

# TA-F300

## SERVICE MANUAL

*Canadian Model  
AEP Model  
UK Model  
E Model*



### SPECIFICATIONS

#### Amplifier section

Continuous RMS power output (both channels driven simultaneously)

AEP, UK, West Germany model:  
 at 1 kHz  
 110 W + 110 W (5% THD, 4 ohms)  
 at 20 Hz – 20 kHz  
 80 W + 80 W (0.05% THD, 4 ohms)  
 at 40 Hz – 12.5 kHz  
 90 W + 90 W (0.05% THD, 4 ohms)  
 Canadian, E model:  
 at 20 Hz – 20 kHz  
 100 W + 100 W (0.05% THD, 8 ohms)

Music power output (E model)  
 440 W

Power bandwidth (IHF)  
 AEP, UK, West Germany model:  
 7 Hz – 40 kHz (4 ohms, 40 watts)  
 Canadian, E model:  
 7 Hz – 40 kHz (8 ohms, 50 watts)

Dynamic headroom  
 1.6 dB (\*78 IHF)

Harmonic distortion  
 Less than 0.05% at rated output  
 Intermodulation (IM) distortion (60 Hz: 7 kHz = 4:1)  
 Less than 0.05% at rated output

Frequency response  
 PHONO: RIAA equalization curve  $\pm 0.5$  dB  
 TUNER, CD, VIDEO/AUX, TAPE 1, TAPE 2/DAT:  
 7 Hz – 100 kHz  $\pm 3$  dB

Residual noise  
 AEP, UK, West Germany model:  
 Less than 200  $\mu$ V (4 ohms, network A)  
 Canadian, E model:  
 Less than 300  $\mu$ V (8 ohms, network A)

Damping factor 50 (8 ohms, 1 kHz)

#### Input

Input jack	Jack type	Sensitivity	Impedance	S/N (weighting network, input level)	
PHONO	MM	Phono	2.5 mV	50 kilohms	88 dB 86 dB* (A, 2.5 mV)
	MC	Phono	170 $\mu$ V	100 ohms	68 dB 75 dB* (A, 170 $\mu$ V)
TUNER CD VIDEO/AUX TAPE/DAT		Phono	150 mV	50 kilohms	100 dB 88 dB* (150 mV)

\*78 IHF

#### Output

REC OUT	Phono jacks	Voltage 150 mV Impedance 1 kilohm
SPEAKERS		Accepts speakers of 4 – 16 ohms (AEP, UK, West Germany model) or 8 – 16 ohms (Canadian, E model)
HEAD-PHONES	Stereo phone jack	Accepts low and high impedance headphones.

– Continued on page 2 –

## INTEGRATED STEREO AMPLIFIER

# SONY®



Tone controls

	Response	Turnover frequency
BASS	±10 dB (100 Hz)	500 Hz
TREBLE	±10 dB (15 kHz)	3 kHz

Loudness (Attenuation 30 dB)  
 +6 dB (100 Hz)  
 +3 dB (10 kHz)

General System

Preamplifier: Low-noise, high-gain equalizer amplifier  
 Power amplifier: Pure-complementary SEPP OCL power amplifier with all stages directly coupled

Power requirements

Canadian model: 120 V AC, 60 Hz  
 UK model: 240 V AC, 50 Hz  
 AEP, West Germany model: 220 V AC, 50 Hz  
 E model: 120 V, 220 V or 240 V AC adjustable, 50/60 Hz

Power consumption

Canadian model: 390 VA  
 UK model: 480 W  
 AEP, West Germany model: 180 W

AC outlets

1 unswitched, 100 watts max.

Dimensions

Approx. 430 × 130 × 360 mm (w/h/d)  
 (17 × 5<sup>1</sup>/<sub>8</sub> × 14<sup>1</sup>/<sub>4</sub> inches)

Weight

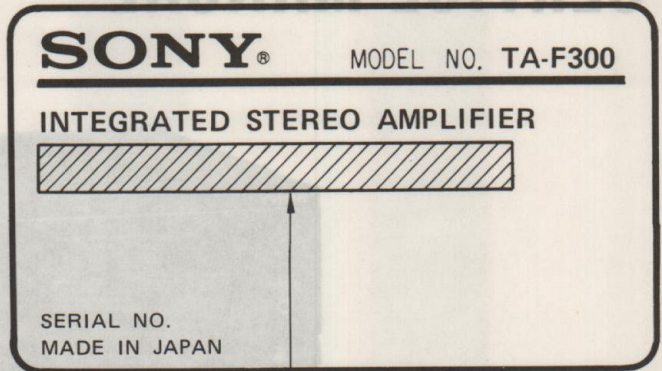
Including projecting parts and controls  
 Approx. 8.7 kg (19 lb 3 oz)

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MODEL IDENTIFICATION

— Specification Label —



AEP, West Germany Model:

AC: 220 V ~ 50/60 Hz 180 W

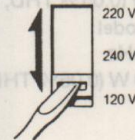
UK Model: AC: 240 V ~ 50/60 Hz 480 W

Canadian Model: AC: 120 V 60 Hz 390 VA

E Model: AC: 120 V, 220 V, 240 V ~ 50/60 Hz 180 W

On operating voltage

Where purchased	Operating voltage
Canadian model	120 V AC
UK model	240 V AC
AEP model	220 V AC
E model	120 V, 220 V or 240 V AC adjustable The voltage selector is located on the rear panel.



SAFETY-RELATED COMPONENT WARNING!!

