

KAC-M1824BT

COMPACT BLUETOOTH® 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-M1824BT Serial number _____

Contains Bluetooth Module	FCC ID: YZP-RBFAC21SA
Contains Bluetooth Module	IC: 7414A-RBFAC21SA

CAUTION
This equipment complies with FCC/IC radiation exposure limits set forth for an uncontrolled environment and meets the FCC radio frequency (RF) Exposure Guidelines in Supplement C to OET65 and RSS-102 of the IC radio frequency (RF) Exposure rules. This equipment has very low levels of RF energy that it deemed to comply without maximum permissive exposure evaluation (MPE). But it is desirable that it should be installed and operated keeping the radiator at least 20cm or more away from person's body (excluding extremities: hands, wrists, feet and ankles).

Under Industry Canada regulations, this radio transmitter may only operate using an antenna of a type and maximum (or lesser) gain approved for the transmitter by Industry Canada. To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (e.i.r.p.) is not more than that necessary for successful communication.

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.
- 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.

Protection function

The protection function is activated in the following situations:

- This unit is equipped with a protection function for protecting this unit and your speakers from various accidents or problems that can occur. When the protection function is triggered, the [amplifier](#) stops operating.
- When a speaker wire may be short-circuited.
- When a speaker output contacts ground.
- When the unit malfunctions and a DC signal is sent to the speaker output.
- When the internal temperature is high and unit won't operate.
- When detects a low impedance at the speaker connections.

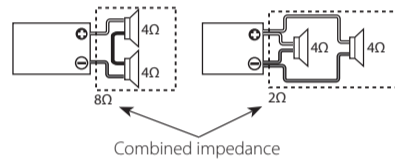
■ Wiring

- If a buzzing noise is heard from the speakers when the engine is running, connect a line noise filter (optional) to each of the battery wire.
- Do not allow the wire to directly contact the edge of the iron plate by using Grommets.
- Connect the ground wire to a metal part of the car chassis that acts as an electrical ground passing electricity to the battery's negative (-) terminal. Do not turn the power on if the ground wire is not connected.
- Be sure to install a protective fuse in the power cord near the battery. The protective fuse should be the same capacity as the unit's fuse capacity or somewhat larger.
- When more than one power amplifier are going to be used, use a power supply wiring wire and protective fuse of greater current-handling capacity than the total maximum current drawn by each amplifier.

■ Speaker selection

- Using speakers with smaller input ratings than the amplifier's output power would result in smoke generation or equipment failure.
- The impedance of the speakers that are going to be connected should be 2Ω or greater (for stereo connections), or 4Ω or greater (for bridged connections). When more than one set of speakers are going to be used, calculate the combined impedance of the speakers and then connect suitable speakers to the amplifier.

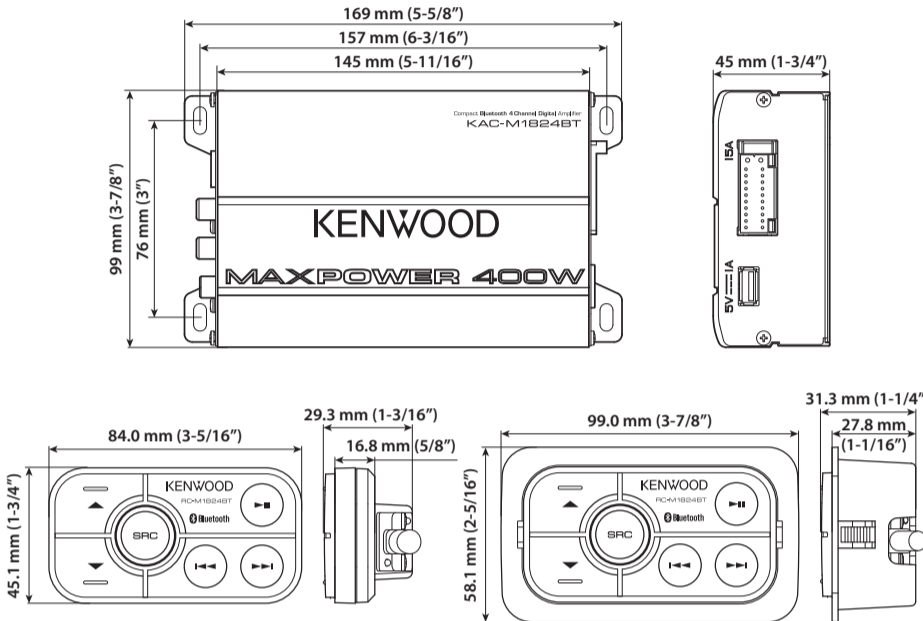
<Example>



■ Accessories

① DC cable	1	④ Remote control unit	1	⑥ Mounting bracket	1
② Wire band	2	⑤ Self-tapping ø 3 x 8 mm	1	⑦ Double-side adhesive tape	1
③ Self-tapping ø 4 x 16 mm	4	⑧ Protective cover	1		

■ Dimensions



Specifications

Specifications subject to change without notice.

