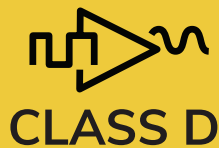


Modus



USER MANUAL | PTA-1.1500 | Mono Amplifier | Automotive
Class D Topology | Compact Chassis Design





Welcome to Modus.

You've chosen precision performance that works seamlessly in the background of every adventure. This user manual will help you unlock your system's full potential.

Take a moment to review this manual and keep it stored in a convenient place for future reference.

If you have any technical questions, please contact:

Customer care: 805-790-7383

Online support: <https://support.modusglobal.com>

Register your purchase now to receive future firmware updates and warranty coverage.

Purchase receipt is required.

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What's Included

When first unpacking this product, please check that the package contains each of the items listed below. If something is missing, please contact the place of purchase.

- 1x Car amplifier
- 1x Speaker input wiring harness
- 4x Mounting Torx screws (M5 x 70mm, T20)
- 1x T8 Torx wrench
- 1x T20 Torx wrench
- 1x Hex wrench (2mm)
- 1x Hex wrench (4mm)
- 2x Spare Torx screws (M3 x 5mm) for control panel cover
- User manual and warranty card

Introduction

The amplifier features the following:

- Class D amplifier
- Monoblock
- 1 Ω stable mono operation
- MOSFET PWM (Pulse Width Modulated) power supply
- Low-level (RCA) input
- High-level input
- Variable input gain control
- Variable low-pass filter
- Infrasonic filter
- Variable bass boost
- Thermal, short circuit, overload, under-voltage, and over-voltage protection

Warning

Please read and understand all instructions before using your product. Failure to follow these instructions could result in injury and/or damage which may 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 electric shock or damage to the product, do not expose the product to water spray or submersion. If this occurs, immediately unplug the power cable and send the product to your local dealer or service center as soon as possible.
- Never adjust the product while driving a vehicle. Staying safe is your primary responsibility.
- If the product emits smoke, unusual noises, odors, or shows any other abnormal signs, immediately disconnect it from the power supply. Discontinue use and contact your dealer or our technical support team. Using the product in this condition may result in permanent damage to the system.
- Servicing must be performed only by an authorized technician. Contact our technical support team for any service-related questions.

Installation Precautions

- Installation must be performed by a professional. Contact our technical support team for any installation-related questions.
- Before installing any electrical accessories in your vehicle, always make sure the vehicle's electrical system is equipped to handle the extra electrical load.
- Before installation, disconnect the vehicle battery's negative terminal to help prevent product damage, fire, or injury.
- Always connect the power cable (red) to the vehicle's battery through the fuse to help prevent short circuits.
- Use only the installation parts provided. Using other mounting methods may void the warranty.
- Before use, the amplifier must be fully mounted and secured in the vehicle. All wiring should be properly insulated and fastened. Failure to do so may cause damage.
- Observe the safety and operating instructions of any devices connected to this product.
- **Do not** use harsh or abrasive cleaning agents. To clean the product, use a dry, lint-free cloth, or if needed, a mild cleaner such as glass cleaner.

Protect Our Environment

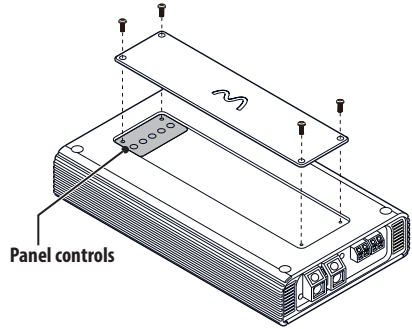
Do not dispose of the product with normal household waste. Follow local regulations for electronic disposal to help protect the environment.

Access Panel Controls

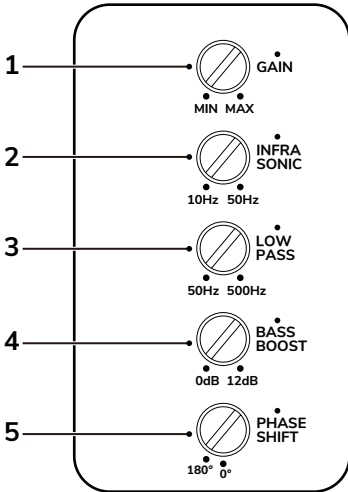
The controls are located on the top panel and hidden under a screwed-on cover. To access the controls, unscrew and remove the cover.

