

# TA-F335R

## SERVICE MANUAL

AEP Model  
E Model



### SPECIFICATIONS

#### Amplifier

Continuous RMS power output (both channels driven simultaneously)

		Model for Germany	Model for Scandinavian countries, Switzerland, Spain and Portugal	Model for other countries
DIN 1 kHz	4 ohms	55 W + 55 W	—	—
	8 ohms	45 W + 45 W	55 W + 55 W	55 W + 55 W
20 Hz - 20 kHz	4 ohms	—	—	—
	8 ohms	30 W + 30 W	40 W + 40 W	40 W + 40 W

#### Input

Input jack	Jack type	Sensitivity	Impedance
PHONO (MM)	Phono	2.0 mV	50 kilohms
TUNER, CD, AUX, DAT/TAPE 1, TAPE 2	Phono	150 mV	50 kilohms

#### S/N

PHONO (MM)	76 dB
TUNER, CD, AUX, DAT/TAPE 1, TAPE 2	100 dB

#### Output

Output jack	Jack type	Voltage/impedance
REC OUT	Phone jack	Voltage 150 mV Impedance 1 kohm
SPEAKERS	—	Model for Scandinavian countries, Switzerland, Spain and Portugal/Except for Germany model: 8 - 16 ohms Model for other countries /Model for Germany : 4 - 16 ohms
HEADPHONES	Stereophone jack	Accepts low and high impedance headphones

#### Tone controls

	Response	Turnover frequency
BASS	±7 dB (100 Hz)	300 Hz
TREBLE	±6 dB (10 kHz)	5 kHz

Harmonic distortion Less than 0.03 % at 10 W output

Intermodulation (IM) distortion (60 Hz : 7 kHz = 4:1)  
Less than 0.03 % at 10 W output

Frequency response PHONO: RIAA equalization curve ±0.5 dB

TUNER, CD, AUX, DAT/TAPE 1, TAPE 2: 7 Hz - 100 kHz ±3 dB  
Less than 170 μV (network A)  
50 (8 ohms, 1 kHz)

Residual noise

Damping factor

#### General

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

#### Power requirements

Models for European countries :  
220 V - 230 V AC, 50/60 Hz  
Models for other countries: 120-V, 220 V or 240 V AC adjustable, 50/60 Hz

#### Power consumption

Model for Germany: 140 W  
Model for other countries : 100 W

— Continued on page 2 —

INTEGRATED STEREO AMPLIFIER  
**SONY**®



Dimensions            Approx. 430 x 135 x 315 mm (w/h/d)  
                               (17 x 5 3/8 x 12 1/2 inches)

Mass                    Approx. 6.4 kg (14 lb 2 oz)

Supplied accessories    Remote commander RM-S311 (1)  
                                   Sony SUM-3 (NS) batteries (2)

The above values are measured at 230 V AC. (Models for European countries)

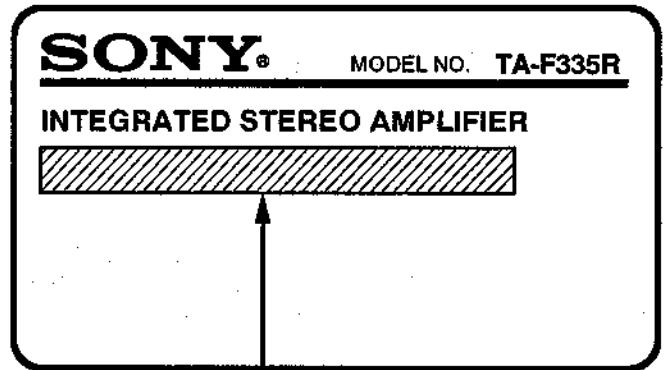
Design and specifications are subject to change without notice.

**Note**

This appliance conforms with EEC Directive 87/308/EEC regarding interference suppression.

**MODEL IDENTIFICATION**

— Specification Label Printed on Back Panel —



AEP, Germany model : AC : 220-230V-50/60Hz  
 E model : AC : 120/220/240V-50 /60Hz

**Note :**

There are two type of AEP models which are depend on countries.

AE2 model : Model for Scandinavian countries, Switzerland, Spain and Portugal

AE1 model : Model for other European countries

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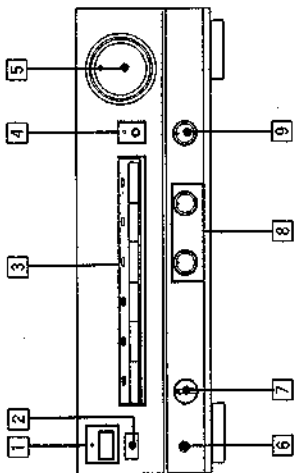
**SAFETY-RELATED COMPONENT WARNING!!**  
 COMPONENTS IDENTIFIED BY MARK OR DOTTED LINE WITH MARK ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

## Identifying the Parts and Controls

This section describes about each name of this amplifier and remote commander.

### Front Panel

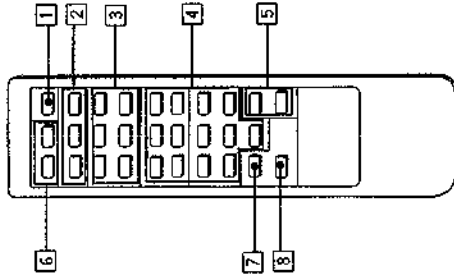
- 1 POWER switch and STANDBY indicator
- 2 Remote control sensor
- 3 Function selectors and indicators (MONITOR indicator, only for TA- F335R)  
DAT/TAPE 1  
TAPE 2  
AUX  
CD  
TUNER  
PHONO
- 4 SOURCE DIRECT button and indicator
- 5 VOLUME control and indicator  
Adjusts the sound level.  
After turning on the POWER switch, the VOLUME indicator lights up.
- 6 HEADPHONES jack
- 7 SPEAKERS selector
- 8 TONE (BASS/TREBLE) controls
- 9 BALANCE control



## Identifying the Parts and Controls

### Remote Commander

- 1 POWER switch
- 2 TUNER operation buttons  
TUNER: Select the TUNER mode.  
PRESET +/- buttons: Select the preset station.
- 3 CD operation buttons  
▶◀▶▶▶: Automatic music sensor.  
D. (Disc) SKIP: Disc skip (for CD player equipped with a multi-disc changer)  
▶: The amplifier enters the CD mode and the CD player starts playback automatically.  
■: Stop.  
||: Pause.
- 4 TAPE 2 DECK/A/DECK B operation buttons  
◀◀▶▶▶: Fast winding.  
■: Stop.  
▶: The amplifier enters the TAPE 2 mode and the tape deck starts reverse playback automatically.  
▶▶: The amplifier enters the TAPE 2 mode and the tape deck starts forward playback automatically.  
■: Recording.  
||: Pause. (Only for DECK B)
- 5 VOL. (Volume) +/- buttons
- 6 PHONO operation buttons  
START: Pressing START automatically selects the PHONO mode on the amplifier and starts playback of the turntable system.  
STOP: Stops playback of the turntable system.
- 7 DAT/TAPE 1 button  
Selects the DAT or TAPE 1 mode.
- 8 AUX button  
Selects the AUX mode.



This section is extracted from instruction manual.

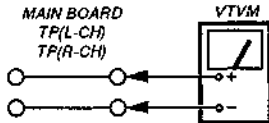
## SECTION 2 ELECTRICAL ADJUSTMENTS

**Note :**

1. DC BIAS adjustments should be made within 2 to 3 minutes after the POWER switch is turned on (POWER ON).
2. After replacing the power transistors, DC BIAS adjustments should be made.

**DC Bias Adjustment (with no signal input)**

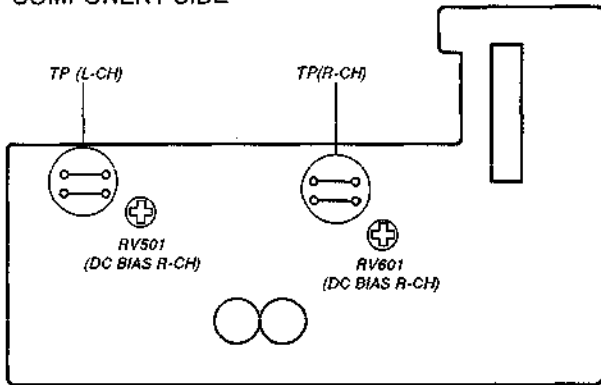
**Procedure :**



	Adjustment Part	Reading on VTVM
L-CH	RV501	6.5mV
R-CH	RV601	6.5mV

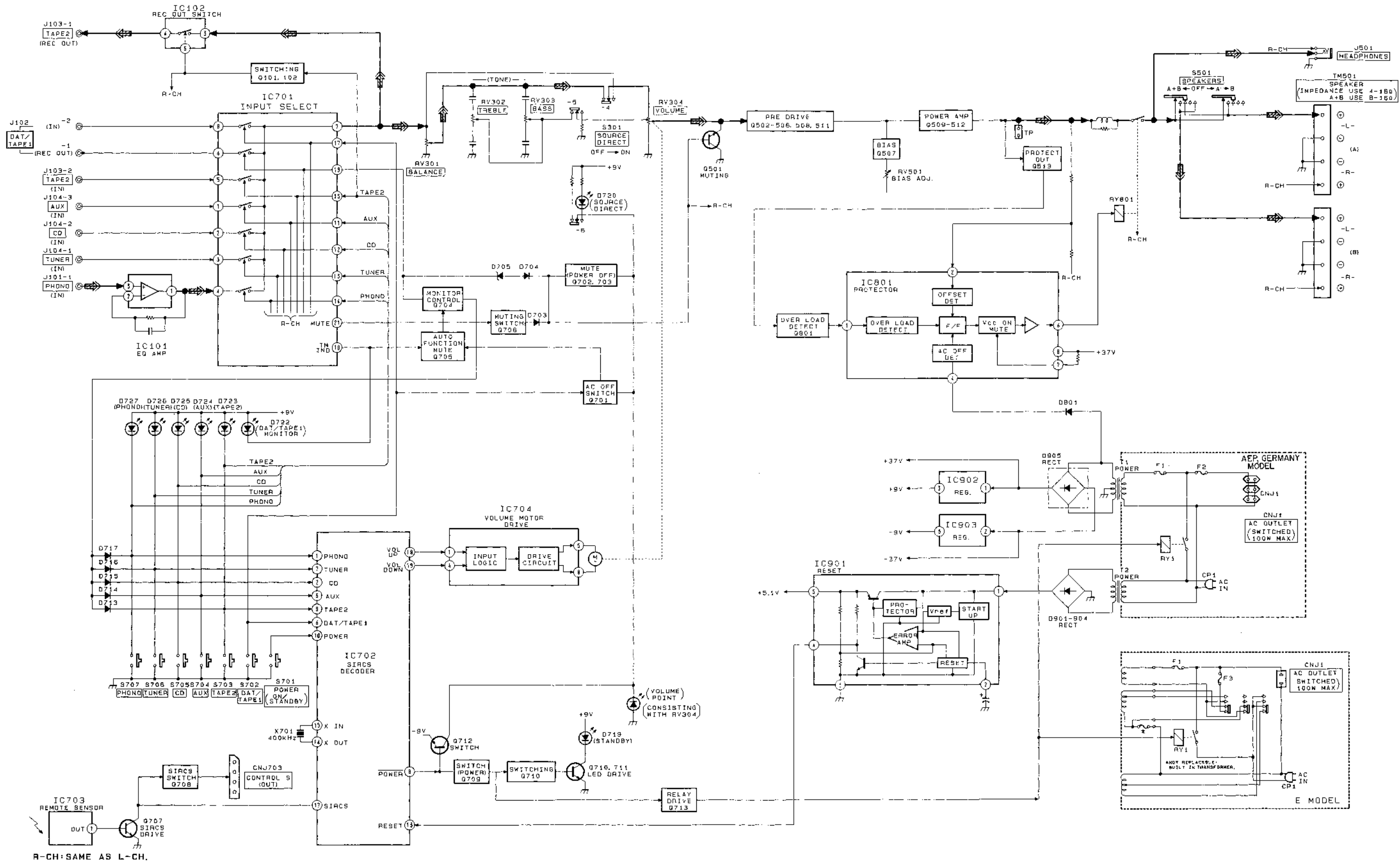
**[MAIN BOARD ]**

— COMPONENT SIDE —



SECTION 3  
DIAGRAMS

3-1. BLOCK DIAGRAM



R-CH: SAME AS L-CH.

3-2. CIRCUIT B...

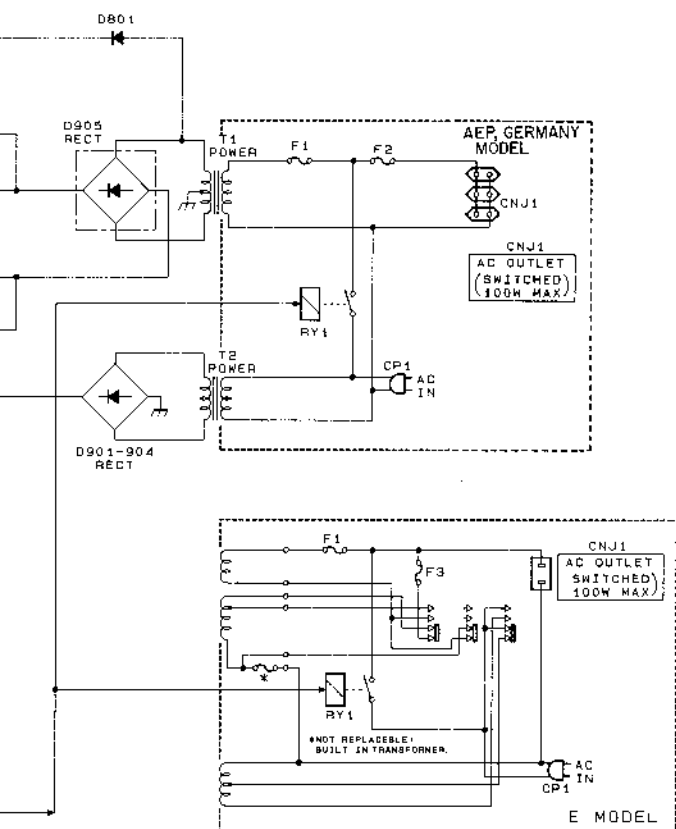
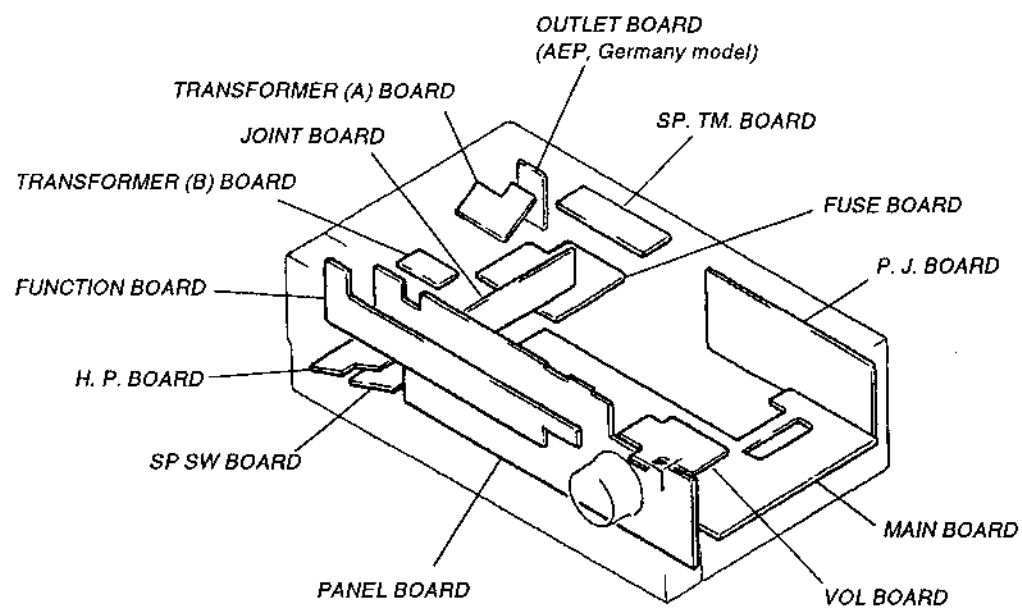
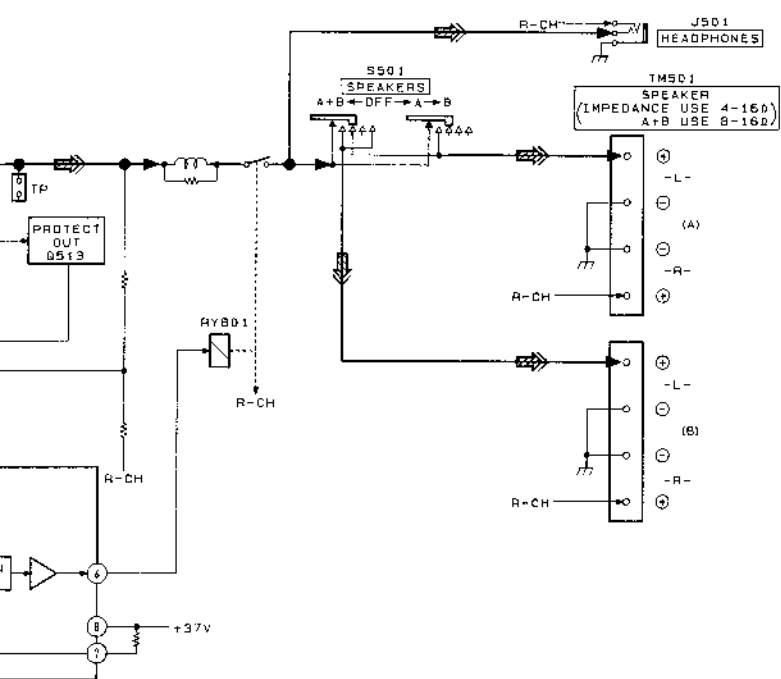
TRAN

