

GARMIN®

TREAD® AUDIO SYSTEM

Owner's Manual

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Getting Started

WARNING

See the *Important Safety and Product Information* guide in the product box for product warnings and other important information.

You can permanently damage your ears and lose hearing if you listen to the stereo at high volume. If you experience ringing in your ears or muffled speech, stop listening and have your hearing checked.

Garmin® strongly recommends having an experienced installer with proper knowledge of electrical systems install the device. Incorrectly wiring the power cables can result in damage to the device, the vehicle, or the battery, and can cause bodily injury.

NOTICE

Disconnect the negative battery terminal in the vehicle before installing the device to prevent an electrical short circuit. Reconnect the vehicle battery terminals only after installation is complete.

- 1 Mount the Tread Audio Box device ([Tread Audio Box Mounting Considerations, page 2](#)).
- 2 Mount the Tread 6.5" XS-LED Tower Speakers ([Mounting the Speakers and Brackets, page 11](#)).
- 3 Connect the Tread Audio Box device to vehicle power ([Connecting the Device to Vehicle Power, page 7](#)).
- 4 Pair your Tread Audio Box device with a compatible Garmin navigation device ([Pairing with a Garmin Navigation Device, page 13](#)) or a smartphone ([Pairing with Your Smartphone, page 14](#)).

Installation

Tools and Materials Needed

- Phillips screwdriver
- Electric drill
- Drill bit (the size varies based on the surface material and screws used)
- Crimping pliers
- Wire strippers
- Heat gun
- 4 mm and 5 mm hex drivers or hex keys

NOTE: For customized installations, additional tools and materials may be needed.

Tread Audio Box Mounting Considerations

CAUTION

In high ambient temperatures and after extended use, the device enclosure may reach temperatures deemed dangerous to touch. Therefore, you must install the device in a location where it is not touched during operation.

NOTICE

The storage and operating temperature ranges for this device are listed in the product specifications ([Device Information, page 21](#)). Extended exposure to temperatures exceeding the specified temperature range, in storage or operating conditions, may cause device failure. Device damage and related consequences caused by extended exposure to these conditions are not covered by the warranty.

- You must mount the device in a location with adequate ventilation where it is not exposed to extreme temperatures.
- You should mount the device so that the cables can be connected easily.
- To achieve IP67 water ingress protection and optimal heat sink cooling, you must mount the device on a vertical surface with the connectors pointing downward.
- You can mount the device on a horizontal surface, but such positioning might not achieve IPX67 water ingress protection.
- To avoid interference with a magnetic compass, you should install the device at least 203 mm (8 in.) away from a compass.

Mounting the Tread Audio Box Black Box Device

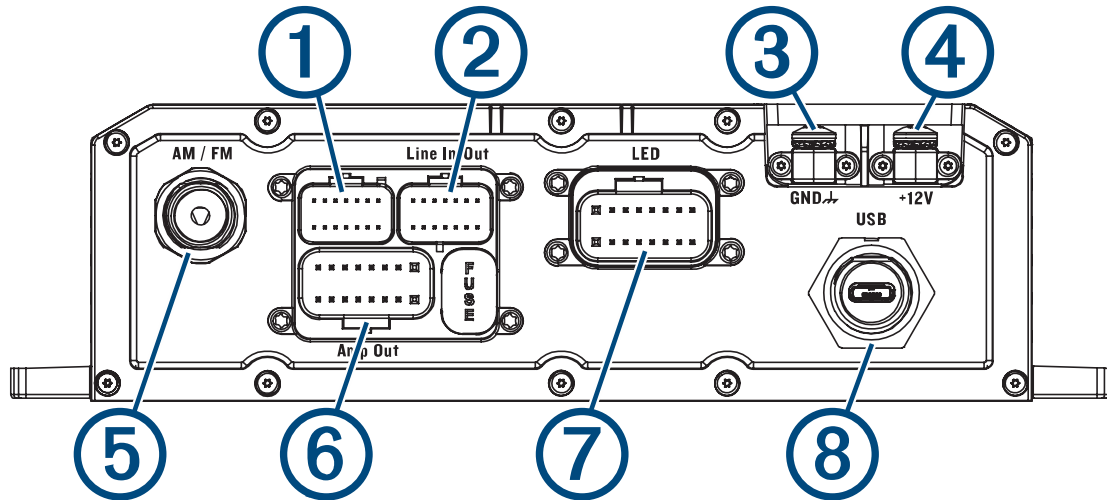
Before you mount the device, you must select a mounting location, and determine what screws and other mounting hardware are needed for the surface.

- 1 Place the black box device in the mounting location, and mark the location of the pilot holes.
- 2 Drill a pilot hole for one corner of the device.
- 3 Loosely fasten the device to the mounting surface with one corner, and examine the other three pilot-hole marks.
- 4 Mark new pilot-hole locations if necessary, and remove the device from the mounting surface.
- 5 Drill the remaining pilot holes.
- 6 Secure the device to the mounting location.

