

# Instruction Manual



The installation of this product must be carried out by a qualified professional

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## Introduction

Read this manual carefully before making any connections or using the product. In case of doubts, contact our technical support: **(18) 3266-4050** ou **[www.taramps.com.br](http://www.taramps.com.br)**.

The **HV 20 ~ 40 CHIPEO** is a car audio amplifier with flexible power output ranging from 20.000 Watts RMS to 40.000 Watts RMS, depending on the number of batteries used and the impedance. (See table on page 09).

Powered by batteries in series, it uses this energy source to ensure outstanding performance in its category. Ideal for medium and large car audio systems, it stands out in sub-bass and midrange frequencies, delivering excellent tone and sound quality.

# Safety Requirements

To ensure proper use, please read through this manual before using the amplifier. It is specially important that you know the **CAUTIONS** contained here.

- The installation of this amplifier must be done by a qualified professional.
- Wear safety glasses, insulated gloves and correct tools for installing this product.
- This amplifier must be installed in a firm place with at least 1" space around the heatsink for proper heat spreading.
- Never install the amplifier in places exposed to dust, humidity and water. Pay attention to install it far from fuel tank, fuel lines, heat sources and other parts of vehicle.
- Check carefully the polarity of power supply wiring (battery's positive and negative terminals) loudspeakers and the minimum speaker impedance;
- It is compulsory to install fuses to protect against overloading. The fuse or circuit breaker must be installed as close as possible to the battery and sized up according to the amplifier;
- Avoid running wires over or through sharp edges. Use rubber or plastic grommets to protect any wires routed through car's body.
- Before make any connection to amplifier, disconnect the battery negative terminal.
- When in use, the external surface of may amplifier becomes hot. Avoid touching the heatsink area and keep childrens far from the amplifier.
- This amplifier may produce high sound pressure levels. Avoid continuous exposure to levels over 85dB to prevent permanent hearing loss.
- Output connections for speakers may have voltage levels when the amplifier is operating. Make sure that the amplifier is turned OFF before proceed any connection or disconnection in this terminals.
- If you want to dispose this amplifier, don't throw it on domestic waste. It must be collected by an used electronic product disposal service for proper recycling.

## Safety

As you read this manual, pay attention to the safety symbols.

### CAUTION

This symbol with "**CAUTION**" is intended to alert the user to the presence of important instructions. Failure to heed the instructions will result in risk of injury to user or product damage.



Taramps reserves the right to modify the contents of this document at any time without prior notice and does not have the obligation to apply the changes in units which were previously produced.

# Installation procedures

- 1 - Strictly follow all the procedures described below;
- 2 - If the appropriate procedures are not followed by qualified professionals, Taramps assumes no responsibility.
- 3 - Completely isolate the entire connection system from the vehicle chassis;
- 4 - Accessories and peripherals (such as Head Units, equalizers, crossovers, or other equipment requiring 12 volts power) must be disconnected from the vehicle's original connections. These devices will be powered by the auxiliary battery bank, designed according to the needs of the system;
- 5 - The safety circuit breakers must be installed in visible and easily accessible location for their operation as well as for system maintenance;
- 6 - The energy accumulators (12.6VDC batteries) must be isolated after installation to avoid the risk of accidents, such as electric shocks, electric arcs, and vehicle damage (fire);
- 7 - All connections must be made with all safety circuit breakers turned off.

## ACTIVATION

- 1 - Check if the system is not short-circuited or in contact with the vehicle chassis;
- 2 - Check if the negative junctions of the battery banks are connected in common;
- 3 - Connect the respective speakers to their designated output terminals;
- 4 - Check if your batteries are properly charged;
- 5 - Keep the volume control (level) turned down;
- 6 - Active the remote to turn on the preamp;
- 7 - After verifying the preamp, switch off the remote, engage the safety circuit breakers, and then switch the remote back on;
- 8 - Adjust the volume and enjoy all the benefits of your new product;

## CARE FOR YOUR SOUND SYSTEM

- 1 - After finishing the use of the sound system, turn off all circuit breakers;
- 2 - Never move the vehicle with the safety circuit breakers engaged;
- 3 - Do not turn on the battery charger while the sound system is operating;
- 4 - Do not add any power source or charger other than the original charger;
- 5 - Do not start the vehicle with the sound system operating;
- 6 - Starting (ignition) is only allowed once all safety circuit breakers are turned off;

## NOTE:

Failure to comply with any of the above mentioned procedures fully exempts Taramps from any responsibility regarding the associated risks. Therefore, to ensure you can enjoy this high technology, high quality, and high power product, make sure to follow each safety instructions step by step. Non compliance will also result in the voiding of the warranty terms.

