

KENWOOD

KAC-M3004

COMPACT 4 CHANNEL DIGITAL AMPLIFIER INSTRUCTION MANUAL

JVCKENWOOD Corporation

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 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 the product. Model KAC-M3004 Serial number _____

KENWOOD

Warranty Card

Model number & serial number

Dealer & stamp

Purchase date

Name & address of customer

Attention:

This card and receipt (or invoice) are necessary to purchase a new panel in case of theft or damage.

U.S.A.	JVCKENWOOD USA Corporation
<p>This warranty will be honored only in the U.S.A.</p>	<p>WHO IS PROTECTED This warranty is enforceable only by the original purchaser.</p>
<p>KENWOOD LIMITED WARRANTY FOR CAR STEREO COMPONENTS</p>	<p>EXCLUSION OF DAMAGES KENWOOD'S LIABILITY FOR ANY DEFECTIVE PRODUCT IS LIMITED TO THE REPAIR OR REPLACEMENT OF THE PRODUCT AT OUR OPTION. KENWOOD SHALL NOT BE LIABLE FOR: 1. INSTALLATION OR REMOVAL CHARGES, DAMAGE TO OTHER PROPERTY CAUSED BY ANY DEFECTS IN KENWOOD CAR STEREO COMPONENTS, DAMAGES BASED UPON INCONVENIENCE, LOSS OF USE OF THE PRODUCT, OR 2. ANY OTHER DAMAGES, WHETHER INCIDENTAL, CONSEQUENTIAL OR OTHERWISE. SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS AND/OR DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATIONS AND EXCLUSIONS MAY NOT APPLY TO YOU.</p>
<p>HOW LONG IS THE WARRANTY Kenwood U.S.A. Corporation ("Kenwood") warrants this product for a period of one (1) year from the date of original purchase.</p>	<p>WHAT WE WILL PAY FOR We will pay for all labor and material expenses for covered items. Payment of shipping charges is discussed in the next section of this warranty.</p>
<p>WHAT IS COVERED AND WHAT IS NOT COVERED Except as specified below, this warranty covers all defects in material and workmanship in Kenwood car stereo components. The following are not covered by the warranty:</p>	<p>HOW TO OBTAIN WARRANTY SERVICE If your KENWOOD product ever needs service: 1. Take or ship it to any KENWOOD Authorized Service Center in the U.S.A. along with & complete description of the problem. 2. Although you must pay any shipping charges if it is necessary to ship the product for warranty service, we will pay the return shipping charges if the repairs are covered by the warranty within the United States. 3. Wherever your units are taken or sent for warranty service, you must include a copy of the original dated sales receipt as proof of warranty coverage.</p>
<p>1. Any product which is not distributed in the U.S.A. by Kenwood or which is not purchased in the U.S.A. from an authorized Kenwood car stereo dealer or an automobile dealer, unless the product is purchased through the U.S.A. Military Exchange Service.</p>	<p>This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.</p>
<p>2. Any product on which the serial number has been defaced, modified or removed.</p>	<p>If a problem develops during or after the Limited Warranty Period, or if you have any questions regarding the operation of the product, you should contact your KENWOOD Authorized Dealer or Authorized Service Center. If the problem or your question is not handled to your satisfaction, please contact our Customer Relations Department at the address listed below.</p>
<p>3. Damage, deterioration or malfunction resulting from: a. Any shipment of the product (claims must be presented to the carrier). b. Installation or removal of the product. c. Accident, acts of nature, misuse, abuse, neglect, unauthorized product modification or failure to follow instructions supplied with the product. d. Repair or attempted repair by anyone not authorized by Kenwood. e. Any other cause which does not relate to a product defect.</p>	<p>LIMITATION OF IMPLIED WARRANTIES ALL IMPLIED WARRANTIES, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE LIMITED IN DURATION TO THE LENGTH OF THIS WARRANTY.</p>

