

**PROFESSIONAL BATTERY BOOSTERS  
OWNER'S MANUAL**

**Booster 12V  
Booster 12/24V**



**PLEASE SAVE THIS OWNER’S MANUAL AND READ BEFORE EACH USE.**

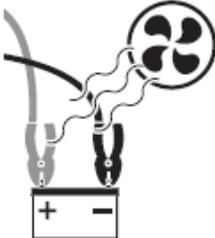
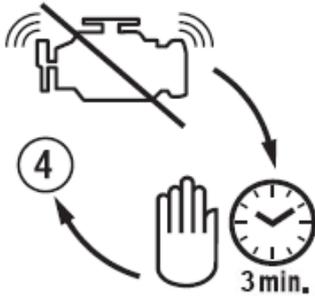
This manual will explain how to use the unit safely and effectively. Please read and follow these instructions and precautions carefully.

**IMPORTANT: READ AND SAVE THIS SAFETY AND INSTRUCTION MANUAL**

**SAVE THESE INSTRUCTIONS** – Charge the booster’s internal battery immediately after purchase, after each use and as often as possible. It is highly recommended to leave the booster permanently connected to the automatic charger. This manual will show you how to use your booster safely and effectively. Please read, understand and follow these instructions and precautions carefully, as this manual contains important safety and operating instructions.

The signal word indicates the level of the hazard in a situation.

- /!\ DANGER** Indicates an imminently hazardous situation, which, if not avoided, will result in death or serious injury to the operator or bystanders.
- /!\ WARNING** Indicates a potentially hazardous situation, which, if not avoided, could result in death or serious injury to the operator or bystanders.
- /!\ CAUTION** Indicates a potentially hazardous situation, which, if not avoided, could result in moderate or minor injury to the operator or bystanders.
- IMPORTANT** Indicates a potentially hazardous situation, which, if not avoided, could result in damage to the equipment, vehicle or property.

  Contact the equipment supplier for details on how to properly dispose of this product within a specific country, per WEEE requirements.	 Read manual before using.	 Do not expose to rain.	 Caution, risk of electric shock.	 Fuse – see Section 8 for fuse replacement instructions.
	 For indoor use only.	 Class II Charger	 Warning	
 12V 2A Charging Port – see section 6.1.7	 Use in a well-ventilated area.	 Keep away from sparks and flame – battery could emit explosive gases.	 If auto engine does not start, stop and wait for at least 1 minute, then go back to step 4 – see Section 7.1.4.	

## 1. IMPORTANT SAFETY INSTRUCTIONS – SAVE THESE INSTRUCTIONS

This manual contains important safety and operating instructions.



### RISK OF ELECTRIC SHOCK OR FIRE.

- 1.1. Read the entire manual before using this product. Failure to do so could result in serious injury or death.
- 1.2. Keep out of reach of children.
- 1.3. This booster is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning the use of the booster by a person responsible for their safety.
- 1.4. Do not put fingers or hands into the product.
- 1.5. Do not expose the booster to rain or snow.
- 1.6. Use only recommended attachments. Use of an attachment not recommended or sold by the manufacturer may result in a risk of fire, electric shock or injury to persons or damage to property.
- 1.7. To reduce the risk of damage to the electric plug or cord, pull by the plug rather than the cord when disconnecting the booster.
- 1.8. To reduce the risk of electric shock, unplug the booster charger from the outlet before attempting any maintenance or cleaning. Simply turning off the controls will not reduce this risk.
- 1.9. Do not operate the booster or charger with a damaged output cable; have the damaged part replaced immediately by a qualified service person.
- 1.10. Do not operate the booster if it has received a sharp blow, been dropped or otherwise damaged in any way; take it to a qualified service person.
- 1.11. Do not disassemble the booster or charger; take it to a qualified service person when service or repair is required. Incorrect reassembly may result in a risk of fire or electric shock.



### RISK OF EXPLOSIVE GASES. PREVENT FLAMES AND SPARKS.

#### PROVIDE ADEQUATE VENTILATION DURING CHARGING.

**1.12.** WORKING IN THE VICINITY OF A LEAD-ACID BATTERY IS DANGEROUS. BATTERIES GENERATE EXPLOSIVE GASES DURING NORMAL OPERATION. FOR THIS REASON, IT IS IMPORTANT THAT YOU FOLLOW THESE INSTRUCTIONS EACH TIME YOU USE THE BOOSTER.