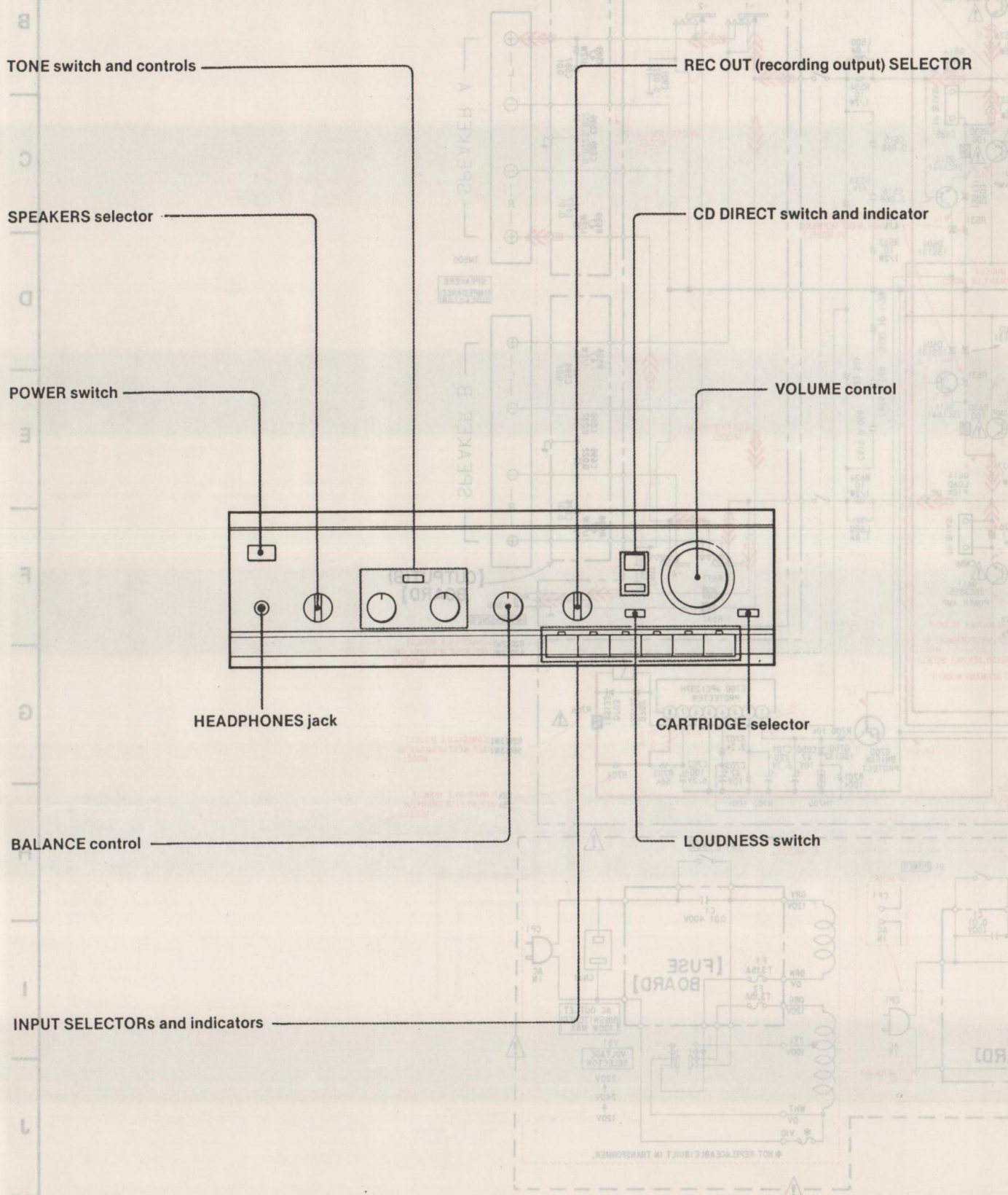
COMPONENTS IDENTIFIED BY MARK OR DOTTED LINE WITH MARK ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