Connections

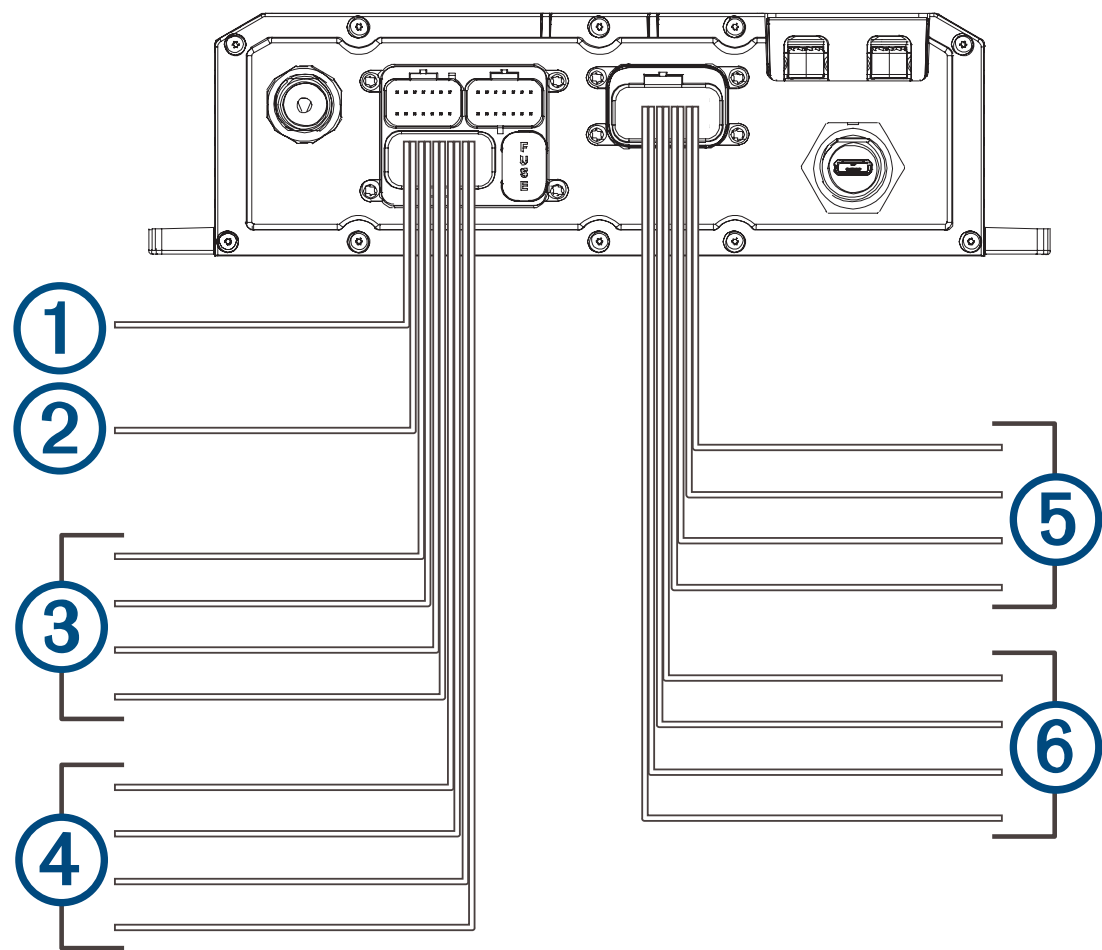
The stereo must be connected to power, to speakers, and to media input sources to function correctly. You should carefully plan the layout of the stereo, speakers, and your input sources before making any connections.

Port Identification



Item	Description
FUSE	Contains the 15 A fuse for the LED outputs.
①	Not used.
②	Connects the device to the auxiliary in and line/subwoofer out wiring harness.
③	Connects the device to the ground terminal wire (GND).
④	Connects the device to the +12V terminal wire.
⑤	Connects the device to the AM/FM antenna.
⑥	Connects the device to the speaker wiring harness.
⑦	Connects the device to the LED wiring harness.
⑧	Connects the device to an optional USB accessory.

Speaker and LED Wiring Harness Wire and Connector Identification



Wire Group	Wire Function	Wire Color/Number	Notes
①	Ignition	Red	Connects to the vehicle accessory line. If the ignition wire is unused, ground the ignition wire or leave it disconnected.
②	Amplifier on	Blue	Connects to an optional external amplifier to turn it on when the stereo turns on.
Speaker zone 1 ③	Left (+)	White	Connects to the included speaker.
	Left (-)	White with a black stripe	Connects to the included speaker.
	Right (+)	Gray	Connects to the included speaker.
	Right (-)	Gray with a black stripe	Connects to the included speaker.

Wire Group	Wire Function	Wire Color/Number	Notes
Speaker zone 2 ④	Left (+)	Green	Connects to an optional additional speaker.
	Left (-)	Green with a black stripe	Connects to an optional additional speaker.
	Right (+)	Purple	Connects to an optional additional speaker.
	Right (-)	Purple with a black stripe	Connects to an optional additional speaker.
LED RGB1 ⑤	Power	Black	
	Red LED	Red	
	Green LED	Green	
	Blue LED	Blue	
LED RGB2 ⑥	Power	Black	
	Red LED	Red	
	Green LED	Green	
	Blue LED	Blue	

Addressable LED Wiring Considerations

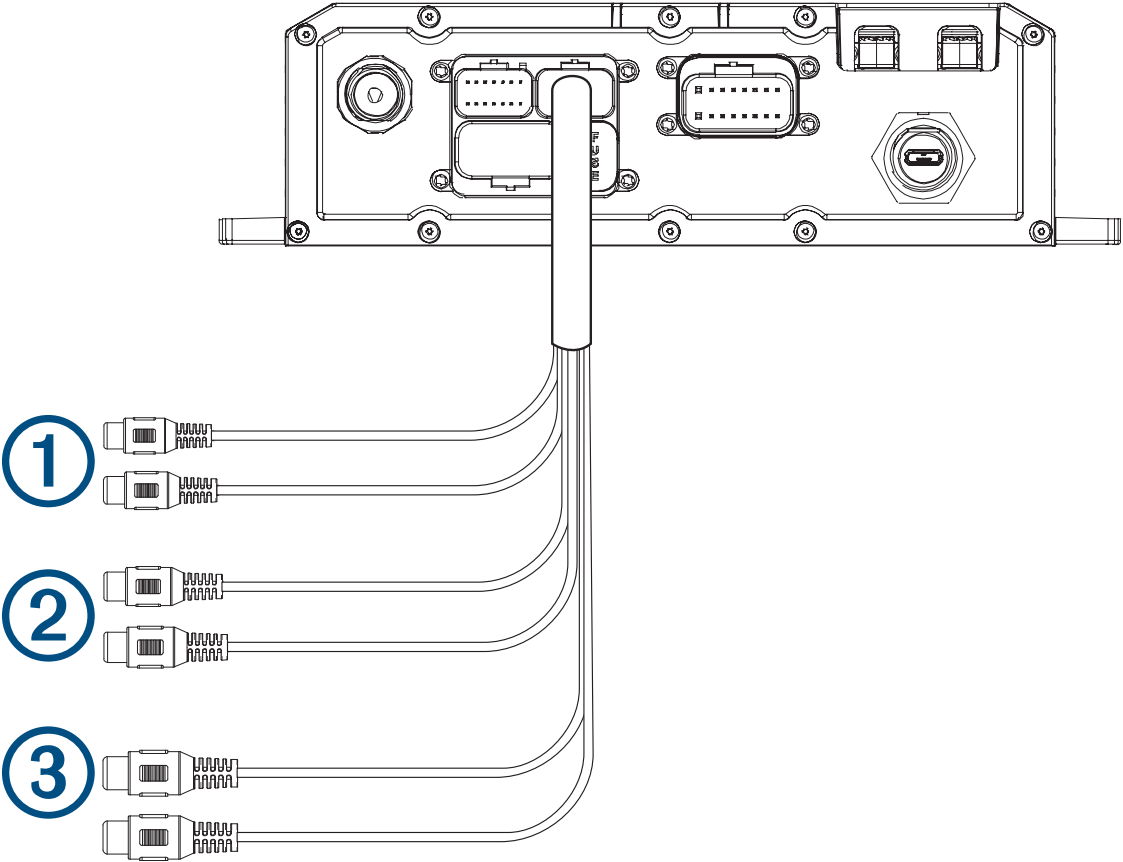
You can wire addressable LED lights to your Tread Audio Box. For more information, see the manual for your addressable LED lights.