- 1.13. The booster and lead-acid battery of the vehicle must be placed in a well-ventilated area.
- 1.14. To reduce the risk of a battery explosion, follow these instructions and those published by the battery manufacturer and the manufacturer of any equipment you intend to use in the vicinity of the battery. Review the cautionary markings on these products and on the engine.
- 1.15. This booster employs parts, such as switches and circuit breakers, that tend to produce arcs and sparks. If used in a garage, locate this booster 46 cm or more above floor level.



Do not use with non-rechargeable batteries. Use only with lead-acid type rechargeable batteries.

## 2. PERSONAL PRECAUTIONS



**RISK OF EXPLOSIVE GASES. A SPARK NEAR THE BATTERY MAY CAUSE A BATTERY EXPLOSION. TO REDUCE THE RISK OF A SPARK NEAR THE BATTERY:**

- 2.1. NEVER smoke or allow a spark or flame in the vicinity of a battery or engine.
- 2.2. Do not permit the internal battery of the booster to freeze. Never charge a frozen battery.
- 2.3. When charging the internal battery, work in a well ventilated area and do not restrict the ventilation in any way.
- 2.4. Be sure the area around the battery is well ventilated while the booster is being used.
- 2.5. Remove personal metal items such as rings, bracelets, necklaces and watches when working with a lead-acid battery. A lead-acid battery can produce a short-circuit current high enough to weld a ring or the like to metal, causing a severe burn.
- 2.6. Be extra cautious, to reduce the risk of dropping a metal tool onto the battery. It might spark or short-circuit the battery or other electrical part that may cause an explosion.
- 2.7. To prevent sparking, NEVER allow clamps to touch together or contact the same piece of metal.
- 2.8. Consider having someone close enough by to come to your aid when you work near a lead-acid battery.
- 2.9. Have plenty of fresh water and soap nearby in case battery acid contacts your skin, clothing or eyes.
- 2.6. Wear complete eye and body protection, including safety goggles and protective clothing. Avoid touching your eyes while working near the battery.
- 2.7. If battery acid contacts your skin or clothing, immediately wash the area with soap and water. If acid enters your eye, immediately flood the eye with cold running water for at least 10 minutes and get medical attention right away.
- 2.8. If battery acid is accidentally swallowed, drink milk, the whites of eggs or water. DO NOT induce vomiting. Seek medical attention immediately.
- 2.9. This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved
- 2.10. Children shall not play with the appliance.

## 3. PREPARING TO USE THE BOOSTER



**RISK OF CONTACT WITH BATTERY ACID. BATTERY ACID IS A HIGHLY CORROSIVE SULFURIC ACID.**

- 3.1. Clean the battery terminals before using the booster. During cleaning, keep airborne corrosion from coming into contact with your eyes, nose and mouth. Use baking soda and water to neutralize the battery acid and help eliminate airborne corrosion. Do not touch your eyes, nose or mouth.
- 3.2. Read, understand and follow all instructions for the booster, battery, vehicle and any equipment used near the battery and the booster.
- 3.3. Determine the voltage of the battery by referring to the vehicle owner's manual and make sure that the output voltage of the booster is correct.
- 3.4. Make sure that the booster cable clamps make tight connections.

