



# BRAVO

## ***FULL***

MODEL:

# 12000

DIGITAL AMPLIFIER

## USER MANUAL

MANUAL DO USUÁRIO • MANUAL DE USUARIO • MANUALE UTENTE



# Introduction

Thank you so much for choosing a **STETSOM** product! This amplifier was developed with cutting-edge technology for those who want high quality sound from audio systems with one or more speakers or even an audio wall system.

## Before installing

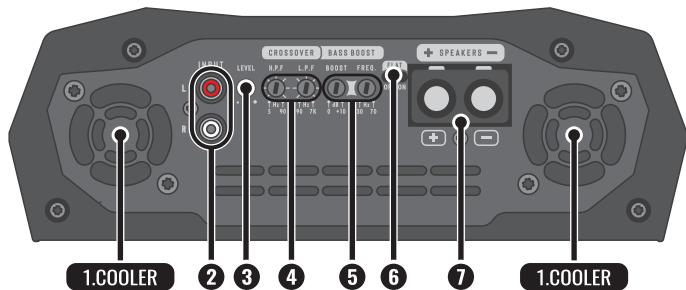
*Please read this manual carefully.*

- All connections must be made with the product turned **OFF**.
- A fuse must be installed between the amplifier and the battery is required to protect against overcurrent. The fuse needs to be installed as close to the battery as possible. Choose an appropriate fuse for the amplifier based on its consumption.
- Use the wire recommended in this manual to keep cables from overheating cables and to obtain maximum power.
- Keep the cables as short as possible to increase sound fidelity and avoid potential power losses.
- Route the installation cables as far away as possible from the original vehicle wiring to prevent interference and noise in your audio system.
- Perform the installation on a firm surface in a ventilated and dry place.
- Installation should only be done by a qualified professional.

If you have questions , contact the store where the purchase or installation was done. For more information please contact our

**Customer Service: BR +55 18 2104-9412.**

# Input, output and audio controls



**1. COOLERS:** It provides cooling of the amplifier. Install in a cool place without obstruction of air inlets and outlets.

**2. INPUT:** Input of the signal to be amplified. Connect to the radio/player through high quality shielded RCA cables to prevent unwanted noise.

**3. LEVEL:** Signal level control in the amplifier input.

## 4. CROSSOVER

- **HIGH PASS FILTER (HPF):** This variable control allows you to select the initial frequency from **5Hz to 90Hz** that will be reproduced by the amplifier.

- **LOW PASS FILTER (LPF):** This variable control allows you to select the final frequency from **90Hz to 7KHz** that will be reproduced by amplifier.

## 5. BASS BOOST

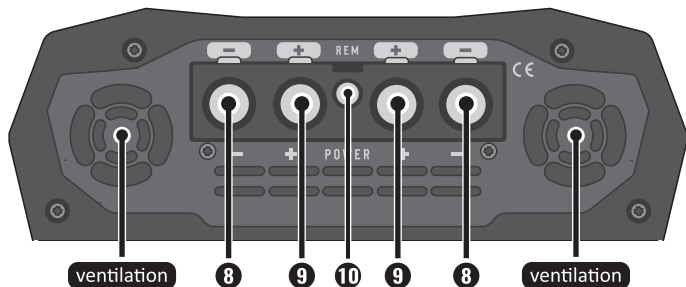
- **BOOST:** Variable control for bass boost from **0dB to + 10dB**.

- **FREQ:** Variable control for **BASS** boost action from **30Hz to 70Hz**.

**6. FLAT:** This switch allows you to turn the **FLAT** mode on or off. Settings made on the **CROSSOVER** and **BOOST** controls will be turned off when using this mode.

**7. OUTPUT CONNECTOR (SPEAKERS):** MONO output of amplified signal for speakers connection. Check the minimum impedance and polarities before performing the installation.

# Power input



**8. DOUBLE CONNECTOR  $\ominus$  (GROUND):** Make the connection with the battery ground terminal using two cables of at least **00AWG** with up to 3 meters (one for each ground input of the amplifier).

**9. DOUBLE CONNECTOR  $\oplus$  (POWER):** Make the connection with the power terminal of the battery using two cables of at least **00 AWG** (one for each power input of the amplifier). Install a **700A** fuse/circuit breaker as close as possible to the battery (recommended no more than 30 cm from the battery).



For maximum product performance, always use two cables for each power connection (power and ground). If desired, power connections support cables up to 250 MCM.

