

# STR-AV30R

## SERVICE MANUAL

AEP Model



### SPECIFICATIONS

#### Amplifier section

Continuous RMS power output

According to DIN 45500

40 + 40 watts (8 ohms)

At 1 kHz

45 + 45 watts (1% THD, 8 ohms)

50 + 50 watts (1% THD, 4 ohms)

Harmonic distortion

Less than 0.8% at rated output

Frequency response

PHONO: RIAA equalization curve  $\pm 0.5$  dB

CD/AUX

VIDEO

TAPE/DAT

10 Hz - 70 kHz  $\pm 1$  dB

Inputs

	Sensitivity	Impedance	S/N (weighting network, input level)
PHONO	2.5 mV	50 kilohms	77 dB 75 dB* (A, 2.5 mV)
CD/AUX VIDEO TAPE/DAT	150 mV	50 kilohms	95 dB 80 dB* (A, 150 mV)

\* '78 IHF

Outputs

VIDEO (AUDIO) OUT

REC OUT

Voltage 150 mV

Impedance 10 kilohms

SPEAKERS A, B

Accepts speakers of 8 - 16 ohms.

HEADPHONES

Accepts low and high impedance headphones.

Tone controls

BASS

$\pm 8$  dB at 100 Hz


TREBLE

$\pm 8$  dB at 10 kHz

	FM tuner section	AM tuner section
Tuning range	87.5 - 108 MHz	531 - 1,602 kHz
Antenna terminals	300 ohms, balanced 75 ohms, unbalanced	External antenna terminal
Intermediate frequency	10.7 MHz	450 kHz
Sensitivity at 50 dB quieting	17.3 dBf, 4 $\mu$ V (mono) 38.3 dBf, 45 $\mu$ V (stereo)	—
Usable sensitivity	11.2 dBf, 2 $\mu$ V (IHF)	Layout-free antenna: 50 dB/m (at 1,000 kHz) External antenna: 100 $\mu$ V (at 1,000 kHz)
Signal-to-noise ratio	76 dB (mono) 70 dB (stereo)	54 dB (at 50 mV/m)
Harmonic distortion	0.15% (mono) 0.3% (stereo) at 1 kHz	0.3% (at 50 mV/m, 400 Hz)
Selectivity	60 dB at 400 kHz	40 dB at 10 kHz
Separation	45 dB at 1 kHz	
Frequency response	30 Hz - 15 kHz $\pm 0.5$ dB $\pm 2$ dB	

- Continued on page 2 -

#### SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY SHADING AND MARK  ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.



MICROFILM

# FM STEREO/FM-AM RECEIVER

# SONY

AUD

# STR-AV30R

## Remote commander

Power consumption 3 V DC with two R6 (size AA) batteries  
 Remote control system Infrared control

## General

System Tuner section: PLL quartz-locked digital synthesizer system  
 Preamplifier section: low-noise NF type equalizer amp  
 Power amplifier section: quasi-complementary SEPP

Power requirements 220 V AC, 50 Hz

Power consumption 100 watts  
 in standby condition: 5 watts

AC outlets Two switched (total 100 watts)  
 Dimensions Approx. 430 × 105 × 285 mm (w/h/d)  
 (17 × 4<sup>1</sup>/<sub>4</sub> × 11<sup>1</sup>/<sub>4</sub> inches)

Weight including projecting parts and controls  
 Approx. 6.2 kg (13 lbs 11 oz) net  
 Approx. 7.4 kg (16 lbs 6 oz) in shipping carton

## FEATURES

The STR-AV30R is a combined receiver and audio/video control center. You can listen to various audio/video program sources through the amplifier of the receiver and the speakers connected to it.

- Remote control operation is possible.
- A total of 10 FM/AM stations can be preset.
- A quartz-locked digital synthesizer system allows precise tuning.

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AM tuner section	FM tuner section	Tuning range
531 - 1602 kHz	87.5 - 108 MHz	
External antenna terminal	300 ohms, balanced terminals	
450 kHz	10.7 MHz	
	17.3 dB, 4 1/2 V (mono)	
	38.3 dB, 4.5 V (stereo)	
Layout-free antenna: 50 dBm (at 1,000 kHz)	17.3 dB, 2 1/2 V (HF)	
External antenna: 100 V (at 1,000 kHz)		

## MODEL IDENTIFICATION

— Specification Label —

**SONY** MODEL NO.  STR-AV30R

**FM STEREO/ FM-AM RECEIVER**

FREQUENCY RANGE: FM 87.5 - 108 MHz  
 AM 531 - 1602 kHz

IF  AC: 220 V ~ 50 Hz 100 W

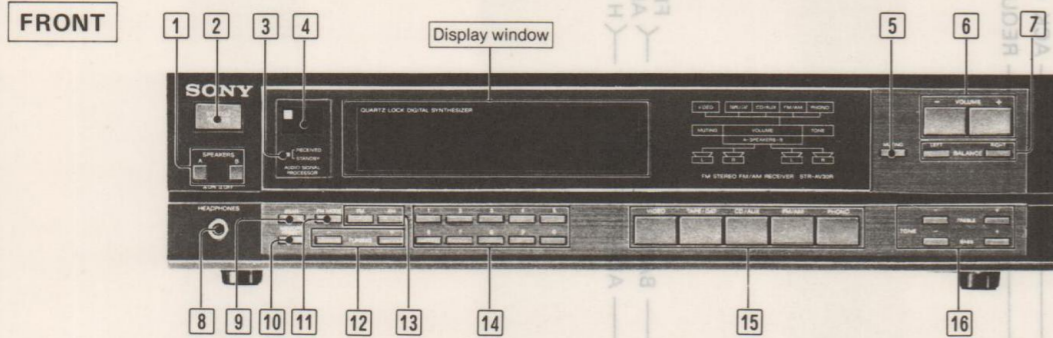
SERIAL NO.

MADE IN KOREA

G-AEP MODEL  
 AEP MODEL

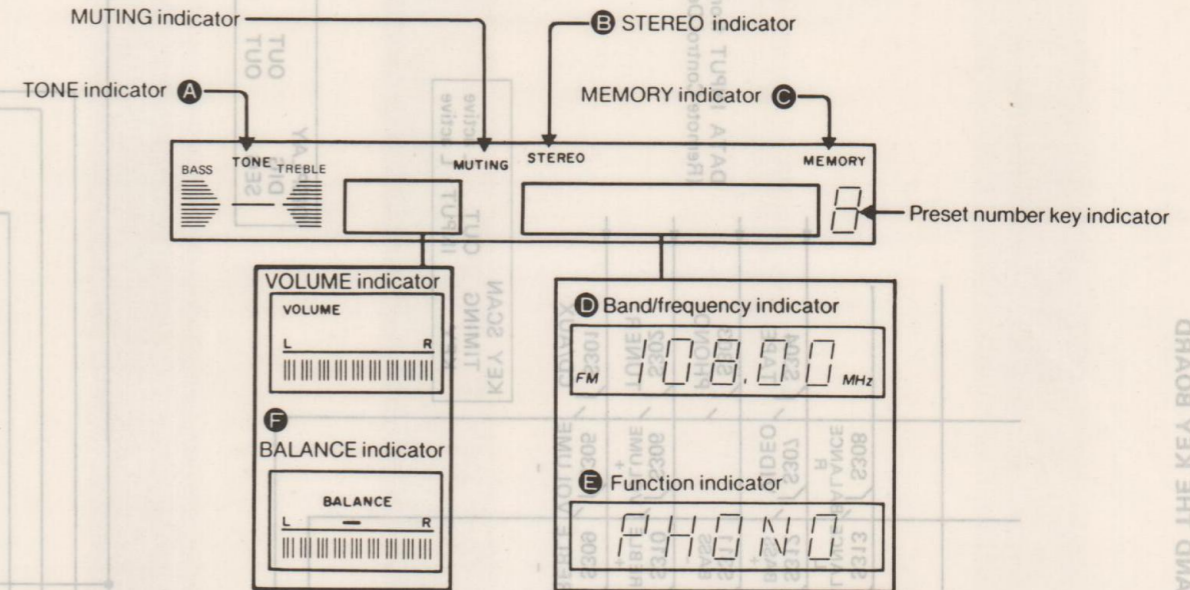
SECTION 1  
OUTLINE

1-1. FUNCTION OF CONTROLS



- 1 SPEAKERS selectors**  
Depress to select which speaker system to drive. For both speaker systems, depress A and B.
- 2 SYSTEM POWER switch**
- 3 RECEIVED/STANDBY indicator**  
Lights when the system is connected to the power source. It blinks when a button on the Remote Commander is pressed.
- 4 Remote control sensor**
- 5 MUTING button**  
Press to attenuate the sound level immediately. To restore it, press again.
- 6 VOLUME control buttons**
- 7 BALANCE control buttons**  
Press RIGHT to decrease the left channel volume, and press LEFT to decrease the right channel volume. Adjust while the BALANCE indicator is displayed.
- 8 HEADPHONES jack (stereo phone jack)**
- 9 MEMORY SCAN button**
- 10 MEMORY PRESET button**
- 11 FM MODE button**  
When an FM stereo program is noisy or hard to receive, press this button. The STEREO indicator goes out (the sound is heard in monaural, but the reception will be improved). The return to the stereo mode, press again or change the frequency.
- 12 TUNING buttons**
- 13 FM/AM band select buttons**
- 14 Number buttons**  
For presetting a station or for tuning in a preset station.
- 15 Function select buttons**
- 16 TONE (BASS/TREBLE) control buttons**

1-2. DISPLAY WINDOW



Display window

- A TONE indicator**  
A straight bar graph indicates a flat frequency response.
- B STEREO indicator**  
Lights when an FM stereo program of sufficient signal strength is tuned in.
- C MEMORY indicator**  
Lights up when the MEMORY PRESET key pressed.
- D Band/frequency indicator**  
Indicates the band selected and the frequency tuned.
- E Function indicator**  
Shows the program source other than broadcast.
- F BALANCE indicator**  
Indicates the relative strength of the volume at the left and the right speakers.

