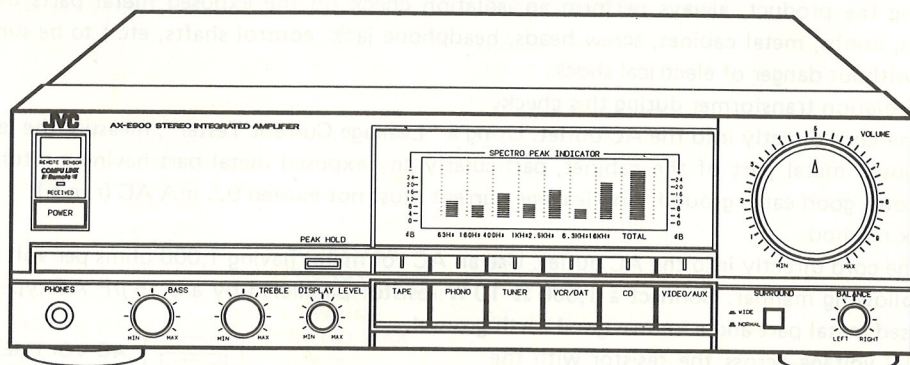


# JVC

## SERVICE MANUAL

### STEREO INTEGRATED AMPLIFIER

MODEL No. **AX-E900BK**



## Contents

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# Safety Precautions

1. The design of this product contains special hardware and may circuits and components specially for safety purposes. For continued protection, no changes should be made to the original design unless authorized in writing by the manufacturer. Replacement parts must be identical to those used in the original circuits. Service should be performed by qualified personnel only.
2. Alterations of the design or circuitry of the product should not be made. Any design alterations of the product should not be made. Any design alterations or additions will void the manufacturer's warranty and will further relieve the manufacturer of responsibility for personal injury or property damage resulting therefrom.
3. Many electrical and mechanical parts in the product have special safety-related characteristics. These characteristics are often not evident from visual inspection nor can the protection afforded by them necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in the Parts List of Service Manual. Electrical components having such features are identified by shading on the schematics and by (  $\triangle$  ) on the Parts List in the Service Manual. The use of a substitute replacement which does not have the same safety characteristics as the recommended replacement part shown in the Parts List of Service Manual may create shock, fire, or other hazards.
4. The leads in the products are routed and dressed with ties, clamps, tubings, barriers and the like to be separated from live parts, high temperature parts, moving parts and/or sharp edges for the prevention of electric shock and fire hazard. When service is required, the original lead routing and dress should be observed, and it should be confirmed that they have been returned to normal, after re-assembling.

## 5. Leakage current check (Electrical shock hazard testing)

After re-assembling the product, always perform an isolation check on the exposed metal parts of the product (antenna terminals, knobs, metal cabinet, screw heads, headphone jack, control shafts, etc.) to be sure the product is safe to operate without danger of electrical shock.

Do not use a line isolation transformer during this check.

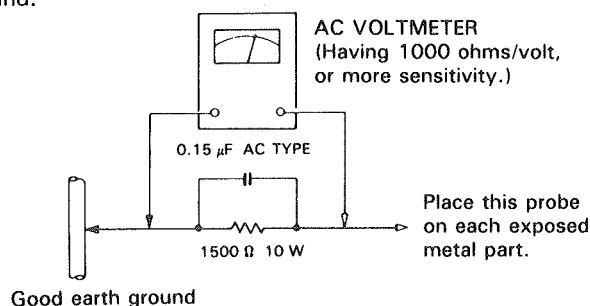
- Plug the AC line cord directly into the AC outlet. Using a "Leakage Current Tester", measure the leakage current from each exposed metal part of the cabinet, particularly any exposed metal part having a return path to the chassis, to a known good earth ground. Any leakage current must not exceed 0.5 mA AC (r.m.s.).

### • Alternate check method

Plug the AC line cord directly into the AC outlet. Use an AC voltmeter having 1,000 ohms/volt or more sensitivity in the following manner. Connect a 1,500  $\Omega$  10 W resistor paralleled by a 0.15  $\mu$ F AC-type capacitor between an exposed metal part and a known good earth ground.

Measure the AC voltage across the resistor with the AC voltmeter.

Move the resistor connection to each exposed metal part, particularly any exposed metal part having a return path to the chassis, and measure the AC voltage across the resistor. Now, reverse the plug in the AC outlet and repeat each measurement. Any voltage measured must not exceed 0.75 V AC (r.m.s.). This corresponds to 0.5 mA AC (r.m.s.).



# Warning

1. This equipment has been designed and manufactured to meet international safety standards.
2. It is the legal responsibility of the repairer to ensure that these safety standards are maintained.
3. Repairs must be made in accordance with the relevant safety standards.
4. It is essential that safety critical components are replaced by approved parts.
5. If mains voltage selector is provided, check setting for local voltage.

# Specifications

## AX-E900BK

### OVERALL CHARACTERISTICS

#### Output power

70 Watts per channel into 8 ohms at 1 kHz (DIN).

65 watts per channel, min. RMS, both channels driven, into 8 ohms from 40 Hz to 20 kHz, with no more than 0.9% total harmonic distortion.

35 watts per channel, min. RMS, both channels driven, into 8 ohms at 1 kHz with no more than 0.08% total harmonic distortion. (measured by JVC Audio Analyzer System)

Power band width : 10 Hz — 30 kHz (IHF, 0.9%, 8 ohms both channels driven)

Frequency response : 5 Hz — 80 kHz +1, —3 dB (8 ohms)

#### Input terminals

Input sensitivity/impedance (1 kHz)

PHONO : 3.0 mV/47 kohms  
CD/AUX/ : 150 mV/47 kohms

TUNER/TAPE

#### Signal-to-noise ratio

PHONO : 70 dB ('66 IHF)

CD/AUX/ : 98 dB ('66 IHF)

TUNER/TAPE

PHONO : 67 dB (DIN)

CD/AUX/ : 68 dB (DIN)

TUNER/TAPE

#### Tone controls

TREBLE: +8 ±1 dB  
—8 ±1 dB  
(at 10 kHz)  
BASS: +8 ±1 dB  
—8 ±1 dB  
(at 100 Hz)

## EQUALIZER

### PHONO overload

#### capacity

PHONO : 100 mV (0.02% THD)

### PHONO RIAA

#### deviation

PHONO : ±0.8 dB (20 Hz — 20 kHz)

### Recording output

#### Output level

TAPE REC : 150 mV

## GENERAL

### Dimensions

: 360 (W) x 103 (H) x  
307 (D) mm  
(14-3/16" x 4-1/16" x  
12-1/8")

### Weight

: 5.7 kg (12.6 lbs.)

Design and specifications subject to change without notice.

## AX-E700BK

### OVERALL CHARACTERISTICS

#### Output power

50 Watts per channel into 8 ohms at 1 kHz (DIN).

45 watts per channel, min. RMS, both channels driven, into 8 ohms from 40 Hz to 20 kHz, with no more than 0.9% total harmonic distortion.

25 watts per channel, min. RMS, both channels driven, into 8 ohms at 1 kHz with no more than 0.08% total harmonic distortion. (measured by JVC Audio Analyzer System)

Power band width : 10 Hz — 30 kHz (IHF, 0.9%, 8 ohms both channels driven)

Frequency response : 5 Hz — 80 kHz +1, —3 dB (8 ohms)

#### Input terminals

Input sensitivity/impedance (1 kHz)

PHONO : 3.0 mV/47 kohms  
CD/AUX/ : 150 mV/47 kohms

TUNER/TAPE

#### Signal-to-noise ratio

PHONO : 70 dB ('66 IHF)

CD/AUX/ : 98 dB ('66 IHF)

TUNER/TAPE

PHONO : 67 dB (DIN)

CD/AUX/ : 68 dB (DIN)

TUNER/TAPE

#### Tone controls

TREBLE: +8 ±1 dB  
—8 ±1 dB  
(at 10 kHz)  
BASS: +8 ±1 dB  
—8 ±1 dB  
(at 100 Hz)

## EQUALIZER

### PHONO overload

#### capacity

PHONO : 100 mV (0.02% THD)

### PHONO RIAA

#### deviation

PHONO : ±0.8 dB (20 Hz — 20 kHz)

### Recording output

#### Output level

TAPE REC : 150 mV

## GENERAL

### Dimensions

: 360 (W) x 103 (H) x  
307 (D) mm  
(14-3/16" x 4-1/16" x  
12-1/8")

### Weight

: 5.2 kg (11.5 lbs.)

Design and specifications subject to change without notice.

## POWER SPECIFICATIONS

| Areas              | Line Voltage & Frequency                          | Power Consumption |           |
|--------------------|---------------------------------------------------|-------------------|-----------|
|                    |                                                   | AX-E900BK         | AX-E700BK |
| U.K.               | AC 240 V ~, 50 Hz                                 | 394 watt          | 330 watts |
| Australia          |                                                   |                   |           |
| Continental Europe | AC 220 V ~, 50 Hz                                 | 180 watts         | 153 watts |
| Saudi Arabia       | AC 127 / 220 V ~ selectable, 50/60 Hz             |                   |           |
| Other areas        | AC 110 / 120 / 220 / 240 V ~ selectable, 50/60 Hz |                   |           |

# FRONT PANEL

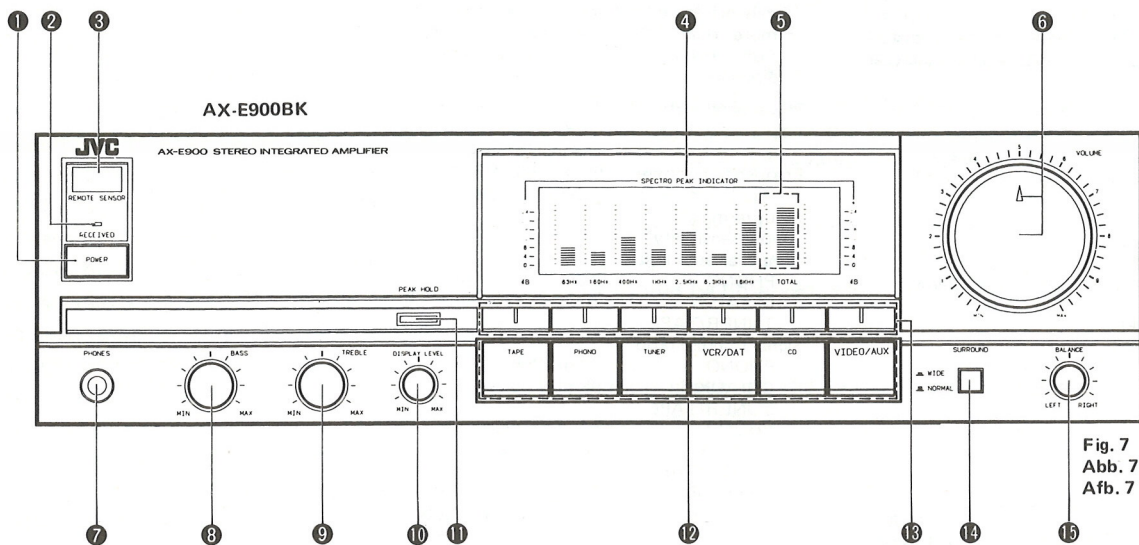


Fig. 7  
Abb. 7  
Afb. 7

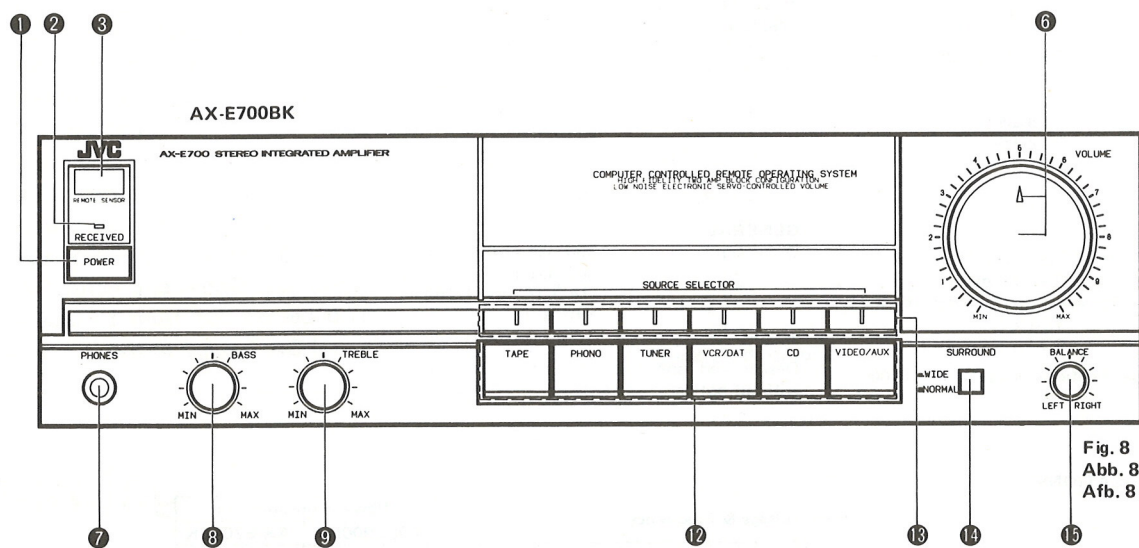


Fig. 8  
Abb. 8  
Afb. 8

## OPERATION

### ① POWER

**ON ( — ):** Press this button to turn the power on.  
**OFF ( ■ ):** Set to this position to turn the power off.

#### Notes:

- An electronic source selector is used in this unit. When the POWER button is first switched on, two or more sources or no source at all may be selected. Make sure to select correct source by pressing the desired source button.
- If the POWER button is pressed repeatedly on and off too quickly, the same phenomenon as described above will occur.

### ② RECEIVED indicator

This indicator lights when information is being received from the remote control unit.

### ③ REMOTE SENSOR

This window receives signals from the remote control unit. Do not obstruct it.

### ④ Spectro peak indicator (AX-E900BK only)

The output signal levels are analyzed for 7 frequency bands. The Spectro peak indicator shows the output signal level in each frequency band. For ease of viewing, the indicator is designed so that its response time is faster when rising and slower when decaying.

### ⑤ TOTAL-Spectro-Peak-indicator (AX-E900BK only)

This indicator indicates the output signal level.

### ⑥ VOLUME and INDICATOR

Controls the volume of the speakers and headphones. This indicator lights when the POWER button is pressed on.

