

4-CHANNEL POWER AMPLIFIER

KAC-642

INSTRUCTION MANUAL

KENWOOD

KENWOOD CORPORATION

CUSTOMER RELATIONS

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91/12 11 10 9 8 7 6 5


Take the time to read through this instruction manual. Familiarity with installation and operation procedures will help you obtain the best performance from your new 4-channel power amplifier.

For your records

Record the serial number found on the back of the unit, in the spaces designated on the warranty card, and in the space provided below. Refer to the model and serial numbers whenever you call upon your KENWOOD dealer for information or service on this product.

Model KAC-642 Serial number _____

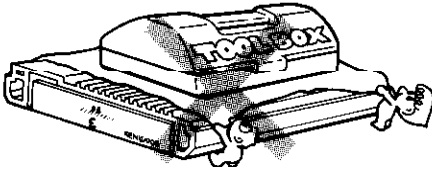
ACCESSORY

No.	Part name	External View	Number of units
①	Tapping screws ($\phi 4 \times 14$)		4

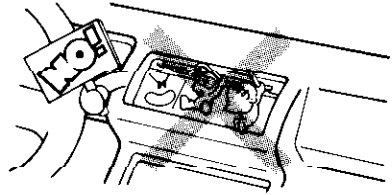
WARNING

**TO PREVENT ELECTRIC SHOCK,
FIRE AND OTHER INJURY.
PLEASE NOTE THE
FOLLOWINGS:**

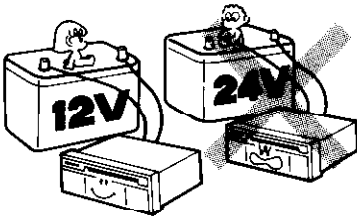
- To keep good ventilation, do not put anything on top of the unit.



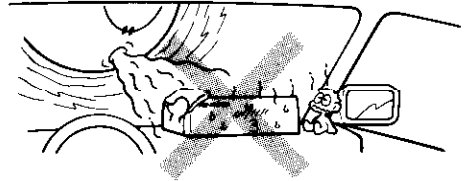
- Do not drop pieces of metal, needles, coins and other electrically conductive materials into the unit.



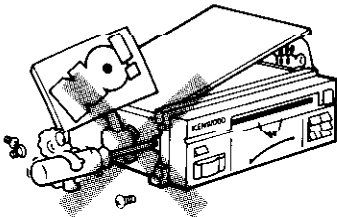
- The unit is designed to be connected to 12 V DC and negative grounding.



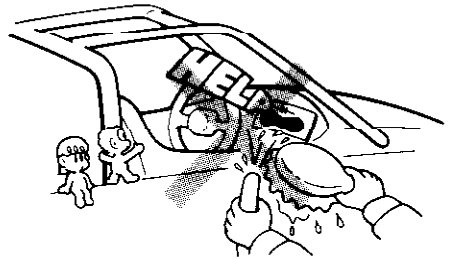
- Do not place the unit where it will be exposed to direct sunlight or close to a heating device.



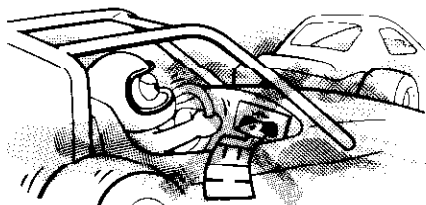
- Do not open the enclosure, such as the front panel, top or bottom cover.



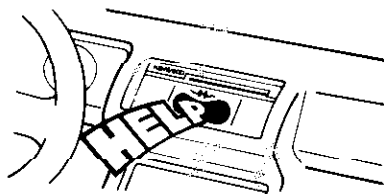
- Do not dash water on the unit.



- Do not place the unit in areas of excessive dust, high humidity or on unstable surfaces.