FUNC

IC702 Funct  
Micro Processor  
and power on/sta

Pin No.	Pin
1	PHO
2	CD
3	AUX
4	CN V
5	Vss
6	TAP1
7	TUN
8	POW
9	TAP1
10	POW
11	MOD
12	NC
13	RESE
14	X OU
15	X IN
16	NC
17	SIRC
18	VOL
19	VOL
20	VDD

### 3-2. CIRCUIT BOARDS LOCATION



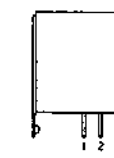
#### ● IC702 Function Controller (M50761-291P)

Micro Processor M5076-291P is used for control the volume up/down, function select and power on/standby by SIRCS code signal input and power on/standby key code signal input.

Pin No.	Pin Name.	I/O	Description						
1	PHONO	O	Function select output. (one-shot output) (L: PHONO)						
2	CD	O	Function select output. (one-shot output) (L: CD)						
3	AUX	O	Function select output. (one-shot output) (L: AUX)						
4	CN Vss	-	Ground						
5	Vss	-	Ground						
6	TAPE1	O	Function select output. (one-shot output) (L: TAPE1)						
7	TUNER	O	Function select output. (one-shot output) (L: TUNER)						
8	POWER	O	Power supply ON/OFF relay (RY1) control output. (L: POWER ON, H: POWER OFF)						
9	TAPE2	O	Function select output. (one-shot output) (L: TAPE)						
10	POWER IN	I	POWER ON/STANDBY key switch input.						
11	MODE	I	Function select input. This model is used "H" level only. <table border="1" style="margin-left: 20px;"> <thead> <tr> <th colspan="2">POWER ON/OFF mode</th> </tr> </thead> <tbody> <tr> <td>H</td> <td>USED</td> </tr> <tr> <td>L</td> <td>NOT USED</td> </tr> </tbody> </table>	POWER ON/OFF mode		H	USED	L	NOT USED
POWER ON/OFF mode									
H	USED								
L	NOT USED								
12	NC	-	Ground						
13	RESET	I	Reset signal input.						
14	X OUT	O	Ceramic vibrator connection terminal. (400Hz)						
15	X IN	O	Ceramic vibrator connection terminal. (400Hz)						
16	NC	-	Ground						
17	SIRCS	I	SIRCS code signal input. (serial input)						
18	VOL UP	O	Volume motor up control output. (contineous output)						
19	VOL DOWN	O	Volume motor down control output. (contineous output)						
20	VDD	-	+5V power supply.						

### • SEMICONDUCTOR LEAD LAYOUTS

GP1U52XB



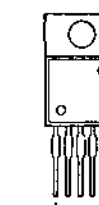
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2SC3622A-LK  
2SC4048



2SA1837  
2SC4793



L78MR05



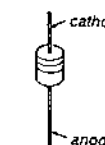
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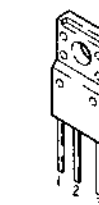
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HZS6B1L



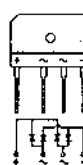
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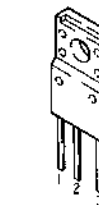
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2SC1841-PAFAEA  
2SC2229-OY-TPE6



RBV-620-01



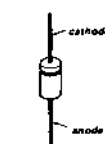
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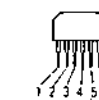
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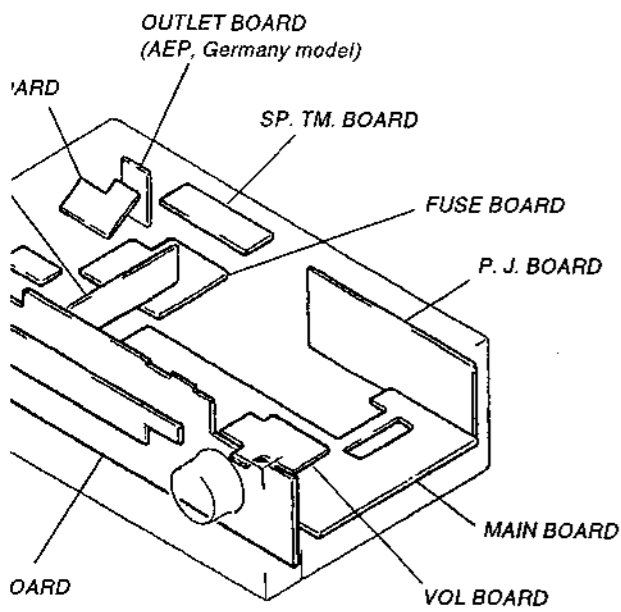
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PC1237HA



• SEMICONDUCTOR LEAD LAYOUTS



Volume up/down, function select and power on/standby by SIRCS code signal input

Description	
1	Output. (one-shot output) (L: PHONO)
2	Output. (one-shot output) (L: CD)
3	Output. (one-shot output) (L: AUX)
Output. (one-shot output) (L: TAPE1)	
Output. (one-shot output) (L: TUNER)	
ON/OFF relay (RY1) control output.	
N, H: POWER OFF	
4	Output. (one-shot output) (L: TAPE)
5	STANDBY key switch input.
Input. This model is used "H" level only.	
	POWER ON/OFF mode
H	USED
L	NOT USED
Input.	
for connection terminal. (400Hz)	
for connection terminal. (400Hz)	
Signal input. (serial input)	
Up control output. (continuous output)	
Down control output. (continuous output)	
Supply.	

GP1U52XB



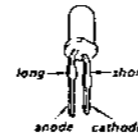
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2SC4048



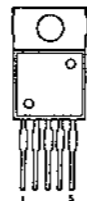
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SEL3210S-CD  
SEL3810A-CD



L78MR05



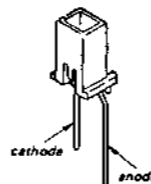
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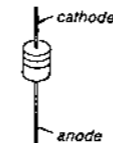
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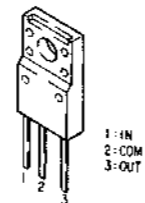
SEL3510C-CD



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TA7809S



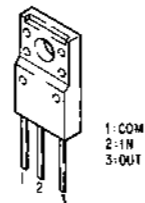
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RBV-620-01



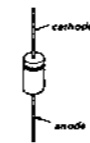
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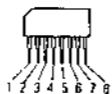
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PC1237HA



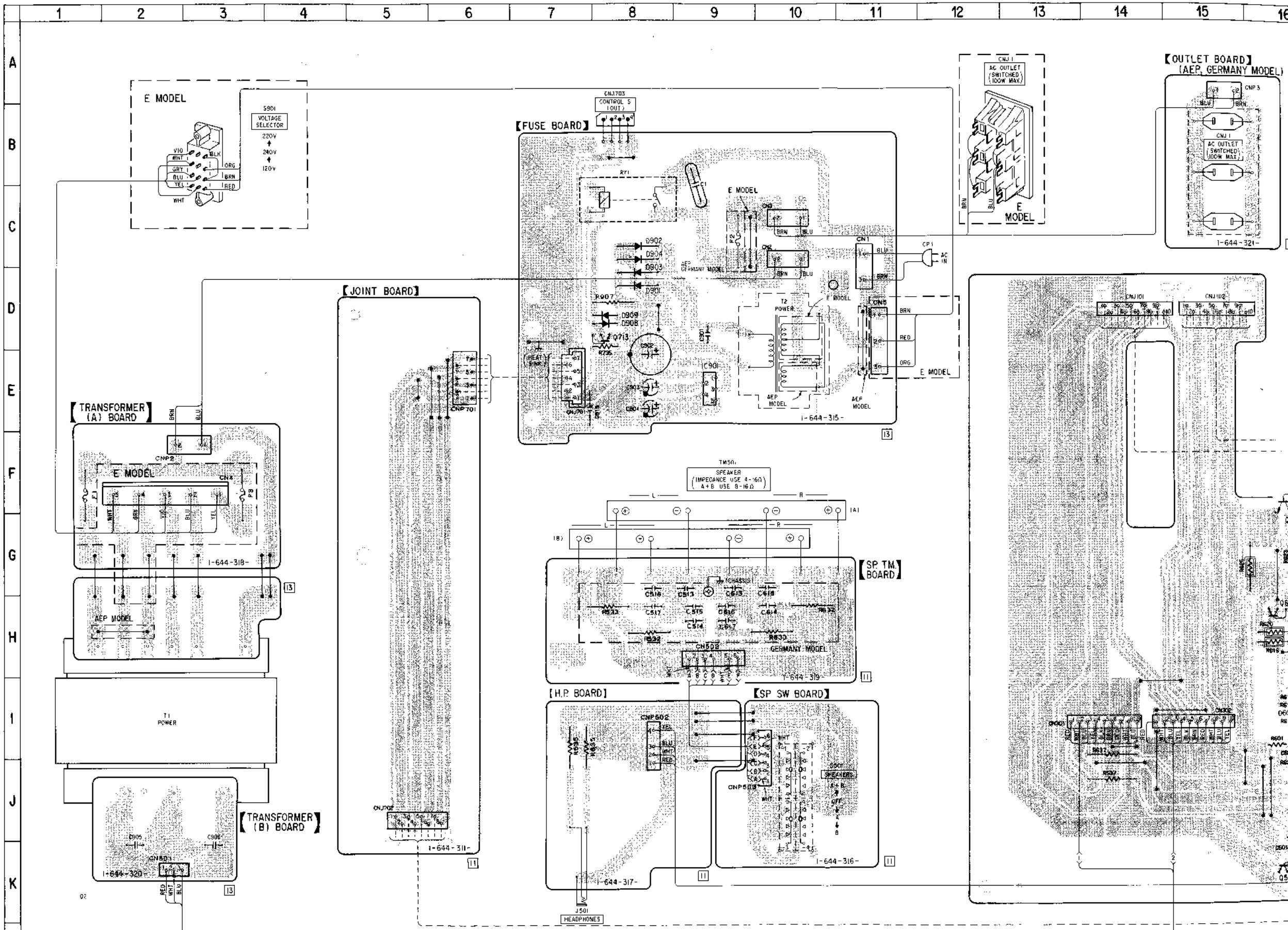
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3-3. PRINTED WIRING BOARDS • Refer to See Page 8 for Semiconductor Lead Layouts.