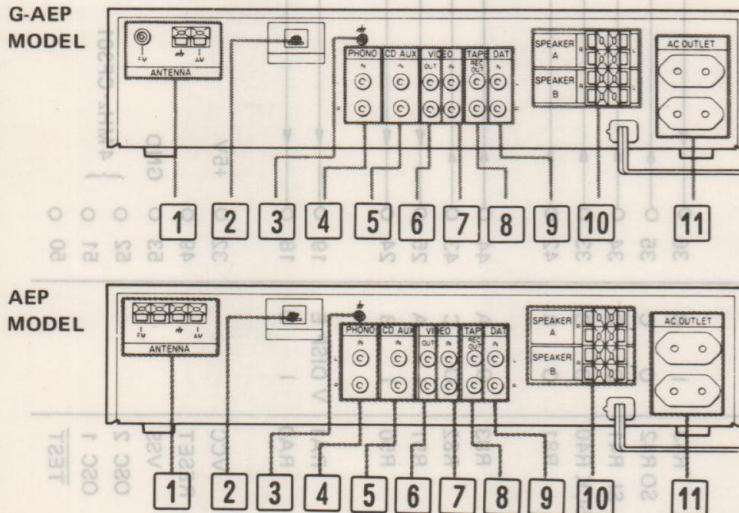
**To change the AM tuning interval (G-AEP model)**  
The AM tuning interval is preset to 9 kHz. To use the receiver where the frequency allocation system is based on a 10 kHz interval, make the following adjustments.

1. Press SYSTEM POWER and tune in any AM station.
2. Press SYSTEM POWER again to turn off the unit.
3. Press SYSTEM POWER again while pressing the '+' TUNING button.

To reset, repeat the above steps.

**Note**  
When the interval is changed, all preset stations that you have memorized will be erased. After changing the interval, be sure to preset them again.

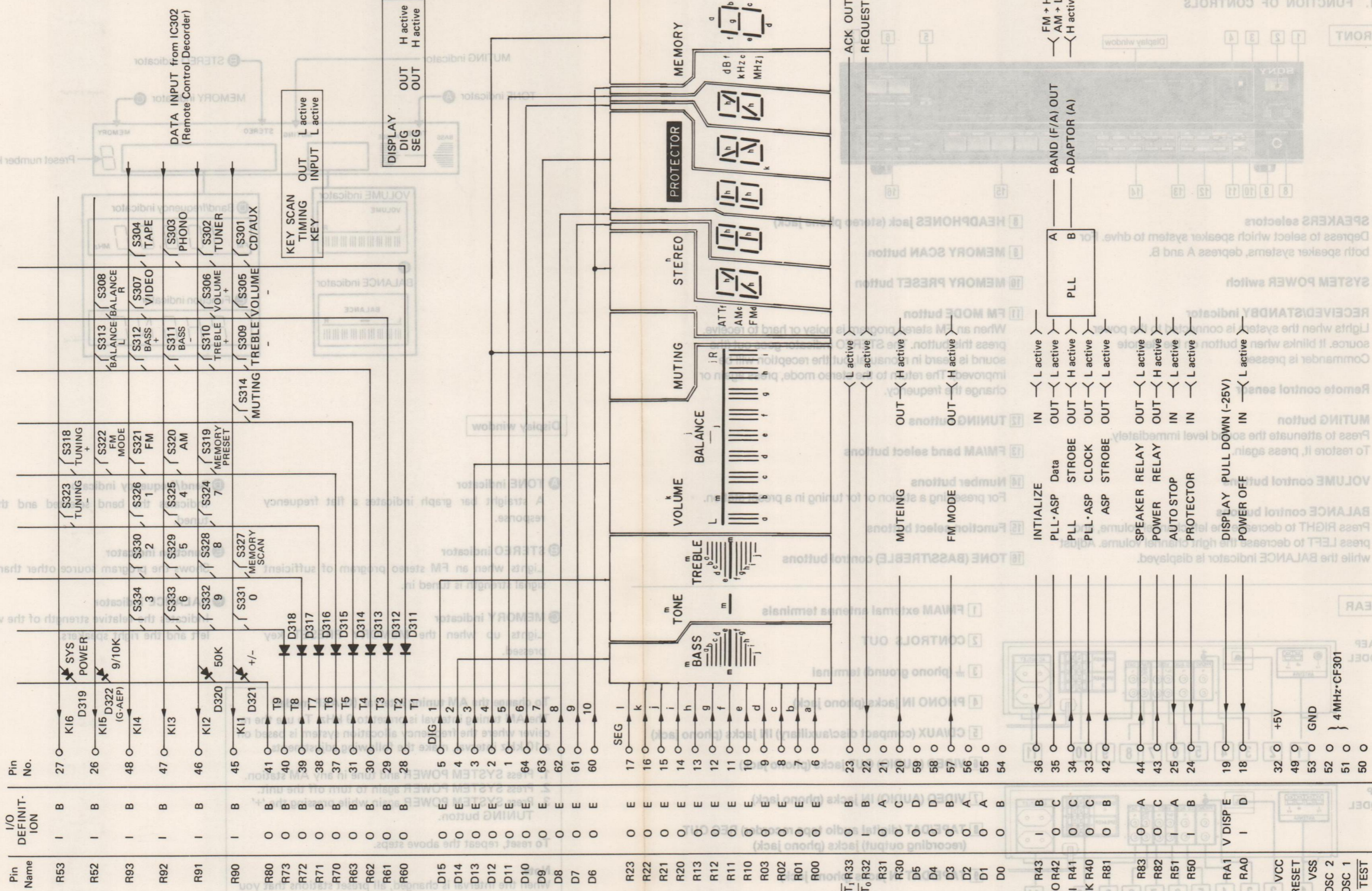
REAR



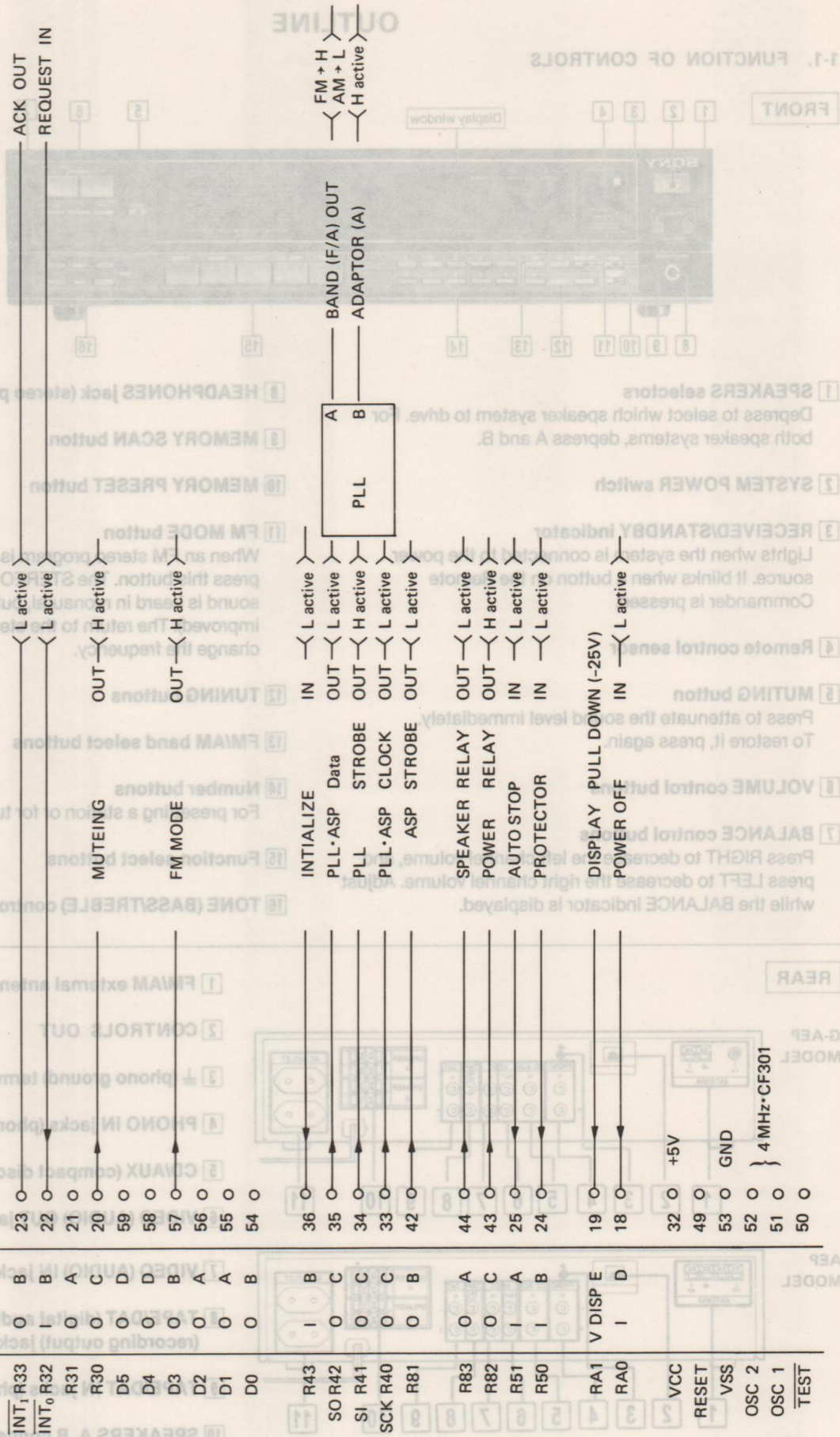
- 1 FM/AM external antenna terminals**
- 2 CONTROLS OUT**
- 3 (phono ground) terminal**
- 4 PHONO IN jacks (phono jack)**
- 5 CD/AUX (compact disc/auxiliary) IN jacks (phono jack)**
- 6 VIDEO (AUDIO) OUT jacks (phono jack)**
- 7 VIDEO (AUDIO) IN jacks (phono jack)**
- 8 TAPE/DAT (digital audio tape recorder) REC OUT (recording output) jacks (phono jack)**
- 9 TAPE/DAT IN jacks (phono jack)**
- 10 SPEAKERS A, B connectors**
- 11 AC OUTLETS (SWITCHED)**