Using the supplied T8 Torx wrench, loosen the four Torx screws (M3 x 5mm, T8) as illustrated, then remove the cover to access the controls.

Replace the cover using the four M3 T8 Torx screws.



Panel Controls



1 GAIN Control

Use the gain control to adjust the input level to match the maximum unclipped level from your source unit.

Important: Do not set the gain higher than necessary. Excessive gain increases distortion and could damage your speaker.

2 INFRASONIC Filter Control

Remove extremely low frequencies (10-50 Hz) that may be below your speaker's capabilities. This protects the speaker and improves overall clarity. Turn clockwise to increase the cutoff frequency (more filtering), or counterclockwise to decrease it (less filtering).

3 LOW-PASS Control

Set the cut-off frequency for the low-pass filter. Your speaker reproduces only the frequencies below the selected value.

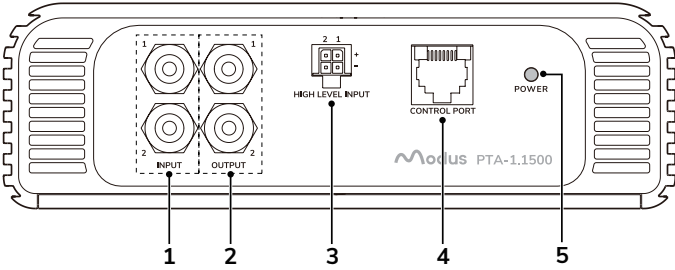
4 BASS BOOST Control

Increase the output level of low-bass frequencies on your speaker. Use sparingly – excessive boost can cause distortion and may damage the speaker.

5 PHASE SHIFT Switch

Switch to 0° or 180° audio phase to improve bass response when there is little or no bass, caused by time-alignment issues in the audio system. This usually occurs when this speaker is at a different distance from the listener than other speakers in the system.

Input Connectors



1 RCA Input

Connect to the RCA pre-amp speaker outputs on your source unit using RCA audio cables (not included).

2 RCA Output

Connect to the RCA input of an additional amplifier, using RCA audio cables (not included). This passes the amplifier's input signal through to the additional amplifier, allowing it to be easily added to your audio system.

3 High-Level Input

Connect to the speaker wires of your source unit using the supplied speaker input wiring harness.

4 Remote Control Port

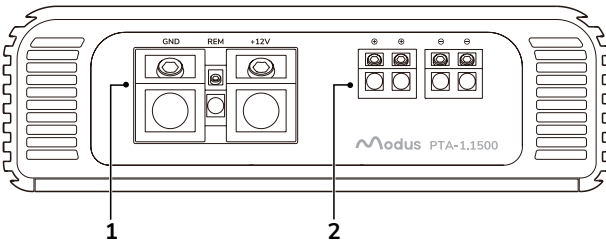
Connect to a remote speaker or subwoofer level control (not included). Use the control to independently adjust the volume of the connected speaker or subwoofer.

5 POWER LED Indicator

Blue LED: Indicates the amplifier is operating normally.

Red LED: Indicates the amplifier is in protection mode and not operational. This condition may be caused by overload, a short circuit, high temperature, or high/low voltage input.

Power/Output Connectors



1 Power Terminals

GND: Connect to the negative terminal of the 12V battery or to the closest point on the grounding plate.

+12V: Connect to the positive terminal of the 12V battery.

REM: Connect to the remote output wire of your source unit to turn the amplifier on or off with the source unit.

2 Speaker Output

Connect to a speaker for sound output, using speaker cables (not included).

Amplifier Setup Procedure

1. Secure the amplifier in your vehicle. See the section "Mounting" on page 7.
2. Disconnect the negative terminal of the battery to prevent a short circuit.
3. Connect audio inputs. See the section "Low-Level Input Wiring" on page 8 or "High-Level Input Wiring" on page 8.
4. Connect audio outputs. See the section "Speaker Output Wiring" on page 9.
5. Connect to power supply. See the section "Power Connection" on page 10.
6. Recheck all wiring to ensure correct and secure power, input, and output connections.
7. Set all input gain controls (**GAIN**) to the minimum position, and set the filter control (**LOW-PASS**) to the desired frequency point.
8. Reconnect the negative battery terminal.
9. Turn on the source unit and the amplifier will turn on automatically.
10. Set the source unit to its Maximum Unclipped Level. Then adjust the amplifier's input gain control (**GAIN**) to match the source unit's output signal. It's recommended to use a distortion detector or other measurement tool to properly adjust the gain control (**GAIN**).
11. If necessary, fine-tune the controls to achieve the best results.