MILITARY	
<p>Units purchased through the U.S.A. military exchange service overseas may be serviced under warranty in the continental U.S.A., subject to the following conditions.</p> <p>1) The original warranty is in effect. 2) Proof of purchase is provided to the service.</p>	<p>LIMITATION OF IMPLIED WARRANTIES Any and all implied warranties, including warranties of merchantability and fitness for a particular purpose, shall be limited in duration to the length of this warranty.</p>
<p>WARRANTY FOR MILITARY MARKET Kenwood Corporation is a product of quality and workmanship of its audio equipment. This unit has been properly designed, tested and inspected before it was shipped to you. If properly installed and operated in accordance with instructions furnished, it should give you an optimum reliable performance.</p>	<p>EXCLUSION OF CERTAIN DAMAGES KENWOOD'S liability for any defective product is limited to the repair or replacement of said product, at our option, and shall not include damages of any kind, whether incidental, consequential or otherwise, except to the extent prohibited by applicable law.</p>
<p>WARRANTY PERIOD This product is warranted for a period of (1) year from the date of the original purchase.</p>	
<p>SCOPE OF WARRANTY Except as specified below, this warranty covers all defects in materials and workmanship of the Kenwood brand products.</p> <p>During the warranty period, any authorized Kenwood Service Center in the military market listed in the back of this warranty card will provide you free-of-charge both parts and labor required to correct any defect in materials or workmanship.</p>	
<p>The following are not covered by this warranty.</p> <p>1. Voltage conversions. 2. Periodic check-ups which do not disclose any defect covered by the warranty. 3. Cabinets, grilles, other exterior finishes, belts, tape heads, and other non-durable parts and accessories. 4. Units on which the serial number has been effaced, modified or removed. 5. Installation and/or removal charges. 6. Damaged magnetic tapes. 7. House call charges for any repairs. 8. Shipping or delivery charges to or from an authorized Kenwood Service Center. 9. This warranty will not cover any failure that is due to any of the following conditions in accordance with the visual inspection of the authorized Kenwood Service Center:</p> <ul style="list-style-type: none">* Improper maintenance or repair, including the installation of parts or accessories that do not conform to the quality and specifications of the original parts.* Misuse, abuse, neglect, unauthorized product modification or failure to follow instructions contained in the Owner's Manual.* Accidental or intentional damages.* Repairs or attempted repairs by an unauthorized agency. (All repairs must be performed at an authorized Kenwood Service Center.)* Damages or deteriorations caused during shipment (Claims must be presented to the carrier).* Damages or deteriorations resulting from removal and/or replacement.	
<p>PURCHASER'S RESPONSIBILITIES As the purchaser of a new Kenwood brand product, you are requested to do the following in order to obtain Kenwood warranty service.</p> <p>1. Retain your sales slip or other evidence of purchase for proving your eligibility for requesting Kenwood warranty service. 2. Make your unit available to an authorized Kenwood Service Center in the military market for inspection and approved warranty service, or ship your unit in its original carton box or equivalent, fully insured and shipping charges prepaid, to the authorized Kenwood Service Center.</p>	

Dear Customer,

Thank you for purchasing this Kenwood product. As mentioned in the pages of this booklet, our warranty is only valid in the countries listed. If your country is not listed please contact your retailer for information on warranty procedure, or write to:

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.

FCC NOTE

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment may cause harmful

interference to radio communications, if it is not installed and used in accordance with the instructions. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Safety precautions

▲WARNING

To prevent injury or fire, take the following precautions:

- Mounting and wiring this product requires skills and experience. For safety's sake, leave the mounting and wiring work to professionals.
- When extending the ignition, battery, or ground wires, make sure to use automotive-grade wires or other wires with the range of 5 mm² (AWG 10) or more to prevent wire deterioration and damage to the wire coating.
- To prevent a short circuit, never put or leave any metallic objects (such as coins or metal tools) inside the unit.
- If the unit starts to emit smoke or strange smells, turn off the power immediately and consult your Kenwood dealer.
- Do not touch the unit during use because the surface of the unit becomes hot and may cause burns if touched.

▲CAUTION

To prevent damage to the machine, take the following precautions:

- Be sure the unit is connected to a 12V DC power supply with a negative ground connection.
- Do not open the top or bottom covers of the unit.
- Do not install the unit in a spot exposed to direct sunlight or excessive heat or humidity. Also avoid places with too much dust or the possibility of water splashing.
- When replacing a fuse, only use a new one with the prescribed rating. Using a fuse with the wrong rating may cause your unit to malfunction.
- To prevent a short circuit when replacing a fuse, first disconnect the wiring harness.