For further clarification, contact the company's technical department to resolve any question that may arise.

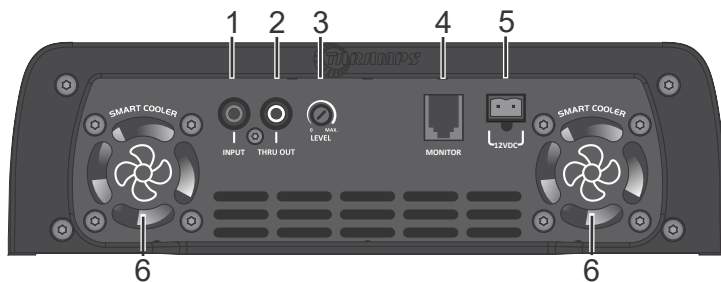
All installations involving electrical and electronic equipment, in addition to requiring care and attention, must be carried out by qualified and trained professionals.



**CAUTION**

"Value your life and avoid accidents, as depending on the severity, an electric shock can be fatal".

## Functions and inputs



**1 - INPUT:** Connect to the RCA output of the Head Unit using high quality shielded cables to avoid noise pickup.

**2 - THRU OUT:** This output can send the same input signal (INPUT) to another amplifier.

**3 - LEVEL:** Adjusts the amplifier's input sensitivity to achieve better performance and volume.

**4 - MONITOR:** Connection for accessories designed to monitor the product, where all indicator LED information, such as distortion (CLIP) and protection activation (PROT), will be displayed simultaneously. (Accessory not included with the product).

**5 - POSITIVE POWER TERMINAL OF THE PREAMP 12VDC/1.5A:** This power supply must be provided through a dedicated battery and with the aid of a relay, activated by the remote of the Head Unit (see diagram on page 06).

**6 - SMART COOLER:** See next page.

## Indicator LEDs and protection system



**GREEN LED (HV):** Indicates the presence of high voltage at the power supply terminals.

**BLUE LED (ON):** Indicates product turned on.

**YELLOW LED (CLIPPING):** Clipping and protection indicator. (See protections below).

**RED LED (PROTECTION):** Protection indicator. (See protections below).

**SHORT CIRCUIT:** Red LED ON.

**LOW VOLTAGE (HV):** Blue LED alternating with yellow.

**HIGH VOLTAGE (HV):** Blue LED alternating with Red.

**Power supply failure (HV):** Blue LED flashing.

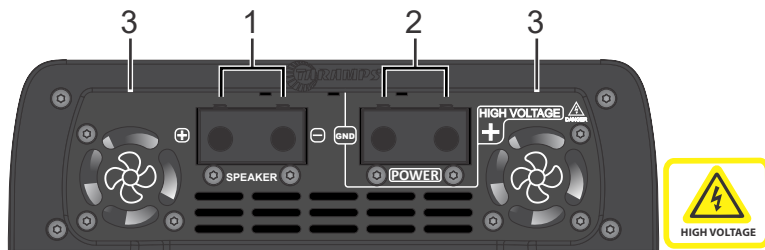
**TEMPERATURE:** Yellow LED flashing.

### 12V VOLTAGE

**LOW VOLTAGE 12V:** If the voltage is lower than 9VDC, the red LED flashes twice.

**HIGH VOLTAGE 12V:** If the voltage exceeds 16VDC, the red LED flashes three times.

# Output and power connector



**1 - SPEAKER +:** Positive output connector for speakers.

**SPEAKER -:** Negative output connector for speakers.



## CAUTION

Due to the presence of voltage at the output terminals when the product is on, avoid contact with them. Risk of electric shock.

**2 - POWER +:** Positive power input for high voltage.

**POWER -:** Negative power input for high voltage.



## CAUTION

Before making any connections to the power supply terminals, make sure the vehicle battery negative (-) terminal disconnected.

**3 - COOLERS:** It has four internal cooling fans. For proper operation, the product must be installed in a dry, ventilated location with a minimum clearance of 1" (25mm) on each side. The normal operating temperature of this product is 65°.