1-3. DESCRIPTION OF HD614042SF96 (IC301), THE FLOURESCENT INDICATOR (FR301) AND THE KEY BOARD

PORT MAP OF HD614042SF96 (IC301)



1-1. FUNCTION OF CONTROLS

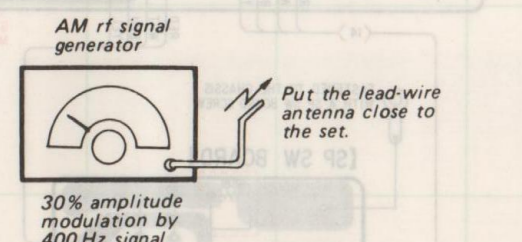


SECTION 2 ELECTRICAL ADJUSTMENTS

2-2. FM SECTION

2-1. AM SECTION

Setting:



1. AM Frequency Coverage Adjustment

Setting:

set frequency	Adjustment part	Reading on VOM
531 kHz	T402	1.1 V ± 0.2 V
1,602 kHz	CT402	9.0 V ± 0.2 V

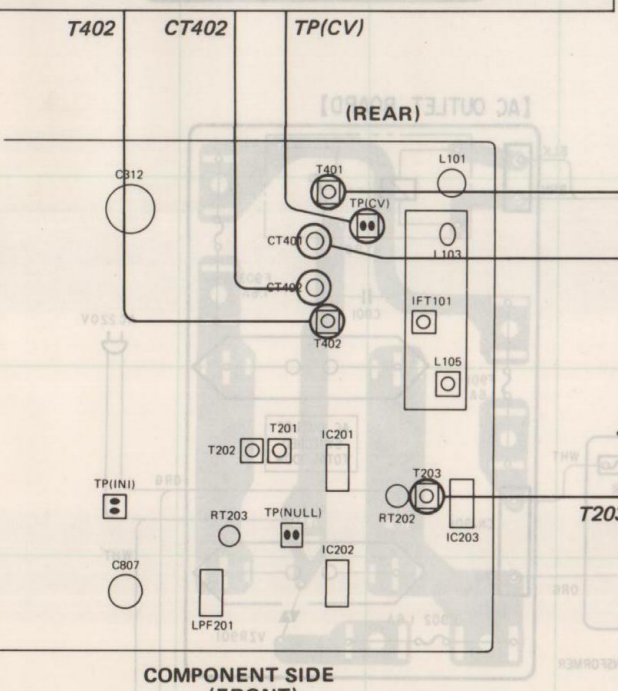
2. AM Tracking Adjustment

This adjustment should be performed after completing AM Frequency Coverage Adjustment.

SG and set frequency	Adjustment part	Reading on VTVM
603 kHz	T401	maximum
1,404 kHz	CT401	maximum

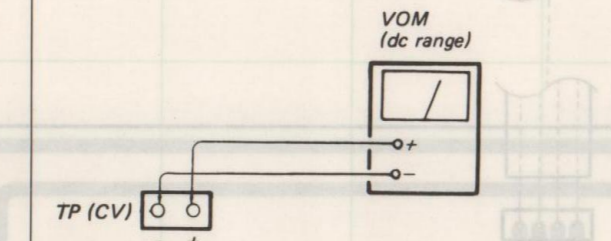
3. AM IF Alignment

SG and set frequency	Adjustment part	Reading on VTVM
1,404 kHz	T203	maximum



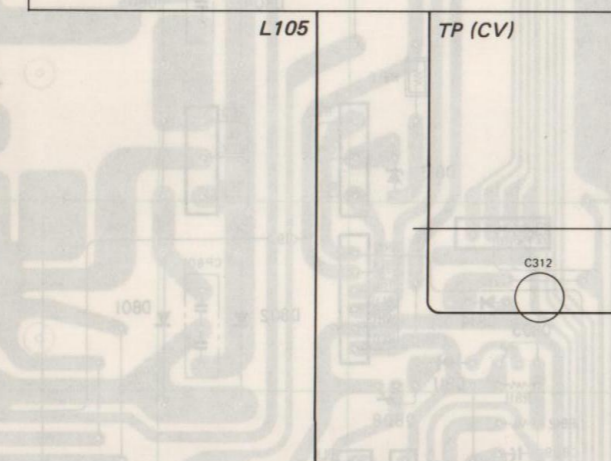
1. FM Frequency Coverage Adjustment

Setting:

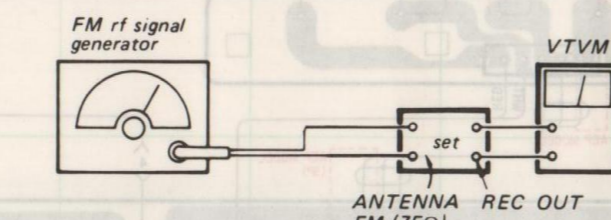


Procedure:

Set frequency	Adjustment part	Reading on VOM
108 MHz	L105	8.5 ± 0.2 V
87.5 MHz		2.6 ± 0.2 V



Setting:

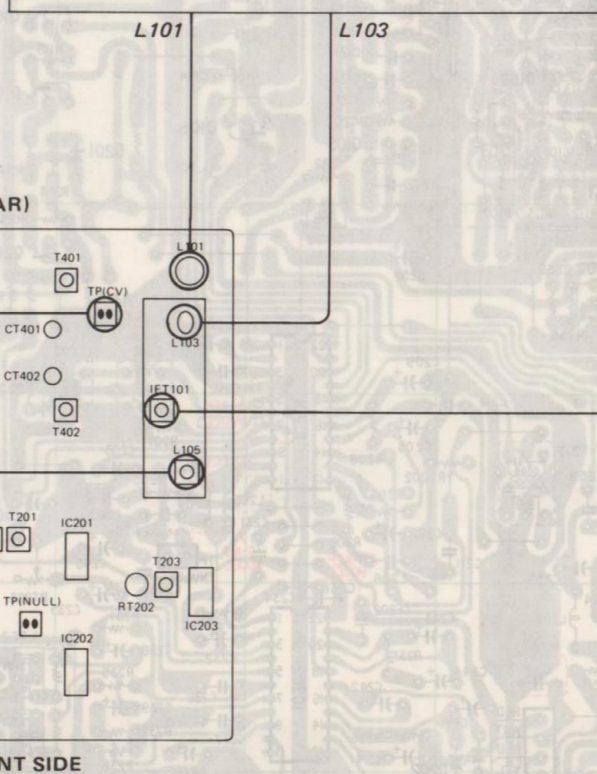


Carrier frequency: 98 MHz  
Modulation: 1 kHz, 75 kHz deviation (100%)  
Output level: 3.2 ~ 5.7µV (10 ~ 15 dB)

2. FM Tracking Adjustment

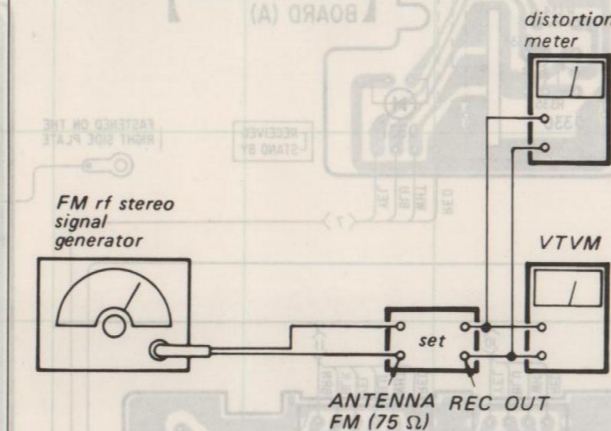
This adjustment should be performed after finishing FM Frequency Coverage Adjustment.

Adjust L101, 103 for maximum reading on the VTVM.



3. FM IF Adjustment

Setting:



Carrier frequency: 98 MHz  
Modulation: 1 kHz, 75 kHz deviation (100%)  
Output level: 1 mV (60 dB)

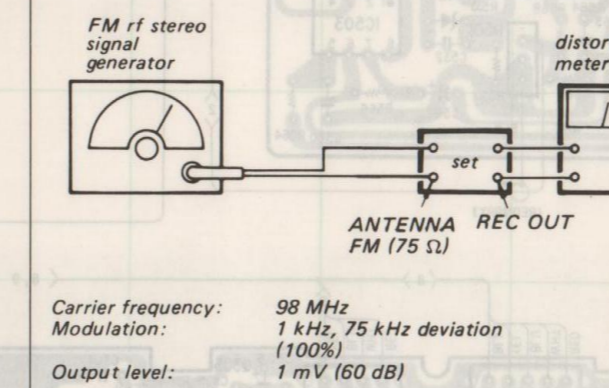
- Procedure:
- Set the FM rf stereo signal generator as shown below.
  - Tune the set to 98 MHz.
  - Adjust the core of IFT101 for a maximum reading on VTVM.
  - Set the FM rf stereo signal generator as shown below.