NOTE

- If you experience problems during installation, consult your Kenwood dealer.
- If the unit does not seem to be working right, consult your Kenwood dealer.

Cleaning the unit

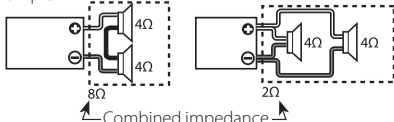
If the front panel gets dirty, turn off the power and wipe the panel with a dry silicon cloth or soft cloth.

▲CAUTION

Do not wipe the panel with a hard cloth or a cloth dampened by volatile solvents such as paint thinner and alcohol. They can scratch the surface of the panel and/or cause the indicator letters to peel off.

To prevent battery rise

When the unit is used in the ACC ON position without turning the engine ON, it depletes the battery. Use it after starting the engine.

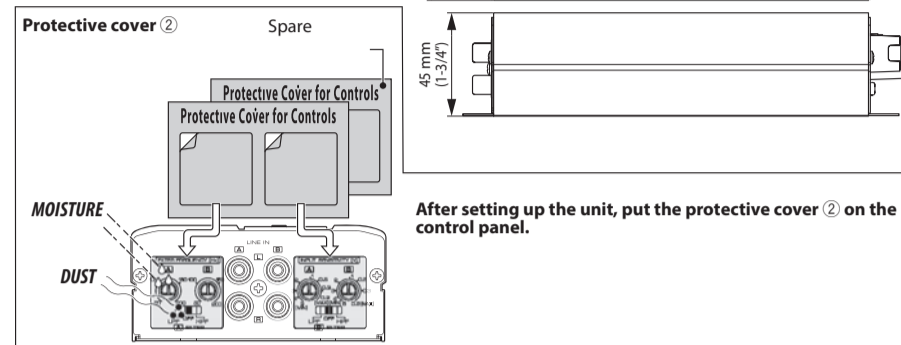
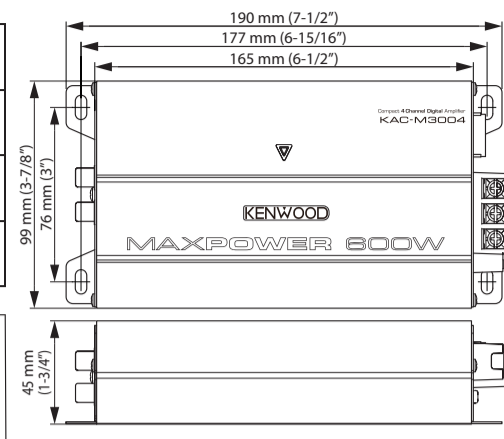