LES COMPOSANTS IDENTIFIÉS PAR UNE MARQUE SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

SECTION 1  
GENERAL

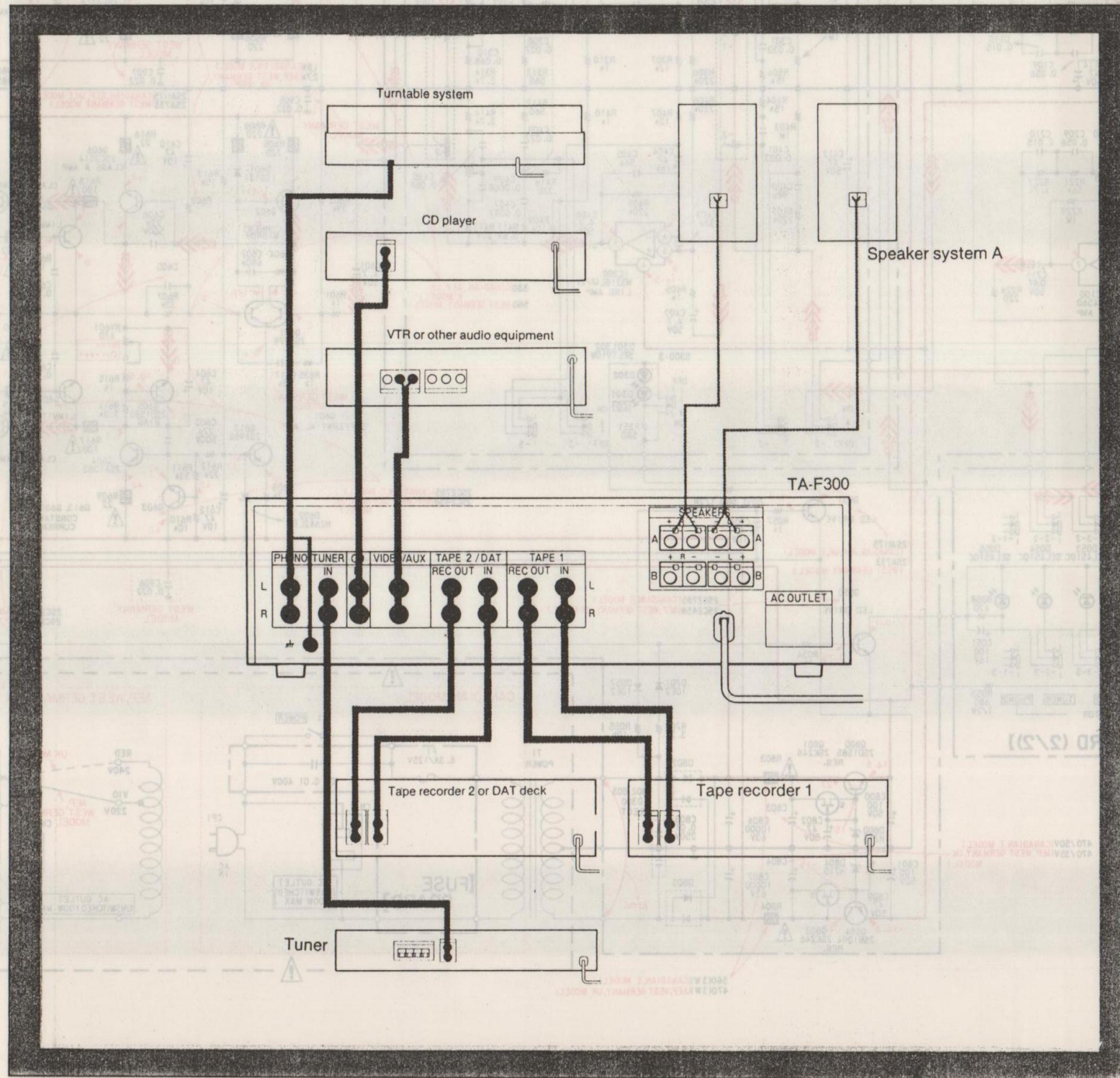
Parts Identification



Connection

Notes on Connection

- Connect the AC power cord last. Make sure power is off.
- Cord plugs and jacks are color coded. Red plugs and jacks are for right channel (R) and white ones for left channel (L).
- Fully insert cable connectors into jacks. Loose connections may cause hum or noise.



