



B12ES USER MANUAL

12" (305 mm) AMPLIFIED SUBWOOFER
FEATURING BUILT-IN HIGH POWER AMPLIFIER





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

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

The B12ES is designed as a subwoofer with a built-in amplifier integrated into the enclosure. This compact design provides more placement possibilities.

This product has a low pass filter, bass boost control, phase control and input gain control. These allow you to adjust sound effects to suit personal need.

The B12ES offers you two wiring alternatives for audio signal input (low and high level inputs). It can also auto-sense high level input to power on automatically, without the need to connect the remote wire to the remote terminal on this product.

Package Contents

When first unpacking your new amplified subwoofer, 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 B12ES amplified subwoofer
- 1 x High level input wire harness
- 1 x Remote subwoofer control
- 1 x Remote subwoofer control cable
- 2 x Screws (for remote subwoofer control mounting)
- User manual and warranty card

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.
- Be sure to observe the following guidelines:
 - Do not increase speaker volume so high that you cannot hear what is around you.
 - Use caution or temporarily discontinue use in potentially hazardous situations.
- Do not make any adjustment on the product when driving or in other situations where distractions can be hazardous. Responsible and safe driving is your primary responsibility when operating a vehicle.
- Start volume at a low setting then gradually increase the volume until you can hear it comfortably, without sound distortion or ear discomfort.
- 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.

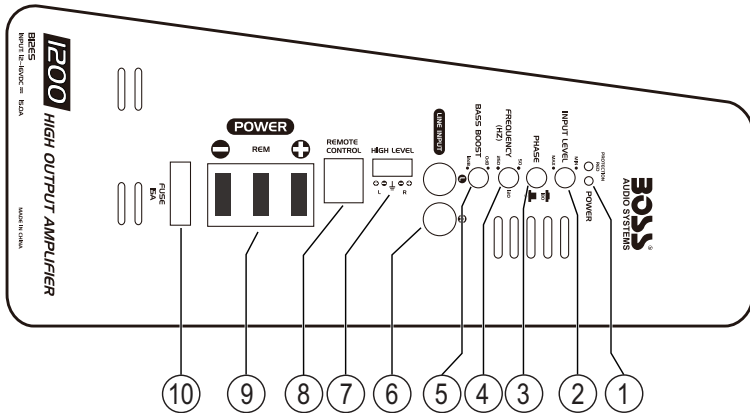
Installation Precautions

- **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.
- Observe the safety and operating instructions of the devices which are connected to the product.
- **Important!** Replace the faulty fuse with the same type and rating. Using a different fuse type or fuse rating may result in damage to the product or vehicle, or cause a fire.
- **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 if/when disposing of electronic products. By doing this, you help preserve the environment.

Panel Controls and Features



1. Status Indicators

Green LED: the subwoofer is powered on and operational.

Red LED: the subwoofer is in protection mode and not operational. This problem is caused by input overload, short circuit or extremely high temperature.

2. Input Gain Control

Adjust the input level of this subwoofer in order to match the output level from your source unit (head unit).

Important! Do not adjust the input level to maximum unless your input level requires it.

Follow the steps below to set your input level correctly.

- On this subwoofer, turn the input gain control to minimum.
- On your source unit, turn the volume to about 3/4 full level.
- Slowly turn up the input gain control until you hear a small amount of distortion. Then turn down the gain control until the distortion is completely gone. Leave the gain control at this setting.

3. Phase Control

Press to improve bass response (no or little bass sound) caused by time alignment problem in the audio system. This problem usually results from having this subwoofer at a different distance from the listener than the other speakers in the audio system.

4. Low Pass Filter (LPF)

Use this control to define the frequency range you want the subwoofer to receive. The subwoofer will only receive the frequencies below the one you set to reproduce sound.

Tip: If the other speakers of your audio systems are weak on the mid frequencies, set the LPF control relatively high. If the midrange is well covered by the other speakers of your audio system, set the LPF control relatively low to only receive lower frequency signal.

5. Bass Boost Control

Use this control to increase sound output level of the bass frequencies.

6. Low-Level Input (RCA Input)

Connect to the RCA outputs on your head unit. For best audio performance, low-level input is recommended to input audio signal to this subwoofer if RCA outputs are present on your head unit or signal processor.

7. High-Level Input (Speaker Level Input)

Connect to the speaker wires on your head unit. If your head unit does not have RCA outputs, use the speaker wires on the head unit for audio signal input from your head unit.