#### 4. FOLLOW THESE STEPS WHEN CONNECTION TO A BATTERY



**A SPARK NEAR THE BATTERY MAY CAUSE A BATTERY EXPLOSION. TO REDUCE THE RISK OF A SPARK NEAR THE BATTERY:**

- 4.1. Attach the output cables to the battery and chassis as indicated below. Never allow the output clamps to touch each other.
- 4.2. Position the DC cables to reduce the risk of damage by the hood, door and moving or hot engine parts. NOTE: If it is necessary to close the hood during the jump starting process, ensure that the hood does not touch the metal part of the battery clamps or cut the insulation of the cables.
- 4.3. Stay clear of fan blades, belts, pulleys and other parts that can cause injury.
- 4.4. Determine which post of the battery is grounded (connected) to the chassis. If the negative post is grounded to the chassis (as in most vehicles), see step 4.5. If the positive post is grounded to the chassis, see step 4.7.
- 4.5. For a negative-grounded vehicle, connect first the POSITIVE (RED) clamp from the booster to the POSITIVE (POS, P, +) ungrounded post of the battery. Then connect the NEGATIVE (BLACK) clamp to the vehicle chassis or engine block away from the battery. Do not connect the clamp to the carburetor, fuel lines or sheet-metal body parts. Connect to a heavy gauge metal part of the frame or engine block.
- 4.6. When disconnecting the booster, first remove the clamp from the vehicle chassis, then remove the clamp from the battery terminal, in that order.
- 4.7. In the rare event that the vehicle is positive-grounded, connect the NEGATIVE (BLACK) clamp from the booster to the NEGATIVE (NEG, N, -) ungrounded post of the battery. Connect the POSITIVE (RED) clamp to the vehicle chassis or engine block away from the battery. Do not connect the clamp to the carburetor, fuel lines or sheet-metal body parts. Connect to a heavy gauge metal part of the frame or engine block.

#### 5. FEATURES



1. Heavy-duty battery clamps
2. Display button
3. Digital display
4. USB button
5. USB Port
6. Booster ON/OFF switch – 0 or 12V position for Model 12V / 0 or 12V or 24V position for Model 12/24V
7. 12V DC socket
8. 12V DC charge port
9. 12V-2A charger
10. Power LED
11. Charging status LED
12. Bad Battery LED

## 6. CHARGING THE INTERNAL BATTERY OF THE BOOSTER

IMPORTANT: CHARGE IMMEDIATELY AFTER PURCHASE, AFTER EACH USE AND AS OFTEN AS POSSIBLE. THE BOOSTER CAN BE LEFT PERMANENTLY CONNECTED TO THE AUTOMATIC CHARGER. NEVER WAIT UNTIL THE BOOSTER IS COMPLETELY DISCHARGED BEFORE RECHARGING.

### 6.1.1 Digital Display on the Booster

When not connected to a vehicle battery and when the booster clamps are stored on their plastic storage holders:

A-With the rotary switch in the OFF position: the digital display can be used to indicate the percent of charge of the voltage of the booster's internal battery.

To check the internal battery's charge status, press the display button on the front of the booster. The digital display will show the battery's percent (%) of charge. A fully charged battery will read 100%. Charge the internal battery if the display shows it is under 100%.

B- With the rotary switch in the ON position: Select the voltage 12V (or 24V), the digital display can be used to check the voltage level of the booster's internal battery. The display will indicate the battery's voltage.

NOTE: The internal battery's percent of charge or Voltage level is most accurate when the booster has been disconnected from all devices and charging sources for a few hours.

When connected to a vehicle battery AND the booster switch is in the OFF position:

C- The digital display can be used to indicate the vehicle's battery voltage. The display will indicate the battery's voltage.

### 6.1.2 LED Indicators on the Charger

-  POWER (green) LED lit: The charger is connected to AC power.
-  CHARGING (yellow/orange) LED pulsing slowly: The charger is charging the battery inside the booster or is in maintaining mode.
-  CHARGING (yellow/orange) LED flashing rapidly: The charger has detected a problem with the battery. See troubleshooting section for more information.
-  BAD BATTERY (red) LED lit: The charger has detected a problem with the battery. See troubleshooting section for more information.

### 6.1.3 Charging the internal battery using the included wall charger.

#### IMPORTANT

Only use the charger that was included with the booster to charge the internal battery of the booster. Using any other charger or using the included charger for any other purpose could result in personal injury or property damage.



#### RISK OF ELECTRIC SHOCK OR FIRE.

**6.1.4** This battery charger is for use on a nominal 230V 50 Hz circuit. The plug must be plugged into an outlet that is properly installed in accordance with all local codes and ordinances. The plug pins must fit the receptacle (outlet).

### 6.1.5

#### /!\ DANGER

Never alter the AC cord or plug provided – if it does not fit the outlet, have a proper outlet installed by a qualified electrician. An improper connection can result in a risk of an electric shock or electrocution.

