

# JVC

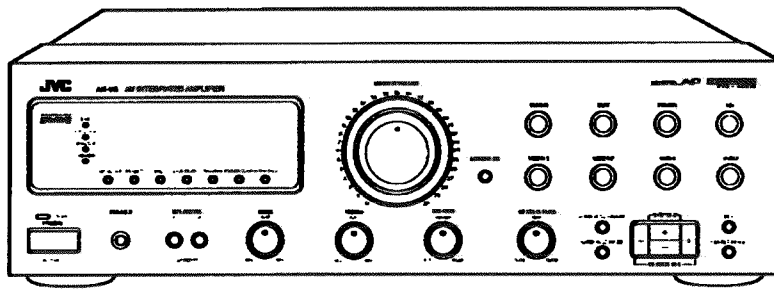
# SERVICE MANUAL

## AV INTEGRATED AMPLIFIER

# AX-V8BK

### Area Suffix

Bs	.....	the U.K
EF	.....	Continental Europe Except Germany & Italy
EN	.....	Nordic Countries
G	.....	Germany
GI	.....	Italy
UB	.....	Hong Kong
US	.....	Singapore
UT	.....	Taiwan
U	.....	Universal Except All of Above



**COMDU LINK**  
*Control Component*

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## Safety Precautions

1. The design of this product contains special hardware and many 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. Services 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 manufacture of responsibility for personal injury or property damage resulting therefrom.
3. Many electrical and mechanical parts in the products 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 ( $\Delta$ ) 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 parts 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 parts 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 0.5mA AC (r.m.s.).

- Alternate check method

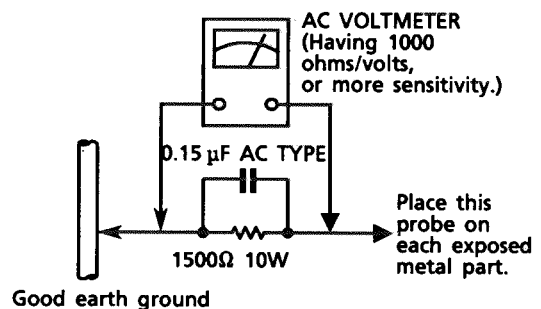
Plug the AC line cord directly into the AC outlet. Use an AC voltmeter having, 1,000 ohms per volt or more sensitivity in the following manner. Connect a 1,500 $\Omega$  10 W resistor paralleled by a 0.15  $\mu$ F AC-type capacitor between an exposed metal part and a known good earth ground.

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

### Amplifier

Output Power	At Stereo operation Front Channels	90 watts per channel, min. RMS, driven into 4 ohms at 1 kHz with no more than 0.7% total harmonic distortion. (IEC268-3/DIN)
		60 watts per channel, min. RMS, driven into 8 ohms at 1 kHz with no more than 0.7% total harmonic distortion. (IEC268-3/DIN)
	At Surround operation Front Channels	45 watts per channel, min. RMS, driven into 8 ohms, 20 Hz to 20 kHz with no more than 0.06% total harmonic distortion.
	Center channel	70 watts, min. RMS, driven into 8 ohms at 1 kHz, with no more than 0.7% total harmonic distortion.
	Rear channels	70 watts, min. RMS, driven into 8 ohms at 1kHz, with no more than 0.7% total harmonic distortion.
Total Harmonic Distortion (8 ohms, 1 kHz)		0.03 %* at 45 watts output (* Measured by JVC Audio Analysis System)
Frequency Response (8 ohms)	PHONO CD, TUNER, TAPE, VCR 1, VCR 2, VIDEO 1, VIDEO 2	20 Hz to 20 kHz (±1 dB) 10 Hz to 50 kHz (±1 dB)
Audio Input Sensitivity/ Impedance (1 kHz)	PHONO CD, TUNER, TAPE, VCR 1, VCR 2, VIDEO 1, VIDEO 2	2.5 mV/47 k ohms 200 mV/47 k ohms
Audio Output Level	TAPE, VCR 1, VCR 2	200 mV
Signal-to-Noise Ratio (‘66 IHF/DIN)	PHONO CD, TUNER, TAPE, VCR 1, VCR 2, VIDEO 1, VIDEO 2	75 dB/67 dB 90 dB/69 dB
RIAA Phono Equalization		±0.5 dB (20 Hz to 20 kHz)
LOUDNESS control (Volume Control at -30 dB)		+5 ±2 dB at 100 Hz
Tone Control Range	BASS TREBLE	+8 ±2 dB, -8 ±2 dB (at 100 Hz) +8 ±2 dB, -8 ±2 dB (at 10 kHz)
Video Input Sensitivity/ Impedance	VCR 1, VCR 2, VIDEO 1, VIDEO 2	1 Vp-p/75 ohms
Video Output Level	VCR 1, VCR 2, MONITOR OUT	1 Vp-p (at 1 Vp-p input)
Synchronization		negative
Signal-to-Noise Ratio		45 dB

### General

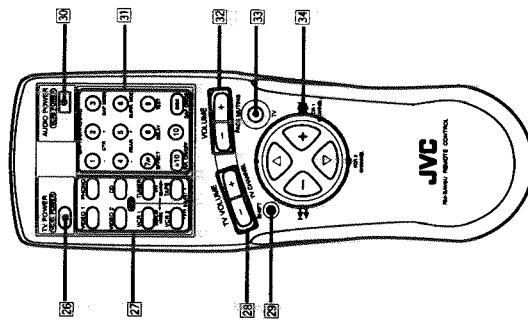
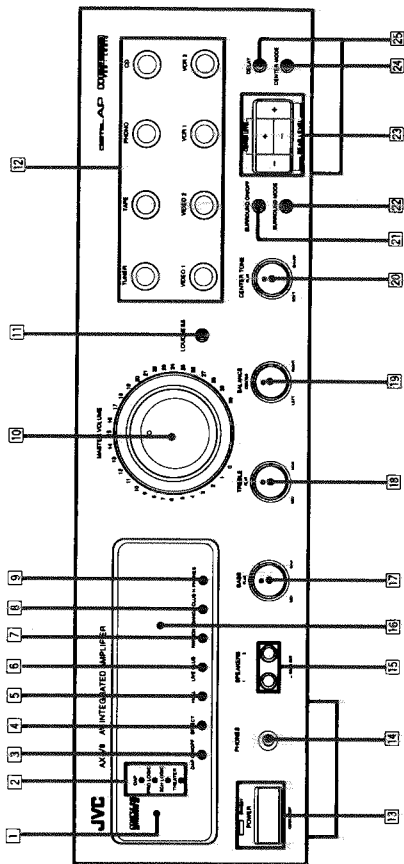
Power Requirements	AC 230V <sup>~</sup> , 50 Hz
Power Consumption	310 watts 5 watts (in standby mode)
Dimensions (W x H x D)	435 x 147 x 359.3 mm (17 3/16 x 5 13/16 x 14 3/16 inches)
Mass	9.0 kg (19.9 lbs)

Designs & specifications are subject to change without notice.

**Introduction**

Become familiar with the buttons and controls on your AX-V8BK before use.

**Switches, Buttons and Controls**



**Front Panel**

- 1 Remote sensor
- 2 DAP and surround mode indicators (14, 16, 18)
- 3 DAP ON/OFF button (14, 18)
- 4 EFFECT button (14, 17)
- 5 HALL button (14, 18)
- 6 LIVE CLUB button (14, 18)
- 7 PAVILION button (14, 18)
- 8 DANCE CLUB button (14, 18)
- 9 H PHONES button (14, 18)
- 10 MASTER VOLUME control (11)
- 11 LOUDNESS button (12)
- 12 Source selecting buttons (TUNER, TAPE, PHONO, CD, VIDEO 1, VIDEO 2, VCR 1, VCR 2) (10)
- 13 POWER button and STANDBY indicator (10)
- 14 PHONES jack (12)
- 15 SPEAKERS 1/2 buttons (11)
- 16 Display (10)
- 17 BASS control (11)
- 18 TREBLE control (11)
- 19 BALANCE control (11)
- 20 CENTER TONE control (19)
- 21 SURROUND ON/OFF button (16, 19)
- 22 SURROUND MODE button (16, 19)
- 23 CENTER LEVEL/REAR LEVEL buttons (+/-) (14, 17)
- 24 CENTER MODE button (16)
- 25 DELAY button (17)

**Remote Control**

- 26 TV POWER button (22)
- 27 VCR 1 POWER button (22)
- 28 Source selecting buttons (10)
- 29 RDS operating buttons (21)
- 30 TV VOLUME buttons (+/-) (22)
- 31 TV CHANNEL buttons (+/-) (22)
- 32 SHIFT button (14, 16, 18, 21, 22)
- 33 AUDIO POWER button (10)
- 34 VCR 2 POWER button (22)
- 35 10 keys (21)
- 36 DAP adjustment buttons (14, 18) (16, 19)
- 37 Surround adjustment buttons (16, 19)
- 38 VOLUME buttons (+/-) (11)
- 39 FADE MUTING button (12)
- 40 TV button (22)
- 41 Operating buttons for JVC audio/video components (21, 22)
- 42 VCR 1/VCR 2 CHANNEL buttons (22)

*\* Some buttons on the remote control have been assigned more than one function. To have the buttons function as marked in green, press the SHIFT button at the same time.*

**Getting Started**

This section explains how to connect stereo components and speakers to the AX-V8BK, and how to connect the power supply.

**Before Installation**

**General**

- Be sure your hands are dry.
- Turn the power off to all components.
- Read the manuals supplied with the components you are going to connect.

**Locations**

- Install the unit in a location that is level and protected from moisture.
- The temperature around the unit must be between 23° and 104° F (-5° and 40° C).
- Make sure there is good ventilation around the unit. Poor ventilation could cause overheating and damage the unit.

**Handling the unit**

- Do not insert any metal object into the unit.
- Do not disassemble the unit or remove screws, covers, or cabinet.
- Do not expose the unit to rain or moisture.

**Checking the Supplied Accessories**

Check to be sure you have all of the following items, which are supplied with the AX-V8BK. The number in the parenthesis indicates quantity of the pieces supplied.

- Remote Control (1)
- Batteries (2)
- Mains Plug (Only for the U.K.) (1)

If anything is missing, contact your dealer immediately.

**Connecting the Speakers**

- You can connect the following speakers:
- Two sets of front speakers to produce normal stereo sound.
  - One set of rear speakers to enjoy the surround effect.
  - One center speaker to produce more effective surround effect (to make human voices outstanding).
  - One subwoofer speaker to enhance the bass.


**About the speaker impedance of the speakers**

**CAUTION:** When connecting speakers, use speakers with the same **SPEAKER IMPEDANCE** indicated by the speaker terminals.

**Notes:**

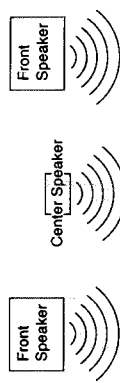
- The required speaker impedance of the front speakers differs depending on whether or not a center and/or rear speakers are connected at the same time. Since there are four possible speaker connections with the AX-V8BK, check which one fits your case and use the speaker with the impedance described below.
- The required speaker impedance of the front speakers does not differ depending on whether both the FRONT SPEAKERS (L) and FRONT SPEAKERS (R) terminals are used or only one of them is used.

**CASE 1** When you connect only front speakers



Use front speakers with 4 — 16 ohm impedance.

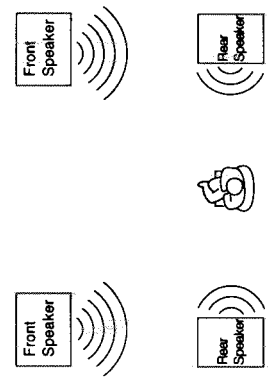
**CASE 2** When you connect front speakers and a center speaker



Use the following speakers:

- Front speakers: 8 — 16 ohm impedance
- Center speaker: 8 — 16 ohm impedance

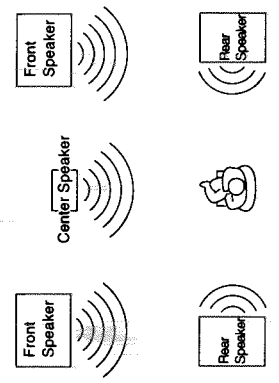
**CASE 3** When you connect front and rear speakers



Use the following speakers:

- Front speakers: 8 — 16 ohm impedance
- Rear speakers: 8 — 16 ohm impedance

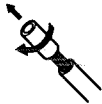
**CASE 4** When you connect front and rear speakers as well as a center speaker



Use the following speakers:

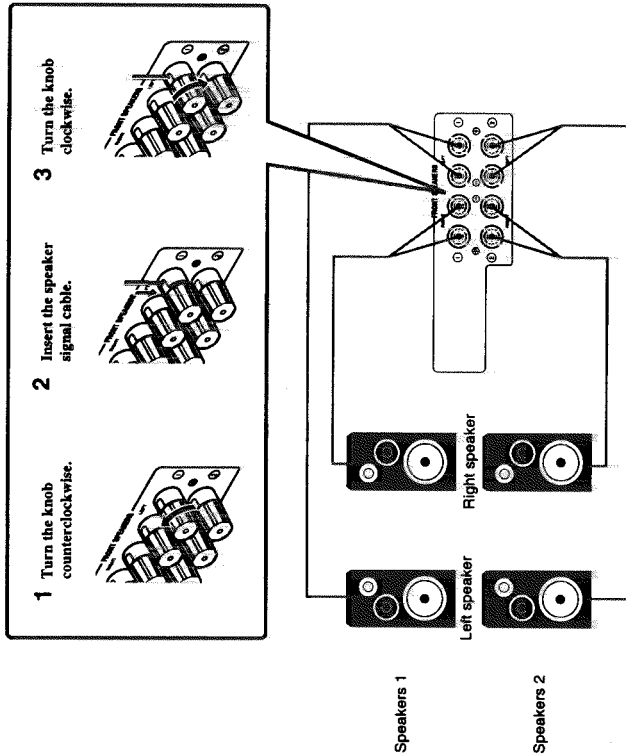
- Front speakers: 8 — 16 ohm impedance
- Rear speakers: 8 — 16 ohm impedance
- Center speaker: 8 — 16 ohm impedance

**Connecting the front speakers**



Cut, twist and remove the insulation at the end of each speaker signal cable first, and then, connect the front speakers to the FRONT SPEAKERS terminals by using the cables.

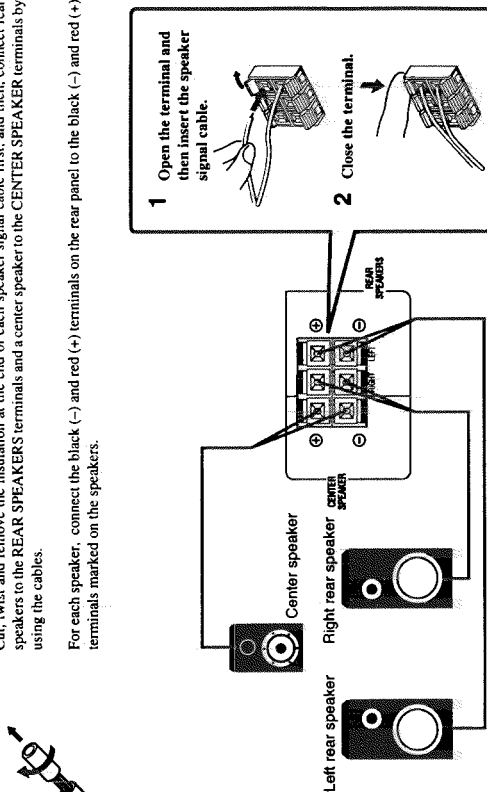
For each speaker, connect the black (-) and red (+) terminals on the rear panel to the black (-) and red (+) terminals marked on the speakers.



**Connecting the rear and center speakers**

Cut, twist and remove the insulation at the end of each speaker signal cable first, and then, connect rear speakers to the REAR SPEAKERS terminals and a center speaker to the CENTER SPEAKER terminals by using the cables.

For each speaker, connect the black (-) and red (+) terminals on the rear panel to the black (-) and red (+) terminals marked on the speakers.

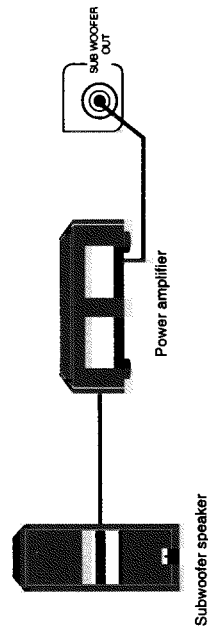


**Note:**  
When you connect rear speakers, make sure that both left and right speakers are connected; otherwise, no sound will come out of the rear speakers.

**Enhancing the bass**

You can enhance the bass by connecting a subwoofer. To connect a subwoofer, you also need a power amplifier.

- 1 Connect the input jack of the power amplifier to the SUB WOOFER OUT jack on the rear panel.
- 2 Connect a subwoofer speaker to the speaker terminals of the power amplifier.

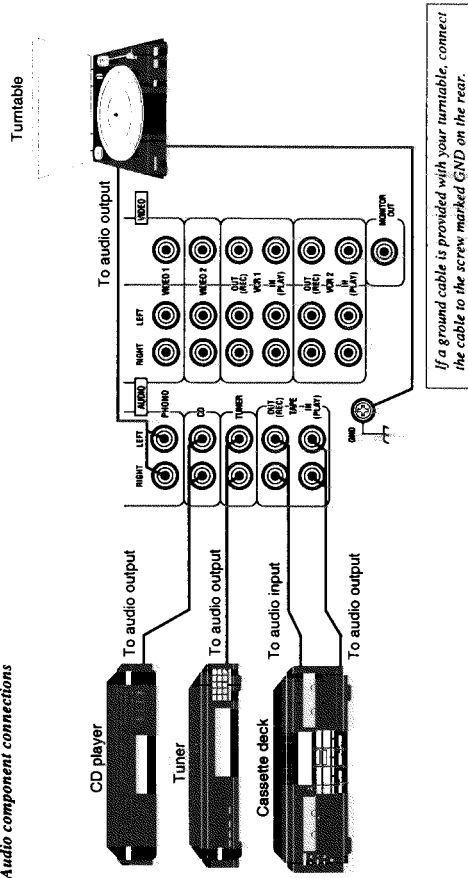


**Connecting Audio/Video Components**

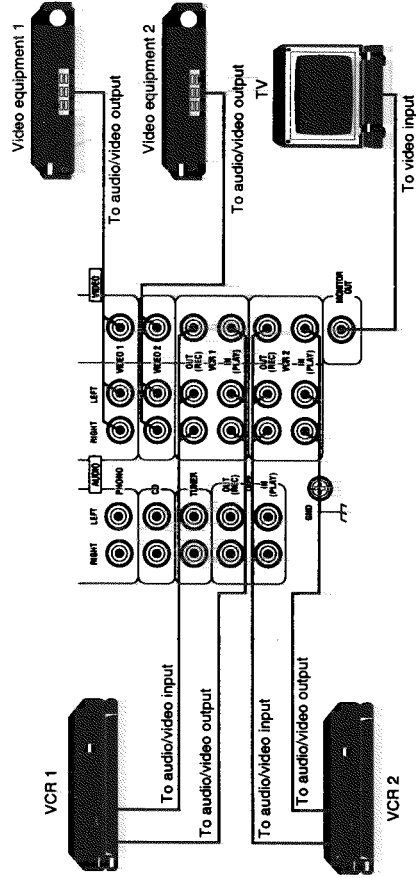
You can connect the following components to the AX-V8BK using cables with RCA pin plugs.

- Notes:**
- Both plugs and jacks are color-coded; the red ones are for right audio signals, the white ones for left audio signals, and yellow ones for video signals.
  - Any turntables incorporating a small-output cartridge such as an MC (moving-coil type) must be connected to this amplifier through a commercial head amplifier or step-up transformer. Direct connection may result in insufficient volume.

**Audio component connections**



**Video component connections**

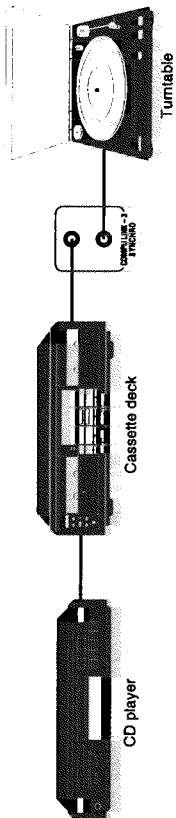


**Connecting Audio Components for the COMPU LINK-3 Remote Control System**

The COMPU LINK-3 remote control system allows you to control other JVC audio components from the AX-V8BK or vice versa. To use this system, connect your JVC audio components and the AX-V8BK with the cable (monaural mini-plug) supplied with those components.

If your audio component has two COMPU LINK-3 SYNCHRO jacks, you can use either one. If it has only one COMPU LINK-3 SYNCHRO jack, connect it so that it is the last item in the series of components. (For example, the turntable or CD player in the diagram below)

- Notes:**
- The COMPU LINK-3 remote control system is the upgraded version of the COMPU LINK-1 and COMPU LINK-2. Even if your component has the COMPU LINK-1 or COMPU LINK-2 jacks, you can still connect it in the COMPU LINK-3 remote control system, but some functions may not work correctly.
  - For more information about the COMPU LINK-3 (-1 and -2) remote control system, see page 20.

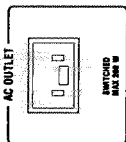


**Power Supply through the AX-V8BK to the Connected Component**

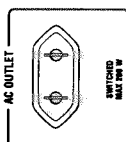
You can use the AC outlet on the rear of the AX-V8BK to supply power to an audio component. This AC outlet is a "switched" outlet. So when the AX-V8BK is off (that is, in standby mode), power is not supplied through this outlet. By turning the AX-V8BK on and off, you can turn the connected component on and off at the same time.

**Note:**  
Do not use the AC outlet on the rear of the AX-V8BK to supply power to a component in the COMPU LINK remote control system; otherwise, the COMPU LINK remote control system may not work correctly.

**CAUTION:**  
Do not plug a component to the AC outlet on the rear if its power consumption is greater than indicated by the AC outlet.



For the U.K.



For Continental Europe

**Connecting the Power Cord**

Before plugging the AX-V8BK into a wall outlet, make sure that all connections have been made. When the power cord is connected, the STANDBY indicator above the POWER button lights up.

Keep the power cord away from the connecting cables for the TV, VCR, and antenna. The power cord may cause noise or screen interference.

- Notes:**
- A small amount of power is always consumed even in standby mode. To switch off the power completely, unplug the power cord from the wall outlet.
  - If the power cord is unplugged or a power failure occurs, preset settings will be erased in a few days.

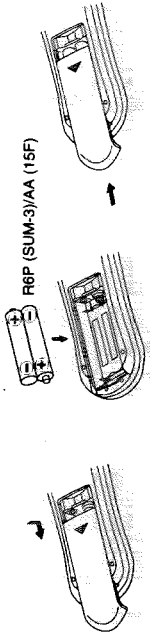
**CAUTIONS:**

- Do not touch the power cord with wet hands.
- Do not pull on the power cord to unplug the unit. When unplugging the unit, always grasp the plug itself so as not to damage the cord.

**Putting Batteries in the Remote Control**

Before using the remote control, put two supplied batteries first. When using the remote control, aim the remote control directly at the remote sensor on the AX-V8BK.

1. On the back of the remote control, press down on the battery cover and slide it out.
2. Insert batteries. Make sure to observe the proper polarity: (+) to (+) and (-) to (-).
3. Slide the cover in.



If the range or effectiveness of the remote control decreases, replace the batteries. Use two R6P (SUM-3)/AA (15F) type dry-cell batteries.

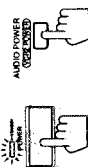
**CAUTIONS:**  
Follow these precautions to avoid leaking or cracking cells:

- Place batteries in the remote control so they match the polarity indicated: (+) to (+) and (-) to (-).
- Use the correct type of batteries. Batteries that look similar may differ in voltage.
- Always replace both batteries at the same time.
- Do not expose batteries to heat or flame.

**Basic Operations**

The following operations are commonly used when you play any sound source.

**Turning the Power On and Off**



To turn on the power, press the POWER button on the front panel or the AUDIO POWER button on the remote control.  
The STANDBY indicator goes off.  
To turn off the power, press the POWER button or AUDIO POWER button on the remote control again.  
The STANDBY indicator lights up.

**Selecting the Source to Play**

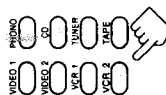
You need to select the source to listen or to watch before you start playing any source.

Press the desired source selecting button so that the desired source name appears on the display.



Selected source name appears

On the front panel



From the remote control

- TUNER\* Listen to the radio.
- TAPE\* Listen to cassette tapes.
- PHONO\* Listen to records.
- CD\* Listen to CDs.
- VIDEO 1 Watch the video source through the component connected to the VIDEO 1 jacks.
- VIDEO 2 Watch the video source through the component connected to the VIDEO 2 jacks.
- VCR 1 Watch the video source through the component connected to the VCR 1 jacks.
- VCR 2 Watch the video source through the component connected to the VCR 2 jacks.

Notes:

- \* When you press one of the source selecting buttons on the remote control marked above with an asterisk (\*), the AX-V8BK automatically turns on.
- \* If you press the one of the video source selecting buttons (VCR 1, VCR 2, VIDEO 1 and VIDEO 2), aiming at the remote sensor of a JVC's TV, the TV's input mode will change to the "VIDEO" position (or the "VIDEO 1" position).

**Selecting different sources for picture and sound**

You can watch picture from video equipment while listening to sound from audio equipment.  
To listen to the sound from audio equipment while watching the picture from video equipment, press one of the source selecting buttons for the video equipment (VCR 1, VCR 2, VIDEO 1 or VIDEO 2), then press one of the source selecting buttons for the audio equipment (TUNER, TAPE, PHONO or CD).

**Selecting the Front Speakers**

When you have connected two sets of front speakers, you can select which to use. Pressing in the SPEAKERS 1 or SPEAKERS 2 button activates the respective set of speakers.

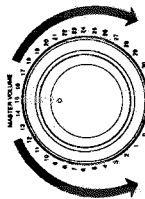


To use the set of the speakers connected to the FRONT SPEAKERS ① terminals, press in the SPEAKERS 1 button (=ON) and press out the SPEAKERS 2 button (=OFF).  
To use the set of the speakers connected to the FRONT SPEAKERS ② terminals, press in the SPEAKERS 2 button (=ON), and press out the SPEAKERS 1 button (=OFF).  
To use both sets of the speakers, press in both the SPEAKERS 1 and 2 buttons (=ON).  
To use neither set of the speakers, press out both the SPEAKERS 1 and 2 buttons (=OFF).

Note:

When only one set of the speakers is connected to either the FRONT SPEAKERS ① or ② terminals, do not press in both SPEAKERS 1 and 2 buttons (=ON). If you do, no sound comes out of the front speakers.

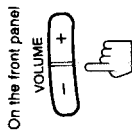
**Adjusting the Volume**



On the front panel:  
To increase the volume, turn the MASTER VOLUME control clockwise.  
To decrease the volume, turn the MASTER VOLUME control counterclockwise.

From the remote control:

To increase the volume, press the VOLUME + button.  
To decrease the volume, press the VOLUME - button.

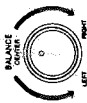


From the remote control

**CAUTION:**  
Always set the MASTER VOLUME control to the minimum before starting any source. If the MASTER VOLUME control is left turned up, the sudden blast of sound energy can permanently damage your hearing and/or ruin your speakers.

**Adjusting the Front Speaker Output Balance**

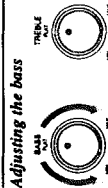
If the sounds you hear from the right and left front speakers are unequal, you can adjust the speaker output balance with the BALANCE control.



To decrease the left channel sound, turn the BALANCE control clockwise.  
To decrease the right channel sound, turn the BALANCE control counterclockwise.  
When set to the CENTER position, output levels from both speakers are equal.

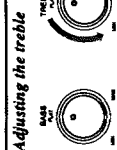
**Adjusting the Tone**

You can increase or decrease the amount of bass and treble reinforcement.



Adjusting the bass

To increase the bass reinforcement, turn the BASS control clockwise.  
To decrease the bass reinforcement, turn the BASS control counterclockwise.  
When set to the FLAT position, no bass reinforcement is applied.



Adjusting the treble

To increase the treble reinforcement, turn the TREBLE control clockwise.  
To decrease the treble reinforcement, turn the TREBLE control counterclockwise.  
When set to the FLAT position, no treble reinforcement is applied.



**Listening at Low Volume (Loudness)**

Human ears are not sensitive to bass at low volume. To compensate for this, the loudness function automatically boosts the bass level as you lower the volume.



To use the loudness function, press the LOUDNESS button on the front panel. The LOUDNESS indicator lights up on the display.

To turn the function off, press the LOUDNESS button again. The LOUDNESS indicator goes off.

**Muting the Sound (Fade Muting)**



You can easily turn down the volume by pressing the FADE MUTING button on the remote control.

To mute the sound through all speakers and headphones connected, press the FADE MUTING button so that the MASTER VOLUME control rotates counterclockwise (volume level turns down).

To cancel the mute mode, press the VOLUME + button (or the VOLUME - button) on the remote control.

**Recording a Source**

You can record any source playing through the AX-V8BK to the cassette deck connected to the TAPE jacks, and the YCRs connected to the VCR 1 and VCR 2 jacks. While recording, you can listen to the selected sound source at whatever sound level you like, without affecting the sound levels of the recording.

**Note:**  
The output volume level, tone adjustment, DAP modes and surround modes will not affect the recording.

**Listening with Headphones**

A standard pair of headphones can be connected to the PHONES jack on the front panel.

To listen only with headphones, press out both the SPEAKERS 1 and 2 buttons (OFF).

**CAUTION:**  
Be sure to turn down the volume before connecting or putting on headphones, as high volume can damage both the headphones and your hearing.

**Using the Digital Surround Processor**

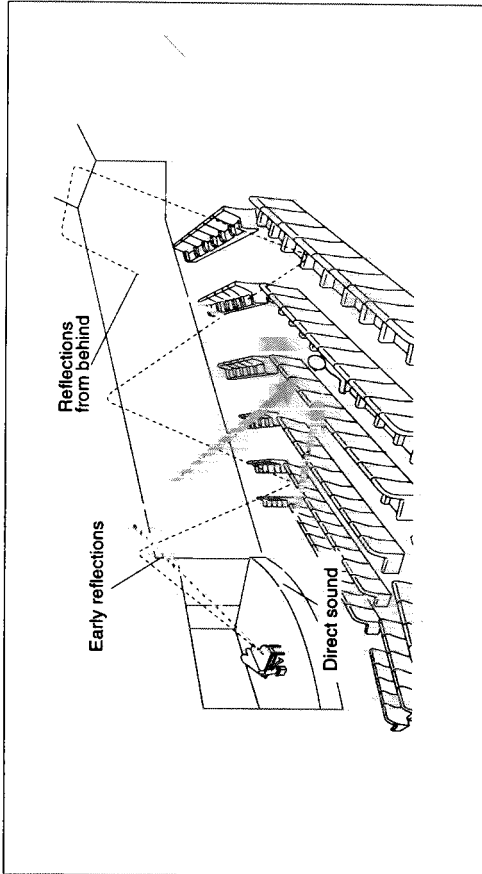
The built-in digital surround processor provides two groups of programs — DAP (Digital Acoustic Processor) modes and surround modes (Dolby Surround\* and JVC Theater Surround). You cannot use the DAP mode and surround mode at the same time. When you turn on the DAP mode, the surround mode is turned off (if it has been on), and vice versa.

**Notes:**

- The digital surround processor has no effect on monaural sources.
- The digital surround processor cannot be used for recording.
- Manufactured under license from Dolby Laboratories Licensing Corporation. DOLBY, the double-D symbol and PRO LOGIC are trademarks of Dolby Laboratories Licensing Corporation.

**What can the digital surround processor do?**

The sound heard in a concert hall or a movie theater consists of direct sound and indirect sound: early reflections and reflections from behind. The reflected sounds are always delayed by the distances of the ceiling and walls from the listener. These reflections are some of the most important elements of the acoustic surround. So, what the digital surround processor does is to reproduce these elements in your listening room. To use the digital surround processor, you need to connect rear speakers (and a center speaker) as well as the front speakers.

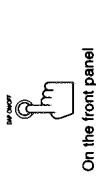



**Preparing for the DAP Modes**

You can use five DAP modes — HALL, LIVE CLUB, PAVILION, DANCE CLUB and H.PHONES (headphones). These modes (except H.PHONES) require rear speakers, but do not require a center speaker to enlarge the sound field. (For speaker arrangement, see speaker arrangement CASE 2 on page 15.) Among the DAP modes, H.PHONES is very special, and no adjustment is required. It can create the same stereo sound as you can listen through the speakers in air while listening to a source using headphones. So, you can feel as if you were not using headphones.

**Preparation method for the DAP modes**

Once you have set the DAP modes, you can use the same adjustment every time you want to enjoy the DAP mode you want. The AX-V8BK memorizes these adjustments for each mode. To use the DAP mode, see "Using the DAP modes" on page 18.

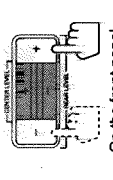

1. Set the DAP mode on.  
 On the front panel:  
  
 On the remote control:  


2. Select a DAP mode you want.  
 On the front panel:  
  
 From the remote control:  


Press the DAP MODE button repeatedly while pressing the SHIFT button, until the mode you want appears on the display.  
 Each time you press the button, the DAP modes change as follows:





- HALL:** Gives clear vocal and the feeling of a concert hall.
- LIVE CLUB:** Gives the feeling of a live music club with the low ceiling.
- PAVILION:** Gives the spacious feeling of a pavilion with the high ceiling.
- DANCE CLUB:** Gives a throbbing bass beat.
- H.PHONES:** Gives a spacious stereo effect when listening with headphones.

3. Set the output levels of the rear speakers.  
 On the front panel:  
  
 From the remote control:  


**Notes:**

- You can adjust the sound level in 1 dB step within the range of  $\pm 10$  dB. The sound level of the left and right rear speakers will be the same.
- When you have selected H.PHONES, you cannot set the output levels of the rear speakers.

4. Select the effect depth among 5 preset levels.  
 On the front panel:  
  
 From the remote control:  





Selecting the higher number makes the effect deeper.


**Note:**  
 When you have selected H.PHONES, you cannot select the effect depth.

**Preparing for the Surround Modes**

You can enjoy two types of surround modes — Dolby Surround and JVC's Theater Surround.

**On Dolby Surround**  
 The Dolby Surround has been also developed to reproduce the important elements of the acoustic surround at home.  
 To watch the soundtracks of video software bearing the mark  which includes the same encoded surround information as found in Dolby Stereo films, the AX-V8BK can provide you with 2 Dolby Surround modes (Dolby Pro Logic and Dolby 3ch Logic).  
**Dolby Pro Logic:** Select this mode when optional rear speakers (and a center speaker) are connected.  
**Dolby 3ch Logic:** Select this mode when a center speaker is connected without rear speakers.

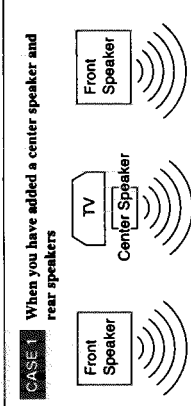
**On JVC's Theater (1 and 2) Surround**

In order to reproduce a more realistic sound field in your listening room while playing soundtracks of video software bearing the mark  JVC's Theater Surround has been designed to give you clearer vocals and to create the feeling of being there. The sound is reproduced through the front speakers, rear speakers, and center speaker.

**Speaker arrangements for surround modes**

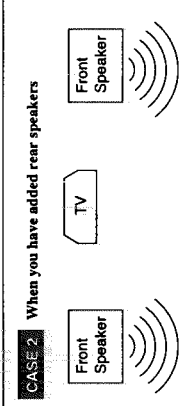
The following illustrations show how to obtain the optimum sound environment for various surround modes. Try to find the speaker direction and location to create the optimum sound field.

**CASE 1** When you have added a center speaker and rear speakers



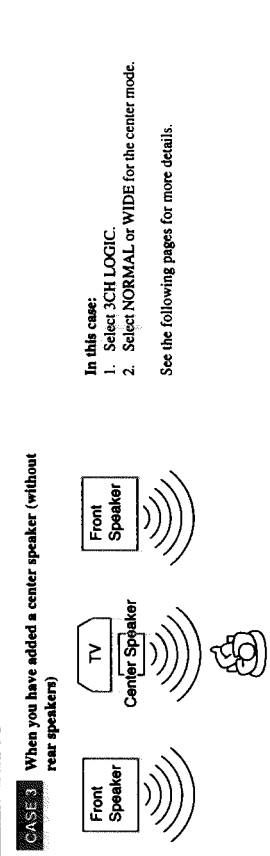
**In this case:**  
 1. Select PRO LOGIC, or THEATER 1 or 2.  
 2. Select NORMAL or WIDE for the center mode.  
 See the following pages for more details.

