

STR-AV19

SERVICE MANUAL

US Model

This model is almost the same as the model STR-AV320 previously produced. Therefore, see the STR-AV220/AV320 service manual for the information not contained in this service manual.

SPECIFICATIONS

Audio Power Specifications

POWER OUTPUT AND TOTAL HARMONIC DISTORTION:

With 8-ohm load, both channels driven, from 40-20,000 Hz, rated 40 watts per channel minimum RMS power, with no more than 0.8% total harmonic distortion from 250 milliwatts to rated output.

Other Specifications

Amplifier section

Continuous RMS power output (8 ohms, at 1 kHz less than 0.8% total harmonic distortion)

50 watts + 50 watts

Harmonic distortion

Less than 0.8% at rated output

Frequency response

PHONO: RIAA equalization curve ± 0.5 dB
CD, VIDEO, TAPE: 10 Hz - 50 kHz ± 0.5 dB

Inputs

	Sensitivity	Impedance	S/N (weighting network, input level)
PHONO	2.5 mV	50 kilohms	74 dB 72 dB* (A, 2.5 mV)
CD VIDEO TAPE	150 mV	50 kilohms	95 dB 80 dB* (A, 150 mV)

* 78 IHF

Outputs

REC OUT, VIDEO (AUDIO) OUT	Voltage 150 mV Impedance 10 kilohms
SPEAKER A, B	Accepts speakers of 8 - 16 ohms
HEADPHONES	Accepts low and high impedance headphones

Tone controls

BASS: ± 10 dB at 100 Hz
TREBLE: ± 10 dB at 10 kHz

Muting

- 20 dB

FM/AM tuner section

	FM tuner section	AM tuner section
Tuning range	87.5 - 108 MHz	530 - 1,710 kHz
Antenna terminals	300 ohms, balanced 75 ohms, unbalanced	External antenna terminal
Sensitivity at 50 dB quieting	18.3 dBf, 4.5 μ V (mono) 38.3 dBf, 45 μ V (stereo)	—
Usable sensitivity	11.2 dBf, 2 μ V (IHF)	Loop antenna: 500 μ V (at 1,000 kHz)
Signal-to-noise ratio	76 dB (mono) 70 dB (stereo)	54 dB (at 50 mV/m)
Harmonic distortion	0.2% (mono), 0.4% (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 ± 0.5 dB	—

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

120 V AC, 60 Hz

Power consumption

100 watts
In standby condition: 5 watts

AC outlets

One switched (100 watts)

Dimensions

Approx. 430 \times 110 \times 295 mm (w/h/d)
(17 \times 4 $\frac{5}{16}$ \times 11 $\frac{5}{16}$ inches)

including projecting parts and controls

Approx. 6.2 kg (13 lbs 11 oz) net

Weight

Accessories supplied

Remote Commander RM-S70 (1)
Sony batteries SUM-3(NS) (2)
FM wire antenna (1)
AM loop antenna (1)

Design and specifications subject to change without notice.