## CAUTION

The fans and ventilation openings are responsible for cooling the amplifier while it is in use, therefore, they must not be obstructed.



**Attention:** This is a device that will be powered by high voltage. As with any electronic equipment, maximum care must be taken to avoid any incident during installation.

We recommend the use of standard compliant tools with insulated cables..

The cables and circuit breakers must be of good quality, with their connections well insulated and protected, following the specified gauges

The use of undersized wiring compromises performance and may cause excessive heating and serious fire risk.

The recommended wire gauges are described in the diagram on page 06.

**21+**

The purchase, sale, or installation of this product by individuals under 21 years of age is strictly prohibited.



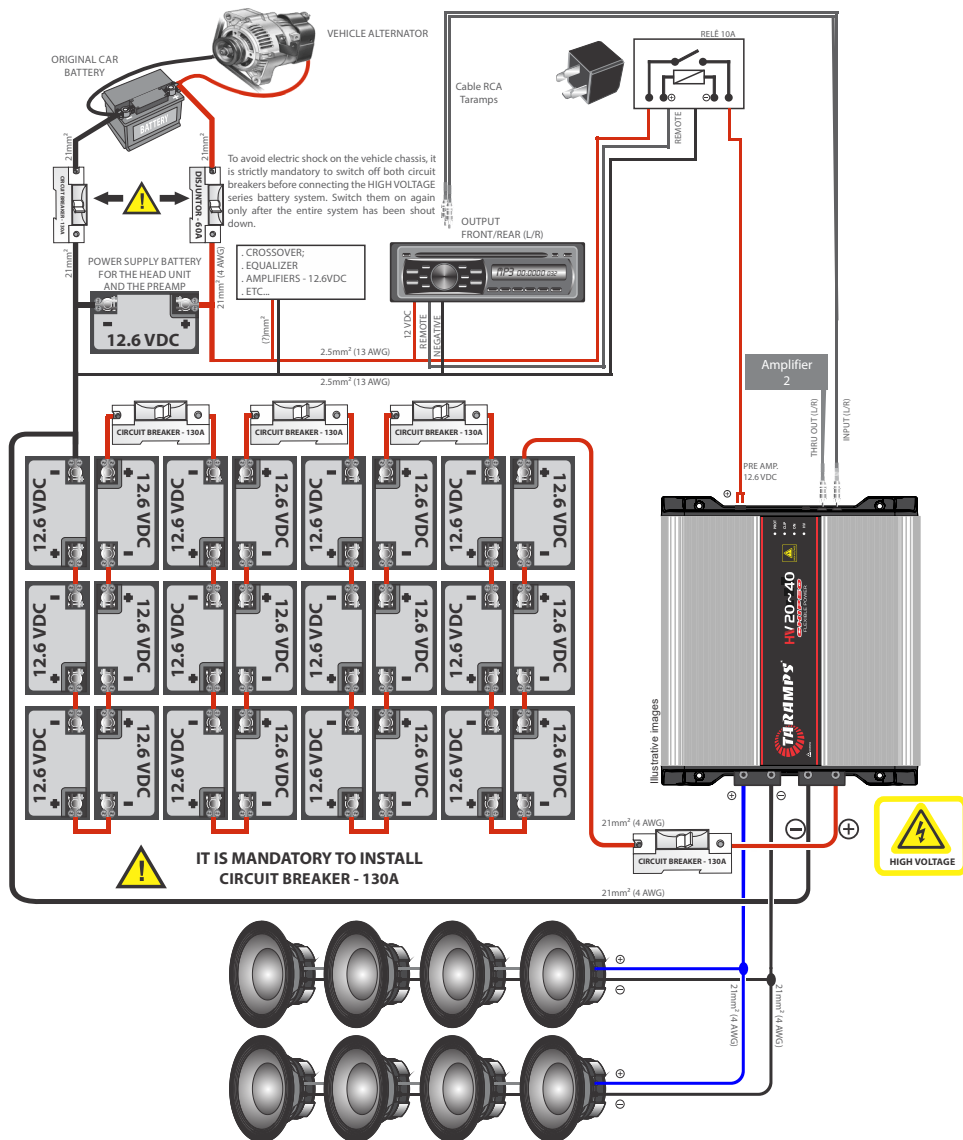
The installation must be carried out only by a qualified professional.