**CASE 2** When you have added rear speakers



**In this case:**  
 1. Select PRO LOGIC, or THEATER 1 or 2.  
 2. Select PHANTOM for the center mode.  
 See the following pages for more details.  
 (You can also use this speaker arrangement for the DAP modes. See pages 14 and 18.)

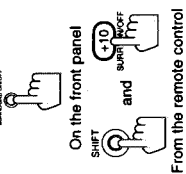
**CASE 3** When you have added a center speaker (without rear speakers)



**In this case:**  
 1. Select 3CH LOGIC.  
 2. Select NORMAL or WIDE for the center mode.  
 See the following pages for more details.

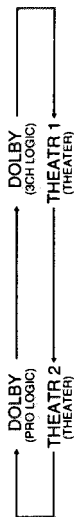
**Preparation method for the surround modes**

Once you have set the surround modes, you can use the same adjustment every time you want to enjoy the surround you want. The AX-V8BK memorizes surround adjustments for each mode. To use the surround mode, see "Using the surround modes" on page 19.

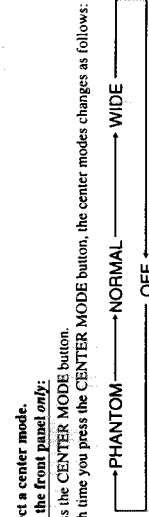


1. **Set the surround mode on.**  
**On the front panel:**  
 Press the SURROUND ON/OFF button so that one of the surround mode indicators (PRO LOGIC, 3CH LOGIC or THEATER) lights up on the display.  
**From the remote control:**  
 Press the SURR. ON/OFF button while pressing the SHIFT button so that one of the surround mode indicators lights up on the display.

2. **Select a surround mode you want.**  
**On the front panel:**  
 Press the SURROUND MODE button repeatedly until the mode you want is selected.  
 Each time you press the button, the surround modes change as follows:  
**From the remote control:**  
 Press the SURR. MODE button repeatedly while pressing the SHIFT button, until the mode you want is selected.  
 Each time you press the button, the surround modes change as follows:



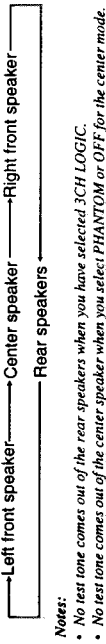
3. **Select a center mode.**  
**On the front panel only:**  
 Press the CENTER MODE button.  
 Each time you press the CENTER MODE button, the center modes change as follows:  
 PHANTOM → NORMAL → OFF → WIDE



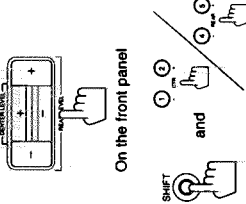
- PHANTOM:** Select this mode when you don't use a center speaker.  
**NORMAL:** Select this mode when the size of the center speaker is smaller than that of the front speakers.  
**WIDE:** Select this mode when the size of the center speaker is the same as that of the front speakers.  
**OFF:** Select this mode to shut off the output of the center channel signal.
- Note:*  
 When you have selected 3CH LOGIC, you cannot select PHANTOM.

To be continued to the next page

4. **Set the delay time of the delayed sound.**  
**On the front panel:**  
 Press the DELAY button repeatedly.  
 Each time you press the button, the delay time changes among 4 levels as follows:  
**From the remote control:**  
 Press the DELAY button repeatedly while pressing the SHIFT button.  
 Each time you press the button, the delay time changes among 4 levels as follows:  
 DELAY-1 → DELAY-2 → DELAY-3 → DELAY-4 → DELAY-1  
**DELAY-1:** When your distance to your rear speakers is greater than that to the front speakers.  
**DELAY-2:** When your distance to your rear speakers is almost equal to that to the front speakers.  
**DELAY-3:** When your distance to your rear speakers is a little less than that to the front speakers.  
**DELAY-4:** When your distance to your rear speakers is much less than that to the front speakers.



- Note:*  
 When you have selected 3CH LOGIC, you cannot adjust the delay time.
5. **Start checking speaker output balance.**  
**From the remote control only:**  
 Press the TEST button while pressing the SHIFT button.  
 When you press the button, "TEST" starts flashing and a test tone comes out of speakers in the following order:  
 Left front speaker → Center speaker → Rear speakers → Right front speaker



- Notes:*
- No test tone comes out of the rear speakers when you have selected 3CH LOGIC.
  - No test tone comes out of the center speaker when you select PHANTOM or OFF for the center mode.
6. **Set the output levels of the center and the rear speakers.**  
**On the front panel:**  
 Press the CENTER LEVEL +/- button repeatedly to set the sound level of the center speaker.  
 Press the REAR LEVEL +/- button repeatedly to set the sound level of the rear speakers.  
**From the remote control:**  
 Press the CTR +/- button repeatedly while pressing the SHIFT button to set the sound level of the center speaker.  
 Press the REAR +/- button repeatedly while pressing the SHIFT button to set the sound level of the rear speakers.

- Notes:*
- You can adjust these levels in 1 dB step within the range of ±10 dB. The sound levels of the left and right rear speakers will be the same.
  - It is recommended that you adjust the output levels of all the speakers so that their sound levels become identical when they reach your listening point.
  - You cannot set the sound level of the rear speakers when you have selected 3CH LOGIC.
  - You cannot set the sound level of the center speaker when you have selected PHANTOM or OFF for the center mode.
7. **Finish checking speaker output balance.**  
**From the remote control only:**  
 Press the TEST button again while pressing the SHIFT button.  
 The test tone stops.

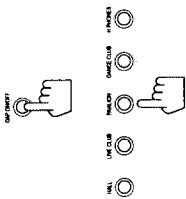
8. **Select the effect depth among 5 preset levels only for JVC's Theater Surround.**  
**On the front panel:**  
 Press the EFFECT button repeatedly.  
 Each time you press the button, the effect depth changes as follows:  
**From the remote control:**  
 Press the EFFECT button repeatedly while pressing the SHIFT button.  
 Each time you press the button, the effect depth changes as follows:  
 EFFECT1 → EFFECT2 → EFFECT3 → EFFECT4 → EFFECT5 → EFFECT1

Selecting the higher number makes the effect deeper.

*Note:*  
 When you have selected Dolby Surround modes (PRO LOGIC and 3CH LOGIC), you cannot select the effect depth.

**Enjoying the DAP Modes and Surround Modes**

**Using the DAP modes**



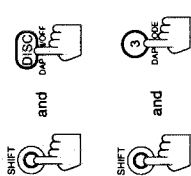
**On the front panel:**

1. Press the DAP ON/OFF button so that the DAP indicator lights up on the display. The DAP mode previously selected comes on.
  2. Press a DAP mode button you want — HALL, LIVE CLUB, PAVILION, DANCE CLUB or H-PHONES.
  3. Play a sound source.
- To cancel the DAP mode, press the DAP ON/OFF button again.

**From the remote control:**

1. Press the DAP ON/OFF while pressing the SHIFT button so that the DAP indicator lights up on the display. The DAP mode previously selected comes on.
  2. Press the DAP MODE button repeatedly while pressing the SHIFT button, until the mode you want appears on the display. Each time you press the button, the DAP modes change as follows:
 

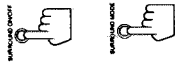
→	HALL	→	L CLUB	→	PAVILION
			(LIVE CLUB)		(PAVILION)
←	H PHONE	←	D CLUB	←	DANCE CLUB
	(H-PHONES)		(DANCE CLUB)		
  3. Play a sound source.
- To cancel the DAP mode, press the DAP ON/OFF button again while pressing the SHIFT button.



**Using the surround modes**

- On the front panel:**
1. Press the SURROUND ON/OFF button so that one of the surround mode indicators lights up on the display. The surround mode previously selected comes on.
  2. Press the SURROUND MODE button repeatedly until the surround mode you want is selected. Each time you press the button, the display changes to show the following:
 

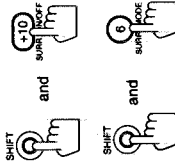
→	DOLBY	→	DOLBY
	(PRO LOGIC)		(SCH LOGIC)
←	THEATER 2	←	THEATER 1
	(THEATER)		(THEATER)
  3. Play a sound source which was processed with Dolby Surround and is labeled with mark.
- To cancel the surround mode, press the SURROUND ON/OFF button again.



**From the remote control:**

1. Press the SURR. ON/OFF button while pressing the SHIFT button so that one of the surround mode indicator lights up on the display. The surround mode previously selected comes on.
  2. Press the SURR. MODE button repeatedly while pressing the SHIFT button until the surround mode you want is selected. Each time you press the button, the display changes to show the following:
 

→	DOLBY	→	DOLBY
	(PRO LOGIC)		(SCH LOGIC)
←	THEATER 2	←	THEATER 1
	(THEATER)		(THEATER)
  3. Play a sound source which was processed with Dolby Surround and is labeled with mark.
- To cancel the surround mode, press the SURR. ON/OFF button again while pressing the SHIFT button.



**To make dialogues in movies softer or clearer**

By using the CENTER TONE control you can adjust the level of mid-frequency range, which the human voice is mostly made up of.



To make dialogues clearer, turn the CENTER TONE control toward SHARP.  
To make them softer, turn the CENTER TONE control toward SOFT.  
When set to the FLAT position, no adjustment is applied.

**Note:**  
The CENTER TONE control can be used only for the surround modes; however, it cannot be used when sounds do not come out of the center speaker.

**COMPU LINK Remote Control System**



The COMPU LINK remote control system allows you to operate JVC audio components through the remote sensor on the AX-V8BK. To use this remote control system, you need to connect JVC audio components through the COMPU LINK-3 SYNCHRO jacks (see page 8) in addition to the connections using cables with RCA pin plugs (see page 7). This remote control system allows you to use four functions listed below.

- **Remote Control through the Remote Sensor on the AX-V8BK**  
You can control all audio components through the remote sensor on the AX-V8BK using this remote control. For details, see page 21.

**Note:**  
Aim the remote control directly at the remote sensor on the AX-V8BK.

■ **Automatic Source Selection**

When you press the play button on a connected component or on its own remote control, the AX-V8BK automatically turns on and changes the source to the component. On the other hand, if you select a new source on the AX-V8BK or the remote control, the selected component begins playing immediately. In both cases, the previously selected source continues playing without sound for a few seconds.

■ **Automatic Power On/Off (only possible with the COMPU LINK-3 connection)**

The audio components (tuner, CD player and cassette deck) connected to the AX-V8BK automatically turn on and off along with the AX-V8BK. When you turn on the AX-V8BK, one of the connected component will turn on automatically, depending on which component has been previously selected. When you turn off the AX-V8BK, these components connected will turn off.

■ **Synchronized Recording**

Synchronized recording means the cassette deck starts recording as soon as a CD or a record begins playing.

To use synchronized recording, follow these steps:

1. Put a tape in the cassette deck, and a disc in the CD player (or a record on the turntable).
2. Press the record (●) button and the pause (H) button on the cassette deck at the same time. This puts the cassette deck into recording pause.

**Note:**  
If you do not press the record (●) button and pause (H) button at the same time, synchronized recording will not operate.

3. Press the play (▶) button on the CD player or on the turntable.

The source changes on the AX-V8BK, and as soon as play starts, the cassette deck starts recording. When the play ends, the cassette deck enters recording pause, and stops about 4 seconds later.

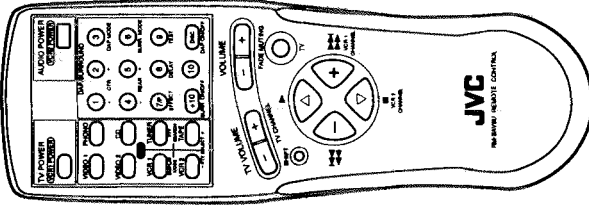
**Notes:**

- During synchronized recording, the selected source cannot be changed.
- If your CD player is playing in program mode, a 4-second blank is recorded between tracks so that the music scan feature of your cassette deck can be used on the recorded tape.
- If the power of any component is shut off during synchronized recording, the COMPU LINK remote control system may not operate properly. In this case, you must start again from the beginning.
- Refer also to the manuals supplied with your audio components.

**Using the Remote Control**

You can operate JVC's audio and video components with the AX-V8BK's remote control, since control signals for JVC components are preset in the remote control. To operate these components with the remote control, first select a source with the source selecting buttons on the remote control. Then, operate that source using the remote control.

**Note:**  
If you choose a source on the front panel, the remote control will not operate that source. To operate a source with the remote control, the source must be selected using buttons on the remote control.



**IMPORTANT:**

- To operate JVC's audio components using this remote control
- You need to connect JVC audio components through the COMPU LINK-3 SYNCHRO jacks (see page 8) in addition to the connections using cables with RCA pin plugs (see page 7).
- Aim the remote control directly at the remote sensor on the AX-V8BK.

**Tuner**

After pressing the TUNER button, you can perform the following operations on a tuner:

- 1 — 10, +10 Selects a preset channel number directly. To select channel number 5, press 5. For channel number 15, press +10, then 5. For channel number 20, press +10, then 10.
- RDS (Radio Data System) operating buttons (always used while the SHIFT button is pressed):
- PTY SEARCH Starts PTY (programme type) Search.
- PTY SELECT +/- Select programme type you want.
- DISPLAY MODE Changes the RDS information shown on the tuner's display.

**CD player**

After pressing the CD button, you can perform the following operations on a CD player:

- ▶ Starts playing.
- ◀ Returns to the beginning of the current (or previous) track.
- ▶▶ Skips to the beginning of the next track.
- Stops playing.
- 1 — 10, +10 Selects a track number directly. To select track number 5, press 5. For track number 15, press +10, then 5. For track number 20, press +10, then 10.

**CD player-changer**

After pressing the DISC button, you can perform the following operations on a CD player-changer:

- 1 — 6, 7/P Select the number of a disc installed in a CD player-changer. Then continue to operate the CD player-changer as described above.

**Note:**

- If you have the CD player-changer XL-MC100C and XL-MC100M, 1 — 6 buttons function as the DISC SKIP button.
- Press 2, 4, or 6 to skip to the next disc.
- Press 1, 3, or 5 to skip back to the previous disc.

**Cassette deck**

After pressing the TAPE button, you can perform the following operations on a cassette deck:

- ▶ Starts playback.
- ◀ Fast winds the tape from right to left.
- ▶▶ Fast winds the tape from left to right.
- Stops operation.

**Troubleshooting**

Use this chart to help you solve daily operational problems. If there is any problem you cannot solve, contact your JVC service center.

PROBLEM	POSSIBLE CAUSE	SOLUTION
The display does not light up.	The power cord is not plugged in.	Plug the power cord into an AC outlet.
No sound from speakers.	Speaker signal cables are not connected.	Check speaker wiring and reconnect if necessary.
	The SPEAKERS buttons are not set correctly.	Press the SPEAKERS buttons in or out correctly.
	An incorrect source is selected.	Select the correct source.
Sound from one speaker only.	Speaker signal cables are not connected properly.	Check speaker wiring and reconnect if necessary.
	The BALANCE control is set to one extreme.	Adjust the BALANCE control properly.
Howling during record playing.	Your turntable is too close to speakers.	Move speakers away from the turntable.
Remote control does not work.	There is an obstruction in front of the remote sensor on the AX-V8BK.	Remove the obstruction.
	Batteries are weak.	Replace batteries.

**IMPORTANT:**  
To operate JVC's video components using this remote control:  
• Aim the remote control directly at the remote sensor on the VCR or TV, not on the AX-V8BK.

**VCRs**

Some of JVC's VCRs can accept two types of the control signals — remote control code "A" and "B". Pressing the VCR 1 button sets this remote control to operate a VCR with remote control code "A"; on the other hand, pressing the VCR 2 button sets this remote control to operate a VCR with remote control code "B". Before using this remote control, make sure that the remote control code of the VCR connected to the VCR 1 jacks is set to code "A" and that of the VCR connected to the VCR 2 jacks is set to code "B". For setting the remote control code of the VCR, refer to the manuals supplied with your VCR.

After pressing the VCR 1 button or the VCR 2 button, you can perform the following operations on a VCR with the respective remote control code.

- ▶ Starts playback.
- ◀◀ Rewinds a video tape.
- ▶▶ Fast winds a video tape.
- Stops operation.

You can always perform the following on the VCR with remote control code "A":  
**VCR 1 CHANNEL (+/-)**  
 Changes the TV channels on the VCR (always used while the SHIFT button is pressed).

**VCR 1 POWER**  
 Turn on or off the VCR (always used while the SHIFT button is pressed).

You can always perform the following on the VCR with remote control code "B":  
**VCR 2 CHANNEL (▲/▼)**  
 Changes the TV channels on the VCR (always used while the SHIFT button is pressed).

**VCR 2 POWER**  
 Turn on or off the VCR (always used while the SHIFT button is pressed).

**Note:**

If you press the one of the video source selecting buttons (VCR 1, VCR 2, VIDEO 1 and VIDEO 2), aiming at the remote sensor of a JVC's TV, the TV's input mode will change to the "VIDEO" position (or the "VIDEO 1" position).

**TV**

You can always perform the following on a TV:

**TV** : Changes the TV's input mode to the "TV" position (always used while the SHIFT button is pressed).

**TV VOLUME +/-**  
 Adjust the TV volume.

**TV CHANNEL +/-**  
 Changes the TV channels (always used while the SHIFT button is pressed).

**TV POWER**  
 Turn on or off the TV.

# Description of Major ICs

## ■ MN171202K8H (IC401) : SYSTEM CONTROLLER 1

### 1. Terminal Layout

VDD	1	64	OSC1
KI0	2	63	OSC2
KI1	3	62	GND
KI2	4	61	
KI3	5	60	
D1/KO0	6	59	AC POWER
D2/KO1	7	58	LOUDNESS
D3/KO2	8	57	DAP LED
D4/KO3	9	56	THEATER LED
D5/KO4	10	55	3CH LED
D6/KO5	11	54	PROLOGIC LED
D7/KO6	12	53	SOURCE MUTE
D8/KO7	13	52	VOL LED
S0	14	51	VOL+
S1	15	50	VOL-
S2	16	49	COMPLINK OUT
S3	17	48	COMPLINK IN
VPP	18	47	
S4	19	46	DAP BUSY
S5	20	45	INH IN
S6	21	44	RM IN
S7	22	43	RESET
S8	23	42	CENTER MUTE
S9	24	41	REAR MUTE
S10	25	40	DAP REQ
S11	26	39	DAP RESET
S12	27	38	DATA
S13	28	37	STB1
S14	29	36	CLK
S15	30	35	SURR
VIDEO1	31	34	VIDEO4
VIDEO2	32	33	VIDEO3

### 2.Key Matrix

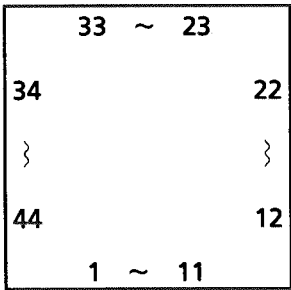
	KI0 (PIN2)	KI1 (PIN3)	KI2 (PIN4)	KI3 (PIN5)
KO0 (PIN6)	PHONO (S401)	CD (S402)	TUNER (S405)	TAPE (S406)
KO1 (PIN7)	VCR1 (S403)	VCR2 (S404)	VIDEO (S407)	VIDEO2 (S408)
KO2 (PIN8)	DANCE CLUB (S409)	PAVILION (S410)	HALL (S411)	LIVE CLUB (S412)
KO3 (PIN9)	POWER (S413)	H,PHONES (S414)	DAP ON/OFF (S415)	EFFECT (S416)
KO4 (PIN10)	SURR. (S417)	SURR.MODE (S418)	REARLEVEL- (S419)	REARLEVEL+ (S420)
KO5 (PIN11)	DELAY (S421)	CENTERMODE (S422)	CENTERLEVEL- (S423)	CENTERLEVEL+ (S424)
KO6 (PIN12)	LOUDNESS (S425)			
KO7 (PIN13)	(EXP/DOM)	Europe/Others (D432)		(TEST)

### 3. Description

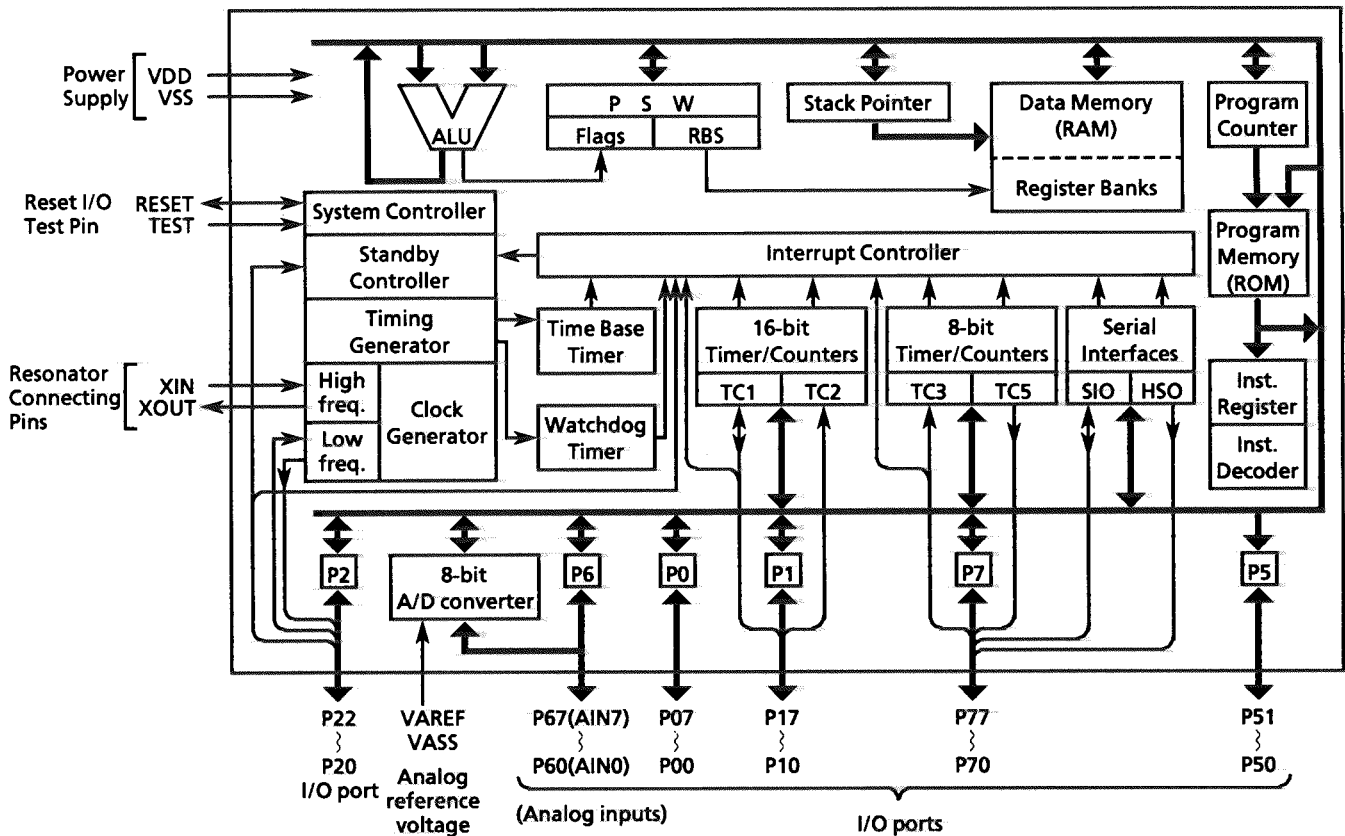
Pin No.	Symbol	I/O	Description	Pin NO.	Symbol	I/O	Description
1	VDD	-	Power supply	33	VIDEO3	O	Control signal to IC652
2	KI0	I	Key matrix Input	34	VIDEO4	O	Control signal to IC652
3	KI1	I	Key matrix Input	35	SURR	O	Surround on/off control
4	KI2	I	Key matrix Input	36	CLK	O	Clock output to IC151,IC231,IC096
5	KI3	I	Key matrix Input	37	STB1	O	Strobe signal to IC151,IC231
6	D1/KO0	O	Grid control signal/Key matrix output	38	DATA	O	Data output to IC151,IC231,IC096
7	D2/KO1	O	Grid control signal/Key matrix output	39	DAP RESET	O	DAP reset signal output
8	D3/KO2	O	Grid control signal/Key matrix output	40	DAP REQ	O	DAP request signal output
9	D4/KO3	O	Grid control signal/Key matrix output	41	REAR MUTE	O	Rear channel mute signal output
10	D5/KO4	O	Grid control signal/Key matrix output	42	CENTER MUTE	O	Center channel mute signal output
11	D6/KO5	O	Grid control signal/Key matrix output	43	RESET	O	RESET signal input
12	D7/KO6	O	Grid control signal/Key matrix output	44	RM IN	I	Remote signal input
13	D8/KO7	O	Grid control signal/Key matrix output	45	INH IN	I	Inhibit signal input
14	S0	O	Segment control signal	46	DAP BUSY	I	DAP busy signal input
15	S1	O	Segment control signal	47		I	Connected to GND
16	S2	O	Segment control signal	48	COMPULINK IN	I	COMPULINK signal input
17	S3	O	Segment control signal	49	COMPULINKOUT	O	COMPLINK signal output
18	VPP	O	Power supply	50	VOL-	O	VOL. control signal
19	S4	O	Segment control signal	51	VOL+	O	VOL. control signal
20	S5	O	Segment control signal	52	VOL LED	O	VOL indication control
21	S6	O	Segment control signal	53	SOURCE MUTE	O	SOURCE MUTE control signal
22	S7	O	Segment control signal	54	PROLOGIC LED	O	PROLOGIC indication control
23	S8	O	Segment control signal	55	3CH LED	O	3CH indication control
24	S9	O	Segment control signal	56	THEATER LED	O	THEATER indication control
25	S10	O	Segment control signal	57	DAP LED	O	DAP indication control
26	S11	O	Segment control signal	58	LOUDNESS	O	LOUDNESS control signal
27	S12	O	Segment control signal	59	AC POWER	O	Standby indication control signal
28	S13	O	Segment control signal	60	X1	-	GND
29	S14	O	Segment control signal	61	X2	-	Not used
30	S15	O	Segment control signal	62	VSS	-	GND
31	VIDEO1	O	Control signal to IC651	63	OSC2	-	Oscillation terminal
32	VIDEO2	O	Control signal to IC651	64	OSC1	-	Oscillation terminal

■ TMP87C847U-4195 (IC096) : CMOS 8-bit Microcontroller

1. Terminal Layout



2. Block Diagram



3. Pin Functions

Pin No.	Symbol	I/O	Functions
1	P73 (SCK)	I	Serial clock input from IC401
2	P72 (PWM/PDO)	I/O	Not used
3	P71 (INT4)	I/O	Not used
4	P70 (INT3/TC3)	I/O	Not used
5	P07 (ACK)	I	Acknowledge signal input from IC081
6	P06 (IFCD)	O	Command/data switching signal to IC081



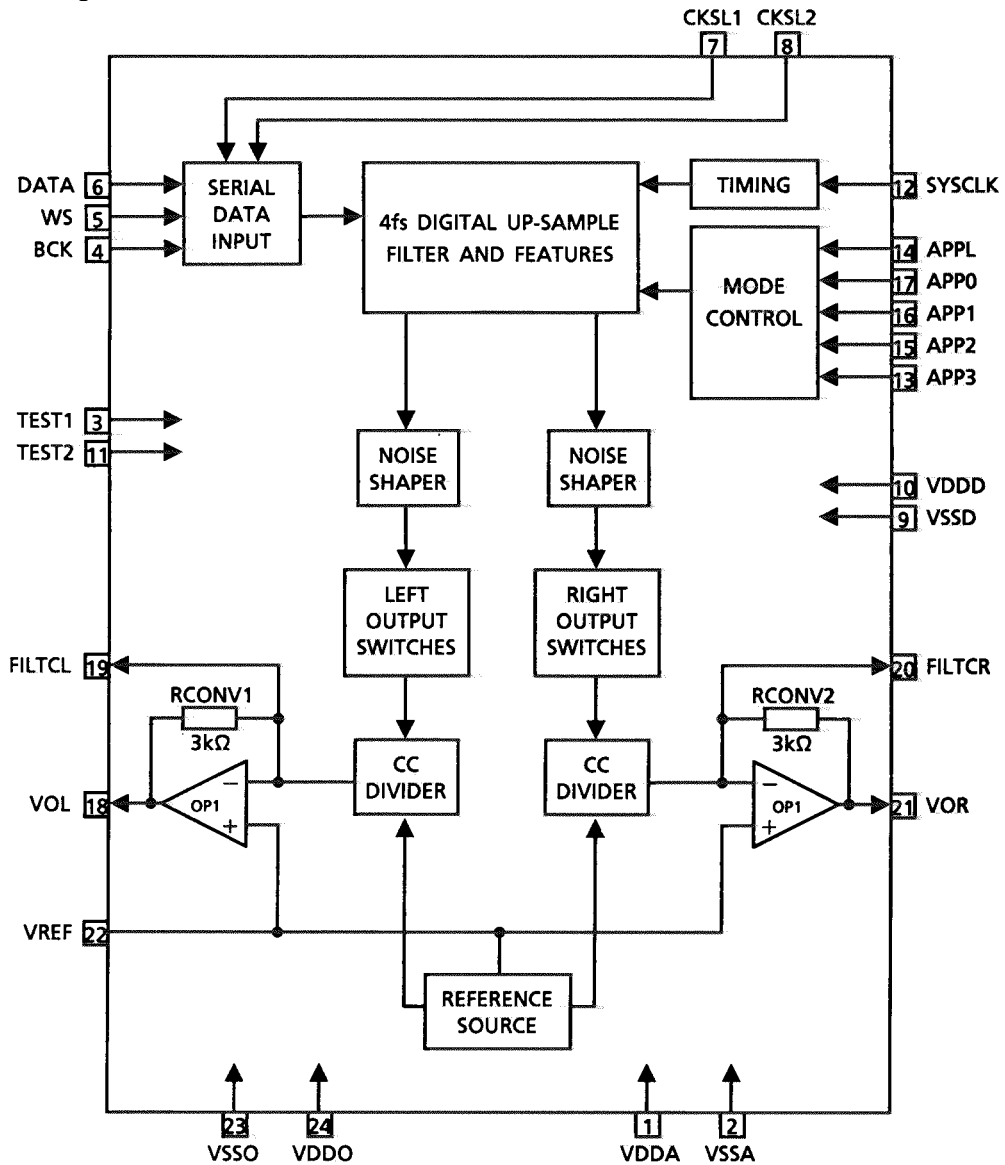
Pin No.	Symbol	I/O	Functions
7	P05 ( $\overline{\text{CS}}$ )	O	Chip select signal output to IC081
8	P04 ( $\overline{\text{RST}}$ )	O	Reset signal output to IC081
9	P03 (TEST0)	I	Test terminal, generally it is used as "L"
10	P02 (TB2)	I	Test terminal, generally it is used as "L"
11	P01 (TB1)	I	Test terminal, generally it is used as "L"
12	P00 (TB0)	I	Test terminal, generally it is used as "L"
13	TEST	I	Test pin for out-going test. Be tied to low
14	$\overline{\text{RESET}}$	I	Reset signal input or watchdog timer output/address-trap-reset output/system-clock-reset output
15	XIN	I	Resonator connecting pins for high-frequency clock. For inputting external clock, XIN is used and XOUT is opened
16	XOUT	O	Not used
17	VSS	--	GND
18	VAREF	--	Analog reference voltage
19~26	P60 (AIN0)~ P67 (AIN7)	I/O	Not used
27	P50	O	Not used
28	P51 (MUTE)	O	Mute signal output
29	P10 (INT0)	I/O	Not used
30	P11 ( $\overline{\text{REQ}}$ )	I	External interrupt request signal from IC401
31	P12 ( $\overline{\text{BUSY}}$ )	O	Busy output to IC401
32	P13 (DVO)	I/O	Not used
33	P14 (PPG)	I/O	Not used
34	P15 (VOL STB)	O	Volume strobe signal output for write data to IC341
35	P16 (VOL SI)	O	Volume serial data signal output to IC341
36	P17 (VOL CK)	O	Volume clock output for data transfer to IC341
37	P20 (INT5/STOP)	I/O	Not used
38	P21 (XTIN)	I/O	Not used
39	P22 (XTOUT)	I/O	Not used
40	VDD	--	Power supply (5V)
41	P77 (IFDI)	O	Serial data output to IC081
42	P76 (IFCK)	O	Shift clock output to IC081
43	P75 (SO)	I/O	Not used
44	P74 (SI)	I	Serial data input from IC401

■ TDA1386T (IC041,061) : Noise shaping filter-DAC

1. Terminal Layout

VDDA	1	24	VDDO
VSSA	2	23	VSSO
TEST1	3	22	VREF
BCK	4	21	VOR
WS	5	20	FILTCL
DATA	6	19	FILTCL
CKSL1	7	18	VOL
CKSL2	8	17	APP0
VSSD	9	16	APP1
VDDD	10	15	APP2
TEST2	11	14	APPL
SYSCLK	12	13	APP3

2. Block Diagram

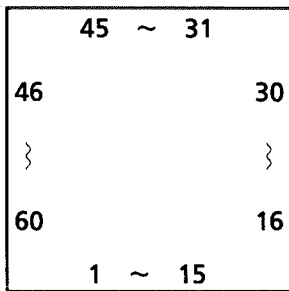


## 3. Pin Functions

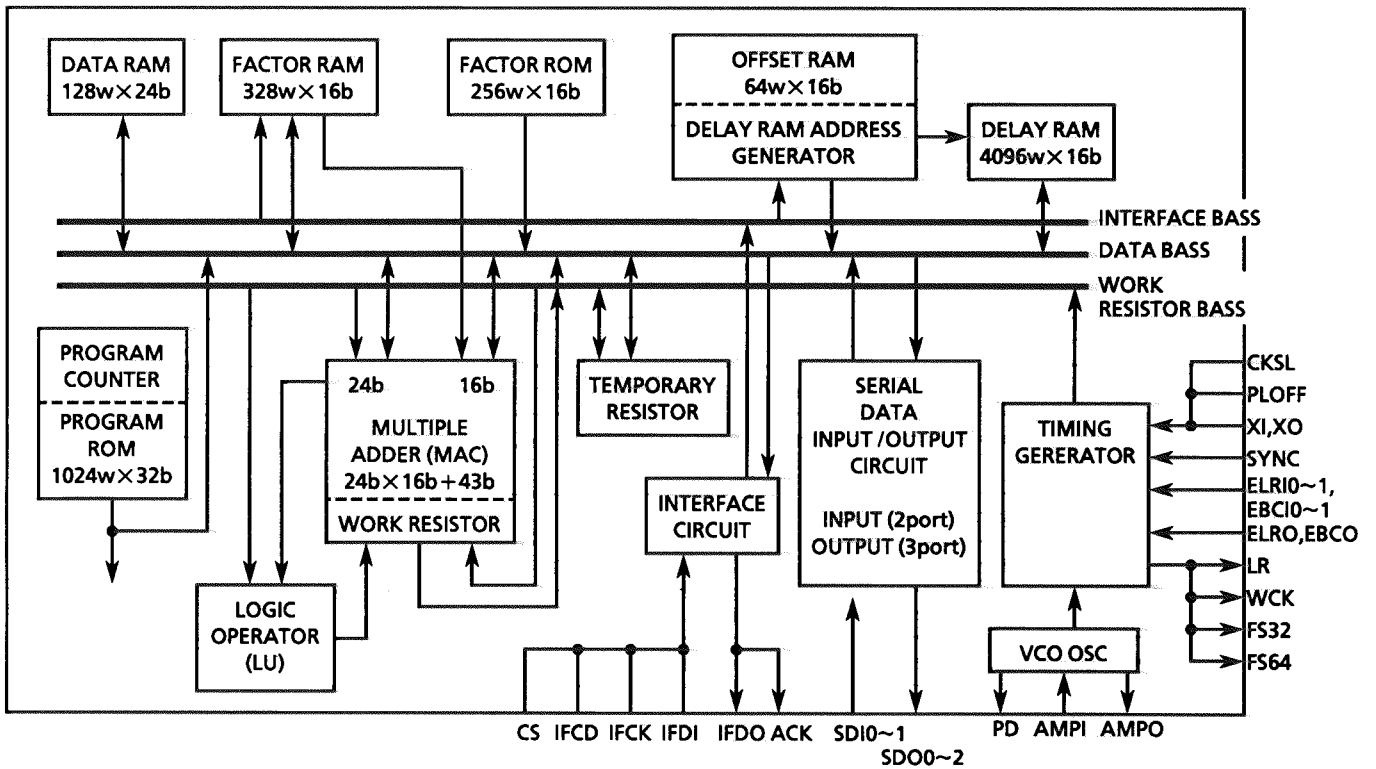
Pin No.	Symbol	I/O	Functions
1	VDDA	--	Analog supply voltage (5V)
2	VSSA	--	Analog ground
3	TEST1	--	Test input 1 ; pin should be connected to ground
4	BCK	I	Bit clock input from IC081
5	WS	I	Word select input from IC081
6	DATA	I	Data input from IC081
7	CKSL1	I	Format selection 1
8	CKSL2	I	Format selection 2
9	VSSD	--	Digital ground
10	VDDD	--	Digital supply voltage (5V)
11	TEST2	--	Test input 2 ; pin should be connected to ground
12	SYSClk	I	System clock 256fs input from IC093
13	APP3	I	Application mode 3 input
14	APPL	I	Application mode selection input
15	APP2	I	Application mode 2 input
16	APP1	I	Application mode 1 input
17	APP0	I	Application mode 0 input
18	VOL	O	Left channel output
19	FILTCL	O	Capacitor for left channel first-order filter function, should be connected between pins 19 and 18
20	FILTCR	O	Capacitor for right channel first-order filter function, should be connected between pins 20 and 21
21	VOR	O	Right channel output
22	VREF	--	Internal reference voltage for output channels (0.5 VDDO typ.)
23	VSSO	--	Operational amplifier ground
24	VDDO	--	Operational amplifier supply voltage (5V)

