

# USER MANUAL

## PCBLK2.0

2.0 FARAD POWER CAPACITOR



### WARNING!

REFER TO THIS INSTALLATION MANUAL FOR CORRECT PROCEDURES WHEN MAKING CONNECTIONS, AND CHARGING AND DISCHARGING THE CAPACITOR. NEVER EXPOSE THE CAPACITOR TO VOLTAGES HIGHER THAN SPECIFIED!

FAILURE TO FOLLOW THESE PROCEDURES MAY RESULT IN SERIOUS INJURY.



Planet Audio



Thank you for choosing our product!

Please read the instructions carefully so you will know how to operate your product properly.

If there are any technical questions, please contact:

Customer care: (805) 751-4854 & Live chat

Online support: [www.planetaudio.com/support](http://www.planetaudio.com/support)

## **IMPORTANT**

Please enter below the Serial No. which is located on the exterior of the product. Retain this information for future reference.

Model No. \_\_\_\_\_

Serial No. \_\_\_\_\_

Date of Purchase \_\_\_\_\_

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## Introduction

This capacitor stores up power from your battery. Thus, it supplements your car's charging system when your audio amplifier places a high current demand upon it (for example, when the music you are playing contains a loud, transient, deep bass signal).

This product can discharge extremely rapidly on demand (e.g. from your amplifier's short bursts) to deliver the current your car battery cannot produce. Thus, this enhances overall bass response of your car audio system.

In addition, this product can filter out audio noise caused by the AC voltage which is induced in the amplifier's power supply. It is recommended to use a minimum of one microfarad (1F) for each 1000 watts of amplifier power (you can never have too much capacitance for any audio system).

This product also features a digital voltage display.

## Package Contents

- 1 x Power capacitor
- 1 x Charging/Discharging resistor (1 watt / 51  $\Omega$ )
- 1 x Hex wrench
- 3 x Power connection terminals
- Stand mount (4x brackets, 8 x screws)
- User manual and warranty card

## Features

This product features the following:

- Voltage meter with 3-digit red LED display
- Voltage measurement accurate to +/- 0.1VDC
- Automatic sleep status when volume is low or there is no voltage variation present
- Audible warning tones for the following detected conditions: 1) reverse polarity connection, 2) voltage overload, and 3) low battery voltage.

## Important

**Read and understand all instructions before you use your product. If you do not follow the instructions in this manual, we are not responsible for injury or damage resulting from improper handling. This will also void the warranty.**

### Important safety precautions

- **SHOCK HAZARD! Do not open the case of this product.** There are dangerous voltage present within the product. There are no user-serviceable parts inside the product.
- **WARNING! This product may explode and cause serious injury or death if abused or connected improperly.** Refer to this manual for correct procedures when making connections, and for charging and discharging the product. Never expose the product to voltage higher than specified.

- Do not open or attempt to repair this product yourself. Dangerous high voltages are present which may result in electric shock.
- To avoid risk of electronic shock or damage to the product, do not permit the product to become damp or wet from water or other liquids. If this does occur, immediately unplug the power wires and send the product to your local dealer or service center as soon as possible.
- In the event of smoke, strange noise or odor emitted from the product or any other abnormal operational signs appearing on the product, disconnect the product from the power supply. Discontinue use and contact your dealer or our technical support. Using the product in this condition may result in permanent damage to the system.

## Installation precautions

- **WARNING: Always consult a professional installer.**
- Installation must be performed by a professional. Contact our technical support for any installation questions.
- Always wire the product to the power source (battery) through a fuse to prevent a short circuit and fire.
- Before installation, disconnect the negative terminal of the vehicle battery to prevent damage to the product, fire, and/or possible injury.
- Never operate the product when it is not mounted. Make sure the product is securely mounted and all the cables are securely connected to prevent damage, especially in an accident.
- Observe the safety and operating instructions of the devices which are connected to the product.
- **Do not** use any aggressive cleaning agents. Clean the product with a dry, fiber-free cloth.

## Care of the environment

Please inform yourself about the local separate collection system for electrical and electronic products. Do not throw away the product with the normal household waste at the end of its life, but hand it in at an official collection point for recycling. By doing this, you help to preserve the environment.

## Mounting

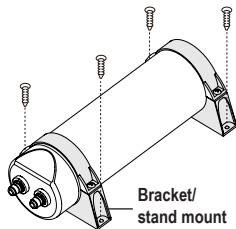


See the section “Installation precautions” on page 3.

Use only installation parts provided with the product. Using other mounting methods may void the warranty.

Before you drill or cut any holes, investigate your vehicle's layout very carefully. Take special care when you work near the gas tank, fuel lines, hydraulic lines and electrical wiring.

1. Assemble the stand mount on the capacitor using the four supplied brackets and screws.
2. Find a suitable location, and install the capacitor as close as possible to your amplifier. The ideal location is one which allows for short wiring runs, but keeps the capacitor somewhat isolated from any stray heat generated by the amplifier.
3. Fix the stand mount using the four supplied screws.



## Warning: Before power cable connection

This capacitor must be charged before connecting the power cable to the POSITIVE (+) terminal on the capacitor. Failure to charge the capacitor will result in a large spark generated from the rapid inflow of current which can be very dangerous.

To charge the capacitor, see the section “Charging the capacitor” on page 6.