### ⑦ PHONES (headphone jack)

Plug stereo headphones into this jack for private listening.

### ⑧ BASS

Turn clockwise to boost bass response and counterclockwise to decrease it.

### ⑨ TREBLE

Turn clockwise to boost treble response and counterclockwise to decrease it.

### ⑩ DISPLAY LEVEL (AX-E900BK only)

Adjust the relative display position on the Spectro peak indicator so that especially weak or strong level signals can be displayed in an easy-to-see position. This volume has no effect on the output sound level.

### ⑪ PEAK HOLD (AX-E900BK only)

This button is pressed to enable the holding of the peak values of each of the Spectro peak indicator for about 3 seconds.

### ⑫ SOURCE SELECTOR

**TAPE:** Press to listen to a cassette deck connected to the TAPE terminals.

**PHONO:** Press to listen to a turntable connected to the PHONO terminals.

**TUNER:** Press this button to listen to a radio broadcast.

**VCR/DAT:** Press this button to listen to the sound of the VCR or DAT deck connected to the VCR/DAT terminals.

**CD:** Press this button to listen to a compact disc player connected to the CD terminals.

**VIDEO/AUX:** Press this button to listen to the sound of the VIDEO DISC etc. connected to the VIDEO/AUX terminals.

### ⑬ SOURCE indicator

The indicator light corresponding to the pressed source selector button.

### ⑭ SURROUND

Press this button to WIDE ( — ) with a stereo signal for an expanded sound field. Usually set this switch to NORMAL ( ■ ).

#### Notes:

- When a 4 channel surround music is played with surround speaker connected, switch over the speaker connection switch of the rear panel to ( **A+B** ) side before hand.
- However, when the audio source is monaural, no surround effect will be obtained.
- Sound from the surround speakers cannot be recorded on the tape.

### ⑮ BALANCE

Use to adjust the balance between the left and right speakers.

This knob is normally set to the center click position.

#### Before use

Connect each component correctly, then plug the power cord to the AC wall outlet.

#### Basic operation

1. Press the POWER button on.
2. Proceed through the steps described below.
3. Adjust the volume and balance for the desired sound levels.
4. Use the BASS and TREBLE volumes to obtain the tone you wish to hear.
5. When the SEA graphic equalizer is connected to the unit, use it to adjust the tone quality.

#### Listening to broadcasts

1. Press the TUNER button so that the TUNER indicator lights.
2. Operate the Tuner as described in its Operation Manual.

#### Listening to records

1. Press the PHONO button. The PHONO indicator will light.
2. Operate the turntable as described in its operation manual.

#### Notes:

- Use a turntable with an MM cartridge.
- If your turntable has a separate ground lead, connect it to the GND terminal.

#### Listening to compact discs

1. Press the CD button. The CD indicator will light.
2. Operate the CD player as described in its operation manual.

#### Listening to tapes

1. Press the TAPE button so that the TAPE indicator lights.
2. Operate the cassette deck for playback as described in its operation manual.

#### Listening to DAT

1. Press the VCR/DAT button so that the VCR/DAT indicator lights.
2. Operate the DAT deck as described in its operation manual.

#### Listening to VIDEO DISC etc.

1. Press the VIDEO/AUX button so that the VIDEO/AUX indicator lights.
2. Operate the video disc player etc. as described in its operation manual.

#### Listening to a VCR

1. Press the VCR/DAT button so that the VCR/DAT indicator lights.
2. Operate the VCR for playback as described in its operation manual.

#### Recording tapes

##### — Recording from records —

1. Press the PHONO button so that the PHONO indicator lights.
2. Operate the turntable.
3. Operate the cassette deck for recording.

#### Note:

- The sound you hear from the speakers or headphones is the source sound, not the recording on the tape.

##### — Recording from other sources (CD, TUNER, VCR, VIDEO DISC, etc.) —

Press the button corresponding to the source to be recorded. All other operations are identical to those when recording from records.

#### Using stereo headphones

Stereo headphones can be plugged into the front panel jack. The signal from this jack is independent of the speakers.

Plug stereo headphones into this jack for private listening.

# REMOTE CONTROL UNIT (RM-SE900)

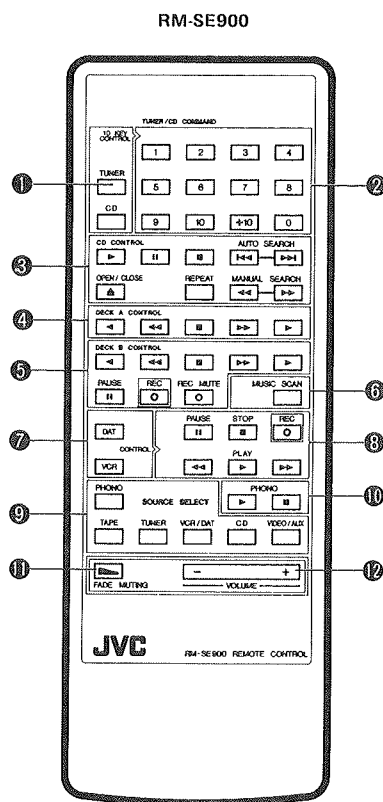


Fig. 12

## 10 KEY CONTROL

**TUNER** (1): Press this button to use the 10 key (2) as a tuner 10 key operation button.

**CD** (1): Press this button to use the 10 key (2) as a CD 10 key operation button.

## 2 10 KEY (1 ~ 10, 0, +10)

These buttons are for directly accessing the FM/AM preset stations, and for selecting the CD track No. Use this button to assign the CH numbers or track numbers (1 ~ 10) of a disc which is to be played or programmed. To assign, a track number greater than 10, use a combination of the +10 button and numeric button.

Examples:

5: Press numeric button [5].

10: Press numeric button [10].

17: Press the +10 button once and numeric button [7].

20: Press the +10 button once and numeric button [10]. Or press the [0] button after pressing the +10 button twice.

25: Press the +10 button twice and numeric button [5].

## 3 CD CONTROL

**Play** (▶): Press this button to play a compact disc.

**Pause** (⏸): Press this button to temporarily stop play. To start play again, press the Play (▶) button.

**Stop** (■): Press this button to stop play. The standby mode will be entered.

## AUTO SEARCH (◀◀) (backward):

Press once during play to return the unit to the start of the current tune. Press twice to return the unit to the start of the previous tune. Each time this button is pressed, the unit moves backward by one selection. Keeping this button continuously pressed will return the unit to the beginning of the disc. Pressing this button to return to the beginning of the disc.

**AUTO SEARCH** (▶▶) (forward): Press once during play to move the unit to the start of the next tune. Each time this button is pressed, the unit moves forward by one tune.

**OPEN/CLOSE** (⏏): Press this button to open or close the disc tray. Pressing this button during play stops play and the disc tray slides out.

**REPEAT**: Press this button to play the CD repeatedly.

**MANUAL SEARCH** (◀◀) (backward): Press to search for the desired selection in the reverse direction.

**MANUAL SEARCH** (▶▶) (forward): Press to search for the desired selection in the forward direction. Sound will be heard at a reduced level while search is taking place from the play mode.

## 4 DECK A CONTROL

(◀◀): Press to quickly wind the tape from the right to the left reel.

(■): Press to stop the tape.

(▶▶): Press to quickly wind the tape from the left to the right reel.

(▶): Press to play the tape in the forward direction.

(◀): Press to play the reverse direction of the tape.

## 5 DECK B CONTROL

For (◀◀), (■), (▶▶), (◀), and (▶), the operation is the same as that for DECK A.

**PAUSE** (⏸): Press to temporarily stop the play or recording modes. To restart, press the play button.

**REC** (Ⓜ): To record, press the PLAY (▶) button while holding down this button.

**REC MUTE** (Ⓜ): Press this button to create a non-recorded section between songs.

## 6 MUSIC SCAN ( )

Press this button together with the (▶▶) or (◀◀) of tape deck A or B to briefly play the beginning of each selection.

## 7 CONTROL

**VCR** (V): Press this button to operate a VCR which is connected to the VCR/DAT terminals.

**DAT** (D): Press this button to operate a DAT deck which is connected to the VCR/DAT terminals.

Note:

• Connect the remote cable of the digital audio tape deck to the COMPU LINK-1/ SYNCHRO terminal of this unit.

## 8 VCR/DAT CONTROL (VCR or DAT)

**PAUSE** (⏸): Press this button to pause during playback or recording. To cancel PAUSE, press the PLAY button.

**STOP** (■): Press this button to stop operation.

**REC** (Ⓜ): To record, press the PLAY (▶) button while holding down this button.

(◀◀): DAT DECK: Press this button to quickly wind the tape from the right to left reel.

VCR: From the stop mode, press this button to rewind tape. From the playback mode press this button for to view high speed reverse play. (Shuttle search.)

**PLAY** (▶): Press this button to play a tape.

(▶▶): DAT DECK: Press this button to quickly wind the tape from the left to right reel.

VCR: From the stop mode, press this button to take VCR to the fast forward mode. From the playback mode, press this button to view high speed forward play. (Shuttle search.)

## 9 SOURCE SELECT

This function is similar to the 12 SOURCE SELECTOR at page 17. For components with COMPU LINK, the selected unit will start playing while the previously selected unit stops playing.

For components without the COMPU LINK feature, such as a VCR or a video disc player, only the source selector changes in response to the button pressed.

## 10 PHONO

(▶): Press this button to start playing a record on the turntable.

(■): Press this button to stop playing a record.

## 11 FADE MUTING ( )

Pressing this button to lower the volume in steps. The volume continues to decrease each time this button is pressed.

## 12 VOLUME ( - + )

Press the + button to increase the volume and the - button to decrease it. When these buttons are pressed, the VOLUME knob on the amplifier rotates to register the new volume level and during rotating the knob's indicator blinks.

## HOW TO USE THE REMOTE CONTROL UNIT (RM-SE900)

- The "COMPU LINK" component system is composed of the following: Tuner, CD player, Cassette deck, Record player and DAT deck. All interconnect to the COMPU LINK-1/SYNCHRO terminals.
- Each "COMPU LINK" component can be put into operation by merely operating the appropriate button on the remote control unit. It is not necessary to press the source selector button on the amplifier.

Example:

While a CD is playing you press the tape play button. The CD will stop playing and the tape playback will start.

### Note:

- If the component already in playback happens to be a device without the "COMPU LINK" feature, it will keep on playing. To stop a COMPU LINK device (which may be a VCR) press its STOP button.

- The remote control unit works best when it is aimed straight at the remote sensor of the amplifier. (The control unit is model RM-SE900 and the amplifier is model AX-E900BK or AX-E700BK.)

If the signal sent by the remote control unit is received by two or more components, the components may hesitate to start up. If this should occur keep pressing the button until all of the target components start. If the target components are far apart, they may not be able to receive the remote control signals simultaneously, therefore some of them may remain inactive. In such a case, re-aim the control unit to the remote sensor of each inactive component and press the appropriate button. (RM-SE900)

- The remote control unit has no memory capability. Thus, memory programming, if desired, must be done at the component level, which can be either Tuner, CD player or DAT player.

### To listen to AM or FM radio broadcasts (Fig. 13)

- 10 KEY CONTROL** (1) **TUNER**: Pressing this button sets these buttons in FM or AM mode, 10 KEY: (1 ~ 10, +10, 0).

### Note:

- The amplifier source selector automatically switches over to "TUNER".

- (2) 1 ~ 10, +10, 0: Of the preset channels, programmed in the tuner, check the number of the channel of your choice, and press the button corresponding to that channel number.

Examples:

Channels 1 ~ 10:

For Channel 5, press numeric button 5.

For Channel 10, press numeric button 10.

Channel 17: Press +10 button once and then numeric button 7.

Channel 20: Press +10 button once and then numeric button 10. Or press the 0 button after pressing the +10 button twice.

Channel 25: Press +10 button twice and then numeric button 5.

### FM/AM broadcast

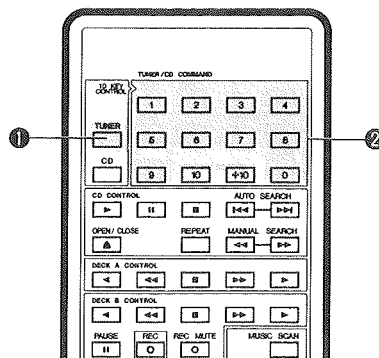


Fig. 13

### To play CD (Fig. 14)

**10 KEY CONTROL** (1) **CD**: To select a track by number on the CD, press the **CD** button first, then press the 10 KEY (1 ~ 10, +10, 0) (2) buttons for the desired selection.

- 3 CD CONTROL** (▶): Press this button to start play.

- 3** (■): Press this button to stop play.

- 3 AUTO SEARCH** (◀▶): Pressing this button interrupts the selection being played and returns to the beginning of that selection.

**AUTO SEARCH** (▶▶): Pressing this button interrupts the play and brings the CD to the start of the next selection.

- 4 MANUAL SEARCH** (◀◀): Press this button for fast reverse of the CD during play or pause modes.

**MANUAL SEARCH** (▶▶): Press this button to fast forward the CD during play or pause modes.

- 5 REPEAT** (□): Press this button to repeat the play of the whole disc or of the selected tune.

- 6 OPEN/CLOSE** (▲): Press this button to load or unload the disc platter.

### CD player

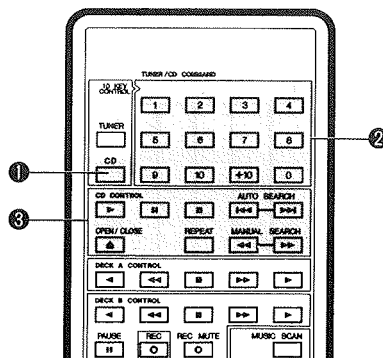


Fig. 14

### To play cassette deck

#### DECK A CONTROL (Fig. 15)

- 4** (◀): Press to play the reverse direction of the tape.
- 4** (◀◀): Press to quickly wind the tape from the right to the left reel.
- 4** (■): Press to stop the tape.
- 4** (▶): Press to play the tape in the forward direction.
- 4** (▶▶): Press to quickly wind the tape from the left to the right reel.