■ TC9332F-010 (IC081) : Audio digital signal processor

1. Terminal Layout



2. Block Diagram



3. Pin Functions

Pin No.	Symbol	I/O	Functions
1~3	TP8~TP6	O	Test data output, Generally it is used as open
4	VDD	--	Power supply
5	VSS	--	GND
6~11	TP5~TP0	O	Test data output. Generally it is used as open
12	VSSR	--	GND for inner delay RAM (DLRAM)
13	VDDR	--	Power supply for inner delay RAM (DLRAM) (5V)
14	VSS	--	GND
15	SDO2	O	Not used
16	SDO1	O	Serial data output to IC061

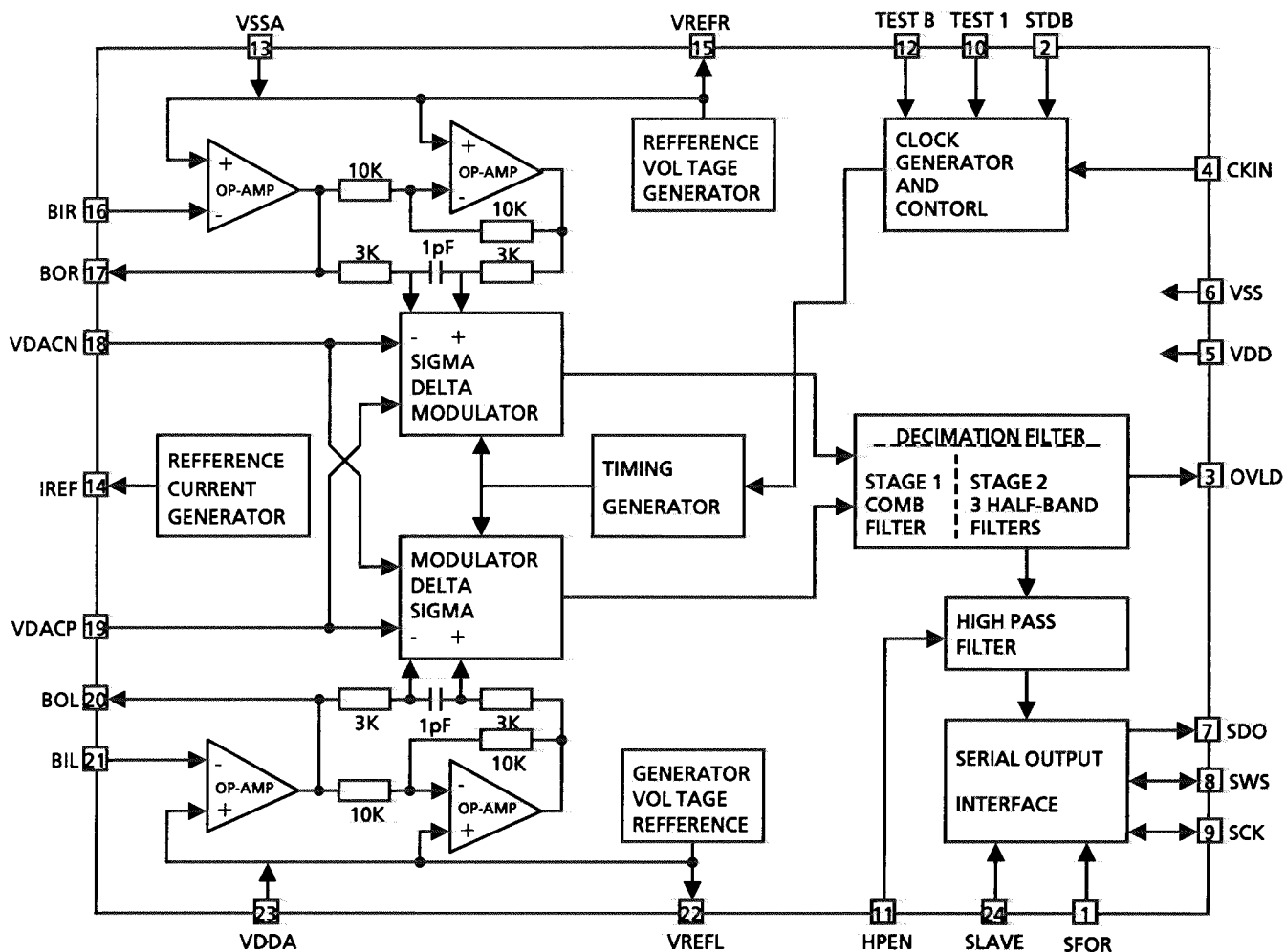
Pin No.	Symbol	I/O	Functions
17	SDO0	O	Serial data output to IC041
18	SDI1	I	Not used
19	SDI0	I	Serial data input from IC021
20	LR	O	LR clock output (1fs)
21	WCK	O	Word clock output (2fs)
22	FS32	O	Bit clock output (32fs)
23	FS64	O	Bit clock output (64fs)
24	EBC0	I	Bit clock input. Shift clock input for SDO 0/1/2 data output
25	EBC11	I	Bit clock input. Shift clock input for SDI 0/1 data input
26	EBC10	I	Bit clock input. Shift clock input for SDI 0/1 data input
27	ELRO	I	LR clock input for SDO 0/1/2 data output
28	ELRI1	I	LR clock input for SDI 0/1 data input
29	ELRI0	I	LR clock input for SDI 0/1 data input
30	SYNC	I	Synchronizing signal input. SYNC signal edge sets program counter "0" forcefully. The microprocessor controls the polarity
31	VDD	--	Power supply (5V)
32	XI	I	X'tal oscillation terminal
33	XO	O	X'tal oscillation terminal
34	VSS	--	GND
35	CKSL	I	Oscillation clock switching terminal L:384fs, H:512fs
36	PLOFF	I	Oscillation mode switching terminal for 'Xtal and VCO. Built-in VCO oscillation mode in "L" and 'Xtal oscillation mode in "H"
37	PD	O	Phase comparison data output
38	VSSA	--	Analog GND
39	AMPO	O	Amplifier output for L.P.F
40	AMPI	I	Amplifier input for L.P.F
41	VDDA	--	Analog Power supply (5V)
42~44	TES0~TES2	I	Test terminal, Generally it is transmitted from $\mu$ -com when cs is lactive
45	$\overline{\text{RST}}$	I	Reset signal input from IC096
46	$\overline{\text{CS}}$	I	Chip select signal input from IC096
47	IFCD	I	It selects command or data input mode from IC096. It recognizes the command in "H" and the data in "L"
48	IFDI	I	$\mu$ -com data input. Firstly, LSB of data and command are received.
49	IFDO	O	Data output of data bass. LSB of data bus data is transmitted to $\mu$ -com
50	IFCK	I	Shift clock input form IC096
51	$\overline{\text{ACK}}$	O	Acknowledge signal output for IC096. Acknowledge signal is output when command and data's parity are OK
52	VSS	--	GND
53~60	TP16~TP9	O	Test data output. Generally, it is used as open

■ SAA7367T (IC021) : A/D Converter

1. Terminal Layout

SFOR	1	24	SLAVE
STDB	2	23	VDDA
OVLD	3	22	VREFL
CKIN	4	21	BIL
VDD	5	20	BOL
VSS	6	19	VDACP
SDO	7	18	VDACN
SWS	8	17	BOR
SCK	9	16	BIR
TEST 1	10	15	VREFR
HPEN	11	14	IREF
TEST B	12	13	VSSA

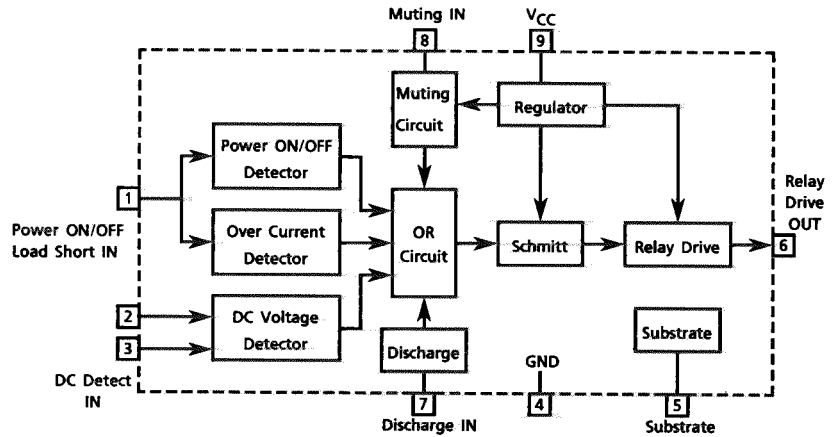
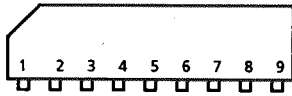
2. Block Diagram



## 3. Pin Functions

Pin No.	Symbol	I/O	Functions
1	SFOR	I	Input for selecting serial interface output format. HIGH = Format 1 LOW = Format 2
2	STDB	I	Input for selecting STANDBY mode HIGH = Normal operation LOW = STANDBY (Low power consumption)
3	OVLD	O	Overload indication output. This pin indicates whether the internal digital signal is within 1dB of maximum. In STANDBY mode this output is in high impedance
4	CKIN	I	System clock input from IC093
5	VDD	--	Supply for the digital section (5V)
6	VSS	--	Ground supply for the digital section
7	SDO	O	Serial interface data output to IC081. In STANDBY mode this output is in high impedance
8	SWS	I/O	Serial interface word select signal. This pin is the word select input to the serial interface.
9	SCK	I/O	Serial interface clock. This pin is the input for the external bit clock.
10	TEST1	I	Test input 1. This pin should be left open circuit
11	HPEN	I	High pass filter enable input. (HPEN HIGH = enabled). If unconnected this pin defaults HIGH
12	TESETB	I	Test input 2. This pin should be left open circuit
13	VSSA	--	Ground supply for the analogue section
14	IREF	--	Current reference mode
15	VREFR	--	VDDA/2 reference generator for the right channel analog section
16	BIR	I	Buffer op-amp inverting input for right channel
17	BOR	O	Buffer op-amp output for right channel
18	VDACN	I	Negative 1 bit DAC reference voltage input, normally connected to 0V
19	VDACP	I	Positive 1 bit DAC reference voltage input, normally connected to 5V
20	BOL	O	Buffer op-amp output for left channel
21	BIL	I	Buffer op-amp inverting input for left channel
22	VREFL	--	VDDA/2 reference generator for the left channel analog section
23	VDDA	--	Supply for the analog section (5V)
24	SLAVE	I	Input for selecting serial interface operating mode MASTER/SLAVE HIGH = SLAVE, LOW = MASTER If unconnected the pin will default LOW

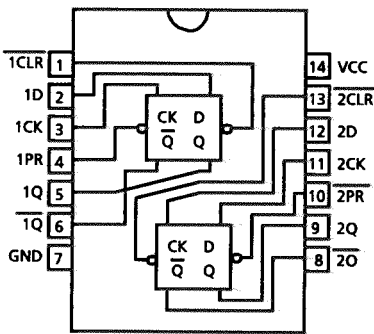
■ TA7317P (IC901) : PROTECTOR



■ TC74HC74AF(IC093) : DUAL D FLIP FLOP WITH PRESET AND CLEAR

(1) Terminal Layout

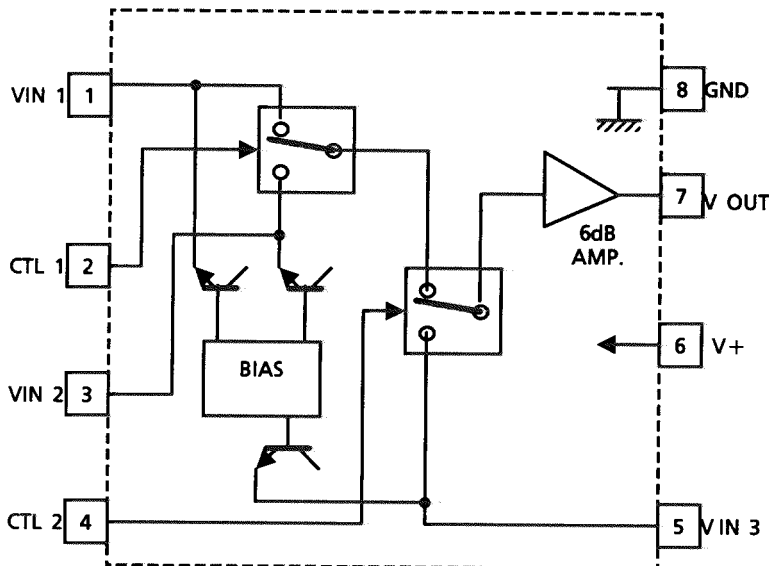
(2) Pin function



INPUTS				OUTPUTS		FUNCTION
CLR	PR	D	CK	Q	Q̄	
L	H	X	X	L	H	CLEAR
H	L	X	X	H	L	PRESET
L	L	X	X	H	H	—
H	H	L	↑	L	H	—
H	H	H	↑	H	L	—
H	H	X	↓	Qn	Q̄n	NO CHANGE

X : Don't care

■ NJM2246D : Video Switch



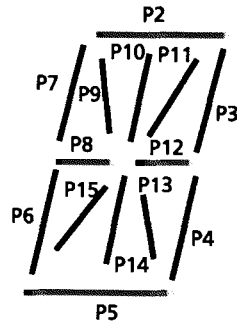
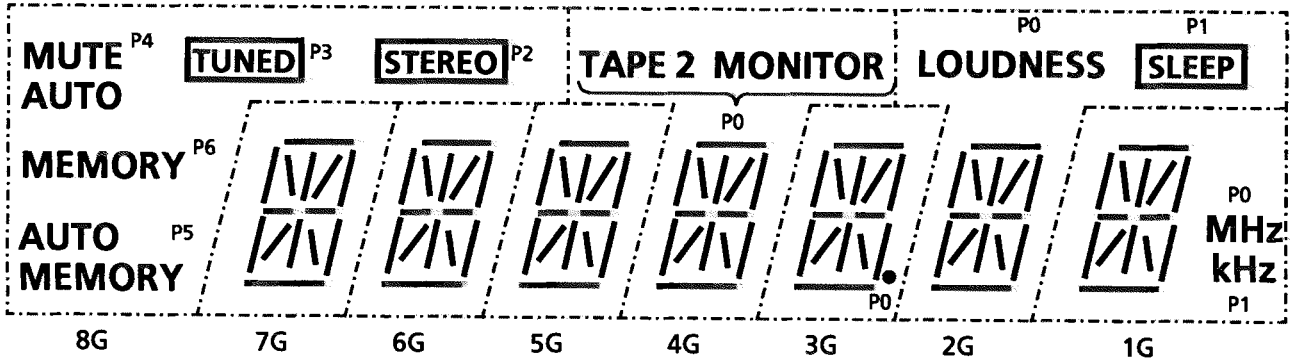
Control Signal—OutputSignal

CTL 1	CTL 2	Output
L	L	V IN 1
H	L	V IN 2
L/H	H	V IN 3



# Internal Connections of the FL Display

■ELU0001-144 : FL401



## Pin Connection

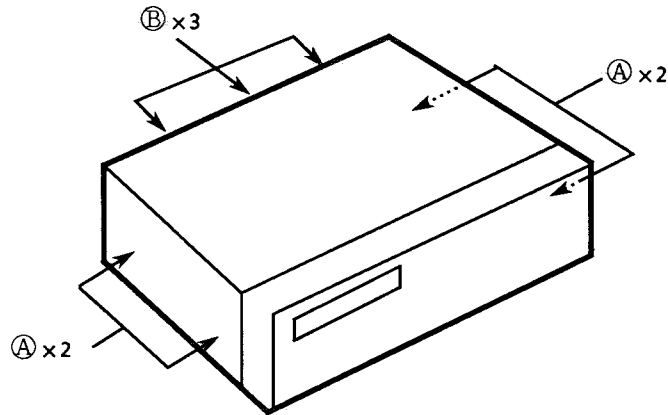
PIN NUMBER	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18		
ELECTRODE	F1	F1	F1	NP	NP	NP	NP	NP	P15	P14	P13	P12	P11	P10	P9	P8	P7	P6		
PIN NUMBER			19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36
ELECTRODE			P5	P4	P3	P2	P1	P0	8G	7G	6G	5G	4G	3G	2G	1G	NP	F2	F2	F2

Note F : Filament, G : Grid, P : Element, NP : No Pin, NC : No Connection

## Disassembly Procedures

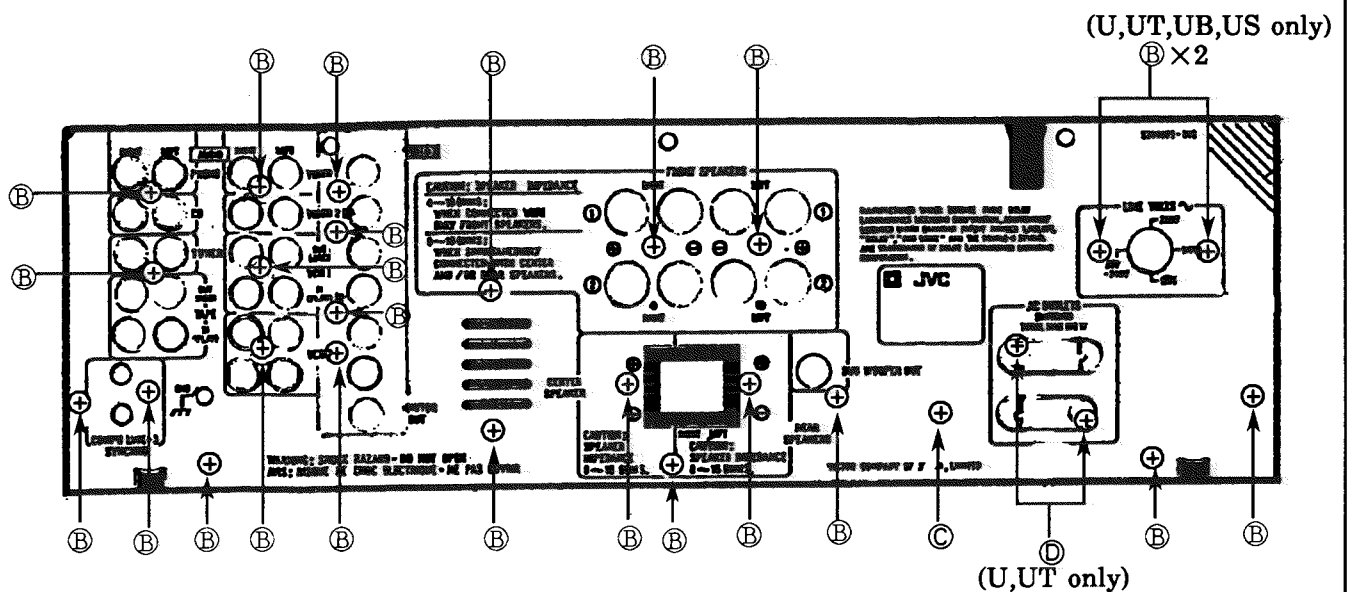
### (1) Removing the top cover

1. Remove 4 screws **(A)** fastening both sides of top cover, and 3 screws **(B)** fastening the rear side.
2. Remove the top cover.



### (2) Removing the rear panel

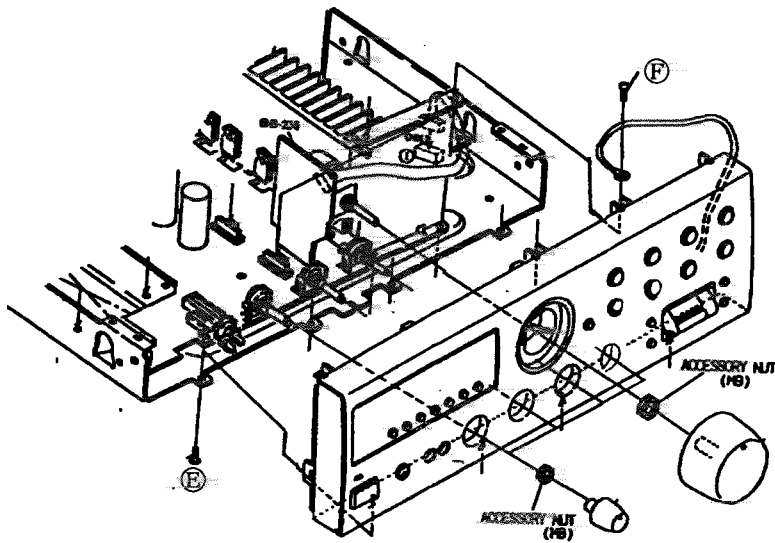
1. Remove the top cover
2. Remove the 22 screws **(B)**, screw **(C)**, remove the 2 screws **(D)** (U,UT only).
3. Remove the rear panel.



- (A)** .. E406308-001    **(B)** ... E73273-003    **(C)** ... SBST3006CC    **(D)** ... SDSG3008M

**(3) Removing the Front panel Ass'y**

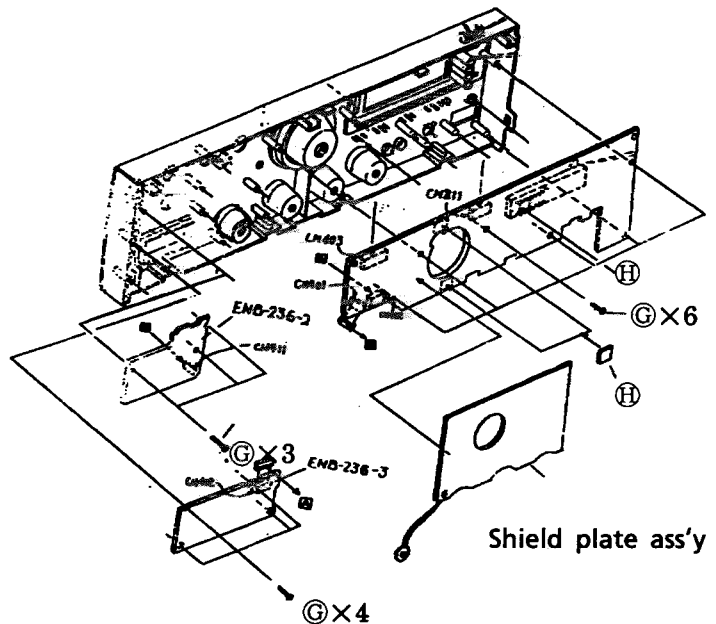
1. Remove the top cover.
2. Remove the Master volume knob, bass knob, treble knob and balance knob.
3. Remove the nut fastening the Master volume knob, bass knob, treble knob and balance knob.
4. Remove the 4 screws ⑥ fastening bottom side of front panel ass'y.
5. Remove the 2 screws ⑦ fastening top side of front panel ass'y.
6. Cut the tie band of the FW901 and FW961, Disconnect the CN961, CN801 and CN413.
7. Remove it.



**(4) Removing the Front P.C. Board**

1. Removing the top cover. 5.
2. Removing the front panel assembly.
3. Removing the shield plate ass'y.
4. Removing the 13 screws ③.
5. Remove it.

\* Assembling the 3 spacer ④ (E306805-122) fixing the shield plate ass'y.



⑥ SDSF3008M

⑦ SBSG3008CC

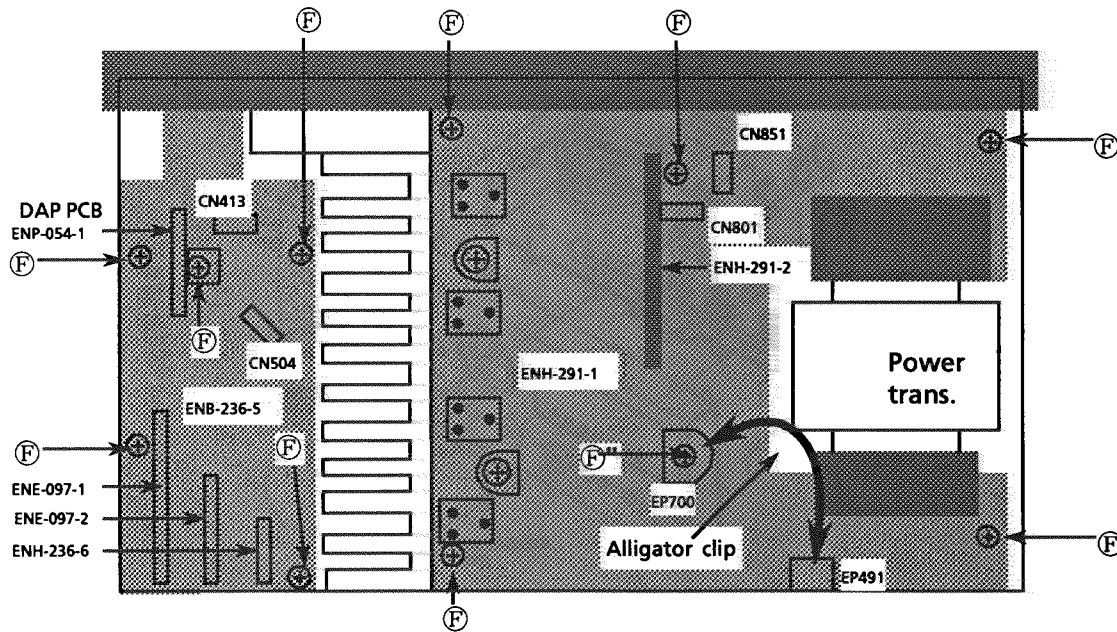
③ SDSF3008M

④ SDSF2608Z

(5) Removing the main PCB(ENH-291-1) and SOURCE select PCB (ENE-097-1/2,ENB-236-6)/DAP PCB

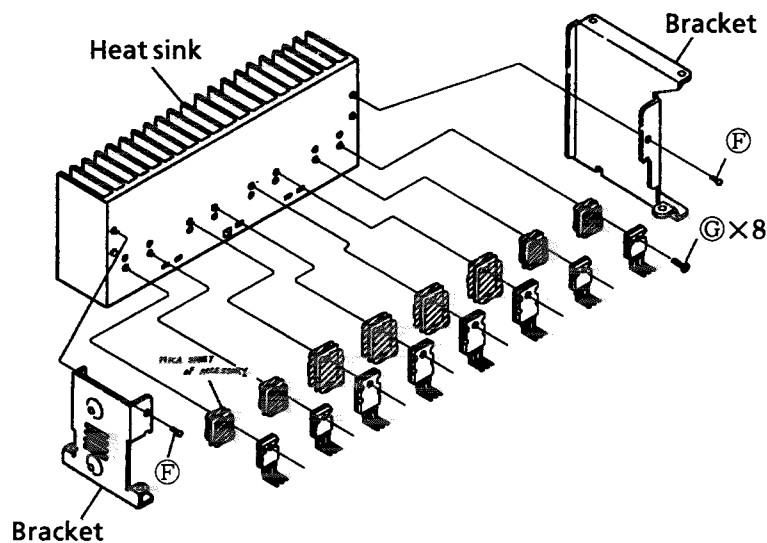
1. Removing the top cover.
2. Removing the rear panel .
3. Removing the front panel ass,y .
4. Disconnect the CN413,CN801 and CN504.
5. Removing the 11 screws (F) .
6. Remove the PCB.

※ The screw (F) which secures the bottom cover is also used for ground.  
It is necessary to ground before checking after the bottom cover is removed.



(6) Removing the Power Transistor

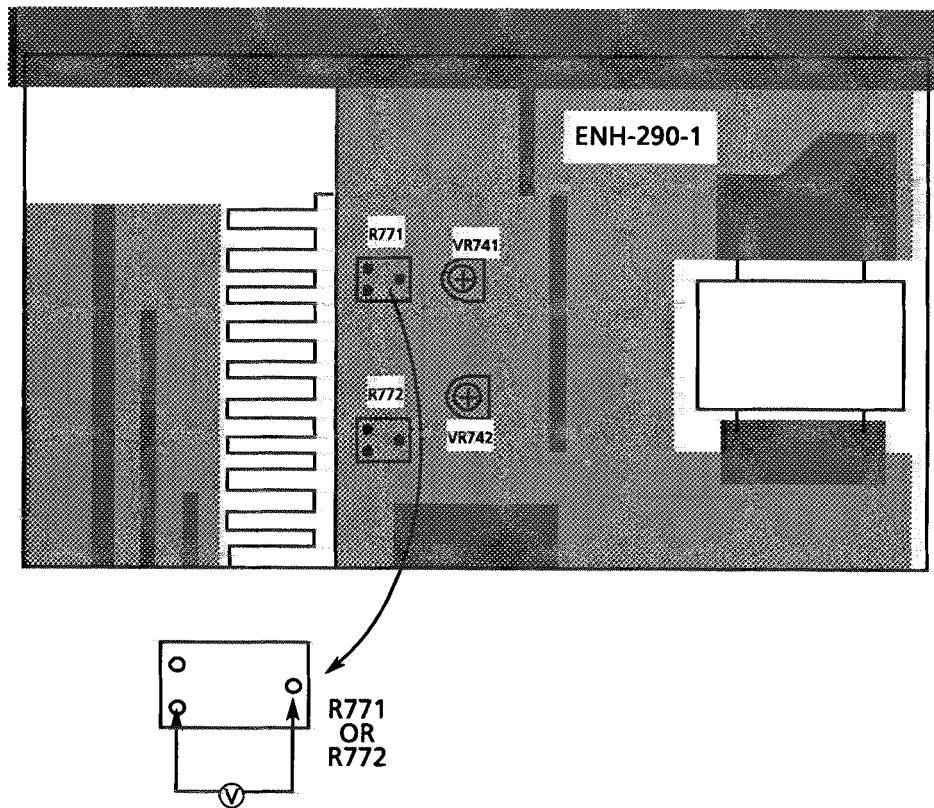
1. Remove the (1) (2) and (5).
2. Unsolder the broken transistor.
3. Remove the some screws (G) fastening it.
4. Remove it.



(F) .. GBSG3008CC

(G) ... E73525-003

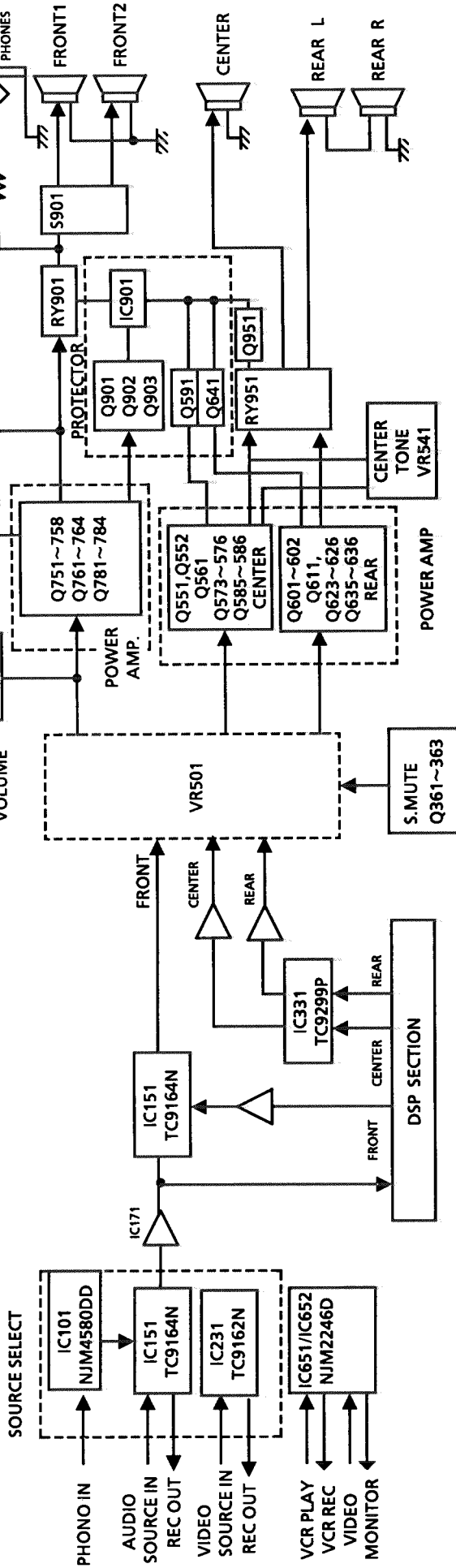
## ■ Adjustments



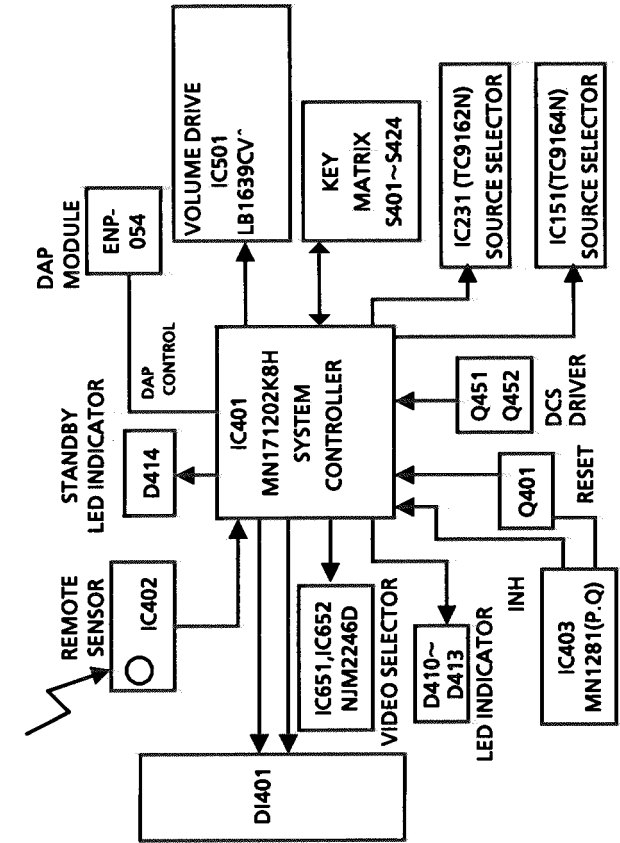
### ■ Idling current

- (1) Set the volume control to minimum during this adjustment. And set surround mode "ON".
- (2) Turn VR741 and VR742 fully counterclockwise to warm up before adjustment.  
If the heatsink is already warm from previous use the correct adjustment can not be made.
- (3) Connect a DC voltmeter to R741 resistor's leads for left channel, or to R742 for right channel.
- (4) Adjust R771 for left channel, or R772 for right channel, so that the DC voltmeter becomes 2mV~10mV. (After more than 15 min.)

