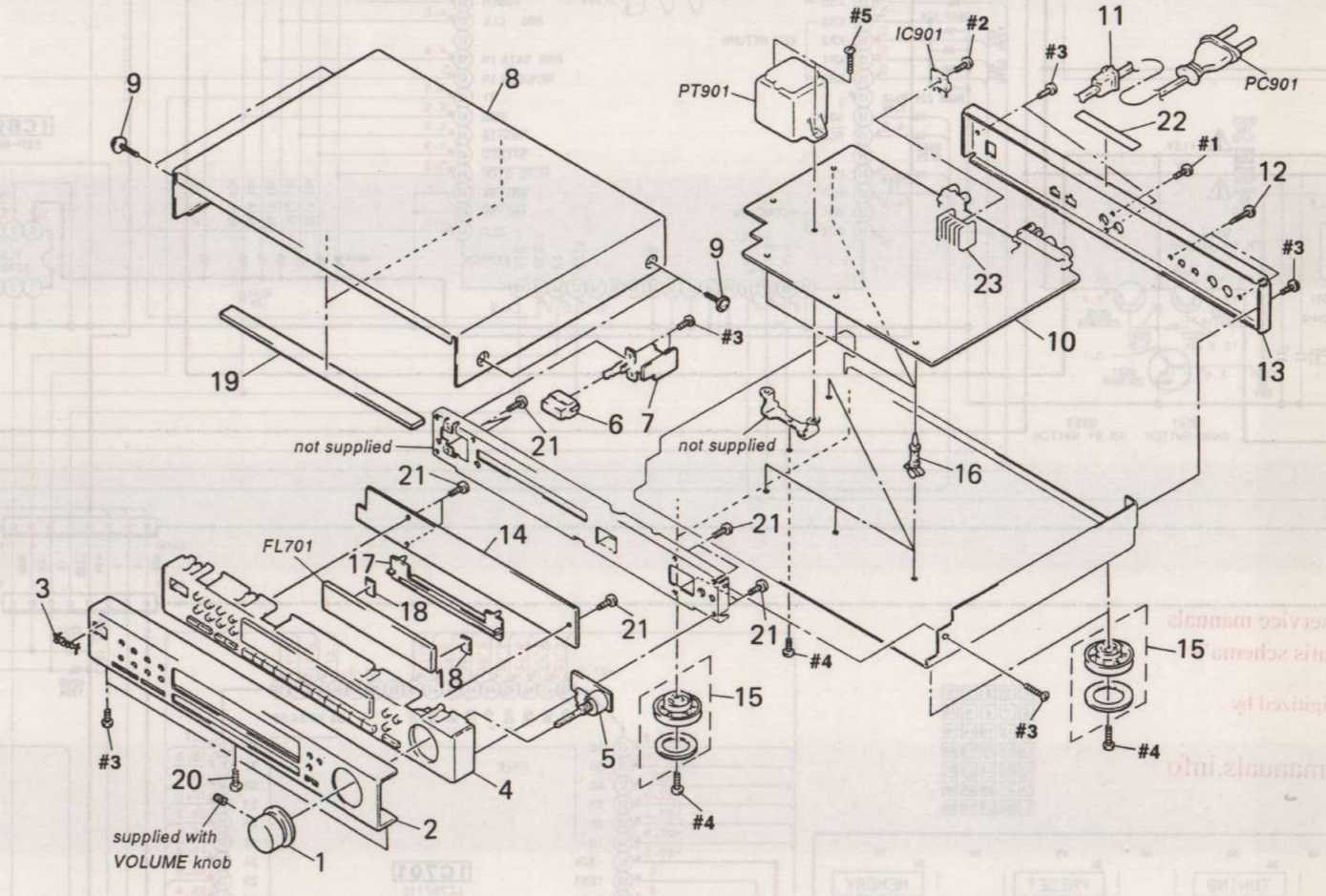
SECTION 4  
EXPLODED VIEW

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)  
● 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 remark column are not supplied.  
● Hardware (# mark) list is given in the last of this parts list.

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

When indicating parts by reference number, please include the board.

Parts color Cabinet's color



Ref.No.	Part No.	Description	Remark	Ref.No.	Part No.	Description	Remark
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		PC901	1-574-383-11	CORD, POWER	
				PT901	1-450-408-11	TRANSFORMER, POWER	

SECTION 5  
ELECTRICAL PARTS LIST

NOTE:  
● Due to standardization, replacements in the parts list may be different from the original one.  
● -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,  $\mu$ :  $\mu$ , for example:  
 $\mu$ A....:  $\mu$ A....,  $\mu$ PA....:  $\mu$ PA....  
 $\mu$ PB....:  $\mu$ PB....,  $\mu$ PC....:  $\mu$ PC....  
 $\mu$ PD....:  $\mu$ PD....  
● CAPACITORS  
 $\mu$ F:  $\mu$ F  
● COILS  
 $\mu$ H:  $\mu$ H

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

When indicating parts by reference number, please include the board.