Important notes on input gain control

- The input gain control (**GAIN**) is designed only to match the amplifier's input level to 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 follow these instructions will result in an input overload to the amplifier and excessive audio distortion. It can also trigger protection mode, or may cause damage to the amplifier or your speakers.

Protection Mode

When protection mode is triggered, the **POWER** LED on the amplifier turns red and the amplifier shuts down. Protection mode can be caused by high temperature, overload, a short circuit, or high/low input voltage.

When the **POWER** LED turns red, take the following measures:

- Reset the amplifier. Turn off the amplifier (by turning off the head unit or other audio source which feeds the amplifier) and turn it on again.
- If the shutdown was due to an overload, a shorted speaker, low impedance, or a damaged speaker or speaker wire, correct the conditions that caused the amplifier to enter protection mode, then turn the amplifier on again.

Mounting

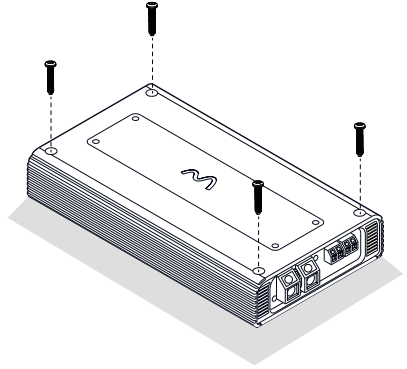


See the section “Installation Precautions” on page 3.

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

Mount the amplifier 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 amplifier. Ensure that there is sufficient air circulation around the intended mounting location.
2. Secure the amplifier with the four supplied Torx screws (M5 x 70mm, T20):
 - a. Use the four screw holes on the amplifier to mark the mounting holes on the mounting surface.
 - b. Drill the mounting holes in the mounting surface.
 - c. Place the amplifier in position and secure it to the mounting surface using the four supplied screws. Tighten the screws using the supplied T20 Torx wrench.



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 cables to ensure a reliable installation to minimize signal or power loss.

Ensure that cables are not squeezed or damaged by sharp edges. Use rubber bushings for penetrations.

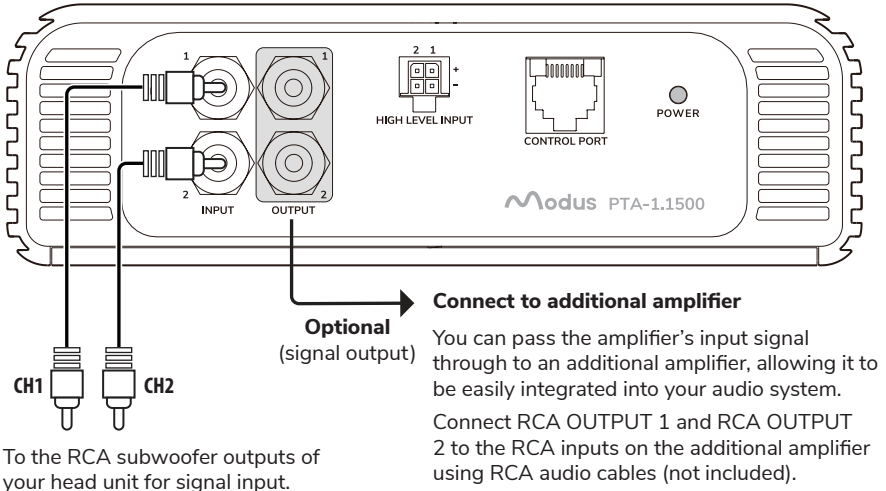
Ensure that all the cables are securely connected and bare wires are properly insulated.

Reconnect the negative battery terminal only after all cable connections have been correctly and securely made.

Low-Level Input Wiring

The amplifier offers two wiring options for audio input from your head unit. Low-level input wiring is preferred for best audio performance, as it provides exceptionally clean sound from the head unit.

Important: Do not connect high-level and low-level inputs at the same time.



To the RCA subwoofer outputs of your head unit for signal input.