#### DECK B CONTROL (Fig. 15)

- 4** (◀), **4** (◀◀), **4** (■), **4** (▶▶), **4** (▶): The functions of these buttons are the same as those of DECK A.
- 4** (||): Press this button to pause tape running. Press this button simultaneously with the **REC** (○) button to allow the deck to enter the recording wait status. Press the **◀** or **▶** button to cancel pause and to start recording.
- REC** (○) (5) (○): Press either the **◀** or **▶** button while pressing this button to start recording.
- REC MUTE** (○) (6) (○): Press this button to omit unwanted recording during the recording mode or to insert a blank space between programs.

#### MUSIC SCAN

- 6** (□): Press either the **◀◀** or **▶▶** button of DECK A or DECK B simultaneously with this button to find the start of a program.

### Note:

- For details, see the "instruction of cassette deck".

### Cassette deck

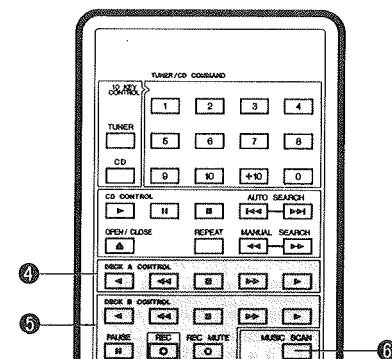


Fig. 15

# To play DAT or VCR (Fig. 16)

1. Press the **7** **DAT** button to control the DAT deck or the **7** **VCR** button to control the VCR.

## Note:

• Point the front end of the Remote Control Unit directly at the remote sensor of the VCR when operating the VCR.

# DAT (Fig. 16)

1. **CONTROL 8** **DAT**: Pressing **DAT** button makes the control buttons **8** control the DAT deck.
2. **PLAY 8** (**▶**): Press this button for DAT playback.
3. **STOP 8** (**■**): Press this button to stop the DAT deck.
4. **PAUSE 8** (**⏸**): Press this button pauses the DAT deck when it is the play back mode.  
**PLAY 8** (**▶**): Pressing this button resumes the recording operation that was interrupted by pause.
5. **8** (**◀◀**): Press this button to set the tape to rapid wind into the left cassette reel.  
**8** (**▶▶**): Press this button to set the tape to rapid wind into the right cassette reel.  
**REC 8** (**○**) + **PLAY 8** (**▶**): Pressing **▶** button while keeping **○** button pressed commences recording.  
**REC 8** (**○**) + **PAUSE 8** (**⏸**): Pressing these buttons, **○** and **⏸**, at the same time pauses the recording operation.  
(Recording can be resumed at anytime.)

# VCR (Fig. 16)

1. **CONTROL 7** **VCR**: Pressing this button makes the control button **8** control the VCR.
2. **PLAY 8** (**▶**): Pressing this button puts the VCR into playback.
3. **STOP 8** (**■**): For stopping the VCR.
4. **PAUSE 8** (**⏸**): Pressing this button while the VCR is in playback switches its mode to STILL.  
**PLAY 8** (**▶**): To cancel PAUSE, press **PLAY** button.
5. **8** (**◀◀**): Press this button to rewind the tape.  
**8** (**▶▶**): Press this button to set the tape in rapid forward motion. When the tape is in the **PLAY** mode, these two buttons can be used for selecting the "SHUTTLE SEARCH".  
**REC 8** (**○**) + **PLAY 8** (**▶**): To start recording, press **▶** button while keeping **○** button pressed.  
**REC 8** (**○**) + **PAUSE 8** (**⏸**): Pressing these buttons, **○** and **⏸**, at the same time pauses the recording operation.  
(Recording can be resumed at anytime by pressing **PLAY** **▶** button.

## • CONTROL DAT or VCR

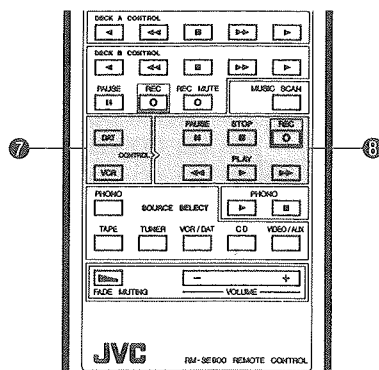


Fig. 16

## SOURCE SELECT (Fig. 17)

The source changes automatically in response to the pressed buttons. When the source is switched to the component which have COMPU LINK, the unit starts playing automatically.

## To play a record

1. **10** (**▶**): Press this button to play a record.
2. **10** (**■**): Press this button to stop playing a record.

## • SOURCE SELECT and PHONO

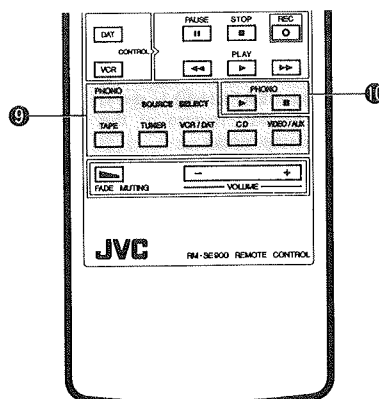


Fig. 17

## Mute the sound (Fig. 18)

**FADE MUTING 11** (**⏸**): Press this button to lower the volume in steps. The volume continues to decrease each time this button is pressed.

## Move volume up or down (Fig. 18)

**VOLUME 12** (**—** **+**): The sound volume is increased or decreased gradually.

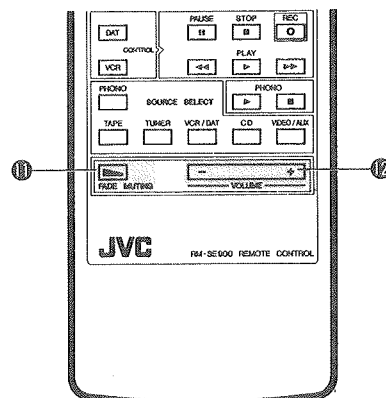
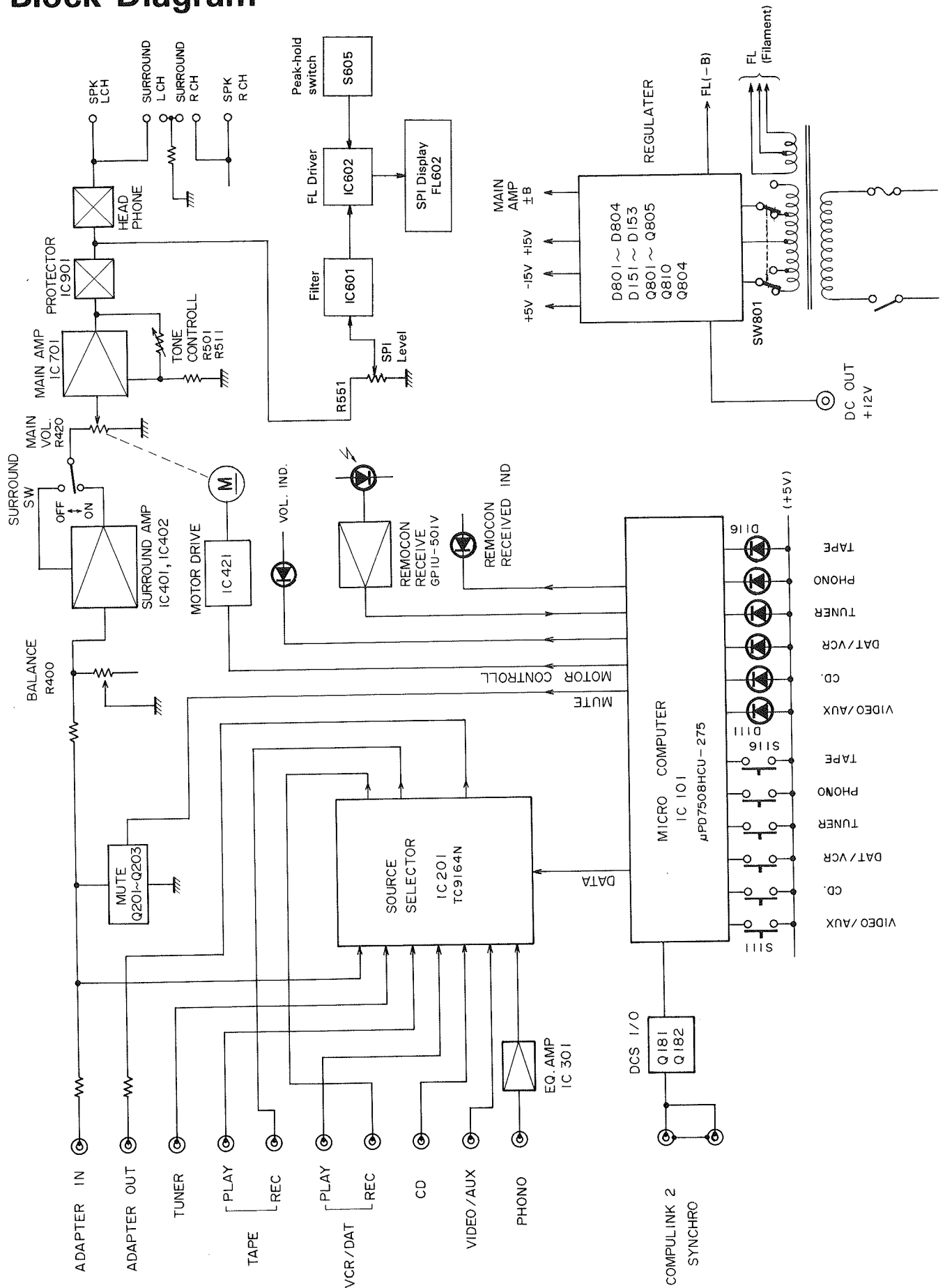


Fig. 18

# Block Diagram



# Removal Procedures

## (1) Removing the Top Cover

- 1.Remove six screws, four of them are on both sides of the top cover and two are on the rear panel.
- 2.Raise the rear section of the top cover slightly and remove the lugs of the front section.

## (2) Removing the Front Panel

- 1.Remove the top cover. (Refer to above item.)
- 2.Remove five screws ① through ⑤ securing the front panel and three screws ⑥ through ⑧ securing from the bottom plate. (See fig.1.)

## (3) Removing the Main Volume

- 1.Remove the front panel. (Refer to above item.)
- 2.Pull out the slender wire connector (J101) from the main volume.
- 3.Turn the front panel over the arrow direction. (See fig.2.)
- 4.Pull out the main volume knob and LED holder.
- 5.Remove the nut securing the main volume.
- 6.Remove two screws ⑨ and ⑩ securing the volume holder. (See fig.2.)

## (4) Removing the Front PCB

- 1.Remove the front panel. (Refer to above item.)
- 2.Remove the plastic rivets securing the pc boards.
- 3.Remove the catches retaining the pc boards backside the front panel.

## (5) Removing the Bottom Plate

- 1.Remove twenty screws on the bottom surface.

## (6) Removing the Power Pack

- 1.Remove the bottom plate. (Refer to above item.)
- 2.Remove two screws ⑪ and ⑫ securing the heat-sink and leaf spring. (See fig.3.)
- 3.Resolder the pins of the power pack.