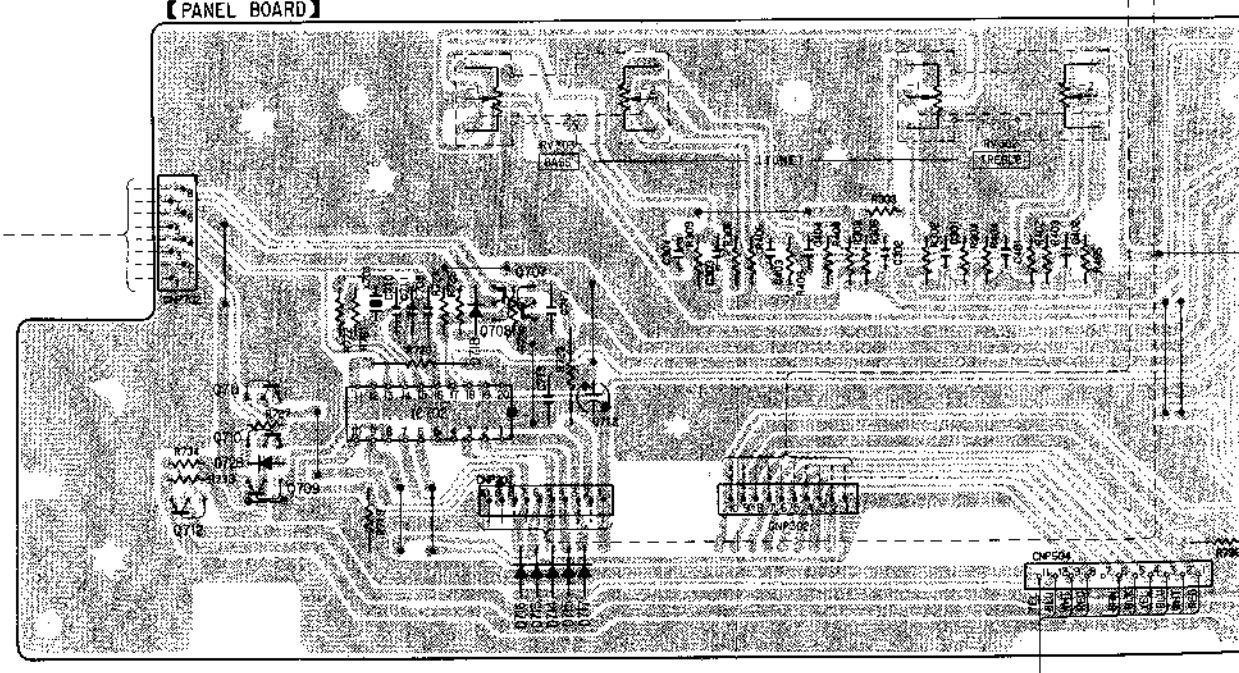
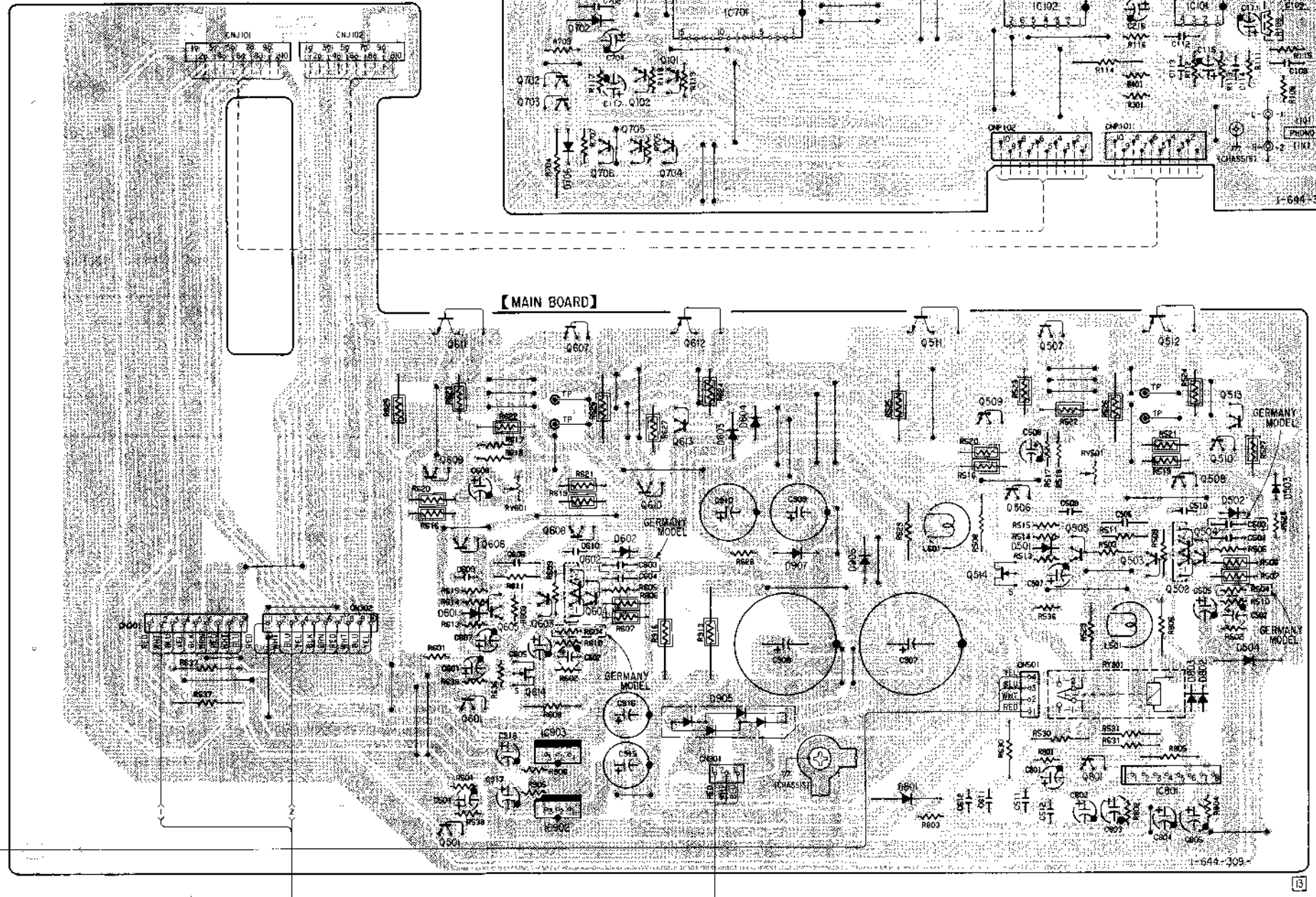
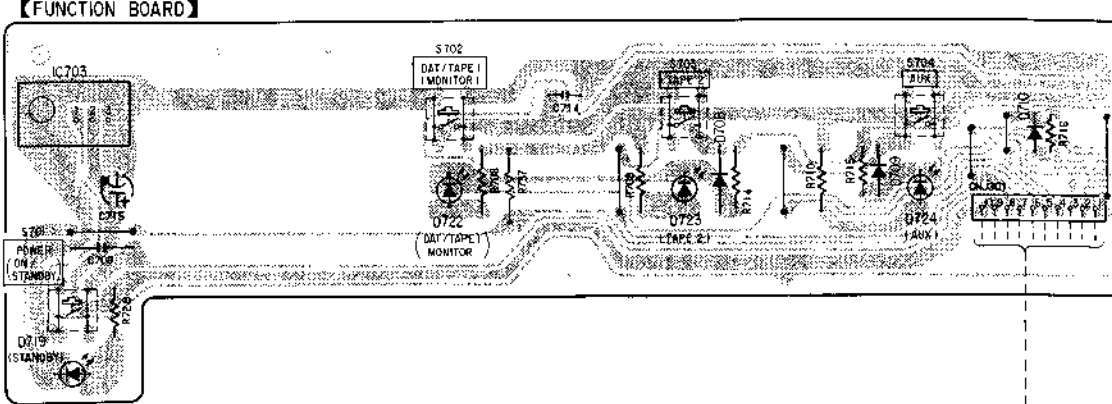
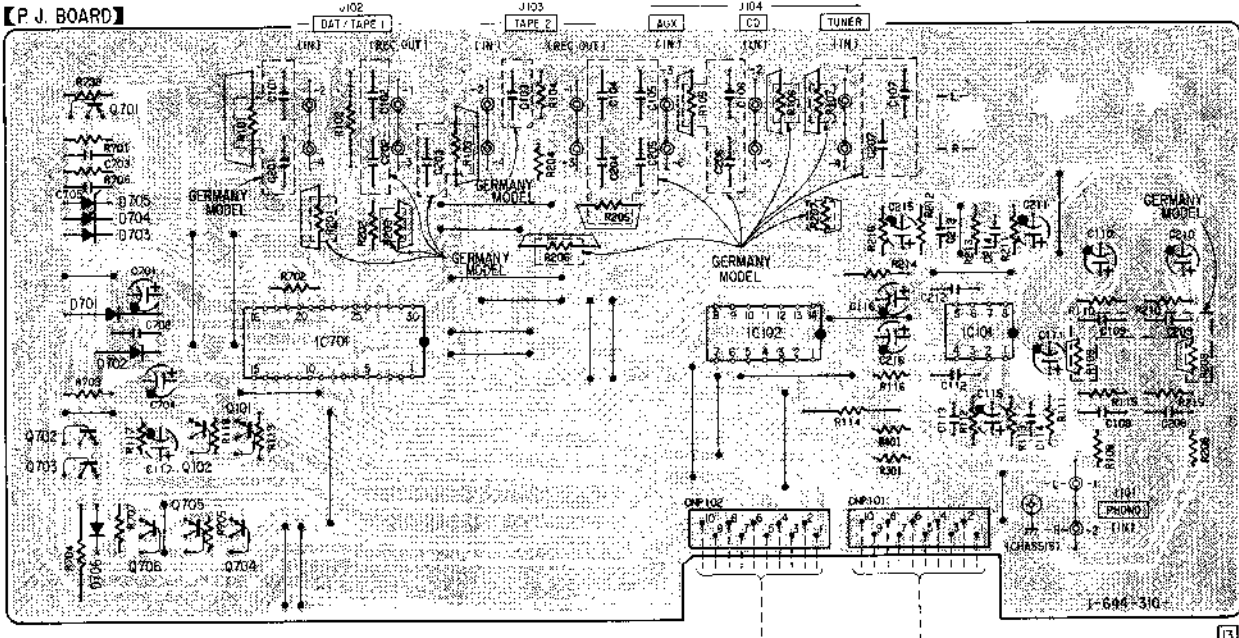
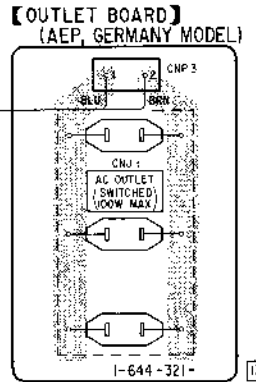
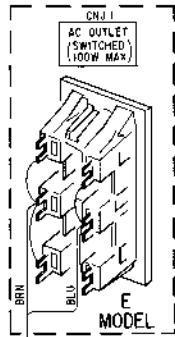
• SEMICONDUCTOR LOCATION

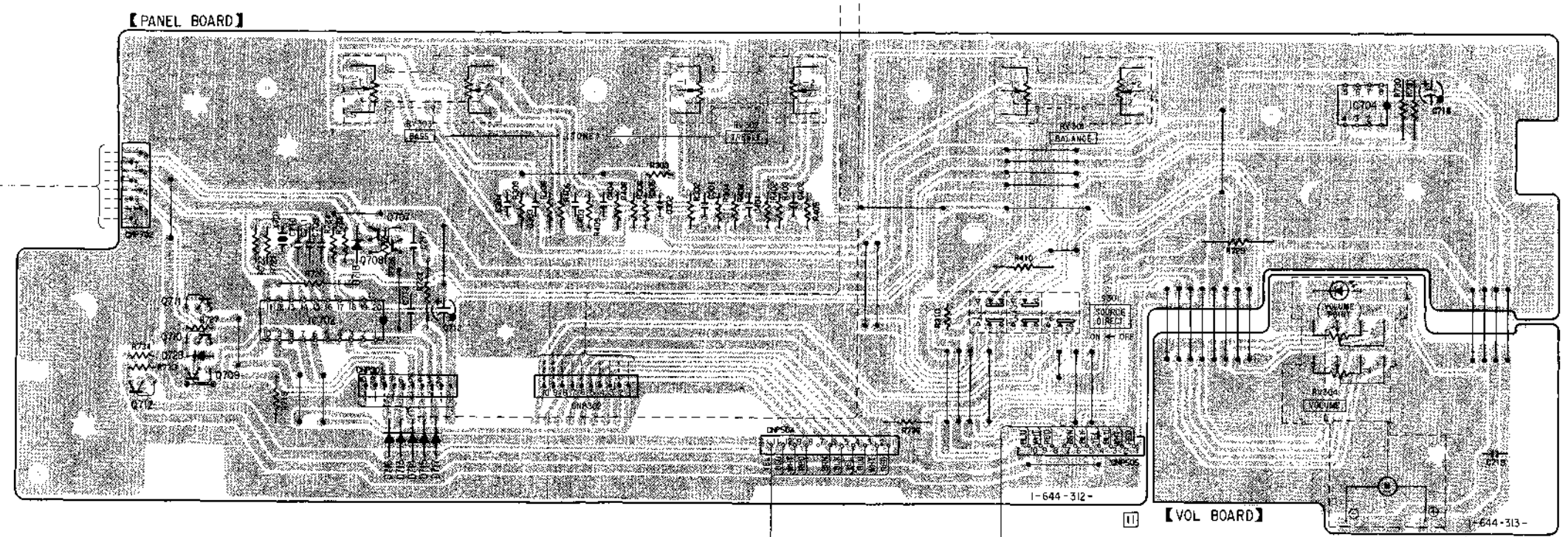
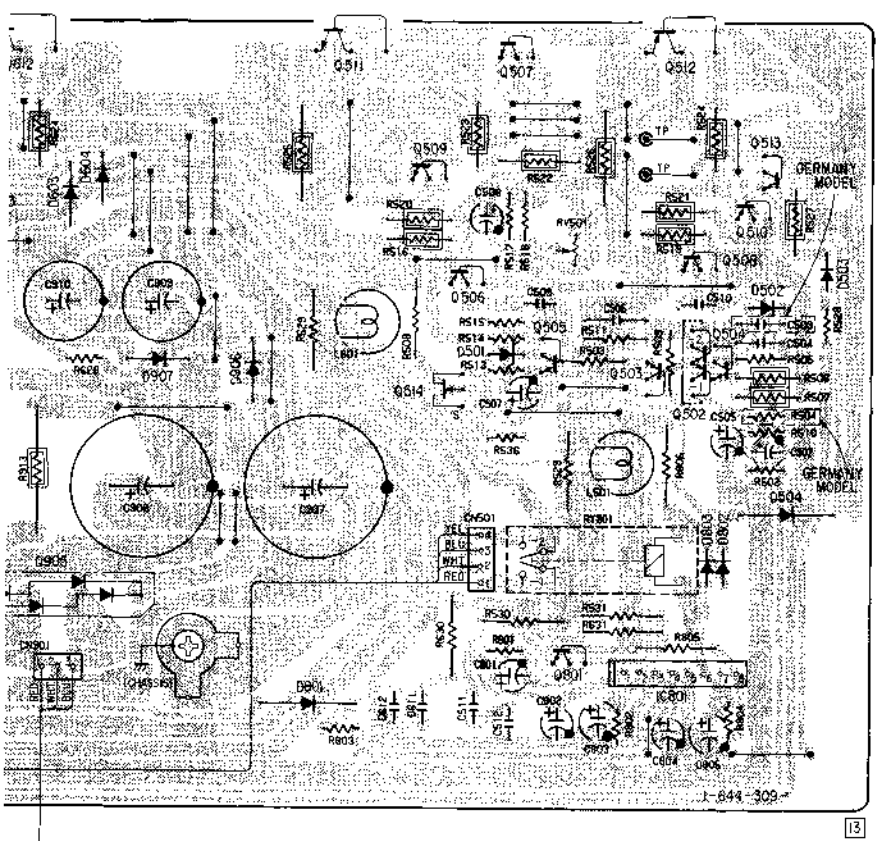
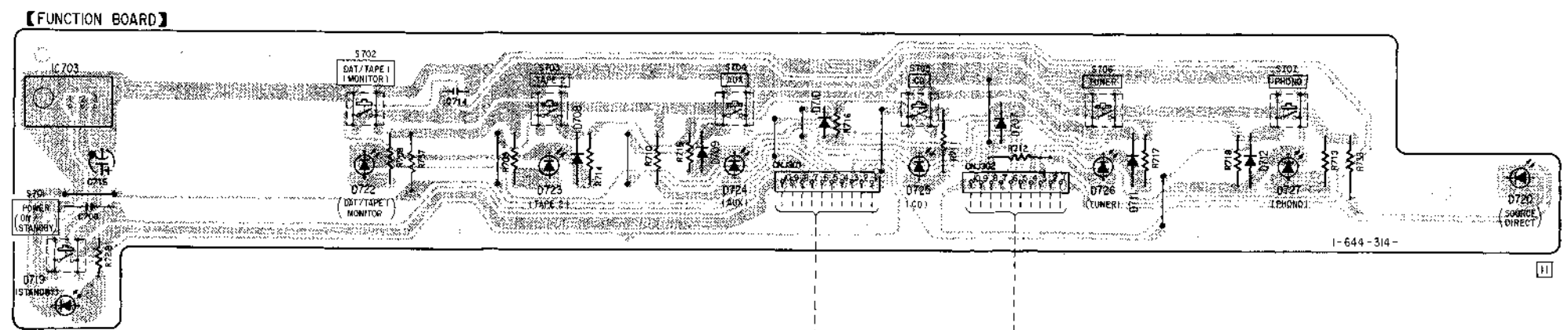
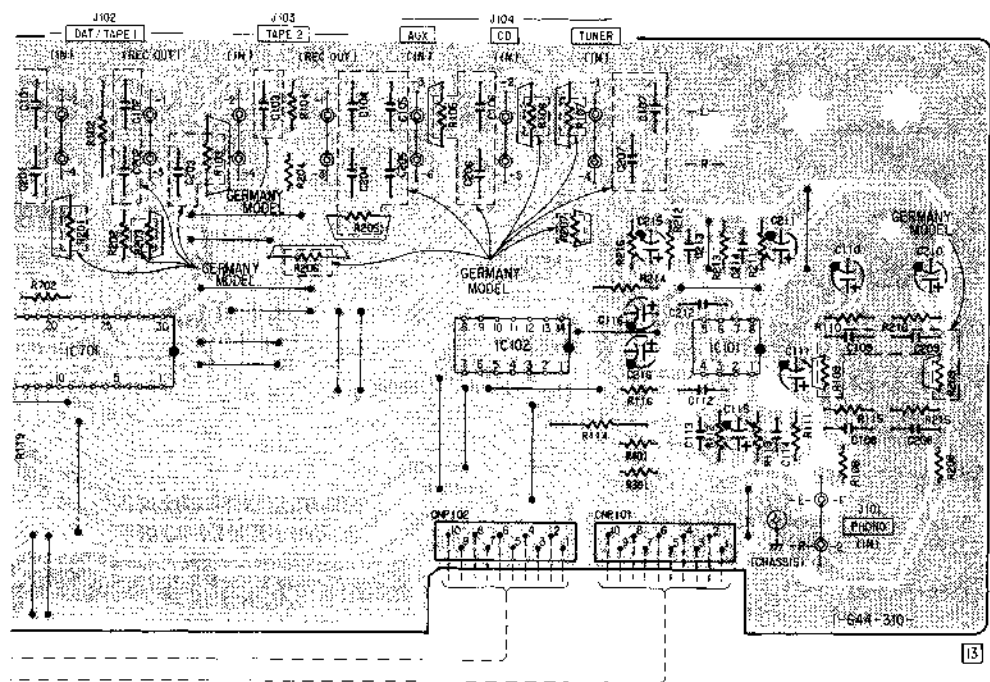
Ref. No.	Location	Ref. No.	Location	Ref. No.	Location
D501	H-21	D903	C-8	Q605	I-16
D502	H-23	D904	C-8	Q606	H-16
D503	H-23	D905	J-18	Q607	F-17
D504	I-23	D906	H-20	Q608	H-17
D601	I-16	D907	H-19	Q609	H-16
D602	H-18	D908	D-8	Q610	H-18
D603	G-18	D909	D-8	Q611	F-16
D604	G-19			Q612	F-18
D701	C-17			Q613	G-18
D702	D-17	IC101	D-23	Q614	I-17
		IC102	D-21		
D703	C-17	IC701	D-19	Q701	B-17
D704	C-17	IC702	I-27	Q702	D-17
D705	C-17	IC703	C-25	Q703	D-17
D706	E-17			Q704	E-18
D707	C-33	IC704	G-35	Q705	E-18
		IC901	J-22		
D708	C-29	IC901	E-9	Q706	E-17
D709	C-30	IC902	K-17	Q707	H-27
D710	C-31	IC903	J-17	Q708	H-27
D711	C-34			Q709	I-25
D712	C-35			Q710	I-25
		Q101	D-18		
D713	J-27	Q102	D-18	Q711	I-25
D714	J-27	Q501	K-16	Q712	J-25
D715	J-27	Q502	H-22	Q713	D-8
D716	J-27	Q503	H-22	Q801	J-22
D717	J-27				
		Q504	H-23		
D718	H-27	Q505	H-21		
D719	D-25	Q506	H-21		
D720	C-37	Q507	F-21		
D722	C-27	Q508	H-22		
D723	C-29				
		Q509	G-21		
D724	C-30	Q510	G-23		
D725	C-32	Q511	F-20		
D726	C-33	Q512	F-22		
D727	C-35	Q513	G-23		
D728	I-25				
D801	J-20	Q514	I-21		
D802	J-23	Q601	J-16		
D803	J-23	Q602	I-17		
D901	D-8	Q603	I-17		
D902	C-8	Q604	I-17		