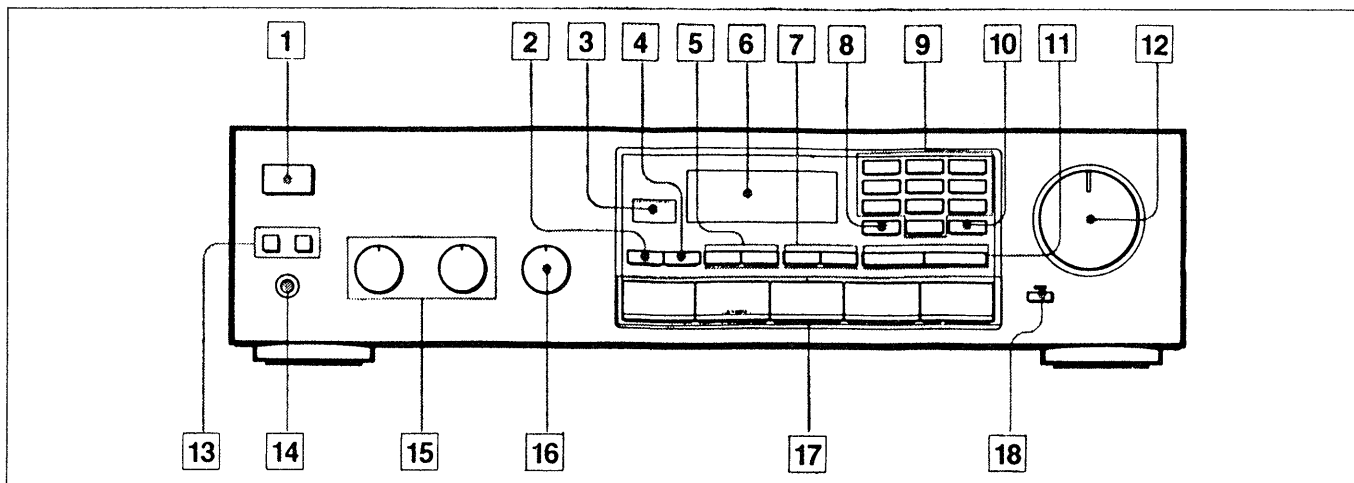
FM STEREO FM-AM RECEIVER

SONY®

Sony Corporation
Audio Group

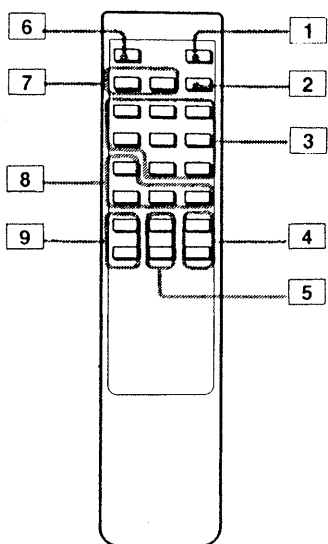
English
90D0240-1
Printed in Japan
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LOCATION AND FUNCTION OF CONTROLS



- 1 POWER switch**
- 2 DIRECT TUNING button**
- 3 Remote sensor**
- 4 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). To return to the stereo mode, press again or change the frequency.
- 5 BAND selectors**
- 6 Display window**
- 7 TUNING +/- buttons**
- 8 MEMORY button**
- 9 Numeric buttons**
- 10 SHIFT button**
- 11 PRESET +/- buttons**
- 12 VOLUME control and indicator**
- 13 SPEAKERS selectors**
Depress to select which speaker system to drive. For both speaker systems, depress A and B.
- 14 HEADPHONES jack (stereo phone jack)**
- 15 TONE controls**
Turn the TREBLE control to adjust the high frequency sound. Turn BASS control to adjust the low frequency sound.
- 16 BALANCE control**
Turn clockwise to decrease the left channel volume, and turn counterclockwise to decrease the right channel volume.
- 17 Function selectors**
- 18 MUTING button and indicator**
Press to attenuate the sound level immediately (-20 dB attenuation). Pressing this button makes the indicator be lighted. To restore the sound level, press again.

Remote Commander RM-S70



- 1 POWER switch**
- 2 DBFB button**
This button does not function.
- 3 Tape deck operation buttons**
TAPE ◀ or ▶: Selects the TAPE function and starts tape playback.
DECK A/B: Set this switch to select a deck of a doubledeck unit.
- 4 VOLUME +/- buttons**
- 5 TUNER PRESET +/- buttons**
Depress to tune in a preset station.
- 6 MUTING button**
- 7 Turntable system operation buttons**
PHONO START: Selects the PHONO function and starts the playing of a phono disc.
- 8 CD player operation buttons**
DISC SKIP: When your CD player is equipped with 5 disc trays, use this button to skip loaded disc.
CD ▶: Selects the CD function and starts CD playback.
- 9 TUNER/VIDEO function buttons**
Select TUNER or VIDEO function.