Compatible addressable LED types:

- WS2812B
- WS2813

Addressable LED	LED Wire Color	Wire Function
Addressable LED 1	Red	+5V Power
	White	Ground
	Green with a black stripe	Data
Addressable LED 2	Red	+5V Power
	White	Ground
	Green with a black stripe	Data

RCA Wiring Harness Wire and Connector Identification



Wire Function	Wire Color/ Number	Notes
Auxiliary in left Auxiliary in right	①	Provides a red and white RCA stereo line input for audio sources, such as a CD or MP3 player.
Line out left Line out right	②	Provides a full-range output to an external amplifier, and is associated with the volume control. If you are connecting to an external amplifier, you should use a ground loop isolator to ensure a clear signal.
Subwoofer out	③	Provides a single mono output to a powered subwoofer or subwoofer amplifier. If you are connecting to an external amplifier, you should use a ground loop isolator to ensure a clear signal.

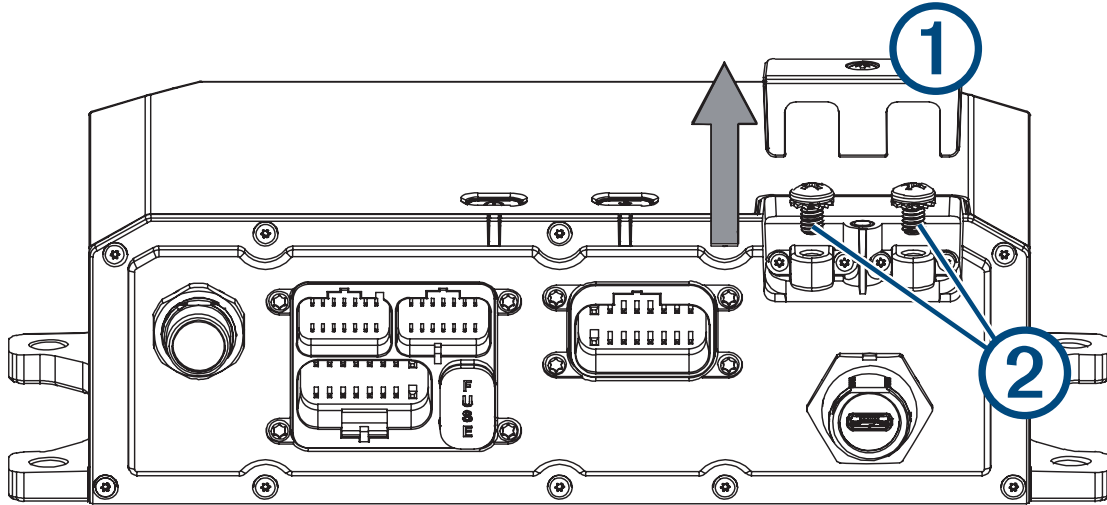
Connecting the Device to Vehicle Power

You should always confirm all electrical connections are secure and will not come loose while operating the device.

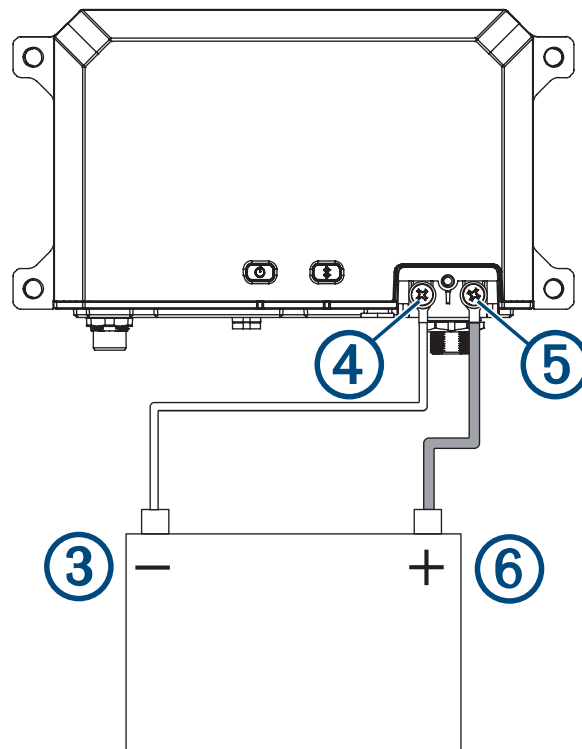
NOTICE

If the ignition wire is not used, do not tie the ignition to the positive terminal on the vehicle battery. Ground the ignition wire or leave it disconnected. Failure to ground or disconnect the ignition wire when the ignition is not used could prevent the device from powering on.

- 1 Remove the terminal cover ① using a Phillips screwdriver.



- 2 Remove the screws from the **GND** terminal and the **+12V** terminal ②.
- 3 Connect the large ring end of the included ground wire ③ to the negative terminal on the vehicle battery.



- 4 Connect the small ring end of the ground wire to the **GND** terminal ④ on the device.
- 5 Tighten the screw on the GND terminal.
You should confirm the screws cannot be loosened by hand.
- 6 Connect the small ring end of the included 12V cable to the **+12V** terminal ⑤ on the device.
- 7 Tighten the screw on the +12V terminal.
You should confirm the screws cannot be loosened by hand.

NOTICE

Do not overtighten the screw on the +12V terminal to prevent damage to the terminal.