Carrier frequency: 98 MHz  
Output level: 1 mV (60 dB)  
Modulation: Audio 1 kHz: 33.75 kHz deviation (45%)  
Sub channel 38 kHz: 33.75 kHz deviation (45%)  
Pilot signal 19 kHz: 7.5 kHz deviation (10%)  
Mode: stereo

- Procedure:
- Adjust the core of IFT101 for minimum distortion near the maximum output level of REC OUT.

4. FM Discriminator Alignment (NULL and MONO Distortion)

Setting:



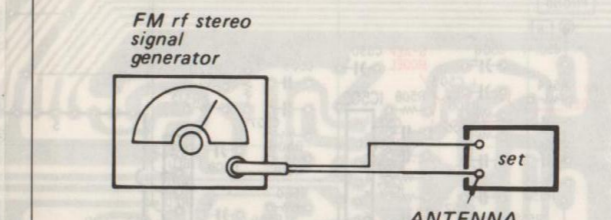
Carrier frequency: 98 MHz  
Modulation: 1 kHz, 75 kHz deviation (100%)  
Output level: 1 mV (60 dB)

- Procedure:
- Tune the set to 98 MHz.
  - Adjust T201 (primary-side) for 0 V reading on the VOM. .... NULL
  - Adjust T202 (secondary-side) for a minimum reading on the distortion meter. .... MONO Distortion
  - Repeat the primary-side and the secondary-side alignments several times. Complete with NULL adjustment.

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

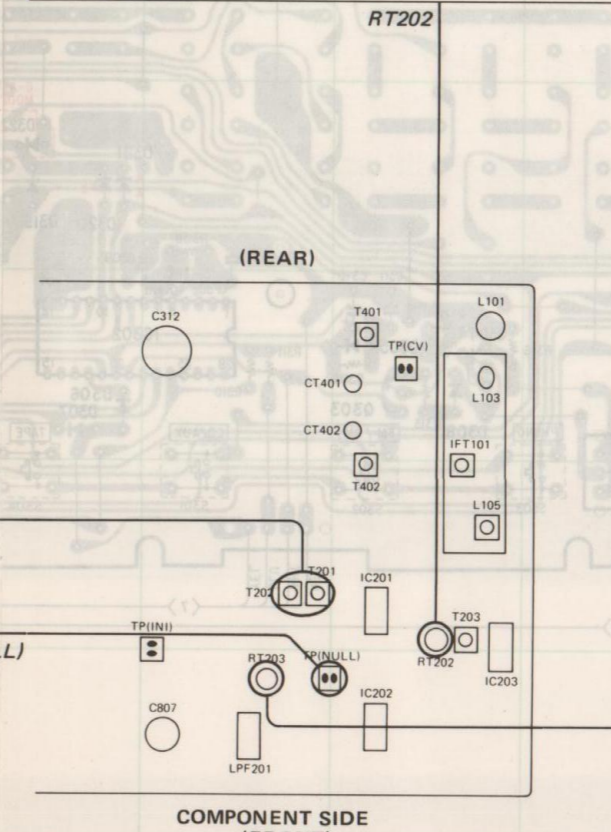
5. FM Auto Stop Level Adjustment

Setting:



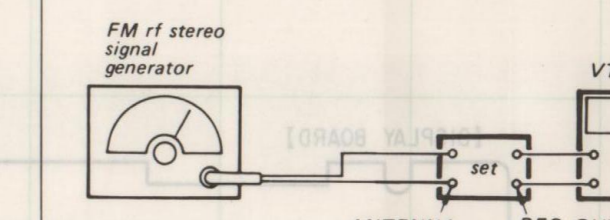
Carrier frequency: 98 MHz  
Output level: 17.8 µV (25 dB)  
Modulation: Audio 1 kHz: 33.75 kHz deviation (45%)  
Sub channel 38 kHz: 33.75 kHz deviation (45%)  
Pilot signal 19 kHz: 7.5 kHz deviation (10%)  
Mode: stereo

- Procedure:
- Tune the set to 98 MHz.
  - Adjust RT202 so that the STEREO indicator goes on.



6. FM Stereo Separation Adjustment

Setting:



Carrier frequency: 98 MHz  
Output level: 1 mV (60 dB)  
Modulation: Audio 1 kHz: 33.75 kHz deviation (45%)  
Sub channel 38 kHz: 33.75 kHz deviation (45%)  
Pilot signal 19 kHz: 7.5 kHz deviation (10%)  
Mode: stereo

- Procedure:
- Tune the set to 98 MHz.

FM stereo signal generator output channel	VTVM connection	VTVM reading (dB)
L-CH	L-CH	(A)
R-CH	L-CH	(B)
R-CH	R-CH	(C)
L-CH	R-CH	(D)

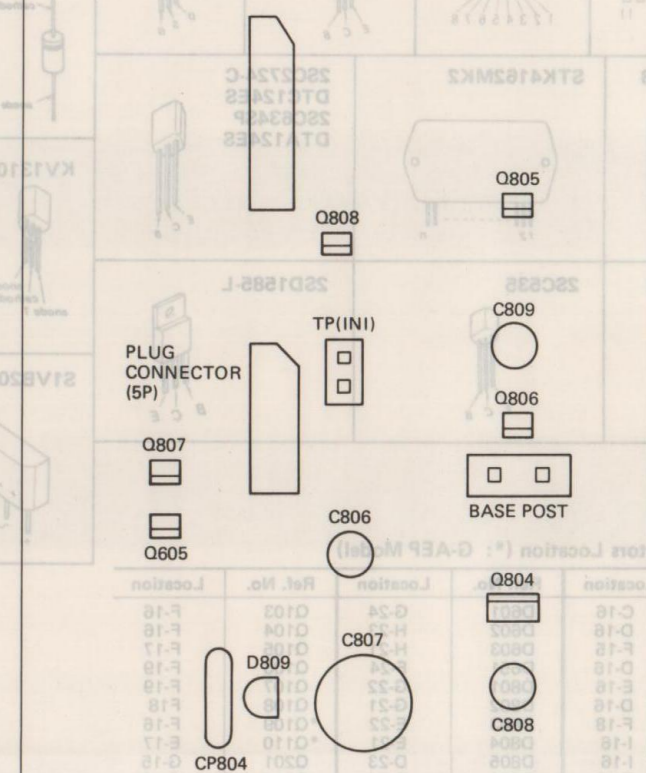
L-CH Stereo separation: (A) - (B)  
R-CH Stereo separation: (C) - (D)

The separations of both channels should be equal.

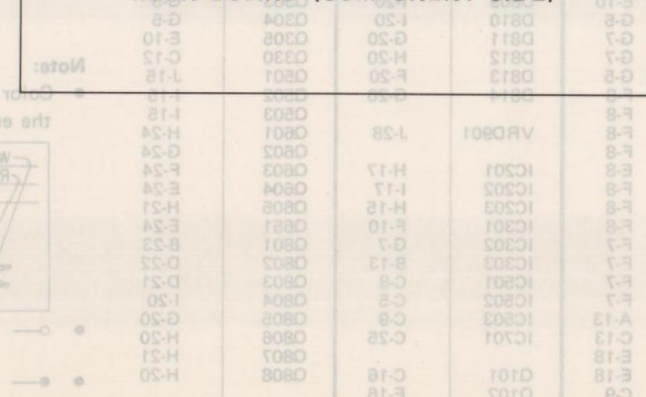
NOTE ON REPAIR

INITIALIZATION OF THE CONTROLLER MICOM (IC301)

For abnormal operation, or when replacing the controller IC301, short the TP(INI) on the main board with the system power on. The controller micom is initialized and operation begins from initial state. While the micom is operating, the I/O clock port constantly generates clock pulses.



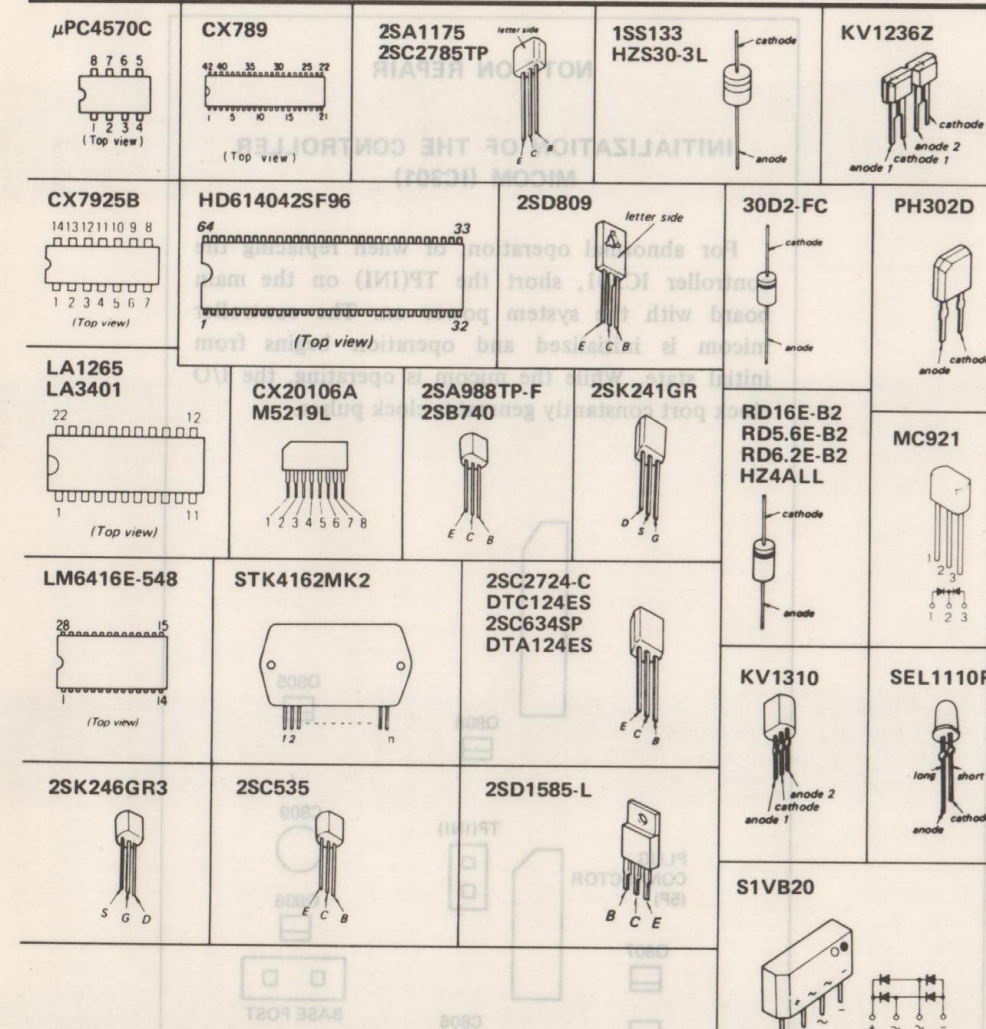
MAIN BOARD (COMPONENT SIDE)