This product will be powered by **High voltage, danger of death.** ☠

As with any electronic equipment, maximum care must be taken to avoid any accidents.

## Connections

It is necessary to install one or more batteries to operate at 12,6 volts, in order to supply power to the preamp and other equipment that require the same voltage, such as Head Units, crossovers, equalizers, amplifiers, etc., as shown in the diagram.



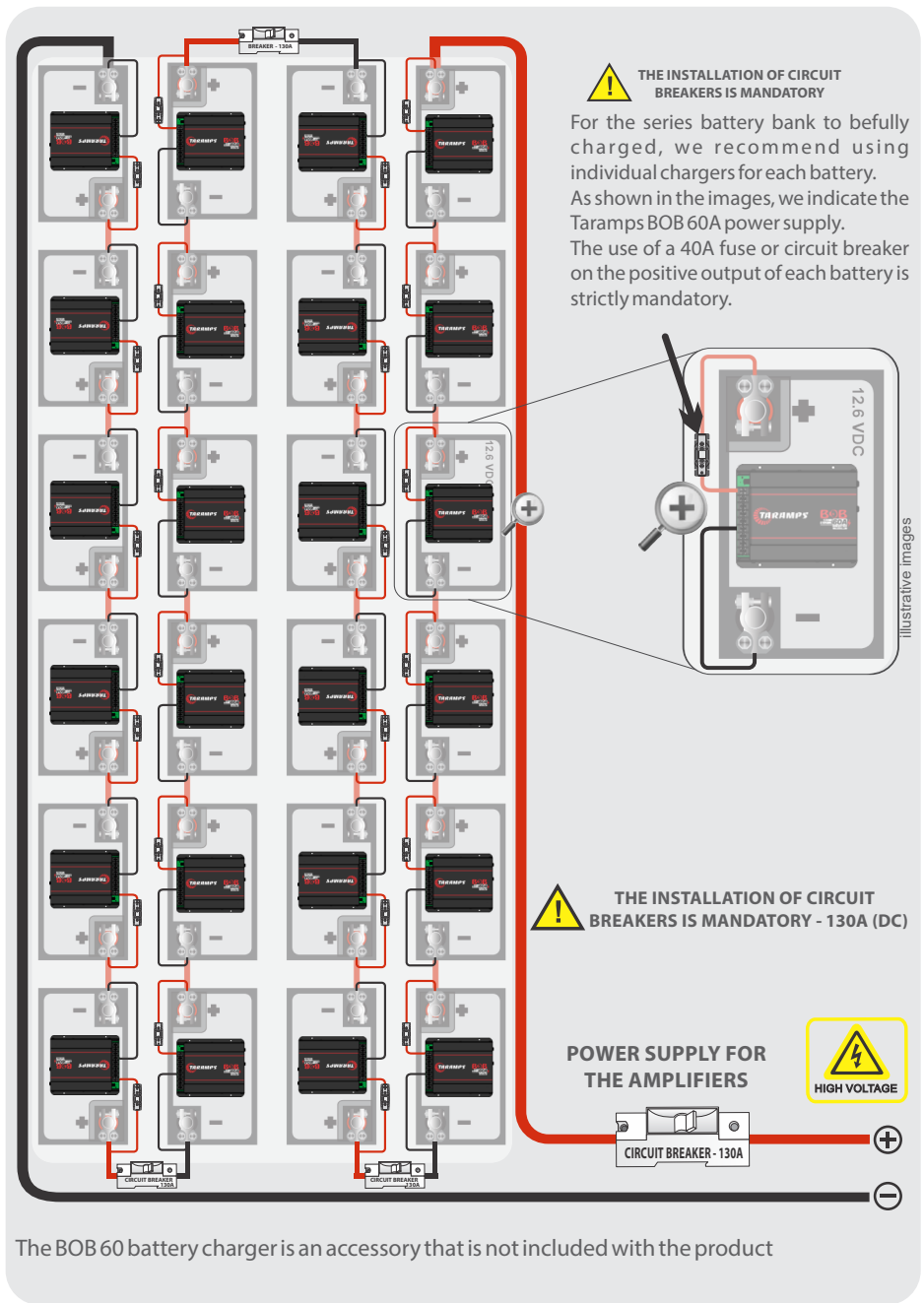
\*Output cable gauge 21mm<sup>2</sup>, calculated assuming a maximum length of 2m.