- 8 Connect the large ring end of the 12V cable ⑥ to the positive terminal on the vehicle battery.
- 9 Replace and tighten the terminal cover on the device.

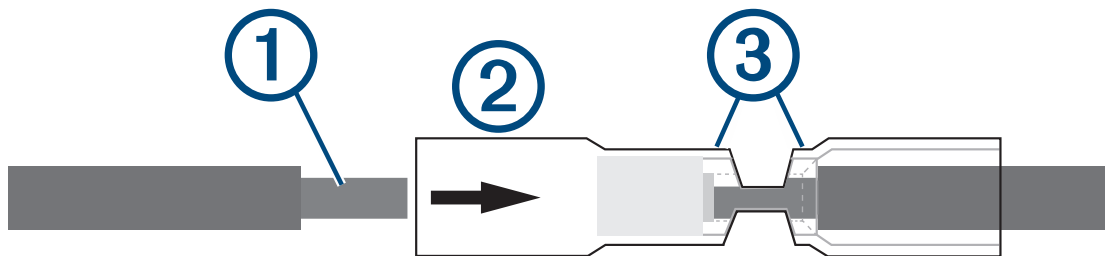
Using the Heat-Shrink Crimp Connectors

You should use the included heat-shrink crimp connectors to make a water-tight connection between the bare wires.

⚠ WARNING

Only use the heat gun to apply heat to the heat-shrink crimp connectors in a well-ventilated area. Do not use the heat gun near clothing or bare skin. Doing so can result in property damage or serious injury.

- 1 Using wire strippers, strip 6 mm ($\frac{1}{4}$ in.) off the end of each bare wire.
- 2 If necessary, twist the strands of each wire ① clockwise to bundle them together.

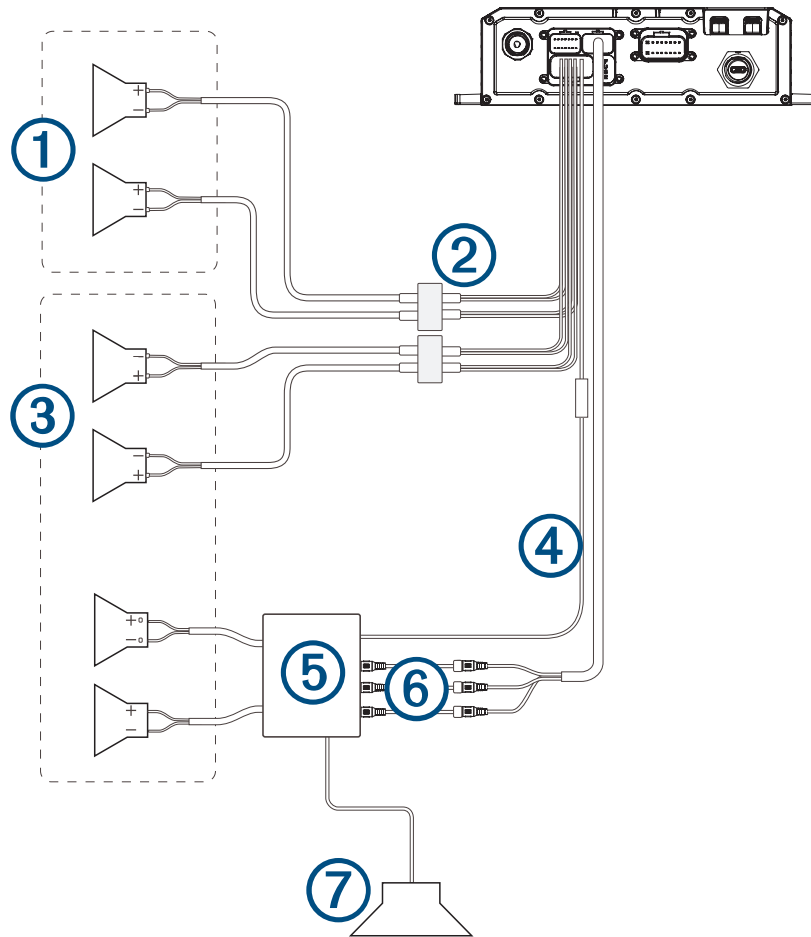


- 3 Insert one bare wire into one end of the heat-shrink crimp connector ②.
The bare wires are not secure until they are crimped and sealed.
- 4 Insert the corresponding bare wire into the other end of the heat-shrink crimp connector.
- 5 Using pliers, crimp both sides of the center of the connector ③ to secure the connection.
- 6 Using a heat gun, apply heat to the heat-shrink crimp connector until the connector is sealed to the wires.
Do not apply heat to the wires directly.

Complete System Wiring

This diagram illustrates a system installation with an external amplifier and subwoofer connected to the stereo using a line out.

NOTE: You can also connect speakers to the speaker wires for the internal stereo amplifier while using an external amplifier connected to the line out. Adjusting the volume affects speakers connected to the internal amplifier and speakers connected to the line out. This may result in uneven volume levels.



Item	Description
①	Zone 2 speakers
②	Water-tight connection
③	Zone 1 speakers
④	Amplifier-on signal wire
⑤	Powered amplifier
⑥	Line out and subwoofer out
⑦	Subwoofer