**10. REMOTE ACTIVATION (REM):** Responsible for activating the amplifier. Use the radio/player remote output for automatic activation of the amplifier when turning on the radio or use an ON/OFF switch connected to 12V for manual activation. Make the connection using a cable of at least **18 AWG**.

# Indicators LED

POWER



**POWER (blue LED):** Indicates amplifier operation when it is on.

PROT



**PROT (top red LED):** Indicates that the amplifier encountered malfunctions and entered protection mode, forcing it to shut down. Verify in the **protection table below** the possible problem and turn on the amplifier again.

CLIP



**CLIP (lower red LED):** Indicates signal distortion at the amplifier output.

## Smart protection system

When the protection system detects a failure, the amplifier will turn off and the **PROT LED** will blink. For each type of failure, the LED will flash a certain number of times indicating the cause, as shown in the table below:



blink  
1x

**Diagnostic:** Short circuit or output overload.

**Solution:** Check that the speaker cables are well insulated and that the output impedance does not exceed that supported by the amplifier.



blink  
2x

**Diagnostic:** Excessive temperature. When the amplifier reaches approximately 194°F, audio is stopped and the coolers run at maximum speed to speed up the cooling process of the internal components.

**Solution:** Check if the amplifier is in a ventilated place or if the coolers are not obstructed. Keep the amplifier turned on for a few minutes for the coolers to assist in the cooling process.



blink  
3x

**Diagnostic:** Supply voltage less than 9V.

**Solution:** Check voltage of battery or power supply.



blink  
4x

**Diagnostic:** Supply voltage greater than 16V.

**Solution:** Check voltage of battery or power supply.

# Installation

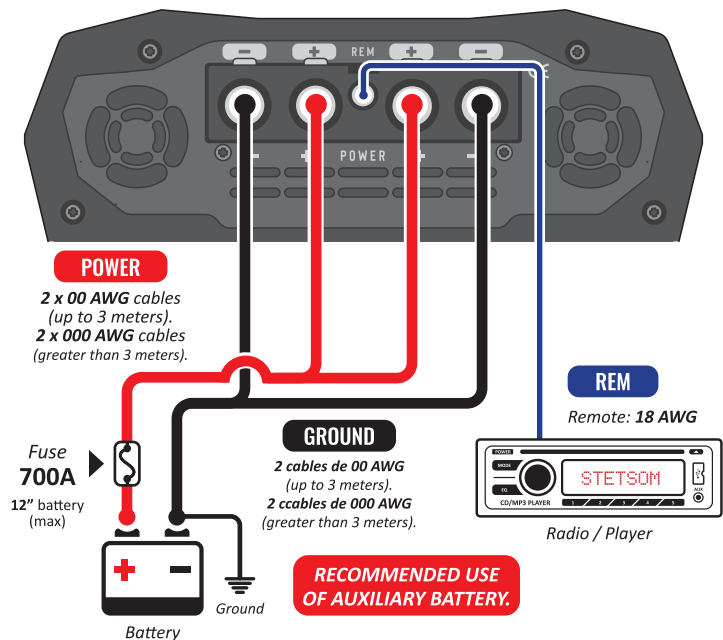
Specification of the cables for proper installation:

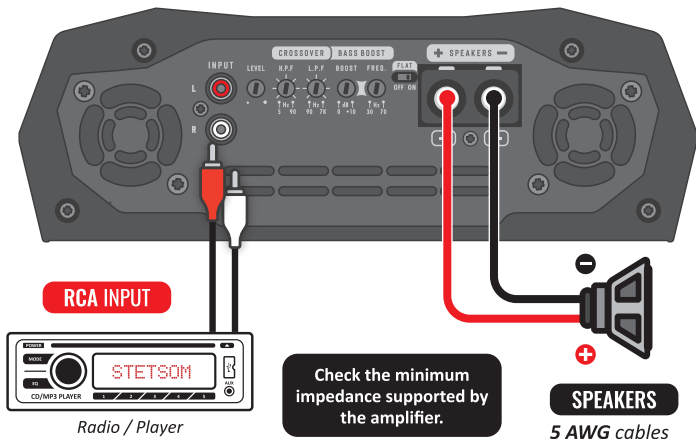
- Power connectors (power/ground) ..... **00 AWG** (up to 3 meters)  
**000 AWG** (greater than 3 meters)
- Remote connector ..... **18 AWG**
- Output signal connectors (speakers) ..... **5 AWG**
- Fuses or circuit breakers ..... **700A**

**The use of fuse or circuit breaker is mandatory to protect the system from short circuit and overload. Install them as close to the battery as possible.**



Installation should only be done by qualified professionals with the product turned **OFF**.