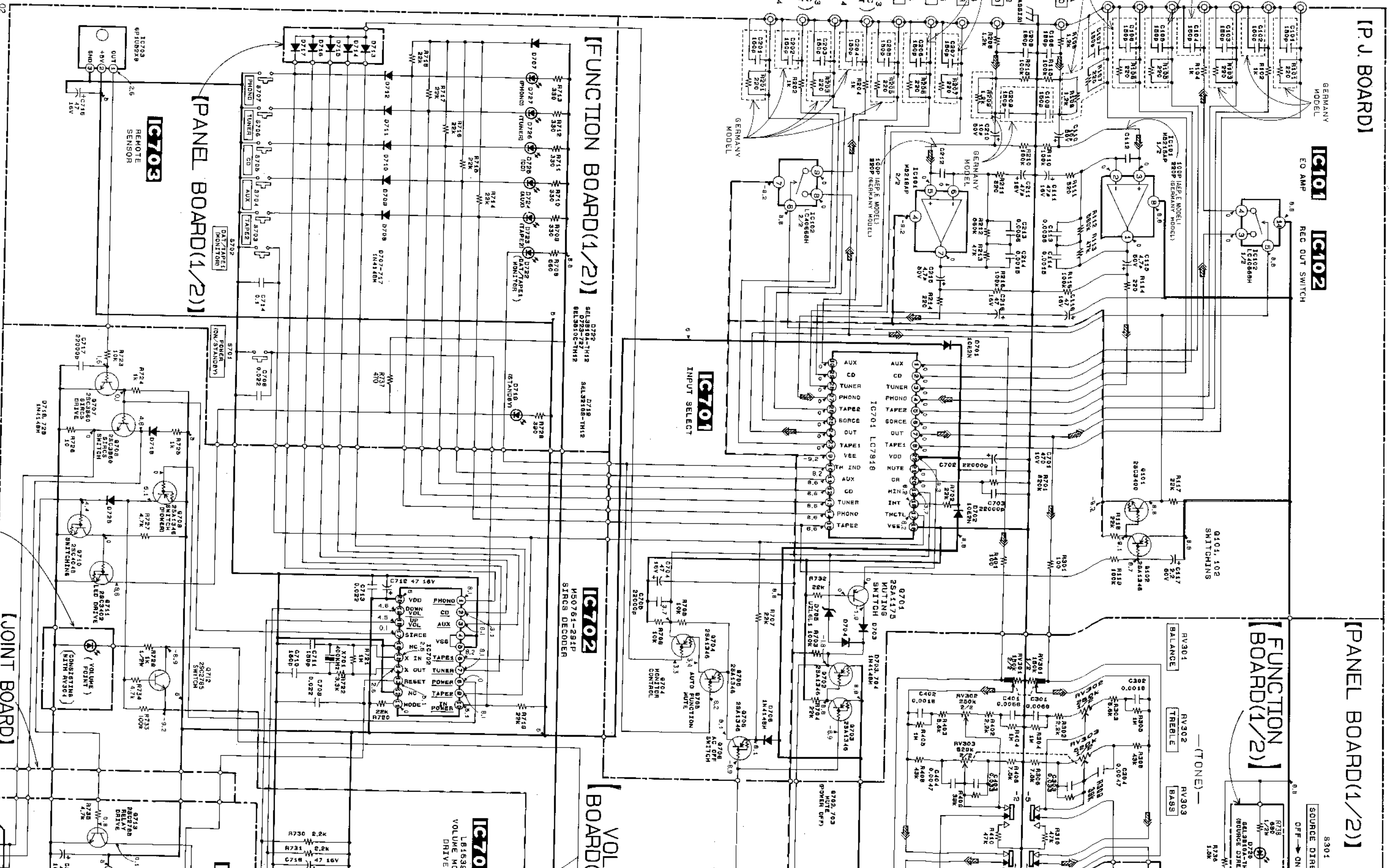
Note:  
 • ○ : parts extracted from the component side.  
 • ▨ : Pattern on the side which is seen.





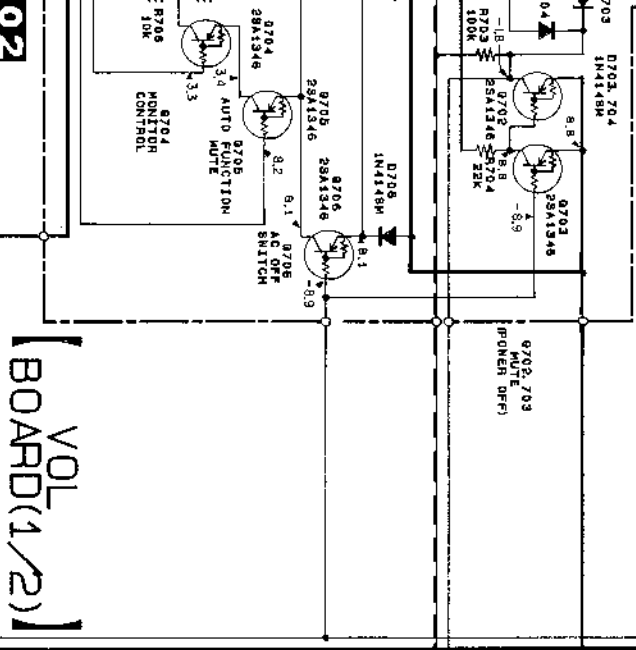
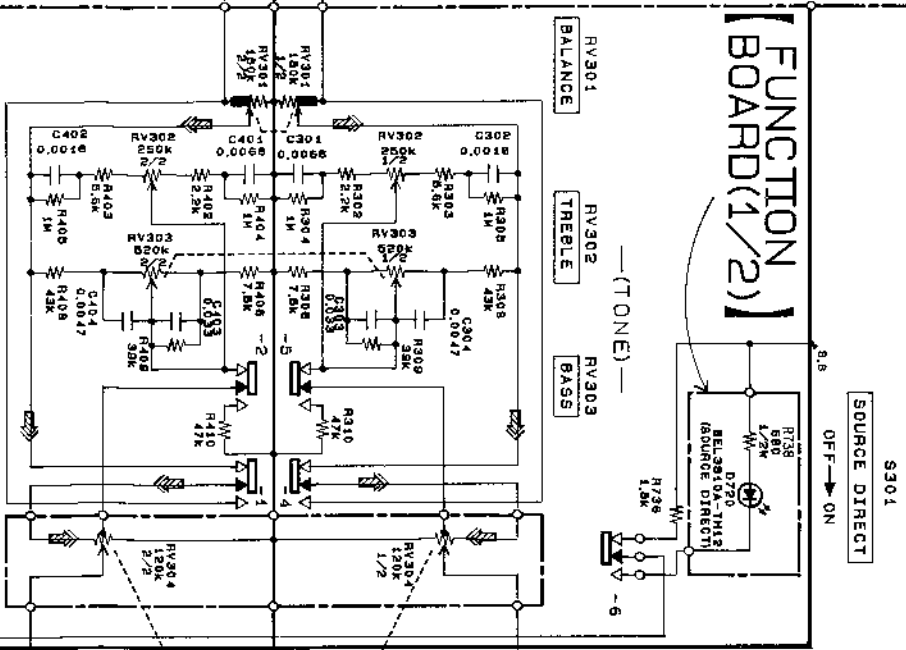


A B C D E F G H I J K L M N O P

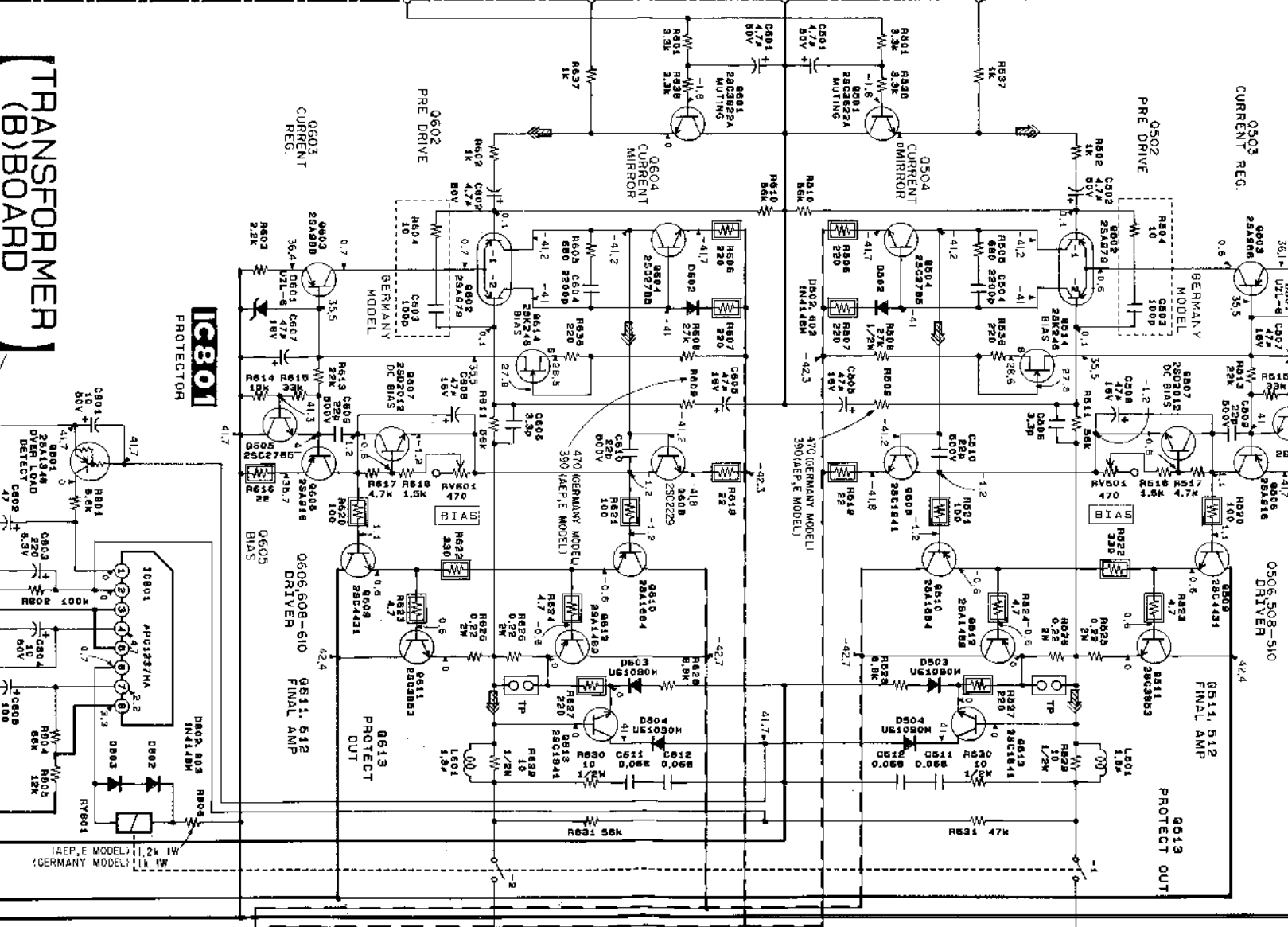


[PANEL BOARD(1/2)]

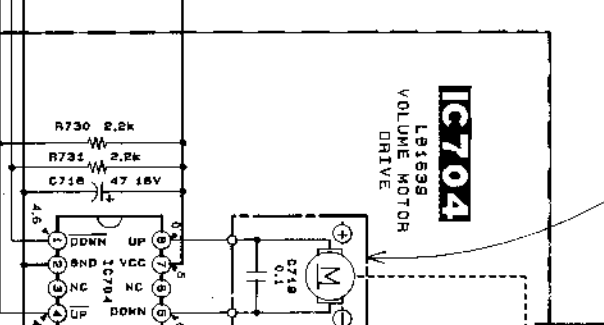
[FUNCTION BOARD(1/2)]



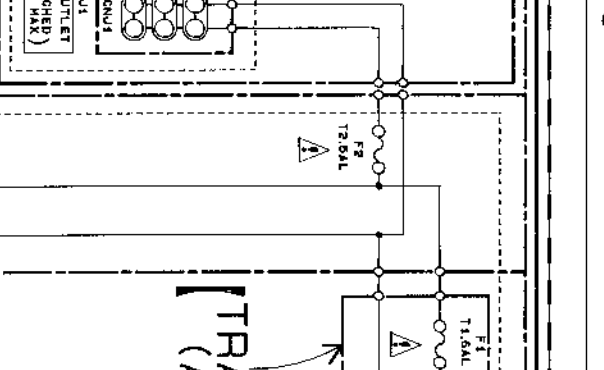
[MAIN BOARD]