EXPLODED VIEWS

Page on STR-AV220/ AV320 SERVICE MANUAL	STR-AV320 (US model)		STR-AV19	
	Ref. No.	Part No.	Part No.	Description
23	3	4-916-745-01	4-916-746-21	KNOB (DIA, 21) ROUND
	4	X-4906-829-1	X-4906-833-1	PANEL ASSY, FRONT
	901	A-4334-398-A	*A-4334-989-A	MOUNTED PCB, TONE
	902	A-4334-395-A	*A-4334-969-A	MOUNTED PCB, DISPLAY
25	113	4-931-096-01	*4-931-096-91	PANEL, BACK
	918	A-4334-394-A	*A-4334-990-A	MOUNTED PCB, MAIN

ELECTRICAL PARTS LIST

Page on STR-AV220/ AV320 SERVICE MANUAL	STR-AV320 (US, model)			STR-AV19
	Ref. No.	Description		
28	C509	TANTALUM	1MF	Not used
	C510	MYLAR	0.033MF	
	C512	ELECT	0.022MF	
	C513	ELECT	0.068MF	
	C514	MYLAR	0.068MF	
	C515	CERAMIC	100PF	
	C559	TANTALUM	1MF	
	C560	MYLAR	0.033MF	
	C565	CERAMIC	100PF	
	29	D317	DIODE	
D318		DIODE	SEL2810A-C	
D501		DIODE	1SS120	
D502		DIODE	1SS120	
D604		DIODE	1SS120	
30	Q302	TRANSISTOR	DTC124ES	Not used
	Q303	TRANSISTOR	DTC124ES	
	Q501	TRANSISTOR	2SK246GR3	
	Q502	TRANSISTOR	2SC2603-EF	
	Q504	TRANSISTOR	2SK246GR3	
	Q505	TRANSISTOR	DTC124ES	
	Q506	TRANSISTOR	DTC124ES	
	Q551	TRANSISTOR	2SK246GR3	
	Q552	TRANSISTOR	2SC2603-EF	
	31	R322	CARBON	
R323		CARBON	270	
R506		CARBON	100K	
R507		CARBON	150K	
R508		CARBON	1K	
R509		CARBON	390	
R510		CARBON	6.8K	
R515		CARBON	27K	
R517		CARBON	100K	
R518		CARBON	100K	
R519	CARBON	100K		
R520	CARBON	1M		

ELECTRICAL PARTS LIST

Page on STR-AV220/ AV320 SERVICE MANUAL	STR-AV320 (US model)		STR-AV19
	Ref. No.	Description	
31	R521	CARBON 8.2K	Not used
	R522	CARBON 1M	
	R556	CARBON 100K	
	R557	CARBON 150K	
	R558	CARBON 1K	
	R559	CARBON 390	
	R560	CARBON 6.8K	
	R626	CARBON 100K	
	R633	CARBON 10K	
	R634	CARBON 3.3K	
32	R676	CARBON 100K	Not used
	S328	SWITCH, KEY BOARD	
	S329	SWITCH, KEY BOARD	

ACCESSORY & PACKING MATERIAL

Page on STR-AV220/ AV320 SERVICE MANUAL	STR-AV320 (US, model)	STR-AV19	Description
	Part No.	Part No.	
32	(RM-S103)	(RM-S70)	REMOTE COMMANDER
	1-465-423-11	1-465-096-11	
	3-751-607-21	3-751-800-21	
	4-931-098-01	*4-938-142-01	
			MANUAL, INSTRUCTION
			INDIVIDUAL CARTON