SECTION 3  
DIAGRAMS

3-1. MOUNTING DIAGRAM

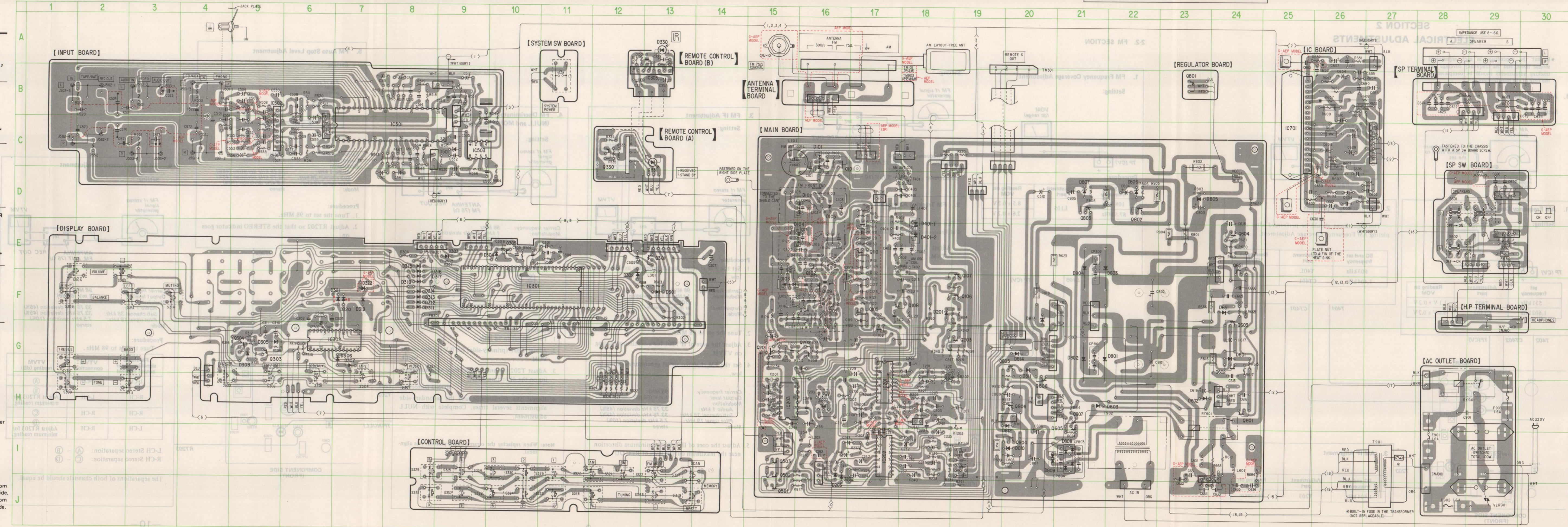
● Semiconductor Lead Layouts



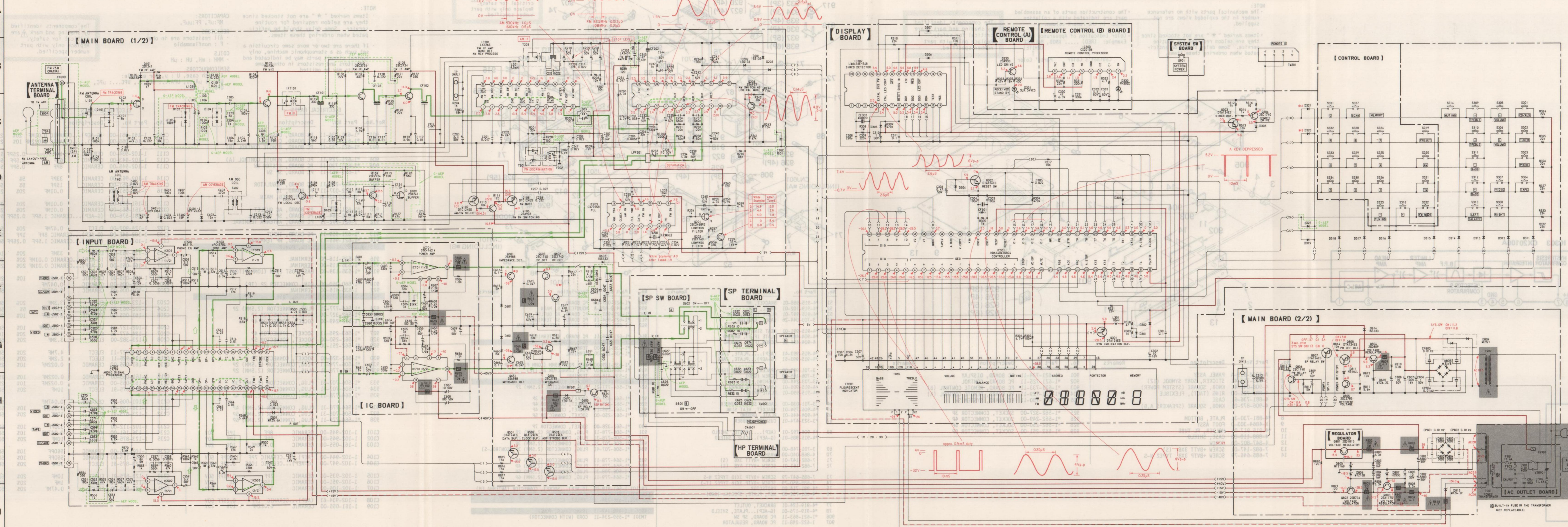
● Semiconductors Location (\*: G-AEP Model)

Ref. No.	Location	Ref. No.	Location	Ref. No.	Location	
D101	C-16	D601	G-24	Q103	F-16	
D102	D-16	D602	H-23	Q104	F-16	
D103	F-15	D603	H-21	Q105	F-17	
D104	D-16	D651	F-24	Q106	F-19	
D105	E-16	D801	G-22	Q107	F-19	
D201	F-18	D802	G-21	Q108	F-16	
D202	I-16	D804	E-21	Q110	E-17	
D203	I-16	D805	D-23	Q201	G-15	
D301	F-13	D806	D-22	Q202	G-16	
D302	F-12	D807	D-21	Q203	G-19	
D303	E-9	D808	I-21	Q301	F-13	
D304	E-10	D809	I-20	Q303	G-5	
D305	G-5	D810	I-20	Q304	G-5	
D306	G-7	D811	G-20	Q305	E-10	
D307	G-7	D812	H-20	Q330	C-12	
D308	G-5	D813	F-20	Q501	J-15	
D311	F-8	D814	G-20	Q502	I-15	
D312	F-8			Q503	I-15	
D313	F-8	VRD901	J-28	Q601	H-24	
D314	F-8			Q602	G-24	
D315	E-8	IC201	H-17	Q603	F-24	
D316	F-8	IC202	I-17	Q604	E-24	
D317	F-8	IC203	H-15	Q605	H-21	
D318	F-8	IC301	F-10	Q651	F-24	
D319	F-7	IC302	G-7	Q801	B-23	
D320	F-7	IC303	B-13	Q802	D-22	
D321	F-7	IC501	C-8	Q803	D-21	
D401-1	E-18	D322	F-7	Q804	I-20	
D401-2	E-18	A-13	IC502	C-5	Q805	G-20
D501	C-9	C-9	IC503	C-9	Q806	H-20
			IC701	C-25	Q807	H-21
					Q808	H-20

Note:  
 ● Color code of sleeving over the end of the jacket.  
 ○ : part extracted from the component side.  
 ● : part extracted from the conductor side.



3-2. SCHEMATIC DIAGRAM



**Note:**

- All capacitors are in  $\mu\text{F}$  unless otherwise noted.  $\text{pF}$ :  $\mu\text{F}$  50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in  $\Omega$  and  $1/4\text{W}$  or less unless otherwise specified.