Head Unit

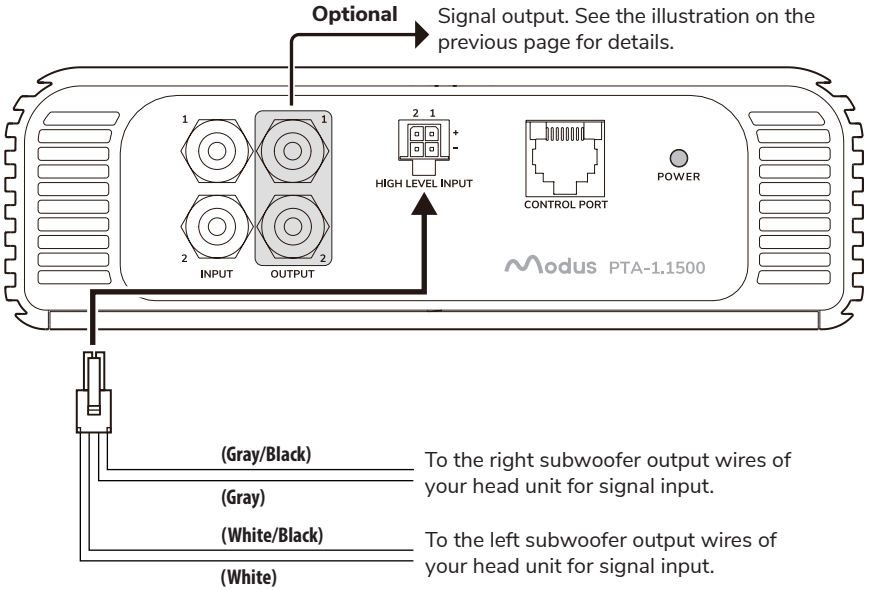
Note for RCA input

Using RCA plug cables (not included), connect the amplifier's RCA INPUT 1 and RCA INPUT 2 to the RCA audio preamp outputs of your head unit for signal input. To minimize noise entering the signal chain, use high-quality, well-insulated RCA cables. Route the RCA cables away from large cable loops, electric fans, and power cables.

High-Level Input Wiring

The amplifier offers two wiring options for audio input from your head unit. Use high-level input wiring only if your head unit lacks RCA outputs.

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



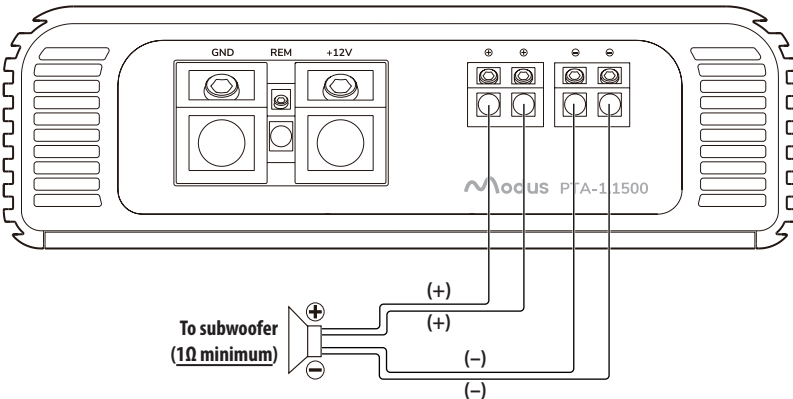
Speaker Output Wiring

Note: Do not connect a speaker with an impedance lower than the value specified in the illustration below.

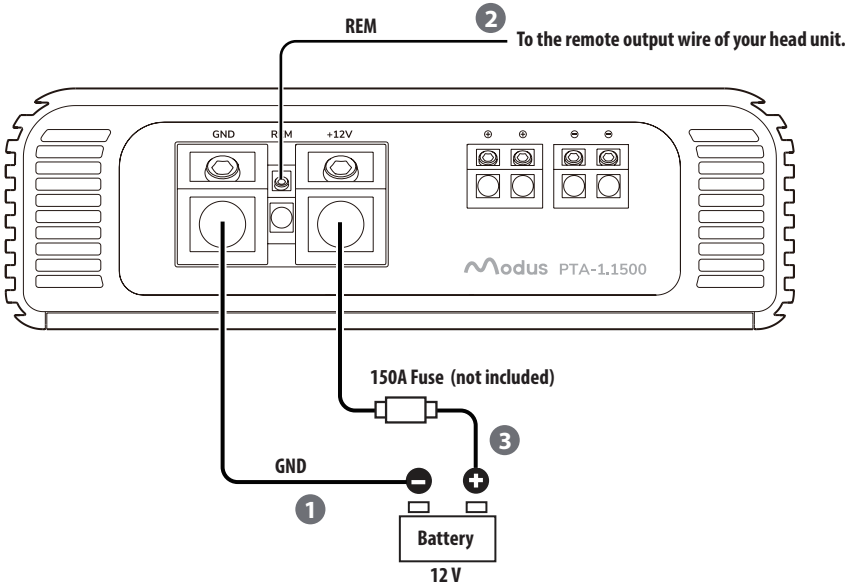
Use 12 AWG (or heavier) wires to connect your speaker. Use the supplied hex wrench (2 mm) to loosen and tighten the speaker terminals.