8. Remote Subwoofer Control Port

Connect to the supplied remote subwoofer level control. Use the remote control to independently adjust the volume level of the subwoofer.

9. Power Terminals

⊖: Connect to the closest point on the chassis of your vehicle.

REM: Connect to the remote output wire of your head unit for power on/off control on this subwoofer. No need to make the remote connection if you use high-level input connection. High-level input connection auto detects DC voltage to activate on/off control.

⊕: Connect to the positive terminal of the 12V vehicle battery.

10. Fuse Holder

Insert a 15A blade type fuse (ATO) to provide protection of the circuitry. Do not use a fuse with a different rating. Never replace the fuse with a wire or coin.

Subwoofer Setup Procedure

1. Secure this subwoofer in your vehicle. See the section "Placement" on page 6.
2. Disconnect the negative terminal of the vehicle battery to prevent a short circuit.
3. Establish audio signal input (low-level or high-level inputs). See the section "Low Level Input Wiring" or "High Level Input Wiring" on page 7.
4. Make power connection on this subwoofer. See the section "Power Connection" on page 8.
5. Recheck all connections to ensure correct and secure power/signal inputs.
6. Set the input gain control (INPUT LEVEL) to the minimum position.
7. Reconnect the negative battery terminal.
8. Turn on your source unit, then this subwoofer automatically turns on.
9. Set the source unit volume to about 3/4 full level, then adjust this subwoofer's input gain control (INPUT LEVEL) to just below the level of distortion.
10. Fine tune the various controls on this subwoofer to obtain best results.

Important notes on input level control

- The input gain control (INPUT LEVEL) is designed only to adjust the input level of the subwoofer in order to match the output level of your source unit. It is not a volume control!
- Never adjust the input level to maximum unless your input level requires it.
- Failure to notice these instructions will result in an input overload to the subwoofer and excessive audio distortion. It can also trigger protection mode, or may cause damage to the subwoofer or your speakers.

Protection Mode

When protection mode triggers, the red LED on the subwoofer turns on and the subwoofer shuts down.

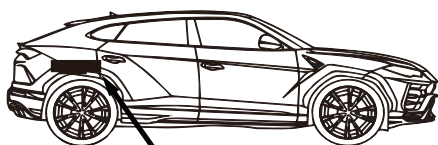
One of the following reasons can trigger protection mode: input overload, short circuit and extremely high temperature.

When the red LED turns on, take the following measures.

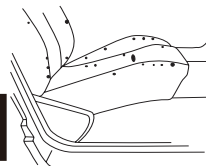
- Check the audio system carefully to determine what has caused the protection mode to trigger.
- Reset the subwoofer. Turn off the subwoofer (by turning off the head unit or other audio source which feeds the subwoofer) and turn it on again.
- If the shutdown was due to either an input overload or a short circuit, correct the conditions which cause the overload or short circuit then turn on the subwoofer again.

Placement

- Find a suitable location in the vehicle to place the subwoofer. A common location is in the trunk of a car or behind the seat of a truck, as shown below.
- Make sure there is sufficient air circulation around the subwoofer.
- Place the subwoofer in the location away from moisture, and where connection cables are not pinched or damaged by sharp objects.



En el maletero



Detrás del asiento

Wiring



See the section "Installation Precautions" on page 3.

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

Use only high quality wires for reliable installation to minimize signal or power loss.

Make sure wires are not squeezed or damaged by sharp edges. Use rubber bushings for penetrations.

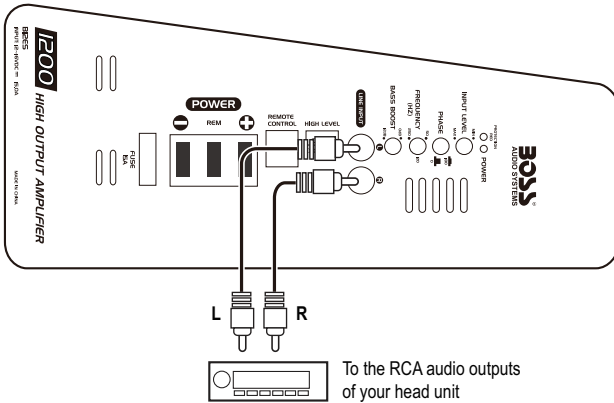
Make sure all the cables are securely connected and bare wires are properly insulated.