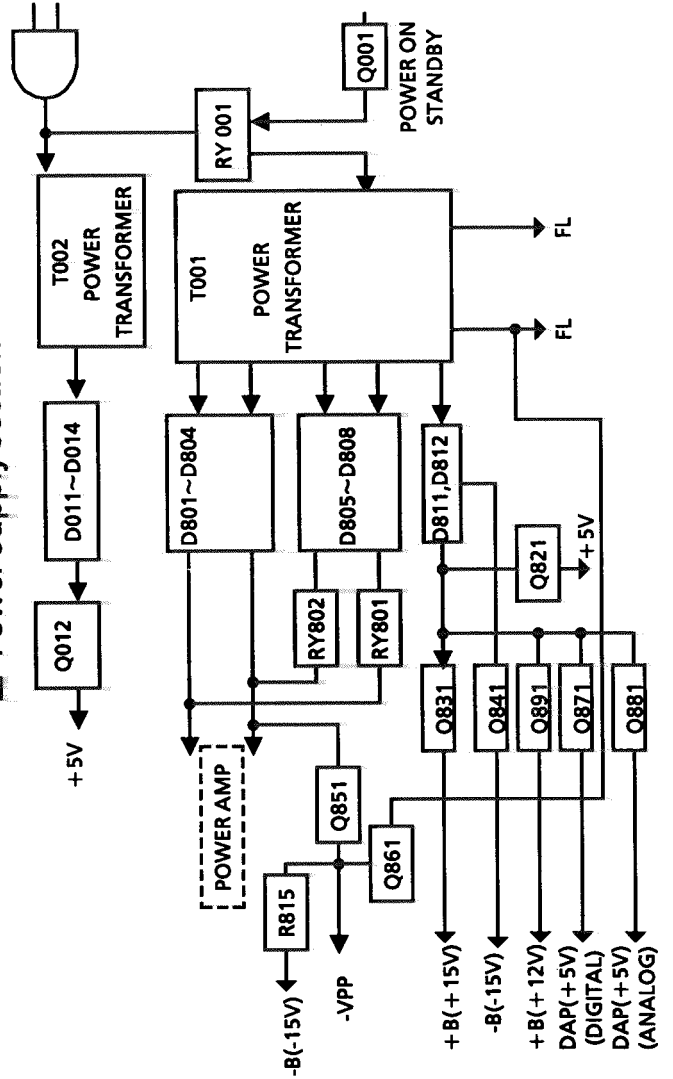
■ Signal Flow



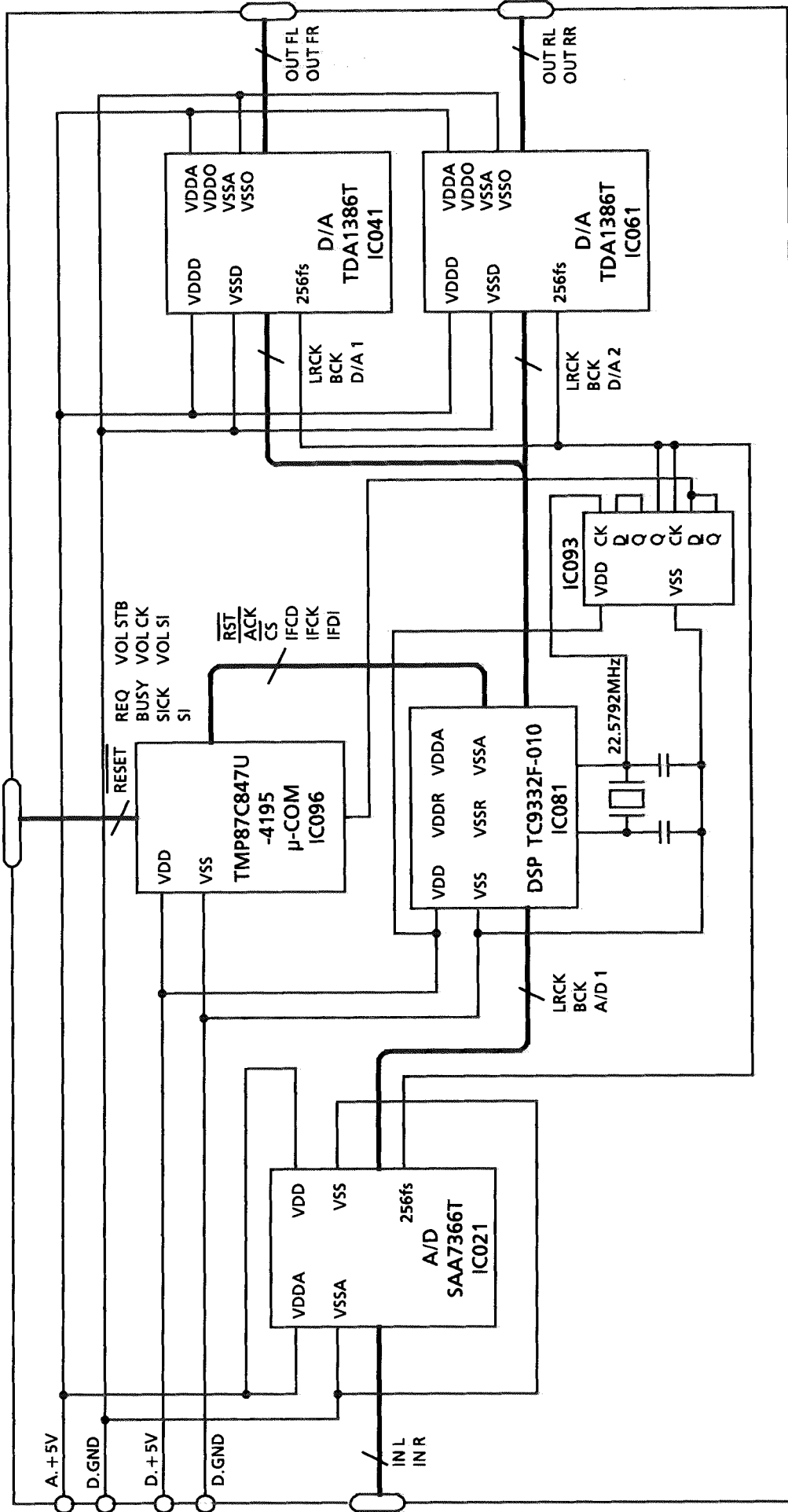
■ Control Section



■ Power Supply Section



■ DAP Section



**-MEMO-**

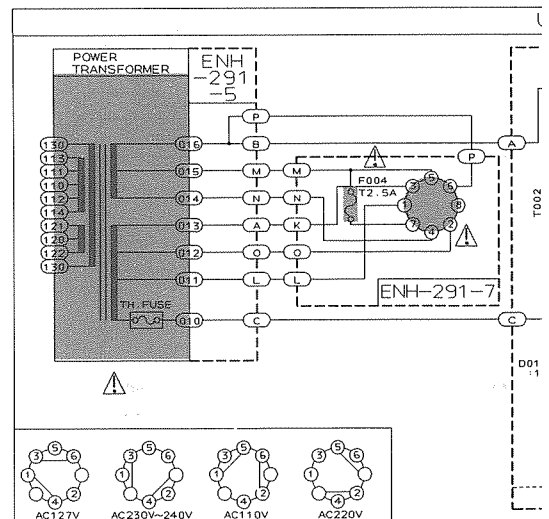
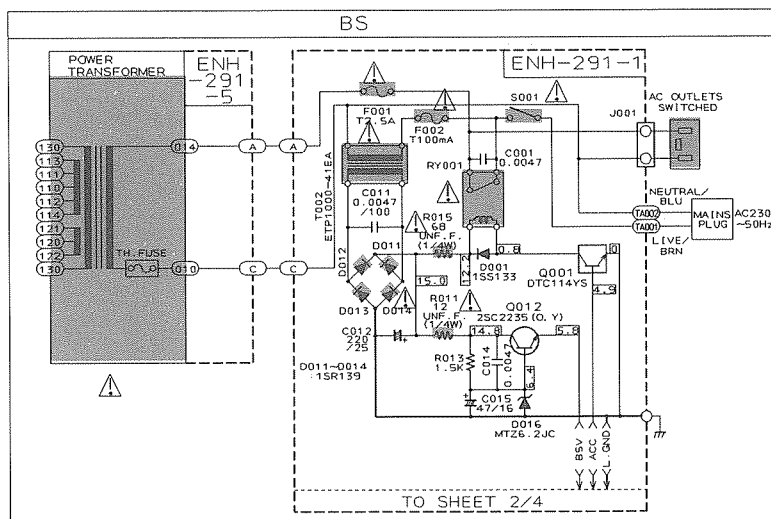
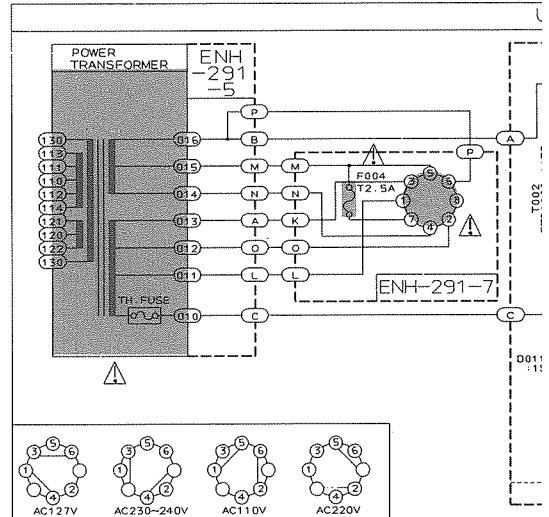
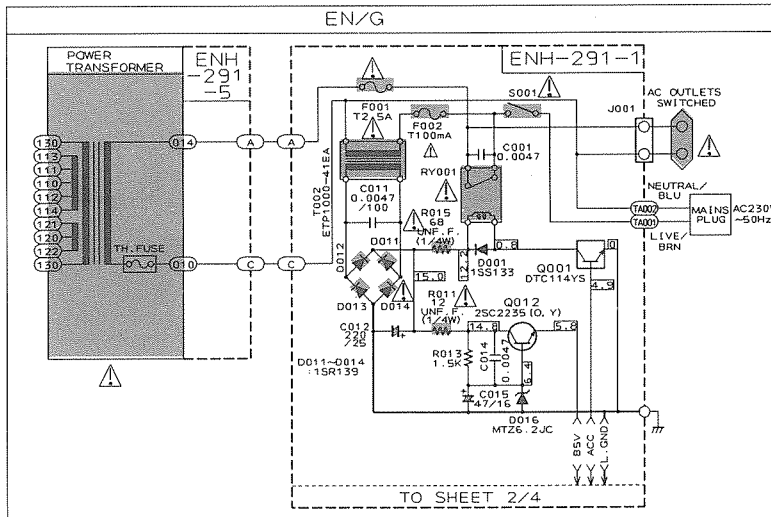
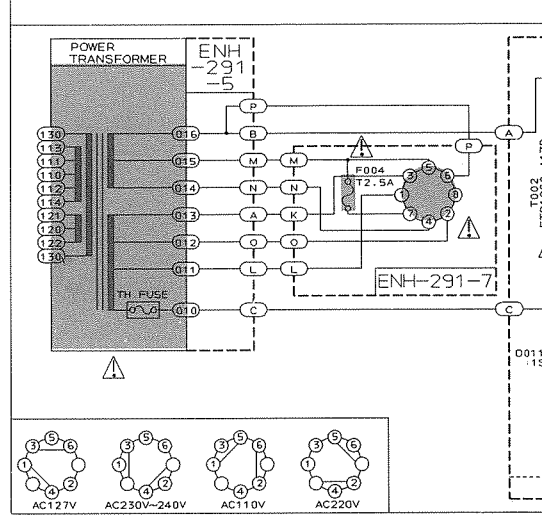
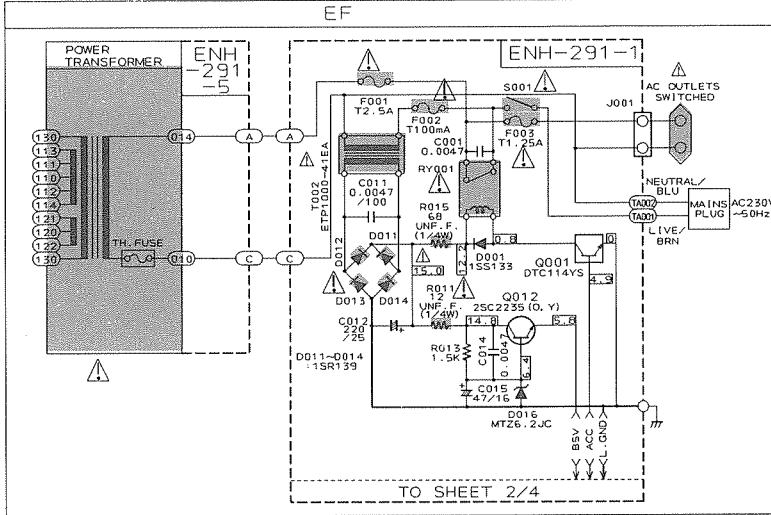




# Schematic Diagrams

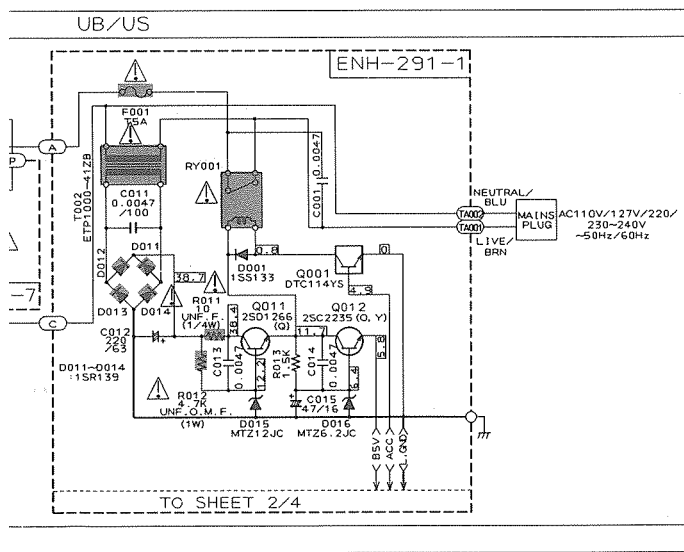
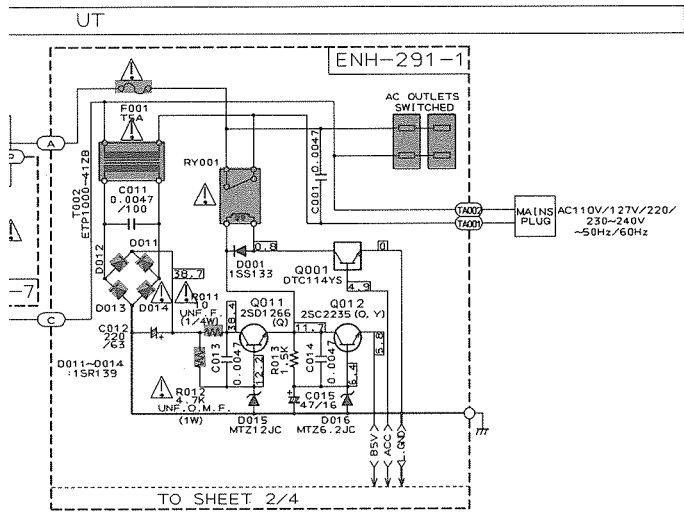
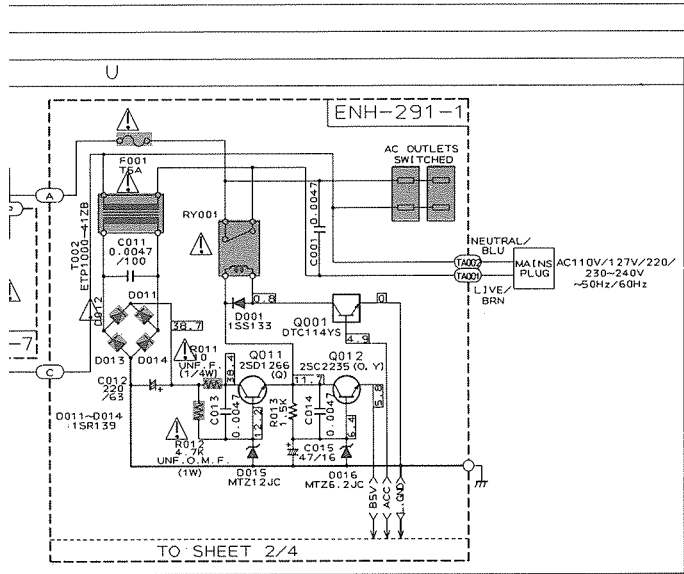
## Power Supply Section

### POWER SUPPLY SECTION



VERSION CODES

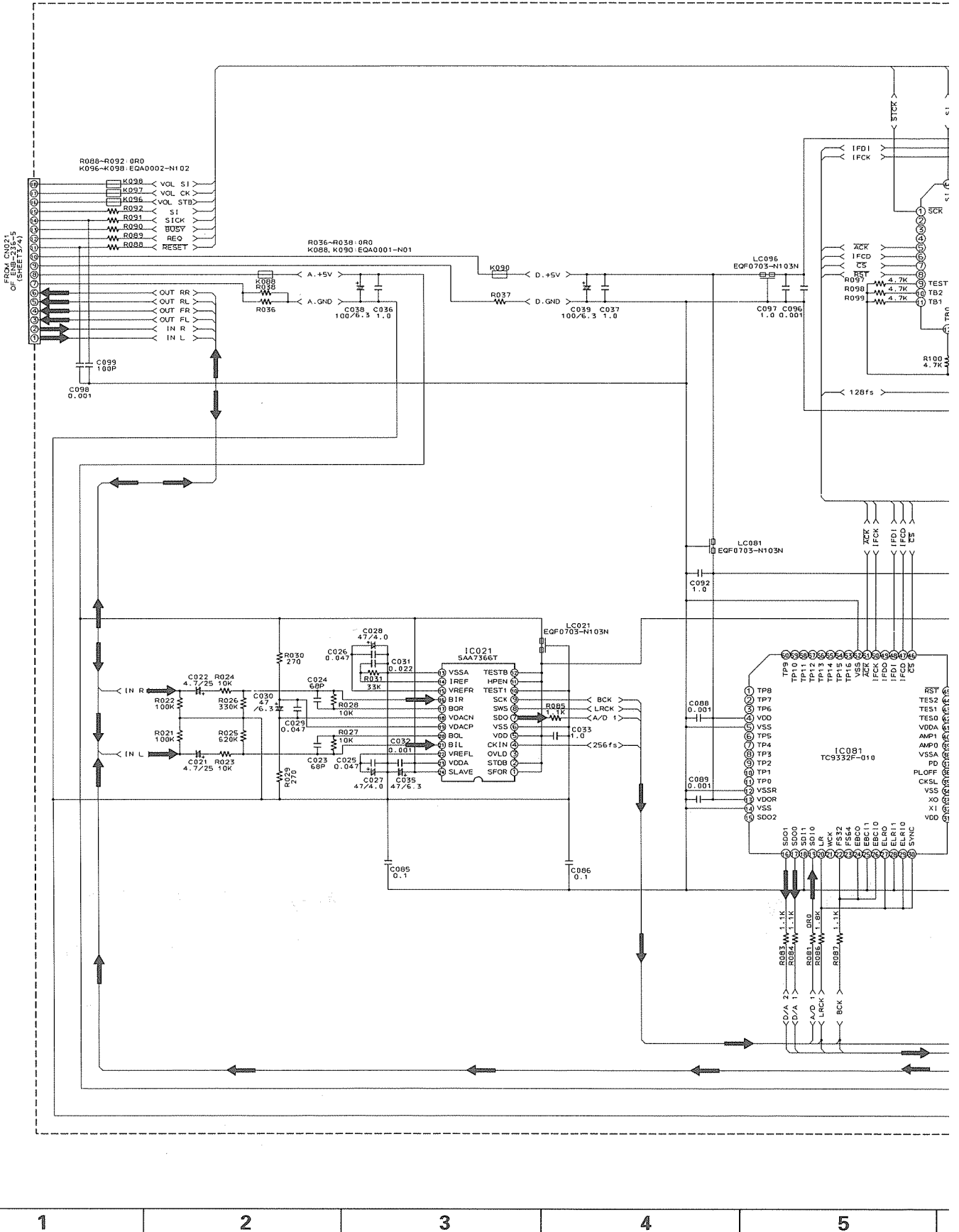
EN: NORDIC COUNTRIES  
 EF: CONTINENTAL EUROPE EXCEPT GERMANY  
 G: GERMANY  
 BS: U.K.  
 UB: HONGKONG  
 US: SINGAPORE  
 UT: TAIWAN  
 U: UNIVERSAL EXCEPT ALL OF ABOVE



Notes

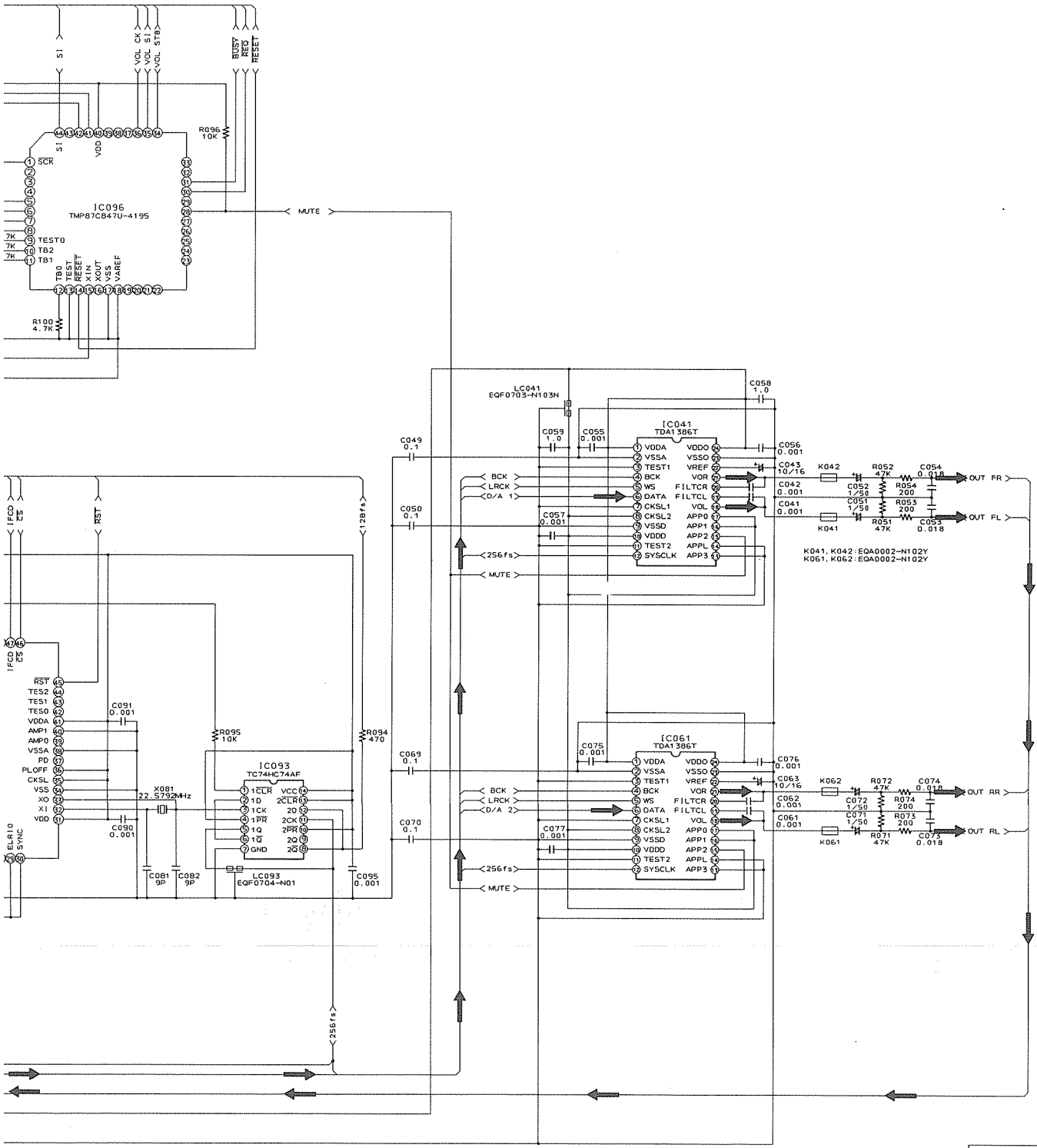
- ➡ indication main signal path.
- ➡ indication video signal path.
- When replacing the parts in the shaded area ( ) and those made with ⚠, be sure to use the designated parts to ensure safety.
- The design and contents are subject to change without notice.