**⚠ Caution!** Do not use the vehicle chassis as a grounding point for this system. It is strictly forbidden to drive the vehicle with sound system in operation. To achieve maximum power and performance, use 13 batteries of at least 60 amperes each to reach 20.000W, or 17 batteries of at least 90A each to reach 40.000W.

# Charging battery bank in series

Example of series connection - 24 batteries of 12.6VDC

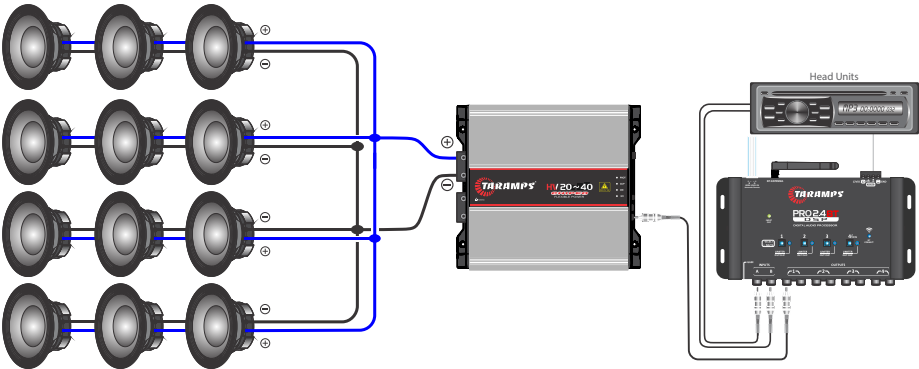


The BOB 60 battery charger is an accessory that is not included with the product

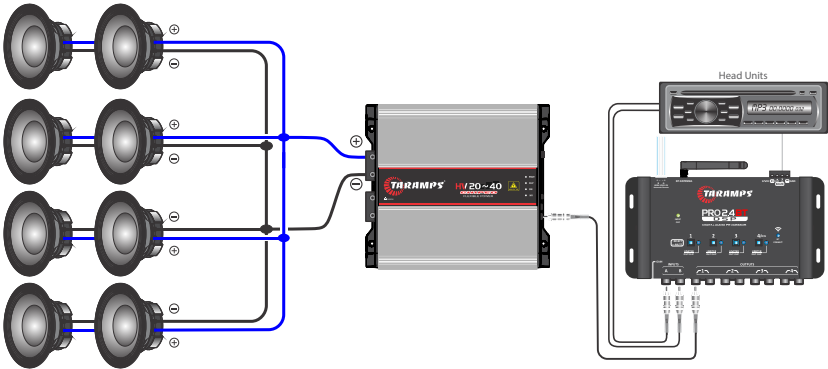
# Connection examples

Illustrative images

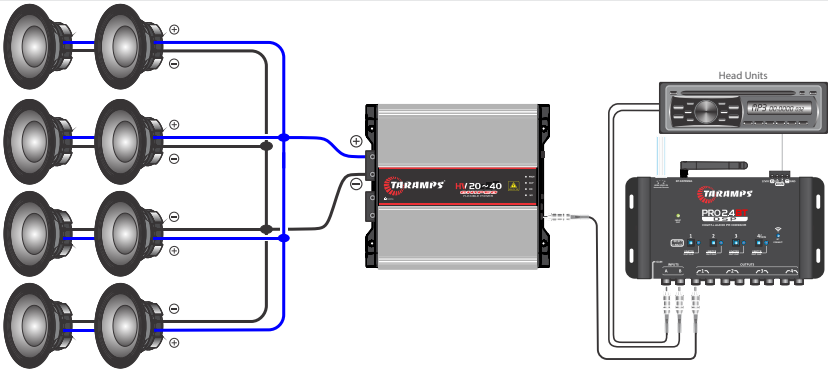
## Connections of 12 speakers 8 OHMS



## Connections of 8 speakers 4 OHMS



## Connections of 8 speakers 8 OHMS



# Technical specifications

|                                                |                                                                                                      |
|------------------------------------------------|------------------------------------------------------------------------------------------------------|
| Number of channels                             | 01                                                                                                   |
| Operating voltage                              | 90 ~ 302VDC - 7 ~ 24 Batteries                                                                       |
| Maximum power @ 164VDC - 0.5 Ohm:              | 20,000W RMS                                                                                          |
| Maximum power @ 227VDC - 0.5 Ohm:              | 40,000W RMS                                                                                          |
| Input sensitivity:                             | 310mV (Gain 100%) @ 1 Ohm                                                                            |
| Total harmonic distortion (THD):               | 0.3%                                                                                                 |
| Signal/Noite Ratio(SNR):                       | >95dB                                                                                                |
| Frequency response:                            | 10Hz ~ 8KHz (-1dB)                                                                                   |
| Input impedance:                               | 15K Ohms                                                                                             |
| Protection system*:                            | Output short circuit, output short circuit to GND, low voltage, high voltage, and thermal protection |
| Minimum supply voltage:                        | 10VDC                                                                                                |
| Maximum supply voltage:                        | 340VDC                                                                                               |
| Idle consumption:                              | 52mA                                                                                                 |
| Maximum musical consumption @ 0.5 Ohm:         | 67A (20,000W RMS) / 91,5A (40,000W RMS)                                                              |
| Maximum sinusoidal consumpt. @ 0.5 Ohm (60Hz): | 134A (20,000W RMS) / 183A (40,000W RMS)                                                              |