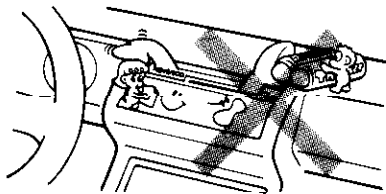
- If an abnormal smell or smoke is detected, immediately turn the power off.



- If you have difficulty in installing the set in your car, please contact your KENWOOD dealer.

CLEANING

1. Turn the power off, before cleaning the unit.
2. Do not use any type of abrasive pad, thinner, benzine and any such kind of objects.
3. Wipe the front panel and other exterior surfaces of the unit with a soft dry cloth or a soft cloth lightly moistened with a neutral detergent.



FCC WARNING:

This equipment may generate or use radio frequency energy. Changes or modifications to this equipment may cause harmful interference unless the modifications are expressly approved in the instruction manual. The user could lose the authority to operate this equipment if an unauthorized change or modification is made.

CONNECTIONS

■ CONNECTION PROCEDURES

1. Before installation and wiring, remove the (-) terminal of the battery to prevent short-circuiting.
2. Connect the input and output cords of the system.
3. Connect the ground to the metal chassis of the car.
4. Connect the power supply lead.
5. Install the set and after confirming the installation and wirings are correct, connect the (-) terminal of the battery.

■ USE OF THE OPERATION PANEL ACCORDING TO SYSTEM TYPE

• Input sensitivity control

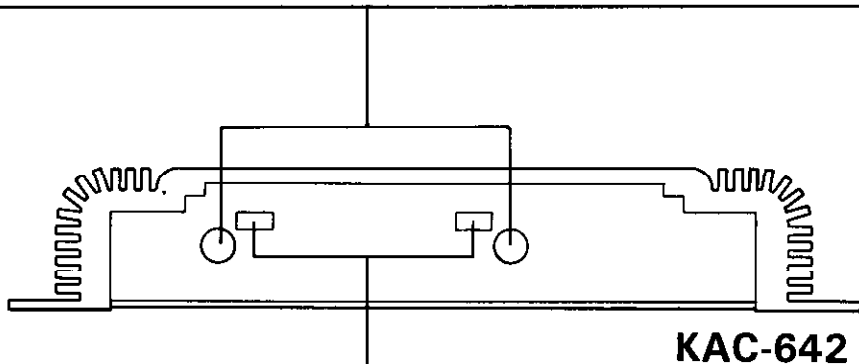
The input sensitivity control adjusts the input sensitivity within a range of 0.1 V to 5.0 V continuously, enabling expansion with various systems.

This unit has been set for 0.3 V.



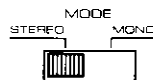
KENWOOD head unit preout level (MAX.)	Amplifier input sensitivity
300 mV	0.1 V
1 V	0.3~0.5 V

- * The left input sensitivity controller is for A and right for B.



• Mode switch

When this switch is set to "MONO", the output of that channel becomes monaural and the output is doubled.



- * The left MODE switch is for A and right for B.

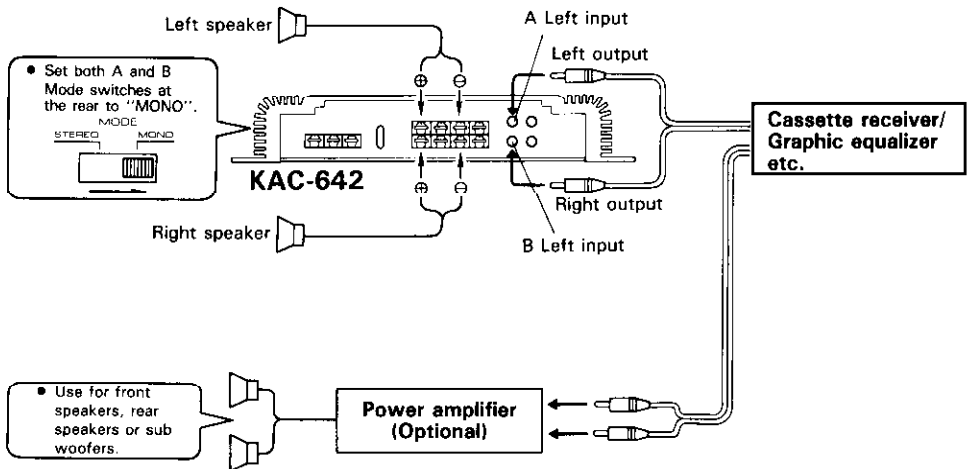
■ SYSTEM EXAMPLES

When the Mode switch is set to "MONO" the output of that channel becomes monaural and the output is doubled.