**TUNER BLOCK** → FM Signal MAIN  
**MAIN BLOCK** → L-CH  
 → R-CH  
 → PHONO L-CH  
 → PHONO R-CH

**SWITCHES**

Ref. No.	Switch	Position
S301	CD/AUX	OFF
S302	FM/AM	OFF
S303	PHONO	OFF
S304	TAPE	OFF
S305	VOLUME -	OFF
S306	VOLUME +	OFF
S307	VIDEO	OFF
S308	BALANCE RIGHT	OFF
S309	TREBLE +	OFF
S310	TREBLE -	OFF
S311	BASS -	OFF
S312	BASS +	OFF
S313	BALANCE LEFT	OFF
S314	MUTING	OFF
S318	TUNING +	OFF
S319	PRESET	OFF
S320	AM	OFF
S321	FM	OFF
S322	FM MODE	OFF
S323	TUNING -	OFF
S324	(7)	OFF
S325	(4)	OFF
S326	(1)	OFF
S327	MEMORY SCAN	OFF
S328	(8)	OFF
S329	(5)	OFF
S330	(2)	OFF
S331	(0)	OFF
S332	(9)	OFF
S333	(6)	OFF
S334	(3)	OFF
S601	SPEAKER B	OFF
S602	SPEAKER A	OFF
S901	SYSTEM POWER	OFF

**Notes:**

- $\Delta$ : internal component.
- SWT**: nonflammable resistor.
- B+**: B+ bus.
- B-**: B- bus.
- ADJ**: adjustment for repair.
- Voltages are dc with respect to ground unless otherwise noted.
- Readings are taken under no-signal conditions with a VOM (50  $\text{k}\Omega/\text{V}$ ).
- TUNER BLOCK** no mark: FM ( ): AM
- MAIN BLOCK** no mark: common
- Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken to ground by using oscilloscope.
- Voltage variations may be noted due to normal production tolerances.

**LPF201**

The inside network of LPF-201 is following:

**Note on Ceramic Filter (CF101, 102 and 103) Replacement and Diode Connection:**

There are three classes of ceramic filters which can be used for FM IF circuit, depending on the center frequencies. The Diode Connection should be different according to the class used in the set. The Diode connection is necessary to be matched with the center frequency (FM IF) of the ceramic filter CF101, 102, and 103.

Class of ceramic filter (MHz)	DIODE connection *A (D321) *B (D320)	FM Intermediate frequency (MHz)
White (10.75)	○ ○	10.75
Red (10.7)	× ×	10.7
Black (10.65)	× ○	10.65

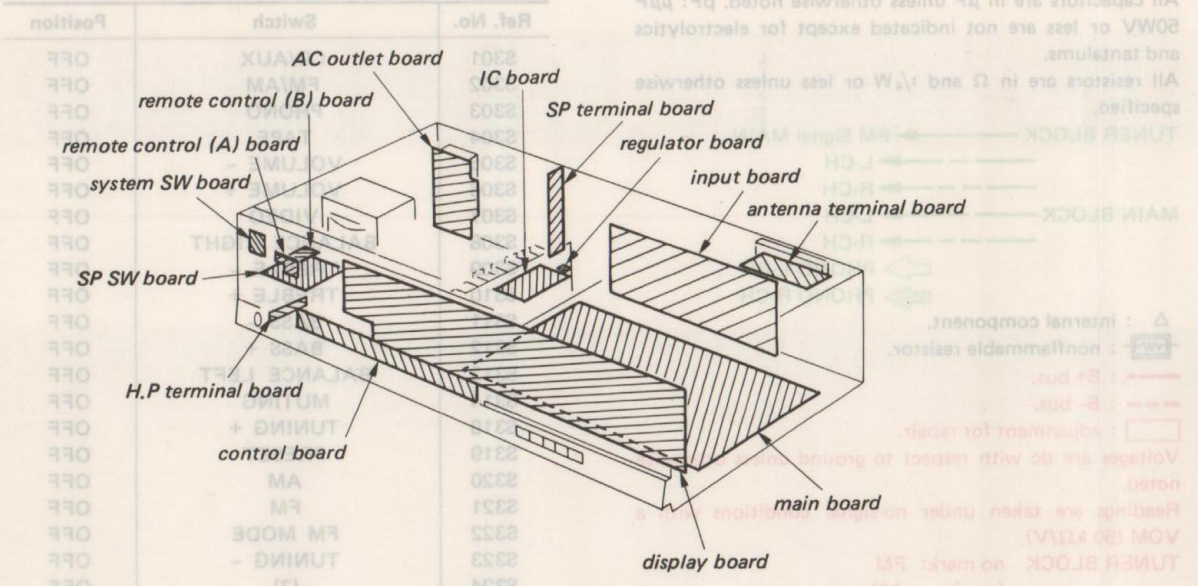
connected: ○  
 not connected: ×

**color mark (White, Red, Black)**

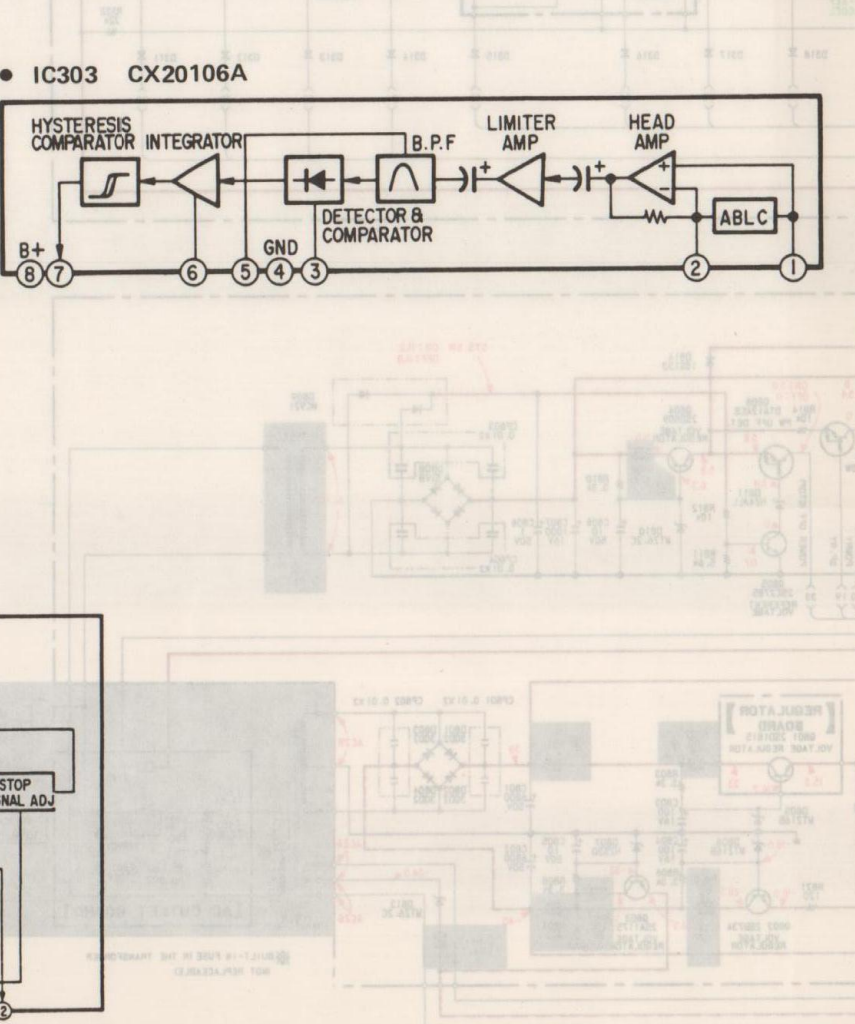
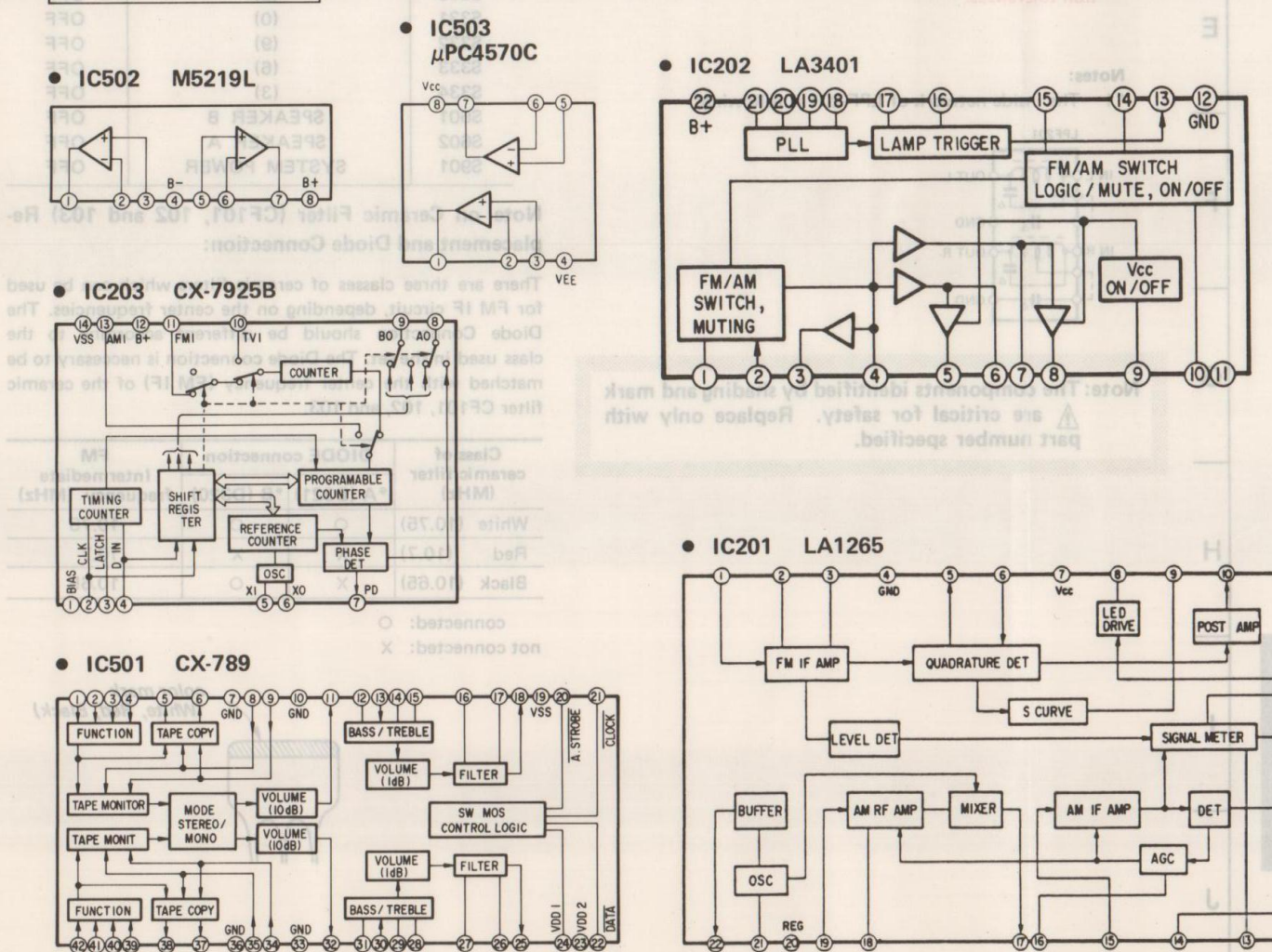
SECTION 4