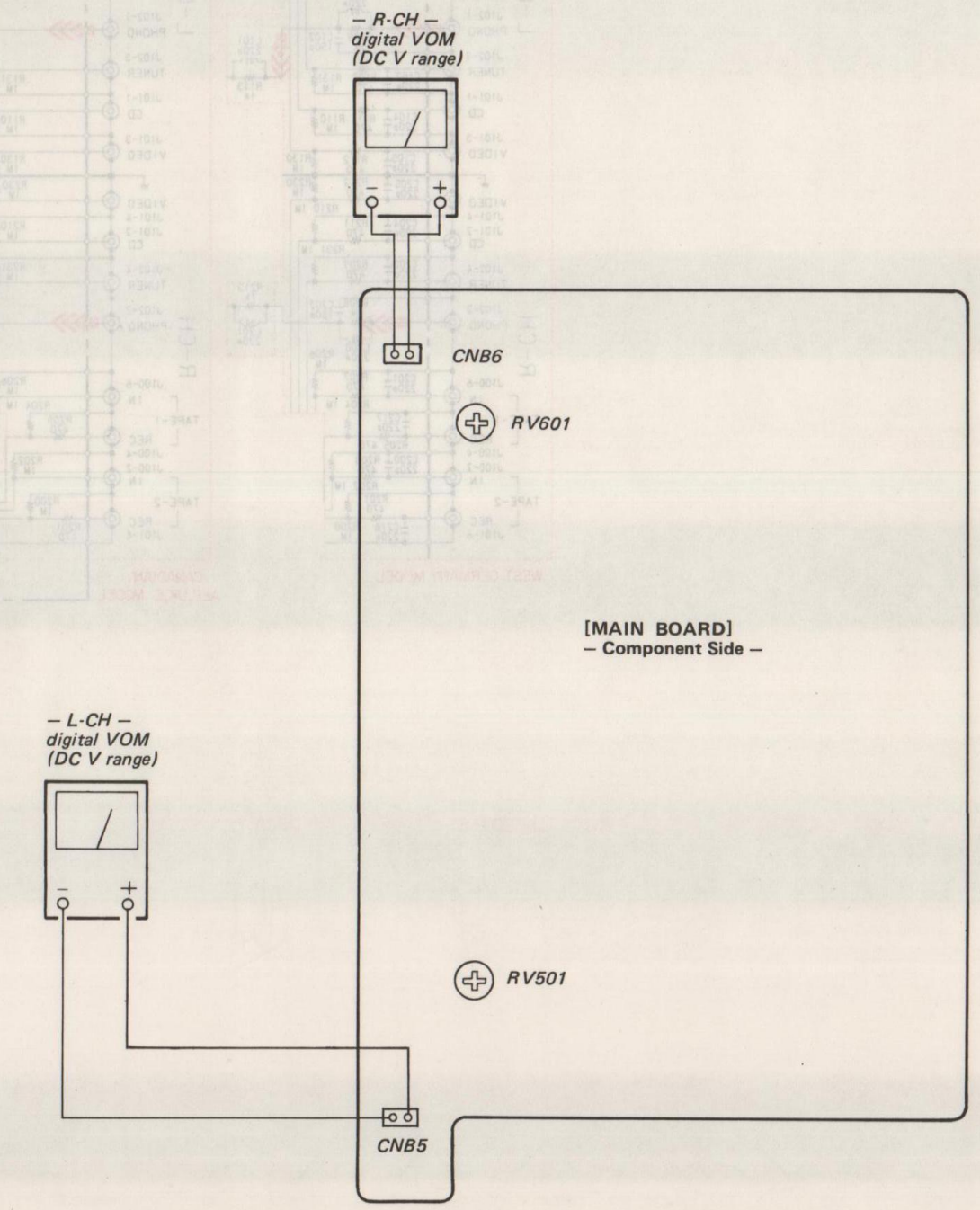
SECTION 2  
ELECTRICAL ADJUSTMENT

**NOTE:**  
• Adjustment should be performed 10 minutes after the POWER switch is on (POWER ON).

Bias Current Adjustment

**Setting:**  
AUDIO SOURCE selector: TUNER  
Input Signal: No signal input

**Procedure:**  
Adjust RV501 (L-CH) and RV601 (R-CH) so as to obtain 5 mV at CNB5 (L-CH) and CNB6 (R-CH) respectively.



SECTION 3  
DIAGRAMS

Semiconductor Lead Layouts

3-1. SCHEMATIC DIAGRAM

All resistors are in  $\Omega$  unless otherwise noted. P.C. and 1/2W or less are indicated except for electrolytic capacitors. All resistors are in  $\Omega$  and 1/2W or less unless otherwise specified.

8 7 6 5  
4 3 2 1  
U  
V  
W  
X  
Y  
Z  
(Top view)

nonflammable resistor

adjustment for level

Voltage adjustment may be made due to normal production tolerances.

Resistor and capacitor markings conform with VOM 100 kit(V).

Note: The component identifies are marked on the component front chassis and line with mark. It is critical for safety. Replace only with parts given part number in number specified.

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Position	Switch	Ref. No.
POWER	OFF	21
REC OUT SELECTOR	OFF	2101
PHONO	OFF	2102-1
TUNER	OFF	2102-2
CD	ON	2102-3
VIDEO	OFF	2102-4
TAPE 2/DAT	OFF	2102-5
TAPE 1	OFF	2102-6
CARTRIDGE	MM	2103
CD DIRECT	OFF	2300
LOUDNESS	OFF	2301
CD DIRECT	OFF	2302
TONE	OFF	2303
SPEAKERS	OFF	2800
VOLTAGE SELECTOR	120V	V21