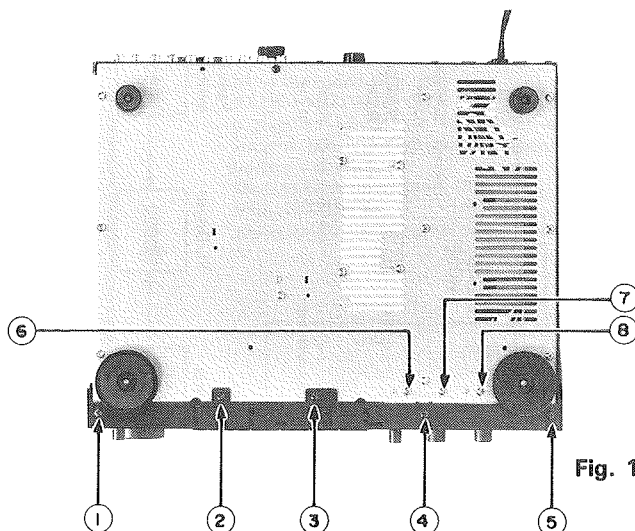


Fig. 1

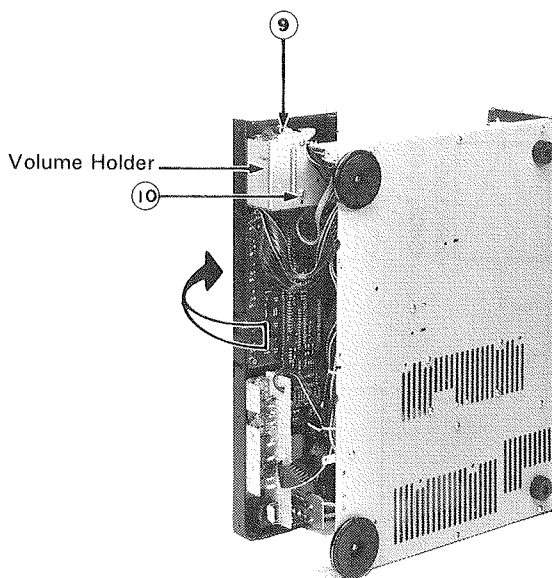


Fig. 2

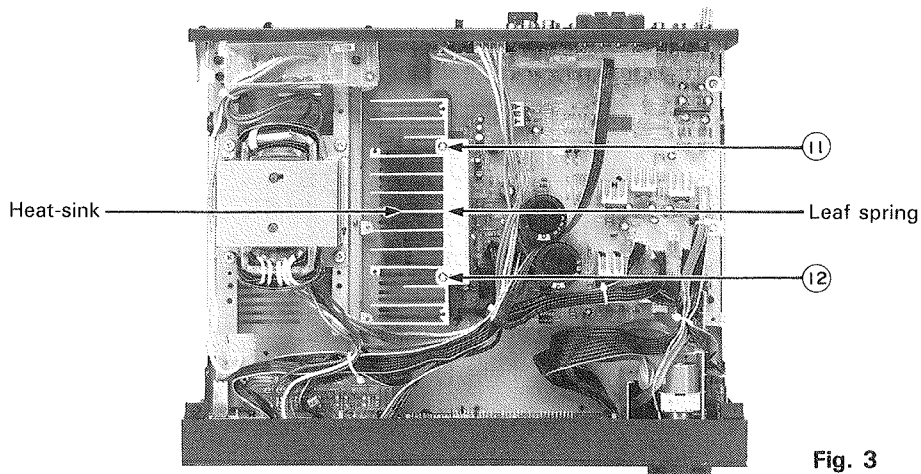


Fig. 3

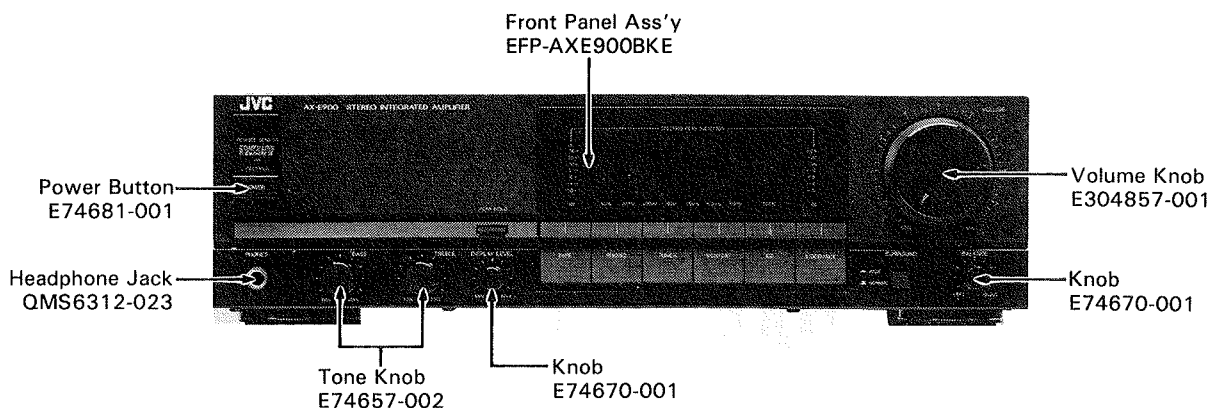
# PARTS LIST

## Contents

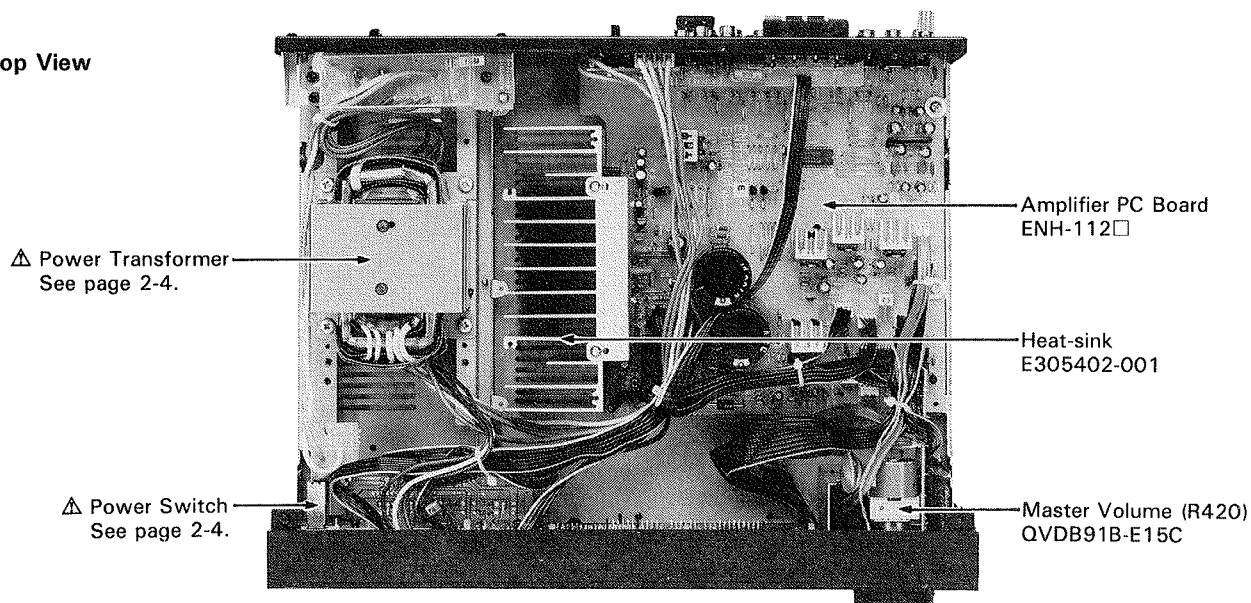
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# Main Parts Locations

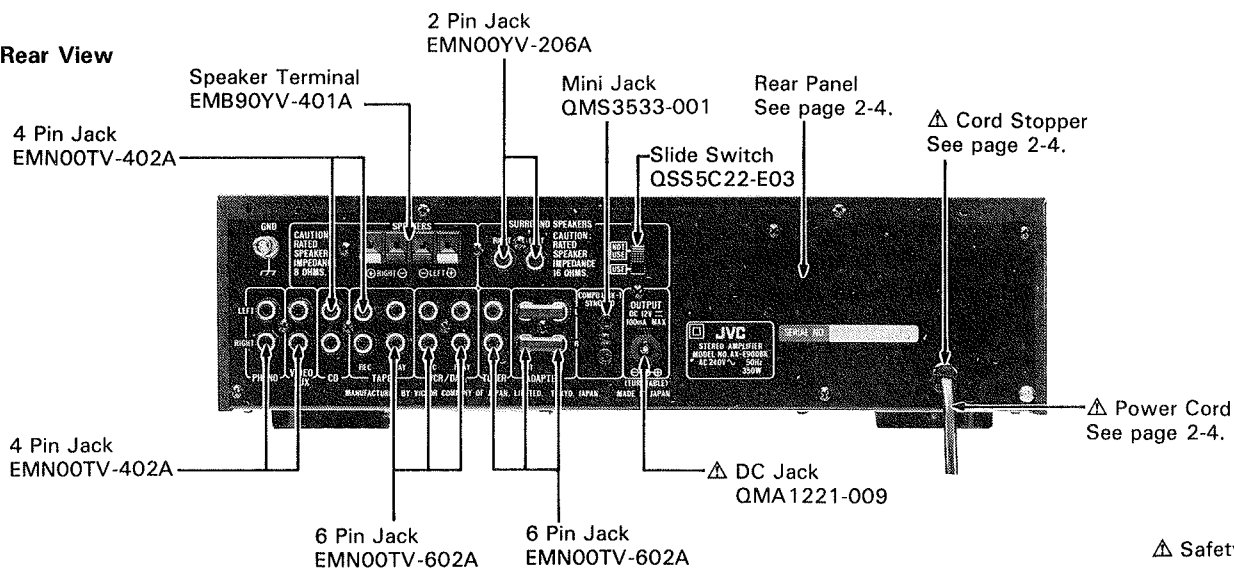
## ■ Front View



## ■ Top View



## ■ Rear View



## CAPACITORS

| △ | ITEM | PART NUMBER  | DESCRIPTION |     |         | AREA |
|---|------|--------------|-------------|-----|---------|------|
|   | C710 | QCSB1HJ-3R9  | 3.9PF       | 50V | CERAMIC |      |
|   | C711 | QEHCIHM-225  | 2.2MF       | 50V | ELECTRO |      |
|   | C712 | QEHCIHM-225  | 2.2MF       | 50V | ELECTRO |      |
|   | C715 | QETB1JM-107  | 100MF       | 63V | ELECTRO |      |
|   | C717 | QFN81HK-104  | 0.1MF       | 50V | MYLAR   | CBS  |
|   | C717 | QFN81HK-104  | 0.1MF       | 50V | MYLAR   | D    |
|   | C717 | QFN81HK-104  | 0.1MF       | 50V | MYLAR   | E    |
|   | C717 | QFN81HK-473  | 0.047MF     | 50V | MYLAR   | A    |
|   | C717 | QFN81HK-473  | 0.047MF     | 50V | MYLAR   | B    |
|   | C718 | QFN81HK-104  | 0.1MF       | 50V | MYLAR   | CBS  |
|   | C718 | QFN81HK-104  | 0.1MF       | 50V | MYLAR   | D    |
|   | C718 | QFN81HK-104  | 0.1MF       | 50V | MYLAR   | E    |
|   | C718 | QFN81HK-473  | 0.047MF     | 50V | MYLAR   | A    |
|   | C718 | QFN81HK-473  | 0.047MF     | 50V | MYLAR   | B    |
|   | C719 | QFN81HK-104  | 0.1MF       | 50V | MYLAR   | CBS  |
|   | C719 | QFN81HK-104  | 0.1MF       | 50V | MYLAR   | D    |
|   | C719 | QFN81HK-104  | 0.1MF       | 50V | MYLAR   | E    |
|   | C720 | QFN81HK-104  | 0.1MF       | 50V | MYLAR   | CBS  |
|   | C720 | QFN81HK-104  | 0.1MF       | 50V | MYLAR   | D    |
|   | C720 | QFN81HK-104  | 0.1MF       | 50V | MYLAR   | E    |
|   | C721 | QFN81HK-103  | 0.01MF      | 50V | MYLAR   |      |
|   | C722 | QFN81HK-103  | 0.01MF      | 50V | MYLAR   |      |
|   | C723 | QCHB1EZ-223  | 0.022MF     | 25V | CERAMIC |      |
|   | C724 | QCHB1EZ-223  | 0.022MF     | 25V | CERAMIC |      |
|   | C727 | QFP81HG-241  | 240PF       | 50V | P.P.    |      |
|   | C728 | QFP81HG-241  | 240PF       | 50V | P.P.    |      |
|   | C800 | QCF21HP-103  | 0.01MF      | 50V | CERAMIC |      |
|   | C801 | QEZ0075-878N | 8700MF      | 56V | ELECTRO |      |
|   | C802 | QEZ0075-878N | 8700MF      | 56V | ELECTRO |      |
|   | C805 | QETB1EM-476  | 47MF        | 25V | ELECTRO |      |
|   | C806 | QETB1EM-476  | 47MF        | 25V | ELECTRO |      |
|   | C807 | QETB1EM-476  | 47MF        | 25V | ELECTRO |      |
|   | C808 | QETB1EM-476  | 47MF        | 25V | ELECTRO |      |
|   | C809 | QETB1EM-476  | 47MF        | 25V | ELECTRO |      |
|   | C810 | QETB1HM-476  | 47MF        | 50V | ELECTRO |      |
|   | C811 | QETB1EM-476  | 47MF        | 25V | ELECTRO |      |
|   | C812 | QETB1HM-476  | 47MF        | 50V | ELECTRO |      |
|   | C813 | QETB1EM-476  | 47MF        | 25V | ELECTRO |      |
|   | C818 | QCS21HJ-101  | 100PF       | 50V | CERAMIC |      |
|   | C831 | QETB1CM-107  | 100MF       | 16V | ELECTRO |      |
|   | C832 | QETB1CM-107  | 100MF       | 16V | ELECTRO |      |
|   | C901 | QETB1AM-227  | 220MF       | 10V | ELECTRO |      |
|   | C902 | QEHCIHM-475  | 4.7MF       | 50V | ELECTRO |      |
|   | C903 | QETB1EM-226  | 22MF        | 25V | ELECTRO |      |

## RESISTORS

| △ | ITEM | PART NUMBER | DESCRIPTION |      |        | AREA |
|---|------|-------------|-------------|------|--------|------|
|   | R101 | QRD167J-222 | 2.2K        | 1/6W | CARBON |      |
|   | R102 | QRD167J-561 | 560         | 1/6W | CARBON |      |
|   | R103 | QRD167J-103 | 10K         | 1/6W | CARBON |      |
|   | R104 | QRD167J-561 | 560         | 1/6W | CARBON |      |
|   | R105 | QRD167J-103 | 10K         | 1/6W | CARBON |      |
|   | R106 | QRD167J-272 | 2.7K        | 1/6W | CARBON |      |
|   | R107 | QRD167J-103 | 10K         | 1/6W | CARBON |      |
|   | R108 | QRD167J-473 | 47K         | 1/6W | CARBON |      |
|   | R109 | QRD167J-103 | 10K         | 1/6W | CARBON |      |
|   | R111 | QRD167J-271 | 270         | 1/6W | CARBON |      |
|   | R112 | QRD167J-271 | 270         | 1/6W | CARBON |      |
|   | R113 | QRD167J-271 | 270         | 1/6W | CARBON |      |
|   | R114 | QRD167J-271 | 270         | 1/6W | CARBON |      |
|   | R115 | QRD167J-271 | 270         | 1/6W | CARBON |      |
|   | R116 | QRD167J-271 | 270         | 1/6W | CARBON |      |
|   | R151 | QRD167J-152 | 1.5K        | 1/6W | CARBON |      |
|   | R152 | QRD167J-682 | 6.8K        | 1/6W | CARBON |      |
|   | R153 | QRD167J-152 | 1.5K        | 1/6W | CARBON |      |
|   | R154 | QRD167J-682 | 6.8K        | 1/6W | CARBON |      |
|   | R155 | QRD167J-103 | 10K         | 1/6W | CARBON |      |
|   | R156 | QRD167J-472 | 4.7K        | 1/6W | CARBON |      |
|   | R181 | QRD167J-103 | 10K         | 1/6W | CARBON |      |
|   | R182 | QRD167J-103 | 10K         | 1/6W | CARBON |      |
|   | R183 | QRD167J-221 | 220         | 1/6W | CARBON |      |
|   | R184 | QRD167J-223 | 22K         | 1/6W | CARBON |      |
|   | R186 | QRD167J-473 | 47K         | 1/6W | CARBON |      |
|   | R201 | QRD167J-102 | 1K          | 1/6W | CARBON |      |
|   | R202 | QRD167J-102 | 1K          | 1/6W | CARBON |      |
|   | R203 | QRD167J-102 | 1K          | 1/6W | CARBON |      |
|   | R204 | QRD167J-102 | 1K          | 1/6W | CARBON |      |
|   | R205 | QRD167J-102 | 1K          | 1/6W | CARBON |      |
|   | R206 | QRD167J-102 | 1K          | 1/6W | CARBON |      |
|   | R207 | QRD167J-221 | 220         | 1/6W | CARBON |      |
|   | R208 | QRD167J-221 | 220         | 1/6W | CARBON |      |
|   | R209 | QRD167J-221 | 220         | 1/6W | CARBON |      |