SECTION 5

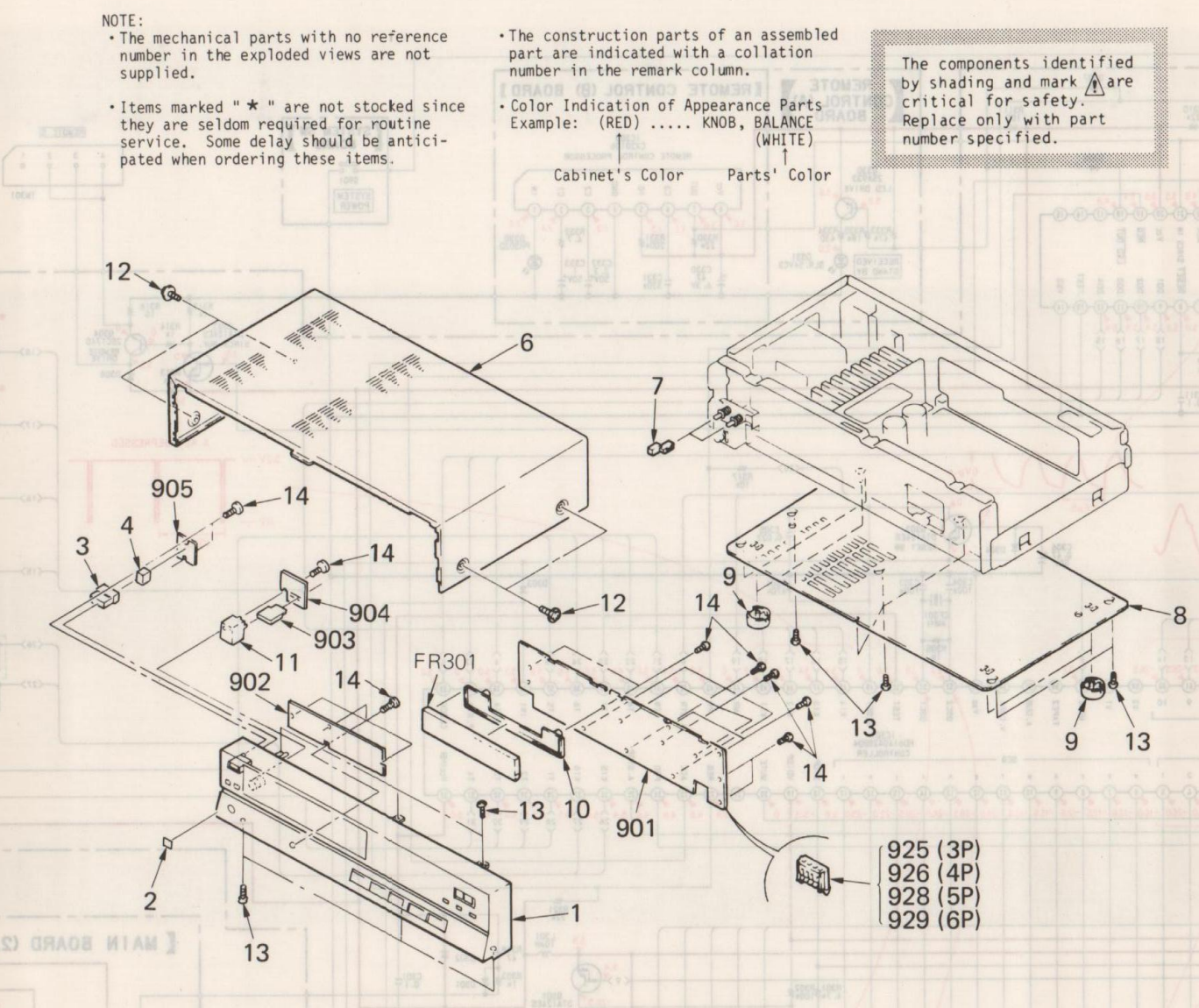
CIRCUIT BOARDS LOCATION



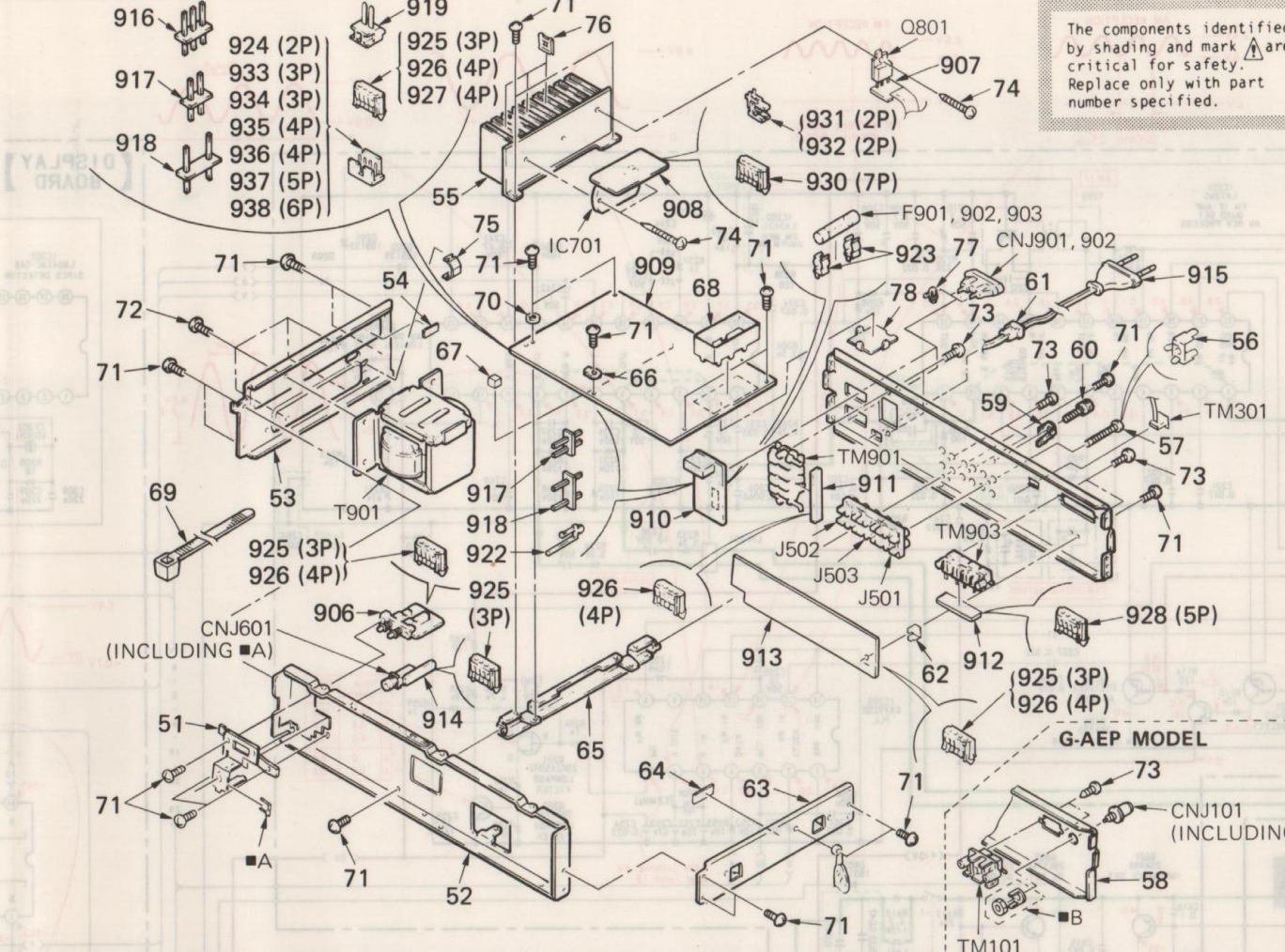
IC BLOCK DIAGRAMS



EXPLODED VIEWS AND PARTS LIST



Parts list for the exploded view diagram, including part numbers, descriptions, and remarks for items 1 through 14.



Parts list for the detailed exploded view diagram, including part numbers, descriptions, and remarks for items 51 through 97.

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

Electrical Parts List table with columns for Ref.No., Part No., Description, and Remarks. It lists various electronic components such as capacitors, resistors, and semiconductors.



ELECTRICAL PARTS

Table with 5 columns: Ref.No., Part No., Description, Value, and Unit. Lists electrical components like capacitors (C242-C252, C254-C256, C257-C259, C260-C262, C301-C306, C307-C309, C310-C312, C330-C332, C333-C402, C403-C405, C501-C503, C504-C506, C507-C509, C510-C512, C513-C515, C520-C522) and films (C301-C303, C563-C565, C567-C568, C571-C573, C574-C576, C603-C605, C606-C608, C616-C618, C619-C623, C624-C626, C627-C631, C632-C634, C635-C636, C651).