DSP Section



A  
B  
C  
D  
E  
F  
G  
H  
I  
J

1 2 3 4 5

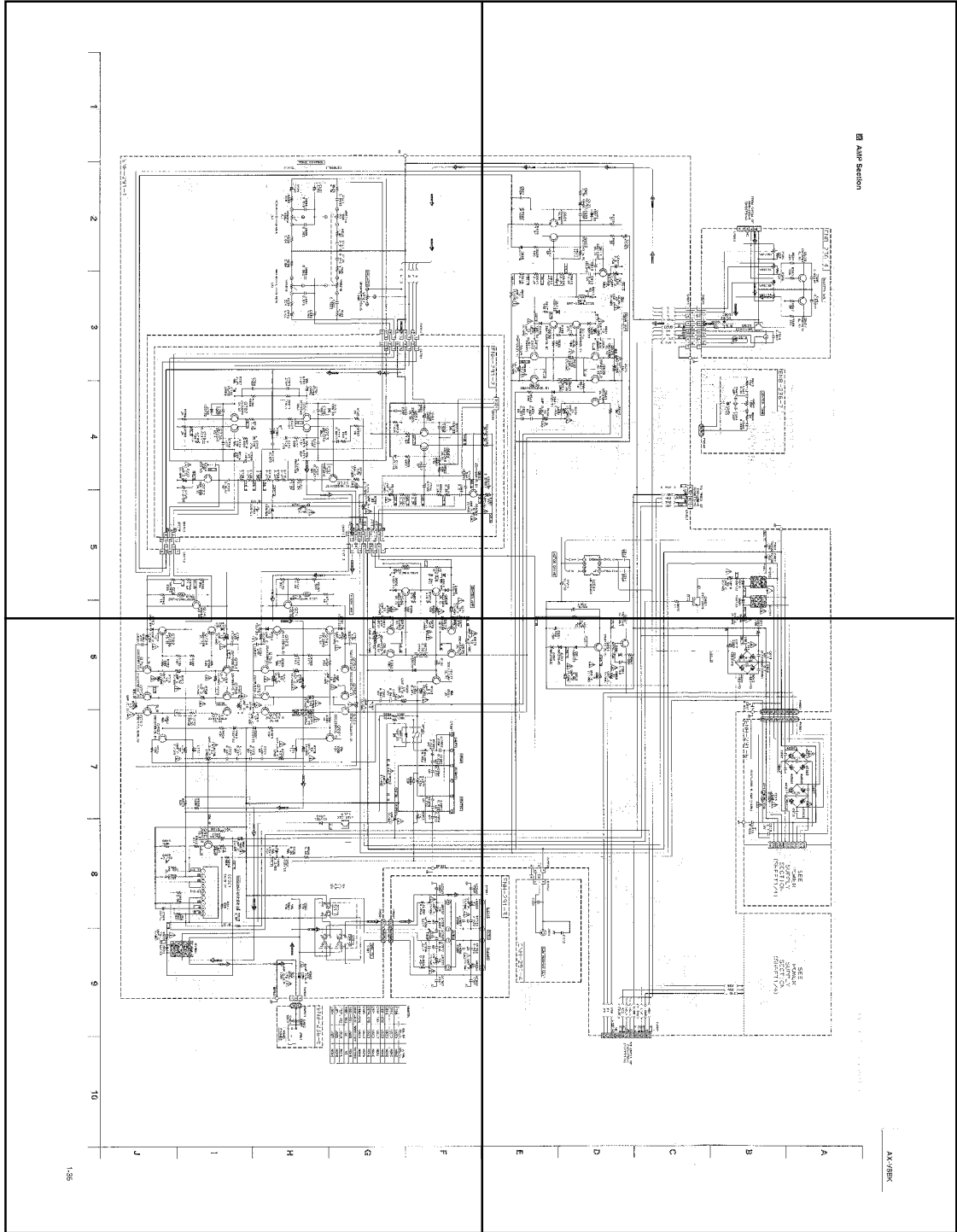


ENP-054



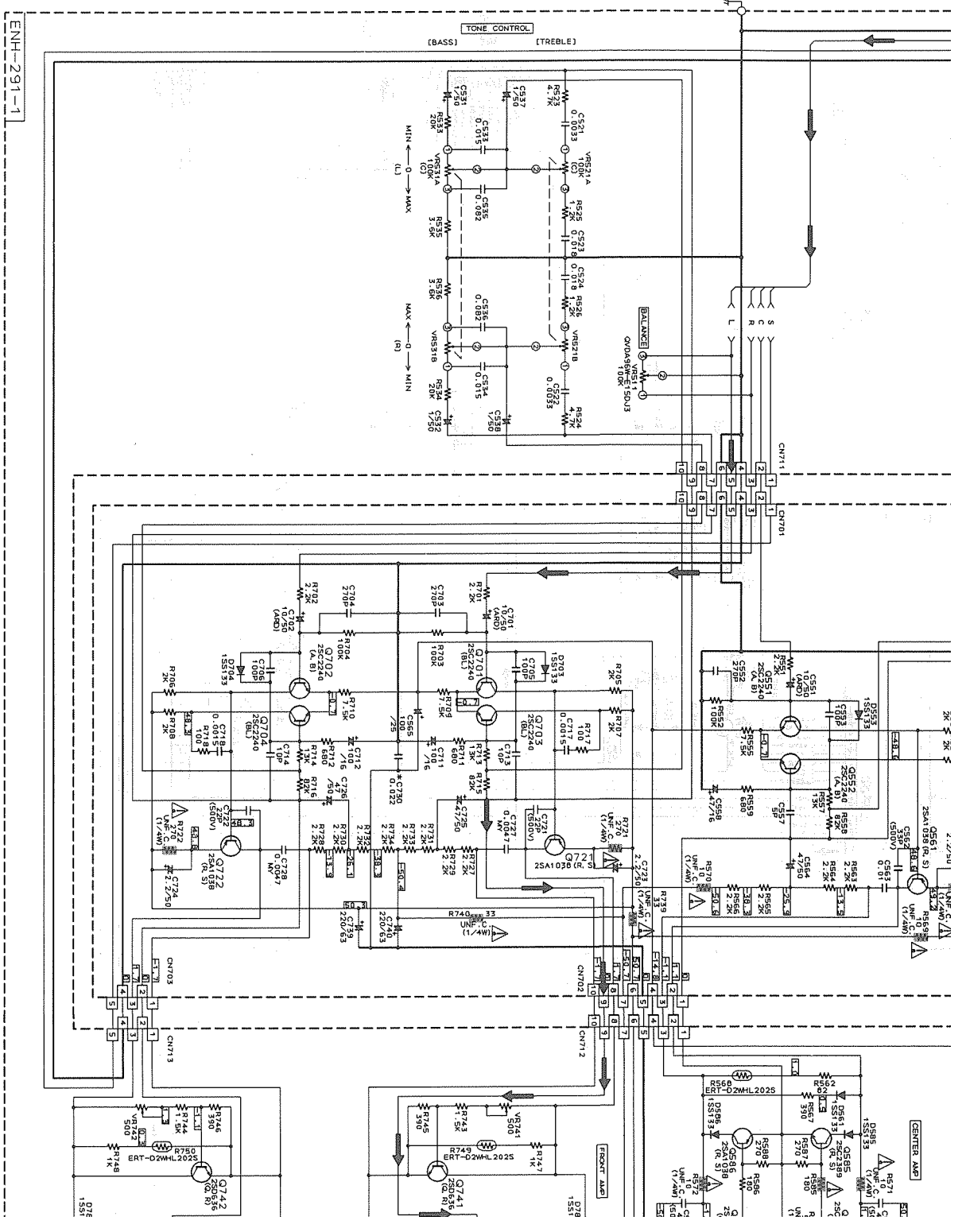
P1-35-a

P1-35-b



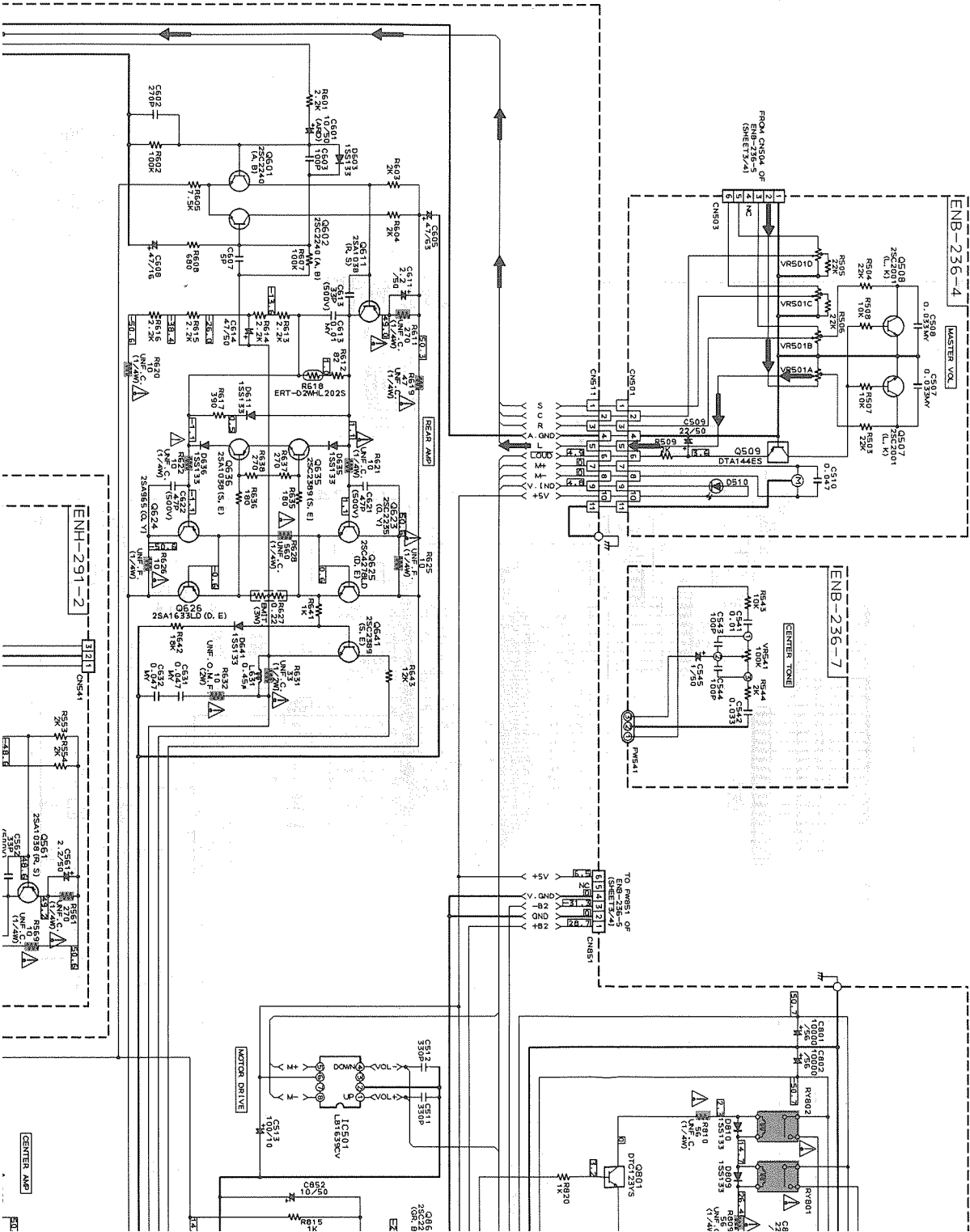
P1-35-c

P1-35-d

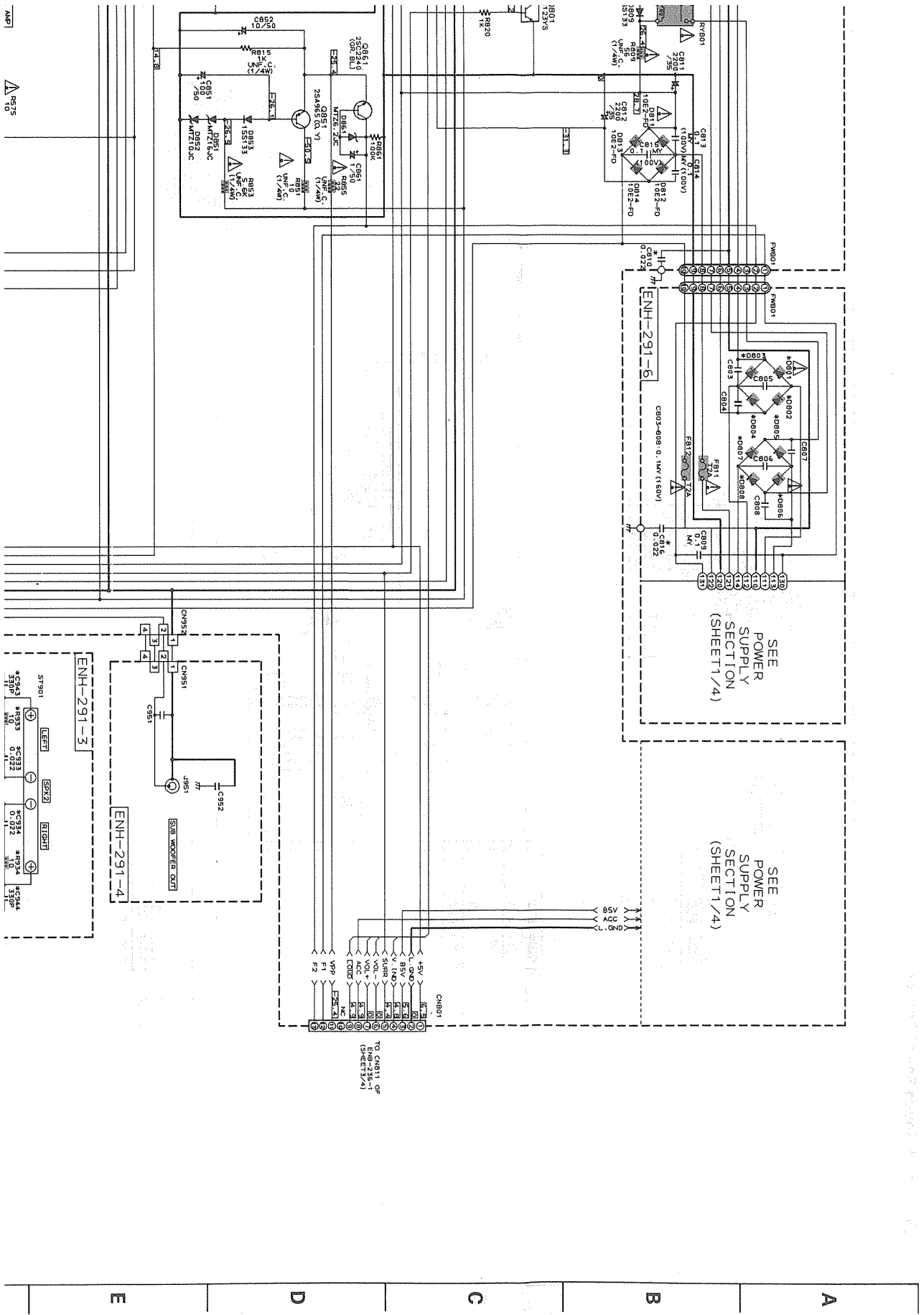




AMP Section







AMP

R575

ST901  
LEFT SPX2 RIGHT  
K854 10 330P  
K855 10 0.022  
K856 10 0.022  
K857 10 0.022  
K858 10 330P

ENH-291-3

ENH-291-4

E

D

C

B

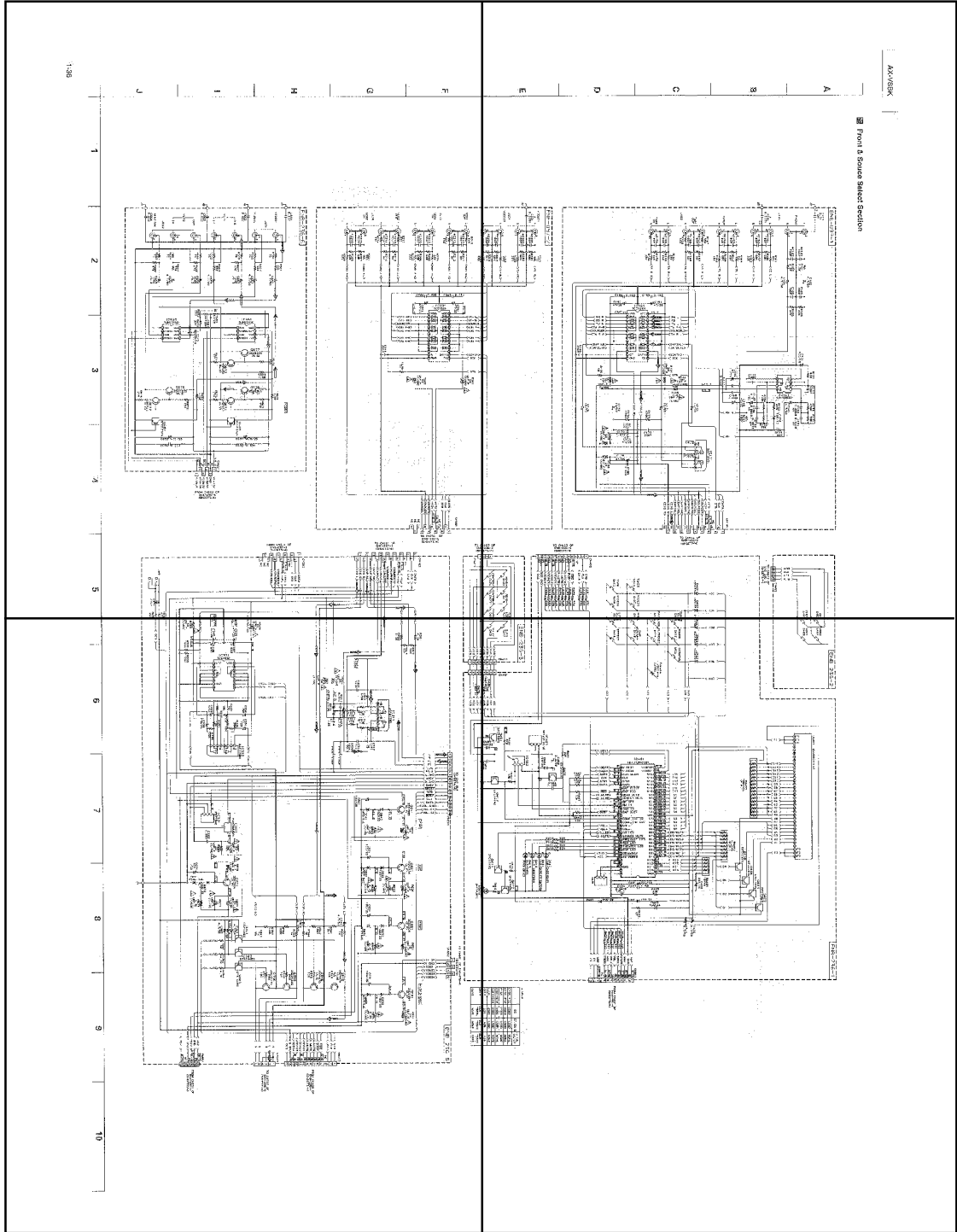
A

TO CN811 OF  
(SHEET 1/4)



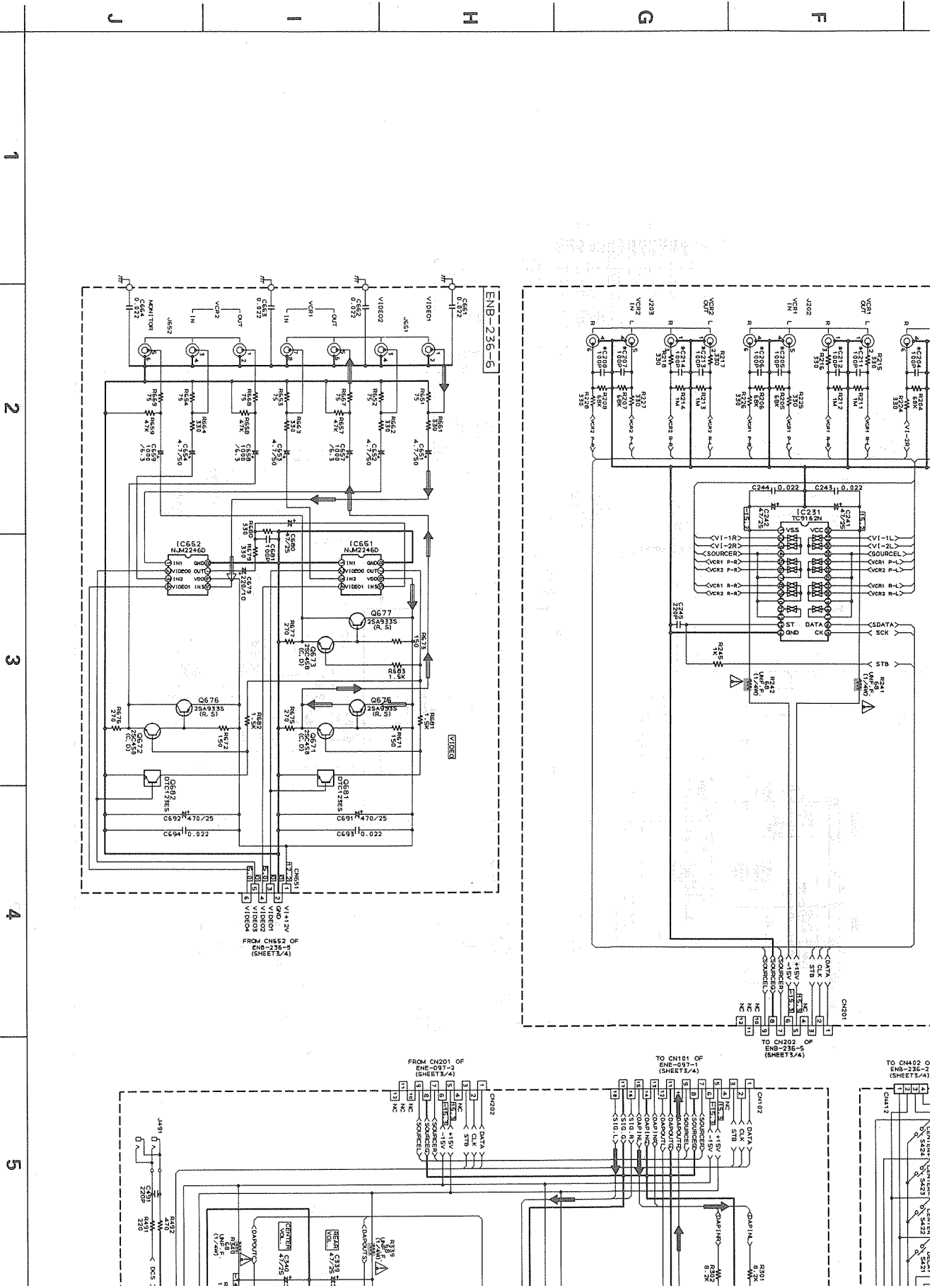
P1-36-a

P1-36-b



P1-36-c

P1-36-d



1

2

3

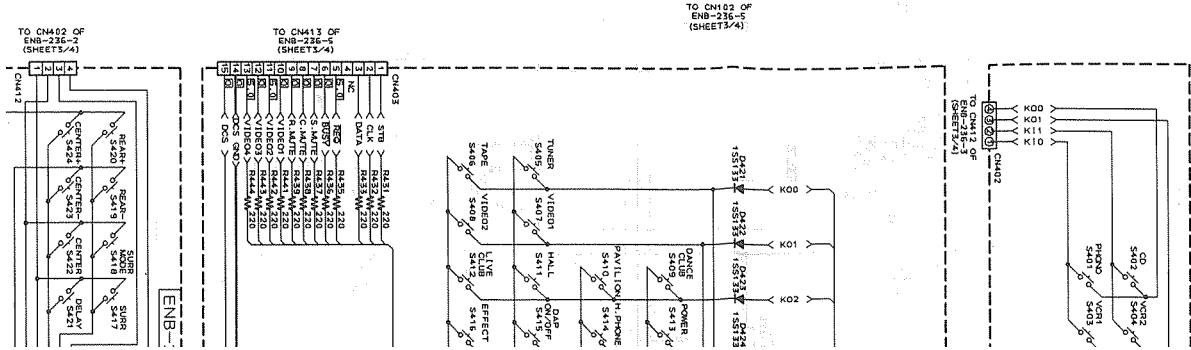
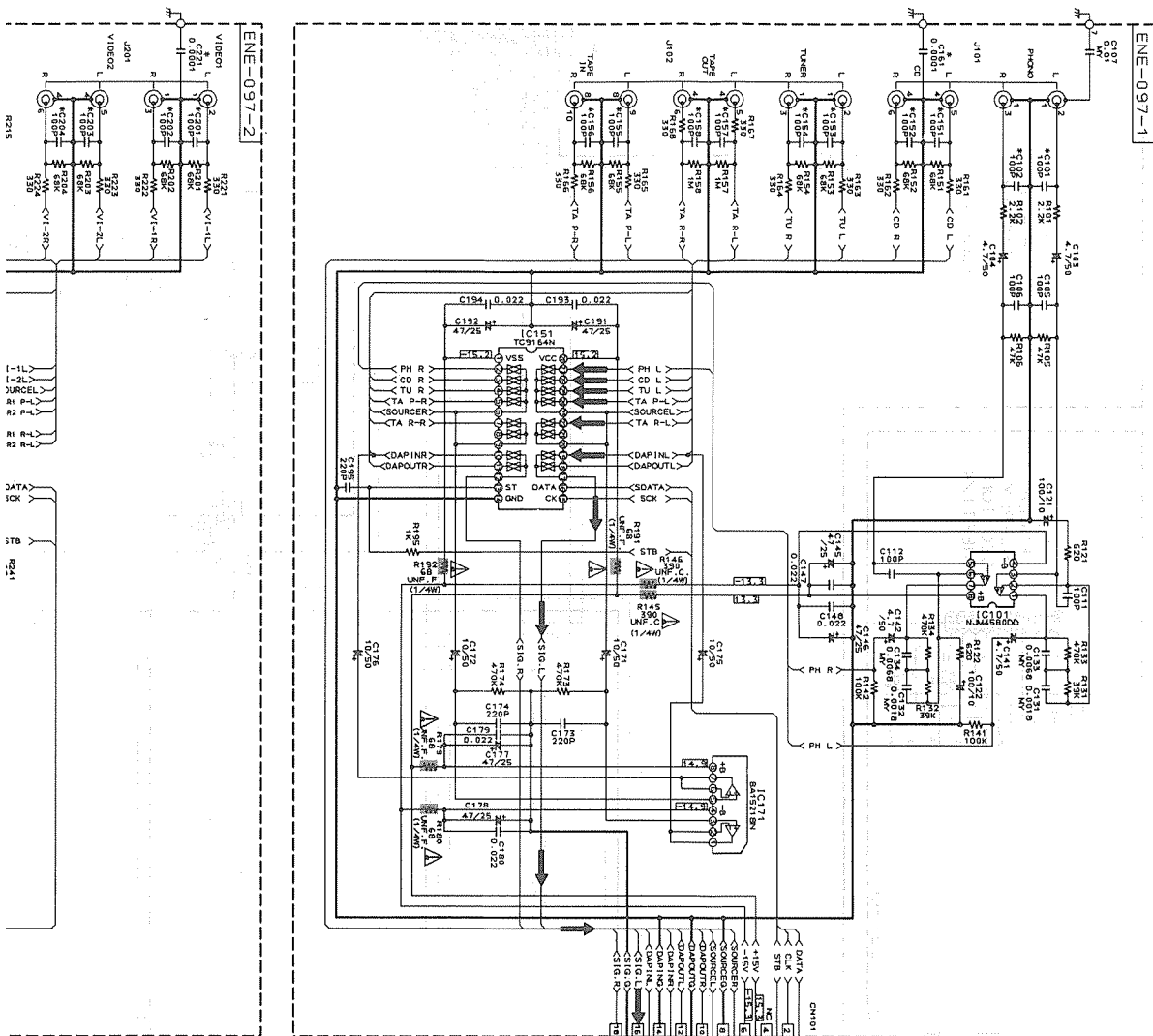
4

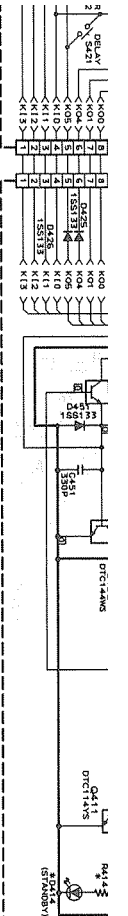
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1-36

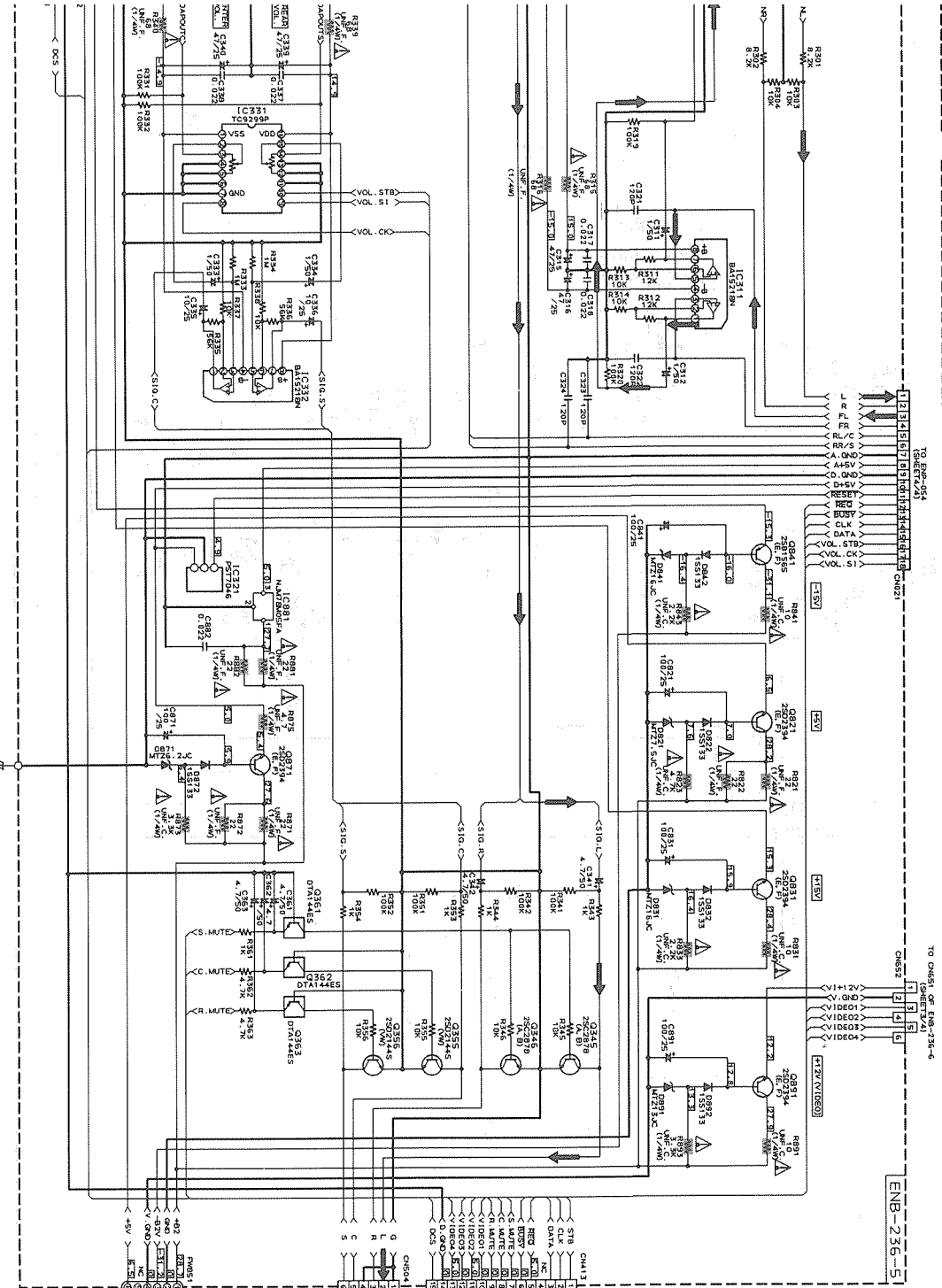
Front & Source Select Section

A  
B  
C  
D  
E





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4	4	4	4
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6

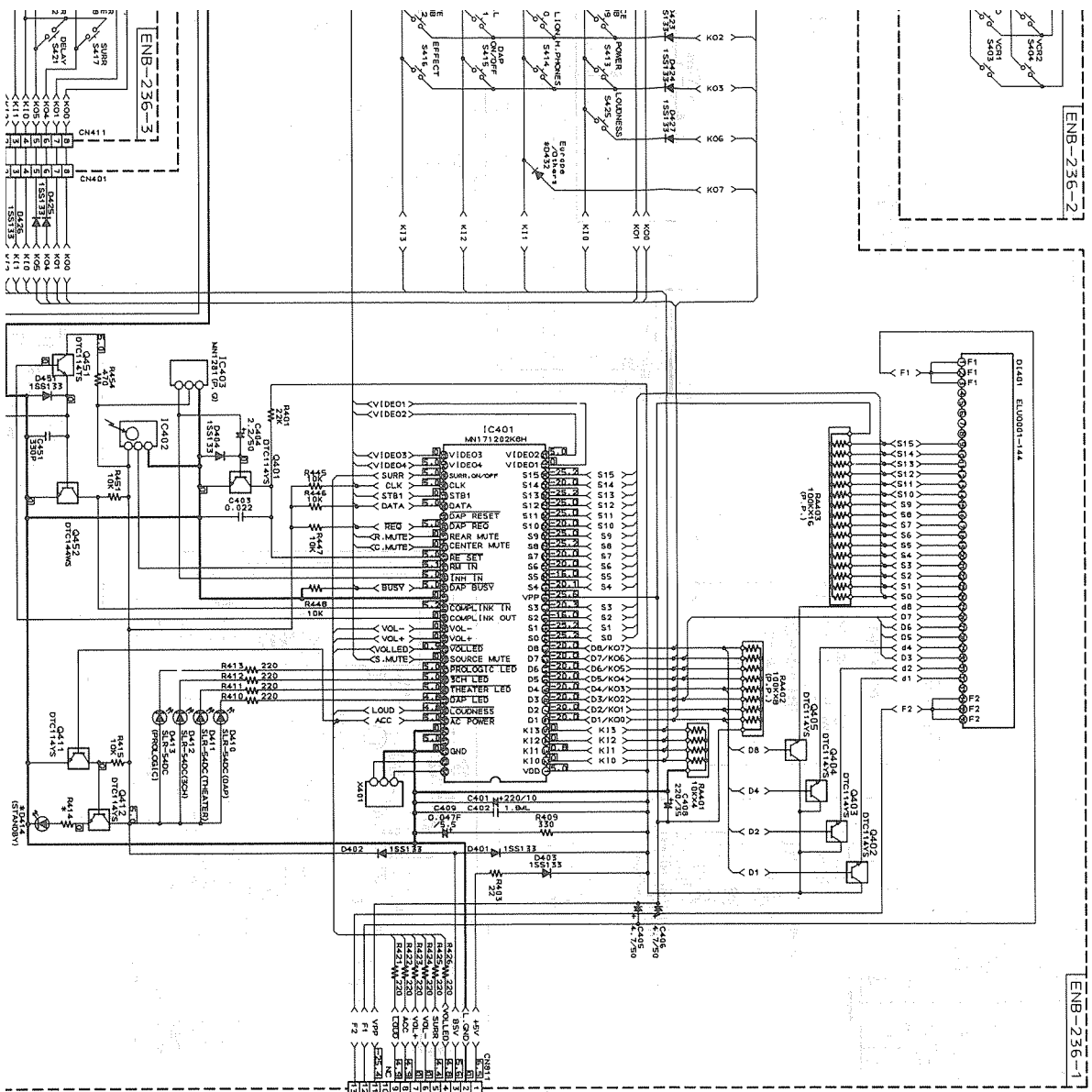
7

8

9

10





ENB-236-2

ENB-236-1

\* MARK

MARK	BS	EF, DN, Q	U, UB
C101-102	USED	USED	NONE
C151-158	USED	USED	NONE
C161	USED	USED	NONE
C201-208	USED	USED	NONE
C211-214	USED	USED	NONE
C221	USED	USED	NONE
C231	USED	USED	NONE
D414	SLA	SLB	SLC
D414	-50UL	-50UL	-50UL

FROM CHART 1 OF (SHEET 2/4)

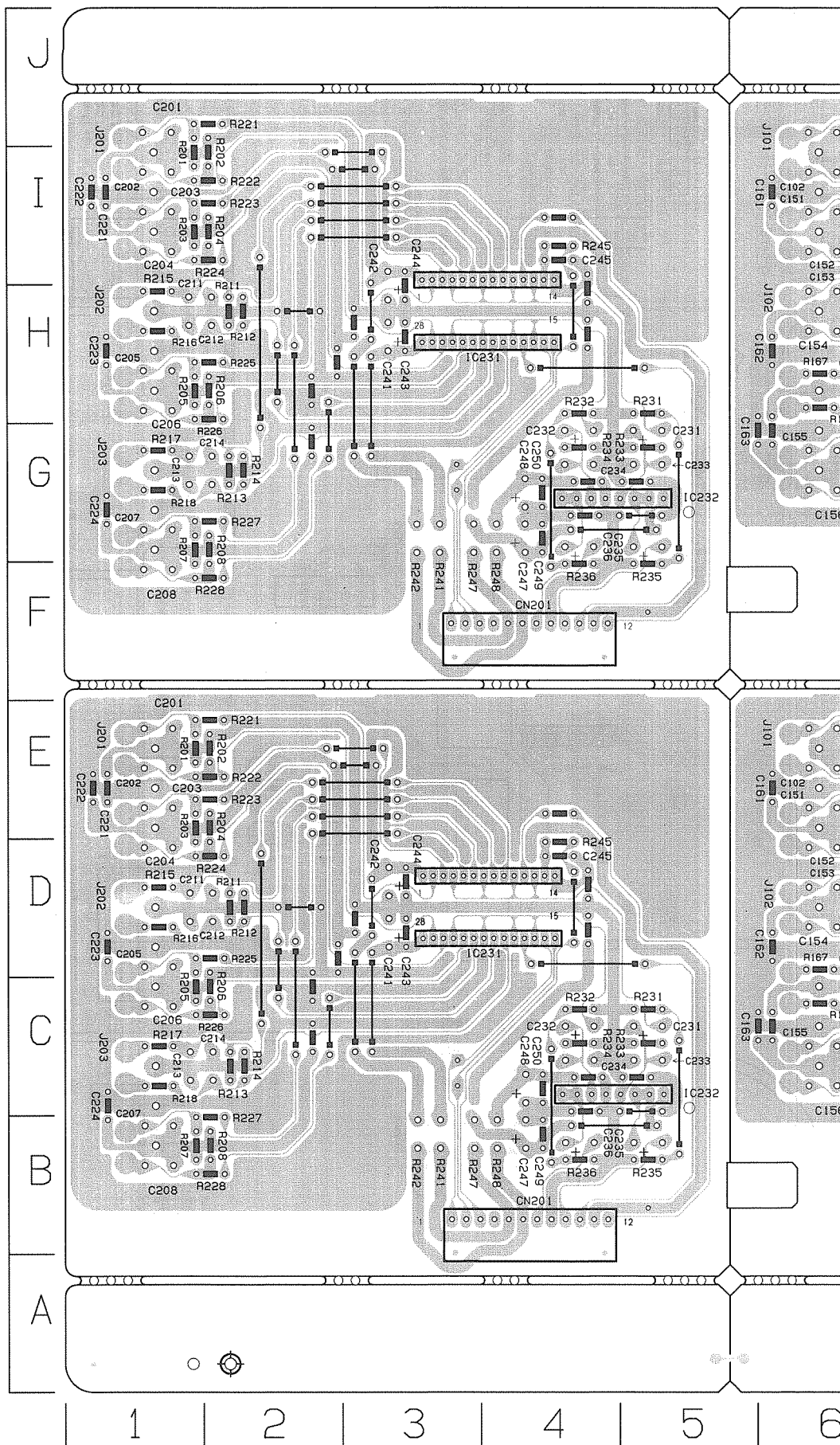


Location List (ENB-236)

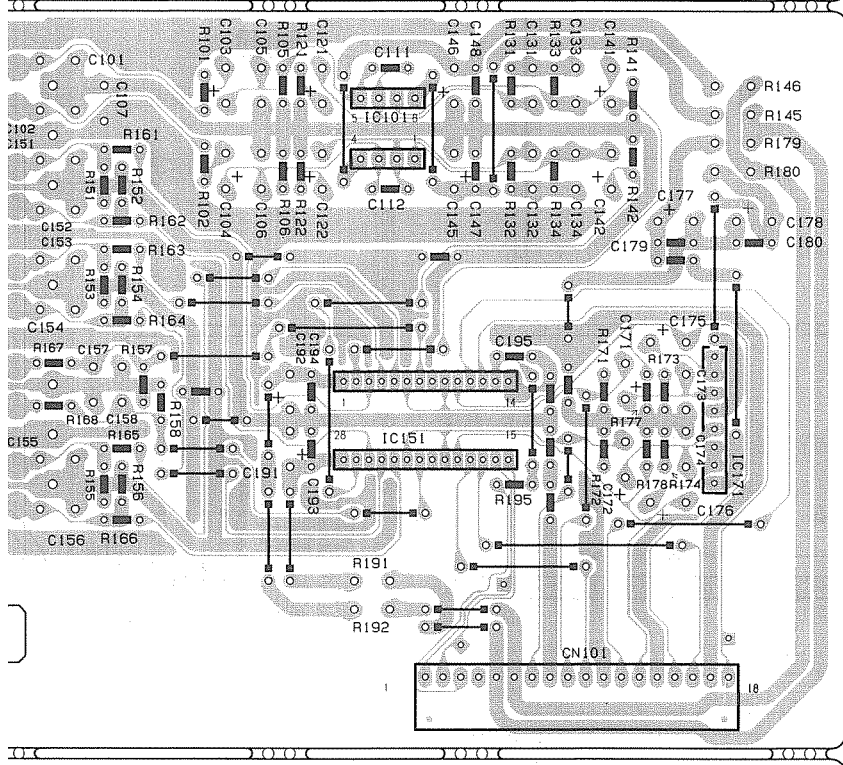
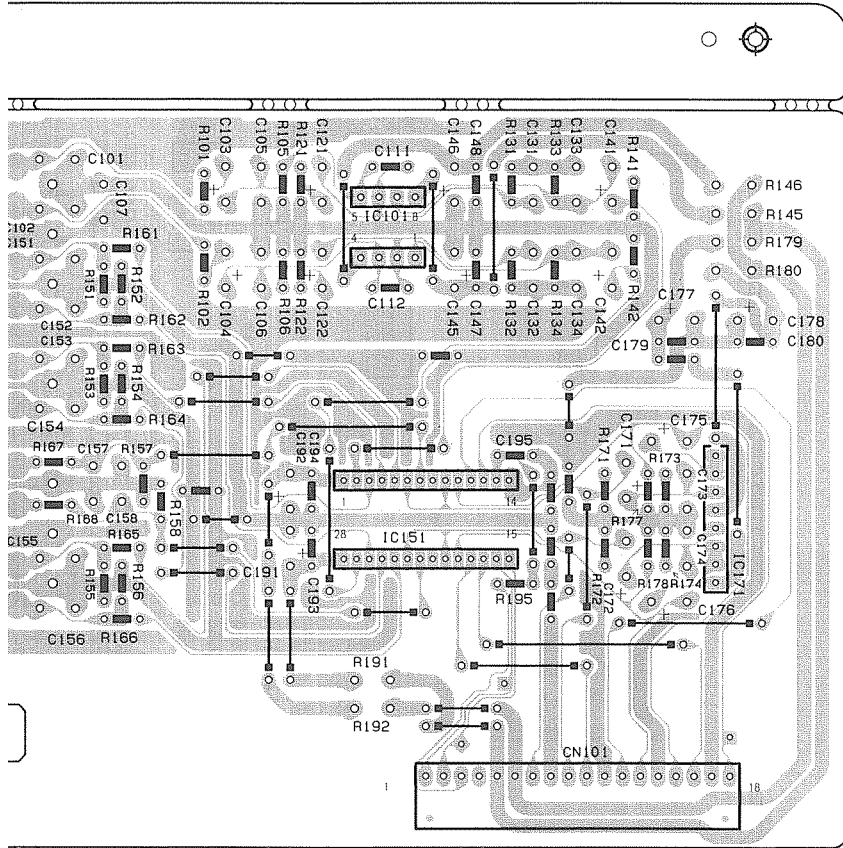
Symbol	X	Y	Symbol	X	Y	Symbol	X	Y
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C312	7	J	C4501	8	E	G677	1	J
C315	7	I	C4503	10	D	G681	1	F
C316	7	J	C4594	7	H	G682	1	I
C317	7	J	C4551	11	F	G621	5	F
C318	7	J	C4552	9	F	G831	7	F
C321	6	I	C4811	6	A	G841	6	F
C322	6	J	G401	5	A	G871	3	J
C323	5	I	G402	5	A	G891	6	F
C324	5	I	G403	5	A	R301	6	I
C333	5	H	D404	1	C	R302	6	J
C334	5	H	D410	1	A	R303	6	I
C335	6	H	D411	1	B	R304	6	I
C336	6	H	D412	1	B	R311	7	J
C337	6	I	D413	1	B	R312	7	J
C338	6	I	D414	1	D	R313	7	J
C339	6	I	D421	5	C	R314	7	J
C340	6	I	D422	5	C	R315	6	F
C381	7	G	D423	5	C	R316	6	F
C382	6	G	D424	5	C	R319	6	J
C383	6	G	D425	5	C	R320	6	J
C401	5	B	D426	5	C	R321	6	J
C402	5	B	D427	5	C	R322	5	H
C403	1	C	D431	6	B	R333	5	H
C404	1	C	D432	6	B	R334	5	H
C405	2	A	D433	6	B	R335	5	H
C406	5	A	D434	6	B	R336	5	H
C407	1	B	D435	6	B	R337	6	H
C408	2	A	D451	2	A	R338	6	H
C409	4	A	D452	2	A	R339	6	H
C451	2	A	D831	7	G	R340	6	I
C491	10	J	D832	7	G	R341	7	J
C507	9	E	D841	9	E	R342	7	H
C508	9	E	D842	9	E	R343	6	F
C509	9	E	D971	4	J	R344	7	H
C510	10	E	D872	4	I	R345	7	H
C541	9	G	D991	8	G	R346	7	H
C542	9	H	D992	8	G	R347	7	H
C543	10	G	D993	8	G	R348	7	H
C544	10	H	D1401	2	A	R351	6	F
C545	10	G	D1402	2	A	R352	6	F
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C554	2	I	D1406	2	A	R356	6	F
C555	2	I	D1407	2	A	R357	6	F
C556	2	I	D1408	2	A	R358	6	F
C557	2	I	D1409	2	A	R359	6	F
C558	2	I	D1410	2	A	R360	6	F
C559	2	I	D1411	2	A	R361	6	F
C561	2	D	D1412	2	A	R362	6	F
C562	2	D	D1413	2	A	R363	6	F
C563	2	H	D1414	2	A	R364	6	F
C564	2	I	D1415	2	A	R365	6	F
C565	2	I	D1416	2	A	R366	6	F
C566	2	I	D1417	2	A	R367	6	F
C567	2	I	D1418	2	A	R368	6	F
C568	2	I	D1419	2	A	R369	6	F
C569	2	I	D1420	2	A	R370	6	F
C570	2	I	D1421	2	A	R371	6	F
C571	2	I	D1422	2	A	R372	6	F
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C578	2	I	D1429	2	A	R379	6	F
C579	2	I	D1430	2	A	R380	6	F
C580	2	I	D1431	2	A	R381	6	F
C581	2	I	D1432	2	A	R382	6	F
C582	2	I	D1433	2	A	R383	6	F
C583	2	I	D1434	2	A	R384	6	F
C584	2	I	D1435	2	A	R385	6	F
C585	2	I	D1436	2	A	R386	6	F
C586	2	I	D1437	2	A	R387	6	F
C587	2	I	D1438	2	A	R388	6	F
C588	2	I	D1439	2	A	R389	6	F
C589	2	I	D1440	2	A	R390	6	F
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C602	2	I	D1453	2	A	R403	6	F
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C619	2	I	D1470	2	A	R420	6	F
C620	2	I	D1471	2	A	R421	6	F
C621	2	I	D1472	2	A	R422	6	F
C622	2	I	D1473	2	A	R423	6	F
C623	2	I	D1474	2	A	R424	6	F
C624	2	I	D1475	2	A	R425	6	F
C625	2	I	D1476	2	A	R426	6	F
C626	2	I	D1477	2	A	R427	6	F
C627	2	I	D1478	2	A	R428	6	F
C628	2	I	D1479	2	A	R429	6	F
C629	2	I	D1480	2	A	R430	6	F
C630	2	I	D1481	2	A	R431	6	F
C631	2	I	D1482	2	A	R432	6	F
C632	2	I	D1483	2	A	R433	6	F
C633	2	I	D1484	2	A	R434	6	F
C634	2	I	D1485	2	A	R435	6	F
C635	2	I	D1486	2	A	R436	6	F
C636	2	I	D1487	2	A	R437	6	F
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C644	2	I	D1495	2	A	R445	6	F
C645	2	I	D1496	2	A	R446	6	F
C646	2	I	D1497	2	A	R447	6	F
C647	2	I	D1498	2	A	R448	6	F
C648	2	I	D1499	2	A	R449	6	F
C649	2	I	D1500	2	A	R450	6	F