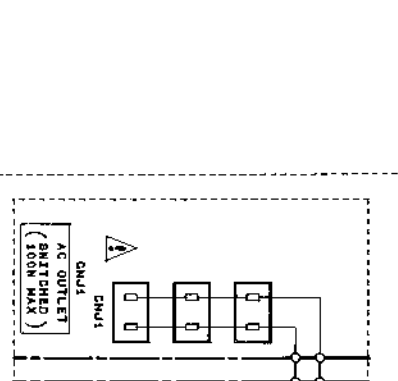
[VOL BOARD(1/2)]



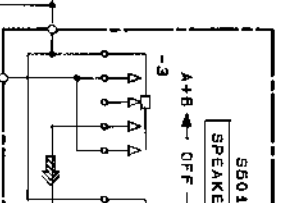
[TRANSFORMER (B) BOARD]



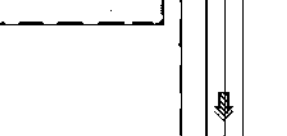
[TRANSFORMER (A) BOARD]



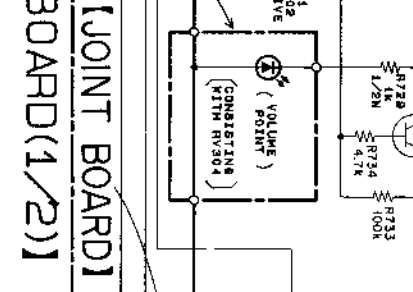
[SP SW BOARD]



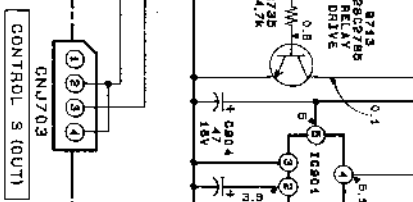
[SP SW BOARD]



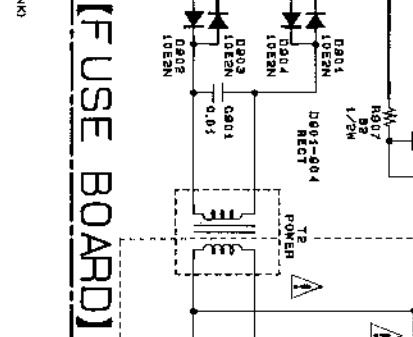
[JOINT BOARD] BOARD(1/2)



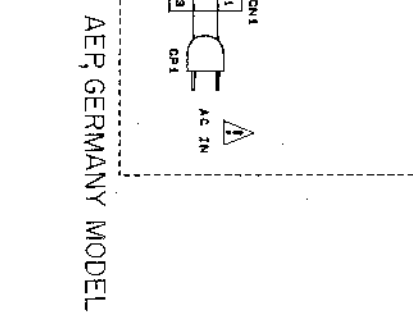
[CONTROL S (OUT)]



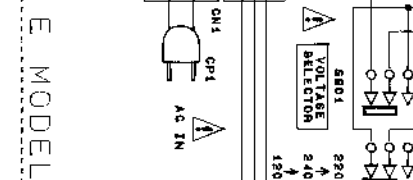
[FUSE BOARD]



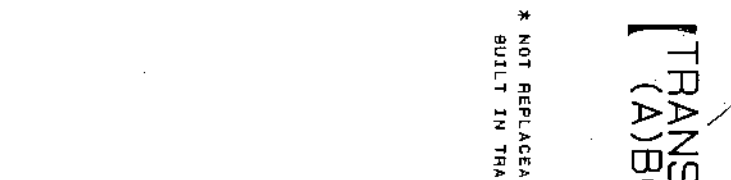
[AEP, GERMANY MODEL]



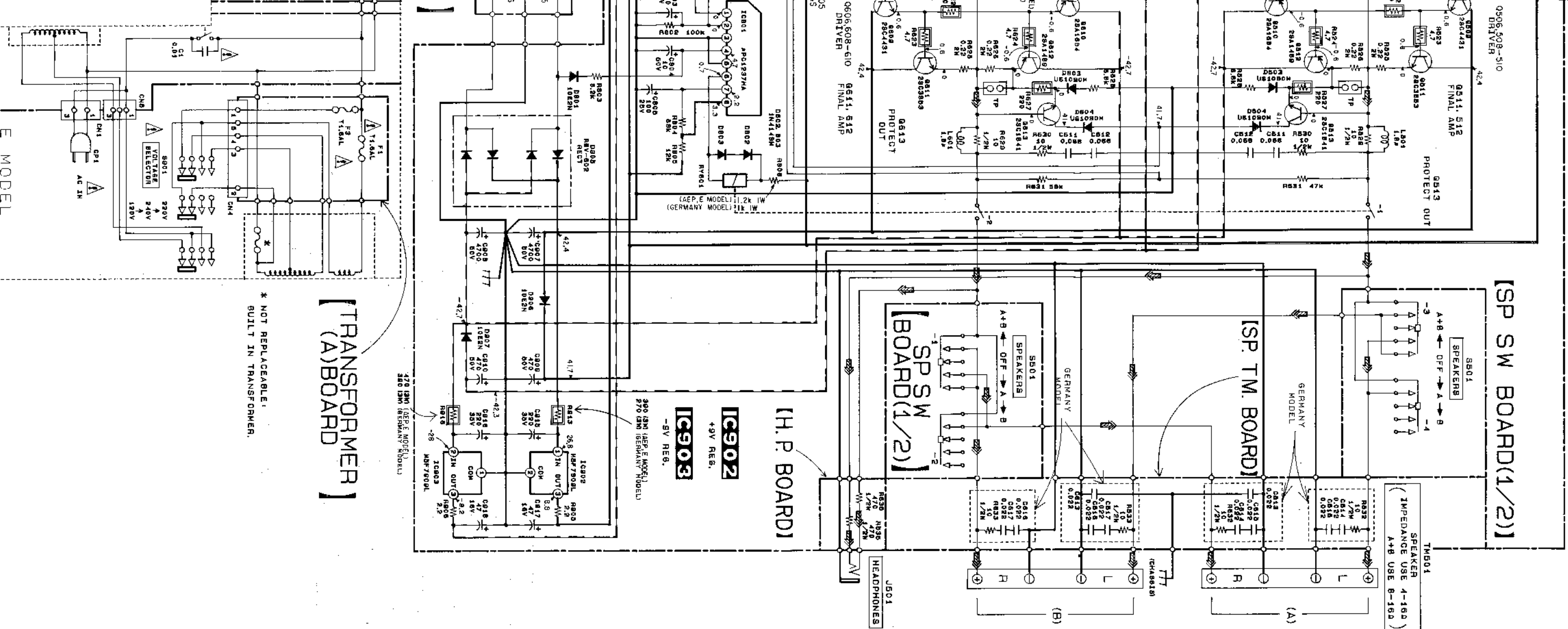
[E MODEL]



[TRANS (A) BOARD]



\* NOT REPLACABLE BUILT IN TRANS



**[TRANSFORMER] (A) BOARD**

\* NOT REPLACEMENT!  
BUILT IN TRANSFORMER.

**Note :**

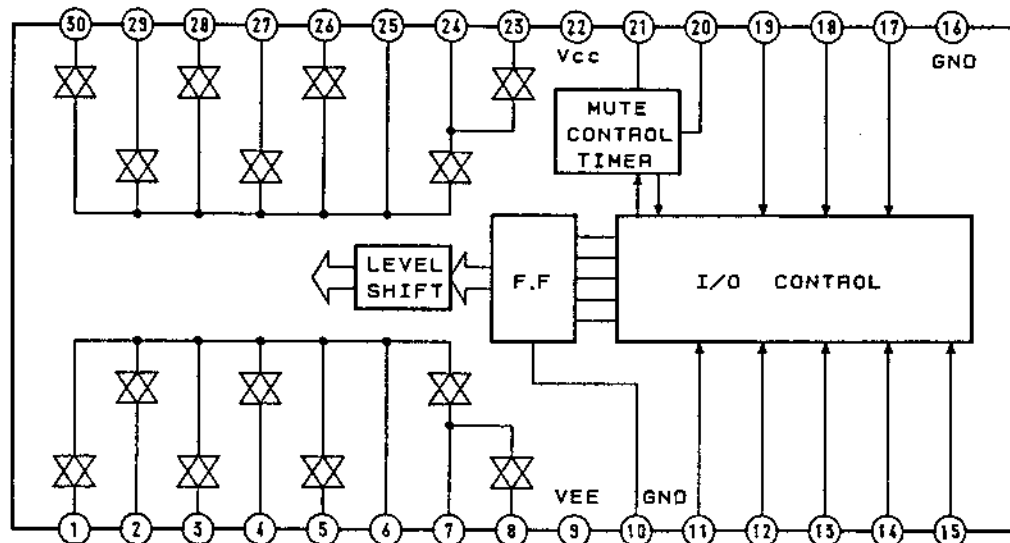
- All capacitors are in  $\mu$  F unless otherwise noted. pF:  $\mu$  F
- 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in  $\Omega$  and  $\frac{1}{2}W$  or less unless otherwise specified.
- : nonflammable resistor.
- : fusible resistor.

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

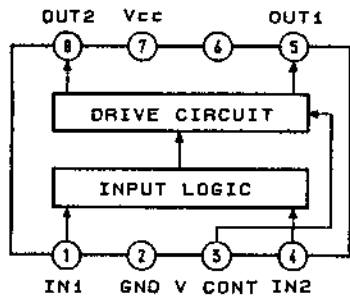
- : B+ Line
- : B- Line
- : adjustment for repair.
- Voltage and waveforms are dc with respect to ground under no-signal (detuned) conditions.
- no mark : CD
- Voltages are taken with a VOM ( Input impedance 10M  $\Omega$  ). Voltage variations may be noted due to normal production tolerances.
- : Signal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

3-5. IC BLOCK DIAGRAM

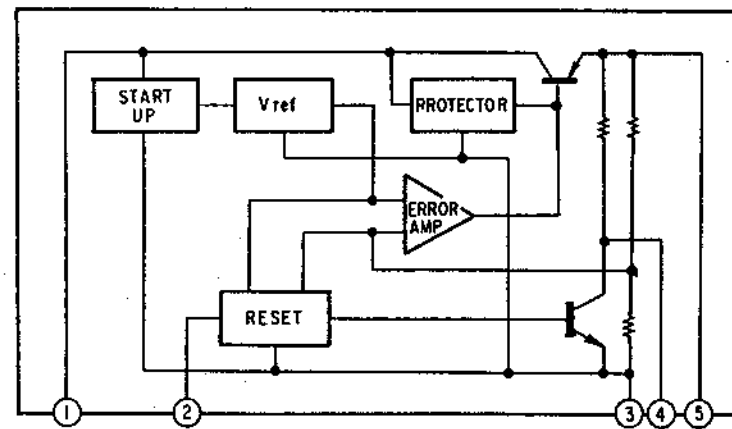
IC701 LC7818



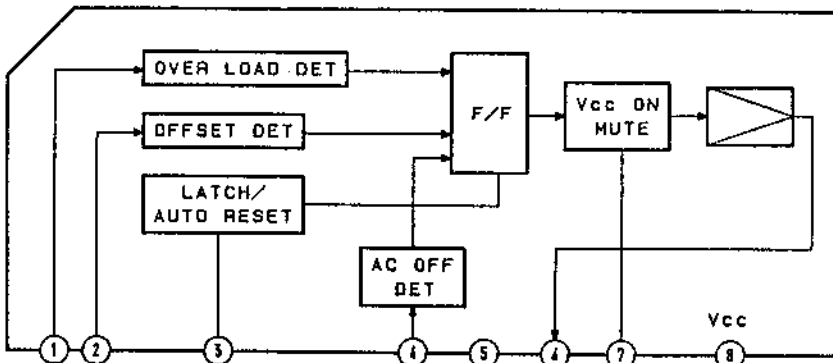
IC704 LB1639



IC901 L78MR-05



IC801 UPC1237HA



SECTION 4  
EXPLODED VIEWS

NOTE:

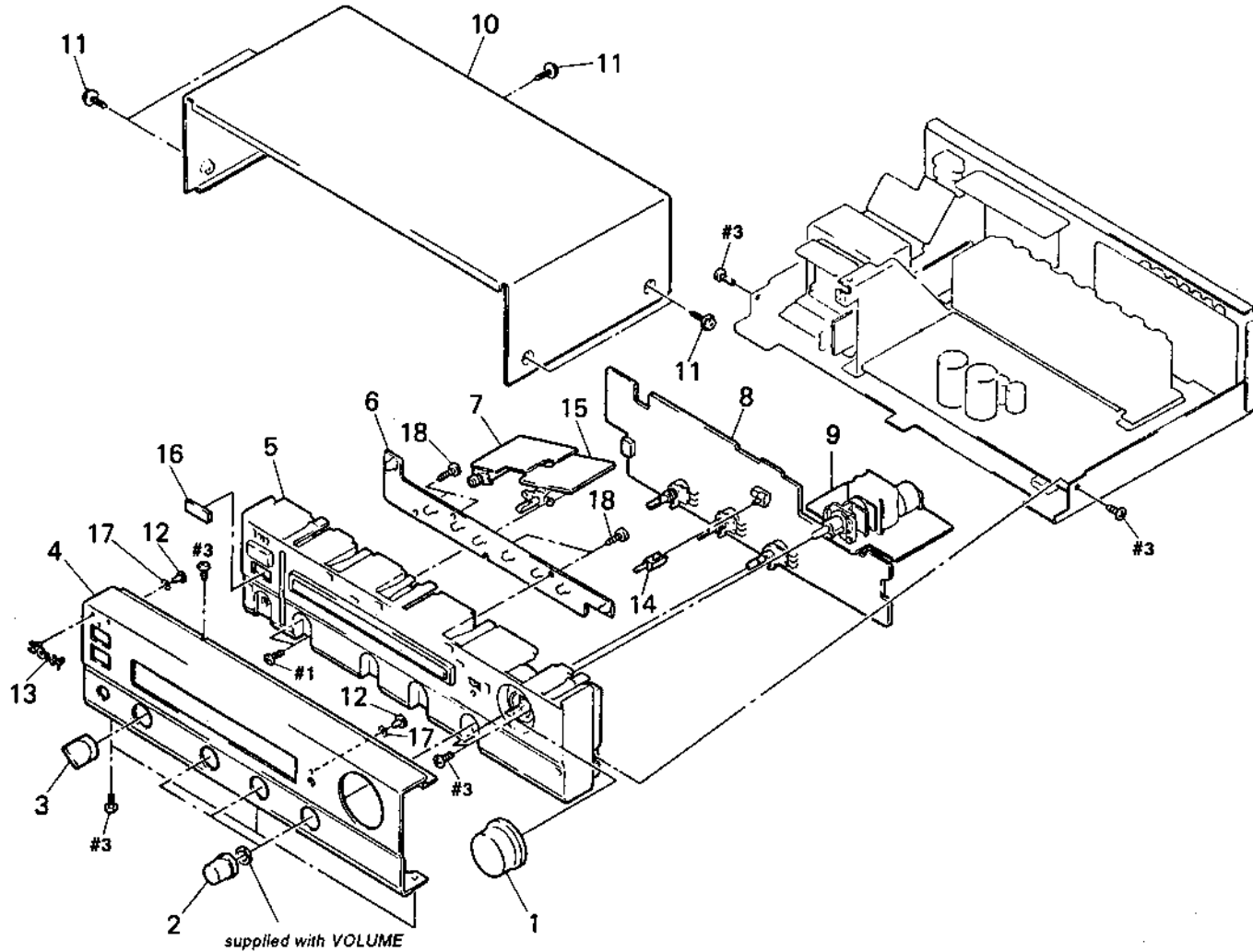
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Color indication of Appearance Parts Example: KNOB, BALANCE (WHITE)....(RED)
- Items marked "\*" are not 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 exploded views are not supplied.
- Hardware (# mark) list is given in the last of this parts list.