**6.1.6** An extension cord should not be used unless absolutely necessary. Use of an improper extension cord could result in a risk of fire and electric shock. If an extension cord must be used, make sure:

- That the pins on the plug of the extension cord are the same number, size and shape as those of the plug on the charger.
- That the extension cord is properly wired and in good electrical condition.
- That the wire size is large enough for the AC ampere rating of the charger.

Recommended minimum cross-section size for extension cord:

- 30.5 meters long or less – use a 1.0 mm<sup>2</sup> extension cord.
- Over 30.5 meters long – use a 1.25 mm<sup>2</sup> extension cord.

### 6.1.7 Charging

Make sure that both the charger and booster are placed on a dry, nonflammable surface. To charge the booster, connect the charger included into the charging port that is located at the front of booster.

Confirm the AC outlet voltage matches the input voltage of the charger.

1. Connect the charger into the electrical wall outlet and confirm that the Green POWER LED on the charger turns on.
2. Check that the yellow CHARGING LED in charger starts flashing slowly to indicate that charge process has started. To know status of the charge, check the percentage shown at the display in booster.
3. When the display in booster shows 100 (%), the internal battery is fully charged and the booster is ready to use. Complete charging may take up to 24 hours.  
**NOTE:** The yellow CHARGING LED on the charge will remain flashing after display shows 100%, because charger enters automatically into maintaining mode.
4. After charge is complete and the booster is ready for use, disconnect the charger from the AC outlet, and then disconnect the charger from booster.

## 7. OPERATING INSTRUCTIONS

### 7.1. Jump starting a vehicle engine



**A SPARK NEAR THE BATTERY MAY CAUSE A BATTERY EXPLOSION. TO REDUCE THE RISK OF A SPARK NEAR THE BATTERY:**

1. Turn the vehicle's ignition OFF before making cable connections.
2. Connect the booster to the vehicle's battery as described in section 4.  
If you have connected the clamps backward, an audio alarm will sound. DO NOT turn the booster ON/OFF switch to the ON position. This could cause serious damage to the booster or the vehicle. Reverse the connections and the audio alarm will stop.
3. Turn the booster ON/OFF switch to the ON position.
4. Crank the engine. If the engine does not start within 8 seconds, stop cranking and wait at least 3 minutes before attempting to start the vehicle again. This permits the booster battery to cool down.
5. After the engine starts, immediately turn the booster ON/OFF switch to the OFF position.
6. Disconnect the booster from the vehicle, as described in section 4.6.
7. Return the battery clamps to the clamp holders. Recharge the booster as soon as possible after use.

### 7.2. When using the other features of the booster, always observe the following steps:

1. Ensure the battery clamps are securely clipped on the clamp holders.
2. Charge the booster as soon as possible after using the feature.

### 7.3. Powering a 12V DC device:

The booster is a power source for all 12V DC accessories that are equipped with a 12V accessory plug. Make sure the device to be powered is OFF before inserting the 12V DC accessory plug into the 12V DC accessory outlet.

1. Open the protective cover of the DC power outlet on the front of the booster.
2. Plug the device into the outlet and turn the device on (if required).
3. If the device draws more than 15A or has a short circuit, the circuit breaker of the booster will trip and disconnect the power to the device. Disconnect the device and the breaker will automatically reset. The DC power outlet is wired directly to the internal battery. Extended operation of a 12V device may result in excessive battery drain. Recharge immediately after unplugging the device.

### 7.4 Powering a USB Device

The booster is a power source for all accessories that are equipped with a USB plug. The USB port provides up to 2.1A at 5V DC.

1. Ensure the battery clamps are securely clipped on the storage holders.
2. Press the USB button on the front of the unit.
3. Plug the device into the USB port on the front of the unit.
4. Turn the USB device on.
5. Reverse these steps when finished using the USB port.

NOTES: The USB port will shut-off automatically after 60 minutes, if no device is connected. Extended operation of a USB device may result in excessive battery drain. Recharge the booster immediately after unplugging the device.

## 8. FUSE REPLACEMENT FOR THE BOOSTER

The booster is equipped with an inline fuse, to protect the battery from overload.