## Electrical connection

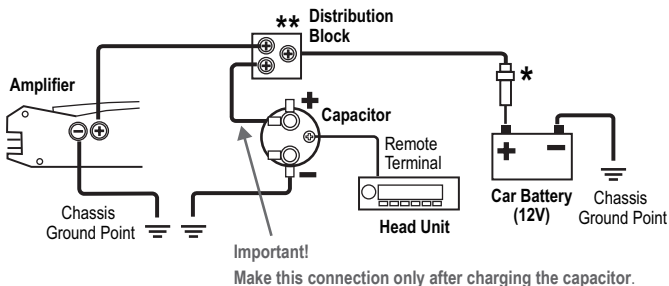


For safety, disconnect the negative terminal of the vehicle battery prior to wiring. Make sure wires are not squeezed or damaged by sharp edges. Securely connect all the cables and properly insulate bare wires.

Make sure the ground connection is tight, and secured on the ground point. Scrape away any paint, rust or dirt from the ground point to provide a clean contact.

Make all wiring connections as shown in the illustration below **EXCEPT** the power cable from the positive battery terminal to the positive capacitor terminal.

Make the POSITIVE (+) terminal connection only after charging the capacitor (see the section "Charging the capacitor" on page 6).



## Notes

- \* Make sure an appropriate fuse (not included) is in the main power cable which connects to the positive battery terminal. The rating of the fuse is determined by the maximum current capacity of the electrical system.
- \*\* It is recommended to use a high performance distribution block (not included) to create splice connection.
- Use cables of the same or heavier gauge than those which your amplifier uses for connection.

## Voltage display

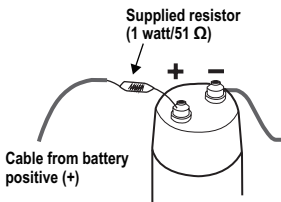
Connect the Remote Turn-on terminal on the capacitor to your head unit's remote terminal or a 12V switched power source. This can automatically turn on or off the voltage display with the operation of the head unit or switched power source.

## Charging the capacitor

### WARNING!

You must charge the capacitor **before** connecting the power cable to the positive capacitor terminal. This can prevent a large spark generated from the rapid inflow of current, and eliminate the possibility of damaging the capacitor, battery and other audio devices.

1. Make all connections except for the POSITIVE (+) terminal connection to the capacitor (see the section "Electrical connection" on page 5).
2. As illustrated, connect one end of the supplied resistor to the power cable from the positive battery terminal, and the other end to the POSITIVE (+) terminal on the capacitor.



**Caution!** During charging, the resistor will become hot. This is normal. Exercise caution for the hot resistor.

- When the capacitor is connected to power source, blue LED is illuminated.
  - During charging, the voltage shown in the 3-digit display will rise rapidly, then slowly as it approaches the voltage of your car battery. When fully charged, the displayed voltage will stop rising to show the voltage of your car battery. Charging generally takes 5 - 60 seconds.
3. After charging is complete, remove the resistor from the power cable and immediately connect the power cable to the POSITIVE (+) terminal on the capacitor.

The installation and charging process is now complete. You can begin using your audio system.

Put the resistor in a safe storage location for future use when you need to discharge the capacitor.

## Discharging the capacitor

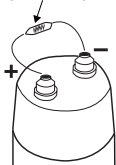
Discharge the capacitor before you store the capacitor.

### WARNING!

Never remove the capacitor without discharging the stored power. This can cause a dangerous electrical shock even after disconnection.

1. Disconnect the cables from the capacitor in the following order:
  - a. Positive cable from the POSITIVE (+)
  - b. Ground cable from the NEGATIVE (-)
  - c. Remote Turn-On cable
2. As illustrated, connect one end of the supplied resistor to the POSITIVE (+) terminal, and the other end to the NEGATIVE (-) terminal. The capacitor will be discharged in about 30 seconds.

Supplied resistor  
(1 watt/51  $\Omega$ )



**Caution!** During discharging, the resistor will become hot. This is normal. Exercise caution for the hot resistor.

## Specifications

Rated voltage .....	12VDC
Maximum voltage .....	16VDC
ESR (Equivalent series resistance) .....	<0.004 $\Omega$
Capacitance tolerance .....	$\pm 10\%$
Capacitance (Microfarads) .....	2,000,000 $\mu\text{F}$ (2 Farad)
Unit dimensions ( $\varnothing$ x L) .....	2.95" x 10.43" (75 x 265 mm)
Unit weight .....	2.51 lbs (1.14 kg)

## Troubleshooting

If you have problems using this product, check the following points before you request service. If you still have a problem, contact our technical support.

Problem	Solution
Blue LED not turned on	Make sure the POSITIVE (+) terminal on the capacitor is properly and securely connected to the battery power. Blue LED will turn on when the capacitor is connected to the battery.
Voltage display not turned on	Make sure the Remote Turn-On terminal on the capacitor is properly and securely connected to your head unit's remote terminal or 12V switched power source. The voltage display will automatically turn on each time you turn on the head unit or switched power source.
Capacitor not fully charged	When fully charged, the displayed voltage will stop rising to show the voltage of your car battery. To check with accuracy on full charge, measure the voltage of your car battery using a voltmeter.
Warning sound heard (Capacitor not working)	One of the followings occurs: reverse polarity connection, voltage overload (above 17 VDC), or low battery voltage (below 10 VDC).



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**[www.planetaudio.com](http://www.planetaudio.com)**

### **TELEPHONE**

805-751-4854 Customer Service

### **TECHNICAL SUPPORT**

[www.planetaudio.com/support](http://www.planetaudio.com/support)



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