- Observe speaker polarity.
- Ensure that the speaker wires are securely and properly insulated.

Mono Output



Power Connection



- 1 Using a 2 AWG (or heavier) wire, connect the **GND** terminal on the amplifier to the negative terminal of the battery. Use the supplied hex wrench (4 mm) to loosen and tighten the **GND** terminals.
- 2 Using a 20 AWG (or heavier) wire, connect the **REM** terminal on the amplifier to the remote output wire of your head unit. Use the supplied hex wrench (2 mm) to loosen and tighten the **REM** terminals.

The remote connection controls power, allowing the amplifier to automatically turn on or off whenever the source unit is turned on or off.

If your source unit does not have a remote turn-on wire, connect the **REM** terminal to the accessory power of your vehicle. Ensure that the head unit also turns on and off with the ignition to prevent noise.

- 3 Using a 2 AWG (or heavier) wire, connect the **+12V** terminal on the amplifier to the positive terminal of the battery. Use the supplied hex wrench (4 mm) to loosen and tighten the **+12V** terminals.

Note: For short-circuit protection, properly fuse the power cable connected to the positive battery terminal. Keep the fuse within 18" (45 cm) of the vehicle battery.

Troubleshooting

Need assistance? Before reaching out to our support team, try these quick solutions. If your Modus system still isn't performing as expected, our in-house support team is ready to help you get back to creating perfect moments. We're here when you need us.

Problem	Solution
No power.	Check that the power cable connections are securely and properly made (e.g. secure ground connection).
	Check that the REM terminal is connected to a switched source.
	Check all fuses and replace any faulty fuse with the same type and rating.
POWER LED flashes red.	Reset the amplifier by turning it off and on again.
	Verify that speaker impedance is not less than 1 Ω .
	Check for damaged or shorted speaker or speaker wire.
	See the section "Protection Mode" on page 6 for more details.
No sound.	Check that audio input connection (low-level or high-level input) is correct and secure.
Low output.	Check the input gain level; reset the input level control if necessary.
	Check the frequency pass filter settings.
Distorted sound.	Check that the input gain control is set to match the output level from your source unit. Always try to set the input gain level as low as possible.
	Check that the frequency pass filter is set correctly.
	Check for short circuits or broken wires in the speaker wiring.
Hissing sound.	Try to set the source unit volume as high as possible (without distortion) and set the input gain level on the amplifier as low as possible.
Engine noise (static type).	This is usually caused by poor-quality RCA cables picking up radiated noise. Use high-quality RCA cables and route them away from power cables, large wire loops, and electric fans.
Engine noise (alternator whine).	Check that the speaker wires are not shorted to the metal frame.
	Check that your source unit is properly grounded.
Amplifier gets very hot.	Check that the minimum speaker impedance for the amplifier is correct.
	Check that there is good air circulation around the amplifier. In some cases, an external cooling fan may be necessary.

Specifications

Audio

RMS output power.....	525W x 1 @ 4Ω 900W x 1 @ 2Ω 1500W x 1 @ 1Ω
Min. speaker impedance.....	1Ω Mono
Total harmonic distortion (THD).....	<0.07%
Frequency response	10 – 500 Hz
Signal-to-noise ratio.....	>100 dB
Input sensitivity.....	350mV – 5V (Low-level/RCA) 2.3V – 32V (High-level)
Low-pass filter (24 dB/Oct)	50 – 500 Hz
Infrasonic filter (12 dB/Oct)	10 – 50 Hz
Bass boost.....	0 to 12 dB

General

Power supply.....	12 VDC (allowable 6 – 17 VDC)
Current consumption (Max)	150A
Protection circuitry.....	Overload, short circuit, thermal, low and high voltage protection
Input gain control	350mV – 5V variable 2.3V – 32V variable
Dimensions (W x H x D)	11.73" x 2.05" x 6.69" (298 x 52 x 170 mm)
Weight.....	7.08 lbs (3.21 kg)

Specifications are subject to change without notice.

USER MANUAL

Modus

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