### Fuse Specification:

Booster 12V:

Fast blow, DC automotive type, rated 32V, 300A (Bussman/Audio Ohm Srl)

Booster 12/24V:

Fast blow, DC automotive type, rated 32V, 500A (Bussman/Audio Ohm Srl)

**/!\ WARNING**

Keep away from sparks and flame – battery could emit explosive gases.



1. Allow the fuse to cool down completely (approximately 5 minutes).
2. Make sure the switch is in the OFF position and the unit is unplugged from the external charger.
3. Remove the positive (RED) clamp from the side of the unit and locate the fuse holder.
4. Open the fuse holder by removing its cover.
5. Using a wrench, remove the first nut and bolt securing the fuse on the positive cable. Repeat the same steps for the second nut and bolt. Remove the open fuse and replace it with a new one of the same type and rating.
6. Tighten the nuts and bolts to secure the fuse, and then replace the cover of the fuse holder.
7. The unit is now ready to use.

## 9. MAINTENANCE INSTRUCTIONS

- 9.1. Cleaning and user maintenance should not be done by children without supervision.
- 9.2. Unplug the charger from the booster before attempting any maintenance or cleaning.
- 9.3. Use a dry cloth to wipe all battery corrosion and other dirt or oil from the battery clamps, cords and the booster case. Do not use cleaning fluids.
- 9.4. Ensure that all of the booster components are in place and in good working condition.
- 9.5. All other servicing should be performed by qualified service personnel.
- 9.6. If the supply cord is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons, in order to avoid a hazard.

## 10. MOVING AND STORAGE INSTRUCTIONS

- 10.1. Store the booster in an upright position, inside, in a cool, dry place.
- 10.2. Always make sure the booster is fully charged before storing. When not in use, it is highly recommended to leave the booster on charge.

**IMPORTANT**

Do not use and/or store the booster in or on any area or surface where damage could occur if the internal battery should unexpectedly leak acid.

## 11. TROUBLESHOOTING

PROBLEM	POSSIBLE CAUSE	REASON/SOLUTION
The booster won't jump start my car.	Clamps are not making a good connection to the battery.  The booster battery is not charged.  The vehicle's battery is defective.  The fuse has blown.	Check for poor connection to battery and frame. Make sure connection points are clean. Rock clamps back and forth for a better connection.  Check the battery charge status by pressing the button on the front of the booster. See LED Indicators section of this manual.  Have the battery checked.  Replace the power fuse (See section 8).
The booster won't power my 12V device.	The 12V device is not turned on.  The booster battery is not charged.  The 12V device draws more than 15A or has a short circuit.	Turn on the 12V device.  Check the battery charge status by pressing the button on the front of the booster. See LED Indicators section of this manual.  Disconnect the 12V device. The internal breaker will automatically reset after a minute or two. Try the 12V device again. If it happens again, replace the 12V device.
The battery in the booster won't hold a charge.	The battery is bad (will not accept a charge).	Have the battery checked.
The green POWER LED does not light when charger is properly connected.	AC outlet is dead.  Poor electrical connection.	Check for open fuse or circuit breaker at the supplying AC outlet.  Check power cord and extension cord for a loose fitting plug.
The red BAD BATTERY LED is lit and yellow/orange CHARGING LED is flashing rapidly.	Desulfation was unsuccessful.	The battery may be defective. Make sure there are no loads on the battery. If there are, remove them. If there are none, have the battery checked or replaced.  The battery may be defective. Have battery checked or replaced.

## 12. Specifications

	Booster 12V	Booster 12/24V
Internal Battery Type	12V AGM lead-acid	12V AGM lead-acid
Output Voltage	12V DC/6 cells	12V DC – 24V DC/6 cells
Rated Capacity	22 Ah	2 x 22 Ah
DC Power Outlet (Max Continuous Load)	12V DC/15A	12V DC/15A
Product Weight	10,82 kg	17,74 kg
Charger	Input: 230V AC 50Hz, 0.5A Output: 12V-2A	Input: 230V AC 50Hz, 0.5A Output: 12V-2A

## 13. Warranty

The Booster is guaranteed two years against all defects in material and workmanship.  
With the exception of any signs of abuse, misuse or modification.  
Boosters must be returned complete (including charger) to your supplier.