| Dimension(L x A x P):                          | 239 x 73 x 269mm (9.41" x 2.87" x 10.59")                                                            |
| Weight:                                        | 3.16Kg (6.95lb)                                                                                      |

## Battery x power table - Flexible Power

| Number of batteries<br>12.6Volts | 13       | 14         | 15         | 16       | 17         | 18         | 19         | 20       | 21         | 22       | 23         | 24       |
|----------------------------------|----------|------------|------------|----------|------------|------------|------------|----------|------------|----------|------------|----------|
| Maximum power*<br>0,5 ohm        | 20<br>KW | 27.5<br>KW | 31.5<br>KW | 36<br>KW | 40.5<br>KW | X          | X          | X        | X          | X        | X          | X        |
| Maximum power<br>1 ohm           | 10<br>KW | 13.7<br>KW | 15.8<br>KW | 18<br>KW | 20<br>KW   | 23<br>KW   | 25<br>KW   | 28<br>KW | 31<br>KW   | 34<br>KW | 37<br>KW   | 40<br>KW |
| Maximum power<br>2 ohms          | 5<br>KW  | 6.8<br>KW  | 8<br>KW    | 9<br>KW  | 10<br>KW   | 11.5<br>KW | 12.7<br>KW | 14<br>KW | 15.5<br>KW | 17<br>KW | 18.5<br>KW | 20<br>KW |

For further information, please contact our technical support: 18-3266-4050.

\*NOTA: When the product reaches a temperature of 90°C (194°F), the thermal protection is activated, the audio is interrupted, and the yellow LED will flash. Normal operation will only resume once the temperature drops below 70°(158°F). After a thermal shutdown, we recommend keeping the product turned on so that the cooling time is reduced due to the ventilacion provided by the coolers.

## Warranty terms

TARAMPS, located at Júlio Budisk highway, SN, KM 30 – Alfredo Marcondes, SP - Brazil, ZIP CODE 19180-120, warrants this product against any defects on terms of project, making, assembling, and/or with solidarity, due to project vices which cause it improper or inadequate to its original use within 12 months from the date of purchase. In case of defect during the warranty period, TARAMPS responsibility is limited to the repairing or replacement of the device of its own making.

### **This warranty excludes:**

- Damaged products by improper installation, water infiltration, violation by unauthorized individuals;
- Tamper or torn warranty seal;
- Cases in which the product is not used in adequate conditions;
- Defects caused by accessories, modifications or features attached to the product;
- The product with damage from falling, bumps or nature related problems (flooding, lightning, etc);
- Warranty card is not properly filled or torn;
- Costs involving uninstallation, reinstallation of equipment as well the shipment to the factory;
- Damage of any kind, due to problems in the product, as well as losses caused by discontinued use of the product.

## Technical assistance

For international support, check on our website:

[www.taramps.com.br/en/rede-de-assistencias-tecnicas](http://www.taramps.com.br/en/rede-de-assistencias-tecnicas) or contact direct the factory support:

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E-mail: [service@taramps.com.br](mailto:service@taramps.com.br)



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