Parts color Cabinet's color

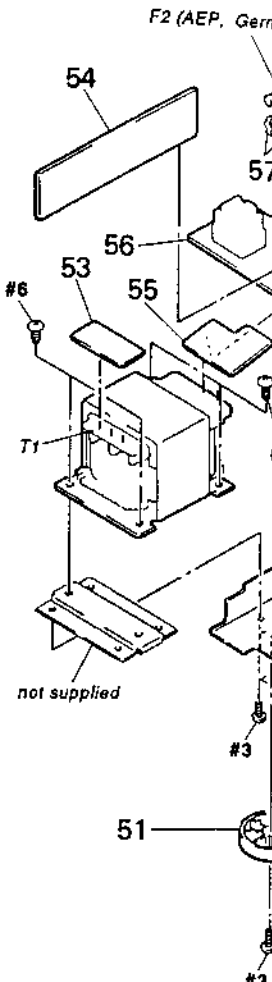
The components identified by mark or dotted line with mark are critical for safety. Replace only with part number specified.

- AE2: Model for Scandinavian countries, Switzerland, Spain and Portugal
- AE1: Model for other European countries

4-1. FRONT PANEL SECTION



4-2. CHASSIS SECTION

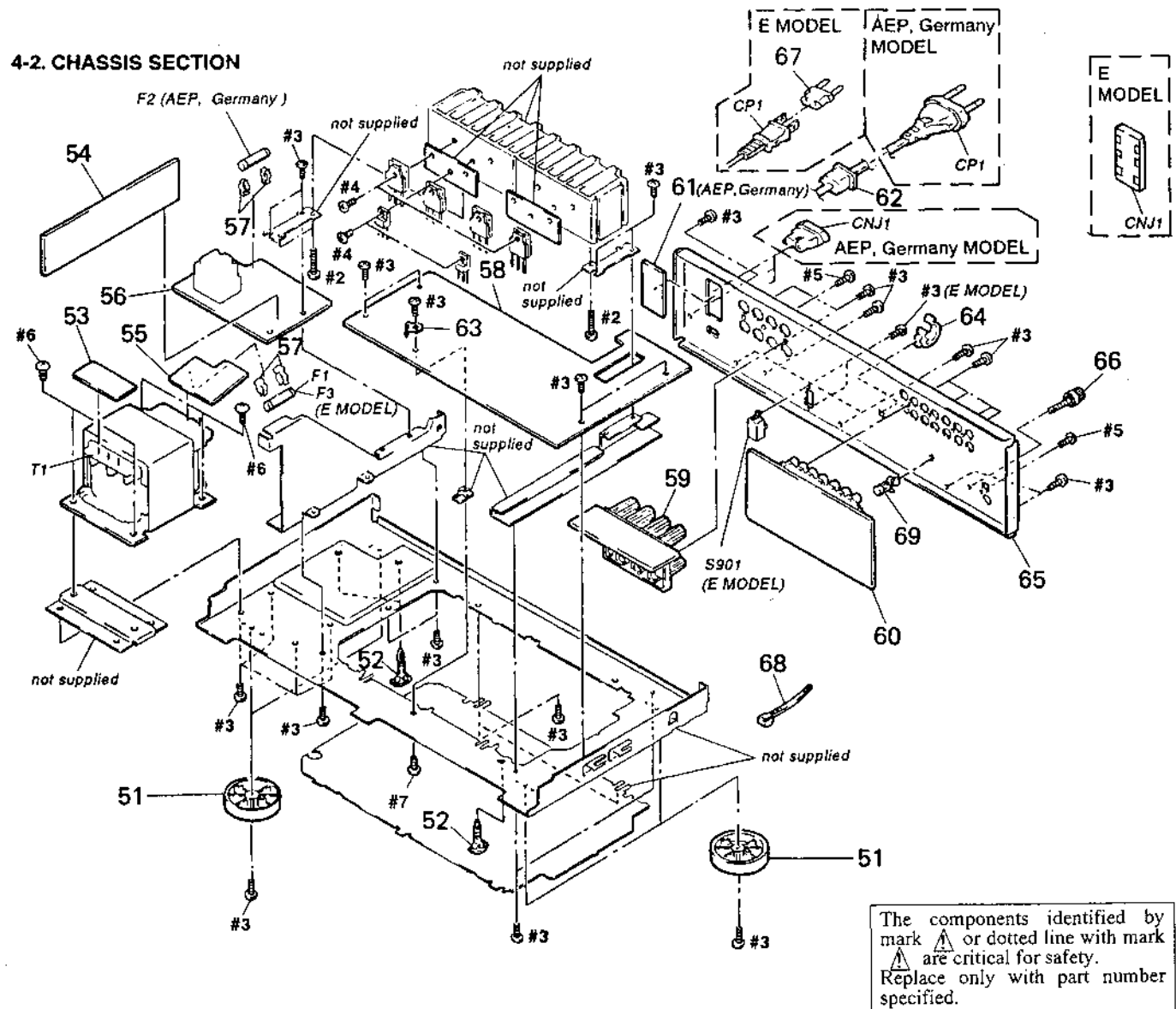


Ref. No.	Part No.	Des
51	4-956-885-11	FOO
* 52	3-704-198-31	SUP
* 53	1-644-320-11	TRA
* 54	1-644-311-11	JOI
* 55	1-644-318-11	TRA
* 56	1-644-315-11	FUS
* 57	1-533-213-31	HOL
* 58	A-4360-600-A	MAT
* 58	A-4360-613-A	MALI
* 59	1-644-319-11	SP.

Ref. No.	Part No.	Description	Remark
1	X-4942-798-1	KNOB (R53) ASSY	
2	4-945-173-01	KNOB (R21)	
3	4-916-745-01	KNOB (DIA. 21)	
4	4-957-885-01	PANEL, FRONT	
5	X-4942-672-1	PANEL (BASE) ASSY	
* 6	A-4360-605-A	FUNCTION BOARD, COMPLETE	
* 7	1-644-317-11	H. P. BOARD	
* 8	A-4360-603-A	PANEL BOARD, COMPLETE	
* 9	1-644-313-11	VOL BOARD	
10	4-929-294-11	CASE	

Ref. No.	Part No.	Description	Remark
11	3-704-366-01	SCREW (CASE) (M3X8)	
12	4-938-518-01	INDICATOR (C)	
13	4-942-568-01	EMBLEM (NO. 5), SONY	
14	4-952-242-01	BUTTON (S/D)	
* 15	1-644-316-11	SP. SW. BOARD	
16	4-931-911-01	FILTER	
* 17	4-927-881-01	SHEET, ADHESIVE	
18	4-951-620-01	SCREW (2.6X8), +BVTP	

4-2. CHASSIS SECTION



Identified by  
line with mark  
r safety.  
h part number

Scandinavian  
Switzerland,  
Portugal  
other European

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

FUNCTION

- 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

SECTION 5  
ELECTRICAL PARTS LIST

- 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:  $\mu$ , for example:  
uA...:  $\mu$  A..., uPA...:  $\mu$  PA...  
uPB...:  $\mu$  PB..., uPC...:  $\mu$  PC...  
uPD...:  $\mu$  PD...
- CAPACITORS  
uF:  $\mu$  F
- COILS  
uH:  $\mu$  H

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

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

- AE2: Model for Scandinavian countries, Switzerland, Spain and Portugal
- AE1: Model for other European countries

Ref. No.	Part No.	Description	Remark
*	A-4360-605-A	FUNCTION BOARD, COMPLETE *****	
< CAPACITOR >			
C708	1-161-494-00	CERAMIC 0.022uF	25V
C714	1-136-165-00	FILM 0.1uF	5% 50V
C715	1-124-477-11	ELECT 47uF	20% 25V
< JACK >			
* CNJ301	1-691-244-11	SOCKET, CONNECTOR 10P	
* CNJ302	1-691-244-11	SOCKET, CONNECTOR 10P	
< DIODE >			
D707	8-719-987-63	DIODE 1N4148M	
D708	8-719-987-63	DIODE 1N4148M	
D709	8-719-987-63	DIODE 1N4148M	
D710	8-719-987-63	DIODE 1N4148M	
D711	8-719-987-63	DIODE 1N4148M	
< SWITCH >			
S701	1-554-303-21	SWITCH, TACTILE (POWER)	
S702	1-554-303-21	SWITCH, TACTILE (DAT/TAPE1)	
S703	1-554-303-21	SWITCH, TACTILE (TAPE2)	
S704	1-554-303-21	SWITCH, TACTILE (AUX)	
S705	1-554-303-21	SWITCH, TACTILE (CD)	
S706	1-554-303-21	SWITCH, TACTILE (TUNER)	
S707	1-554-303-21	SWITCH, TACTILE (PHONO)	
*****			
< IC >			
IC703	8-749-920-83	IC GPU152XB	

Ref. No.	Part No.	Description	Remark
< RESISTOR >			
R708	1-249-414-11	CARBON 560	5% 1/4W
R709	1-249-411-11	CARBON 330	5% 1/4W
R710	1-249-411-11	CARBON 330	5% 1/4W
R711	1-249-411-11	CARBON 330	5% 1/4W
R712	1-249-411-11	CARBON 330	5% 1/4W
R713	1-249-411-11	CARBON 330	5% 1/4W
R714	1-249-433-11	CARBON 22K	5% 1/4W
R715	1-249-433-11	CARBON 22K	5% 1/4W
R716	1-249-433-11	CARBON 22K	5% 1/4W
R717	1-249-433-11	CARBON 22K	5% 1/4W
R718	1-249-433-11	CARBON 22K	5% 1/4W
R728	1-249-412-11	CARBON 390	5% 1/4W
R737	1-249-413-11	CARBON 470	5% 1/4W
R738	1-247-750-11	CARBON 680	5% 1/2W

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
51	4-956-885-11	FOOT (F58175S2W)		* 65	4-957-886-11	PANEL, BACK (AE2)	
* 52	3-704-198-31	SUPPORT, PC		* 65	4-957-886-21	PANEL, BACK (Germany)	
* 53	1-644-320-11	TRANSFORMER (B) BOARD		* 65	4-957-886-31	PANEL, BACK (E)	
* 54	1-644-311-11	JOINT BOARD		66	4-947-010-01	SCREW, FEEDER FIXED	
* 55	1-644-318-11	TRANSFORMER (A) BOARD		67	1-569-007-11	ADAPTER, CONVERSION 2P (E)	
* 56	1-644-315-11	FUSE BOARD		68	3-655-653-21	BAND (TAITON), BINDING (E)	
* 57	1-533-213-31	HOLDER, FUSE		* 69	3-349-025-31	HOLDER, PC BOARD	
* 58	A-4360-600-A	MAIN BOARD, COMPLETE (AEP, E)		$\Delta$ CNJ1	1-526-696-31	OUTLET, AC (3 GANG) (E)	
* 58	A-4360-613-A	MAIN BOARD, COMPLETE (Germany)		$\Delta$ CNJ1	1-526-794-11	OUTLET, AC (AEP, Germany)	
* 59	1-644-319-11	SP. TM. BOARD		$\Delta$ CP1	1-558-943-41	CORD, POWER (E)	
* 60	A-4360-614-A	P. J. BOARD, COMPLETE (Germany)		$\Delta$ CP1	1-575-651-21	CORD, POWER (AEP, Germany)	
* 60	A-4360-601-A	P. J. BOARD, COMPLETE (AEP, E)		$\Delta$ CP1	1-575-653-21	CORD, POWER (E)	
* 61	1-644-321-11	OUTLET BOARD (AEP, Germany)		$\Delta$ F1	1-532-259-00	FUSE, TIME-LAG (T1.6A)	
* 62	3-703-244-00	BUSHING (2104), CORD (AEP, Germany)		$\Delta$ F2	1-532-286-00	FUSE, TIME-LAG (T2.5A) (AEP, Germany)	
* 62	3-703-571-11	BUSHING (S) (4516), CORD (E)		$\Delta$ F3	1-532-259-00	FUSE, TIME-LAG (T1.6A) (E)	
* 63	4-942-204-01	PLATE, GROUND		$\Delta$ S901	1-571-515-11	SWITCH, POWER VOLTAGE SELECTION (E)	
* 64	4-949-235-01	HOOK		$\Delta$ T1	1-423-625-11	TRANSFORMER, POWER (AEP)	
* 65	4-957-886-01	PANEL, BACK (AE1)		$\Delta$ T1	1-423-627-11	TRANSFORMER, POWER (Germany)	
				$\Delta$ T1	1-423-649-11	TRANSFORMER, POWER (E)	

**FUSE** **H.P** **JOINT** **MAIN**

Ref.No.	Part No.	Description	Remark
*	1-644-315-11	FUSE BOARD *****	
*	1-533-213-31	HOLDER, FUSE  < CAPACITOR >	
C1	1-161-744-00	CERAMIC 0.01uF	400V
C901	1-136-153-00	FILM 0.01uF	5% 50V
C902	1-124-557-11	ELECT 1000uF	20% 25V
C903	1-124-903-11	ELECT 1uF	20% 50V
C904	1-124-477-11	ELECT 47uF	20% 25V
C919	1-161-494-00	CERAMIC 0.022uF	25V
		< CONNECTOR >	
* CN1	1-580-230-11	PIN, CONNECTOR (PC BOARD) 3P	
CN2	1-564-321-00	PIN, CONNECTOR 2P	
* CN3	1-564-321-00	PIN, CONNECTOR 2P	
CN5	1-564-687-11	PIN, CONNECTOR 3P (E)	
		< JACK >	
CNJ701	1-695-087-11	PIN, CONNECTOR (PC BOARD) 7P (CONTROL S)	
CNJ703	1-566-213-11	PIN, CONNECTOR 4P	
		< DIODE >	
D901	8-719-200-77	DIODE 10E2N	
D902	8-719-200-77	DIODE 10E2N	
D903	8-719-200-77	DIODE 10E2N	
D904	8-719-200-77	DIODE 10E2N	
D908	8-719-987-63	DIODE IN4148M	
D909	8-719-987-63	DIODE IN4148M	
		< FUSE >	
ΔF2	1-532-286-00	FUSE, TIME-LAG (T2. 5A) (AEP, Germany)	
		< IC >	
IC901	8-759-820-84	IC L78MR05	
		< TRANSISTOR >	
Q713	8-729-620-05	TRANSISTOR 2SC2603-EF	
		< RESISTOR >	
R735	1-249-425-11	CARBON 4.7K 5% 1/4W	
R907	1-247-738-11	CARBON 82 5% 1/2W	
		< RELAY >	
RY1	1-515-516-00	RELAY	