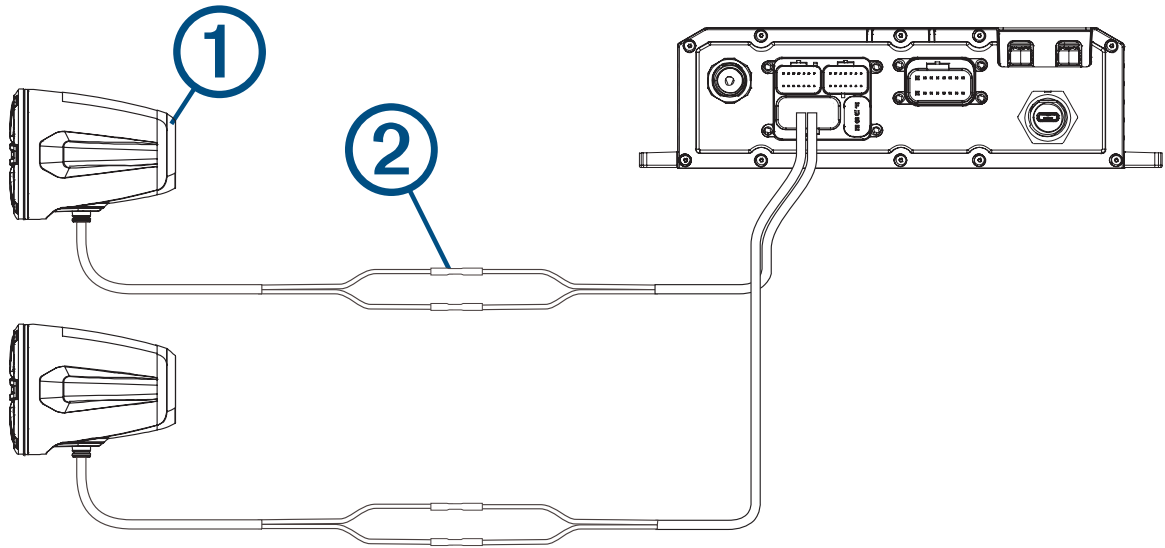
Speaker Zones

You can group speakers in one area into speaker zones. This enables you to control the audio level of the each zone individually.

Zones 1 and 2 are powered by the on-board amplifier. To use the RCA line output, you must connect an external amplifier.

You can set the balance, tone, and name for each zone, and the fade between zones.

Single-Zone System Wiring Example



①	Speakers
②	Water-tight connection

Wireless Remote Mounting Considerations

NOTICE

Selecting the correct mounting location is critical to optimize the performance of the wireless remote.

- You must mount the wireless remote in a location that is within 10 m (33 ft.) of the stereo.
- You must mount the wireless remote in a location where it is not submerged.
- You should select a flat mounting surface for the best results.
- The mounting surface must be free of dirt, debris, wax, or coatings.
- Move away from sources that can interfere with the wireless remote's operation. Sources of interference may include strong electromagnetic fields, some 2.4 GHz wireless sensors, high-voltage power lines, electric motors, and wireless LAN access points.
- You should install the wireless remote in a location where you can allow the adhesive to dry at room temperature for 72 hours.

Mounting the Wireless Remote

- 1 Select an appropriate location for the remote control (*Wireless Remote Mounting Considerations*, page 10).
- 2 Test the range at the selected location by holding the wireless remote at the location, pressing a few buttons, and confirming the correct operation.
- 3 Thoroughly clean and dry the mounting surface using a mixture of water and isopropyl alcohol.
The mounting surface must be free of dirt, debris, wax, or coatings.
- 4 Place the wireless remote on the mount, and rotate the remote until you hear a click.
- 5 Remove the backing from the adhesive.
- 6 Carefully orient the wireless remote in the mount with the Fusion® logo at the bottom.

NOTICE

It is extremely difficult to remove the adhesive. Some mounting surfaces might be damaged after removing the adhesive.

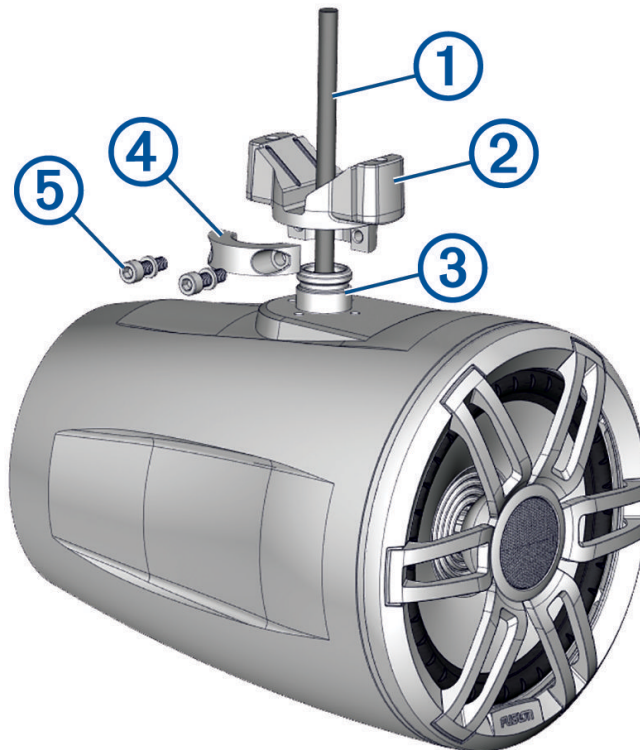
- 7 Press the wireless remote in the mount firmly onto the mounting surface, maintaining pressure for at least 60 seconds.

Mounting the Speakers and Brackets

You can mount the Tread 6.5" XS-LED Tower Speakers to a roll bar using the included brackets.

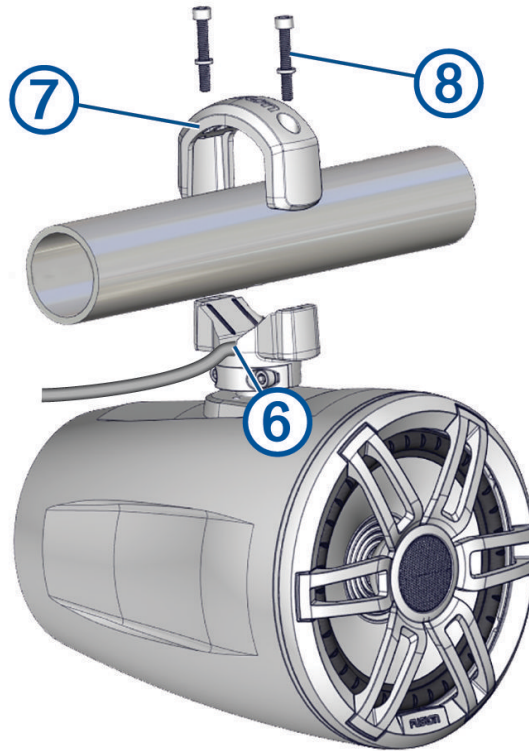
When installing the speaker and bracket, you can route the speaker and LED cable along the roll bar.

- 1 If necessary, mark the locations on the roll bar where you plan to mount the speakers.
- 2 Route the speaker and LED power wires along the roll bar to the mounting locations.
- 3 Feed the cable ① from the speaker through the base of the bracket ②.