2SA998-F  
2SC1383  
2SC1841  
2SC2545

BA4560

M5218L  
 $\mu$ PC1237HA

2SA1175  
2SC2785

2SA1491  
2SC3855

2SA979

2SA985A  
2SB1094-L  
2SC2275A  
2SC3514  
2SD1585  
2SD1585-L

2SA124ES  
2SA1115P  
2SC634SP

2SK246GR2

D300

SEL2510C

SEL4510C-C

TA-F300 BLOCK DIAGRAM

3-1. SCHEMATIC DIAGRAM

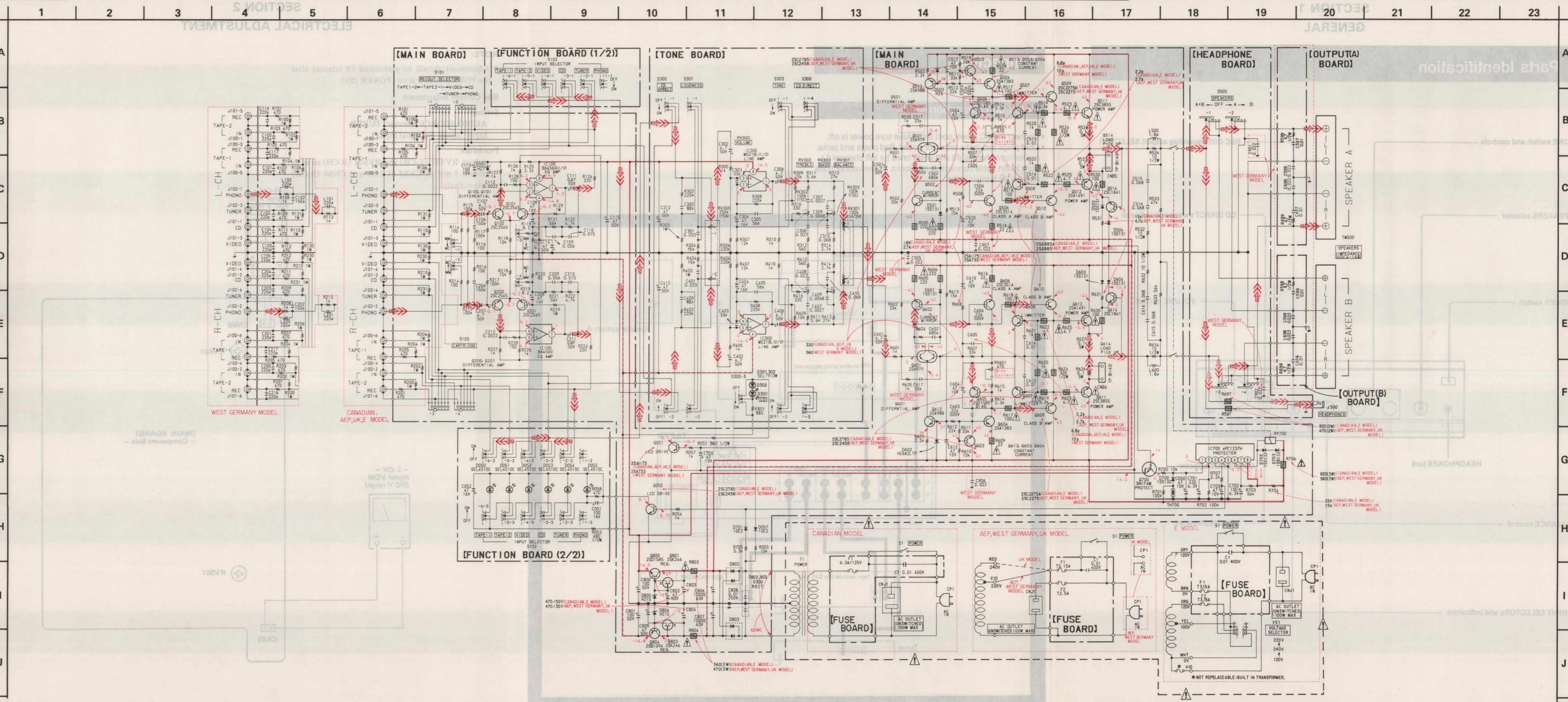
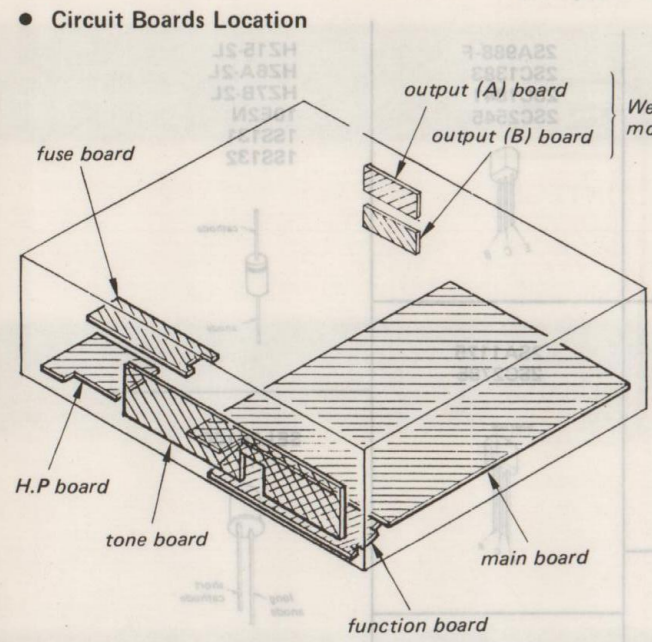
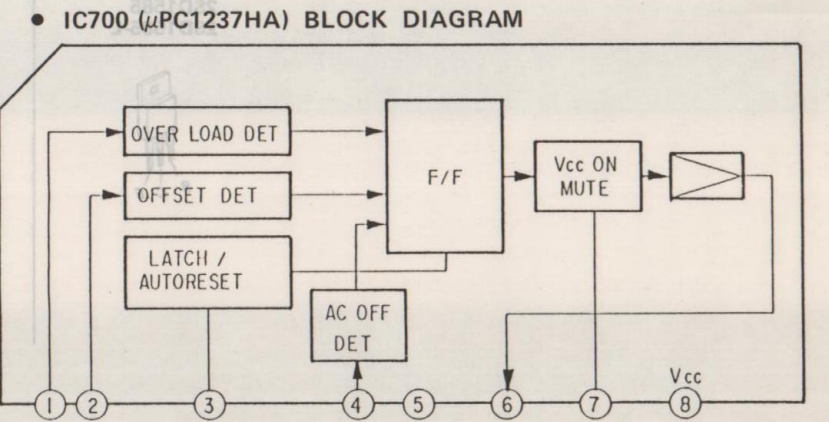
- Note:**
- All capacitors are in  $\mu\text{F}$  unless otherwise noted.  $\text{pF}$ :  $\mu\text{F}$  50WV or less are not indicated except for electrolytics and tantalums.