Ref.No.	Part No.	Description	Remark	Ref.No.	Part No.	Description	Remark
*	1-640-340-11	ENCODER BOARD					
		< VARIABLE RESISTOR >					
		< RESISTOR >					
		< CAPACITOR >					
		< CONNECTOR >					
		< FILTER >					
		< IC >					
		< SWITCH >					
		< COIL >					
		< INDUCTOR >					
		< INDICATOR TUBE, FLUORESCENT >					
		< CUSHION (FL) >					
		< HOLDER, INDICATION TUBE >					
		< SWITCH, TACTILE (1) >					
		< SWITCH, TACTILE (2) >					
		< SWITCH, TACTILE (3) >					
		< SWITCH, TACTILE (4) >					
		< SWITCH, TACTILE (5) >					
		< SWITCH, TACTILE (6) >					
		< SWITCH, TACTILE (7) >					
		< SWITCH, TACTILE (8) >					
		< SWITCH, TACTILE (9) >					
		< SWITCH, TACTILE (SHIFT) >					
		< SWITCH, TACTILE (BAND) >					
		< SWITCH, TACTILE (TUNING/PRESET) >					
		< SWITCH, TACTILE (TUNE MODE) >					
		< SWITCH, TACTILE (MEMORY) >					
		< SWITCH, TACTILE (ANT ATT) >					
		< SWITCH, TACTILE (IF BAND) >					
		< SWITCH, TACTILE (MUTING) >					
		< SWITCH, TACTILE (FM MODE) >					
		< SWITCH, TACTILE (CHARACTER) >					
		< SWITCH, TACTILE (DISPLAY) >					
		< 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 (PTY)	
*****			
*	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		
C402	1-161-379-00	CERAMIC	0.01uF	20%	25V
C403	1-161-379-00	CERAMIC	0.01uF	20%	25V
C404	1-126-022-11	ELECT	47uF	20%	25V
C405	1-161-379-00	CERAMIC	0.01uF	20%	25V
C406	1-161-379-00	CERAMIC	0.01uF	20%	25V
C408	1-161-379-00	CERAMIC	0.01uF	20%	25V
C409	1-162-294-31	CERAMIC	0.001uF	10%	50V
C410	1-161-379-00	CERAMIC	0.01uF	20%	25V
C411	1-126-023-11	ELECT	100uF	20%	16V
C412	1-126-044-11	ELECT	1uF	20%	50V
C413	1-126-044-11	ELECT	1uF	20%	50V
C414	1-126-163-11	ELECT	4.7uF	20%	50V
C415	1-123-382-00	ELECT	3.3uF	20%	100V
C416	1-161-379-00	CERAMIC	0.01uF	20%	25V
C417	1-126-059-11	ELECT	10uF	20%	50V
C421	1-161-379-00	CERAMIC	0.01uF	20%	25V
C451	1-161-379-00	CERAMIC	0.01uF	20%	25V
C452	1-161-374-11	CERAMIC	0.0015uF	20%	50V
C453	1-161-374-11	CERAMIC	0.0015uF	20%	50V
C454	1-161-379-00	CERAMIC	0.01uF	20%	25V
C455	1-161-379-00	CERAMIC	0.01uF	20%	25V
C501	1-161-379-00	CERAMIC	0.01uF	20%	25V
C502	1-102-959-00	CERAMIC	22PF	5%	50V
C503	1-102-959-00	CERAMIC	22PF	5%	50V
C504	1-161-379-00	CERAMIC	0.01uF	20%	25V
C505	1-126-059-11	ELECT	10uF	20%	50V
C506	1-161-379-00	CERAMIC	0.01uF	20%	25V
C507	1-161-379-00	CERAMIC	0.01uF	20%	25V
C508	1-161-379-00	CERAMIC	0.01uF	20%	25V
C509	1-126-023-11	ELECT	100uF	20%	16V
C511	1-126-059-11	ELECT	10uF	20%	50V
C512	1-123-382-00	ELECT	3.3uF	20%	100V
C513	1-126-044-11	ELECT	1uF	20%	50V
C514	1-161-379-00	CERAMIC	0.01uF	20%	25V
C551	1-126-059-11	ELECT	10uF	20%	50V
C552	1-126-044-11	ELECT	1uF	20%	50V
C553	1-161-379-00	CERAMIC	0.01uF	20%	25V
C554	1-161-379-00	CERAMIC	0.01uF	20%	25V
C602	1-124-997-11	ELECT	470uF	20%	10V
C603	1-161-379-00	CERAMIC	0.01uF	20%	25V
C607	1-126-043-11	ELECT	0.47uF	20%	50V
C608	1-161-379-00	CERAMIC	0.01uF	20%	25V
C609	1-162-282-31	CERAMIC	100PF	10%	50V
C610	1-162-282-31	CERAMIC	100PF	10%	50V
C613	1-161-379-00	CERAMIC	0.01uF	20%	25V
C614	1-161-379-00	CERAMIC	0.01uF	20%	25V
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