- 4 Place the base of the bracket over the mounting knob on the speaker ③.
- 5 Using a 4 mm hex driver or hex key, attach the collar ④ to the base of the bracket using the two shorter screws and washers ⑤, but do not fully tighten them.

- 6 Connect the speaker and LED wires ([Wiring, page 13](#)).
- 7 Place the connected wires in the channel on the base of the bracket ⑥, and route the wires along the roll bar.



- 8 Place the top of the bracket ⑦ over the roll bar, and hold it against the base of the bracket.
- 9 Using a 5 mm hex driver or hex key, attach the top of the bracket to the base of the bracket using the two longer screws and washers ⑧, but do not fully tighten them.
- 10 Adjust the angle of the speakers, and tighten all of the screws to secure the speaker to the roll bar, observing these maximum torque measurements:
 - For the longer screws that secure the bracket to the roll bar ⑧, do not tighten to more than 4 N-m (2.95 lbf-ft.).
 - For the shorter screws that secure the bracket to the speaker ⑤, do not tighten to more than 2.5 N-m (1.84 lbf-ft.).

NOTICE

Tightening the screws more than the specified maximum torque measurement can damage the bracket.

- 11 Repeat these steps for additional brackets.
- 12 Route the speaker and LED wires along a suitable path in your vehicle, and secure them using the included zip ties.

Wiring

When connecting the speakers and LED lights to your stereo or amplifier, observe these considerations.

- You should use the included wire to connect the speakers to the stereo or amplifier. If necessary, you can use a larger gauge of wire ([Wire Gauge Guide, page 13](#)).
- You should make all of the wiring connections using the included heat-shrink crimp connectors. You should plan and select the best connection type for your installation needs.
- You can use this table to identify the polarity of the leads on the speaker.

Lead color	Polarity	Use
White	Positive (+)	Speaker
White with a black stripe	Negative (-)	Speaker
Red		Red LED
Green		Green LED
Blue		Blue LED
Black		+12V Power

Wire Gauge Guide

If necessary, you can use longer cables for your installation.

NOTE: If you are using aluminum or tinned wire, you should use a wire two gauges larger than the gauge listed below to compensate for a potential voltage drop due to the wire material.

- Use 16 AWG (1.31 mm²) for speaker wires.
- Use 20 AWG (0.52 mm²) for LED wires.

Additional Speakers

You can wire additional Tread 6.5" XS-LED Tower Speakers together. Refer to the owner's manual for your stereo system at support.garmin.com for more information.

Pairing and Setup

Pairing with a Garmin Navigation Device

You can pair your Tread Audio Box device with a compatible Garmin navigation device.

- 1 Turn on power to your Tread Audio Box device, and place your compatible Garmin navigation device within 1 m (3.3 ft.) of it.
- 2 On your compatible navigation device, open the Tread app.
- 3 On your Tread Audio Box device, press .
- 4 Follow the on-screen instructions to complete the pairing and setup process.

The main app dashboard appears. After the devices are paired, they connect automatically when they are turned on and within range.

Pairing with Your Smartphone

You can pair your Tread Audio Box device with your smartphone and the Tread app to enable music and LED controls.

- 1 From the app store on your smartphone, install the Tread app.
- 2 Turn on your Tread Audio Box device, and place your smartphone within 1 m (3.3 ft.) of your device.
- 3 On your smartphone, open the Tread app.
- 4 On your Tread Audio Box, press .
- 5 Follow the on-screen instructions to complete the pairing and setup process.

The main app dashboard appears. After the devices are paired, they connect automatically when they are turned on and within range.

Wireless Remote Overview

WARNING

See the *Important Safety and Product Information* guide in the product box for product warnings and other important information.



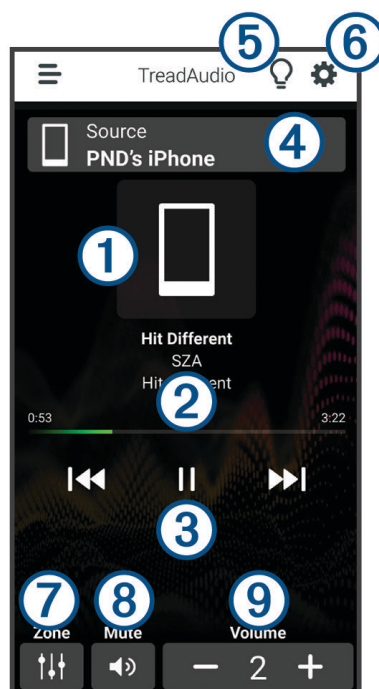
⏮	Radio sources: Press to tune to the previous station. AUX sources: Press to decrease gain. Other sources: Press to skip to the beginning of the track or to the previous track.
⏭	Radio sources: Press to tune to the next station. AUX sources: Press to increase gain. Other sources: Press to skip to the next track.
—	Press to decrease the volume. Hold to quickly decrease the volume.
+	Press to increase the volume. Hold to quickly increase the volume.
↺	Press to cycle through the available sources. Hold to pair with a stereo (Connecting the Wireless Remote to your Tread Audio Box, page 15).
⏸	Radio and AUX sources: Press to mute or un-mute. Other sources: Press to pause or resume.

Connecting the Wireless Remote to your Tread Audio Box

- 1 Bring the Tread Audio System remote within 10 m (33 ft.) of the compatible stereo.
NOTE: Stay 10 m (33 ft.) away from other ANT[®] devices while pairing.
- 2 On the Tread Audio Box, enable Bluetooth[®] discoverable mode.
- 3 On the wireless remote, hold  until the status LED flashes green and red.
The remote searches for the stereo. When the remote pairs successfully, the status LED flashes green briefly and turns off.
If the remote cannot find the stereo, the status LED flashes red briefly and turns off.

Tread App

Before you can use the controls in the Tread app, you must install your Tread Audio Box and Tread 6.5" XS-LED Tower Speakers in your vehicle and pair the Tread Audio Box with the Tread app.



① Displays information about the currently playing media, such as title, artist, album, station, or channel.

② Displays progress through the current media item.

③ Displays playback controls. The controls change based on the service providing the media.

④ Displays the current audio source.  indicates the media is being played by another media app on your phone and sent to the device using a Bluetooth media connection.

⑤ Opens the LED controls.

⑥ Opens the app settings menu.

⑦ Opens the volume zone controls.