  - All resistors are in  $\Omega$  and  $\frac{1}{4}W$  or less unless otherwise specified.
  - Signal path.
  - Red double arrow: PHONO
  - Red arrow: nonflammable resistor.
  - Red line: B+ bus.
  - Red dashed line: B- bus.
  - Red box: adjustment for repair.
  - Voltagess are dc with respect to ground unless otherwise noted.
  - Voltage variations may be noted due to normal production tolerances.
  - Readings are taken under no-signal conditions with a VOM (50  $k\Omega/V$ ).

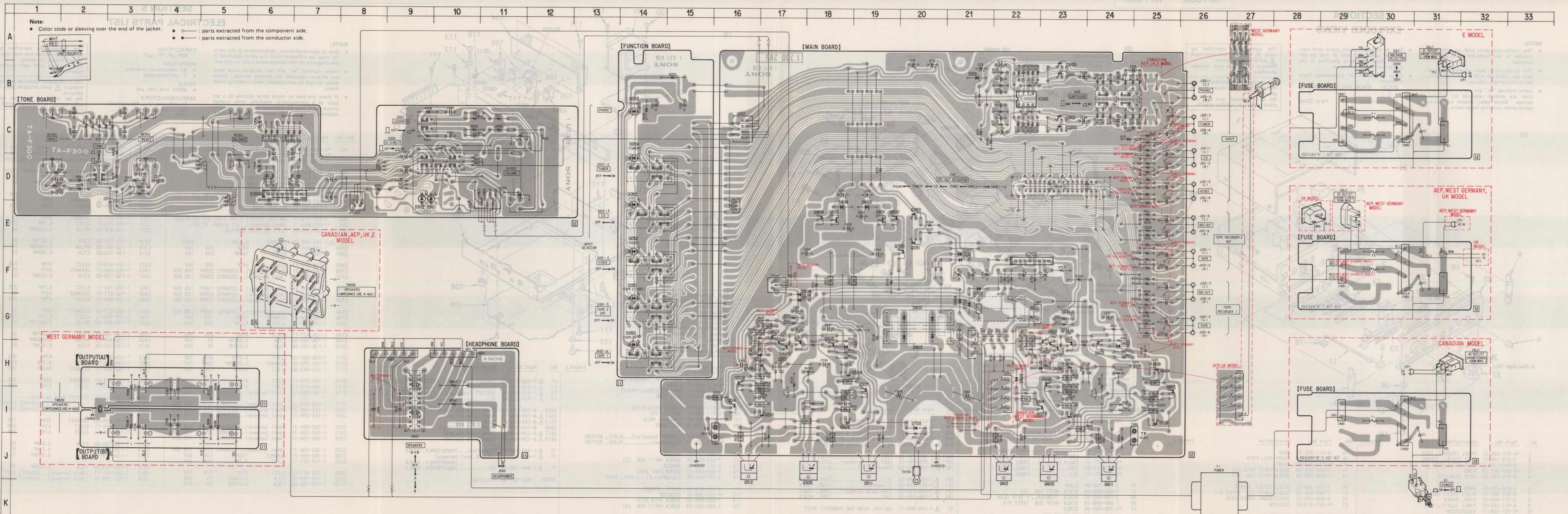
**Note:** The components identified by mark  $\Delta$  or dotted line with mark  $\Delta$  are critical for safety. Replace only with part number specified.