Symbol	X	Y	Symbol	X	Y
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R452	1	A	RA402	4	A
R453	1	A	RA403	3	A
R454	1	A	RA404	2	D
R455	1	A	S402	10	D
R491	10	J	S403	2	E
R492	10	J	S404	4	E
R503	9	E	S405	9	B
R504	9	E	S406	10	B
R505	9	D	S407	9	C
R506	9	D	S408	10	C
R507	9	E	S409	4	C
R508	9	E	S410	4	C
R509	9	E	S411	3	C
R543	10	G	S412	3	C
R544	9	H	S413	1	E
R545	9	H	S414	3	F
R552	2	D	S415	2	C
R553	2	H	S416	2	C
R554	2	I	S417	7	E
R557	2	D	S418	7	D
R558	2	H	S419	6	E
R559	2	J	S420	5	E
R561	2	F	S421	5	E
R562	2	F	S422	5	D
R563	2	H	S423	6	D
R564	2	I	S424	6	E
R567	2	G	S425	6	C
R568	2	I	X401	5	C
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R672	1	H			
R673	1	J			
R675	1	G			
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R683	7	G			

Video P.C. Board (ENE-097)



Location List (ENE-097)

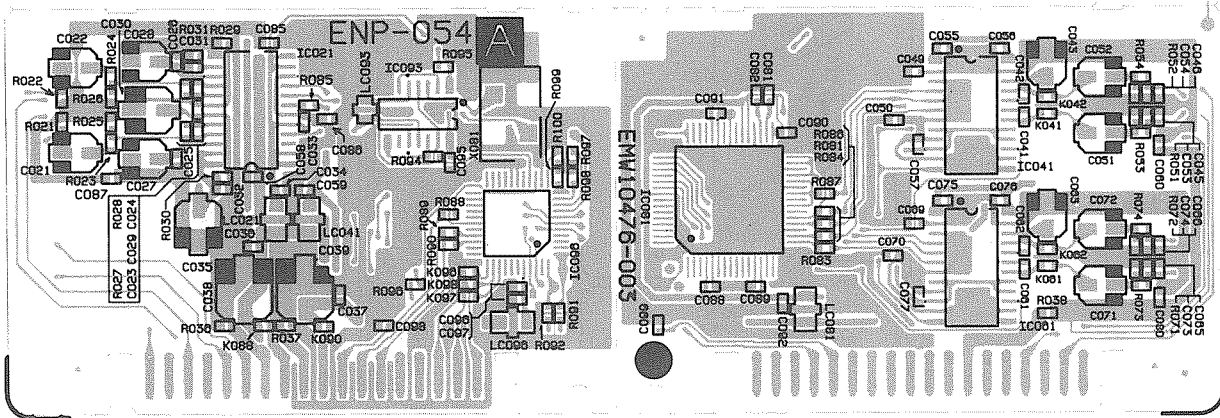


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C102	6	E	C179	10	I	CN101	8	B
C102	6	I	C179	10	I	CN101	8	F
C103	7	I	C179	10	D	CN201	3	B
C103	7	E	C180	10	D	CN201	3	F
C104	7	I	C180	10	I	IC101	8	I
C104	7	E	C191	7	A	IC101	8	E
C105	7	I	C191	7	C	IC151	8	H
C105	7	E	C192	7	H	IC151	8	C
C106	7	I	C192	7	C	IC171	10	D
C106	7	E	C193	7	C	IC171	10	H
C107	6	I	C193	7	D	IC231	3	D
C107	6	E	C194	7	H	IC231	3	F
C111	8	E	C194	7	C	IC232	4	C
C112	8	I	C195	9	D	IC232	4	C
C112	8	E	C195	9	H	J101	6	E
C121	7	I	C201	1	E	J101	6	I
C121	7	E	C202	1	E	J102	6	D
C122	7	I	C202	1	E	J102	6	H
C122	7	E	C203	1	I	J201	1	E
C131	9	I	C203	1	I	J202	1	C
C131	9	E	C204	1	I	J202	1	H
C132	9	I	C211	1	H	J203	1	B
C132	9	E	C205	1	D	J203	1	G
C133	9	E	C205	1	H	R101	7	I
C133	9	I	C206	1	H	R101	7	E
C134	9	I	C206	1	C	R102	7	I
C134	9	E	C207	1	B	R102	7	E
C141	9	I	C207	1	G	R105	7	I
C141	9	E	C208	1	F	R105	7	E
C142	9	E	C208	1	B	R106	7	I
C142	9	I	C211	1	H	R106	7	E
C145	6	I	C211	1	D	R121	7	I
C145	6	E	C212	2	D	R121	7	E
C146	6	I	C212	2	H	R122	7	I
C146	6	E	C213	1	G	R122	7	E
C147	6	I	C213	1	C	R131	9	I
C147	6	E	C214	2	C	R131	9	E
C148	6	I	C214	2	D	R132	9	I
C148	6	E	C221	1	E	R132	9	E
C151	6	I	C222	1	E	R133	9	I
C151	6	E	C222	1	I	R133	9	E
C152	6	I	C223	1	D	R134	9	I
C152	6	E	C223	1	H	R141	9	I
C153	6	I	C224	1	G	R141	9	E
C153	6	E	C224	1	B	R142	9	I
C154	6	I	C231	3	D	R142	9	E
C154	6	E	C231	3	C	R145	10	E
C155	6	I	C232	4	C	R145	10	I
C155	6	E	C232	4	G	R148	10	I
C156	6	I	C233	5	C	R148	10	E
C156	6	E	C233	5	G	R151	6	D
C157	6	I	C234	4	C	R151	6	I
C157	6	E	C234	4	G	R152	6	D
C158	6	I	C235	5	G	R152	6	I
C158	6	E	C235	5	C	R152	6	H
C181	6	I	C235	5	B	R153	6	H
C181	6	E	C236	4	C	R153	6	I
C182	6	I	C236	4	B	R154	6	H
C182	6	E	C241	3	D	R154	6	D
C183	5	C	C241	3	H	R155	6	C
C183	5	G	C242	3	D	R155	6	I
C171	9	H	C243	3	H	R156	6	C
C171	9	C	C243	3	B	R156	6	D
C172	9	C	C243	3	D	R157	6	C
C172	9	H	C244	3	H	R157	6	H
C173	10	H	C244	3	D	R158	7	C
C173	10	C	C245	4	I	R158	7	H
C174	10	G	C245	4	D	R161	6	I
C174	10	C	C247	4	D	R161	6	E
C175	9	H	C247	4	B	R162	6	I
C175	9	C	C248	4	C	R162	6	E
C176	9	C	C248	4	G	R163	6	I
C176	9	H	C249	4	C	R163	6	E
C177	9	I	C249	4	B	R164	6	H

Symbol	X	Y	Symbol	X	Y
R164	6	D	R229	2	F
R165	6	C	R229	2	B
R165	6	G	R231	5	C
R166	6	D	R231	5	H
R166	6	C	R232	4	H
R167	6	H	R232	4	C
R167	6	I	R233	5	C
R168	6	C	R233	5	G
R168	6	H	R234	4	G
R171	9	C	R234	4	C
R171	9	H	R235	5	F
R172	9	C	R235	5	B
R172	9	H	R236	4	F
R173	9	C	R236	4	B
R173	9	H	R241	3	G
R174	9	C	R241	3	D
R174	9	H	R242	3	G
R177	9	C	R242	3	B
R177	9	H	R245	4	I
R178	9	C	R245	4	D
R178	9	H	R247	3	G
R179	10	I	R247	3	B
R179	10	E	R248	4	B
R180	10	I	R248	4	H
R180	10	E	R248	4	G
R191	8	B	R248	4	C
R191	8	H			
R192	8	B			
R192	8	H			
R193	8	F			
R193	8	H			
R195	9	D			
R195	9	C			
R201	1	I			
R201	1	E			
R202	2	I			
R202	2	E			
R203	1	D			
R203	1	I			
R204	2	D			
R204	2	I			
R205	1	C			
R205	1	H			
R206	2	C			
R206	2	H			
R207	1	F			
R207	1	B			
R208	2	F			
R208	2	B			
R211	2	H			
R211	2	D			
R212	2	D			
R212	2	H			
R213	2	B			
R213	2	C			
R214	2	C			
R214	2	B			
R215	1	H			
R215	1	D			
R216	1	D			
R216	1	H			
R217	1	C			
R217	1	D			
R218	1	C			
R218	1	H			
R221	2	E			
R221	2	I			
R222	2	I			
R222	2	E			
R223	2	E			
R223	2	I			
R224	2	D			
R224	2	I			
R225	2	D			
R225	2	H			
R226	2	H			
R226	2	C			
R227	2	B			
R227	2	G			

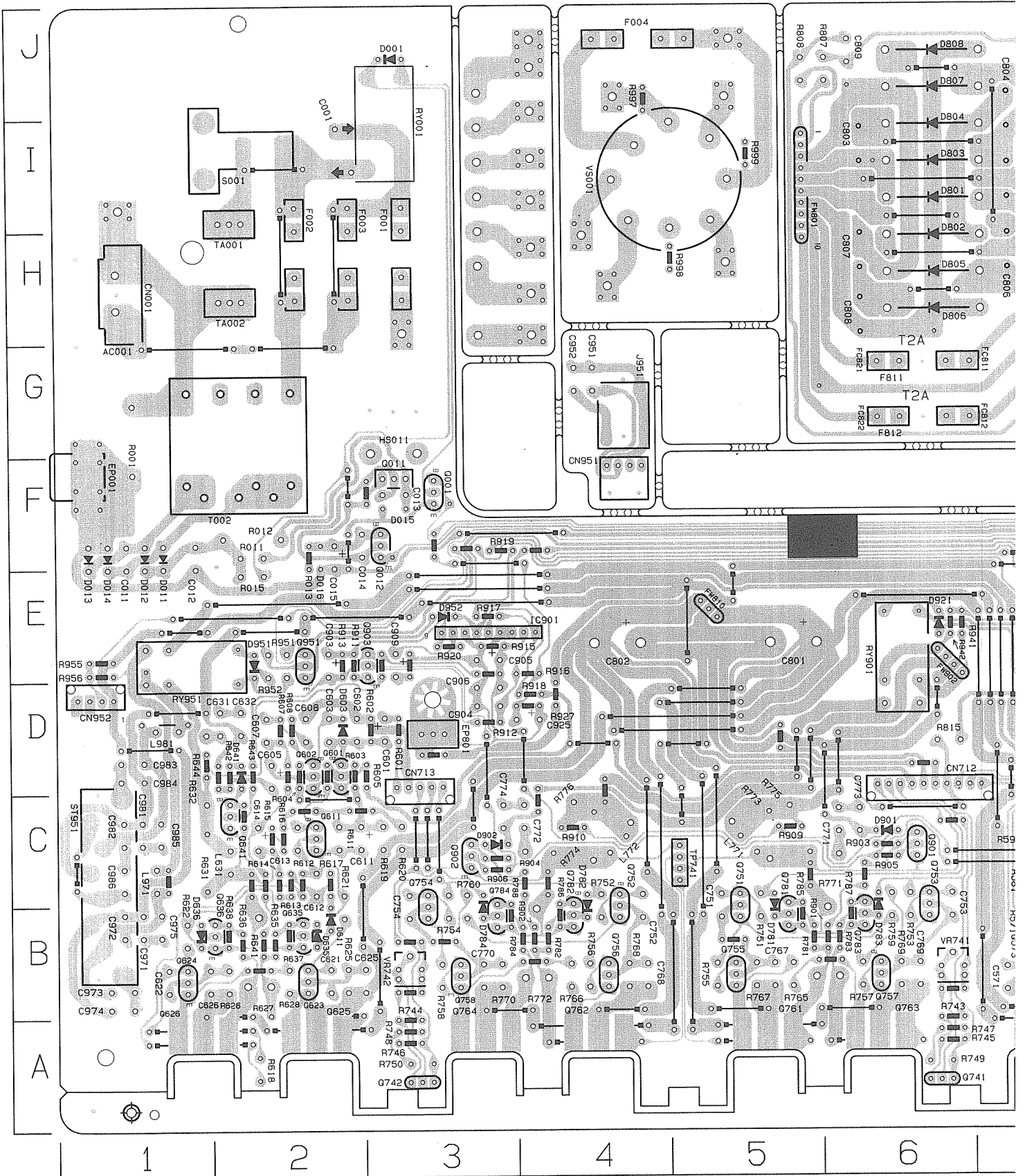
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■ DSP P.C. Board (ENP-054)





■ Power supply P.C. Board (ENH-291)









# PARTS LIST

\* All printed circuit boards and its assemblies are not available as service parts.

## The Marks for Designated Areas

BS - the U.K.      EF - Continental Europe      EN - Scandinavia      G - Germany  
U - Universal Type      UB - Hong Kong      US - Singapore      UT - Taiwan  
No marks indicates all areas.

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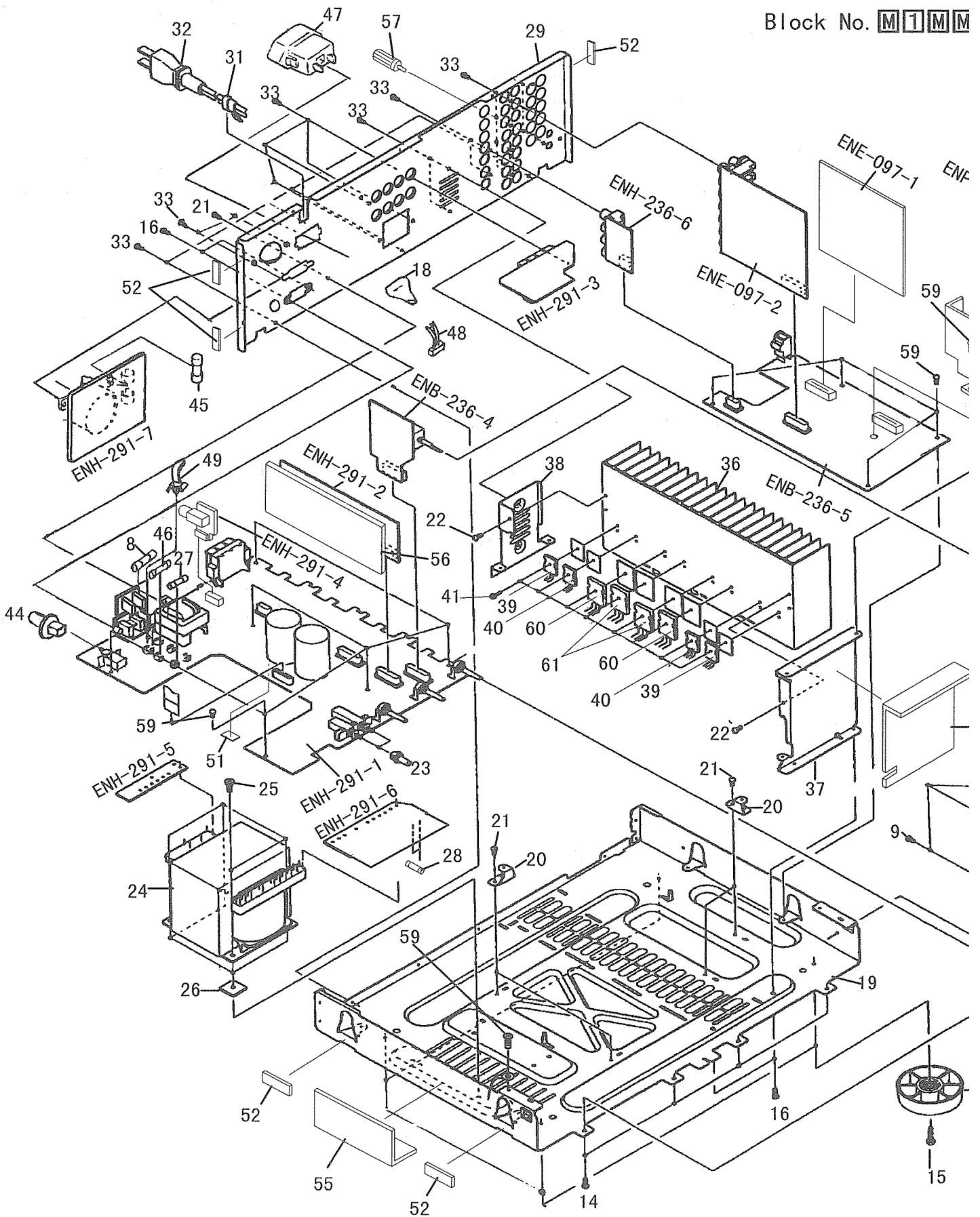
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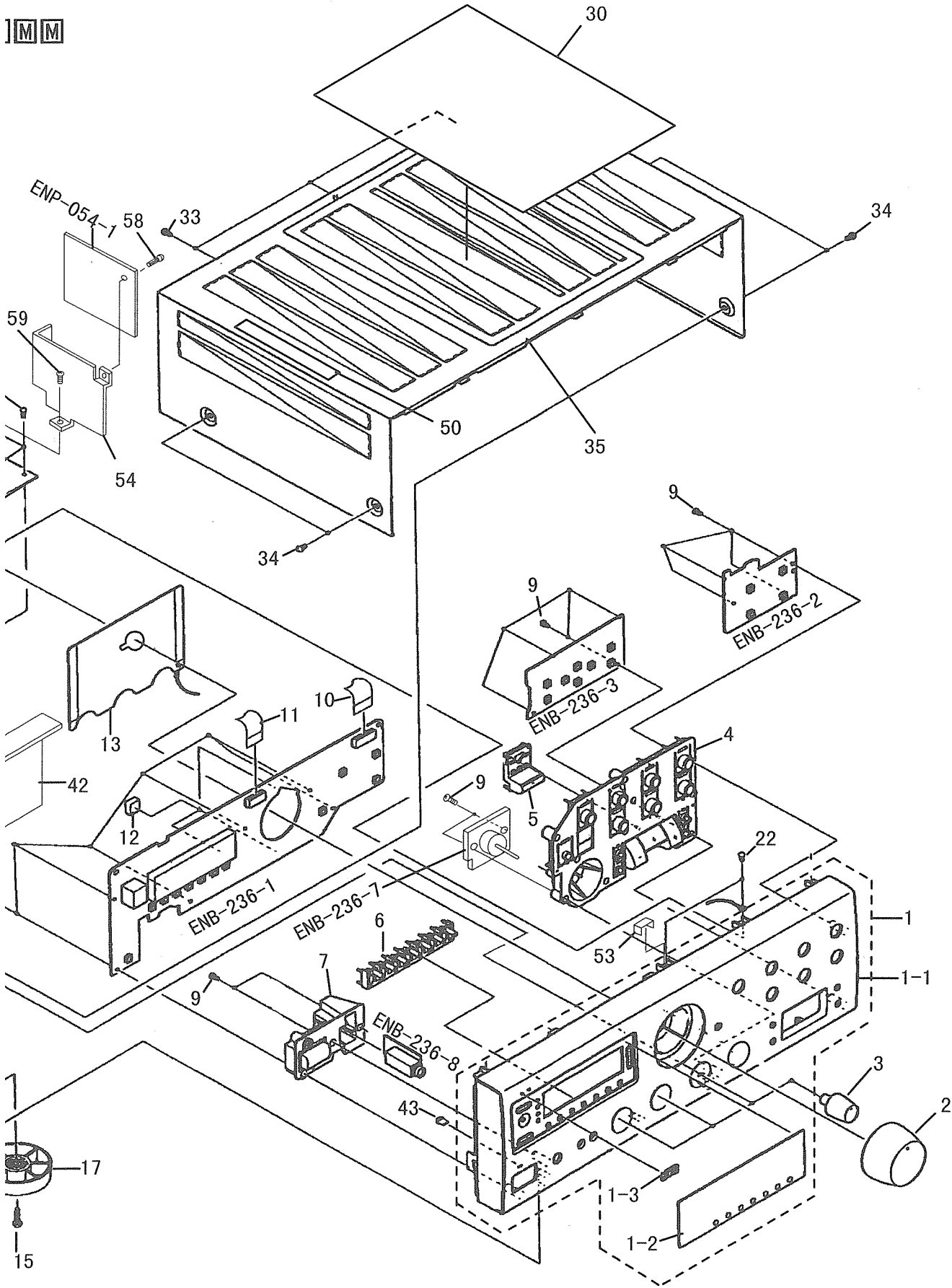




# General Exploded View and Parts List

Block No. **M1M**





## ■ Parts List

Block No. **M1MM**

△	Item	Parts Number	Parts Name	Q'ty	Description	Area
	1	EFP-AXV8BKE (S)	FRONT PANEL ASSY	1		
	1-1	E103158-006SM	FRONT PANEL	1		
	1-2	E309419-004SM	WINDOW SCREEN	1		
	1-3	VJD5429-001	JVC MARK	1		
	2	E309465-001SM	VOLUME KNOB	1		
	3	E309111-003SM	BALANCE KNOB	4		
	4	E208859-003SM	PUSH BUTTON	1		
	5	E409170-001SM	PUSH BUTTON	1		
	6	E309418-001SM	PUSH BUTTON	1		
	7	E208860-001SM	POWER BUTTON	1		
△	8	QMF51A2-R10S	FUSE	1	F002 (T0. 1A/250V)	EF EN G
△		QMF51E2-R10BS	FUSE	1	F002 (T0. 1A/250V)	BS
	9	SDSF2608Z	SCREW	18		
	10	VWF1215-20TTB	FLAT WIRE ASSY	1	FW403	
	11	VWF1213-18TTB	FLAT WIRE ASSY	1	FW801	
	12	E306805-122	SPACER	3		
	13	E309955-003	S. PLATE ASSY	1		
	14	SDSF3008M	WOOD SCREW	4		
	15	SBST3010Z	TAPPING SCREW	4		
	16	SDSG3008M	TAPPING SCREW	2		U UT
	17	VJF4039-00PSM	FOOT ASSY	4		
	18	E406079-001	COVER	1		BS
	19	E103157-002SM	CHASSIS BASE	1		
	20	E68587-223SM	P. C. BOARD BRACKET	4		
	21	SBST3006CC	TAPPING SCREW	5		
	22	SBSG3008CC	TAPPING SCREW	2		
	23	E407321-002SM	PUSH BUTTON	2		
△	24	ETP1200-71EAJ	POWER TRANSFORMER	1		BS EF EN G
△		ETP1200-71FAJ	POWER TRANSFORMER	1		U UB US UT
	25	E65389-004	SPECIAL SCREW	4		
	26	E407337-001	SPACER	4		
△	27	QMF51E2-2R5J1	FUSE	1	F001 (T2. 5A/250V)	BS EF EN G
△		QMF51E2-5R0	FUSE	1	F001 (T5. 0A/250V)	U UB US UT
△	28	QMF51E2-2R0	FUSE	2	F811, 812 (T2. 0A/250V)	
	29	E208855-014SM	REAR PANEL	1		BS EF EN G
		E208855-015SM	REAR PANEL	1		U UT
		E208855-016SM	REAR PANEL	1		UB US
	30	E208294-001	PROTECTOR COVER	1		U UB US UT
△	31	QHS3771-108	CORD STOPPER	1		Except BS
△		QHS3771-108BS	CORD STOPPER	1		BS
△	32	QMP3900-200	POWER CORD	1		EF EN G US
△		QMP5530-0085BS	POWER CORD	1		UB BS
△		QMP7520-200	POWER CORD	1		U UT
	33	E73273-003	SPECIAL SCREW	25		BS EF EN G
		E73273-003	SPECIAL SCREW	27		U UB US UT
	34	E406308-001	SPECIAL SCREW	4		
	35	E208858-005 (S)	METAL COVER	1		
	36	E309840-001SM	HEAT SINK	1		
	37	E208857-001SM	HEAT SINK BRACKET	1		
	38	E309841-001SM	HEAT SINK BRACKET	1		
	39	2SA1633LD (D, E)	SI. TRANSISTOR	2	Q576, Q626	

△: Safety Parts



■ Parts List

Block No. M1M1

△	Item	Parts Number	Parts Name	Q'ty	Description	Area
	40	2SC4278LD (D, E)	SI. TRANSISTOR	2	Q625, Q575	
	41	E73525-003	SCREW	8		
	42	E309957-001	PROTECT COVER	1		
	43	FSJD4001-002	INDICATOR LENS	1		
	44	E409400-001SM	PUSH BUTTON ASSY	1		BS EF EN G
△	45	QMF51E2-2R5J1	FUSE	1	F004 (T2. 5A/250V)	U UB US UT
△	46	QMF51E2-1R25	FUSE	1	F003 (T1. 25A/250V)	EF
△	47	EMC0236-001	AC OUTLET	1		EF EN G
△		EMC0237-001BS	AC OUTLET	1		BS
△	48	EWS282-002	SOCKET WIRE	1		EF EN G
△		EWS282-002BS	SOCKET WIRE	1		BS
	49	E307572-001	VINYL TIE	1		
	50	E409395-001	CAUTION LABEL	1		BS EF EN G U UT
		E409396-001	CAUTION LABEL	1		UB US
	51	E306805-038	SPACER	1		
	52	E306805-068	SPACER	5		
	53	E306805-110	SPACER	1		
	54	E309458-001SM	SHIELD BRACKET	1		
	55	E310053-001	PROTECT SHEET	1		
	56	E310107-001	SHI. PLATE ASSY	1		
	57	E409257-001	EARTH TERMINAL	1		
	58	E48729-008	PLASTIC RIVET	1		
	59	GBSG3008CC	TAPPING SCREW	11		BS EF EN G
		GBSG3008CC	TAPPING SCREW	12		U UB US UT
	60	2SB1429LB (R, O)	SI. TRANSISTOR	2	Q764, Q763	
	61	2SD2155LB (R, O)	SI. TRANSISTOR	2	Q762, Q761	

△: Safety Parts



■ Electrical Parts List (ENH-291)

△: Safety Parts

△	Item	Parts Number	Description	Area
		I. C. S		
	IC501	LB1639-CV	I. C (DIGI-OTHER)	
	IC901	TA7317P	I. C (MONO-ANALOG)	
		DIODES		
	D001	1SS133	SI. DIODE	
	D011	1SR139-200	SI. DIODE	
	D012	1SR139-200	SI. DIODE	
	D013	1SR139-200	SI. DIODE	
	D014	1SR139-200	SI. DIODE	
	D015	MTZ12JC	ZENER DIODE	U UB US UT
	D016	MTZ6.2JC	ZENER DIODE	
	D553	1SS133	SI. DIODE	
	D561	1SS133	SI. DIODE	
	D585	1SS133	SI. DIODE	
	D586	1SS133	SI. DIODE	
	D591	1SS133	SI. DIODE	
	D603	1SS133	SI. DIODE	
	D611	1SS133	SI. DIODE	
	D635	1SS133	SI. DIODE	
	D636	1SS133	SI. DIODE	
	D641	1SS133	SI. DIODE	
	D703	1SS133	SI. DIODE	
	D704	1SS133	SI. DIODE	
	D781	1SS133	SI. DIODE	
	D782	1SS133	SI. DIODE	
	D783	1SS133	SI. DIODE	
	D784	1SS133	SI. DIODE	
△	D801	30DF2SFC	SI. DIODE	BS EF EN G
△	D801	30D2FC	SI. DIODE	U UB US UT
△	D802	30DF2SFC	SI. DIODE	BS EF EN G
△	D802	30D2FC	SI. DIODE	U UB US UT
△	D803	30DF2SFC	SI. DIODE	BS EF EN G
△	D803	30D2FC	SI. DIODE	U UB US UT
△	D804	30DF2SFC	SI. DIODE	BS EF EN G
△	D804	30D2FC	SI. DIODE	U UB US UT
△	D805	30DF2SFC	SI. DIODE	BS EF EN G
△	D805	30D2FC	SI. DIODE	U UB US UT
△	D806	30DF2SFC	SI. DIODE	BS EF EN G
△	D806	30D2FC	SI. DIODE	U UB US UT
△	D807	30DF2SFC	SI. DIODE	BS EF EN G
△	D807	30D2FC	SI. DIODE	U UB US UT
△	D808	30DF2SFC	SI. DIODE	BS EF EN G
△	D808	30D2FC	SI. DIODE	U UB US UT
	D809	1SS133	SI. DIODE	
	D810	1SS133	SI. DIODE	
△	D811	10E2-FD	DIODE	
△	D812	10E2-FD	DIODE	
△	D813	10E2-FD	DIODE	
△	D814	10E2-FD	DIODE	
	D851	MTZ16JC	ZENER DIODE	
	D852	MTZ10JC	ZENER DIODE	
	D853	1SS133	SI. DIODE	
	D861	MTZ6.2JC	ZENER DIODE	
	D901	1SS133	SI. DIODE	
	D902	1SS133	SI. DIODE	
	D921	1SS133	SI. DIODE	
	D925	1SS133	SI. DIODE	
	D951	1SS133	SI. DIODE	
	D952	1SS133	SI. DIODE	
		TRANSISTORS		
	Q001	DTC114YS	SI. TRANSISTOR	
	Q011	2SD1266	SI. TRANSISTOR	U UB US UT
	Q012	2SC2235 (O, Y)	SI. TRANSISTOR	
	Q551	2SC1845	SI. TRANSISTOR	
	Q552	2SC1845	SI. TRANSISTOR	
	Q561	2SA1038 (R, S)	SI. TRANSISTOR	

△	Item	Parts Number	Description	Area
	Q573	2SC2235 (O, Y)	SI. TRANSISTOR	
	Q574	2SA965 (Y)	SI. TRANSISTOR	
	Q585	2SC2389 (S, E)	SI. TRANSISTOR	
	Q586	2SA1038 (R, S)	SI. TRANSISTOR	
	Q591	2SC2389 (S, E)	SI. TRANSISTOR	
	Q601	2SC1845	SI. TRANSISTOR	
	Q602	2SC1845	SI. TRANSISTOR	
	Q611	2SA1038 (R, S)	SI. TRANSISTOR	
	Q623	2SC2235 (O, Y)	SI. TRANSISTOR	
	Q624	2SA965 (Y)	SI. TRANSISTOR	
	Q635	2SC2389 (S, E)	SI. TRANSISTOR	
	Q636	2SA1038 (R, S)	SI. TRANSISTOR	
	Q641	2SC2389 (S, E)	SI. TRANSISTOR	
	Q701	2SC1845	SI. TRANSISTOR	
	Q702	2SC1845	SI. TRANSISTOR	
	Q703	2SC1845	SI. TRANSISTOR	
	Q704	2SC1845	SI. TRANSISTOR	
	Q721	2SA1038 (R, S)	SI. TRANSISTOR	
	Q722	2SA1038 (R, S)	SI. TRANSISTOR	
	Q741	2SD636	SI. TRANSISTOR	
	Q742	2SD636	SI. TRANSISTOR	
	Q751	2SC2389 (S, E)	SI. TRANSISTOR	
	Q752	2SC2389 (S, E)	SI. TRANSISTOR	
	Q753	2SA1038 (R, S)	SI. TRANSISTOR	
	Q754	2SA1038 (R, S)	SI. TRANSISTOR	
	Q755	2SC2235 (O, Y)	SI. TRANSISTOR	
	Q756	2SC2235 (O, Y)	SI. TRANSISTOR	
	Q757	2SA965 (O, Y) TP	SI. TRANSISTOR	
	Q758	2SA965 (O, Y) TP	SI. TRANSISTOR	
	Q781	2SC2389 (S, E)	SI. TRANSISTOR	
	Q782	2SC2389 (S, E)	SI. TRANSISTOR	
	Q783	2SA1038 (R, S)	SI. TRANSISTOR	
	Q784	2SA1038 (R, S)	SI. TRANSISTOR	
	Q801	DTC123YS	SI. TRANSISTOR	
	Q851	2SA965 (O, Y) TP	SI. TRANSISTOR	
	Q861	2SC1845	SI. TRANSISTOR	
	Q901	2SC2389 (S, E)	SI. TRANSISTOR	
	Q902	2SC2389 (S, E)	SI. TRANSISTOR	
	Q903	2SA1038 (R, S)	SI. TRANSISTOR	
	Q951	DTC123YS	SI. TRANSISTOR	
		CAPACITORS		
△	C001	QCZ9019-472	4700PF C. CAP.	
	C011	QFN82AK-472	4700PF 100V METAL. MYLAR	
	C012	QETB1EM-227	220MF 25V AL E. CAP.	BS EF EN G
	C012	QETB1JM-227	220MF 63V AL E. CAP.	U UB US UT
	C013	QCF21HP-472	4700PF 50V CER. CAP.	U UB US UT
	C014	QCF21HP-472	4700PF 50V CER. CAP.	
	C015	QETB1CM-476	47MF 16V AL E. CAP.	
	C511	QCB81HK-331Y	330PF 50V CER. CAP.	
	C512	QCB81HK-331Y	330PF 50V CER. CAP.	
	C513	QETB1AM-107	100MF 10V AL E. CAP.	
	C521	QFLB1HJ-332	3300PF 50V MYLAR CAP.	
	C522	QFLB1HJ-332	3300PF 50V MYLAR CAP.	
	C523	QFLB1HJ-183	0.018MF 50V MYLAR CAP.	
	C524	QFLB1HJ-183	0.018MF 50V MYLAR CAP.	
	C531	QETB1HM-105	1MF 50V AL E. CAP.	
	C532	QETB1HM-105	1MF 50V AL E. CAP.	
	C533	QFLB1HJ-153	0.015MF 50V MYLAR CAP.	
	C534	QFLB1HJ-153	0.015MF 50V MYLAR CAP.	
	C535	QFLB1HJ-823	0.082MF 50V MYLAR CAP.	
	C536	QFLB1HJ-823	0.082MF 50V MYLAR CAP.	
	C537	QETB1HM-105	1MF 50V AL E. CAP.	
	C538	QETB1HM-105	1MF 50V AL E. CAP.	
	C551	EET5010-106ZE	10MF 50V E. CAP.	
	C552	QCS21HJ-271A	270PF 50V CER. CAP.	
	C553	QCS21HJ-101A	100PF 50V CER. CAP.	