⑧ Mutes the audio.

⑨ Increases or decreases the volume.

LED Controls

The LED controls allow you to control the LED lights on your connected Tread 6.5" XS-LED Tower Speakers and optional, addressable LEDs. You can set the color of the LEDs, sync the LEDs to your music or the speed of your vehicle, and display a call sign color during a group ride.

Enabling LED Groups

By default, the controls for LED groups RGB 1 and RGB 2 are enabled. Enabling an LED group allows you to use the LED lighting controls for that group. You can enable the LED group for the Tread 6.5" XS-LED Tower Speakers or any additional speakers or addressable LEDs after you set up and pair them with your Tread Audio Box.

- 1 Select .
- 2 Select the LED group.

LED Light Settings

Select .

Set Color: Sets the color of the LED lights.

Music Sync: Syncs the LED lights to music playback.

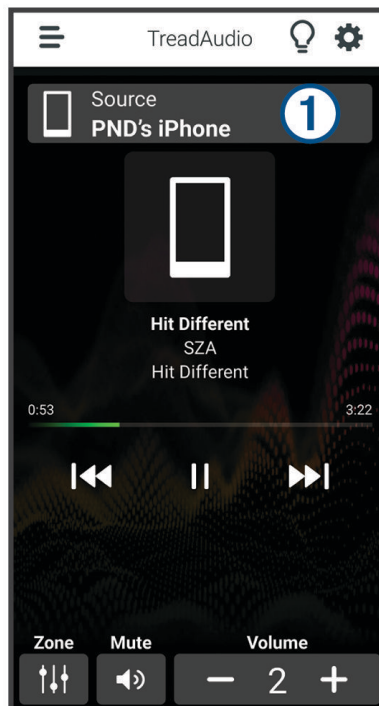
Speed Sync: Syncs the LED lights to the vehicle's speed.

Group Ride Sync: Sets the LED lights to display a call sign color during a group ride.

Changing the Media Source

You can change the source from which media is played on your device.

- 1 Select the current media source .



- 2 Select an available media source from the list.

Audio Zone Settings

Select  > **Stereo Settings** > **Audio Zones**, and if necessary, select a zone.

Zone Name: Sets the name of the zone.

Loud: Boosts the high and low frequencies.

Subwoofer Filter: Sets the low-pass frequency of the subwoofer.

Bass: Sets the relative volume of low-frequency audio.

Middle: Sets the relative volume of middle-frequency audio.

Treble: Sets the relative volume of high-frequency audio.

Device Maintenance

Garmin Support Center

Go to support.garmin.com for help and information, such as product manuals, frequently asked questions, videos, and customer support.

Device Care

NOTICE

Avoid extreme shock and harsh treatment, because it can degrade the life of the product.

Do not use a sharp object to clean the device.

Avoid chemical cleaners, solvents, and insect repellents that can damage plastic components and finishes.

Do not store the device where prolonged exposure to extreme temperatures can occur, because it can cause permanent damage.

Cleaning the Outer Casing

NOTICE

Avoid chemical cleaners and solvents that can damage plastic components.

- 1 Clean the outer casing of the device using a cloth dampened with a mild detergent solution.
- 2 Wipe the device dry.

Cleaning the Speakers and Brackets

NOTICE

When mounted correctly, these speakers are rated IP67 for dust and water ingress protection under normal conditions. They are not designed to withstand high pressure water spray, which may occur when you wash down your vehicle. Failure to carefully spray-clean the vehicle may damage the product and void the warranty.

Do not use harsh or solvent-based cleaners on the speakers. Using such cleaners may damage the product and void the warranty.

- 1 Clean all residue from the speakers using a damp cloth soaked in fresh water.
- 2 If necessary, use a mild detergent to remove a heavy buildup of salt or stains.

Updating Device Firmware

The Tread app notifies you when firmware updates for your Tread Audio Box device are ready to install.

When the update notification appears, follow the on-screen instructions to complete the update process.

NOTE: Do not disconnect power during the update process.

Replacing the Wireless Remote Battery

The remote uses one CR2032 lithium coin-cell battery.

- 1 Rotate the remote control, and remove it from the mount.
- 2 Rotate the battery compartment counter-clockwise until the line points to .



- 3 Wrap the end of a small flat screwdriver with tape.
The tape protects the battery, battery compartment, and contacts from damage.
- 4 Carefully pry the battery from the battery compartment.



- 5 Insert the new battery into the compartment with the positive side facing down.
NOTE: Do not damage or lose the O-ring gasket.
- 6 Align the battery compartment in the remote control so the line points to .
- 7 Press the battery compartment down into the remote control, and rotate the compartment clockwise until the line points to .
- 8 Make sure the battery compartment is fully seated in the remote control.
- 9 Place the remote control in the mount, and rotate until it clicks.

Troubleshooting

My Tread Audio Box will not stay connected

- Verify the Tread Audio Box device is receiving power.
- Verify that Bluetooth technology is enabled on your paired navigation device or smartphone.
- Move the navigation device or smartphone closer to your Tread Audio Box device.
- Verify that your vehicle's battery is supplying at least 8 V of power.

There is no sound coming from the speakers

- Verify that all connections from the source device and/or the amplifier are connected correctly to the speaker terminals.

The system lacks bass or high frequencies

- Verify that the correct wire polarity is observed between the source and speakers.
The wires should be connected positive to positive and negative to negative.
- Verify that the speakers are attached firmly to the mounting surface.
- Verify that the tone settings for each zone are accurate.

The audio is distorted

- Verify that the source volume is not too loud for the speaker, and reduce the volume if necessary.
- Verify that any panels surrounding the speaker on the vehicle are not rattling.
- Verify that the source device and the amplifier, if used, are connected to the speaker terminals correctly.
- If the speaker is connected to an amplifier, verify that the input level of the amplifier is matched to the output level of the stereo. For more information, see the manual for the amplifier.

The LED lights will not turn on

- Verify that all wiring connections are correct and tight.
- Verify that the LEDs are enabled in the Tread app ([Enabling LED Groups, page 17](#)).

Can the device get wet?

The device is designed to operate in wet conditions, and it can be submerged for limited periods of time. Always operate the device in accordance with the water rating listed in the device specifications ([Device Information, page 21](#)). Submerging the device in water for prolonged periods of time may cause corrosion on the electrical contacts.