**Note:** Les composants identifiés par une marque  $\Delta$  sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

• Switch

Ref. No.	Switch	Position
S1	POWER	OFF
S101	REC OUT SELECTOR	TAPE1 $\rightarrow$ 2
S102-1	PHONO	OFF
S102-2	TUNER	OFF
S102-3	CD	ON
S102-4	VIDEO	OFF
S102-5	TAPE 2/DAT	OFF
S102-6	TAPE 1	OFF
S103	CARTRIDGE	MM
S300	CD DIRECT	OFF
S301	LOUDNESS	OFF
S303	TONE	OFF
S500	SPEAKERS	OFF
VS1	VOLTAGE SELECTOR (E model)	120V

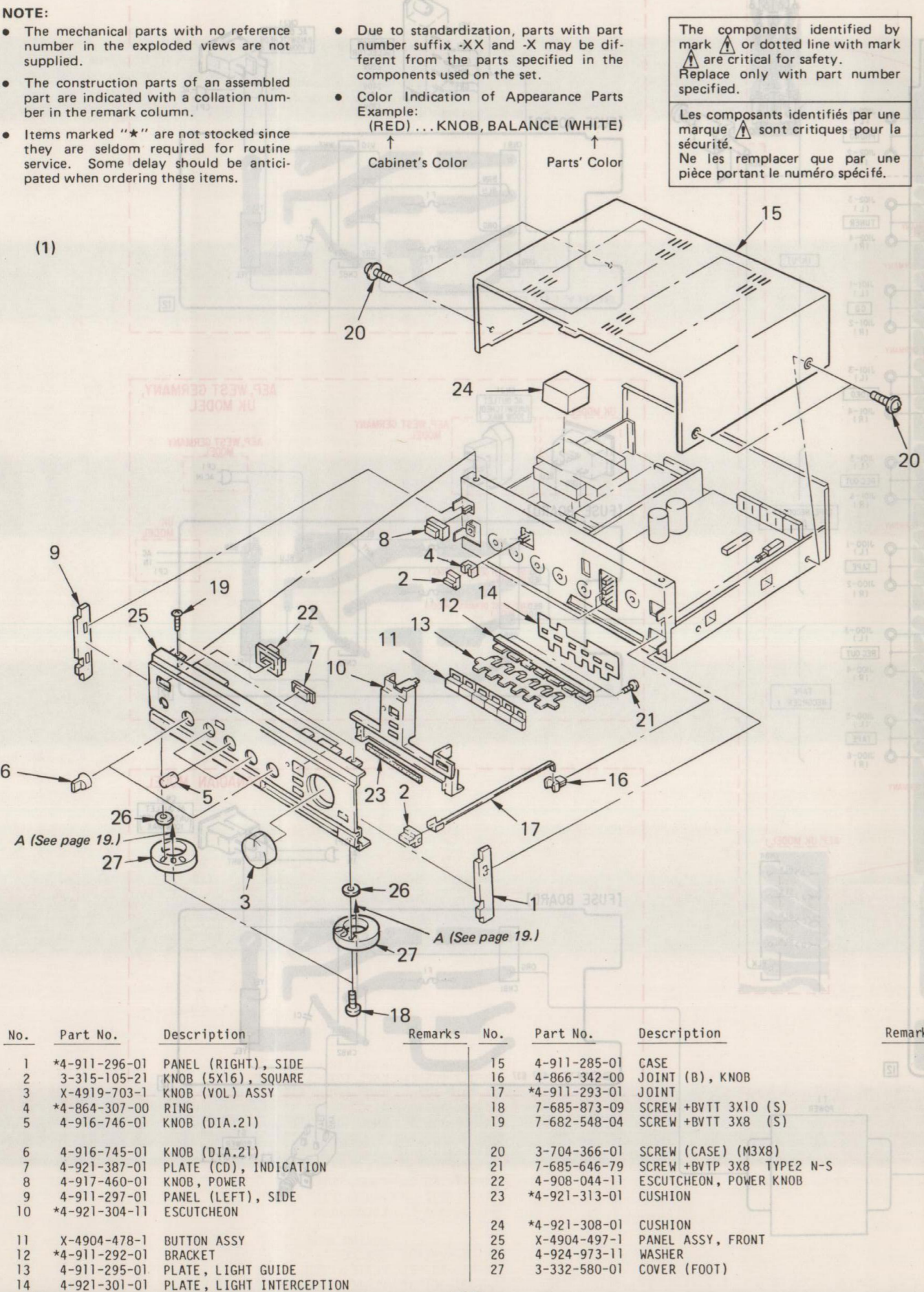




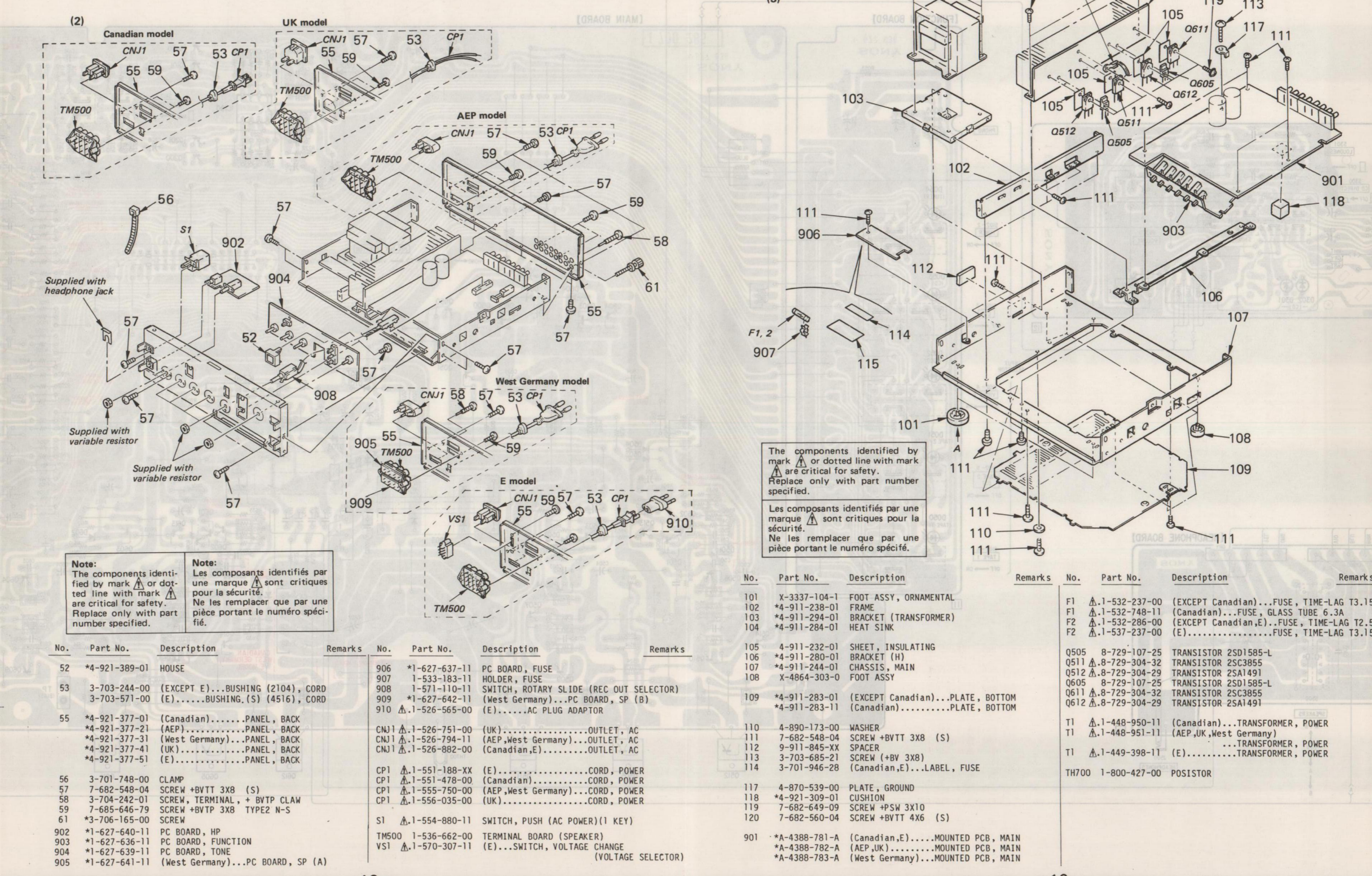
● Semiconductor Location

Ref. No.	Location
D051	H-14
D052	G-14
D053	F-14
D054	E-14
D055	D-14
D057	F-21
D201	B-21
D301	D-9
D302	D-9
D501	H-16
D502	H-18
D503	G-17
D504	F-17
D601	H-23
D602	H-24
D603	G-21
D604	G-21
D700	I-20
D701	F-21
D702	G-21
D703	F-21
D800	E-19
D802	G-20
D803	G-20
D804	E-18
IC100	B-22
IC300	D-6
IC700	F-22
Q050	E-20
Q051	E-20
Q100	B-23
Q101	B-23
Q200	C-23
Q201	C-23
Q501	H-17
Q502	G-17
Q503	H-18
Q504	H-18
Q505	J-18
Q506	H-17
Q507	I-19
Q508	H-16
Q509	I-18
Q510	I-17
Q511	J-19
Q512	J-16
Q513	H-17
Q514	I-16
Q601	H-23
Q602	G-23
Q603	G-24
Q604	H-25
Q605	J-23
Q606	H-23
Q607	
Q608	H-23
Q609	I-23
Q610	I-23
Q611	J-24
Q612	J-22
Q613	H-23
Q700	F-19
Q800	E-19
Q801	E-19
Q803	E-18
Q804	E-18