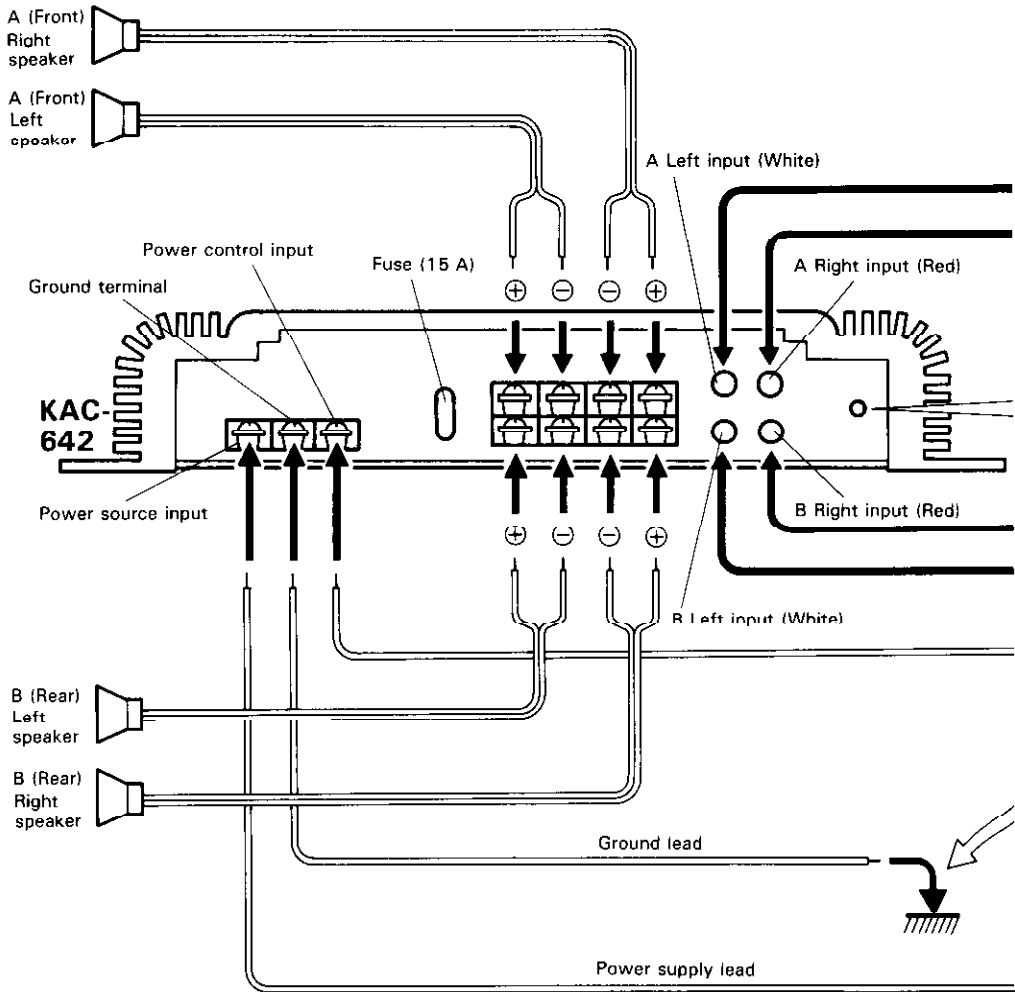
With this function, various system can be made.