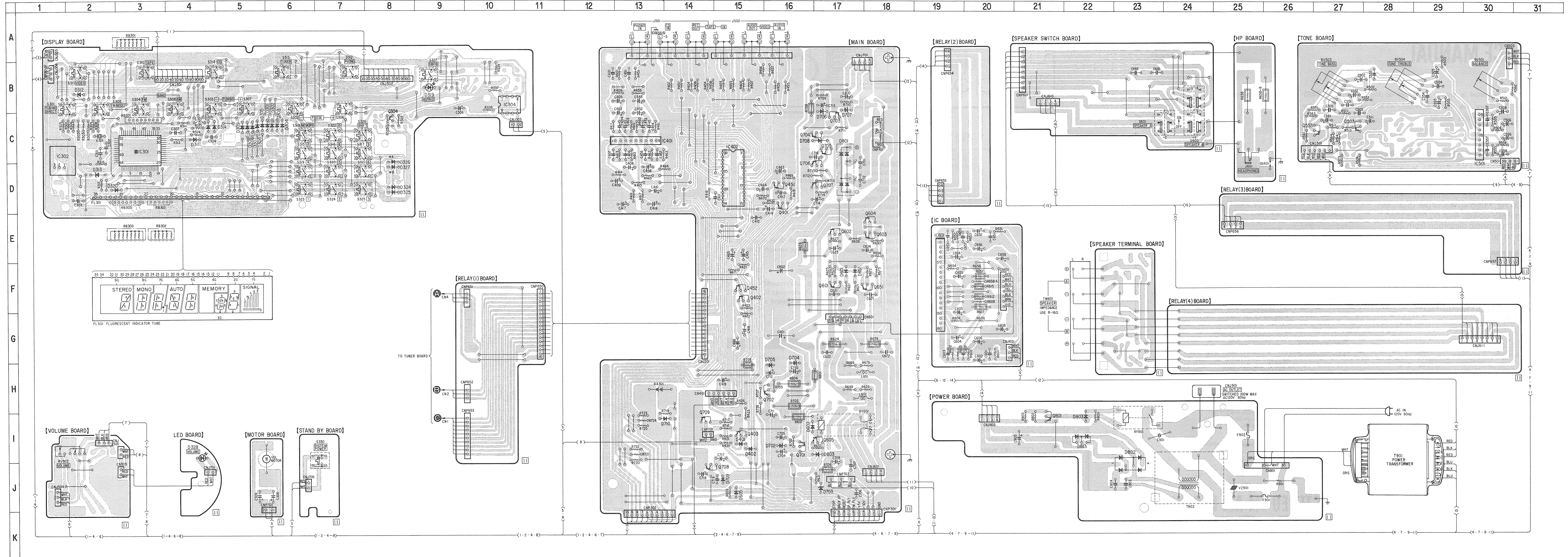
NOTE:

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

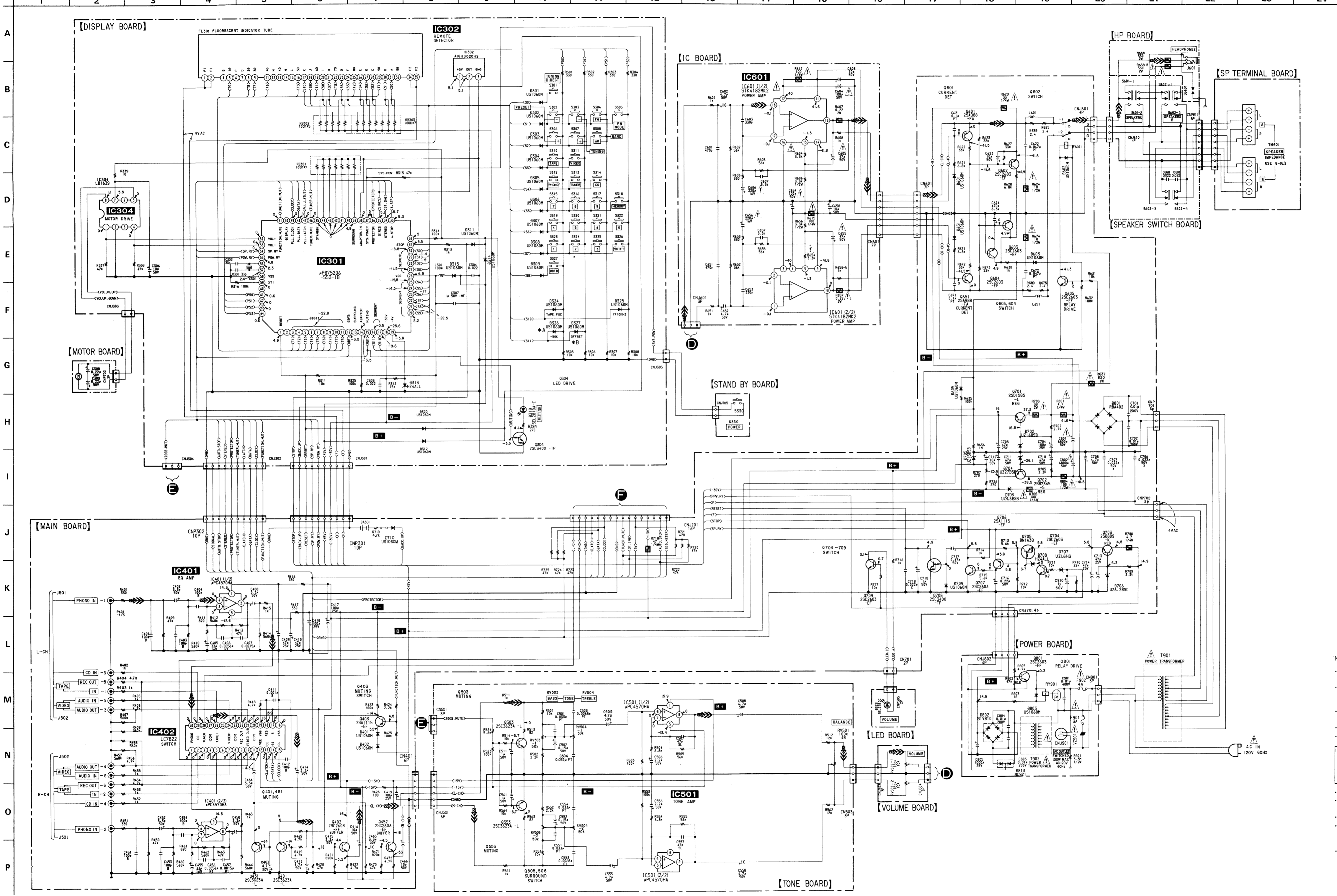
• SEMICONDUCTOR LOCATION

Ref. No.	Location	Ref. No.	Location
IC301	C-3	D312	B-2
IC302	C-1	D313	D-2
IC304	B-10	D314	C-4
IC401	C-13	D315	C-4
IC402	D-15	D319	B-9
IC501	C-30	D320	D-3
IC601	F-19	D324	D-8
		D325	D-8
Q304	C-8	D326	C-8
Q401	D-16	D327	D-8
Q402	F-15		
Q403	I-15	D328	I-4
Q451	D-16	D401	I-15
		D402	I-15
Q452	F-15	D601	F-17
Q503	C-27	D602	I-16
Q553	C-27		
Q601	F-17	D603	I-17
Q602	E-17	D605	J-15
		D651	F-17
Q603	E-18	D702	I-16
Q604	E-18	D703	J-17
Q605	I-17		
Q651	F-18	D704	H-16
Q701	I-16	D705	H-16
		D706	B-17
Q702	H-16	D707	B-17
Q703	C-17	D708	C-17
Q704	C-17		
Q705	C-17	D709	J-15
Q706	D-17	D710	I-14
		D801	D-17
Q707	D-17	D802	J-23
Q708	J-14	D803	I-22
Q709	I-14		
Q801	I-21	D813	B-18
		D813	I-22
D301	C-6		
D302	C-6		
D303	C-6		
D304	C-6		
D305	C-5		
D306	C-5		
D307	C-5		
D308	C-5		
D309	C-5		
D311	C-4		

PRINTED WIRING BOARDS — MAIN SECTION —



Note :
 ○ — parts extracted from the component side.
 ■ — parts mounted on the conductor side.
 [] — indicates side identified with part number.
 *A, *B: See page 4 for Note on Ceramic Filter (CF1, 2) Replacement.



Note:

- *A, *B: See page 4 for Note on Ceramic Filter (CF1, 2) Replacement.
- All capacitors are in μF unless otherwise noted. μF : μF , 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.

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

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