Audio

Max power output.....	400 W	Profile.....	A2DP (Advanced Audio Distribution Profile)
Rated power output (+B = 14.4V)			AVRCP (Audio/Video Remote Control Profile)
Stereo (4 Ω).....	45 W × 4 (1 kHz, ≤ 1.0% THD)		
Bridged (4 Ω).....	90 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.....	20 Hz – 20 kHz		
Signal to noise ratio.....	90 dB		
Input impedance.....	10 kΩ		

USB Charge

Maximum supply current.....DC 5 V --- 1 A

Bluetooth

Version.....Bluetooth Ver.3.0 + EDR
Supported codecs.....SBC/AAC/aptX

General

Operating voltage.....	14.4 V (11 – 16 V allowable)
Current consumption.....	1.5 A
Dimensions (W × H × D).....	145 × 45 × 99 mm
	5-11/16 × 1-3/4 × 3-7/8 inch
Weight.....	1.4 kg (3.1 lbs)

CEA-2006

RMS Watts per channel @ 4 ohms, ≤ 1% THD+N.....45 W × 4

Signal to noise ratio.....74 dBA

(Reference: 1Watt into 4 ohms)

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.

IC (Industry Canada) Notice

This device complies with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions:

- (1) This device may not cause interference, and
- (2) this device must accept any interference, including interference that may cause undesired operation of the device.

The term "IC" before the certification/ registration number only signifies that the Industry Canada technical specification were met.

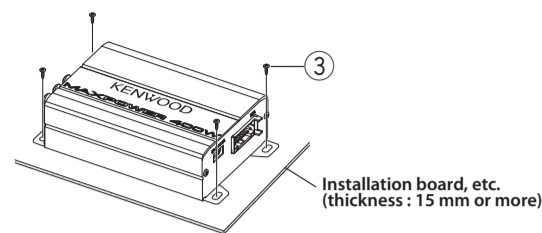
Troubleshooting Guide

Symptom	Remedy
Sound cannot be heard.	<ul style="list-style-type: none"> Check the cords and connections. Protection circuit may be activated. Check connections. (➡<Protection function>) Blown fuse. Replace the fuse. The speaker cord is shorted. After check the speaker cord and fixing the cause of the short, replace the fuse.
The sound quality is bad. (The sound is distorted.)	<ul style="list-style-type: none"> Connect the speaker cord properly checking the (+)(-) of the terminals and wires well. Connect the speaker cord again so that it is not pinched by anything.
No bluetooth device is detected.	<ul style="list-style-type: none"> Reset the unit. (➡<How to reset>)
Bluetooth pairing cannot be made.	<ul style="list-style-type: none"> Delete pairing information from both the unit (➡<How to reset>) and the Bluetooth device, then perform pairing again.
Sound is being interrupted or skipped during playback of a bluetooth audio player.	<ul style="list-style-type: none"> Reduce the distance between the remote control unit and the Bluetooth audio player. Other Bluetooth devices might be trying to connect to the unit.
The connected Bluetooth audio player cannot be controlled.	<ul style="list-style-type: none"> Check whether the connected Bluetooth audio player supports Audio/Video Remote Control Profile (AVRCP). (Refer to the instructions of your audio player.) Disconnect and connect the Bluetooth player again.