The examples are as follows. With these examples, both Mode switches should be set to "MONO".

NOTE: With this system, the LEFT side is for inputs.

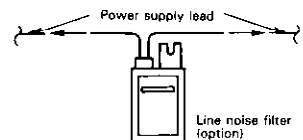


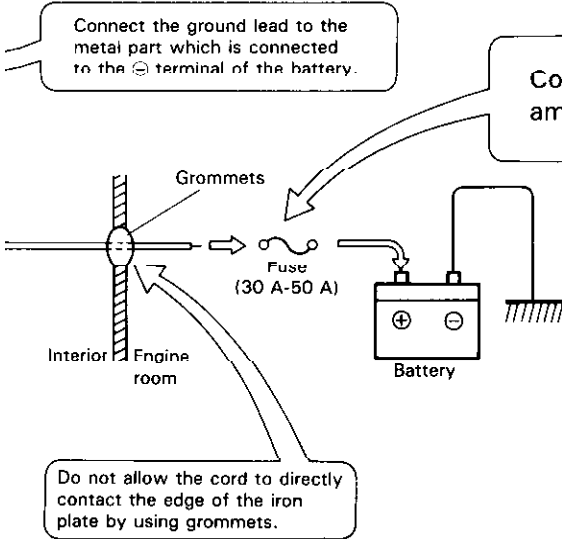
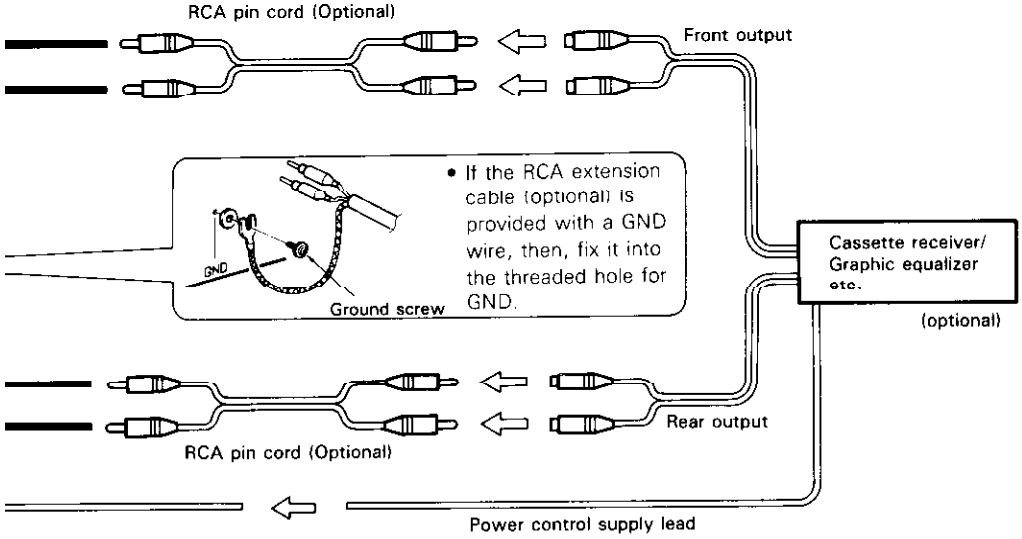
CONNECTIONS



- If a fuse is blown, first check that the associated wires are not short-circuited then replace the fuse with a new one having the same capacity.

- If you hear a noise when starting the engine, connect the line noise filter (optional) to the power supply lead of this unit.