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

Low-Level Input Wiring

The subwoofer offers you two wiring alternatives for audio signal input from your source unit (head unit). Low-level input wiring is preferred for waudio input. It provides an exceptional clean sound from the source unit.

Important! Do not connect both the high-level and low-level inputs from your source unit to the subwoofer at the same time.

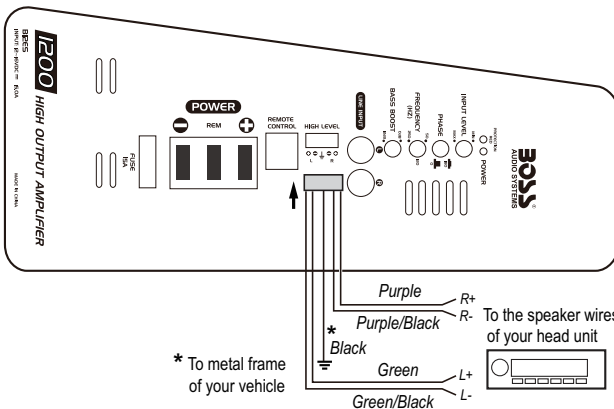


- Using RCA cables (not included), connect two RCA jacks (LINE INPUT L/R) on the subwoofer to the RCA audio outputs on your head unit. Make sure the left and right channels are correctly matched.
- To reduce the possibility of noise entering the signal chain, use high-quality, well insulated RCA cables. Run the RCA cables away from large cable loops, electric fan and power cables.

High-Level Input Wiring

The subwoofer offers you two wiring alternatives for audio signal input from your source unit (head unit). Use high-level input wiring for audio input from the source unit only when RCA audio outputs are not present on the source unit.

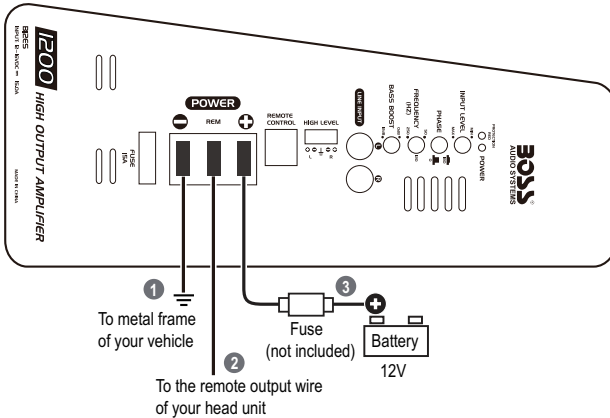
Important! Do not connect both the high-level and low-level inputs from your source unit to the subwoofer at the same time.



- Using the supplied high-level input wire harness, fasten the black wire to the metal frame of your vehicle (for signal noise prevention), and connect the other four colored wires to speaker output wires of your head unit. Make sure to observe speaker polarity.
- Make sure the speaker wires are securely connected and properly insulated. Run the wires under the vehicle mats for wire protection.

Power Connection

Important! The power wire must be connected to the battery through a fuse (not included).



1. Using an 8 gauge (or heavier) wire, connect the **⊖** terminal on the subwoofer to the metal frame of your vehicle. Keep the ground wire less than 39" (100 cm) in length.

Scrape away any paint, rust or dirt from the ground point to provide a clean contact. Fasten the ground wire on the ground point with a screw or bolt.

2. Using a 16 gauge (or heavier) wire, connect the **REM** terminal on the subwoofer to the remote output wire of your head unit.

The REM terminal connection is used for power control. The subwoofer automatically turns on or off every time the connected head unit is turned on or off.

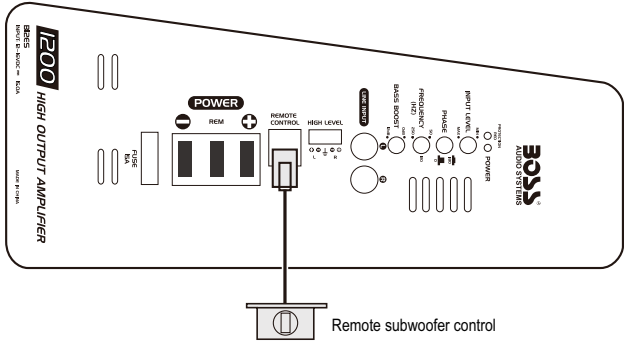
If high-level input connection is made, you do not need to make the REM terminal connection. High-level input connection auto detects DC voltage to activate on/off control.