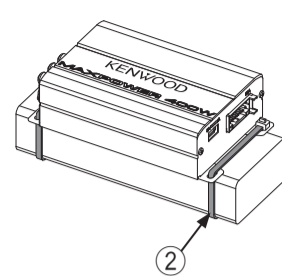
Installation, Connection and Setting

■ Installing the unit

Example A: using the screws

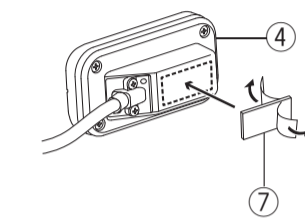


Example B: using the wire bands

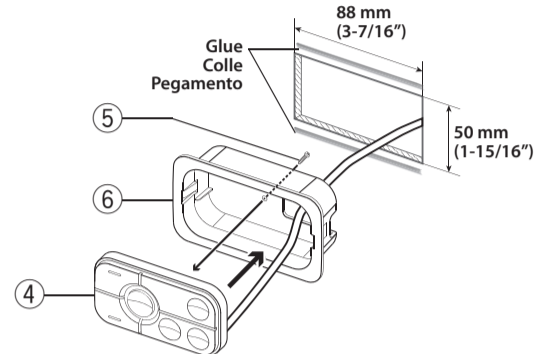


■ Installing the remote control unit

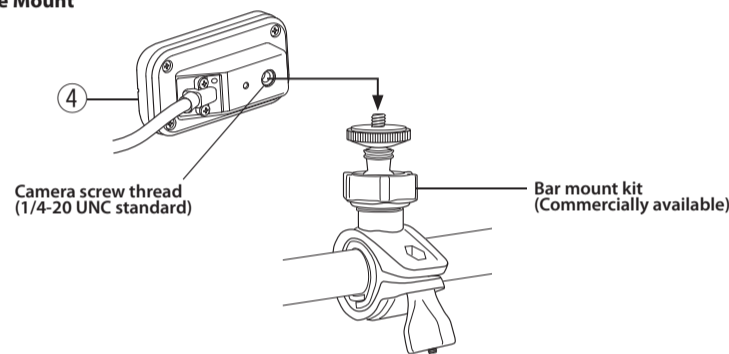
Example A: Surface Mount



Example B: Flush Mount

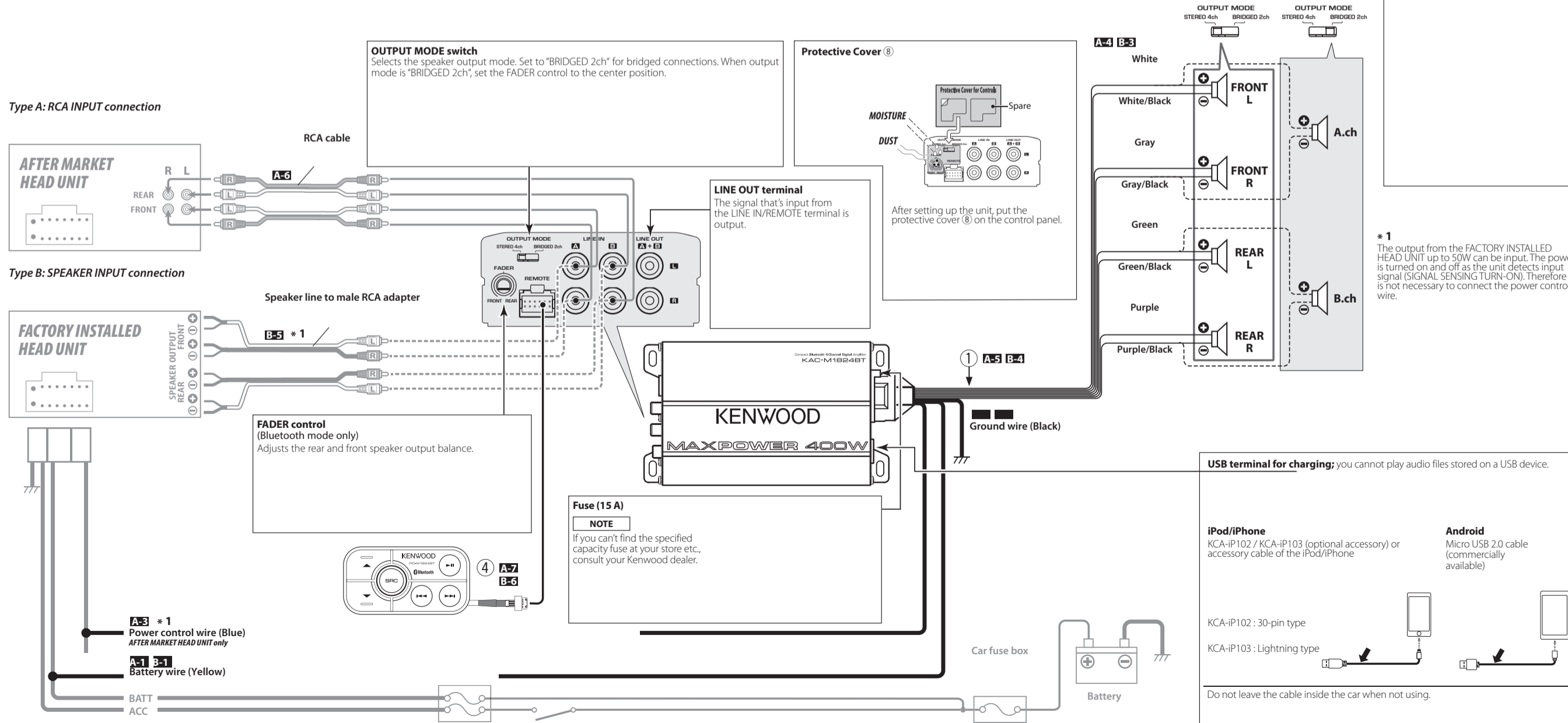


Example C: Handle Mount



■ Connection

⚠ WARNING Remove the ignition key and disconnect the negative (-) terminal of the battery to prevent short circuits.