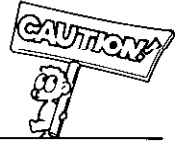
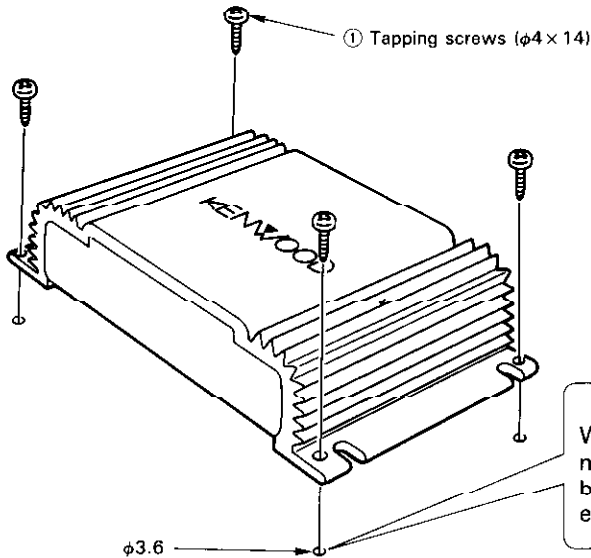


⚠ WARNING

To prevent damage to the radio or your automobile, please make sure that the power supply lead (yellow) is connected through the fuse or fusible link. This will be an added protection even though the radio is equipped with its own fuse.

INSTALLATION

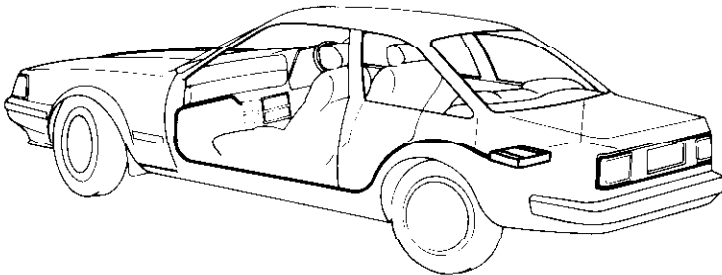
1. Installation



- When installing to the car, install the unit securely for safety driving.
- Install the unit in a well-ventilated place and do not place the (heavy) object on it.

CAUTION
When making the hole, do not damage the fuel tank, brake tube, wiring harnesses, etc. on the other side.

2. Installation location



- Since the power amplifier has no parts which require operation, it can be installed at a position away from the driver's seat without any hinderances. As generally accepted positions for its installation, places such as inside the trunk, etc. can be considered.
- Use the extension cables. (Optional)

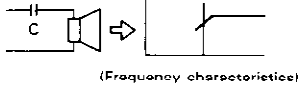
		0.5 m	1 m	2 m	4 m	6 m
RCA	φ11.5	CA-5W	CA-15W	CA-25W	CA-45W	CA-65W
	φ8	CA-3W	CA-13W	CA-23W	CA-43W	CA-63W

CONSTANT TABLE OF NETWORK FOR TRI MODE

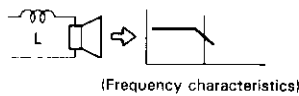
You can construct a multiple speaker system through the use of passive crossovers (coils and capacitors) as shown below: (if the coils and capacitors are not available in the values listed, coils and capacitors with similar or close values can be used without affecting the performance in practical use.

■ 6 dB/Octave for High and Low pass Filter

- Functions of a High Pass filter



- Function of a Low Pass filter



- 6 dB/Octave w/Sub Woofer and Full Range Speakers

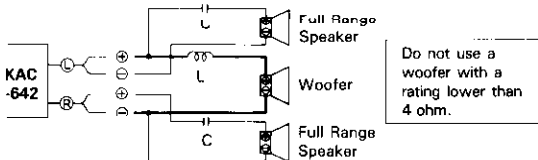


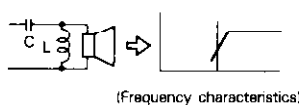
Table of content for 6 dB (4 Ohm)

Cross-over Frequency	L (Coil)	C (Capacitor)
30Hz	21.2mH	1330 μ F
50Hz	12.7mH	800 μ F
80Hz	8.0mH	500 μ F
100Hz	6.4mH	400 μ F
150Hz	4.2mH	270 μ F
200Hz	3.2mH	200 μ F
260Hz	2.4mH	150 μ F
400Hz	1.6mH	100 μ F
600Hz	1.1mH	70 μ F
800Hz	0.8mH	50 μ F