## RESISTORS

| △ | ITEM | PART NUMBER   | DESCRIPTION |      |             | AREA |
|---|------|---------------|-------------|------|-------------|------|
|   | R210 | QRD167J-221   | 220         | 1/6W | CARBON      |      |
|   | R211 | QRD167J-221   | 220         | 1/6W | CARBON      |      |
|   | R212 | QRD167J-221   | 220         | 1/6W | CARBON      |      |
|   | R213 | QRD167J-102   | 1K          | 1/6W | CARBON      |      |
|   | R214 | QRD167J-102   | 1K          | 1/6W | CARBON      |      |
|   | R215 | QRD167J-102   | 1K          | 1/6W | CARBON      |      |
|   | R216 | QRD167J-102   | 1K          | 1/6W | CARBON      |      |
|   | R221 | QRD167J-221   | 220         | 1/6W | CARBON      |      |
|   | R222 | QRD167J-221   | 220         | 1/6W | CARBON      |      |
|   | R223 | QRD167J-103   | 10K         | 1/6W | CARBON      |      |
|   | R224 | QRD167J-103   | 10K         | 1/6W | CARBON      |      |
|   | R227 | QRD167J-103   | 10K         | 1/6W | CARBON      |      |
|   | R228 | QRD167J-103   | 10K         | 1/6W | CARBON      |      |
|   | R229 | QRD167J-913   | 91K         | 1/6W | CARBON      |      |
|   | R230 | QRD167J-913   | 91K         | 1/6W | CARBON      |      |
|   | R301 | QRD167J-222   | 2.2K        | 1/6W | CARBON      |      |
|   | R302 | QRD167J-222   | 2.2K        | 1/6W | CARBON      |      |
|   | R303 | QRD167J-473   | 47K         | 1/6W | CARBON      |      |
|   | R304 | QRD167J-473   | 47K         | 1/6W | CARBON      |      |
|   | R305 | QRD167J-911   | 910         | 1/6W | CARBON      |      |
|   | R306 | QRD167J-911   | 910         | 1/6W | CARBON      |      |
|   | R307 | QRD167J-393   | 39K         | 1/6W | CARBON      |      |
|   | R308 | QRD167J-393   | 39K         | 1/6W | CARBON      |      |
|   | R309 | QRD167J-474   | 470K        | 1/6W | CARBON      |      |
|   | R310 | QRD167J-474   | 470K        | 1/6W | CARBON      |      |
|   | R311 | QRD167J-104   | 100K        | 1/6W | CARBON      |      |
|   | R312 | QRD167J-104   | 100K        | 1/6W | CARBON      |      |
|   | R400 | QVDA96W-EF5B  | 250K        |      | VARIABLE    |      |
|   | R401 | QRD167J-474   | 470K        | 1/6W | CARBON      |      |
|   | R402 | QRD167J-474   | 470K        | 1/6W | CARBON      |      |
|   | R403 | QRD167J-223   | 22K         | 1/6W | CARBON      |      |
|   | R404 | QRD167J-223   | 22K         | 1/6W | CARBON      |      |
|   | R405 | QRD167J-223   | 22K         | 1/6W | CARBON      |      |
|   | R406 | QRD167J-223   | 22K         | 1/6W | CARBON      |      |
|   | R407 | QRD167J-223   | 22K         | 1/6W | CARBON      |      |
|   | R408 | QRD167J-223   | 22K         | 1/6W | CARBON      |      |
|   | R409 | QRD167J-223   | 22K         | 1/6W | CARBON      |      |
|   | R410 | QRD167J-223   | 22K         | 1/6W | CARBON      |      |
|   | R411 | QRD167J-223   | 22K         | 1/6W | CARBON      |      |
|   | R412 | QRD167J-223   | 22K         | 1/6W | CARBON      |      |
|   | R420 | QVDB91B-E15C  | 100K        |      | VARIABLE    |      |
|   | R421 | QRD167J-822   | 8.2K        | 1/6W | CARBON      |      |
|   | R422 | QRD167J-822   | 8.2K        | 1/6W | CARBON      |      |
|   | R423 | QRD167J-224   | 220K        | 1/6W | CARBON      |      |
|   | R424 | QRD167J-224   | 220K        | 1/6W | CARBON      |      |
|   | R501 | QVDB96C-E15B  | 100K        |      | VARIABLE    |      |
|   | R503 | QRD167J-203   | 20K         | 1/6W | CARBON      |      |
|   | R504 | QRD167J-203   | 20K         | 1/6W | CARBON      |      |
|   | R505 | QRD167J-362   | 3.6K        | 1/6W | CARBON      |      |
|   | R506 | QRD167J-362   | 3.6K        | 1/6W | CARBON      |      |
|   | R511 | QVDB96C-E15B  | 100K        |      | VARIABLE    |      |
|   | R513 | QRD167J-472   | 4.7K        | 1/6W | CARBON      |      |
|   | R514 | QRD167J-472   | 4.7K        | 1/6W | CARBON      |      |
|   | R515 | QRD167J-821   | 820         | 1/6W | CARBON      |      |
|   | R516 | QRD167J-821   | 820         | 1/6W | CARBON      |      |
|   | R517 | QRD167J-681   | 680         | 1/6W | CARBON      |      |
|   | R518 | QRD167J-681   | 680         | 1/6W | CARBON      |      |
|   | R551 | QVDA96B-EF5B  | 250K        |      | VARIABLE    |      |
|   | R553 | QRD167J-563   | 56K         | 1/6W | CARBON      |      |
|   | R554 | QRD167J-563   | 56K         | 1/6W | CARBON      |      |
|   | R701 | QRD167J-222   | 2.2K        | 1/6W | CARBON      |      |
|   | R702 | QRD167J-222   | 2.2K        | 1/6W | CARBON      |      |
|   | R703 | QRD167J-104   | 100K        | 1/6W | CARBON      |      |
|   | R704 | QRD167J-104   | 100K        | 1/6W | CARBON      |      |
|   | R705 | QRD167J-511   | 510         | 1/6W | CARBON      |      |
|   | R706 | QRD167J-511   | 510         | 1/6W | CARBON      |      |
|   | R707 | QRD167J-133   | 13K         | 1/6W | CARBON      |      |
|   | R708 | QRD167J-133   | 13K         | 1/6W | CARBON      |      |
|   | R709 | QRD167J-823   | 82K         | 1/6W | CARBON      |      |
|   | R710 | QRD167J-823   | 82K         | 1/6W | CARBON      |      |
|   | R711 | QRD167J-103   | 10K         | 1/6W | CARBON      |      |
|   | R712 | QRD167J-103   | 10K         | 1/6W | CARBON      |      |
|   | R713 | QRD167J-162   | 1.6K        | 1/6W | CARBON      |      |
|   | R714 | QRD167J-162   | 1.6K        | 1/6W | CARBON      |      |
|   | R715 | QRD167J-103   | 10K         | 1/6W | CARBON      |      |
|   | R716 | QRD167J-103   | 10K         | 1/6W | CARBON      |      |
|   | R717 | QRD167J-162   | 1.6K        | 1/6W | CARBON      |      |
|   | R718 | QRD167J-162   | 1.6K        | 1/6W | CARBON      |      |
| △ | R719 | QRX022J-R22AM | 0.22        | 2W   | M.FILM      |      |
| △ | R720 | QRX022J-R22AM | 0.22        | 2W   | M.FILM      |      |
| △ | R725 | QRZ0077-100   | 10          | 1/4W | FUSIBLE     |      |
| △ | R726 | QRZ0077-101   | 100         | 1/4W | FUSIBLE     |      |
|   | R727 | QRD167J-104   | 100K        | 1/6W | CARBON      |      |
|   | R728 | QRD167J-104   | 100K        | 1/6W | CARBON      |      |
| △ | R729 | QRD14CJ-100S  | 10          | 1/4W | UNF. CARBON |      |
| △ | R730 | QRD14CJ-100S  | 10          | 1/4W | UNF. CARBON |      |
| △ | R731 | QRG012J-100AM | 10          | 1W   | O.M.FILM    |      |
| △ | R732 | QRG012J-100AM | 10          | 1W   | O.M.FILM    |      |
| △ | R751 | QRG032J-180A  | 18          | 3W   | O.M.FILM    |      |

## RESISTORS

| △ | ITEM  | PART NUMBER   | DESCRIPTION |       |            | AREA |
|---|-------|---------------|-------------|-------|------------|------|
| △ | R753  | QRG022J-331AM | 330         | 2W    | O.M.FILM   |      |
| △ | R754  | QRG022J-331AM | 330         | 2W    | O.M.FILM   |      |
| △ | R801  | QRZ0077-100   | 10          | 1/4W  | FUSIBLE    |      |
| △ | R802  | QRZ0077-100   | 10          | 1/4W  | FUSIBLE    |      |
|   | R803  | QRD167J-153   | 15K         | 1/6W  | CARBON     |      |
|   | R804  | QRD167J-153   | 15K         | 1/6W  | CARBON     |      |
|   | R805  | QRD167J-153   | 15K         | 1/6W  | CARBON     |      |
| △ | R806  | QRD167J-153   | 15K         | 1/6W  | CARBON     |      |
|   | R807  | QRZ0077-4R7   | 4.7         | 1/4W  | FUSIBLE    |      |
|   | R809  | QRD167J-183   | 18K         | 1/6W  | CARBON     |      |
|   | R810  | QRD167J-682   | 6.8K        | 1/6W  | CARBON     |      |
|   | R811  | QRD167J-183   | 18K         | 1/6W  | CARBON     |      |
|   | R812  | QRD167J-682   | 6.8K        | 1/6W  | CARBON     |      |
| △ | R813  | QRZ0077-100   | 10          | 1/4W  | FUSIBLE    |      |
| △ | R817  | QRD14CJ-180S  | 18          | 1/4W  | UNF.CARBON |      |
|   | R818  | QRD167J-153   | 15K         | 1/6W  | CARBON     |      |
|   | R819  | QRD167J-153   | 15K         | 1/6W  | CARBON     |      |
|   | R820  | QRD167J-123   | 12K         | 1/6W  | CARBON     |      |
|   | R831  | QRD167J-471   | 470         | 1/6W  | CARBON     |      |
|   | R832  | QRD167J-471   | 470         | 1/6W  | CARBON     |      |
|   | R901  | QRD167J-333   | 33K         | 1/6W  | CARBON     |      |
|   | R903  | QRD167J-163   | 16K         | 1/6W  | CARBON     |      |
|   | R905  | QRD167J-562   | 5.6K        | 1/6W  | CARBON     |      |
|   | R906  | QRD167J-104   | 100K        | 1/6W  | CARBON     |      |
|   | R907  | QRD167J-823   | 82K         | 1/6W  | CARBON     |      |
|   | R908  | QRD167J-512   | 5.1K        | 1/6W  | CARBON     |      |
|   | R909  | QRD167J-224   | 220K        | 1/6W  | CARBON     |      |
|   | R912  | QRD167J-333   | 33K         | 1/6W  | CARBON     |      |
|   | R913  | QRD167J-333   | 33K         | 1/6W  | CARBON     |      |
|   | R916  | QRD167J-103   | 10K         | 1/6W  | CARBON     |      |
|   | R917  | QRD167J-562   | 5.6K        | 1/6W  | CARBON     |      |
|   | R921  | QRD167J-431   | 430         | 1/6W  | CARBON     |      |
|   | R922  | QRD167J-431   | 430         | 1/6W  | CARBON     |      |
|   | R923  | QRD167J-431   | 430         | 1/6W  | CARBON     |      |
|   | R924  | QRD167J-431   | 430         | 1/6W  | CARBON     |      |
|   | R925  | QRD167J-431   | 430         | 1/6W  | CARBON     |      |
|   | R926  | QRD167J-431   | 430         | 1/6W  | CARBON     |      |
|   | R927  | QRD167J-431   | 430         | 1/6W  | CARBON     |      |
|   | R928  | QRD167J-431   | 430         | 1/6W  | CARBON     |      |
|   | RA101 | QRB069J-103   | 10K         | 1/10W | R.NETWORK  |      |

△ : SAFETY PARTS

## OTHERS

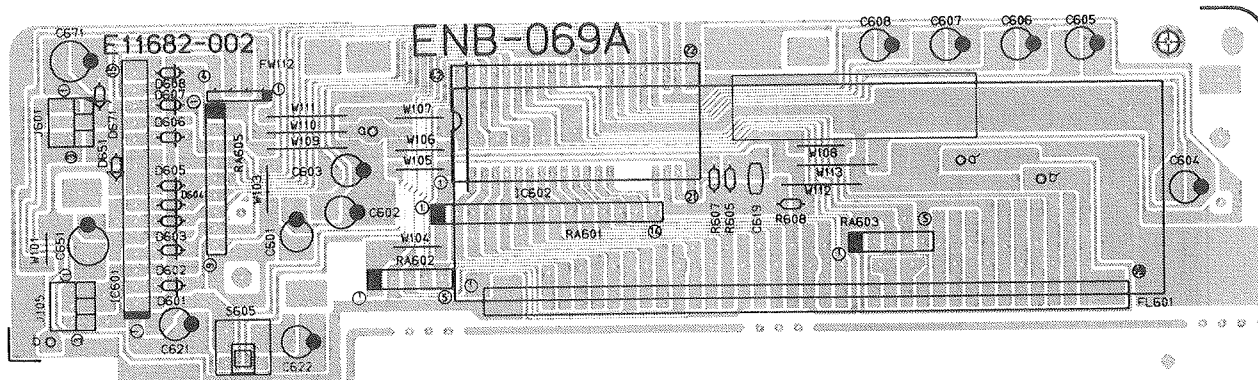
| △ | ITEM  | PART NUMBER   | DESCRIPTION       |  | AREA |
|---|-------|---------------|-------------------|--|------|
|   | J752  | EMN00YV-206A  | 2P PIN JACK       |  |      |
|   | J801  | E67764-103    | WRAPPING TERMINAL |  |      |
|   | J801  | QMA1221-009   | DC JACK           |  |      |
| △ | S001  | QSP1106-004   | POWER SWITCH      |  | A    |
| △ | S001  | QSP1106-004   | POWER SWITCH      |  | B    |
| △ | S001  | QSP1106-004   | POWER SWITCH      |  | D    |
| △ | S001  | QSP1106-004   | POWER SWITCH      |  | E    |
| △ | S001  | QSP1106-004BS | POWER SWITCH      |  | CBS  |
|   | S111  | ESP0001-018   | TACT SWITCH       |  |      |
|   | S112  | ESP0001-018   | TACT SWITCH       |  |      |
|   | S113  | ESP0001-018   | TACT SWITCH       |  |      |
|   | S114  | ESP0001-018   | TACT SWITCH       |  |      |
|   | S115  | ESP0001-018   | TACT SWITCH       |  |      |
|   | S116  | ESP0001-018   | TACT SWITCH       |  |      |
|   | S401  | QST4102-E07   | PUSH SWITCH       |  |      |
|   | CX101 | ECX0004-194KM | RESONATOR         |  |      |
|   | FW102 | EWR35B-25LST  | FLAT WIRE         |  |      |
|   | FW103 | EWR23C-30LN   | FLAT WIRE         |  |      |
|   | FW104 | EWR23C-25NN   | FLAT WIRE         |  |      |
|   | FW105 | EWR33B-20KST  | FLAT WIRE         |  |      |
|   | FW106 | EWR39B-30SST  | FLAT WIRE         |  |      |
|   | FW107 | EWR34B-25SST  | FLAT WIRE         |  |      |
|   | FW108 | EWR37B-25LST  | FLAT WIRE         |  |      |
|   | FW109 | EWR36B-25LST  | FLAT WIRE         |  |      |
|   | FW110 | EWR34B-16LST  | FLAT WIRE         |  |      |
|   | FW111 | EWR34B-35LST  | FLAT WIRE         |  |      |
|   | JT101 | EMV7122-003Z  | CONNECTOR         |  |      |
|   | JT102 | EMV7122-004Z  | CONNECTOR         |  |      |
|   | JT103 | EMV7122-003Z  | CONNECTOR         |  |      |
|   | JT104 | EMV7122-003Z  | CONNECTOR         |  |      |
|   | RY901 | ESK5D24-218   | RELAY             |  |      |
|   | FW202 | EWR23C-25LN   | FLAT WIRE         |  |      |

