



## USER MANUAL

### CAP18

18 FARAD | SUPER HYBRID  
POWER CAPACITOR



### CAP8

8 FARAD | SUPER HYBRID  
POWER CAPACITOR





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) 751-4853 & Live chat

Online support: [www.bossaudio.com/support](http://www.bossaudio.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 power capacitor is an energy storage device. It is designed to supplement your car's charging system when your audio amplifier places a high current demand upon it. This occurs, 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. A 1 Farad (1F) capacitor works up to about 500 watts of amplifier power.

This product also features a digital voltage display.

## Package contents

When first unpacking this product, please check that the package contains each of the items listed below. If something is missing, contact the store where you purchased the product.

- 1 x Power capacitor
- 1 x Resistor (1 watt / 51 Ω)
- 2 x Power terminal connection sets
- 2 x Hex wrenches
- 4 x Mounting screws
- User manual and warranty card

## Features

This product features the following:

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

## 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 any resulting personal injury or damage to property. This will also void the warranty.**

### Important safety precautions

- 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.
- Servicing must only be carried out by a technician. Contact our technical support for any service question.

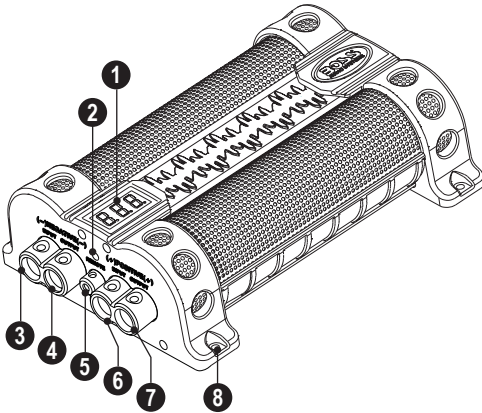
### Installation precautions

- **WARNING: Always consult a professional installer.**
- Installation must be performed by a professional. Contact our technical support for any installation question.
- 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.

### Environmental care

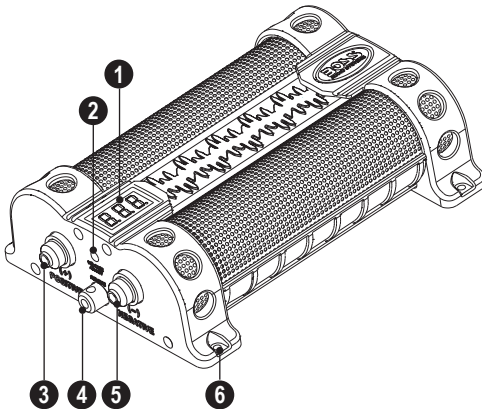
Do not throw away the product with normal household waste at the end of its life. Follow your local laws when disposing of electronic products. By doing this, you help preserve the environment.

## Product overview for CAP18



1. 3-digit voltage display
2. Voltage Adjust (for only manufacture use in voltage calibration)
3. **Negative Input Terminal (-)**  
Connect to the chassis ground point (vehicle's metal frame).
4. **Negative Output Terminal (-)**  
Connect to the negative/ground wire of your amplifier.
5. **Remote Terminal**  
Connect to the remote wire of your amplifier for power on/off control.
6. **Positive Input Terminal (+)**  
Connect to the positive power wire of your car battery.
7. **Positive Output Terminal (+)**  
Connect to the positive power wire of your amplifier.
8. Screw mounting hole

## Product overview for CAP8



1. 3-digit voltage display
2. Voltage Adjust (for only manufacture use in voltage calibration)
3. **Positive Terminal (+)**  
Connect to the positive power wire of your car battery and amplifier.
4. **Remote Terminal**  
Connect to the remote wire of your amplifier for power on/off control.
5. **Negative Terminal (-)**  
Connect to the chassis ground point (vehicle's metal frame).
6. Screw mounting hole

## Mounting

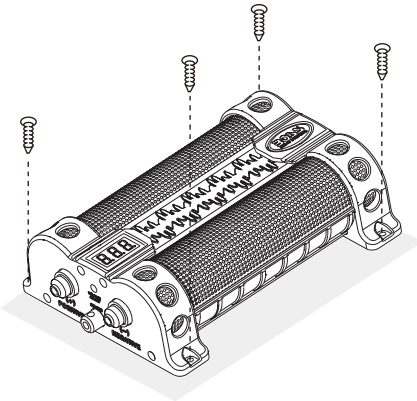


See the section "Installation precautions" on page 2.