CANADA	KENWOOD ELECTRONICS CANADA INC.
<p>KENWOOD WARRANTY KENWOOD ELECTRONICS CANADA INC. (hereinafter called "KENWOOD"), gives the following written warranty to the original customer of each new Kenwood product distributed in Canada by KENWOOD and purchased from a dealer authorized by KENWOOD.</p> <p>KENWOOD warrants that each new Kenwood product, under normal use, is free from any defects, subject to the terms and conditions set forth below. If a defect should occur within the warranty period, repairs will be made free of charge for parts and labour when such defects are determined by KENWOOD or its authorized service centres to be attributable to faulty materials or workmanship at time of manufacture. Please contact KENWOOD to confirm if a dealer or service centre is authorized by KENWOOD.</p>	<p>(e) Defects resulting from disaster, accident, abuse, misuse, lightning, power surges, neglect or lack of periodic maintenance, unauthorized modification or failure to follow instructions in the owner's manual.</p> <p>(f) Defects or damage as a result of repairs performed by a person or party not authorized by KENWOOD.</p> <p>(g) Defects resulting from the use of parts or devices that do not conform to KENWOOD specifications.</p> <p>(h) Damage or deterioration occurring to any exterior finishes, cosmetic parts, tape heads, adaptors, antennas, cables, tapes, discs or faults or damage caused by defective or leaking batteries.</p> <p>(i) Defects or damage occurring during shipping (claims should be presented to the shipping company).</p> <p>(j) Product voltage and/or line frequency conversions.</p> <p>(k) Product installation or removal charges.</p>
<p>WARRANTY PERIOD This Kenwood product is warranted for parts and labour for a period of one (1) year from the date of original purchase, lease or rental, except for products which are used in a professional or commercial application, which are warranted for a period of ninety (90) days for parts and labour and are subject to the terms and conditions of the warranty.</p>	<p>ENTIRE WARRANTY This warranty constitutes the entire written warranty given by KENWOOD. No person, party, dealer or service centre or their agents or employees are authorized to extend or enlarge this warranty on behalf of KENWOOD by any written or verbal statement or advertisement or promotion, including any extended warranty program or plan that may be offered by the dealer or service centre, unless approved in writing by KENWOOD.</p>
<p>WARRANTY EXCLUSIONS This warranty excludes:</p> <p>(a) Products purchased in a foreign country or purchased in Canada and taken to a foreign country.</p> <p>(b) Products purchased from a dealer not authorized by KENWOOD.</p> <p>(c) Products with the serial number defaced, altered or missing.</p> <p>(d) Periodic check-ups which do not disclose any defects covered by this warranty.</p>	<p>DISCLAIMER KENWOOD disclaims any responsibility for loss of time or use of the product or any other indirect, incidental or consequential damage to other products or goods, inconvenience or commercial loss.</p> <p>NOTICE TO CONSUMER The provisions contained in this written warranty are not intended to limit, modify, take away, disclaim or exclude any warranties or rights you may have which are set forth in any applicable provincial or federal laws or legislation.</p> <p>IMPORTANT This warranty card by itself is not considered by KENWOOD as a valid proof of purchase. When applying for warranty repairs, you must present the original copy of your bill of sale and this warranty card as proof of warranty, so we recommend that they be kept in a safe place, should they be required in the future.</p>

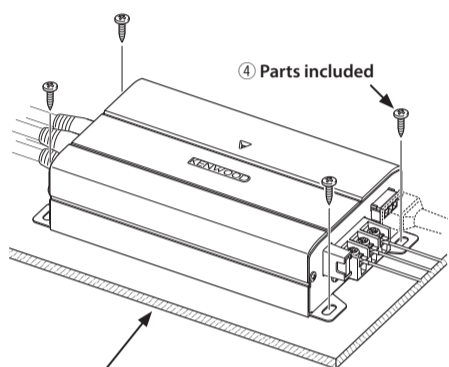
Installation

Accessories

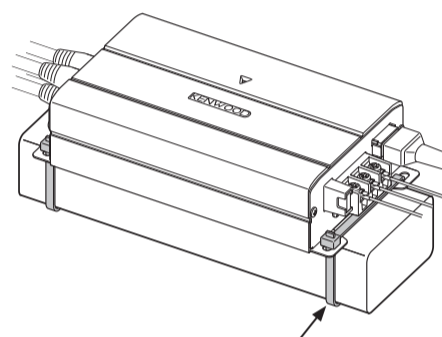
1	Speaker cable	1
2	Protective cover	2
3	Wire band	2
4	Self-tapping screws ø 4 x 16 mm	4



Example A: using the screws



Example B: using the wire bands



Installation procedure

Since there are large variety of settings and connections possible according to applications, read the instruction manual well to select the proper setting and connection.

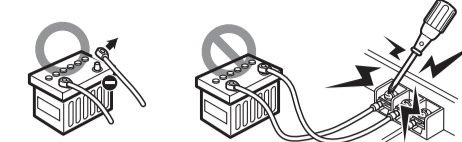
1. Remove the ignition key and disconnect the negative terminal of the battery to prevent short circuits.
2. Set the unit according to the intended usage.
3. Connect the input and output wires of the units.
4. Connect the speaker wires.
5. Connect the power wire, power control wire and grounding wire following this order.
6. Attach the unit.
7. Connect the negative terminal of the battery.

CAUTION

- Do not install in the below locations:
(Unstable location, In a location that interferes with driving, In a location that gets wet, In a dusty location, In a place that gets hot, In a place that gets direct sunlight, In a location that gets hit by hot air)
- Do not install the unit under the carpet. Otherwise heat build-up occurs and the unit may be damaged.