△ : SAFETY PARTS

## OTHERS

| △ | ITEM | PART NUMBER  | DESCRIPTION       |  | AREA |
|---|------|--------------|-------------------|--|------|
|   |      | EMG7331-001  | FUSE CLIP         |  | B    |
|   |      | EMG7331-001  | FUSE CLIP         |  | CBS  |
|   |      | EMG7331-001  | FUSE CLIP         |  | D    |
|   |      | EMG7331-001  | FUSE CLIP         |  | E    |
|   |      | E11681-003   | PC BOARD          |  | A    |
|   |      | E11681-003   | PC BOARD          |  | B    |
|   |      | E11681-003   | PC BOARD          |  | D    |
|   |      | E11681-003   | PC BOARD          |  | E    |
|   |      | E11681-003BS | PC BOARD          |  | CBS  |
|   |      | E65508-002   | TAB               |  | B    |
|   |      | E65508-002   | TAB               |  | CBS  |
|   |      | E65508-002   | TAB               |  | D    |
|   |      | E65508-002   | TAB               |  | E    |
|   |      | E67132-T1R6  | FUSE LABEL        |  | B    |
|   |      | E67132-T1R6  | FUSE LABEL        |  | CBS  |
|   |      | E67132-T1R6  | FUSE LABEL        |  | D    |
|   |      | E67132-T1R6  | FUSE LABEL        |  | E    |
|   |      | E67764-203   | WRAPPING TERMINAL |  | B    |
|   |      | E67764-203   | WRAPPING TERMINAL |  | CBS  |
|   |      | E67764-203   | WRAPPING TERMINAL |  | D    |
|   |      | E67764-203   | WRAPPING TERMINAL |  | E    |
|   |      | E70945-H25   | HEAT-SINK         |  |      |
|   |      | E70945-H35   | HEAT-SINK         |  |      |
|   |      | E70945-H35   | HEAT-SINK         |  |      |
|   |      | SBSB3008CC   | SCREW             |  |      |
|   |      | SBSB3008CC   | SCREW             |  |      |
|   |      | SBSB3008CC   | SCREW             |  |      |
|   | J101 | EMV5103-002A | PLUG ASSY         |  |      |
|   | J102 | EMV7122-005Z | CONNECTOR         |  |      |
|   | J103 | EMV7122-003Z | CONNECTOR         |  |      |
|   | J110 | EMV7122-004Z | CONNECTOR         |  |      |
|   | J111 | EMV7122-004Z | CONNECTOR         |  |      |
|   | J112 | EMV7122-004Z | CONNECTOR         |  |      |
|   | J181 | QMS3533-001  | MINI JACK         |  |      |
|   | J201 | EMN00TV-402A | 4P PIN JACK       |  |      |
|   | J202 | EMN00TV-402A | 4P PIN JACK       |  |      |
|   | J203 | EMN00TV-602A | 6P PIN JACK       |  |      |
|   | J204 | EMN00TV-602A | 6P PIN JACK       |  |      |
|   | J702 | EMB90YV-401A | SPEAKER TERMINAL  |  |      |
|   | J751 | QMS6312-023  | HEADPHONE JACK    |  |      |

## ■ ENB-069A FL Display PC Board Ass'y



## I. C. S

| ITEM  | PART NUMBER | DESCRIPTION | MAKER   | AREA |
|-------|-------------|-------------|---------|------|
| IC601 | 7EL-SPI-001 | I.C.        | KYOSERA |      |
| IC602 | LC7566      | I.C.        | SANYO   |      |

## RESISTORS

| ITEM  | PART NUMBER | DESCRIPTION         | AREA |
|-------|-------------|---------------------|------|
| R605  | QRD167J-183 | 18K 1/6W CARBON     |      |
| R607  | QRD167J-474 | 470K 1/6W CARBON    |      |
| R608  | QRD167J-474 | 470K 1/6W CARBON    |      |
| RA601 | QRB135J-104 | 100K 1/8W R.NETWORK |      |
| RA602 | QRB045J-104 | 100K 1/8W R.NETWORK |      |
| RA603 | QRB045J-104 | 100K 1/8W R.NETWORK |      |
| RA605 | QRB085J-473 | 47K 1/8W R.NETWORK  |      |

## DIODES

| ITEM | PART NUMBER | DESCRIPTION | MAKER      | AREA |
|------|-------------|-------------|------------|------|
| D601 | MA700A      | ZENER       | MATSUSHITA |      |
| D602 | 1SS133      | SILICON     | ROHM       |      |
| D603 | 1SS133      | SILICON     | ROHM       |      |
| D604 | 1SS133      | SILICON     | ROHM       |      |
| D605 | 1SS133      | SILICON     | ROHM       |      |
| D606 | 1SS133      | SILICON     | ROHM       |      |
| D607 | 1SS133      | SILICON     | ROHM       |      |
| D608 | 1SS133      | SILICON     | ROHM       |      |
| D651 | 1SS133      | SILICON     | ROHM       |      |
| D671 | MTZ7.5JC    | ZENER       | ROHM       |      |

## OTHERS

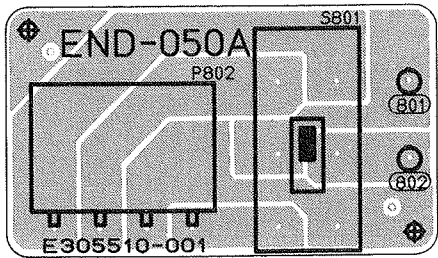
| ITEM  | PART NUMBER  | DESCRIPTION | AREA |
|-------|--------------|-------------|------|
|       | E11682-002   | PC BOARD    |      |
| J105  | EMV7122-003Z | CONNECTOR   |      |
| J601  | EMV7122-003Z | CONNECTOR   |      |
| S605  | QSP2256-001  | PUSH SWITCH |      |
| FL601 | ELU0001-047  | FL TUBE     |      |
| FS601 | E3400-387    | FELT SPACER |      |
| FW112 | EWR34B-30LST | FLAT WIRE   |      |

## CAPACITORS

| ITEM | PART NUMBER  | DESCRIPTION        | AREA |
|------|--------------|--------------------|------|
| C601 | QER61EM-475G | 4.7MF 25V ELECTRO  |      |
| C602 | QER61EM-475G | 4.7MF 25V ELECTRO  |      |
| C603 | QER61EM-475G | 4.7MF 25V ELECTRO  |      |
| C604 | QER61EM-475G | 4.7MF 25V ELECTRO  |      |
| C605 | QER61EM-475G | 4.7MF 25V ELECTRO  |      |
| C606 | QER61EM-475G | 4.7MF 25V ELECTRO  |      |
| C607 | QER61EM-475G | 4.7MF 25V ELECTRO  |      |
| C608 | QER61EM-475G | 4.7MF 25V ELECTRO  |      |
| C619 | QCB1CM-152   | 1500PF 16V CERAMIC |      |
| C621 | QETB1HM-475  | 4.7MF 50V ELECTRO  |      |
| C622 | QETB1HM-475  | 4.7MF 50V ELECTRO  |      |
| C651 | QETB1AM-107  | 100MF 10V ELECTRO  |      |
| C671 | QETB1EM-476  | 47MF 25V ELECTRO   |      |

■ END-050A Impedance Selector PC Board Ass'y

(for Europe, Australia, West Germnay, U.K.)

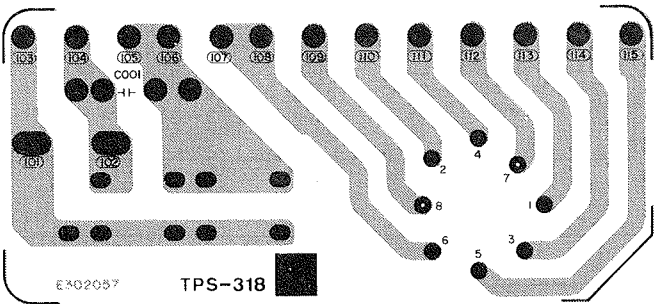


OTHERS

| △ITEM | PART NUMBER  | DESCRIPTION  | AREA |
|-------|--------------|--------------|------|
| P802  | E305510-001  | PC BOARD     |      |
| S801  | EMV5102-004B | PLUG ASSY    |      |
|       | QSS5C22-E03  | SLIDE SWITCH |      |

■ TPS-318 □ Voltage Selector PC Board Ass'y

(Except for Europe, Australia, West Germnay, U.K.)



CAPACITORS

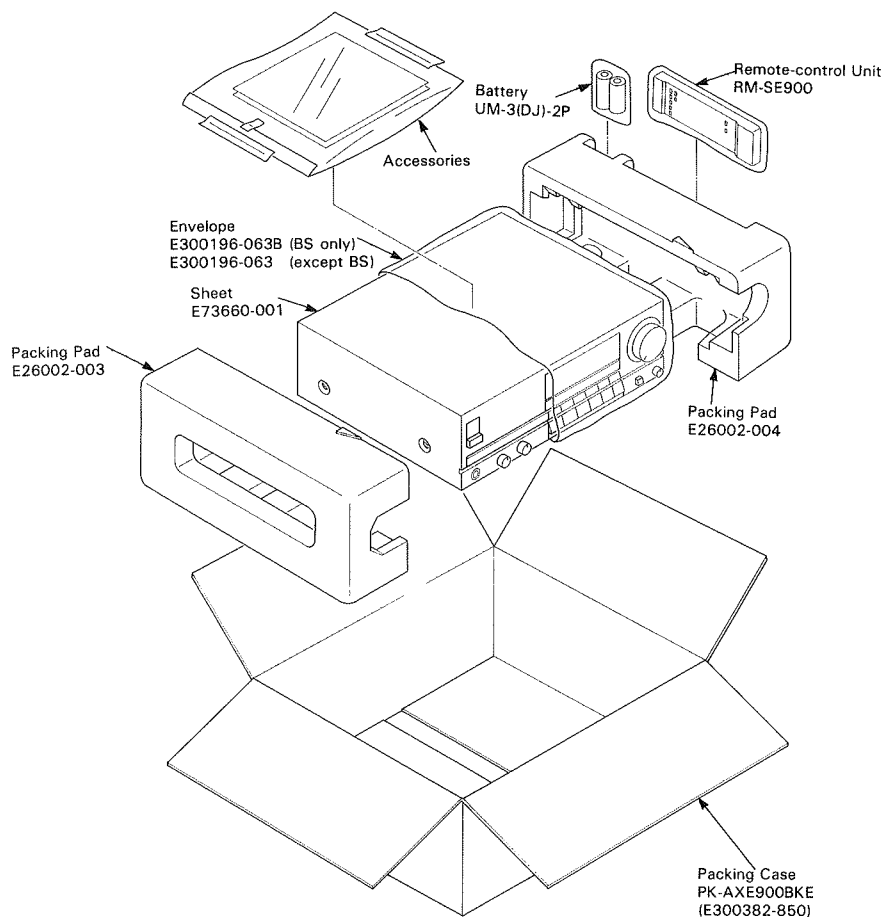
| △ITEM | PART NUMBER | DESCRIPTION    | AREA |
|-------|-------------|----------------|------|
| C001  | QCZ9038-103 | 0.01MF CERAMIC |      |

OTHERS

| △ITEM | PART NUMBER  | DESCRIPTION       | AREA |
|-------|--------------|-------------------|------|
|       | E302057-002  | PC BOARD          |      |
|       | E65508-002   | TAB               |      |
|       | E67764-302   | WRAPPING TERMINAL |      |
|       | E67764-303   | WRAPPING TERMINAL |      |
|       | E67764-304   | WRAPPING TERMINAL |      |
| △     | QMC0637-004  | AC OUTLET         |      |
| △     | QSR0085-008U | VOLTAGE SELECTOR  |      |

△ : SAFETY PARTS

# Packing Materials and Part Numbers



## Accessories List

| △ | Parts Number                                                            | Parts Name                                                                               | Description                                                      | Areas                                         |
|---|-------------------------------------------------------------------------|------------------------------------------------------------------------------------------|------------------------------------------------------------------|-----------------------------------------------|
|   | E30580-1466A<br>E30580-1466ABS<br>E43486-340A<br>BT20029C<br>BT20064A   | Instruction Book<br>Instruction Book<br>Safety Sheet<br>Warranty Card<br>Warranty Card   | includes the Instruction Book.                                   | except for BS<br>BS only<br>BS only<br>A<br>G |
|   | QZL1008-001<br>BT20060<br>BT20066<br>BT20048B<br>BT20046C               | Information Sheet<br>Warranty Card<br>EEC Agency<br>Warranty Card<br>Service Information |                                                                  | G<br>BS<br>G,BS<br>P,PG<br>P,PG               |
| △ | E04056<br>E300196-033<br>E300196-033B                                   | Siemens Plug<br>Envelope<br>Envelope                                                     | for the Inst.Book, W.Card, etc.                                  | U,PG<br>except for BS<br>BS only              |
| △ | QMF51A2-3R15S<br>QMF51A2-1R6S<br>E67142-T3R15<br>E67142-T1R6<br>E6581-4 | Fuse<br>Fuse<br>Fuse Label<br>Fuse Label<br>Envelope                                     | T3.15A / 250V<br>T1.6A / 250V<br>T3.15A<br>T1.6A<br>for the Fuse | U,PG<br>P<br>U,PG<br>P<br>U,P,PG              |