■ Electrical Parts List (ENH-291)

△: Safety Parts

△	Item	Parts Number	Description	Area
	C557	QCS21HJ-5R0	5PF 50V CER. CAP.	
	C558	EETB1CM-476E	47MF 16V E. CAP.	
	C561	EETB1HM-225E	2.2MF 50V E. CAP.	
	C562	QCS22HJ-330	33PF 500V CER. CAP.	
	C563	QFLB1HJ-103	0.01MF 50V MYLAR CAP.	
	C564	EETB1HM-476E	47MF 50V E. CAP.	
	C565	EETB1EM-227E	220MF 25V E. CAP.	
	C571	QCS22HJ-470A	47PF 500V CER. CAP.	
	C572	QCS22HJ-470A	47PF 500V CER. CAP.	
	C581	QFLB1HJ-473	0.047MF 50V MYLAR CAP.	
	C582	QFLB1HJ-473	0.047MF 50V MYLAR CAP.	
	C601	EET5010-106ZE	10MF 50V E. CAP.	
	C602	QCS21HJ-271A	270PF 50V CER. CAP.	
	C603	QCS21HJ-101A	100PF 50V CER. CAP.	
	C605	EETB1JM-476E	47MF 63V E. CAP.	
	C607	QCS21HJ-5R0	5PF 50V CER. CAP.	
	C608	EETB1CM-476E	47MF 16V E. CAP.	
	C611	EETB1HM-225E	2.2MF 50V E. CAP.	
	C612	QFLB1HJ-103	0.01MF 50V MYLAR CAP.	
	C613	QCS22HJ-330	33PF 500V CER. CAP.	
	C614	EETB1HM-476E	47MF 50V E. CAP.	
	C621	QCS22HJ-470A	47PF 500V CER. CAP.	
	C622	QCS22HJ-470A	47PF 500V CER. CAP.	
	C631	QFLB1HJ-473	0.047MF 50V MYLAR CAP.	
	C632	QFLB1HJ-473	0.047MF 50V MYLAR CAP.	
	C701	EET5010-106ZE	10MF 50V E. CAP.	
	C702	EET5010-106ZE	10MF 50V E. CAP.	
	C703	QCS21HJ-271A	270PF 50V CER. CAP.	
	C704	QCS21HJ-271A	270PF 50V CER. CAP.	
	C705	QCS21HJ-101A	100PF 50V CER. CAP.	
	C706	QCS21HJ-101A	100PF 50V CER. CAP.	
	C711	EETB1CM-107E	100MF 16V E. CAP.	
	C712	EETB1CM-107E	100MF 16V E. CAP.	
	C713	QCS21HJ-100	10PF 50V CER. CAP.	
	C714	QCS21HJ-100	10PF 50V CER. CAP.	
	C717	QCY31HK-152Z	1500PF 50V CER. CAP.	
	C718	QCY31HK-152Z	1500PF 50V CER. CAP.	
	C721	QCS22HJ-220	22PF 500V CER. CAP.	
	C722	QCS22HJ-220	22PF 500V CER. CAP.	
	C723	EETB1HM-225E	2.2MF 50V E. CAP.	
	C724	EETB1HM-225E	2.2MF 50V E. CAP.	
	C725	EETB1HM-476E	47MF 50V E. CAP.	
	C726	EETB1HM-476E	47MF 50V E. CAP.	
	C727	QFLB1HJ-472	4700PF 50V MYLAR CAP.	
	C728	QFLB1HJ-472	4700PF 50V MYLAR CAP.	
	C730	QCHB1EZ-223	0.022MF 25V CER. CAP.	BS EF EN G
	C739	EETC1JM-227ZE	220MF 63V E. CAP.	
	C740	EETC1JM-227ZE	220MF 63V E. CAP.	
	C751	QCS22HJ-470A	47PF 500V CER. CAP.	
	C752	QCS22HJ-470A	47PF 500V CER. CAP.	
	C753	QCS22HJ-470A	47PF 500V CER. CAP.	
	C754	QCS22HJ-470A	47PF 500V CER. CAP.	
	C771	QFLB1HJ-473	0.047MF 50V MYLAR CAP.	
	C772	QFLB1HJ-473	0.047MF 50V MYLAR CAP.	
	C773	QFLB1HJ-473	0.047MF 50V MYLAR CAP.	
	C774	QFLB1HJ-473	0.047MF 50V MYLAR CAP.	
	C801	EEW5614-109E	10000MF 56V E. CAP.	
	C802	EEW5614-109E	10000MF 56V E. CAP.	
	C803	QFN82CK-104	0.1MF 160V METAL. MYLAR	
	C804	QFN82CK-104	0.1MF 160V METAL. MYLAR	
	C805	QFN82CK-104	0.1MF 160V METAL. MYLAR	
	C806	QFN82CK-104	0.1MF 160V METAL. MYLAR	
	C807	QFN82CK-104	0.1MF 160V METAL. MYLAR	
	C808	QFN82CK-104	0.1MF 160V METAL. MYLAR	
	C809	QFN81HJ-104	0.1MF 50V METAL. MYLAR	
	C810	QCHB1EZ-223	0.022MF 25V CER. CAP.	BS EF EN G

△	Item	Parts Number	Description	Area
	C811	QETB1VM-228E	2200MF 35V E. CAP.	
	C812	QETB1VM-228E	2200MF 35V E. CAP.	
	C813	QFN82AJ-104	0.1MF 100V MYLAR CAP.	
	C814	QFN82AJ-104	0.1MF 100V MYLAR CAP.	
	C815	QFN82AJ-104	0.1MF 100V MYLAR CAP.	
	C816	QFN81HJ-223	0.022MF 50V METAL. MYLAR	BS EF EN G
	C851	QETB1HM-107	100MF 50V E. CAP.	
	C852	QETB1HM-106	10MF 50V E. CAP.	
	C861	QETB1HM-105	1MF 50V AL. E. CAP.	
	C903	QETB1HM-226E	22MF 50V E. CAP.	
	C904	QCY31HK-102Z	1000PF 50V CER. CAP.	
	C905	QETB1AM-476	47MF 10V E. CAP.	
	C906	QCF21HP-103A	0.01MF 50V CER. CAP.	
	C909	QETB1CM-226	22MF 16V E. CAP.	
	C925	QETB1HM-225	2.2MF 50V AL. E. CAP.	
	C931	QFLB1HJ-223	0.022MF 50V MYLAR CAP.	BS EF EN G
	C932	QFLB1HJ-223	0.022MF 50V MYLAR CAP.	BS EF EN G
	C933	QFLB1HJ-223	0.022MF 50V MYLAR CAP.	BS EF EN G
	C934	QFLB1HJ-223	0.022MF 50V MYLAR CAP.	BS EF EN G
	C935	QCS31HJ-331Z	330PF 50V CER. CAP.	BS EF EN G
	C936	QCS31HJ-331Z	330PF 50V CER. CAP.	BS EF EN G
	C937	QCS31HJ-331Z	330PF 50V CER. CAP.	BS EF EN G
	C938	QCS31HJ-331Z	330PF 50V CER. CAP.	BS EF EN G
	C941	QCS31HJ-331Z	330PF 50V CER. CAP.	BS EF EN G
	C942	QCS31HJ-331Z	330PF 50V CER. CAP.	BS EF EN G
	C943	QCS31HJ-331Z	330PF 50V CER. CAP.	BS EF EN G
	C944	QCS31HJ-331Z	330PF 50V CER. CAP.	BS EF EN G
	C945	QCS31HJ-331Z	330PF 50V CER. CAP.	BS EF EN G
	C946	QCS31HJ-331Z	330PF 50V CER. CAP.	BS EF EN G
	C951	QCS31HJ-331Z	330PF 50V CER. CAP.	
	C952	QCS31HJ-331Z	330PF 50V CER. CAP.	
	C971	QFLB1HJ-223	0.022MF 50V MYLAR CAP.	BS EF EN G
	C974	QFLB1HJ-223	0.022MF 50V MYLAR CAP.	BS EF EN G
	C975	QFLB1HJ-223	0.022MF 50V MYLAR CAP.	BS EF EN G
	C981	QFLB1HJ-223	0.022MF 50V MYLAR CAP.	BS EF EN G
	C984	QFLB1HJ-223	0.022MF 50V MYLAR CAP.	BS EF EN G
	C985	QFLB1HJ-223	0.022MF 50V MYLAR CAP.	BS EF EN G
	C986	QCS21HJ-221	220PF 50V CER. CAP.	BS EF EN G
		RESISTORS		
△	R011	QRZ0077-100	10 1/4W FUSIBLE RES.	U UB US UT
△	R011	QRZ0077-120X	12 1/4W FUSIBLE RES.	BS EF EN G
△	R012	QRD012J-472A	4.7K 1W OXIDE METAL	U UB US UT
	R013	QRD167J-152	1.5K 1/6W CARBON RES.	
△	R015	QRZ0077-680	68 1/4W FUSIBLE RES.	BS EF EN G
	R523	QRD161J-472	4.7K 1/6W CARBON RES.	
	R524	QRD161J-472	4.7K 1/6W CARBON RES.	
	R525	QRD161J-122	1.2K 1/6W CARBON RES.	
	R526	QRD161J-122	1.2K 1/6W CARBON RES.	
	R533	QRD161J-203	20K 1/6W CARBON RES.	
	R534	QRD161J-203	20K 1/6W CARBON RES.	
	R535	QRD161J-362	3.6K 1/6W CARBON RES.	
	R536	QRD161J-362	3.6K 1/6W CARBON RES.	
	R551	QRD161J-222	2.2K 1/6W CARBON RES.	
	R552	QRD161J-104	100K 1/6W CARBON RES.	
	R553	QRD161J-202	2K 1/6W CARBON RES.	
	R554	QRD161J-202	2K 1/6W CARBON RES.	
	R555	QRD161J-752	7.5K 1/6W CARBON RES.	
	R557	QRD161J-133Y	13K 1/6W CARBON RES.	
	R558	QRD161J-823	82K 1/6W CARBON RES.	
	R559	QRD161J-681	680 1/6W CARBON RES.	
△	R561	QRD14CJ-271S	270 1/4W UNF. CARBON R	
	R562	QRD161J-820	82 1/6W CARBON RES.	
	R563	QRD161J-222	2.2K 1/6W CARBON RES.	
	R564	QRD161J-222	2.2K 1/6W CARBON RES.	
	R565	QRD161J-222	2.2K 1/6W CARBON RES.	
	R566	QRD161J-222	2.2K 1/6W CARBON RES.	

■ Electrical Parts List (ENH-291)

△: Safety Parts

△	Item	Parts Number	Description	Area
	R567	QRD161J-391	390 1/6W CARBON RES.	
	R568	ERT-D2WHL202S	2K 1/4W NEGATIVE THE	
△	R569	QRD14CJ-100SX	10 1/4W UNF. CARBON R	
△	R570	QRD14CJ-100SX	10 1/4W UNF. CARBON R	
△	R571	QRD14CJ-100SX	10 1/4W UNF. CARBON R	
△	R572	QRD14CJ-100SX	10 1/4W UNF. CARBON R	
△	R575	QRZ0077-100	10 1/4W FUSIBLE RES.	
△	R576	QRZ0077-100	10 1/4W FUSIBLE RES.	
△	R577	ERF032K-R22	0.22 3W CEM. RES.	
△	R578	QRD14CJ-561SX	560 1/4W UNF. CARBON R	
△	R581	QRD125J-330	33 1/2W UNF. CARBON R	
△	R582	QRG022J-100A	10 2W OXIDE METAL	
	R585	QRD161J-181	180 1/6W CARBON RES.	
	R586	QRD161J-181	180 1/6W CARBON RES.	
	R587	QRD161J-271	270 1/6W CARBON RES.	
	R588	QRD161J-271	270 1/6W CARBON RES.	
	R591	QRD161J-102	1K 1/6W CARBON RES.	
	R592	QRD161J-183	18K 1/6W CARBON RES.	
	R593	QRD161J-123	12K 1/6W CARBON RES.	
	R594	QRD161J-104	100K 1/6W CARBON RES.	
	R601	QRD161J-222	2.2K 1/6W CARBON RES.	
	R602	QRD161J-104	100K 1/6W CARBON RES.	
	R603	QRD161J-202	2K 1/6W CARBON RES.	
	R604	QRD161J-202	2K 1/6W CARBON RES.	
	R605	QRD161J-752	7.5K 1/6W CARBON RES.	
	R607	QRD161J-104	100K 1/6W CARBON RES.	
	R608	QRD161J-681	680 1/6W CARBON RES.	
△	R611	QRD14CJ-271S	270 1/4W UNF. CARBON R	
	R612	QRD161J-820	82 1/6W CARBON RES.	
	R613	QRD161J-222	2.2K 1/6W CARBON RES.	
	R614	QRD161J-222	2.2K 1/6W CARBON RES.	
	R615	QRD161J-222	2.2K 1/6W CARBON RES.	
	R616	QRD161J-222	2.2K 1/6W CARBON RES.	
	R617	QRD161J-391	390 1/6W CARBON RES.	
	R618	ERT-D2WHL202S	2K 1/4W NEGATIVE THE	
△	R619	QRD14CJ-470SX	47 1/4W UNF. CARBON R	
△	R620	QRD14CJ-100SX	10 1/4W UNF. CARBON R	
△	R621	QRD14CJ-100SX	10 1/4W UNF. CARBON R	
△	R622	QRD14CJ-100SX	10 1/4W UNF. CARBON R	
△	R625	QRZ0077-100	10 1/4W FUSIBLE RES.	
△	R626	QRZ0077-100	10 1/4W FUSIBLE RES.	
△	R627	ERF032K-R22	0.22 3W CEM. RES.	
△	R628	QRD14CJ-561SX	560 1/4W UNF. CARBON R	
△	R631	QRD125J-330	33 1/2W UNF. CARBON R	
△	R632	QRG022J-100A	10 2W OXIDE METAL	
	R635	QRD161J-181	180 1/6W CARBON RES.	
	R636	QRD161J-181	180 1/6W CARBON RES.	
	R637	QRD161J-271	270 1/6W CARBON RES.	
	R638	QRD161J-271	270 1/6W CARBON RES.	
	R641	QRD161J-102	1K 1/6W CARBON RES.	
	R642	QRD161J-183	18K 1/6W CARBON RES.	
	R643	QRD161J-123	12K 1/6W CARBON RES.	
	R644	QRD161J-104	100K 1/6W CARBON RES.	
	R701	QRD161J-222	2.2K 1/6W CARBON RES.	
	R702	QRD161J-222	2.2K 1/6W CARBON RES.	
	R703	QRD161J-104	100K 1/6W CARBON RES.	
	R704	QRD161J-104	100K 1/6W CARBON RES.	
	R705	QRD161J-202	2K 1/6W CARBON RES.	
	R706	QRD161J-202	2K 1/6W CARBON RES.	
	R707	QRD161J-202	2K 1/6W CARBON RES.	
	R708	QRD161J-202	2K 1/6W CARBON RES.	
	R709	QRD161J-752	7.5K 1/6W CARBON RES.	
	R710	QRD161J-752	7.5K 1/6W CARBON RES.	
	R711	QRD161J-681	680 1/6W CARBON RES.	
	R712	QRD161J-681	680 1/6W CARBON RES.	
	R713	QRD161J-133Y	13K 1/6W CARBON RES.	

△	Item	Parts Number	Description	Area
	R714	QRD161J-133Y	13K 1/6W CARBON RES.	
	R715	QRD161J-823	82K 1/6W CARBON RES.	
	R716	QRD161J-823	82K 1/6W CARBON RES.	
	R717	QRD161J-101	100 1/6W CARBON RES.	
	R718	QRD161J-101	100 1/6W CARBON RES.	
△	R721	QRD14CJ-271S	270 1/4W UNF. CARBON R	
△	R722	QRD14CJ-271S	270 1/4W UNF. CARBON R	
	R727	QRD161J-222	2.2K 1/6W CARBON RES.	
	R728	QRD161J-222	2.2K 1/6W CARBON RES.	
	R729	QRD161J-222	2.2K 1/6W CARBON RES.	
	R730	QRD161J-222	2.2K 1/6W CARBON RES.	
	R731	QRD161J-222	2.2K 1/6W CARBON RES.	
	R732	QRD161J-222	2.2K 1/6W CARBON RES.	
	R733	QRD161J-222	2.2K 1/6W CARBON RES.	
	R734	QRD161J-222	2.2K 1/6W CARBON RES.	
△	R739	QRD14CJ-330SX	33 1/4W UNF. CARBON R	
△	R740	QRD14CJ-330SX	33 1/4W UNF. CARBON R	
	R743	QRD167J-152	1.5K 1/6W CARBON RES.	
	R744	QRD167J-152	1.5K 1/6W CARBON RES.	
	R745	QRD161J-391	390 1/6W CARBON RES.	
	R746	QRD161J-391	390 1/6W CARBON RES.	
	R747	QRD161J-102	1K 1/6W CARBON RES.	
	R748	QRD161J-102	1K 1/6W CARBON RES.	
	R749	ERT-D2WHL202S	2K 1/4W NEGATIVE THE	
	R750	ERT-D2WHL202S	2K 1/4W NEGATIVE THE	
△	R751	QRD14CJ-100SX	10 1/4W UNF. CARBON R	
△	R752	QRD14CJ-100SX	10 1/4W UNF. CARBON R	
△	R753	QRD14CJ-100SX	10 1/4W UNF. CARBON R	
△	R754	QRD14CJ-100SX	10 1/4W UNF. CARBON R	
△	R755	QRD14CJ-100SX	10 1/4W UNF. CARBON R	
△	R756	QRD14CJ-100SX	10 1/4W UNF. CARBON R	
△	R757	QRD14CJ-100SX	10 1/4W UNF. CARBON R	
△	R758	QRD14CJ-100SX	10 1/4W UNF. CARBON R	
△	R759	QRD14CJ-272S	2.7K 1/4W UNF. CARBON R	
△	R760	QRD14CJ-272S	2.7K 1/4W UNF. CARBON R	
△	R765	QRD14CJ-271S	270 1/4W UNF. CARBON R	
△	R766	QRD14CJ-271S	270 1/4W UNF. CARBON R	
△	R767	QRD14CJ-100SX	10 1/4W UNF. CARBON R	
△	R768	QRD14CJ-100SX	10 1/4W UNF. CARBON R	
△	R769	QRD14CJ-100SX	10 1/4W UNF. CARBON R	
△	R770	QRD14CJ-100SX	10 1/4W UNF. CARBON R	
△	R771	ERF032K-R22	0.22 3W CEM. RES.	
△	R772	ERF032K-R22	0.22 3W CEM. RES.	
△	R773	QRD125J-330	33 1/2W UNF. CARBON R	
△	R774	QRD125J-330	33 1/2W UNF. CARBON R	
△	R775	QRG022J-100A	10 2W OXIDE METAL	
△	R776	QRG022J-100A	10 2W OXIDE METAL	
	R781	QRD161J-391	390 1/6W CARBON RES.	
	R782	QRD161J-391	390 1/6W CARBON RES.	
	R783	QRD161J-391	390 1/6W CARBON RES.	
	R784	QRD161J-391	390 1/6W CARBON RES.	
	R785	QRD161J-181	180 1/6W CARBON RES.	
	R786	QRD161J-181	180 1/6W CARBON RES.	
	R787	QRD161J-181	180 1/6W CARBON RES.	
	R788	QRD161J-181	180 1/6W CARBON RES.	
△	R809	QRD14CJ-560S	56 1/4W UNF. CARBON R	
△	R810	QRD14CJ-560S	56 1/4W UNF. CARBON R	
△	R815	QRD14CJ-102SX	1K 1/4W UNF. CARBON R	
	R820	QRD161J-102	1K 1/6W CARBON RES.	
△	R851	QRD14CJ-100SX	10 1/4W UNF. CARBON R	
△	R853	QRD14CJ-562SX	5.6K 1/4W UNF. CARBON R	
△	R855	QRD14CJ-220S	22 1/4W UNF. CARBON R	
	R861	QRD161J-104	100K 1/6W CARBON RES.	
	R901	QRD161J-102	1K 1/6W CARBON RES.	
	R902	QRD161J-102	1K 1/6W CARBON RES.	
	R903	QRD167J-153	15K 1/6W CARBON RES.	

■ Electrical Parts List (ENH-291)

△: Safety Parts

△	Item	Parts Number	Description	Area
	R904	QRD167J-153	15K 1/6W CARBON RES.	
	R905	QRD161J-123	12K 1/6W CARBON RES.	
	R906	QRD161J-123	12K 1/6W CARBON RES.	
	R909	QRD161J-104	100K 1/6W CARBON RES.	
	R910	QRD161J-823	82K 1/6W CARBON RES.	
	R911	QRD167J-332	3.3K 1/6W CARBON RES.	
	R912	QRD161J-473	47K 1/6W CARBON RES.	
	R913	QRD161J-103	10K 1/6W CARBON RES.	
	R915	QRD161J-823	82K 1/6W CARBON RES.	
	R916	QRD161J-563	56K 1/6W CARBON RES.	
	R917	QRD161J-683	68K 1/6W CARBON RES.	
	R918	QRD161J-392	3.9K 1/6W CARBON RES.	
	R919	QRD167J-562	5.6K 1/6W CARBON RES.	
	R920	QRD161J-224	220K 1/6W CARBON RES.	
△	R921	QRD14CJ-101S	100 1/4W UNF. CARBON R	
△	R922	QRD14CJ-101S	100 1/4W UNF. CARBON R	
	R925	QRD167J-562	5.6K 1/6W CARBON RES.	
	R926	QRD167J-822	8.2K 1/6W CARBON RES.	
	R927	QRD161J-103	10K 1/6W CARBON RES.	
△	R931	QRZ0077-100	10 1/4W FUSIBLE RES.	BS EF EN G
△	R932	QRZ0077-100	10 1/4W FUSIBLE RES.	BS EF EN G
△	R933	QRZ0077-100	10 1/4W FUSIBLE RES.	BS EF EN G
△	R934	QRZ0077-100	10 1/4W FUSIBLE RES.	BS EF EN G
	R941	QRD161J-333	33K 1/6W CARBON RES.	
	R942	QRD161J-333	33K 1/6W CARBON RES.	
△	R951	QRD14CJ-101S	100 1/4W UNF. CARBON R	BS EF EN G
△	R951	QRD14CJ-820SX	82 1/4W CARBON RES.	U UB US UT
△	R952	QRD14CJ-101S	100 1/4W UNF. CARBON R	BS EF EN G
△	R952	QRD14CJ-820SX	82 1/4W CARBON RES.	U UB US UT
	R955	QRD161J-102	1K 1/6W CARBON RES.	
	R956	QRD161J-333	33K 1/6W CARBON RES.	
△	R961	QRG022J-471A	470 2W OXIDE METAL	
△	R962	QRG022J-471A	470 2W OXIDE METAL	
	R997	QRD161J-105	1M 1/6W CARBON RES.	U UB US UT
	R998	QRD161J-105	1M 1/6W CARBON RES.	U UB US UT
	R999	QRD161J-105	1M 1/6W CARBON RES.	U UB US UT
	VR511	QVDA96W-E15DJ3	100K VARIABLE RE	
	VR521	QVDB96C-E15CJ3	100K VARIABLE RE	
	VR531	QVDB96C-E15CJ3	100K VARIABLE RE	
	VR741	QVPA601-501A	500 TRIMMER RES.	
	VR742	QVPA601-501A	500 TRIMMER RES.	
	OTHERS			
	EMW10633-003	PRINTED BOARD		
	EWT015-012	TERMINAL WIRE		BS EF EN G
	E3400-431	FELT SPACER		BS EF EN G
	E67132-T5R0	FUSE LABEL		U UB US UT
	QWE690-32RR	WIRE		
	QWE880-15RR	VINYL WIRE		U UB US UT
	QWE881-16RR	VINYL WIRE		EF EN G U UB US UT BS
	QWE882-15RR	VINYL WIRE		U UB US UT
	QWE883-15RR	VINYL WIRE		U UB US UT
	QWE884-15RR	VINYL WIRE		U UB US UT
	QWE886-16RR	PIN WIRE		EF EN G U UB US UT BS
	QWE888-15RR	VINYL WIRE		U UB US UT
	QWE889-15RR	VINYL WIRE		U UB US UT
	SBSG3008CC	TAPPING SCREW		U UB US UT
	J951	EMN00TV-118A	PIN JACK	
	L581	EQL0011-R45J1	INDUCTOR	
	L631	EQL0011-R45J1	INDUCTOR	
	L771	EQL0001-1R0	INDUCTOR	
	L772	EQL0001-1R0	INDUCTOR	
	L931	EQL0011-R45J1	INDUCTOR	BS EF EN G
	L932	EQL0011-R45J1	INDUCTOR	BS EF EN G
	L971	EQL0011-R45J1	INDUCTOR	BS EF EN G

△	Item	Parts Number	Description	Area
	L981	EQL0011-R45J1	INDUCTOR	BS EF EN G
△	S001	QSP4C11-E01	PUSH SWITCH	EF EN G
△	S001	QSP4C11-E01BS	PUSH SWITCH	BS
	S901	QSP6002-E02J2	PUSH SWITCH	
△	T002	ETP1000-41EA	POWER TRANSFORMER	EF EN G
△	T002	ETP1000-41EABS	POWER TRANSFORMER	BS
△	T002	ETP1000-41ZB	POWER TRANSFORMER	U UB US UT
△	AC001	QMCQA002-E02S	AC OUTLET	U UT
	CN001	EMV5137-002	CONNECT TERMINAL	BS EF EN G
	CN511	EMV7163-011	CONNECT TERMINAL	
	CN541	EMV7122-103	SOCKET ASSY	
	CN701	EMV5163-010R	CONNECT TERMINAL	
	CN702	EMV5163-010R	CONNECT TERMINAL	
	CN703	EMV5163-005R	CONNECTOR	
	CN711	EMV7163-010	CONNECT TERMINAL	
	CN712	EMV7163-010	CONNECT TERMINAL	
	CN713	EMV7163-005	CONNECTOR	
	CN801	VMC0163-013	CONNECT TERMINAL	
	CN851	EMV7122-103	CONNECT TERMINAL	
	CN852	EMV7122-103	CONNECT TERMINAL	
	CN951	EMV5163-004R	CONNECT TERMINAL	
	CN952	EMV7163-004	CONNECT TERMINAL	
	CN961	EMV7122-103	CONNECT TERMINAL	
	EP001	E409182-001SM	EARTH TERMINAL	
	EP501	EMZ4002-001Z	EARTH PLATE	
	EP801	EMZ4002-001Z	EARTH PLATE	
	EP961	EMZ4002-001Z	EARTH PLATE	
	FC101	EMG7331-003Z	FUSE CLIP	
	FC102	EMG7331-003Z	FUSE CLIP	
	FC201	EMG7331-003Z	FUSE CLIP	BS EF EN G
	FC202	EMG7331-003Z	FUSE CLIP	BS EF EN G
	FC301	EMG7331-003Z	FUSE CLIP	EF
	FC302	EMG7331-003Z	FUSE CLIP	EF
	FC401	EMG7331-003Z	FUSE CLIP	U UB US UT
	FC402	EMG7331-003Z	FUSE CLIP	U UB US UT
	FC811	EMG7331-003Z	FUSE CLIP	
	FC812	EMG7331-003Z	FUSE CLIP	
	FC821	EMG7331-003Z	FUSE CLIP	
	FC822	EMG7331-003Z	FUSE CLIP	
	FW801	EW33AD-16SS	FLAT WIRE ASSY	
	FW810	EW33D-20SS	FLAT WIRE ASSY	
	FW901	EW36D-35SS	FLAT WIRE ASSY	
	FW902	EW34D-13SS	FLAT WIRE ASSY	
	HS011	E70945-H40B	HEAT SINK	U UB US UT
	RY001	ESK1D12-119J3	RELAY	
	RY801	ESK1D12-119J3	RELAY	
	RY802	ESK1D12-119J3	RELAY	
	RY901	ESK7D24-213R	RELAY	
	RY951	ESK7D24-213R	RELAY	
	ST901	EMB00TV-801B	TERMINAL	
	ST951	EMB90TV-601G	SPEAKER TERMINAL	U UB US UT
	ST951	EMB90TV-602G	SPEAKER TERMINAL	BS EF EN G
	TA001	EMZ4001-001	TAB	
	TA002	EMZ4001-001	TAB	
	TP741	QMV5005-004K	PLUG ASSY	
	VS001	QSR8001-E01U	ROTARY SWITCH	U UB US UT

■ Electrical Parts List (ENB-236)

△: Safety Parts

△	Item	Parts Number	Description	Area
		I. C. S		
	IC311	BA15218N	I. C (MONO-ANALOG)	
	IC321	PST7046	I. C (MONO-ANALOG)	
	IC331	TC9299P	I. C (DIGI-MOS)	
	IC332	BA15218N	I. C (MONO-ANALOG)	
	IC401	MN171202K8H	I. C (MICRO-COMPUTER)	
	IC402	SPS-420-1	INFRARED DETECT UNIT	
	IC403	MN1281 (P, Q)	I. C (DIGI-MOS)	
	IC651	NJM2246D	I. C (MONO-ANALOG)	
	IC652	NJM2246D	I. C (MONO-ANALOG)	
	IC881	NJM78M05FA	I. C (MONO-ANALOG)	
		DIODES		
	D401	1SS133	SI. DIODE	
	D402	1SS133	SI. DIODE	
	D403	1SS133	SI. DIODE	
	D404	1SS133	SI. DIODE	
	D410	SLR-342DCTE7	L. E. D.	
	D411	SLR-342DCTE7	L. E. D.	
	D412	SLR-342DCTE7	L. E. D.	
	D413	SLR-342DCTE7	L. E. D.	
	D414	SLA-580LT70F124	L. E. D.	BS
		SLR-56VCTB7	L. E. D.	EF EN G U UB US UT
	D421	1SS133	SI. DIODE	
	D422	1SS133	SI. DIODE	
	D423	1SS133	SI. DIODE	
	D424	1SS133	SI. DIODE	
	D425	1SS133	SI. DIODE	
	D426	1SS133	SI. DIODE	
	D427	1SS133	SI. DIODE	
	D432	1SS133	SI. DIODE	U UB US UT
	D451	1SS133	SI. DIODE	
	D821	MTZ7.5JC	ZENER DIODE	
	D822	1SS133	SI. DIODE	
	D831	MTZ16JC	ZENER DIODE	
	D832	1SS133	SI. DIODE	
	D841	MTZ16JC	ZENER DIODE	
	D842	1SS133	SI. DIODE	
	D871	MTZ6.2JC	ZENER DIODE	
	D872	1SS133	SI. DIODE	
	D891	MTZ13JC	ZENER DIODE	
	D892	1SS133	SI. DIODE	
		TRANSISTORS		
	Q345	2SC2878 (B)	SI. TRANSISTOR	
	Q346	2SC2878 (B)	SI. TRANSISTOR	
	Q355	2SD2144S (VW)	SI. TRANSISTOR	
	Q356	2SD2144S (VW)	SI. TRANSISTOR	
	Q361	DTA144ES	DIGITAL TRANSISTOR	
	Q362	DTA144ES	DIGITAL TRANSISTOR	
	Q363	DTA144ES	DIGITAL TRANSISTOR	
	Q401	DTC114YS	DIGITAL TRANSISTOR	
	Q402	DTC114YS	DIGITAL TRANSISTOR	
	Q403	DTC114YS	DIGITAL TRANSISTOR	
	Q404	DTC114YS	DIGITAL TRANSISTOR	
	Q405	DTC114YS	DIGITAL TRANSISTOR	
	Q411	DTC114YS	DIGITAL TRANSISTOR	
	Q412	DTC114YS	DIGITAL TRANSISTOR	
	Q451	DTC114TSTP	DIGITAL TRANSISTOR	
	Q452	DTC144WS	DIGITAL TRANSISTOR	
	Q507	2SC2001 (L, K)	SI. TRANSISTOR	
	Q508	2SC2001 (L, K)	SI. TRANSISTOR	
	Q509	DTA144ES	DIGITAL TRANSISTOR	
	Q671	2SC458 (C, D)	SI. TRANSISTOR	
	Q672	2SC458 (C, D)	SI. TRANSISTOR	
	Q673	2SC458 (C, D)	SI. TRANSISTOR	
	Q675	2SA933S (RS)	SI. TRANSISTOR	
	Q676	2SA933S (RS)	SI. TRANSISTOR	
	Q677	2SA933S (RS)	SI. TRANSISTOR	
	Q681	DTC123ESTP	SI. TRANSISTOR	

△	Item	Parts Number	Description	Area
	Q682	DTC123ESTP	SI. TRANSISTOR	
△	Q821	2SD2394 (E, F)	SI. TRANSISTOR	
△	Q831	2SD2394 (E, F)	SI. TRANSISTOR	
△	Q841	2SB1565 (E, F)	SI. TRANSISTOR	
△	Q871	2SD2394 (E, F)	SI. TRANSISTOR	
△	Q891	2SD2394 (E, F)	SI. TRANSISTOR	
		CAPACITORS		
	C311	EETB1HM-105E	1MF 50V E. CAP.	
	C312	EETB1HM-105E	1MF 50V E. CAP.	
	C315	QETB1EM-476	47MF 25V AL E. CAP.	
	C316	QETB1EM-476	47MF 25V AL E. CAP.	
	C317	QCHB1EZ-223	0.022MF 25V CER. CAP.	
	C318	QCHB1EZ-223	0.022MF 25V CER. CAP.	
	C321	QCB1HK-121Y	120PF 50V CER. CAP.	
	C322	QCB1HK-121Y	120PF 50V CER. CAP.	
	C323	QCB1HK-121Y	120PF 50V CER. CAP.	
	C324	QCB1HK-121Y	120PF 50V CER. CAP.	
	C333	EETB1HM-105E	1MF 50V E. CAP.	
	C334	EETB1HM-105E	1MF 50V E. CAP.	
	C335	EETB1EM-106E	10MF 25V E. CAP.	
	C336	EETB1EM-106E	10MF 25V E. CAP.	
	C337	QCHB1EZ-223	0.022MF 25V CER. CAP.	
	C338	QCHB1EZ-223	0.022MF 25V CER. CAP.	
	C339	QETB1EM-476	47MF 25V AL E. CAP.	
	C340	QETB1EM-476	47MF 25V AL E. CAP.	
	C341	EETB1HM-475E	4.7MF 50V E. CAP.	
	C342	EETB1HM-475E	4.7MF 50V E. CAP.	
	C361	QETB1HM-475E	4.7MF 50V E. CAP.	
	C362	QETB1HM-475E	4.7MF 50V E. CAP.	
	C363	QETB1HM-475E	4.7MF 50V E. CAP.	
	C401	QETB1AM-227	220MF 10V E. CAP.	
	C402	QCZ0202-155	1.5MF 25V CER. RES.	
	C403	QCHB1EZ-223	0.022MF 25V CER. CAP.	
	C404	QETB1HM-225	2.2MF 50V AL E. CAP.	
	C405	QETB1HM-475E	4.7MF 50V E. CAP.	
	C406	QETB1HM-475E	4.7MF 50V E. CAP.	
	C408	QETB1VM-227	220MF 35V AL E. CAP.	
	C409	DEAD0HZ-10AZM	0.1F 5V AL E. CAP.	
	C451	QCB1HK-331Y	330PF 50V CER. CAP.	
	C491	QCB1HK-331Y	330PF 50V CER. CAP.	
	C507	QFN81HJ-333	0.033MF 50V MYLAR CAP.	
	C508	QFN81HJ-333	0.033MF 50V MYLAR CAP.	
	C509	QETB1HM-226E	22MF 50V E. CAP.	
	C510	QCF21HP-473A	0.047MF 50V CER. CAP.	
	C541	QFN81HJ-103	0.01MF 50V METAL. MYLAR	
	C542	QFN81HJ-333	0.033MF 50V MYLAR CAP.	
	C543	QCB1HK-101Y	100PF 50V CER. CAP.	
	C544	QCB1HK-101Y	100PF 50V CER. CAP.	
	C545	QER81HM-105Z	1MF 50V AL E. CAP.	
	C651	QETB1HM-475E	4.7MF 50V E. CAP.	
	C652	QETB1HM-475E	4.7MF 50V E. CAP.	
	C653	QETB1HM-475E	4.7MF 50V E. CAP.	
	C654	QETB1HM-475E	4.7MF 50V E. CAP.	
	C657	QETB0JM-108N	1000MF 6.3V E. CAP.	
	C658	QETB0JM-108N	1000MF 6.3V E. CAP.	
	C659	QETB0JM-108N	1000MF 6.3V E. CAP.	
	C661	QCHB1EZ-223	0.022MF 25V CER. CAP.	
	C662	QCHB1EZ-223	0.022MF 25V CER. CAP.	
	C663	QCHB1EZ-223	0.022MF 25V CER. CAP.	
	C664	QCHB1EZ-223	0.022MF 25V CER. CAP.	
	C679	QETB1AM-227	220MF 10V E. CAP.	
	C680	QETB1EM-476	47MF 25V AL E. CAP.	
	C681	QCB1HK-101Y	100PF 50V CER. CAP.	
	C691	QETB1EM-477E	470MF 25V E. CAP.	
	C692	QETB1EM-477E	470MF 25V E. CAP.	
	C693	QCHB1EZ-223	0.022MF 25V CER. CAP.	
	C694	QCHB1EZ-223	0.022MF 25V CER. CAP.	
	C821	QETB1EM-107	100MF 25V AL E. CAP.	