Ref.No.	Part No.	Description	Remark
		< TRANSFORMER >	
ΔT2	1-448-523-11	TRANSFORMER, POWER	
		*****	
*	1-644-317-11	H. P. BOARD *****	
		< JACK >	
J501	1-507-863-51	JACK, PHONE (HEADPHONES)	
		< RESISTOR >	
R535	1-247-747-11	CARBON 470 5% 1/2W	
R635	1-247-747-11	CARBON 470 5% 1/2W	
		*****	
*	1-644-311-11	JOINT BOARD *****	
		< JACK >	
CNJ702	1-568-319-11	SOCKET, CONNECTOR 8P	
		< CONNECTOR >	
CNP701	1-695-092-11	SOCKET, CONNECTOR 7P	
		*****	
*	A-4360-600-A	MAIN BOARD, COMPLETE (AEP, E) *****	
*	A-4360-613-A	MAIN BOARD, COMPLETE (Germany) *****	
*	4-942-204-01	PLATE, GROUND	
		< CAPACITOR >	
C501	1-124-927-11	ELECT 4.7uF	20% 100V
C502	1-124-927-11	ELECT 4.7uF	20% 100V
C503	1-164-070-11	CERAMIC 100PF	5% 50V(Germany)
C504	1-161-375-00	CERAMIC 0.0022uF	20% 50V
C505	1-124-477-11	ELECT 47uF	20% 25V
C506	1-162-193-31	CERAMIC 3.3PF	10% 50V
C507	1-124-477-11	ELECT 47uF	20% 25V
C508	1-124-477-11	ELECT 47uF	20% 25V
C509	1-161-959-00	CERAMIC 22PF	10% 500V
C510	1-161-959-00	CERAMIC 22PF	10% 500V
C511	1-136-163-00	FILM 0.068uF	5% 50V
C512	1-136-163-00	FILM 0.068uF	5% 50V
C601	1-124-927-11	ELECT 4.7uF	20% 100V
C602	1-124-927-11	ELECT 4.7uF	20% 100V
C603	1-164-070-11	CERAMIC 100PF	5% 50V(Germany)
C604	1-161-375-00	CERAMIC 0.0022uF	20% 50V
C605	1-124-477-11	ELECT 47uF	20% 25V

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



# MAIN

Ref. No.	Part No.	Description	Remark
C606	1-162-193-31	CERAMIC 3.3PF	10% 50V
C607	1-124-477-11	ELECT 47uF	20% 25V
C608	1-124-477-11	ELECT 47uF	20% 25V
C609	1-161-959-00	CERAMIC 22PF	10% 500V
C610	1-161-959-00	CERAMIC 22PF	10% 500V
C611	1-136-163-00	FILM 0.068uF	5% 50V
C612	1-136-163-00	FILM 0.068uF	5% 50V
C801	1-124-907-11	ELECT 10uF	20% 50V
C802	1-124-477-11	ELECT 47uF	20% 25V
C803	1-126-176-11	ELECT 220uF	20% 10V
C804	1-124-907-11	ELECT 10uF	20% 50V
C805	1-124-478-11	ELECT 100uF	20% 25V
C907	1-126-138-11	ELECT 4700uF	20% 50V
C908	1-126-138-11	ELECT 4700uF	20% 50V
C909	1-124-913-11	ELECT 470uF	20% 50V
C910	1-124-913-11	ELECT 470uF	20% 50V
C915	1-124-484-11	ELECT 220uF	20% 35V
C916	1-124-484-11	ELECT 220uF	20% 35V
C917	1-124-477-11	ELECT 47uF	20% 25V
C918	1-124-477-11	ELECT 47uF	20% 25V

## < CONNECTOR >

* CN301	1-564-512-11	PLUG, CONNECTOR 9P
* CN302	1-564-513-11	PLUG, CONNECTOR 10P
* CN501	1-564-507-11	PLUG, CONNECTOR 4P
* CN901	1-564-506-11	PLUG, CONNECTOR 3P

## < JACK >

CNJ101	1-568-321-11	SOCKET, CONNECTOR 10P
CNJ102	1-568-321-11	SOCKET, CONNECTOR 10P

## < DIODE >

D501	8-719-933-36	DIODE HZS6B1L
D502	8-719-987-63	DIODE 1N4148M
D503	8-719-987-63	DIODE 1N4148M
D504	8-719-987-63	DIODE 1N4148M
D601	8-719-933-36	DIODE HZS6B1L
D602	8-719-987-63	DIODE 1N4148M
D603	8-719-987-63	DIODE 1N4148M
D604	8-719-987-63	DIODE 1N4148M
D801	8-719-200-77	DIODE 10E2N
D802	8-719-987-63	DIODE 1N4148M
D803	8-719-987-63	DIODE 1N4148M
D905	8-719-302-38	DIODE RBV-602-01
D906	8-719-200-77	DIODE 10E2N
D907	8-719-200-77	DIODE 10E2N

Ref. No.	Part No.	Description	Remark
< IC >			
IC801	8-759-111-68	IC uPC1237HA	
IC902	8-759-231-56	IC TA7809S	
IC903	8-759-245-82	IC TA7909S	
< COIL >			
L501	1-420-872-00	COIL, AIR CORE	
L601	1-420-872-00	COIL, AIR CORE	
< TRANSISTOR >			
Q501	8-729-141-26	TRANSISTOR 2SC3622A-LK	
Q502	8-729-620-18	TRANSISTOR 2SA979-FG	
Q503	8-729-140-82	TRANSISTOR 2SA988-PAPAEA	
Q504	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q505	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q506	8-729-021-74	TRANSISTOR 2SA949-OY-TPE6 (AEP, E)	
Q507	8-729-209-15	TRANSISTOR 2SD2012	
Q508	8-729-021-73	TRANSISTOR 2SC2229-OY-TPE6 (AEP, E)	
Q509	8-729-020-82	TRANSISTOR 2SC3421-OY	
Q510	8-729-020-83	TRANSISTOR 2SA1358-OY	
Q511	8-729-021-64	TRANSISTOR 2SC4466-OPY	
Q512	8-729-021-65	TRANSISTOR 2SA1693-OPY	
Q513	8-729-140-84	TRANSISTOR 2SC1841-PAPAEA	
Q514	8-729-224-62	TRANSISTOR 2SK246-GR	
Q601	8-729-141-26	TRANSISTOR 2SC3622A-LK	
Q602	8-729-620-18	TRANSISTOR 2SA979-FG	
Q603	8-729-140-82	TRANSISTOR 2SA988-PAPAEA	
Q604	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q605	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q606	8-729-021-74	TRANSISTOR 2SA949-OY-TPE6 (AEP, E)	
Q607	8-729-209-15	TRANSISTOR 2SD2012	
Q608	8-729-021-73	TRANSISTOR 2SC2229-OY-TPE6 (AEP, E)	
Q609	8-729-020-82	TRANSISTOR 2SC3421-OY	
Q610	8-729-020-83	TRANSISTOR 2SA1358-OY	
Q611	8-729-021-64	TRANSISTOR 2SC4466-OPY	
Q612	8-729-021-65	TRANSISTOR 2SA1693-OPY	
Q613	8-729-140-84	TRANSISTOR 2SC1841-PAPAEA	
Q614	8-729-224-62	TRANSISTOR 2SK246-GR	
Q801	8-729-900-63	TRANSISTOR DTA124ES	
< RESISTOR >			
R501	1-249-423-11	CARBON 3.3K 5% 1/4W	
R502	1-249-417-11	CARBON 1K 5% 1/4W	
R503	1-249-421-11	CARBON 2.2K 5% 1/4W	
R504	1-249-393-11	CARBON 10 5% 1/4W (Germany)	
R505	1-249-415-11	CARBON 680 5% 1/4W	
R506	1-247-704-11	CARBON 220 5% 1/4W	
R507	1-247-704-11	CARBON 220 5% 1/4W	

**MAIN** **OUTLET** **P.J.**

Ref. No.	Part No.	Description	Remark
R508	1-249-490-11	CARBON	27K 5% 1/2W
R509	1-249-412-11	CARBON	390 5% 1/4W (AEP, E)
R509	1-249-413-11	CARBON	470 5% 1/4W (Germany)
R510	1-249-438-11	CARBON	56K 5% 1/4W
R511	1-249-438-11	CARBON	56K 5% 1/4W
R513	1-249-433-11	CARBON	22K 5% 1/4W
R514	1-249-429-11	CARBON	10K 5% 1/4W
R515	1-249-435-11	CARBON	33K 5% 1/4W
R516	1-247-692-11	CARBON	22 5% 1/4W
R517	1-249-425-11	CARBON	4.7K 5% 1/4W
R518	1-249-419-11	CARBON	1.5K 5% 1/4W
R519	1-247-692-11	CARBON	22 5% 1/4W
R520	1-247-700-11	CARBON	100 5% 1/4W
R521	1-247-700-11	CARBON	100 5% 1/4W
R522	1-247-745-11	CARBON	330 5% 1/2W
R523	1-249-455-11	CARBON	4.7 5% 1/4W
R524	1-249-455-11	CARBON	4.7 5% 1/4W
R525	1-216-361-00	METAL OXIDE	0.22 5% 2W
R526	1-216-361-00	METAL OXIDE	0.22 5% 2W
R527	1-247-704-11	CARBON	220 5% 1/4W
R528	1-249-426-11	CARBON	5.6K 5% 1/4W
R529	1-247-727-11	CARBON	10 5% 1/2W
R530	1-247-727-11	CARBON	10 5% 1/2W
R531	1-249-437-11	CARBON	47K 5% 1/4W
R536	1-249-409-11	CARBON	220 5% 1/4W
R537	1-249-417-11	CARBON	1K 5% 1/4W
R538	1-249-423-11	CARBON	3.3K 5% 1/4W
R601	1-249-423-11	CARBON	3.3K 5% 1/4W
R602	1-249-417-11	CARBON	1K 5% 1/4W
R603	1-249-421-11	CARBON	2.2K 5% 1/4W
R604	1-249-393-11	CARBON	10 5% 1/4W (Germany)
R605	1-249-415-11	CARBON	680 5% 1/4W
R606	1-247-704-11	CARBON	220 5% 1/4W
R607	1-247-704-11	CARBON	220 5% 1/4W
R608	1-249-490-11	CARBON	27K 5% 1/2W
R609	1-249-412-11	CARBON	390 5% 1/4W (AEP, E)
R609	1-249-413-11	CARBON	470 5% 1/4W (Germany)
R610	1-249-438-11	CARBON	56K 5% 1/4W
R611	1-249-438-11	CARBON	56K 5% 1/4W
R613	1-249-433-11	CARBON	22K 5% 1/4W
R614	1-249-429-11	CARBON	10K 5% 1/4W
R615	1-249-435-11	CARBON	33K 5% 1/4W
R616	1-247-692-11	CARBON	22 5% 1/4W
R617	1-249-425-11	CARBON	4.7K 5% 1/4W
R618	1-249-419-11	CARBON	1.5K 5% 1/4W
R619	1-247-692-11	CARBON	22 5% 1/4W
R620	1-247-700-11	CARBON	100 5% 1/4W
R621	1-247-700-11	CARBON	100 5% 1/4W
R622	1-247-745-11	CARBON	330 5% 1/2W

Ref. No.	Part No.	Description	Remark
R623	1-249-455-11	CARBON	4.7 5% 1/4W
R624	1-249-455-11	CARBON	4.7 5% 1/4W
R625	1-216-361-00	METAL OXIDE	0.22 5% 2W
R626	1-216-361-00	METAL OXIDE	0.22 5% 2W
R627	1-247-704-11	CARBON	220 5% 1/4W
R628	1-249-426-11	CARBON	5.6K 5% 1/4W
R629	1-247-727-11	CARBON	10 5% 1/2W
R630	1-247-727-11	CARBON	10 5% 1/2W
R631	1-249-438-11	CARBON	56K 5% 1/4W
R636	1-249-409-11	CARBON	220 5% 1/4W
R637	1-249-417-11	CARBON	1K 5% 1/4W
R638	1-249-423-11	CARBON	3.3K 5% 1/4W
R801	1-249-427-11	CARBON	6.8K 5% 1/4W
R802	1-249-441-11	CARBON	100K 5% 1/4W
R803	1-249-428-11	CARBON	8.2K 5% 1/4W
R804	1-249-439-11	CARBON	68K 5% 1/4W
R805	1-249-430-11	CARBON	12K 5% 1/4W
R806	1-216-433-00	METAL OXIDE	1.2K 5% 1W (AEP, E)
R806	1-215-869-11	METAL OXIDE	1K 5% 1W (Germany)
R905	1-249-385-11	CARBON	2.2 5% 1/6W
R906	1-249-385-11	CARBON	2.2 5% 1/6W
R913	1-216-478-11	METAL OXIDE	390 5% 3W (AEP, E)
R913	1-216-477-11	METAL OXIDE	270 5% 3W (Germany)
R916	1-215-915-11	METAL OXIDE	470 5% 3W (AEP, E)
R916	1-216-478-11	METAL OXIDE	390 5% 3W (Germany)
< VARIABLE RESISTOR >			
RV501	1-238-011-11	RES, ADJ, CARBON 470	(DC BIAS L-CH)
RV601	1-238-011-11	RES, ADJ, CARBON 470	(DC BIAS R-CH)
< RELAY >			
RY801	1-515-533-11	RELAY	
*****			
*	1-644-321-11	OUTLET BOARD (AEP, Germany)	*****
< JACK >			
△CNJ1	1-526-794-11	OUTLET, AC (AEP, Germany)	*****
*****			
*	A-4360-601-A	P. J. BOARD, COMPLETE (AEP, E)	*****
*	A-4360-614-A	P. J. BOARD, COMPLETE (Germany)	*****
*****			
< CAPACITOR >			
C101	1-162-284-31	CERAMIC 150PF	10% 50V (Germany)
C102	1-162-284-31	CERAMIC 150PF	10% 50V (Germany)