Note: The Marks for Designated Areas

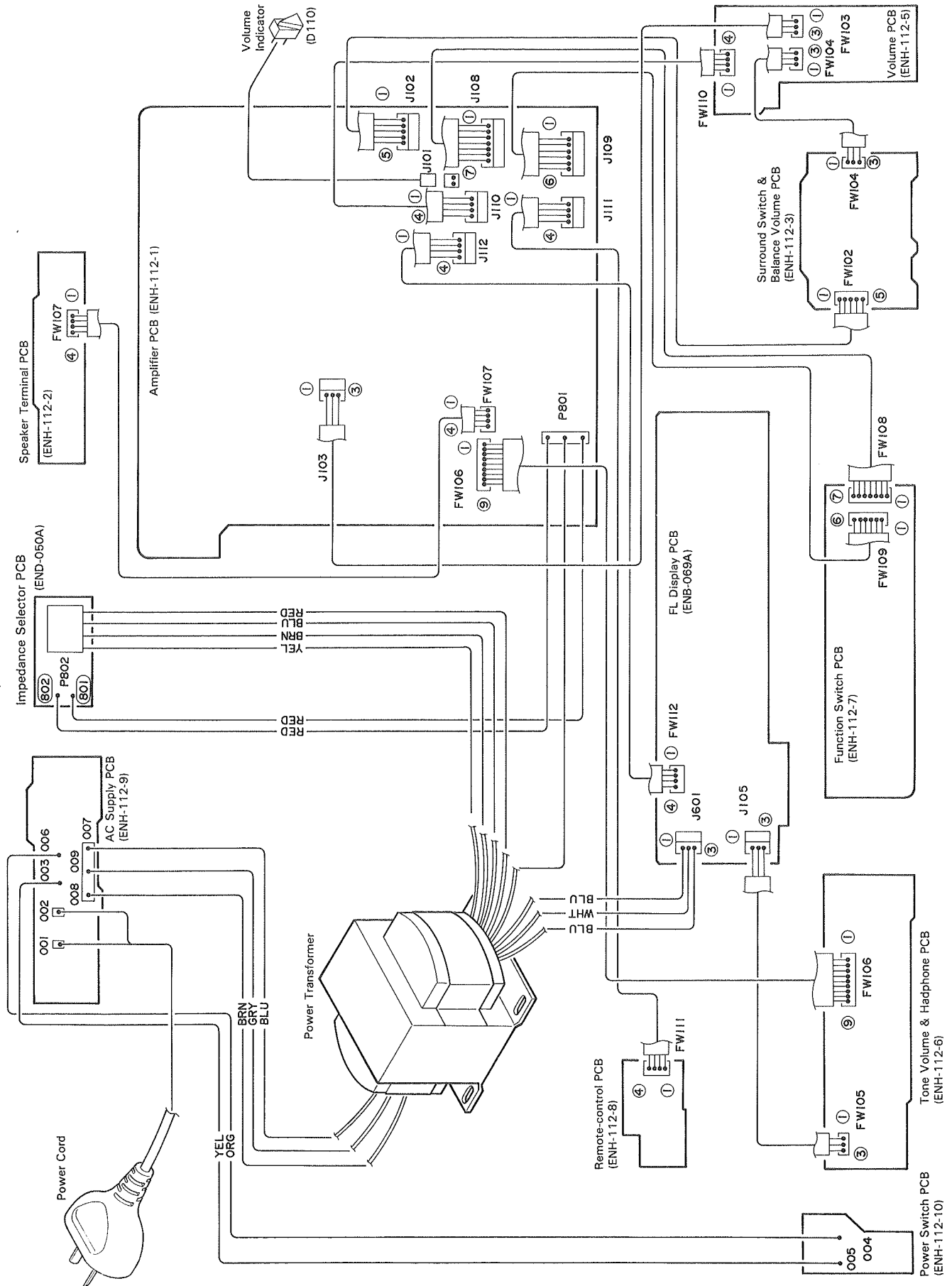
E ..... Europe  
A ..... Australia  
G ..... West Germany  
BS ..... U.K.

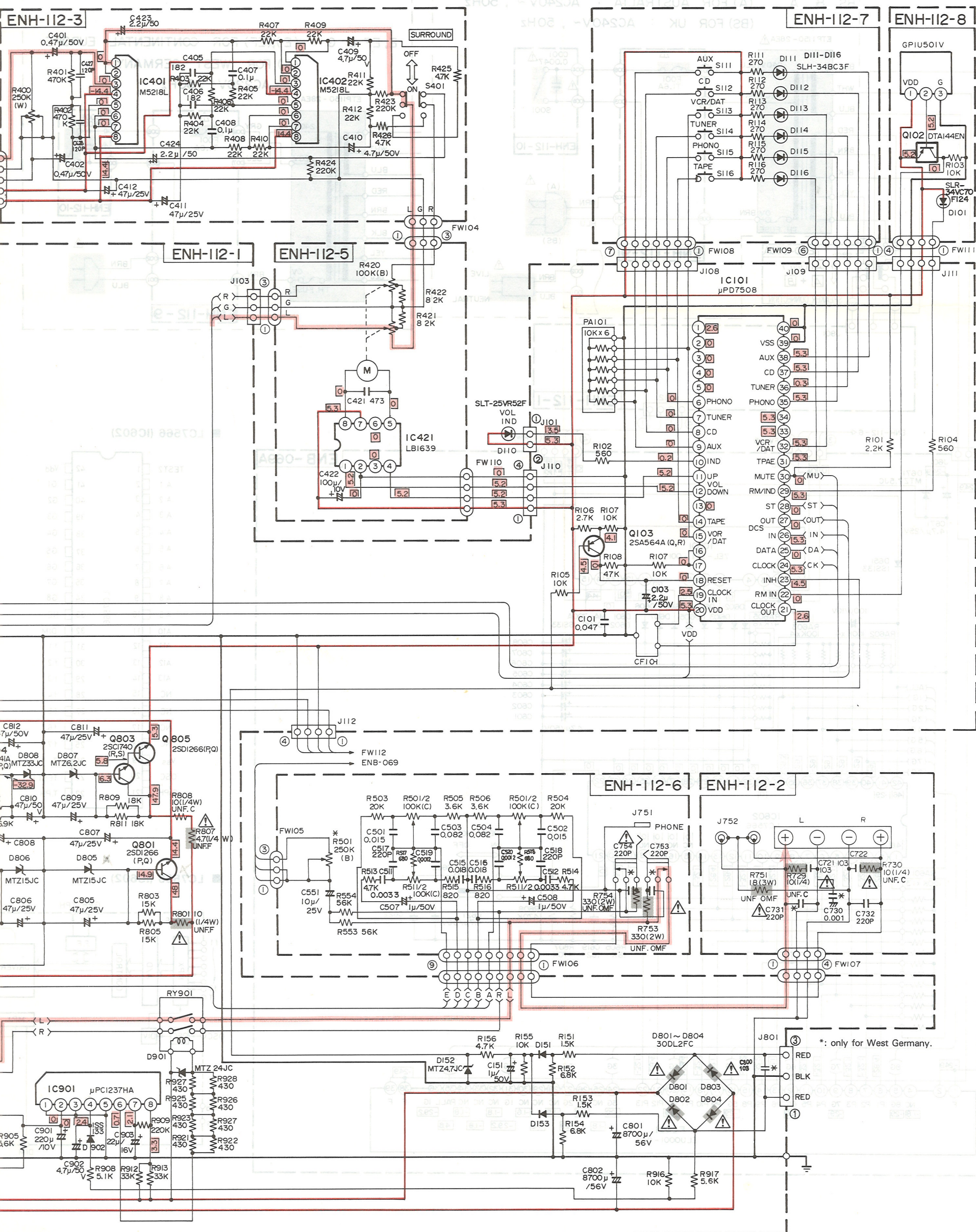
P,PG ..... U.S.Military Market  
U ..... Other Countries  
No Mark indicates all areas.