■ Electrical Parts List (ENB-236)

△ : Safety Parts

△	Item	Parts Number	Description	Area
	C831	QETB1EM-107	100MF 25V AL E. CAP.	
	C841	QETB1EM-107	100MF 25V AL E. CAP.	
	C871	QETB1EM-107	100MF 25V AL E. CAP.	
	C882	QCF21HP-223A	0. 022MF 50V CER. CAP.	
	C891	QETB1EM-107	100MF 25V AL E. CAP.	
	C961	QCB1HK-331Y	330PF 50V CER. CAP.	
	C962	QCB1HK-331Y	330PF 50V CER. CAP.	
		RESISTORS		
	R301	QRD167J-822	8. 2K 1/6W CARBON RES.	
	R302	QRD167J-822	8. 2K 1/6W CARBON RES.	
	R303	QRD161J-103	10K 1/6W CARBON RES.	
	R304	QRD161J-103	10K 1/6W CARBON RES.	
	R311	QRD161J-123	12K 1/6W CARBON RES.	
	R312	QRD161J-123	12K 1/6W CARBON RES.	
	R313	QRD161J-103	10K 1/6W CARBON RES.	
	R314	QRD161J-103	10K 1/6W CARBON RES.	
△	R315	QRZ0077-680	68 1/4W FUSIBLE RES.	
△	R316	QRZ0077-680	68 1/4W FUSIBLE RES.	
	R319	QRD161J-104	100K 1/6W CARBON RES.	
	R320	QRD161J-104	100K 1/6W CARBON RES.	
	R331	QRD161J-104	100K 1/6W CARBON RES.	
	R332	QRD161J-104	100K 1/6W CARBON RES.	
	R333	QRD161J-105	1M 1/6W CARBON RES.	
	R334	QRD161J-105	1M 1/6W CARBON RES.	
	R335	QRD161J-563	56K 1/6W CARBON RES.	
	R336	QRD161J-563	56K 1/6W CARBON RES.	
	R337	QRD161J-103	10K 1/6W CARBON RES.	
	R338	QRD161J-103	10K 1/6W CARBON RES.	
△	R339	QRZ0077-680	68 1/4W FUSIBLE RES.	
△	R340	QRZ0077-680	68 1/4W FUSIBLE RES.	
	R341	QRD161J-104	100K 1/6W CARBON RES.	
	R342	QRD161J-104	100K 1/6W CARBON RES.	
	R343	QRD161J-102	1K 1/6W CARBON RES.	
	R344	QRD161J-102	1K 1/6W CARBON RES.	
	R345	QRD161J-103	10K 1/6W CARBON RES.	
	R346	QRD161J-103	10K 1/6W CARBON RES.	
	R351	QRD161J-104	100K 1/6W CARBON RES.	
	R352	QRD161J-104	100K 1/6W CARBON RES.	
	R353	QRD161J-102	1K 1/6W CARBON RES.	
	R354	QRD161J-102	1K 1/6W CARBON RES.	
	R355	QRD161J-103	10K 1/6W CARBON RES.	
	R356	QRD161J-103	10K 1/6W CARBON RES.	
	R361	QRD161J-102	1K 1/6W CARBON RES.	
	R362	QRD161J-472	4. 7K 1/6W CARBON RES.	
	R363	QRD161J-472	4. 7K 1/6W CARBON RES.	
	R401	QRD167J-223	22K 1/6W CARBON RES.	
	R403	QRD161J-220	22 1/6W CARBON RES.	
	R409	QRD161J-331	330 1/6W CARBON RES.	
	R410	QRD161J-221	220 1/6W CARBON RES.	
	R411	QRD161J-221	220 1/6W CARBON RES.	
	R412	QRD161J-221	220 1/6W CARBON RES.	
	R413	QRD161J-221	220 1/6W CARBON RES.	
	R414	QRD161J-221	220 1/6W CARBON RES.	BS
		QRD167J-431	430 1/6W CARBON RES.	EF EN G U UB US UT
	R415	QRD161J-103	10K 1/6W CARBON RES.	
	R421	QRD161J-221	220 1/6W CARBON RES.	
	R422	QRD161J-221	220 1/6W CARBON RES.	
	R423	QRD161J-221	220 1/6W CARBON RES.	
	R424	QRD161J-221	220 1/6W CARBON RES.	
	R425	QRD161J-221	220 1/6W CARBON RES.	
	R426	QRD161J-221	220 1/6W CARBON RES.	
	R431	QRD161J-221	220 1/6W CARBON RES.	
	R432	QRD161J-221	220 1/6W CARBON RES.	
	R433	QRD161J-221	220 1/6W CARBON RES.	
	R435	QRD161J-221	220 1/6W CARBON RES.	
	R436	QRD161J-221	220 1/6W CARBON RES.	
	R437	QRD161J-221	220 1/6W CARBON RES.	
	R438	QRD161J-221	220 1/6W CARBON RES.	

△	Item	Parts Number	Description	Area
	R439	QRD161J-221	220 1/6W CARBON RES.	
	R441	QRD161J-221	220 1/6W CARBON RES.	
	R442	QRD161J-221	220 1/6W CARBON RES.	
	R443	QRD161J-221	220 1/6W CARBON RES.	
	R444	QRD161J-221	220 1/6W CARBON RES.	
	R445	QRD161J-103	10K 1/6W CARBON RES.	
	R446	QRD161J-103	10K 1/6W CARBON RES.	
	R447	QRD161J-103	10K 1/6W CARBON RES.	
	R448	QRD161J-103	10K 1/6W CARBON RES.	
	R451	QRD161J-103	10K 1/6W CARBON RES.	
	R454	QRD161J-471	470 1/6W CARBON RES.	
	R491	QRD161J-221	220 1/6W CARBON RES.	
	R492	QRD161J-471	470 1/6W CARBON RES.	
	R503	QRD167J-223	22K 1/6W CARBON RES.	
	R504	QRD167J-223	22K 1/6W CARBON RES.	
	R505	QRD167J-223	22K 1/6W CARBON RES.	
	R506	QRD167J-223	22K 1/6W CARBON RES.	
	R507	QRD161J-103	10K 1/6W CARBON RES.	
	R508	QRD161J-103	10K 1/6W CARBON RES.	
	R509	QRD161J-202	2K 1/6W CARBON RES.	
	R543	QRD161J-103	10K 1/6W CARBON RES.	
	R544	QRD161J-202	2K 1/6W CARBON RES.	
	R651	QRD161J-750	75 1/6W CARBON RES.	
	R652	QRD161J-750	75 1/6W CARBON RES.	
	R653	QRD161J-750	75 1/6W CARBON RES.	
	R654	QRD161J-750	75 1/6W CARBON RES.	
	R657	QRD161J-473	47K 1/6W CARBON RES.	
	R658	QRD161J-473	47K 1/6W CARBON RES.	
	R659	QRD161J-473	47K 1/6W CARBON RES.	
	R661	QRD161J-331	330 1/6W CARBON RES.	
	R662	QRD161J-331	330 1/6W CARBON RES.	
	R663	QRD161J-331	330 1/6W CARBON RES.	
	R664	QRD161J-331	330 1/6W CARBON RES.	
	R667	QRD161J-750	75 1/6W CARBON RES.	
	R668	QRD161J-750	75 1/6W CARBON RES.	
	R669	QRD161J-750	75 1/6W CARBON RES.	
	R671	QRD167J-151	150 1/6W CARBON RES.	
	R672	QRD167J-151	150 1/6W CARBON RES.	
	R673	QRD167J-151	150 1/6W CARBON RES.	
	R675	QRD161J-271	270 1/6W CARBON RES.	
	R676	QRD161J-271	270 1/6W CARBON RES.	
	R677	QRD161J-271	270 1/6W CARBON RES.	
	R679	QRD161J-331	330 1/6W CARBON RES.	
	R680	QRD161J-331	330 1/6W CARBON RES.	
	R681	QRD167J-152	1. 5K 1/6W CARBON RES.	
	R682	QRD167J-152	1. 5K 1/6W CARBON RES.	
	R683	QRD167J-152	1. 5K 1/6W CARBON RES.	
△	R821	QRZ0077-220X	22 1/4W FUSIBLE RES.	
△	R822	QRZ0077-220X	22 1/4W FUSIBLE RES.	
△	R823	QRD143J-472S	4. 7K 1/4W CARBON RES.	
△	R831	QRD14CJ-100SX	10 1/4W UNF. CARBON R	
△	R833	QRD14CJ-222SX	2. 2K 1/4W UNF. CARBON R	
△	R841	QRD14CJ-100SX	10 1/4W UNF. CARBON R	
△	R843	QRD14CJ-222SX	2. 2K 1/4W UNF. CARBON R	
△	R871	QRZ0077-220X	22 1/4W FUSIBLE RES.	
△	R872	QRZ0077-220X	22 1/4W FUSIBLE RES.	
△	R873	QRD143J-472S	4. 7K 1/4W CARBON RES.	
△	R875	QRZ0077-4R7	4. 7 1/4W FUSE RESISTO	
△	R881	QRZ0077-220X	22 1/4W FUSIBLE RES.	
△	R882	QRZ0077-220X	22 1/4W FUSIBLE RES.	
△	R891	QRD14CJ-100SX	10 1/4W UNF. CARBON R	
△	R893	QRD14CJ-332SX	3. 3K 1/4W UNF. CARBON R	
	RA401	QRB049J-103	10K 1/10WRES.	
	VR501	QVDC94Z-E15FJ5	100K VARIABLE RE	
	VR541	QVDB92C-E15DJ3	100K VARIABLE RE	
		OTHERS		
		EMW10632-003	PRINTED BOARD	
		SBSG3008CC	TAPPING SCREW	



■ Electrical Parts List (ENB-236)

△	Item	Parts Number	Description	Area
	J491	QMS3501-021	PIN JACK	
	J651	EMN00YV-325AJ1	PIN JACK	
	J652	EMN00YV-406AJ1	PIN JACK	
	J961	QMS6022-V01	MICROPHONE JACK	
	S401	ESP0001-023M	TACT SWITCH	
	S402	ESP0001-023M	TACT SWITCH	
	S403	ESP0001-023M	TACT SWITCH	
	S404	ESP0001-023M	TACT SWITCH	
	S405	ESP0001-023M	TACT SWITCH	
	S406	ESP0001-023M	TACT SWITCH	
	S407	ESP0001-023M	TACT SWITCH	
	S408	ESP0001-023M	TACT SWITCH	
	S409	ESP0001-023M	TACT SWITCH	
	S410	ESP0001-023M	TACT SWITCH	
	S411	ESP0001-023M	TACT SWITCH	
	S412	ESP0001-023M	TACT SWITCH	
	S413	ESP0001-023M	TACT SWITCH	
	S414	ESP0001-023M	TACT SWITCH	
	S415	ESP0001-023M	TACT SWITCH	
	S416	ESP0001-023M	TACT SWITCH	
	S417	ESP0001-023M	TACT SWITCH	
	S418	ESP0001-023M	TACT SWITCH	
	S419	ESP0001-023M	TACT SWITCH	
	S420	ESP0001-023M	TACT SWITCH	
	S421	ESP0001-023M	TACT SWITCH	
	S422	ESP0001-023M	TACT SWITCH	
	S423	ESP0001-023M	TACT SWITCH	
	S424	ESP0001-023M	TACT SWITCH	
	S425	ESP0001-023M	TACT SWITCH	
	X401	ECXP6R0-001ZA	CRYSTAL	
	CN021	EMV7164-036	CONNECT TERMINAL	
	CN102	EMV7163-018	CONNECT TERMINAL	
	CN202	EMV7163-012	CONNECT TERMINAL	
	CN401	VMC0194-S08	CONNECT TERMINAL	
	CN402	VMC0194-S04	CONNECT TERMINAL	
	CN403	VMC0163-R15	CONNECT TERMINAL	
	CN411	VMC0194-P08	CONNECT TERMINAL	
	CN412	VMC0194-P04	CONNECT TERMINAL	
	CN413	VMC0163-015	CONNECT TERMINAL	
	CN501	EMV5163-011R	CONNECT TERMINAL	
	CN503	EWS296-0132	CONNECTOR WIRE ASSY	
	CN504	EMV5109-006A	CONNECT TERMINAL	
	CN651	EMV5163-006R	CONNECT TERMINAL	
	CN652	EMV7163-006	CONNECT TERMINAL	
	CN811	VMC0163-R13	CONNECT TERMINAL	
	D1401	ELU0001-144	FLUORESCENT DISPLAY TUBE	
	EP001	EMZ4002-001Z	EARTH PLATE	
	FH001	E308270-002SM	FL HOLDER	
	FH002	E308270-002SM	FL HOLDER	
	FW541	EWK330-20LS	FLAT WIRE ASSY	
	FW851	EWK360-35LS	FLAT WIRE ASSY	
	FW961	EWK330-25LS	FLAT WIRE ASSY	
	HS821	E70306-001	HEAT SINK	
	HS831	E70306-001	HEAT SINK	
	HS841	E70306-001	HEAT SINK	
	HS871	E70306-001	HEAT SINK	
	HS881	E70306-001	HEAT SINK	
	HS891	E70306-001	HEAT SINK	
	SP001	E3400-444	FELT SPACER	
	SP002	E3400-444	FELT SPACER	

■ Electrical Parts List (ENE-097)

△: Safety Parts

△	Item	Parts Number	Description	Area
		I. C. S		
	IC191	NJM4580DD	I. C (MONO-ANALOG)	
	IC151	TC9164N	I. C (DIGI-MOS)	
	IC171	BA15218N	I. C (MONO-ANALOG)	
	IC231	TC9162N	I. C (DIGI-MOS)	
		CAPACITORS		
	C101	QCS21HJ-101A	100PF 50V CER. CAP.	BS EF EN G
	C102	QCS21HJ-101A	100PF 50V CER. CAP.	BS EF EN G
	C103	EETB1HM-475E	4.7MF 50V E. CAP.	
	C104	EETB1HM-475E	4.7MF 50V E. CAP.	
	C105	QCS21HJ-101A	100PF 50V CER. CAP.	
	C106	QCS21HJ-101A	100PF 50V CER. CAP.	
	C107	QFLB1HJ-103	0.01MF 50V MYLAR CAP.	
	C111	QCB1HK-101Y	100PF 50V CER. CAP.	
	C112	QCB1HK-101Y	100PF 50V CER. CAP.	
	C121	EETB1AM-107E	100MF 10V E. CAP.	
	C122	EETB1AM-107E	100MF 10V E. CAP.	
	C131	QFN81HJ-182	1800PF 50V METAL. MYLAR	
	C132	QFN81HJ-182	1800PF 50V METAL. MYLAR	
	C133	QFN81HJ-682	6800PF 50V METAL. MYLAR	
	C134	QFN81HJ-682	6800PF 50V METAL. MYLAR	
	C141	EETB1HM-475E	4.7MF 50V E. CAP.	
	C142	EETB1HM-475E	4.7MF 50V E. CAP.	
	C145	QETB1EM-476	47MF 25V AL E. CAP.	
	C146	QETB1EM-476	47MF 25V AL E. CAP.	
	C151	QCS21HJ-101A	100PF 50V CER. CAP.	BS EF EN G
	C152	QCS21HJ-101A	100PF 50V CER. CAP.	BS EF EN G
	C153	QCS21HJ-101A	100PF 50V CER. CAP.	BS EF EN G
	C154	QCS21HJ-101A	100PF 50V CER. CAP.	BS EF EN G
	C155	QCS21HJ-101A	100PF 50V CER. CAP.	BS EF EN G
	C156	QCS21HJ-101A	100PF 50V CER. CAP.	BS EF EN G
	C157	QCS21HJ-101A	100PF 50V CER. CAP.	BS EF EN G
	C158	QCS21HJ-101A	100PF 50V CER. CAP.	BS EF EN G
	C161	QCB1HK-102Y	1000PF 50V CER. CAP.	BS EF EN G
	C171	QETC1HM-106ZM	10MF 50V E. CAP.	
	C172	QETC1HM-106ZM	10MF 50V E. CAP.	
	C173	QCS21HJ-221	220PF 50V CER. CAP.	
	C174	QCS21HJ-221	220PF 50V CER. CAP.	
	C175	QETC1HM-106ZM	10MF 50V E. CAP.	
	C176	QETC1HM-106ZM	10MF 50V E. CAP.	
	C177	QETB1EM-476	47MF 25V AL E. CAP.	
	C178	QETB1EM-476	47MF 25V AL E. CAP.	
	C191	QETB1EM-476	47MF 25V AL E. CAP.	
	C192	QETB1EM-476	47MF 25V AL E. CAP.	
	C195	QCB1HK-221Y	220PF 50V CER. CAP.	
	C201	QCS21HJ-101A	100PF 50V CER. CAP.	BS EF EN G
	C202	QCS21HJ-101A	100PF 50V CER. CAP.	BS EF EN G
	C203	QCS21HJ-101A	100PF 50V CER. CAP.	BS EF EN G
	C204	QCS21HJ-101A	100PF 50V CER. CAP.	BS EF EN G
	C205	QCS21HJ-101A	100PF 50V CER. CAP.	BS EF EN G
	C206	QCS21HJ-101A	100PF 50V CER. CAP.	BS EF EN G
	C207	QCS21HJ-101A	100PF 50V CER. CAP.	BS EF EN G
	C208	QCS21HJ-101A	100PF 50V CER. CAP.	BS EF EN G
	C211	QCS21HJ-101A	100PF 50V CER. CAP.	BS EF EN G
	C212	QCS21HJ-101A	100PF 50V CER. CAP.	BS EF EN G
	C213	QCS21HJ-101A	100PF 50V CER. CAP.	BS EF EN G
	C214	QCS21HJ-101A	100PF 50V CER. CAP.	BS EF EN G
	C221	QCB1HK-102Y	1000PF 50V CER. CAP.	BS EF EN G
	C241	QETB1EM-476	47MF 25V AL E. CAP.	
	C242	QETB1EM-476	47MF 25V AL E. CAP.	
	C245	QCB1HK-221Y	220PF 50V CER. CAP.	
		RESISTORS		
	R101	QRD161J-222	2.2K 1/6W CARBON RES.	
	R102	QRD161J-222	2.2K 1/6W CARBON RES.	
	R105	QRD161J-473	47K 1/6W CARBON RES.	
	R106	QRD161J-473	47K 1/6W CARBON RES.	
	R121	QRD161J-621	620 1/6W CARBON RES.	
	R122	QRD161J-621	620 1/6W CARBON RES.	
	R131	QRD161J-393	39K 1/6W CARBON RES.	
	R132	QRD161J-393	39K 1/6W CARBON RES.	

△	Item	Parts Number	Description	Area
	R133	QRD161J-474	470K 1/6W CARBON RES.	
	R134	QRD161J-474	470K 1/6W CARBON RES.	
	R141	QRD161J-104	100K 1/6W CARBON RES.	
	R142	QRD161J-104	100K 1/6W CARBON RES.	
△	R145	QRD14CJ-391SX	390 1/4W UNF. CARBON R	
△	R146	QRD14CJ-391SX	390 1/4W UNF. CARBON R	
	R151	QRD161J-683	68K 1/6W CARBON RES.	
	R152	QRD161J-683	68K 1/6W CARBON RES.	
	R153	QRD161J-683	68K 1/6W CARBON RES.	
	R154	QRD161J-683	68K 1/6W CARBON RES.	
	R155	QRD161J-683	68K 1/6W CARBON RES.	
	R156	QRD161J-683	68K 1/6W CARBON RES.	
	R157	QRD161J-105	1M 1/6W CARBON RES.	
	R158	QRD161J-105	1M 1/6W CARBON RES.	
	R161	QRD161J-331	330 1/6W CARBON RES.	
	R162	QRD161J-331	330 1/6W CARBON RES.	
	R163	QRD161J-331	330 1/6W CARBON RES.	
	R164	QRD161J-331	330 1/6W CARBON RES.	
	R165	QRD161J-331	330 1/6W CARBON RES.	
	R166	QRD161J-331	330 1/6W CARBON RES.	
	R167	QRD161J-331	330 1/6W CARBON RES.	
	R168	QRD161J-331	330 1/6W CARBON RES.	
	R173	QRD161J-474	470K 1/6W CARBON RES.	
	R174	QRD161J-474	470K 1/6W CARBON RES.	
△	R179	QRZ0077-680	68 1/4W FUSIBLE RES.	
△	R180	QRZ0077-680	68 1/4W FUSIBLE RES.	
△	R191	QRZ0077-680	68 1/4W FUSIBLE RES.	
△	R192	QRZ0077-680	68 1/4W FUSIBLE RES.	
	R195	QRD161J-102	1K 1/6W CARBON RES.	
	R201	QRD161J-683	68K 1/6W CARBON RES.	
	R202	QRD161J-683	68K 1/6W CARBON RES.	
	R203	QRD161J-683	68K 1/6W CARBON RES.	
	R204	QRD161J-683	68K 1/6W CARBON RES.	
	R205	QRD161J-683	68K 1/6W CARBON RES.	
	R206	QRD161J-683	68K 1/6W CARBON RES.	
	R207	QRD161J-683	68K 1/6W CARBON RES.	
	R208	QRD161J-683	68K 1/6W CARBON RES.	
	R211	QRD161J-105	1M 1/6W CARBON RES.	
	R212	QRD161J-105	1M 1/6W CARBON RES.	
	R213	QRD161J-105	1M 1/6W CARBON RES.	
	R214	QRD161J-105	1M 1/6W CARBON RES.	
	R215	QRD161J-331	330 1/6W CARBON RES.	
	R216	QRD161J-331	330 1/6W CARBON RES.	
	R217	QRD161J-331	330 1/6W CARBON RES.	
	R218	QRD161J-331	330 1/6W CARBON RES.	
	R221	QRD161J-331	330 1/6W CARBON RES.	
	R222	QRD161J-331	330 1/6W CARBON RES.	
	R223	QRD161J-331	330 1/6W CARBON RES.	
	R224	QRD161J-331	330 1/6W CARBON RES.	
	R225	QRD161J-331	330 1/6W CARBON RES.	
	R226	QRD161J-331	330 1/6W CARBON RES.	
	R227	QRD161J-331	330 1/6W CARBON RES.	
	R228	QRD161J-331	330 1/6W CARBON RES.	
△	R241	QRZ0077-680	68 1/4W FUSIBLE RES.	
△	R242	QRZ0077-680	68 1/4W FUSIBLE RES.	
	R245	QRD161J-102	1K 1/6W CARBON RES.	
		OTHERS		
		EMW10636-002A	PRINTED BOARD	
	J101	EMN00TV-422AJ2	PIN JACK	
	J102	EMN00TV-615AJ2	PIN JACK	
	J201	EMN00TV-422AJ2	PIN JACK	
	J202	EMN00TV-422AJ2	PIN JACK	
	J203	EMN00TV-422AJ2	PIN JACK	
	CN101	EMV5163-018R	CONNECT TERMINAL	
	CN201	EMV5163-012R	CONNECT TERMINAL	

■ Electrical Parts List (ENP-054)

△: Safety Parts

△	Item	Parts Number	Description	Area
		I. C. S		
	IC021	SAA7366TX	I. C (DIGI-MOS)	
	IC041	TDA1386TX	I. C (MONO-ANALOG)	
	IC061	TDA1386TX	I. C (MONO-ANALOG)	
	IC081	TC9332F-010	I. C (DIGI-MOS)	
	IC093	TC74HC74AFT1	I. C (DIGI-MOS)	
	IC096	TMP87C847U-4195	I. C (M)	
		CAPACITORS		
	C021	NEA71EM-475NZ	4. 7MF 25V E. CAP.	
	C022	NEA71EM-475NZ	4. 7MF 25V E. CAP.	
	C023	NCS31HJ-680AY	68PF 50V CER. CAP.	
	C024	NCS31HJ-680AY	68PF 50V CER. CAP.	
	C025	NCB31CK-473AY	0. 047MF 16V CER. CAP.	
	C026	NCB31CK-473AY	0. 047MF 16V CER. CAP.	
	C027	NEA70GM-476NZ	47MF 4V E. CAP.	
	C028	NEA70GM-476NZ	47MF 4V E. CAP.	
	C029	NCB31CK-473AY	0. 047MF 16V CER. CAP.	
	C030	NEA70JM-476NZ	47MF 6. 3V E. CAP.	
	C031	NCB31CK-223A	0. 022MF 16V CER. CAP.	
	C032	NCB31HK-102AY	1000PF 50V CER. CAP.	
	C033	NCF31AZ-105AYUU	1MF 10V CER. CAP.	
	C035	NEA70JM-476NZ	47MF 6. 3V E. CAP.	
	C036	NCF31AZ-105AYUU	1MF 10V CER. CAP.	
	C037	NCF31AZ-105AYUU	1MF 10V CER. CAP.	
	C038	NEA70JM-107NP	100MF 6. 3V E. CAP.	
	C039	NEA70JM-107NP	100MF 6. 3V E. CAP.	
	C041	NCS31HJ-102AYM	1000PF 50V CER. CAP.	
	C042	NCS31HJ-102AYM	1000PF 50V CER. CAP.	
	C043	NEA71CM-106NZ	10MF 16V E. CAP.	
	C049	NCB31CK-104AY	0. 1MF 16V CER. CAP.	
	C050	NCB31CK-104AY	0. 1MF 16V CER. CAP.	
	C051	NEA71HM-105NZ	1MF 50V E. CAP.	
	C052	NEA71HM-105NZ	1MF 50V E. CAP.	
	C053	NCB31CK-183AY	0. 018MF 16V CER. CAP.	
	C054	NCB31CK-183AY	0. 018MF 16V CER. CAP.	
	C055	NCB31HK-102AY	1000PF 50V CER. CAP.	
	C056	NCB31HK-102AY	1000PF 50V CER. CAP.	
	C057	NCB31HK-102AY	1000PF 50V CER. CAP.	
	C058	NCF31AZ-105AYUU	1MF 10V CER. CAP.	
	C059	NCF31AZ-105AYUU	1MF 10V CER. CAP.	
	C061	NCS31HJ-102AYM	1000PF 50V CER. CAP.	
	C062	NCS31HJ-102AYM	1000PF 50V CER. CAP.	
	C063	NEA71CM-106NZ	10MF 16V E. CAP.	
	C069	NCB31CK-104AY	0. 1MF 16V CER. CAP.	
	C070	NCB31CK-104AY	0. 1MF 16V CER. CAP.	
	C071	NEA71HM-105NZ	1MF 50V E. CAP.	
	C072	NEA71HM-105NZ	1MF 50V E. CAP.	
	C073	NCB31CK-183AY	0. 018MF 16V CER. CAP.	
	C074	NCB31CK-183AY	0. 018MF 16V CER. CAP.	
	C075	NCB31HK-102AY	1000PF 50V CER. CAP.	
	C076	NCB31HK-102AY	1000PF 50V CER. CAP.	
	C077	NCB31HK-102AY	1000PF 50V CER. CAP.	
	C081	NCS31HD-9R0AYM	9PF 50V CER. CAP.	
	C082	NCS31HD-9R0AYM	9PF 50V CER. CAP.	
	C085	NCB31CK-104AY	0. 1MF 16V CER. CAP.	
	C086	NCB31CK-104AY	0. 1MF 16V CER. CAP.	
	C088	NCB31HK-102AY	1000PF 50V CER. CAP.	
	C089	NCB31HK-102AY	1000PF 50V CER. CAP.	
	C090	NCB31HK-102AY	1000PF 50V CER. CAP.	
	C091	NCB31HK-102AY	1000PF 50V CER. CAP.	
	C092	NCF31AZ-105AYUU	1MF 10V CER. CAP.	
	C095	NCB31HK-102AY	1000PF 50V CER. CAP.	
	C096	NCB31HK-102AY	1000PF 50V CER. CAP.	
	C097	NCF31AZ-105AYUU	1MF 10V CER. CAP.	
	C098	NCB31HK-102AY	1000PF 50V CER. CAP.	
	C099	NCS31HJ-101AY	100PF 50V CER. CAP.	
		RESISTORS		
	R021	NRSA63J-104NY	METAL GLAZE	
	R022	NRSA63J-104NY	METAL GLAZE	
	R023	NRSA63J-103N	METAL GLAZE	
	R024	NRSA63J-103N	METAL GLAZE	

△	Item	Parts Number	Description	Area
	R025	NRSA63J-624NY	METAL GLAZE	
	R026	NRSA63J-334NY	METAL GLAZE	
	R027	NRSA63F-103NY	METAL GLAZE	
	R028	NRSA63F-103NY	METAL GLAZE	
	R029	NRSA63J-271NY	METAL GLAZE	
	R030	NRSA63J-271NY	METAL GLAZE	
	R031	NRSA63J-333NY	METAL GLAZE	
	R036	NRSA63J-OR0AY	METAL GLAZE	
	R037	NRSA63J-OR0AY	METAL GLAZE	
	R038	NRSA63J-OR0AY	METAL GLAZE	
	R051	NRSA63J-473NY	METAL GLAZE	
	R052	NRSA63J-473NY	METAL GLAZE	
	R053	NRSA63J-201NY	METAL GLAZE	
	R054	NRSA63J-201NY	METAL GLAZE	
	R071	NRSA63J-473NY	METAL GLAZE	
	R072	NRSA63J-473NY	METAL GLAZE	
	R073	NRSA63J-201NY	METAL GLAZE	
	R074	NRSA63J-201NY	METAL GLAZE	
	R081	NRSA63J-OR0AY	METAL GLAZE	
	R083	NRSA63J-112NY	METAL GLAZE	
	R084	NRSA63J-112NY	METAL GLAZE	
	R085	NRSA63J-112NY	METAL GLAZE	
	R086	NRSA63J-182NY	METAL GLAZE	
	R087	NRSA63J-112NY	METAL GLAZE	
	R088	NRSA63J-OR0AY	METAL GLAZE	
	R089	NRSA63J-OR0AY	METAL GLAZE	
	R090	NRSA63J-OR0AY	METAL GLAZE	
	R091	NRSA63J-OR0AY	METAL GLAZE	
	R092	NRSA63J-OR0AY	METAL GLAZE	
	R094	NRSA63J-471N	METAL GLAZE	
	R095	NRSA63J-103N	METAL GLAZE	
	R096	NRSA63J-103N	METAL GLAZE	
	R097	NRSA63J-472NY	METAL GLAZE	
	R098	NRSA63J-472NY	METAL GLAZE	
	R099	NRSA63J-472NY	METAL GLAZE	
	R100	NRSA63J-472NY	METAL GLAZE	
		OTHERS		
		EMW10476-004A	PRINTED BOARD	
	K041	EQA0002-N102Y	FERRITE BEADS	
	K042	EQA0002-N102Y	FERRITE BEADS	
	K061	EQA0002-N102Y	FERRITE BEADS	
	K062	EQA0002-N102Y	FERRITE BEADS	
	K088	EQA0001-N01Y	FERRITE BEADS	
	K090	EQA0001-N01Y	FERRITE BEADS	
	K096	EQA0002-N102Y	FERRITE BEADS	
	K097	EQA0002-N102Y	FERRITE BEADS	
	K098	EQA0002-N102Y	FERRITE BEADS	
	X081	ECX0225-792EN9T	CRYSTAL	
	LC021	EQF0703-N103NZ	INDUCTOR	
	LC041	EQF0703-N103NZ	INDUCTOR	
	LC081	EQF0703-N103NZ	INDUCTOR	
	LC093	EQF0704-N01YU	INDUCTOR	
	LC096	EQF0703-N103NZ	INDUCTOR	

## ■ Accessories List

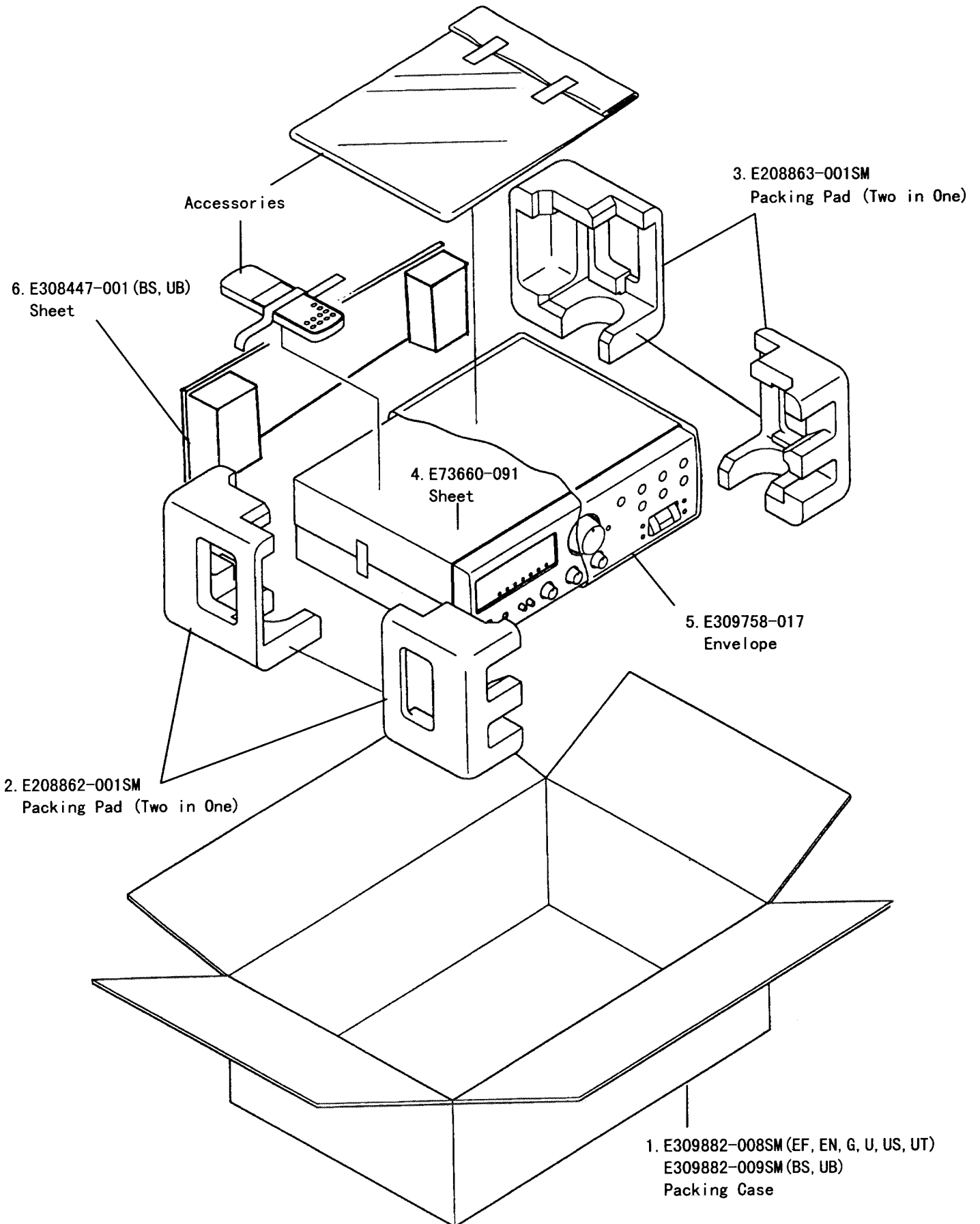
Block No. **M2MM**

△	Item	Parts Number	Parts Name	Q'ty	Description	Area
	1	E30580-2470A	INSTRUCTION BOOK	1		EF G BS
		E30580-2471A	INSTRUCTION BOOK	1		EN
		E30580-2472A	INSTRUCTION BOOK	1		U UB US UT
	2	E309758-001	ENVELOPE	2		
	3	RM-SAV8U	WIRE-LESS REMOTE CONTROL	1		BS EF EN G
		RM-SA8U	WIRE-LESS REMOTE CONTROL	1		U UB US UT
△	4	EMC0202-001BS	AC PLUG	1		BS
	5	E43486-340A	SAFETY SHEET	1		BS
	6	E43486-371A	INSTRUCTION SHEET	1		BS
	7	BT-20066A	DISTRIBUTOR LIST	1		BS
		BT-20134	WARRANTY CARD	1		G
		BT-54003-1	WARRANTY CARD	1		BS
	8	ENZ2203-001	SIEMENS PLUG	1		U UT
	9	ENZ2202-001	SIEMENS PLUG	1		US
	10	R6PRPA-2STSA	BATTERY	1		

△: Safety Parts

# Packing Materials and Part Numbers

Block No. **M3MM**



AX-V8BK

**JVC**

VICTOR COMPANY OF JAPAN, LIMITED  
AUDIO PRODUCT DIVISION 1644, SHIMOTSURUMA, YAMATO-SHI, KANAGAWA-KEN, 242, JAPAN