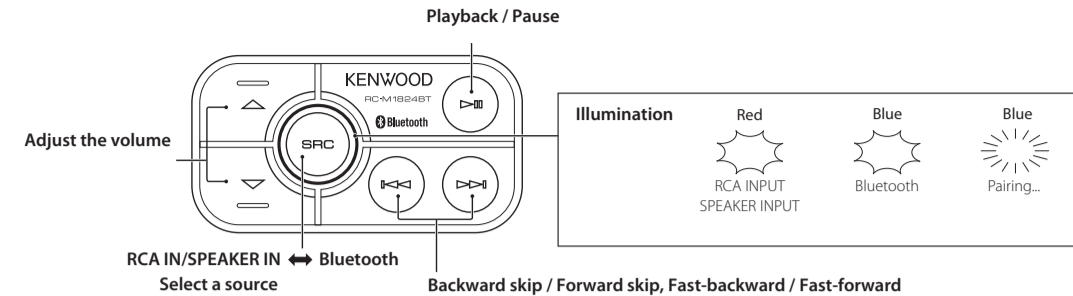
⚠ CAUTION

- 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 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 the unit on rear tray or near the 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.

■ Installation procedure

- Read the instruction manual well to select the proper connection and setting.
- Remove the ignition key and disconnect the negative (-) terminal of the battery to prevent short circuits.
 - There are two options:
* Refer to "Connection" as below.
Type A: RCA INPUT connection
A-1 Connect the battery wire.
A-2 Connect the ground wire to chassis ground of vehicle.
A-3 Connect the power control wire.
A-4 Connect the speakers.
A-5 Connect the DC cable into the connector at KAC-M1824BT.
A-6 Connect the RCA cable.
A-7 Connect the remote control unit.
Type B: SPEAKER INPUT connection
B-1 Connect the battery wire.
B-2 Connect the ground wire to chassis ground of vehicle.
B-3 Connect the speakers.
B-4 Connect the DC cable into the connector at KAC-M1824BT.
B-5 Connect the wire from the FACTORY INSTALLED HEAD UNIT.
B-6 Connect the remote control unit.
 - Attach the unit.
 - Connect the negative (-) terminal of the battery.

Bluetooth function



- Supported Bluetooth profiles**
- Advanced Audio Distribution Profile (A2DP)
 - Audio/Video Remote Control Profile (AVRCP)
- Supported Bluetooth codecs**
- Advanced Audio Coding (AAC)
 - aptX Codec (aptX)

NOTE

- Depending on the Bluetooth version of the device, some Bluetooth devices may not be able to connect to this unit.
- This unit may not work with some Bluetooth devices.
- Signal conditions vary, depending on the surroundings.

■ Pair a Bluetooth device

- When connecting a Bluetooth device to the unit for the first time, perform pairing between the unit and the device. Refer also to the manual supplied with your Bluetooth device.
- Press SRC to enter Bluetooth mode.
Illumination blinks in blue slowly and start pairing. [RC-M1824BT] will appear on the Bluetooth device.
 - Press and hold II
Illumination will light up in blue when the Bluetooth connection is established.
To cancel the paired device and enter searching mode again, press and hold II.
Up to three devices can be registered (paired) in total.
Once the pairing is completed, the Bluetooth device will remain registered in the unit. Next time you connect the Bluetooth device, pairing request is automatically activated. (illumination blinks rapidly → lights up)

■ Start listening

- Confirm the unit in Bluetooth mode. (Illumination lights up in blue.)
- Operate the Bluetooth audio player to start playback.

To	On the remote control (Bluetooth mode only)
Playback / Pause	Press II
Backward skip / Forward skip	Press < > / > >
Fast-backward / Fast-forward	Press and hold < > / > >
Adjust the volume	Press ▲ or ▼

■ To adjust the brightness of the illumination

Press and hold SRC to change the setting.
Dims the button illumination. ↔ Cancels.

* 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.

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⚠ 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.