△:Safety Parts

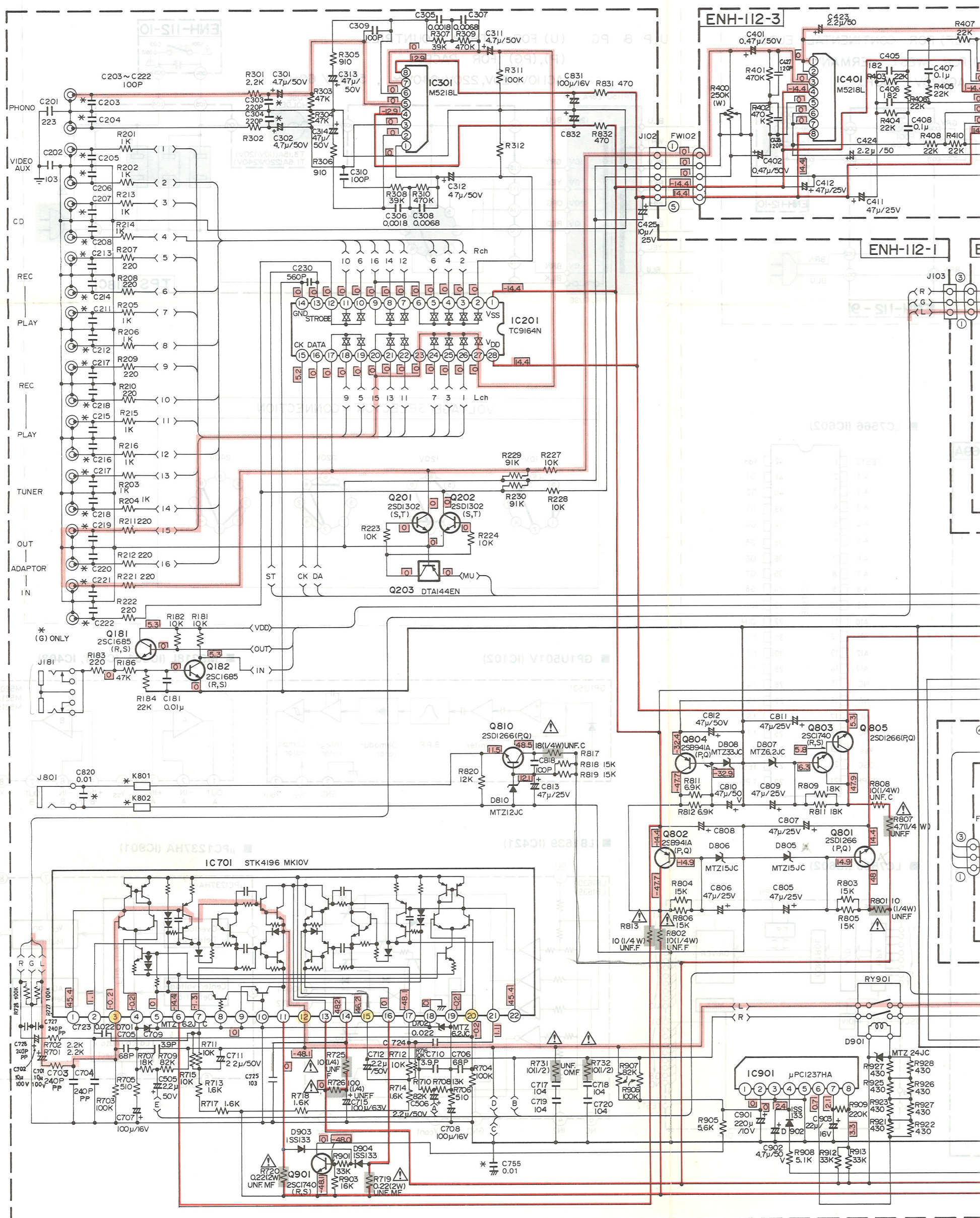


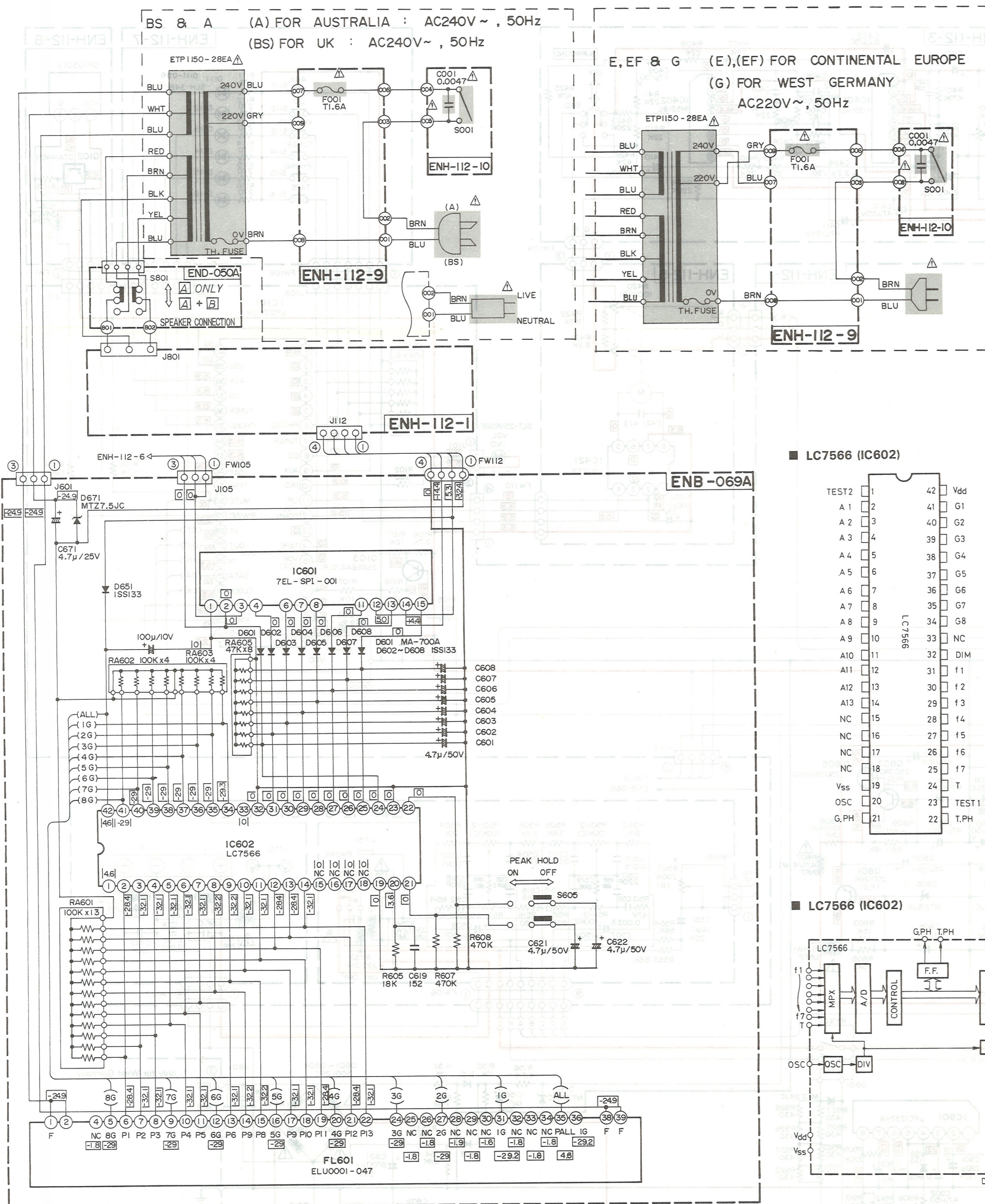
# Connection Diagram



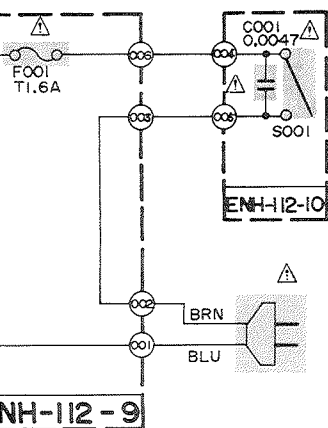


# Schematic Diagram

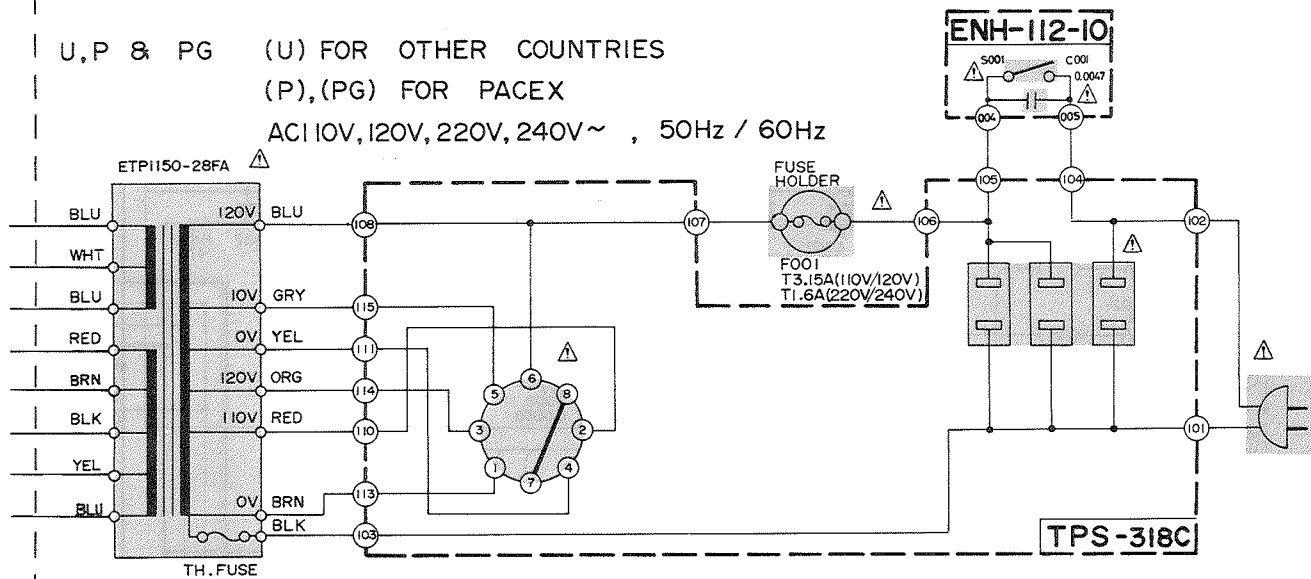




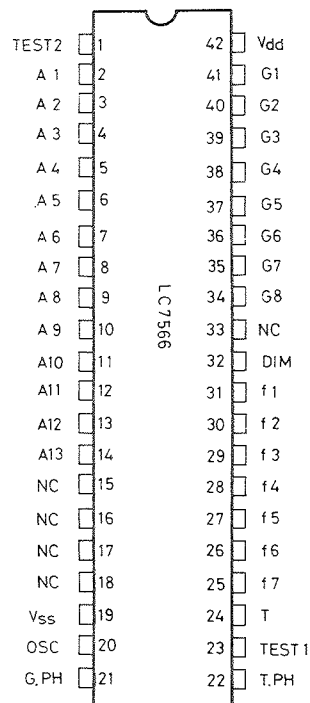
OR CONTINENTAL EUROPE  
WEST GERMANY  
V~, 50Hz



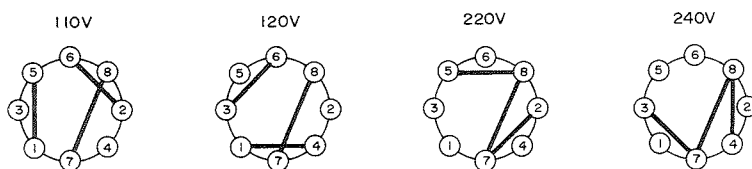
U, P & PG (U) FOR OTHER COUNTRIES  
(P), (PG) FOR PACEX  
AC 110V, 120V, 220V, 240V~, 50Hz / 60Hz



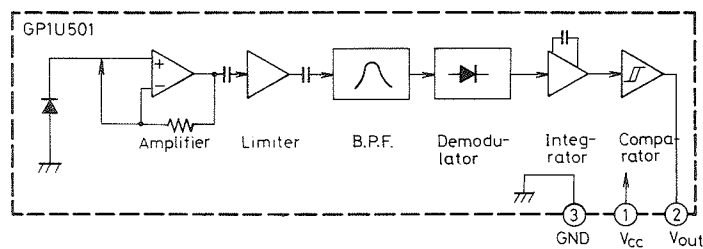
#### LC7566 (IC602)



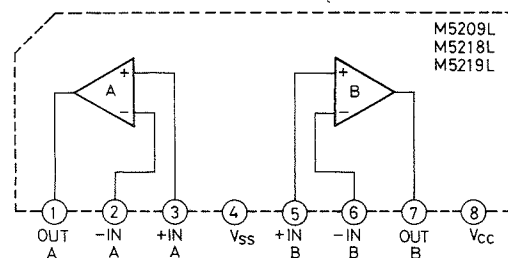
#### VOLTAGE SELECTOR CONNECTION



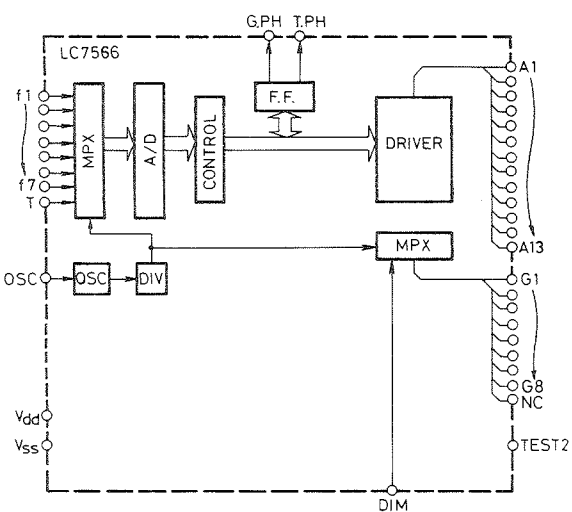
#### GP1U501V (IC102)



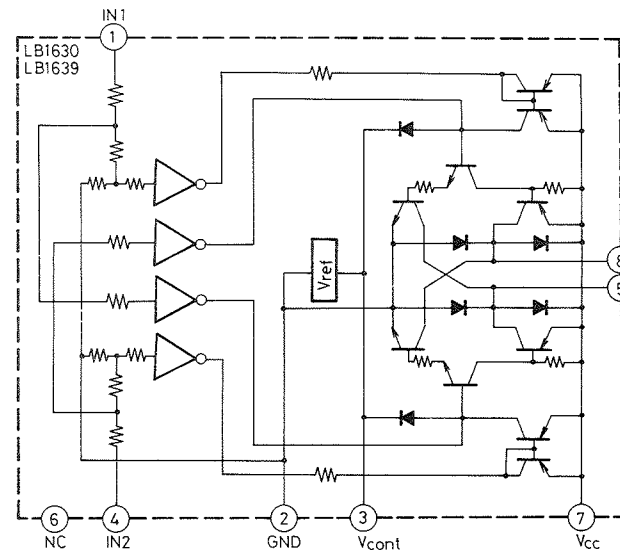
#### M5218L (IC301, IC401, IC402)



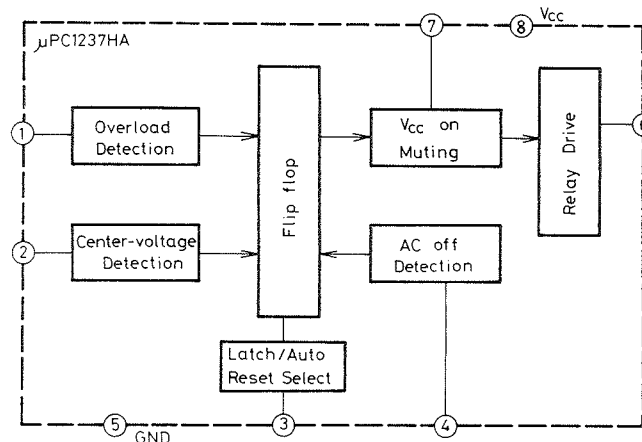
#### LC7566 (IC602)

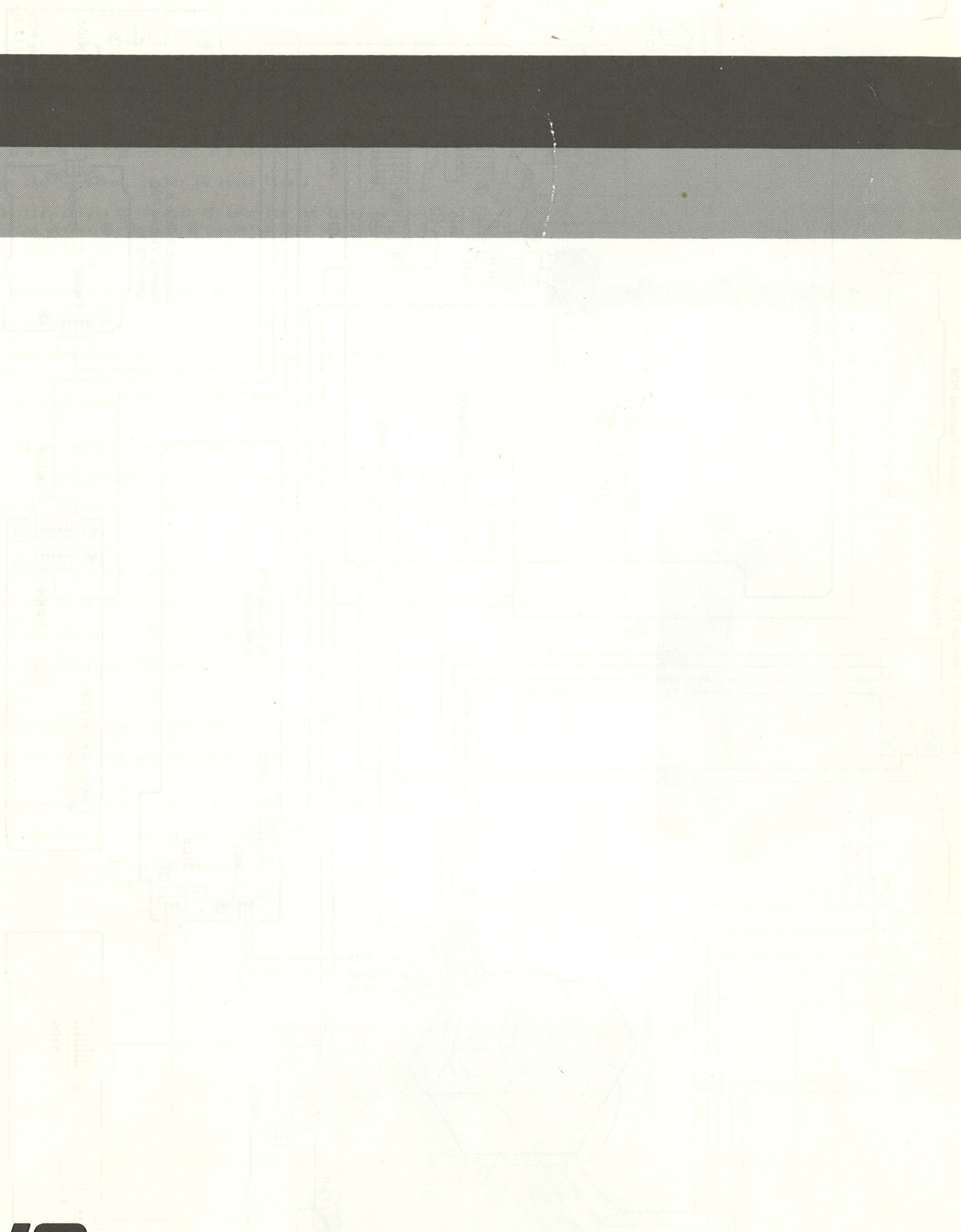


#### LB1639 (IC421)



#### μPC1237HA (IC901)





AUDIO PRODUCTS DIVISION, YAMATO PLANT, 1644, SHIMOTSURUMA, YAMATO-SHI, KANAGAWA-KEN, 242, JAPAN