If your head unit does not have the remote output wire, connect the **REM** terminal on the subwoofer to the ignition switch wire of your vehicle for power on/off control. In this case, make sure your head unit is also turned on or off with the operation of the ignition switch to avoid noise occurrence.

3. Using an 8 gauge (or heavier) wire, connect the **⊕** terminal on the subwoofer to the positive terminal of the 12V vehicle battery through a correct fuse (not included). Keep the fuse within 18" (45 cm) of the vehicle battery. It is important to connect the power supply through a fuse for protection of short circuits.

Remote Subwoofer Control Connection

Use the supplied remote subwoofer control to independently adjust the volume level output of the subwoofer.



- Using the supplied remote subwoofer control cable, connect the remote subwoofer control to the **REMOTE CONTROL** on the subwoofer.
- We recommend to position the remote subwoofer control under the dash or in a similar location where using it will not distract the driver. Fasten the remote subwoofer control using two supplied screws.

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 |
|------------------------------------|---|
| No power/Green LED not lighting up | Check that the subwoofer is properly grounded (e.g. a clean contact point on the vehicle chassis and the secure ground connection). |
| | Check all fuses. Replace faulty one with the same type and rating. |
| | Check that there is sufficient battery power on the + terminal. |
| | Check that there is sufficient voltage on the REM terminal when low-level input connection is made. |
| | If the red LED illuminates, this indicates that the subwoofer in protection mode. Power off the subwoofer briefly, then power it on again. |
| Protection/Red LED lighting up | Turn down volume on your source unit to prevent overdriving. |
| | Reset the subwoofer by turning it off and on again (see the section "Protection Mode" on page 6 for more details). If the red LED still lights up, the subwoofer is faulty and needs servicing. |

| Problem | Solution |
|----------------------------|---|
| No sound | <p>Check that audio input connection is correctly and securely made.</p> <p>If using low-level input connection, check the RCA cables are correctly and securely plugged.</p> <p>If using high-level input connection, check connection with the speaker wires of your head unit.</p> |
| Low output | Adjust the remote subwoofer control to increase sound level. |
| | Input gain level is too low. Reset the input level control. |
| | Check the frequency pass filter setting. |
| Distorted audio | Check that the input gain control is set to match the output level of your source unit. Always try to set the input gain level as low as possible. |
| | Check for short circuits on the speaker wires. |
| | Check if the amplifier of your source unit is defective. |
| Audio noise | Keep the power cables away from the RCA cables. |
| | Keep the RCA cables away from other electrical cables in the vehicle. |
| | Check that the black ground wire from the high level input wire harness is properly connected to the metal frame of the vehicle when using high-level input connection. |
| | Poor quality RCA cables can pick up radiated noise. Use only the best quality RCA cables. |
| | Check that a negative speaker wire is not touching the vehicle chassis. |
| | Check that your source unit is properly grounded. |
| | Check if noise originates in your source unit. |
| Subwoofer getting very hot | Check that the minimum speaker impedance for the subwoofer is correct. |
| | Check that there is good air circulation around the subwoofer. In some applications, it may be necessary to add an external cooling fan. |

Specifications

Audio

| | |
|--------------------------------------|--|
| Output power | up to 1200W |
| Driver size..... | 12" |
| Speaker impedance..... | 4Ω |
| Total harmonic distortion (THD)..... | <0.1% |
| Frequency response..... | 40Hz - 250Hz |
| Signal-to-noise ratio..... | 90dB |
| Input sensitivity | 0.2V - 6V (low level/RCA); 1V - 10V (high level) |
| Low pass filter (LPF)..... | 50Hz - 250Hz |
| Bass boost..... | 0 to +12dB |
| Phase control..... | switchable between 0° and 180° |

General

| | |
|-------------------------------|---|
| Power supply | 12 - 16VDC |
| Current consumption | 12A maximum |
| Fuse..... | ATO type, 15A |
| PWM MOSFET power supply..... | yes |
| Protection circuitry..... | yes (overload, short circuit, and thermal protection) |
| Remote turn-on/turn-off | yes |
| Input gain control | yes, variable |
| LED indicators | green - power on; red - protection |
| Enclosure material..... | MDF (Medium Density Fiberboard) |
| Weight | 25.6 lbs/ 11.6 kg |
| Dimensions (W x D x H) | 24" x 15" x 7" (610 x 381 x 178 mm) |

Specifications are subject to change without notice.



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www.bossaudio.com
805-751-4853 Customer Service
Tech Support: www.bossaudio.com/support