Ref. No.	Part No.	Description	Remark		
C804	1-161-327-00	CERAMIC	0.0033uF	30%	16V
C806	1-161-327-00	CERAMIC	0.0033uF	30%	16V
C807	1-161-379-00	CERAMIC	0.01uF	20%	25V
C808	1-161-379-00	CERAMIC	0.01uF	20%	25V
C809	1-126-059-11	ELECT	10uF	20%	50V
C810	1-126-163-11	ELECT	4.7uF	20%	50V
C811	1-126-059-11	ELECT	10uF	20%	50V
C813	1-136-157-00	FILM	0.022uF	5%	50V
C814	1-136-159-00	FILM	0.033uF	5%	50V
C815	1-136-159-00	FILM	0.033uF	5%	50V
C816	1-161-329-00	CERAMIC	0.0068uF	30%	16V
C817	1-126-059-11	ELECT	10uF	20%	50V
C818	1-161-379-00	CERAMIC	0.01uF	20%	25V
C819	1-126-163-11	ELECT	4.7uF	20%	50V
C901	1-101-004-00	CERAMIC	0.01uF		50V
C902	1-101-004-00	CERAMIC	0.01uF		50V
C903	1-126-051-11	ELECT	47uF	20%	50V
C904	1-126-051-11	ELECT	47uF	20%	50V
C905	1-124-602-00	ELECT	2200uF	20%	35V
C906	1-126-053-11	ELECT	220uF	20%	50V
C907	1-126-044-11	ELECT	1uF	20%	50V
C908	1-126-059-11	ELECT	10uF	20%	50V
C909	1-126-023-11	ELECT	100uF	20%	16V
C910	1-130-789-00	FILM	1uF	5%	100V
C911	1-126-049-11	ELECT	22uF	20%	50V
△C951	1-161-744-00	CERAMIC	0.01uF		400V
△C952	1-161-742-00	CERAMIC	0.0022uF	20%	400V
△C953	1-161-742-00	CERAMIC	0.0022uF	20%	400V
C954	1-101-004-00	CERAMIC	0.01uF		50V
(Germany, ITALIAN)					
< FILTER >					
CF201	1-567-389-11	FILTER, CERAMIC			
CF202	1-567-389-11	FILTER, CERAMIC			
CF203	1-567-389-11	FILTER, CERAMIC			
CF231	1-567-107-71	FILTER, CERAMIC			
CF301	1-567-250-11	OSCILLATOR, CERAMIC			
CF402	1-527-981-00	FILTER, CERAMIC			
CF801	1-577-075-11	OSCILLATOR, CERAMIC			
< CONNECTOR >					
CN601	1-564-980-11	PIN, CONNECTOR 4P (CONTROL-S IN)			
CN602	1-564-980-11	PIN, CONNECTOR 4P (CONTROL-S OUT)			
* CN701	1-564-342-11	PIN, CONNECTOR 8P			
* CN702	1-564-342-61	PIN, CONNECTOR 8P			
* CN703	1-564-342-11	PIN, CONNECTOR 8P			
* CN901	1-564-321-00	PIN, CONNECTOR 2P			
CN951	1-564-321-00	PIN, CONNECTOR 2P			

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

## TUNER

Ref.No.	Part No.	Description	Remark
		< JACK >	
CNJ301	1-568-250-21	JACK, PIN 2P (OUT PUT)	
		< DIODE >	
D151	8-719-987-63	DIODE 1N4148M	
D152	8-719-987-63	DIODE 1N4148M	
D221	8-719-987-63	DIODE 1N4148M	
D301	8-719-987-63	DIODE 1N4148M	
D402	8-719-987-63	DIODE 1N4148M	
D601	8-719-987-63	DIODE 1N4148M	
D615	8-719-987-63	DIODE 1N4148M	
D616	8-719-987-63	DIODE 1N4148M	
D617	8-719-987-63	DIODE 1N4148M	
D618	8-719-987-63	DIODE 1N4148M	
D621	8-719-987-63	DIODE 1N4148M (ITALIAN)	
D624	8-719-987-63	DIODE 1N4148M	
D901	8-719-200-82	DIODE 11ES2	
D902	8-719-200-82	DIODE 11ES2	
D903	8-719-987-63	DIODE 1N4148M	
D904	8-719-987-63	DIODE 1N4148M	
D905	8-719-934-18	LED HZS27-2L	
D906	8-719-933-47	DIODE HZS7B2L	
		< FRONT END >	
FE101	1-463-857-11	FRONT END (FM) (Germany, ITALIAN)	
FE101	1-465-219-11	FRONT END (AEP)	
FE421	1-236-462-11	ENCAPSULATED COMPONENT (MW)	
FE451	1-236-463-11	ENCAPSULATED COMPONENT (LW)	
		< IC >	
IC221	8-759-812-35	IC LA1235	
IC251	8-759-812-35	IC LA1235	
IC301	8-759-801-80	IC LA3401	
IC302	8-759-945-58	IC RC4558P	
IC401	8-759-812-45	IC LA1245	
IC501	8-757-925-20	IC CX7925B	
IC601	8-759-087-64	IC uPD75517GF-153-3B9	
IC602	8-759-720-89	IC X24C04P	
IC801	8-759-823-61	IC LA2230	
IC802	8-759-062-26	IC LC7073	
IC901	8-759-820-09	IC LA5667	
		< COIL >	
L201	1-410-977-11	INDUCTOR 100uH	
L202	1-410-977-11	INDUCTOR 100uH	
L231	1-410-977-11	INDUCTOR 100uH	