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

Mount the capacitor in the location away from moisture, and where connection cables are not pinched or damaged by sharp objects.

1. Find a suitable location in the vehicle to mount the capacitor.
2. Secure the capacitor with four supplied screws as follows:
  - a. Use the four screw holes on the capacitor to mark the mounting holes on the mounting surface.
  - b. Drill the mounting holes on the mounting surface.
  - c. Place the capacitor in position, and attach the capacitor to the mounting surface using four screws.



## Important note about charging the capacitor

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 7.



## Electrical connection for CAP8



See the section "Installation precautions" on page 2.

For safety, disconnect the negative terminal of the vehicle battery prior to wiring.

For short-circuit protection, make sure a fuse (not included) is installed in line with the positive battery terminal.

Make sure the ground wire is fastened on the ground point. Scrape away any paint, rust or dirt from the ground point to provide a clean contact.

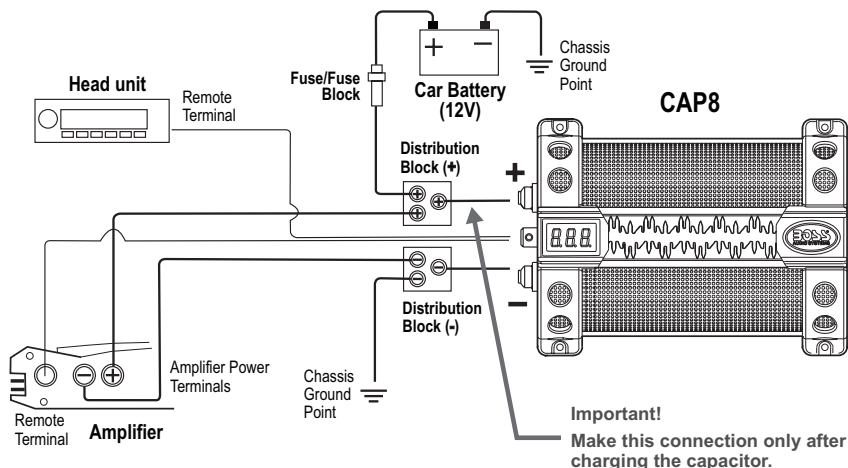
Use wires of proper gauge for connection. Consult an expert if in doubt about wire gauge selection.

Make sure wires are not squeezed or damaged by sharp edges. Securely connect all the cables and properly insulate bare wires.

Reconnect the negative terminal of the vehicle battery only when all wire connections are correctly and securely made.

Make all wiring connections as shown in the illustration below, but **do not connect 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 7.





## Charging the capacitor

### IMPORTANT!

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 for CAP18" on page 5, or "Electrical connection for CAP8" on page 6.

Make sure the **NEGATIVE (-)** and **REMOTE** terminal connections are properly and securely made.

2. 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.