- Install this unit in a location which allows heat to easily dissipate. Once installed, do not place any object on top of the unit.
- The surface temperature of the amplifier will become hot during use. Install the amplifier in a place where people, resins, and other substances that are sensitive to heat will not come into contact with it.
- When making a hole under a seat, inside the trunk, or somewhere else in the vehicle, check that there is nothing hazardous on the opposite side such as a gasoline tank, brake pipe, or wiring harness, and be careful not to cause scratches or other damage.
- Do not install near the dashboard, rear tray, or air bag safety parts.
- The installation to the vehicle should securely fasten the unit to a place in which it will not obstruct driving. If the unit comes off due to a shock and hits a person or safety part, it may cause injury or an accident.
- After installing the unit, check to make sure that electrical equipment such as the brake lamps, turn signal lamps and windshield wipers operate normally.

Connection



WARNING

Particular attention must be given to making good electrical contact at the amplifier-output and speaker terminals. Poor or loose connections can cause sparking or burning at the terminals because of the very high power that the amplifier can deliver.

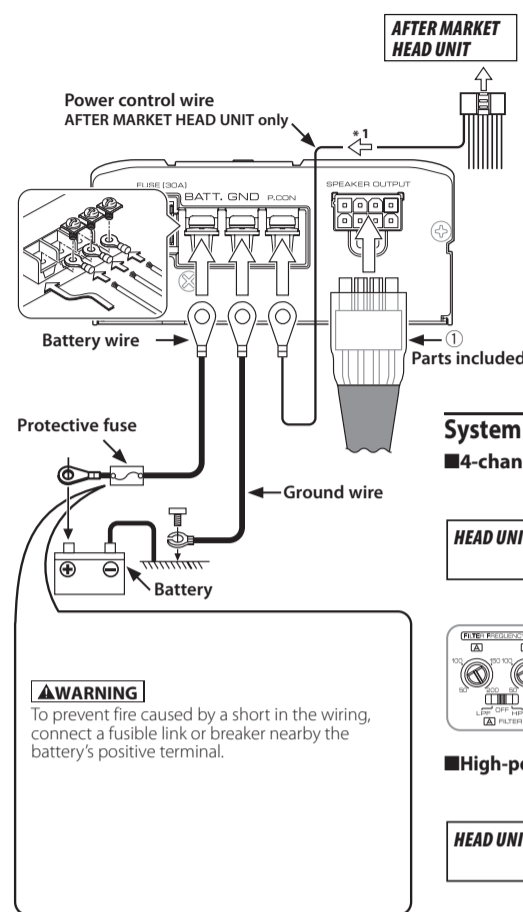
CAUTION

- If sound is not output normally, immediately turn power off and check connections.
- Be sure to turn the power off before changing the setting of any switch.
- If the fuse blows, check wires for shorts, then replace the fuse with one of the same rating.
- Check that no unconnected wires or connectors are touching the car body. Do not remove caps from unconnected wires or connectors to prevent short circuits.
- Connect the speaker wires to appropriate speaker connectors separately. Sharing the negative wire of the speaker or grounding speaker wires to the metal body of the car can cause this unit to fail.
- After installation, check that the brake lamps, turn signal lamps and windshield wipers work properly.

WARNING

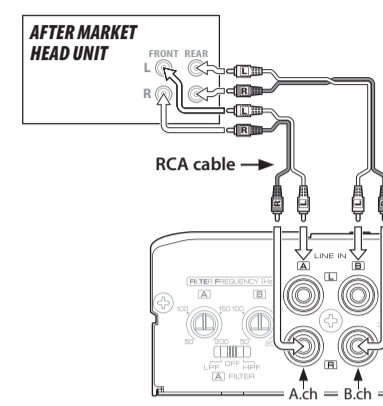
Remove the ignition key and disconnect the negative terminal of the battery to prevent short circuits.

Power wire and speaker wire connection

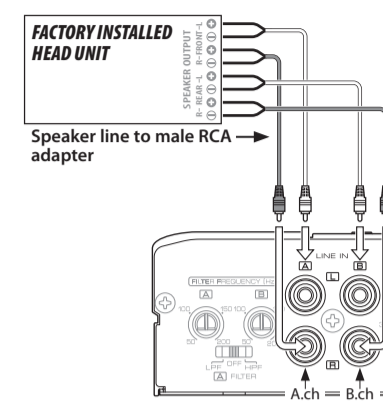


* 1
The output from the FACTORY INSTALLED HEAD UNIT up to 50W can be input. The power is turned on and off as the unit detects input signal (SIGNAL SENSING TURN-ON). Therefore it is not necessary to connect the power control wire.