Device Information

Tread Audio Box Specifications

General	
Weight	997 g (2.2 lbs.)
Water resistance	IEC 60529 IPX7 (water), IEC 60529 IP6X (dust) ¹
Operating temperature range	From -20 to 70°C (from -4 to 158°F)
Storage temperature range	From -40 to 85°C (from -40 to 185°F)
Input voltage	From 8 to 14.4 Vdc
Current (max.)	40 A
Current (muted)	less than 650 mA
ANT wireless range	Up to 3 m (10 ft.)
Compass-safe distance	203 mm (8 in.)
Fuse	15 A mini-blade type
Bluetooth wireless range	Up to 10 m (30 ft.)

On-board, Class D Amplifier	
Output power per channel	4 x 100 W RMS at 14.4 Vdc input, 4 ohm, 10% THD ²
Line output level (max.)	6.0 V (peak to peak)
Aux input level (typical)	1 V (RMS)

Tuner	
FM radio frequency range	87.5 to 107.9 MHz
FM frequency step	200 kHz
AM radio frequency range	530 to 1710 kHz
AM frequency step	10 kHz

¹ The device withstands incidental exposure to water of up to 1 m for up to 30 min, and is protected against powerful jets of water. For more information, go to www.garmin.com/waterrating.

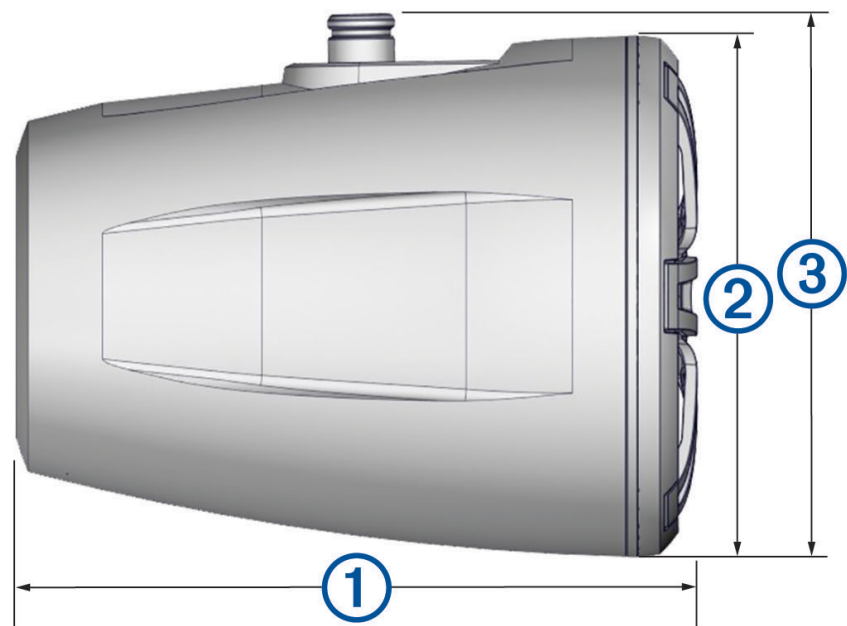
² The stereo may limit the output power to prevent the amplifier from overheating, and to maintain the audio dynamics.

Tread 6.5" XS-LED Tower Speakers Specifications

Max. power	200 W
RMS power	50 W
Sensitivity (1 W/1 m)	91 dB
Frequency response	From 80 Hz to 18 kHz
Recommended amplifier power (RMS, playing music)	From 20 to 150 W
Nominal voice coil diameter	30 mm
Impedance	4 ohms
Operating temperature range	From 0 to 50°C (from 32 to 122°F)
Storage temperature range	From -20 to 70°C (from -4 to 158°F)
Cone material	Polypropylene (PP) cone with cloth surround
Tweeter type	Aluminum dome
Water and dust rating	IEC 60529 IP67 ³
Compass-safe distance	310 cm (122 in.)
Weight	2.49 kg. (5.5 lb.)

³ Protected against dust and water ingress.

Dimensions

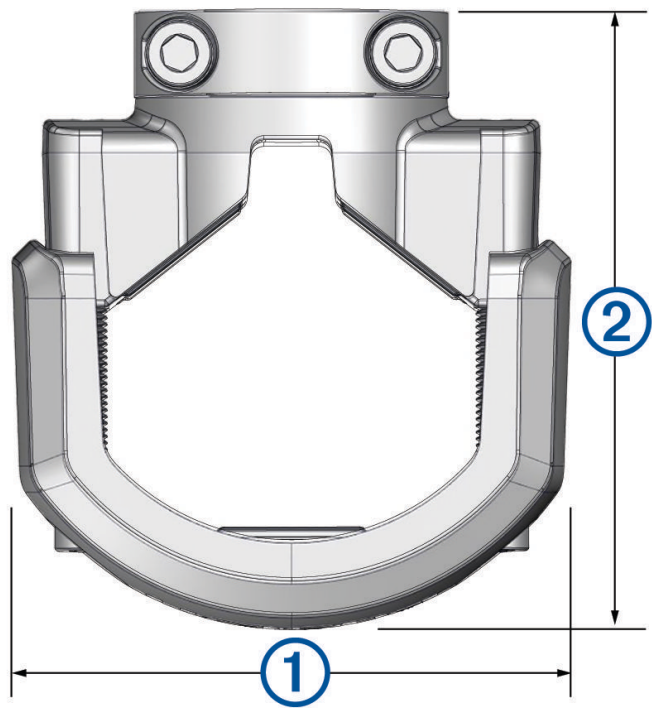


①	223 mm (8 ¹³ / ₁₆ in.)
②	Ø 176 mm (6 ¹⁵ / ₁₆ in.)
③	180 mm (7 ¹ / ₈ in.)

Bracket Specifications

Material	Aluminum alloy with silicone pads
Supported roll bar sizes	From 33.4 mm (1.31 in.) to 50.8 mm (2.00 in.) outer diameter

Bracket Side Dimensions



①	85 mm (3 ³ / ₈ in.)
②	From 74 mm (2 ⁷ / ₈ in.) to 94 mm (3 ¹¹ / ₁₆ in.)

Bracket Top Dimensions



①	37 mm (1 ⁷ / ₁₆ in.)
②	48 mm (2 in.)

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