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

**P.J.**

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
C103	1-162-284-31	CERAMIC 150PF	10% 50V (Germany)	D706	8-719-987-63	DIODE 1N4148M	
C104	1-162-284-31	CERAMIC 150PF	10% 50V (Germany)			< IC >	
C105	1-162-284-31	CERAMIC 150PF	10% 50V (Germany)	IC101	8-759-636-74	IC M5218AP-22	
C106	1-162-284-31	CERAMIC 150PF	10% 50V (Germany)	IC102	8-759-801-01	IC LC4966	
C107	1-162-284-31	CERAMIC 150PF	10% 50V (Germany)	IC701	8-759-802-52	IC LC7818	
C108	1-162-285-31	CERAMIC 180PF	10% 50V			< JACK >	
C109	1-162-284-31	CERAMIC 150PF	10% 50V (Germany)	J101	1-573-141-21	JACK 2P (PHONO)	
C110	1-124-907-11	ELECT 10uF	20% 50V	* J102	1-573-142-21	JACK, PIN 4P (DAT/TAPE1)	
C111	1-124-477-11	ELECT 47uF	20% 25V	* J103	1-573-142-21	JACK, PIN 4P (TAPE2)	
C112	1-162-282-31	CERAMIC 100PF	10% 50V (AEP, E)	J104	1-568-978-11	JACK 6P (TUNER/CD/AUX)	
C112	1-162-286-31	CERAMIC 220PF	10% 50V (Germany)			< TRANSISTOR >	
C113	1-130-480-00	MYLAR 0.0056uF	5% 50V	Q101	8-729-900-36	TRANSISTOR DTC124ES	
C114	1-130-473-00	MYLAR 0.0015uF	5% 50V	Q102	8-729-900-63	TRANSISTOR DTA124ES	
C115	1-124-927-11	ELECT 4.7uF	20% 100V	Q701	8-729-119-76	TRANSISTOR 2SA1175-HFE	
C116	1-124-477-11	ELECT 47uF	20% 25V	Q702	8-729-900-63	TRANSISTOR DTA124ES	
C117	1-124-925-11	ELECT 2.2uF	20% 100V	Q703	8-729-900-63	TRANSISTOR DTA124ES	
C201	1-162-284-31	CERAMIC 150PF	10% 50V (Germany)	Q704	8-729-900-63	TRANSISTOR DTA124ES	
C202	1-162-284-31	CERAMIC 150PF	10% 50V (Germany)	Q705	8-729-900-63	TRANSISTOR DTA124ES	
C203	1-162-284-31	CERAMIC 150PF	10% 50V (Germany)	Q706	8-729-900-63	TRANSISTOR DTA124ES	
C204	1-162-284-31	CERAMIC 150PF	10% 50V (Germany)			< RESISTOR >	
C205	1-162-284-31	CERAMIC 150PF	10% 50V (Germany)	R101	1-249-409-11	CARBON 220 5% 1/4W (Germany)	
C206	1-162-284-31	CERAMIC 150PF	10% 50V (Germany)	R102	1-249-417-11	CARBON 1K 5% 1/4W	
C207	1-162-284-31	CERAMIC 150PF	10% 50V (Germany)	R103	1-249-409-11	CARBON 220 5% 1/4W (Germany)	
C208	1-162-285-31	CERAMIC 180PF	10% 50V	R104	1-249-417-11	CARBON 1K 5% 1/4W	
C209	1-162-284-31	CERAMIC 150PF	10% 50V (Germany)	R105	1-249-409-11	CARBON 220 5% 1/4W (Germany)	
C210	1-124-907-11	ELECT 10uF	20% 50V	R106	1-249-409-11	CARBON 220 5% 1/4W (Germany)	
C211	1-124-477-11	ELECT 47uF	20% 25V	R107	1-249-409-11	CARBON 220 5% 1/4W (Germany)	
C212	1-162-282-31	CERAMIC 100PF	10% 50V (AEP, E)	R108	1-249-418-11	CARBON 1.2K 5% 1/4W	
C212	1-162-286-31	CERAMIC 220PF	10% 50V (Germany)	R109	1-249-418-11	CARBON 1.2K 5% 1/4W (Germany)	
C213	1-130-480-00	MYLAR 0.0056uF	5% 50V	R110	1-249-441-11	CARBON 100K 5% 1/4W	
C214	1-130-473-00	MYLAR 0.0015uF	5% 50V	R111	1-249-416-11	CARBON 820 5% 1/4W	
C215	1-124-927-11	ELECT 4.7uF	20% 100V	R112	1-247-897-11	CARBON 560K 5% 1/4W	
C216	1-124-477-11	ELECT 47uF	20% 25V	R113	1-249-437-11	CARBON 47K 5% 1/4W	
C701	1-124-472-11	ELECT 470uF	20% 10V	R114	1-249-409-11	CARBON 220 5% 1/4W	
C702	1-161-494-00	CERAMIC 0.022uF	25V	R115	1-249-441-11	CARBON 100K 5% 1/4W	
C703	1-161-494-00	CERAMIC 0.022uF	25V	R116	1-249-441-11	CARBON 100K 5% 1/4W	
C704	1-124-477-11	ELECT 47uF	20% 25V	R117	1-249-433-11	CARBON 22K 5% 1/4W	
C705	1-164-159-11	CERAMIC 0.1uF	50V	R118	1-249-433-11	CARBON 22K 5% 1/4W	
		< CONNECTOR >		R119	1-249-441-11	CARBON 100K 5% 1/4W	
* CNP101	1-568-322-21	PLUG, CONNECTOR 10P		R201	1-249-409-11	CARBON 220 5% 1/4W (Germany)	
* CNP102	1-568-322-21	PLUG, CONNECTOR 10P		R202	1-249-417-11	CARBON 1K 5% 1/4W	
		< DIODE >		R203	1-249-409-11	CARBON 220 5% 1/4W (Germany)	
D701	8-719-200-77	DIODE 10E2N		R204	1-249-417-11	CARBON 1K 5% 1/4W	
D702	8-719-200-77	DIODE 10E2N		R205	1-249-409-11	CARBON 220 5% 1/4W (Germany)	
D703	8-719-987-63	DIODE 1N4148M		R206	1-249-409-11	CARBON 220 5% 1/4W (Germany)	
D704	8-719-987-63	DIODE 1N4148M					
D705	8-719-933-33	DIODE HZS6A1L					

Ref. No.	Part No.	Description	Remark
R207	1-249-409-11	CARBON 220 5% 1/4W	(Germany)
R208	1-249-418-11	CARBON 1.2K 5% 1/4W	
R209	1-249-418-11	CARBON 1.2K 5% 1/4W	(Germany)
R210	1-249-441-11	CARBON 100K 5% 1/4W	
R211	1-249-416-11	CARBON 820 5% 1/4W	
R212	1-247-897-11	CARBON 560K 5% 1/4W	
R213	1-249-437-11	CARBON 47K 5% 1/4W	
R214	1-249-409-11	CARBON 220 5% 1/4W	
R215	1-249-441-11	CARBON 100K 5% 1/4W	
R216	1-249-441-11	CARBON 100K 5% 1/4W	
R301	1-249-405-11	CARBON 100 5% 1/4W	
R401	1-249-405-11	CARBON 100 5% 1/4W	
R701	1-247-901-11	CARBON 820K 5% 1/4W	
R702	1-249-433-11	CARBON 22K 5% 1/4W	
R703	1-249-441-11	CARBON 100K 5% 1/4W	
R704	1-249-433-11	CARBON 22K 5% 1/4W	
R705	1-249-429-11	CARBON 10K 5% 1/4W	
R706	1-249-429-11	CARBON 10K 5% 1/4W	
R707	1-249-433-11	CARBON 22K 5% 1/4W	
R732	1-249-433-11	CARBON 22K 5% 1/4W	

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\* A-4360-603-A PANEL BOARD, COMPLETE  
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< CAPACITOR >

C301	1-130-481-00	MYLAR 0.0068uF 5% 50V	
C302	1-130-474-00	MYLAR 0.0018uF 5% 50V	
C303	1-136-159-00	FILM 0.033uF 5% 50V	
C304	1-130-479-00	MYLAR 0.0047uF 5% 50V	
C401	1-130-481-00	MYLAR 0.0068uF 5% 50V	
C402	1-130-474-00	MYLAR 0.0018uF 5% 50V	
C403	1-136-159-00	FILM 0.033uF 5% 50V	
C404	1-130-479-00	MYLAR 0.0047uF 5% 50V	
C709	1-161-494-00	CERAMIC 0.022uF 25V	
C710	1-162-284-31	CERAMIC 150PF 10% 50V	
C711	1-162-284-31	CERAMIC 150PF 10% 50V	
C712	1-124-477-11	ELECT 47uF 20% 25V	
C713	1-161-494-00	CERAMIC 0.022uF 25V	
C717	1-161-494-00	CERAMIC 0.022uF 25V	
C718	1-124-477-11	ELECT 47uF 20% 25V	

< CONNECTOR >

CNP301	1-695-415-11	PIN, CONNECTOR (PC BOARD) 10P	
CNP302	1-695-415-11	PIN, CONNECTOR (PC BOARD) 10P	
* CNP702	1-568-320-11	PLUG, CONNECTOR 8P	

< DIODE >

D713	8-719-987-63	DIODE 1N4148M	
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Ref. No.	Part No.	Description	Remark
D714	8-719-987-63	DIODE 1N4148M	
D715	8-719-987-63	DIODE 1N4148M	
D716	8-719-987-63	DIODE 1N4148M	
D717	8-719-987-63	DIODE 1N4148M	
D718	8-719-987-63	DIODE 1N4148M	

D728	8-719-987-63	DIODE 1N4148M	
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< IC >

IC702	8-759-077-08	IC M50761-291P	
IC704	8-759-820-62	IC LB1639	

< TRANSISTOR >

Q707	8-729-904-39	TRANSISTOR DTC114TS	
Q708	8-729-904-39	TRANSISTOR DTC114TS	
Q709	8-729-900-63	TRANSISTOR DTA124ES	
Q710	8-729-806-30	TRANSISTOR 2SC4048	
Q711	8-729-900-80	TRANSISTOR DTC114ES	

Q712	8-729-620-05	TRANSISTOR 2SC2603-EF	
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< RESISTOR >

R302	1-249-421-11	CARBON 2.2K 5% 1/4W	
R303	1-249-426-11	CARBON 5.6K 5% 1/4W	
R304	1-247-903-00	CARBON 1M 5% 1/4W	
R305	1-247-903-00	CARBON 1M 5% 1/4W	
R306	1-247-852-11	CARBON 7.5K 5% 1/4W	

R308	1-247-870-11	CARBON 43K 5% 1/4W	
R309	1-249-436-11	CARBON 39K 5% 1/4W	
R310	1-249-437-11	CARBON 47K 5% 1/4W	
R402	1-249-421-11	CARBON 2.2K 5% 1/4W	
R403	1-249-426-11	CARBON 5.6K 5% 1/4W	
R404	1-247-903-00	CARBON 1M 5% 1/4W	
R405	1-247-903-00	CARBON 1M 5% 1/4W	
R406	1-247-852-11	CARBON 7.5K 5% 1/4W	
R408	1-247-870-11	CARBON 43K 5% 1/4W	
R409	1-249-436-11	CARBON 39K 5% 1/4W	

R410	1-249-437-11	CARBON 47K 5% 1/4W	
R719	1-249-433-11	CARBON 22K 5% 1/4W	
R720	1-249-433-11	CARBON 22K 5% 1/4W	
R721	1-247-903-00	CARBON 1M 5% 1/4W	
R722	1-249-423-11	CARBON 3.3K 5% 1/4W	

R723	1-249-429-11	CARBON 10K 5% 1/4W	
R724	1-249-417-11	CARBON 1K 5% 1/4W	
R725	1-249-417-11	CARBON 1K 5% 1/4W	
R726	1-249-393-11	CARBON 10 5% 1/4W	
R727	1-249-425-11	CARBON 4.7K 5% 1/4W	

R729	1-247-752-11	CARBON 1K 5% 1/2W	
R730	1-249-421-11	CARBON 2.2K 5% 1/4W	
R731	1-249-421-11	CARBON 2.2K 5% 1/4W	

**PANEL**   **SP.SW.**   **SP.TM.**   **TRANSFORMER(A)**

**TRANSFORMER(B)**   **VOL**

Ref. No.	Part No.	Description	Remark
R733	1-249-441-11	CARBON 100K 5% 1/4W	
R734	1-249-425-11	CARBON 4.7K 5% 1/4W	
R736	1-249-419-11	CARBON 1.5K 5% 1/4W	
< VARIABLE RESISTOR >			
RV301	1-238-513-11	RES, VAR, CARBON 150K/150K (BALANCE)	
RV302	1-238-514-11	RES, VAR 250K/250K (TREBLE)	
RV303	1-238-515-11	RES, VAR, CARBON 520K/520K (BASS)	
< SWITCH >			
S301	1-572-642-11	SWITCH, PUSH (1 KEY)(SOURCE DIRECT)	
< CRYSTAL >			
X701	1-577-077-11	OSCILLATOR, CERAMIC (400KHz)	
*****			
*	1-644-316-11	SP. SW. BOARD	
*****			
< SWITCH >			
S501	1-692-168-11	SWITCH, ROTARY SLIDE (SPEAKER)	
*****			
*	1-644-319-11	SP. TM. BOARD	
*****			
< CAPACITOR >			
C513	1-136-157-00	FILM 0.022uF 5% 50V (Germany)	
C514	1-136-157-00	FILM 0.022uF 5% 50V (Germany)	
C515	1-136-157-00	FILM 0.022uF 5% 50V (Germany)	
C516	1-136-157-00	FILM 0.022uF 5% 50V (Germany)	
C517	1-136-157-00	FILM 0.022uF 5% 50V (Germany)	
C613	1-136-157-00	FILM 0.022uF 5% 50V (Germany)	
C614	1-136-157-00	FILM 0.022uF 5% 50V (Germany)	
C615	1-136-157-00	FILM 0.022uF 5% 50V (Germany)	
C616	1-136-157-00	FILM 0.022uF 5% 50V (Germany)	
C617	1-136-157-00	FILM 0.022uF 5% 50V (Germany)	
< CONNECTOR >			
* CN502	1-564-509-11	PLUG, CONNECTOR 6P	
< RESISTOR >			
R532	1-247-727-11	CARBON 10 5% 1/2W (Germany)	
R533	1-247-727-11	CARBON 10 5% 1/2W (Germany)	
R632	1-247-727-11	CARBON 10 5% 1/2W (Germany)	
R633	1-247-727-11	CARBON 10 5% 1/2W (Germany)	
< TERMINAL >			
TM501	1-537-235-11	TERMINAL BOARD (SP) (AE1, E)	

Ref. No.	Part No.	Description	Remark
TM501	1-537-227-11	TERMINAL BOARD (SP) (AE2)	
TM501	1-537-228-11	TERMINAL BOARD (SP) (Germany)	
*****			
*	1-644-318-11	TRANSFORMER (A) BOARD	
*****			
< CONNECTOR >			
* CN4	1-580-633-11	PIN, CONNECTOR 5P (E)	
< FUSE >			
△F1	1-532-259-00	FUSE, TIME-LAG (T1. 6A)	
△F3	1-532-259-00	FUSE, TIME-LAG (T1. 6A) (E)	
*****			
*	1-644-320-11	TRANSFORMER (B) BOARD	
*****			
< CAPACITOR >			
C905	1-136-165-00	FILM 0.1uF 5% 50V	
C906	1-136-165-00	FILM 0.1uF 5% 50V	
*****			
*	1-644-313-11	VOL BOARD	
*****			
< CAPACITOR >			
C719	1-136-165-00	FILM 0.1uF 5% 50V	
< VARIABLE RESISTOR >			
RV304	1-241-921-11	RES, VAR, CARBON 120K/120K (VOLUME)	
*****			
MISCELLANEOUS			
*****			
67	1-569-007-11	ADAPTER, CONVERSION 2P (E)	
△CNJ1	1-526-696-31	OUTLET, AC (3 GANG) (E)	
△CP1	1-558-943-41	CORD, POWER (E)	
△CP1	1-575-651-21	CORD, POWER (AEP, Germany)	
△CP1	1-575-653-21	CORD, POWER (E)	
△F1	1-532-259-00	FUSE, TIME-LAG (T1. 6A)	
△F2	1-532-286-00	FUSE, TIME-LAG (T2. 5A) (AEP, Germany)	
△F3	1-532-259-00	FUSE, TIME-LAG (T1. 6A) (E)	
△S901	1-571-515-11	SWITCH, POWER VOLTAGE SELECTION (E)	
△T1	1-423-625-11	TRANSFORMER, POWER (AEP)	
△T1	1-423-627-11	TRANSFORMER, POWER (Germany)	
△T1	1-423-649-11	TRANSFORMER, POWER (E)	
*****			

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

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Remark</u>
ACCESSORIES & PACKING MATERIALS			
*****			
	1-693-131-11	REMOTE COMMANDER (RM-S311)	
	2-181-754-01	COVER, BATTERY	
	3-756-897-11	MANUAL, INSTRUCTION (AEP, E) (ENGLISH, FRENCH, SPANISH, PORTUGUESE)	
	3-756-897-41	MANUAL, INSTRUCTION (AEP) (GERMAN, DUTCH, SWEDISH, ITALIAN)	
	3-756-897-51	MANUAL, INSTRUCTION (Germany) (GERMAN)	
*	4-945-810-02	CUSHION (LEFT)	
*	4-945-811-01	CUSHION (RIGHT)	
*	4-958-313-01	INDIVIDUAL CARTON	

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**HARDWARE LIST**

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#1	7-682-548-09	SCREW +B 3X8	
#2	7-685-647-79	SCREW +BVTP 3X10 TYPE2 IT-3	
#3	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S	
#4	7-685-648-79	SCREW +BVTP 3X12 TYPE2	
#5	7-621-849-00	SCREW (BV/RING)	
#6	7-682-560-04	SCREW +BVTT 4X6 (S)	
#7	7-685-871-01	SCREW +BVTT 3X6 (S)	