RCA INPUT connection

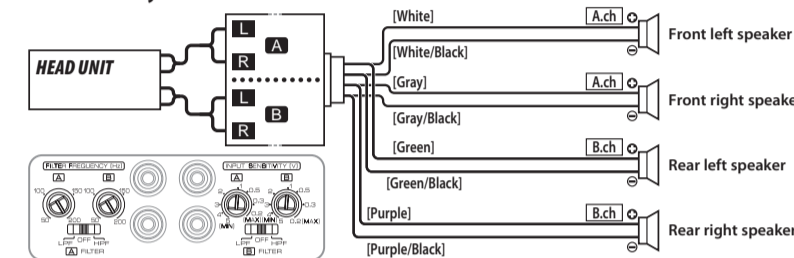


SPEAKER INPUT connection

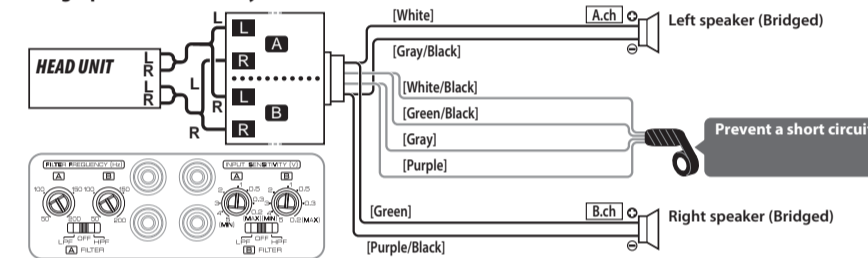


System examples

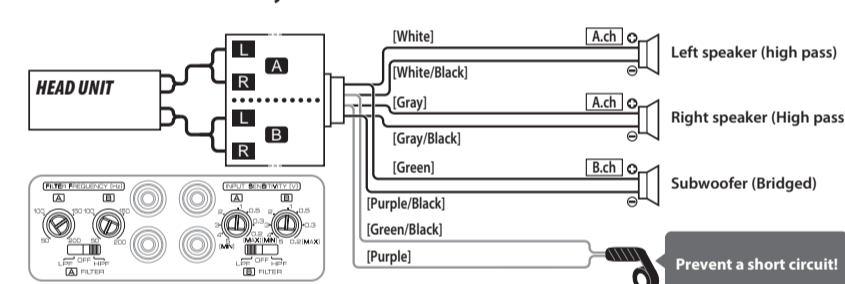
4-channel system



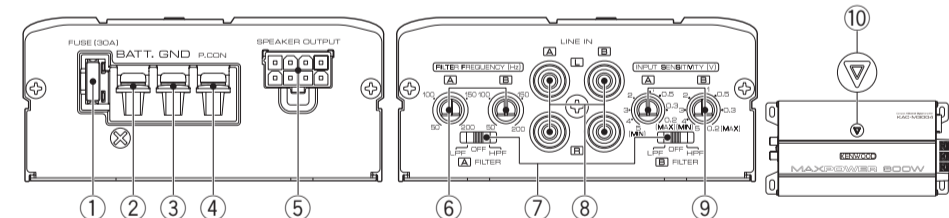
High-power 2-channel system



2-channel + Subwoofer system



Controls



This is a 4 channel amplifier including 2 stereo amplifiers in a body. One amplifier is referred to as amplifier A and the other is amplifier B. This unit is compatible with a large variety of systems by combining the switches and functions described in the following.

1 Fuse (30 A)

[NOTE]
If you can't find the specified capacity fuse at your store etc., consult your Kenwood dealer.

2 Battery terminal (BATT.)

3 Ground terminal (GND)

4 Power control terminal (P.CON)

Controls the unit ON/OFF.

[NOTE]

Controls the unit power. Be sure to connect it with all the systems.