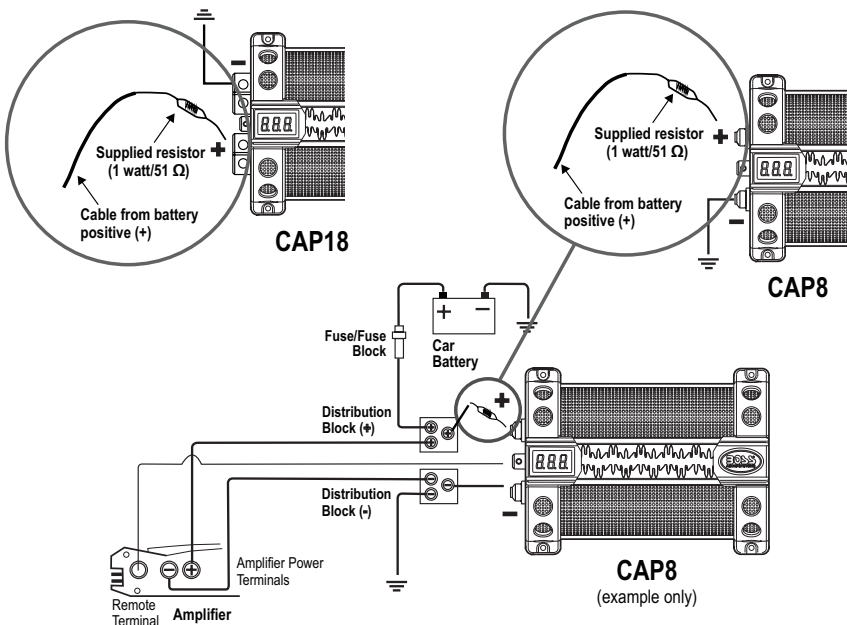
**Caution!** During charging, the resistor will become hot. This is normal. Exercise caution for the hot resistor.

- The capacitor will start charging automatically. Charging generally takes 5 - 60 seconds.
- 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.
- To check with accuracy whether the capacitor is fully charged, measure the voltage of your car battery using a voltmeter. If fully charged, the displayed voltage will match the car battery voltage.

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 are 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.



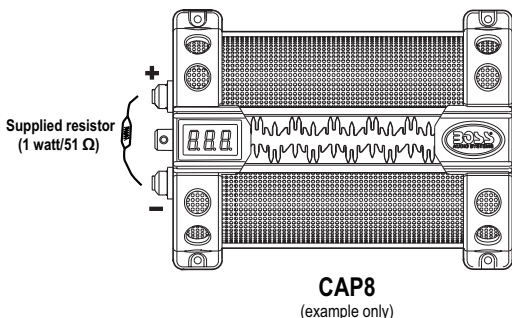
## Discharging the capacitor

Discharge the capacitor before you store the capacitor.

### IMPORTANT!

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 terminal)
  - b. Ground cable (from the NEGATIVE terminal)
  - c. Remote cable (from the REMOTE terminal)
2. Connect one end of the supplied resistor to the **POSITIVE (+)** terminal, and the other end to the **NEGATIVE (-)** terminal. After 1-5 minutes, the capacitor will be discharged (no sound can be heard from the buzzer).  
**Caution!** During discharging, the resistor will become hot. This is normal. Exercise caution for the hot resistor.



## 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
Voltage display not turned on	This is normal. The capacitor is in sleep status when volume is low or there is no voltage variation present.
	The amplifier is not turned on. Turn on the amplifier.
	Check that the <b>REMOTE</b> terminal on the capacitor is properly and securely connected to your amplifier.
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	One of the followings occurs: reverse polarity connection, low battery voltage, or over battery voltage.

## Specifications

Power supply .....	12VDC
Working voltage .....	16VDC
Surge voltage .....	24VDC
ESR (Equivalent series resistance) .....	0.004 $\Omega$
Capacitance tolerance .....	$\pm 10\%$
Capacitance (Microfarads) .....	<b>CAP18:</b> 18,000,000 $\mu\text{F}$ (18 Farad) <b>CAP8:</b> 8,000,000 $\mu\text{F}$ (8 Farad)
Weight .....	<b>CAP18:</b> 7.1 lbs / 3.2 kg <b>CAP8:</b> 4.6 lbs / 2.1 kg
Dimensions (W x D x H) .....	<b>CAP18:</b> 10.9" x 7.8" x 3.3" (27.5 x 19.7 x 8 cm) <b>CAP8:</b> 9.7" x 6.4" x 2.4" (24.5 x 16.2 x 6.2 cm)

*Specifications are subject to change without notice.*



BOSS Audio Systems  
3451 Lunar Court • Oxnard, CA 93030  
**[www.bosssaudio.com](http://www.bosssaudio.com)**  
**805-751-4853 Customer Service**  
Tech Support: [www.bosssaudio.com/support](http://www.bosssaudio.com/support)