SECTION 4 EXPLODED VIEWS



SECTION 5 ELECTRICAL PARTS LIST



Ref. No.	Part No.	Description	Remarks
901	*A-4388-781-A	(Canadian, E).....MOUNTED PCB, MAIN	
	*A-4388-782-A	(AEP, UK).....MOUNTED PCB, MAIN	
	*A-4388-783-A	(West Germany)...MOUNTED PCB, MAIN	
902	*1-627-640-11	PC BOARD, HP	
903	*1-627-636-11	PC BOARD, FUNCTION	
904	*1-627-639-11	PC BOARD, TONE	
905	*1-627-641-11	(West Germany)...PC BOARD, SP (A)	
906	*1-627-637-11	PC BOARD, FUSE	
907	1-533-183-11	HOLDER, FUSE	
908	1-571-110-11	SWITCH, ROTARY SLIDE (REC OUT SELECTOR)	
909	*1-627-642-11	(West Germany)...PC BOARD, SP (B)	
910	$\Delta$ 1-526-565-00	(E)...AC PLUG ADAPTOR	
C1	$\Delta$ 1-161-744-00	CERAMIC 0.01MF 20% 400V	
C050	1-124-446-11	ELECT 47MF 20% 10V	
C051	1-126-101-11	ELECT 100MF 20% 16V	
C052	1-124-477-11	ELECT 47MF 20% 16V	
C100	1-162-286-31	(West Germany)...CERAMIC 220PF 10% 50V	
C101	1-162-286-31	(West Germany)...CERAMIC 220PF 10% 50V	
C102	1-162-284-31	(West Germany)...CERAMIC 150PF 10% 50V	
C103	1-162-286-31	(West Germany)...CERAMIC 220PF 10% 50V	
C104	1-162-286-31	(West Germany)...CERAMIC 220PF 10% 50V	
C105	1-162-286-31	(West Germany)...CERAMIC 220PF 10% 50V	
C106	1-162-284-31	CERAMIC 150PF 10% 50V	
C107	1-124-927-11	ELECT 4.7MF 20% 50V	
C108	1-124-477-11	ELECT 47MF 20% 16V	
C109	1-136-162-00	FILM 0.056MF 5% 50V	
C110	1-136-155-00	FILM 0.015MF 5% 50V	
C111	1-124-902-00	ELECT 0.47MF 20% 50V	
C112	1-161-375-00	CERAMIC 0.0022MF 30% 16V	
C113	1-124-443-00	ELECT 100MF 20% 10V	
C114	1-124-910-11	ELECT 47MF 20% 50V	
C115	1-124-910-11	ELECT 47MF 20% 50V	
C116	1-162-286-31	(West Germany)...CERAMIC 220PF 10% 50V	
C117	1-162-286-31	(West Germany)...CERAMIC 220PF 10% 50V	
C200	1-162-286-31	(West Germany)...CERAMIC 220PF 10% 50V	
C201	1-162-286-31	(West Germany)...CERAMIC 220PF 10% 50V	
C202	1-162-284-31	(West Germany)...CERAMIC 150PF 10% 50V	
C203	1-162-286-31	(West Germany)...CERAMIC 220PF 10% 50V	
C204	1-162-286-31	(West Germany)...CERAMIC 220PF 10% 50V	
C205	1-162-286-31	(West Germany)...CERAMIC 220PF 10% 50V	
C206	1-162-284-31	CERAMIC 150PF 10% 50V	
C207	1-124-927-11	ELECT 4.7MF 20% 50V	
C208	1-124-477-11	ELECT 47MF 20% 16V	
C209	1-136-162-00	FILM 0.056MF 5% 50V	
C210	1-136-155-00	FILM 0.015MF 5% 50V	
C211	1-124-902-00	ELECT 0.47MF 20% 50V	
C212	1-161-375-00	CERAMIC 0.0022MF 30% 16V	
C213	1-124-443-00	ELECT 100MF 20% 10V	
C214	1-124-910-11	ELECT 47MF 20% 50V	
C215	1-124-910-11	ELECT 47MF 20% 50V	
C216	1-162-286-31	(West Germany)...CERAMIC 220PF 10% 50V	
C217	1-162-286-31	(West Germany)...CERAMIC 220PF 10% 50V	
C200	1-162-286-31	(West Germany)...CERAMIC 220PF 10% 50V	
C201	1-162-286-31	(West Germany)...CERAMIC 220PF 10% 50V	
C206	1-161-959-00	CERAMIC 22PF 10% 500V	
C510	1-124-446-11	ELECT 47MF 20% 10V	
C512	1-124-446-11	ELECT 47MF 20% 10V	
C513	1-136-153-00	FILM 0.01MF 5% 50V	
C514	1-136-153-00	FILM 0.01MF 5% 50V	
C515	1-136-163-00	FILM 0.068MF 5% 50V	
C516	1-136-163-00	FILM 0.068MF 5% 50V	
C517	1-162-211-31	(West Germany)...CERAMIC 33PF 5% 50V	
C596	1-161-379-00	(West Germany)...CERAMIC 0.01MF 30% 25V	



Table with columns: Ref.No., Part No., Description, Quantity, Unit, and other specifications. Lists various carbon components and their part numbers.

Table with columns: Ref.No., Part No., Description, Quantity, Unit, and other specifications. Lists various carbon components and their part numbers, including Canadian and West German variants.

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ACCESSORY & PACKING MATERIAL
3-701-630-00 BAG, POLYETHYLENE
3-786-279-11 (EXCEPT West Germany)...MANUAL, INSTRUCTION (ENGLISH, FRENCH, SPANISH, PORTUGUESE)
3-786-279-41 (AEP, West Germany)...MANUAL, INSTRUCTION (GERMAN, DUTCH, SWEDISH, ITALIAN)
4-911-290-01 CUSHION
\*4-921-386-01 INDIVIDUAL CARTON

Note: The components identified by mark A or dotted line with mark A are critical for safety. Replace only with part number specified.
Note: Les composants identifiés par une marque A ou une ligne pointillée avec une marque A sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Note: The components identified by mark A or dotted line with mark A are critical for safety. Replace only with part number specified.
Note: Les composants identifiés par une marque A ou une ligne pointillée avec une marque A sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

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