5 SPEAKER OUTPUT terminals (A.ch/B.ch)

Stereo connections:

When you wish to use the unit as a stereo amplifier, stereo connections are used. The speakers to be connected should have an impedance of 2Ω or greater. When multiple speakers are to be connected, ensure that the combined impedance is 2Ω or greater for each channel.

Bridged connections:

When you wish to use the unit as a high-output amplifier, bridged connections are used. (Refer to <High-power 2-channel system> or <2-channel + Subwoofer systems> of <Connections>.) The speakers to be connected should have an impedance of 4Ω or greater.

When multiple speakers are to be connected, ensure that the combined impedance is 4Ω or greater.

6 FILTER FREQUENCY control (A.ch/B.ch)

Sets the cutoff frequency when the "FILTER" switch is set to "HPF" or "LPF".

7 FILTER switch (A.ch/B.ch)

This switch allows to apply high-pass or low-pass filtering to the speaker outputs.

HPF (High-Pass Filter) position:

The filter outputs the band of higher frequencies than the frequency set with the "FILTER FREQUENCY" control.

OFF position:

The entire bandwidth is output without filtering.

LPF (Low-Pass Filter) position:

The filter outputs the band of lower frequencies than the frequency set with the "FILTER FREQUENCY" control.

8 LINE IN terminal (A.ch/B.ch)

9 INPUT SENSITIVITY control (A.ch/B.ch)

Set this control according to the pre-output level of the HEAD UNIT connected with this unit.

[NOTE]

For the pre-output level, refer to the <Specifications> in the instruction manual of the HEAD UNIT.

The entire bandwidth is output without filtering.

10 Power indicator

When the power is turned on, the Power indicator lights.

Troubleshooting Guide

What might appear to be a malfunction in your unit may just be the result of slight misoperation or miswiring. Before calling service, first check the following table for possible problems.

PROBLEM	POSSIBLE CAUSE	SOLUTION
No sound. (No sound from one side.) (Blown fuse.)	<ul style="list-style-type: none"> Input (or output) cables are disconnected. Protection circuit may be activated. Volume is too high. The speaker cord is shorted. 	<ul style="list-style-type: none"> Connect the input (or output) cables. Check connections by referring to <Protection function>. Replace the fuse and use lower volume. After check the speaker cord and fixing the cause of the short, replace the fuse.
The output level is too small (or too large).	The input sensitivity adjusting control is not set to the correct position.	Adjust the control correctly referring to <Controls>.
The sound quality is bad. (The sound is distorted.)	<ul style="list-style-type: none"> The speakers wire are connected with wrong ⊕/⊖ polarity. A speaker wire is pinched by a screw in the car body. The switches may be set improperly. 	<ul style="list-style-type: none"> Connect them properly checking the ⊕/⊖ of the terminals and wires well. Connect the speaker wire again so that it is not pinched by anything. Set switches properly by referring to <Controls>.

Specifications

Specifications subject to change without notice.

Audio section

Rated power output (+B = 14.4V)	14.4 V (11 - 16 V allowable)
Stereo (4 Ω)	50 W × 4 (20 Hz - 20 kHz, ≤ 1.0 % THD)
Stereo (2 Ω)	75 W × 4 (1 kHz, ≤ 1.0 % THD)
Bridged (4 Ω)	150 W × 2 (1 kHz, ≤ 1.0 % THD)
Speaker impedance	4 Ω (2 Ω to 8 Ω allowable) (Bridged connection: 4 Ω to 8 Ω allowable)
Frequency response (+0, -3 dB)	20 Hz - 20 kHz
Input sensitivity (RCA)	0.2 V - 5.0 V
Signal to noise ratio	87 dB
Input impedance	10 kΩ
Low pass filter frequency (-12 dB/oct.)	50 Hz - 200 Hz (variable)
High pass filter frequency (-12 dB/oct.)	50 Hz - 200 Hz (variable)

General

Operating voltage	14.4 V (11 - 16 V allowable)
Current consumption	21 A
Dimensions (W × H × D)	165 × 45 × 99 mm 6-1/2 × 1-3/4 × 3-7/8 inch
Weight	0.76 kg (1.7 lbs)

CEA-2006

RMS Watts per channel @ 4 ohms, ≤ 1% THD+N	50 W × 4
Signal to noise ratio (Reference: 1Watt into 4 ohms)	74 dBA