## Troubleshooting

### AMPLIFIER DOES NOT TURN ON:

- Verify that the cables are connected correctly. Make sure all connections have electrical and mechanical contact.
- Fuses or circuit breakers may be defective or blown. Check the condition of the circuit breakers and make sure they are compatible with the equipment consumption.
- Make sure that the battery is charged sufficiently for the product to operate.

### NO SOUND:

- The cables to the speakers or RCA plugs may not be connected incorrectly or defective.
- Make sure that the **LEVEL** control is not at a minimum.

### PROT LED FLASHING:

- Make sure that the product's air vents are not blocked and that the product is not overheating.
- Speakers or cables are shorted. Check speakers, cables and connections.

## SOUND DISTORTIONS:

• The speakers may be overloaded or defective, lower the level and then readjust the level. This setting can be adjusted as follows:

**a)** On the radio/player, play any musical signal and set the volume to 80% of the maximum (if the maximum volume of the radio /player is 45 (100%), set to 36 (80%).

**b)** On the amplifier, begin with the LEVEL control at minimum, increase gradually until the LED CLIP starts to flash. Slowly decrease the LEVEL until the led goes out completely.

## WEAK OF BASS:

• Cables of the speakers may be reversed  and  (speakers out-of-phase).

## NOISE AND FAILURE IN SOUND:

• Make sure that the installation is not close to the vehicle's original wiring as it may cause interference and noise in the audio signal.

• Create a separate power connection for the sound system. Use a fuse/circuit breaker as close to the battery as possible for protection.

• Make a good grounding for the amplifier. To do this, remove the paint from the vehicle chassis at the desired point. Attach the wire using a ground terminal. To prevent oxidation, isolate with paint.

• Do not loop the ground. Avoid using multiple grounds. If possible, use a star connection, so all the grounds run from a single point.



The data measured are based on STETSOM laboratory equipment. Test reference in frequency from 60hz to 1Khz with THD + N at  $\leq 1\%$  in impedances as indicated in each measurement. The electronic components and the manufacturing process may present manufacturing variations, thus leading to a variation in the measurements made.



*Any updates made in this manual will be available for customers to consult free of charge on the brand's site.  
It is recommended that the updated manual be consulted whenever needed.*

**Images contained in this manual are merely illustrative and may differ from the actual product.**



# Technical specifications

**BRAVO FULL 12000**

Minimum output impedance:

**1 OHM**

Number of channels:

**1**

Power output @ 14.4V:

**12800W RMS @ 1 Ohm**

**8510W RMS @ 2 Ohms**

Power output @ 12.6V:

**12000W RMS @ 1 Ohm**

**7120W RMS @ 2 Ohms**

Minimum input sensitivity:

**200mV**

Signal to noise ratio:

**>90dB**

Frequency response (-3dB)

**5Hz ~ 7KHz @ 1 Ohm**

Crossover low pass:

**90Hz ~ 7KHz**

Crossover high pass:

**5Hz ~ 90Hz**

Bass boost:

Freq: **30Hz ~ 70Hz**

Boost: **0dB ~ +10dB**

Input impedance:

**19K Ohms**

Supply voltage:

**9V ~ 16V DC**

Musical consumption:

**590A**

Bass consumption:

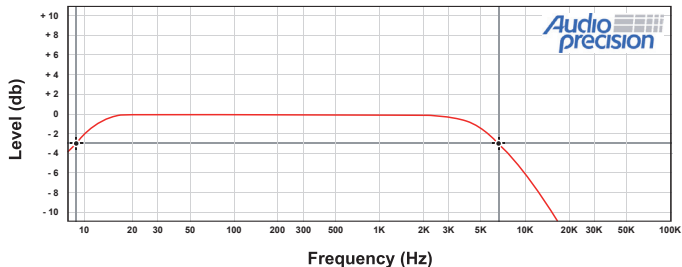
**1180A**

Dimensions (H x W x L):

**3.1" x 22.5" x 9.1"**

Weight:

**18.9 lb**



# Warranty Term

STETSOM, through its network of Authorized Technical Assistance Providers, guarantees technical assistance to the purchaser of their products. The repairs of any defects duly established as being of the manufacturer will be done without cost for replacement components or parts and repair labor. The repairs will be done by the Authorized Technical Assistance Provider specially designated by STETSOM.