Ref.No.	Part No.	Description	Remark
L351	1-410-971-11	INDUCTOR 10uH (Germany, ITALIAN)	
L352	1-410-971-11	INDUCTOR 10uH (Germany, ITALIAN)	
L451	1-410-979-11	INDUCTOR 220uH	
L801	1-410-977-11	INDUCTOR 100uH	
		< FILTER >	
LPF301	1-235-164-00	FILTER, LOW PASS	
LPF302	1-235-164-00	FILTER, LOW PASS	
		< TRANSFORMER >	
△PT901	1-450-408-11	TRANSFORMER, POWER	
		< TRANSISTOR >	
Q151	8-729-904-39	TRANSISTOR DTC114TS	
Q152	8-729-904-39	TRANSISTOR DTC114TS	
Q201	8-729-230-XX	TRANSISTOR 2SC2669-0Y	
Q202	8-729-230-XX	TRANSISTOR 2SC2669-0Y	
Q203	8-729-230-XX	TRANSISTOR 2SC2669-0Y	
Q204	8-729-230-XX	TRANSISTOR 2SC2669-0Y	
Q231	8-729-904-39	TRANSISTOR DTC114TS	
Q232	8-729-904-39	TRANSISTOR DTC114TS	
Q233	8-729-904-39	TRANSISTOR DTC114TS	
Q234	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q235	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q236	8-729-230-XX	TRANSISTOR 2SC2669-0Y	
Q237	8-729-230-XX	TRANSISTOR 2SC2669-0Y	
Q251	8-729-900-89	TRANSISTOR DTC144ES	
Q252	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q301	8-729-141-30	TRANSISTOR 2SC3623A-LK	
Q302	8-729-141-30	TRANSISTOR 2SC3623A-LK	
Q351	8-729-904-39	TRANSISTOR DTC114TS	
Q352	8-729-202-67	TRANSISTOR 2SK246-GR3	
Q451	8-729-231-20	TRANSISTOR 2SK161-YGR	
Q452	8-729-900-89	TRANSISTOR DTC144ES	
Q453	8-729-900-89	TRANSISTOR DTC144ES	
Q454	8-729-900-89	TRANSISTOR DTC144ES	
Q455	8-729-900-89	TRANSISTOR DTC144ES	
Q456	8-729-900-89	TRANSISTOR DTC144ES	
Q457	8-729-141-30	TRANSISTOR 2SC3623A-LK	
Q458	8-729-904-39	TRANSISTOR DTC114TS	
Q459	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q511	8-729-202-67	TRANSISTOR 2SK246-GR3	
Q512	8-729-201-84	TRANSISTOR 2SC3112-B	
Q521	8-729-900-89	TRANSISTOR DTC144ES	
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 △ or dotted line with mark △ 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 △ or dotted line with mark △ are critical for safety. Replace only with part number specified.

**TUNER**

Ref.No.	Part No.	Description	Remark
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< 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)	
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< TEST PIN >

* TP251	1-565-513-11	PIN, CONNECTOR 2P (NULL)	
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< 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)	

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MISCELLANEOUS  
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△PC901	1-574-383-11	CORD, POWER	
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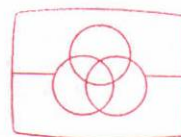
ACCESSORIES & PACKING MATERIALS  
\*\*\*\*\*

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
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**HARDWARE LIST**  
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#1	7-621-849-00	SCREW (BV/RING)	
#2	7-682-548-09	SCREW +B 3X8	
#3	7-682-547-09	SCREW +BVT 3X6 (S)	
#4	7-682-549-09	SCREW +BVT 3X10 (S)	
#5	7-682-550-04	SCREW +BVT 3X12 (S)	



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