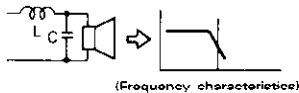
When using a 2 ohm speaker, use half the value of the coil for low pass and use twice the value of the capacitor for high pass. Example: 30 Hz L = 10.6 mH, C = 2660 μ F
 When using a 8 ohm speaker, use twice the value of the coil for low pass and use half the value of the capacitor for high pass. Example: 30 Hz L = 42.4 mH, C = 665 μ F

■ 12 dB/Octave for High and Low pass Filter

- Functions of a High Pass filter



- Function of a Low Pass filter



- 12 dB/Octave w/Sub Woofer and Full Range Speakers

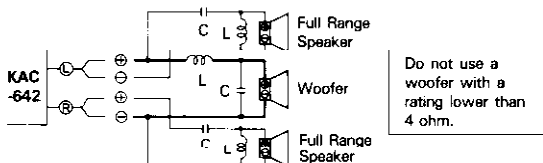


Table of content for 12 dB (4 Ohm)

Cross-over Frequency	L (Coil)	C (Capacitor)
30Hz	29.7mH	950 μ F
50Hz	17.8mH	570 μ F
80Hz	11.1mH	350 μ F
100Hz	8.9mH	280 μ F
150Hz	5.9mH	190 μ F
200Hz	4.5mH	140 μ F
260Hz	3.4mH	110 μ F
400Hz	2.2mH	70 μ F
600Hz	1.5mH	48 μ F
800Hz	1.1mH	35 μ F

When using a 2 ohm speaker, use half the value of the coil for low pass and use twice the value of the capacitor for high pass. Example: 30 Hz L = 14.9 mH, C = 1900 μ F
 When using a 8 ohm speaker, use twice the value of the coil for low pass and use half the value of the capacitor for high pass. Example: 30 Hz L = 59.4 mH, C = 475 μ F

TROUBLESHOOTING GUIDE

What often appears to be a malfunction is often due to user error in operation or connection. When trouble occurs with your unit, please check the following before calling for service.

Symptom	Cause	Remedy
The sound level is low. (No sound from one side.)	A speaker cord has become unconnected.	Check the speaker cord connections.
The sound quality is bad. (The sound is distorted.)	1. The speakers are connected to the same wires. 2. A speaker cord is pinched by a screw in the ear body.	1. Connect each speaker terminal to its respective speaker output. 2. Check the speaker wiring.

SPECIFICATIONS

Specifications subject to change without notice.

Audio Section

Max Power Output [4 Ω]	
4 Channel Mode	40 W × 4
3 Channel Mode	40 W × 2 + 90 W
2 Channel Mode	90 W × 2
Rated Power Output [4 Ω]	
4 Channel Mode	16 W × 4 (20 Hz ~ 20 kHz, less than 0.08% THD)
3 Channel Mode	16 W × 2 (20 Hz ~ 20 kHz, 0.08%) + 45 W × 1 (1 kHz, 0.8%)
2 Channel Mode	45 W × 2 (1 kHz, 0.8% THD)
Rated Power Output [2 Ω]	
4 Channel Mode	25 W × 4 (1 kHz, 0.8% THD)
Frequency Response	6 Hz ~ 65 kHz (-3 dB)
Signal to Noise Ratio	100 dB
Sensitivity (MAX)	0.1 V (rated output)
Sensitivity (MIN)	5.0 V (rated output)
Input Impedance	10 kΩ
Damping Factor (100 Hz)	More than 100

General

Operating Voltage	14.4 V (11 ~ 16 V allowable)
Current Consumption (1 kHz, 10% THD)	16 A
Dimensions (W × H × D)	220 × 48 × 185 mm (8-11/16 × 1-7/8 × 7-5/16 in.)
Weight	2.1 kg (4.6 lb)