CONSULT THE LIST OF AUTHORIZED TECHNICAL ASSISTANCE PROVIDERS ON OUR WEBSITE: **[www.stetsom.com.br/en/assistencias-tecnica](http://www.stetsom.com.br/en/assistencias-tecnica)**

If you do not locate technical assistance in your city, please contact us at:  
**BR +55 18 2104-9412**

## WARRANTY CONDITIONS:

Our warranty is 1 (one) year against manufacturing defects. Its validity starts on the date of the Sale to the FINAL Consumer.

To claim the benefits of this warranty, you must present one of the following documents: the Final Consumer's SALE NOTE or this completed CERTIFICATE.

## SITUATIONS THAT VOID THE WARRANTY:

1. 1 year after the issuance of the invoice of sale to the consumer or 1 year after the certificate of warranty is filled out (dated and stamped by the retailer or installer) or 1 year from date of manufacture.
2. Violation of seals, alteration or removal of the product's serial or lot number.
3. If the product suffers misuse or careless accidents involving: Water, Fire or Fall, or is installed in conditions contrary to the guidelines contained in the installation manual that accompanies the product.
4. Damages and changes in the circuit or adaptation of non-original parts.
5. If you use installation techniques contrary to those given in the manual.

## QUESTIONS AND ADVICE:

STETSOM offers Customer Services to answer questions and give advice about their products and services. Please contact us through the channels:

Phone: **BR +55 18 2104-9412** — E-mail: **[suporte@stetsom.com.br](mailto:suporte@stetsom.com.br)**

Site: **[www.stetsom.com](http://www.stetsom.com)**

# Statement of conformity



## EUROPE - Declaration of Conformity < EU-DoC >

<b>English</b>	Hereby, STETSOM INDUSTRIA ELETRÔNICA LTDA declares that this equipment type is in-compliance with Directive 2014/30/EU. The full text of the EU declaration of conformity is available at the following internet address:
<b>Portugal</b>	O(a) abaixo assinado(a) STETSOM INDUSTRIA ELETRÔNICA LTDA declara que o presente tipo de equipamento está em conformidade com a Diretiva 2014/30/UE. O texto integral da declaração de conformidade está disponível no seguinte endereço de Internet:
<b>Spain</b>	Por la presente, STETSOM INDUSTRIA ELETRÔNICA declara que el tipo de equipo es conforme con la Directiva 2014/53/UE. El texto completo de la declaración UE de conformidad está disponible en la dirección Internet siguiente:
<b>Italia</b>	Il fabbricante, STETSOM INDUSTRIA ELETRÔNICA LTDA dichiara che questo tipo di apparecchiatura è conforme alla direttiva 2014/30/UE. Il testo completo della dichiarazione di conformità UE è disponibile al seguente indirizzo Internet:

1 OHM

MODEL: **BRAVO FULL 12000 (1 $\Omega$ )**  
Voltage Supply: 9V - 16V DC  
Current Range: 3.2A - 1181A  
MADE IN BRAZIL



[www.stetsom.com.br/certifications/  
bravo-full\\_12000\\_1ohm\\_eu-doc.pdf](http://www.stetsom.com.br/certifications/bravo-full_12000_1ohm_eu-doc.pdf)

### Waste Electrical and Electronic Equipment (WEEE)

The European Union (EU) WEEE Directive (2002/96/EC) places an obligation on producers (manufacturers, distributors and/or retailers) to take-back electronic products at the end of their useful life. The WEEE Directive covers most HME products being sold into the EU as of August 13, 2005. Manufacturers, distributors and retailers are obliged to finance the costs of recovery from municipal collection points, reuse, and recycling of specified percentages per the WEEE requirements.



### Instructions for Disposal of WEEE by Users in the European Union

The symbol shown below is on the product or on its packaging which indicates that this product was put on the market after August 13, 2005 and must not be disposed of with other waste. Instead, it is the user's responsibility to dispose of the user's waste equipment by handing it over to a designated collection point for the recycling of WEEE. The separate collection and recycling of waste equipment at the time of disposal will help to conserve natural resources and ensure that it is recycled in a manner that protects human health and the environment. For more information about where you can drop off your waste equipment for recycling, please contact your local authority, your household waste disposal service or the seller from whom you purchased the product.

# Guarantee certificate

Certificado de garantia • Certificado de garantía • Certificato di garanzia

*Serie:*

*Date of purchase:*

*Month / Year of manufacture:*

*Reseller / Stamp:*



STETSOM INDUSTRIA ELETRÔNICA LTDA. - CNPJ: 61.974.911/0001-04  
RUA MARIANO ARENALES BENITO, 645 - DISTRITO INDUSTRIAL - CEP 19043-130  
PRESIDENTE PRUDENTE - SP



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