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

ELECTRICAL PARTS

Table with 5 columns: Ref.No., Part No., Description, Value, and Unit. Lists electrical components like capacitors (C523-C530, C531-C533, C534-C535, C536-C537, C538-C540, C541-C542, C543-C544, C545-C546, C547-C548, C549-C550, C551-C553, C554-C556, C557-C560, C561-C562, C563-C565, C566-C568, C569-C570, C571-C573, C574-C576, C601-C602, C603-C605, C606-C608, C609-C615, C616-C618, C619-C623, C624-C626, C627-C631, C632-C634, C635-C636, C651).

ELECTRICAL PARTS

Table with 5 columns: Ref.No., Part No., Description, Value, and Unit. Lists electrical components like capacitors (C652-C654, C655-C657, C658-C659, C660-C662, C663-C664, C665-C667, C668-C669, C670-C672, C673-C674, C675-C677, C678-C679, C680-C682, C683-C686, C687-C689, C690, C901), filters (CF101-CF103, CF202, CF301, CF302), oscillators (CF301, CF302), sockets/connectors (CNJ101, CNJ601, CNJ901, CNJ902), and ceramic components (CP801-CP804, CT401, CT402, D101-D103, D104-D105, D201-D203, D302-D304, D305-D307, D308-D312, D313-D316).

ELECTRICAL PARTS

Table with 5 columns: Ref.No., Part No., Description, Value, and Unit. Lists electrical components like diodes (D317-D319, D320-D322, D330-D331, D401, D501, D601, D602, D603, D651, D801, D802, D803, D804, D805, D806, D807, D808, D809, D810, D811, D812, D813, D814), fuses (F901-F903), indicator tube (FR301), ICs (IC201-IC203, IC301-IC303, IC501-IC503, IC701), transformer (IFT101), and connectors (J501, J502, J503, L101-L103, L104-L106, L201-L203).

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## ELECTRICAL PARTS

Ref.No.	Part No.	Description
R808	1-249-423-11	CARBON 3.3K 5% 1/4W
R809	△ 1-249-455-11	CARBON 4.7 5% 1/4W F
R810	1-249-423-11	CARBON 3.3K 5% 1/4W
R811	1-247-849-00	CARBON 5.6K 5% 1/4W
R812	1-249-429-11	CARBON 10K 5% 1/4W
R813	1-249-429-11	CARBON 10K 5% 1/4W
R814	1-249-429-11	CARBON 10K 5% 1/4W
R815	1-249-431-11	CARBON 15K 5% 1/4W
R816	1-249-431-11	CARBON 15K 5% 1/4W
R817	1-249-431-11	CARBON 15K 5% 1/4W
R818	△ 1-249-455-11	CARBON 4.7 5% 1/4W F
R820	1-249-406-11	CARBON 120 5% 1/4W
R821	1-249-406-11	CARBON 120 5% 1/4W
RT202	1-228-995-00	RES, ADJ, CARBON 22K (AUTO STOP LEVEL)
RT203	1-228-998-00	RES, ADJ, CARBON 220K (STEREO SEPARATION)
RY601	1-515-533-11	RELAY (SPEAKER)
RY901	△ 1-515-617-11	RELAY (POWER)
S301	1-554-303-21	SWITCH, KEY BOARD (CD/AUX)
S302	1-554-303-21	SWITCH, KEY BOARD (FM/AM)
S303	1-554-303-21	SWITCH, KEY BOARD (PHONO)
S304	1-554-303-21	SWITCH, KEY BOARD (TAPE)
S305	1-554-303-21	SWITCH, KEY BOARD (VOLUME -)
S306	1-554-303-21	SWITCH, KEY BOARD (VOLUME +)
S307	1-554-303-21	SWITCH, KEY BOARD (VIDEO)
S308	1-554-303-21	SWITCH, KEY BOARD (BALANCE RIGHT)
S309	1-554-303-21	SWITCH, KEY BOARD (TREBLE -)
S310	1-554-303-21	SWITCH, KEY BOARD (TREBLE +)
S311	1-554-303-21	SWITCH, KEY BOARD (BASS -)
S312	1-554-303-21	SWITCH, KEY BOARD (BASS +)
S313	1-554-303-21	SWITCH, KEY BOARD (BALANCE LEFT)
S314	1-554-303-21	SWITCH, KEY BOARD (MUTING)
S318	1-554-303-21	SWITCH, KEY BOARD (TUNING +)
S319	1-554-303-21	SWITCH, KEY BOARD (PRESET)
S320	1-554-303-21	SWITCH, KEY BOARD (AM)
S321	1-554-303-21	SWITCH, KEY BOARD (FM)
S322	1-554-303-21	SWITCH, KEY BOARD (FM MODE)
S323	1-554-303-21	SWITCH, KEY BOARD (TUNING -)
S324	1-554-303-21	SWITCH, KEY BOARD (7)
S325	1-554-303-21	SWITCH, KEY BOARD (4)
S326	1-554-303-21	SWITCH, KEY BOARD (1)
S327	1-554-303-21	SWITCH, KEY BOARD (MEMORY SCAN)
S328	1-554-303-21	SWITCH, KEY BOARD (8)
S329	1-554-303-21	SWITCH, KEY BOARD (5)
S330	1-554-303-21	SWITCH, KEY BOARD (2)

## ELECTRICAL PARTS

Ref.No.	Part No.	Description
S331	1-554-303-21	SWITCH, KEY BOARD (0)
S332	1-554-303-21	SWITCH, KEY BOARD (9)
S333	1-554-303-21	SWITCH, KEY BOARD (6)
S334	1-554-303-21	SWITCH, KEY BOARD (3)
S601	1-570-270-11	SWITCH, PUSH (2 KEY)(SPEAKERS A)
S602	1-570-270-11	SWITCH, PUSH (2 KEY)(SPEAKERS B)
S901	1-552-412-00	SWITCH, KEY BOARD (SYSTEM POWER)
T201	1-404-650-11	COIL, DISCRIMINATOR
T202	1-404-651-11	COIL, DISCRIMINATOR
T203	1-404-713-11	TRANSFORMER, IF (AM)
T401	1-402-197-11	COIL AM (ANTENNA)
T402	1-405-927-00	COIL, AM OSC
T901	△ 1-448-847-11	TRANSFORMER, POWER
T902	△ 1-448-848-11	TRANSFORMER, POWER (BACK UP)
TM101	1-536-707-00	(G-AEP)...TERMINAL BOARD, PUSH 2P (AM ANTENNA)
TM301	*1-559-234-11	CORD (WITH CONNECTOR)
TM901	1-536-706-00	TERMINAL BOARD (SP)
TM903	1-536-708-00	(AEP)...TERMINAL BOARD, PUSH 4P (ANTENNA)
△ VZR901	1-807-180-11	VARIATOR SNR-14A300K
X201	1-567-125-00	VIBRATOR, CRYSTAL (7.2MHz)

## ACCESSORY &amp; PACKING MATERIAL

Part No.	Description
1-463-832-11	REMOTE COMMANDER (RM-S40)
1-501-224-00	(AEP)...ANTENNA, FEEDER
1-501-349-11	ANTENNA, LOOP
3-701-630-00	BAG, POLYETHYLENE
3-703-676-00	(G-AEP)...LABEL, APPROVAL
3-765-955-11	(G-AEP)...MANUAL, INSTRUCTION
3-765-955-41	(AEP)...MANUAL, INSTRUCTION
4-858-078-00	SHEET, PROTECTION
4-919-137-61	INDIVIDUAL CARTON
4-919-138-01	CUSHION, LOWER
4-919-139-01	CUSHION, UPPER

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# TROUBLESHOOTING

PROBLEM	SOLUTION
STEREO indicator flickers or does not light up when stereo programs are received.	<ul style="list-style-type: none"> <li>Adjust the antenna or connect an external FM antenna.</li> <li>Press FM MODE to disengage the stereo mode.</li> </ul>
The figures in the display window do not stop at the desired station during sweep tuning.	<ul style="list-style-type: none"> <li>Adjust the antenna.</li> <li>Tune in the station using the direct access tuning.</li> </ul>
Stations cannot be tuned in correctly when the number button is pressed.	<ul style="list-style-type: none"> <li>Memorize the frequency correctly.</li> </ul>
AM stations cannot be tuned in.	<ul style="list-style-type: none"> <li>Connect the supplied AM layout-free antenna to the AM external antenna terminals.</li> </ul>
Audio is not heard.	<ul style="list-style-type: none"> <li>Check the speaker and program source connections.</li> <li>Check the SPEAKERS selectors.</li> </ul>
One channel does not transmit audio, or the volume from the left and right speakers is unbalanced.	<ul style="list-style-type: none"> <li>Adjust the BALANCE control button.</li> <li>Check the speaker connections.</li> </ul>
There is an abrupt loss of sound from one or both of the speakers, and the PROTECTOR indicator flickers in the display window.	<ul style="list-style-type: none"> <li>Turn off the receiver, and check the speaker terminals or speaker cord for a short.</li> </ul>
Sound transmitted from the speaker is reversed.	<ul style="list-style-type: none"> <li>Connect the speaker correctly.</li> </ul>
Severe hum or noise is heard.	<ul style="list-style-type: none"> <li>Use shielded connecting cords.</li> <li>Separate the audio components and the TV.</li> <li>Connect the ground wire to the ANTENNA ground terminal.</li> <li>Clean any dirty plugs and jacks with a cloth lightly moistened with alcohol.</li> </ul>
The remote commander does not operate.	<ul style="list-style-type: none"> <li>Replace the batteries with new ones.</li> </ul>

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