FAKOPP

Manual for Bluetooth Caliper

January 27, 2025

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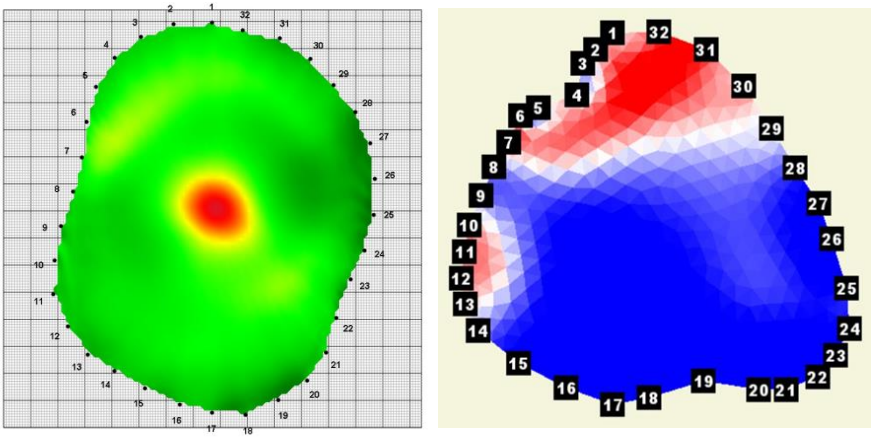
Introduction

The Bluetooth Caliper is a tool that is capable of quickly measuring distances between two points and transferring the values to a PC via Bluetooth. It speeds up registering the sensor positions for Arborsonic3D and ArborElectro, when the sensors are arranged in an irregular shape.



Trunk shapes registered with caliper in ArborSonic 3D and in ArborElectro software.

Package content

- Display unit with screen, battery and electronics

- Measuring arms ending in pins

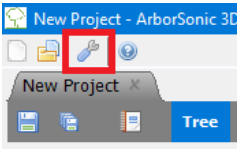
- Extension arms (optional)

- Textile or plastic case
- Charging cable (USB)
- Manual

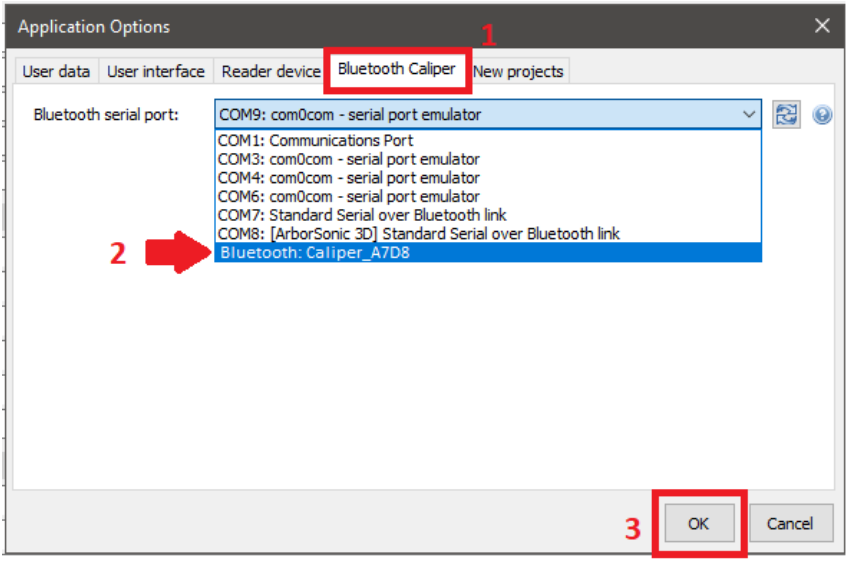
Setting up BLE caliper

The BLE caliper do not need to be paired.

- Turn on the Caliper by pressing the yellow button
- Setting up the caliper in ArborSonic 3D



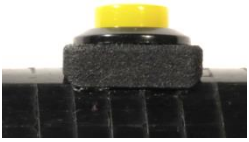
  - Go to the settings with the wrench icon
  - Select *Bluetooth Caliper*.
  - Select the Caliper connection from the bottom of the list



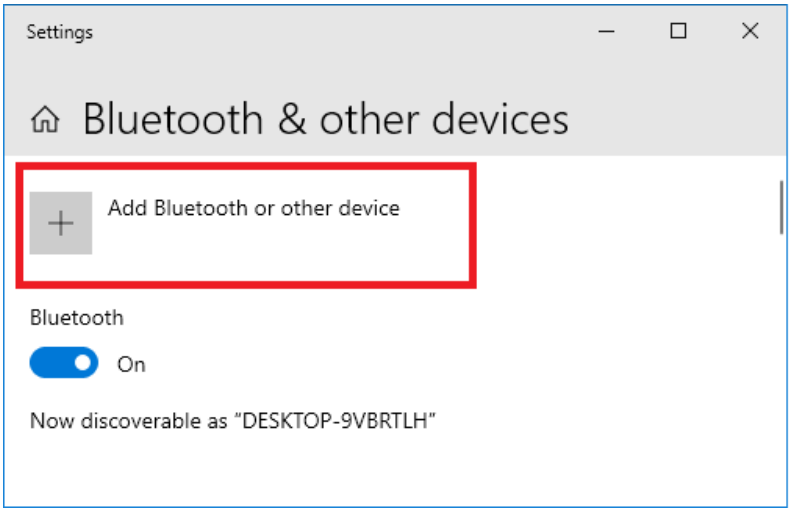
Pairing the Bluetooth Classic caliper

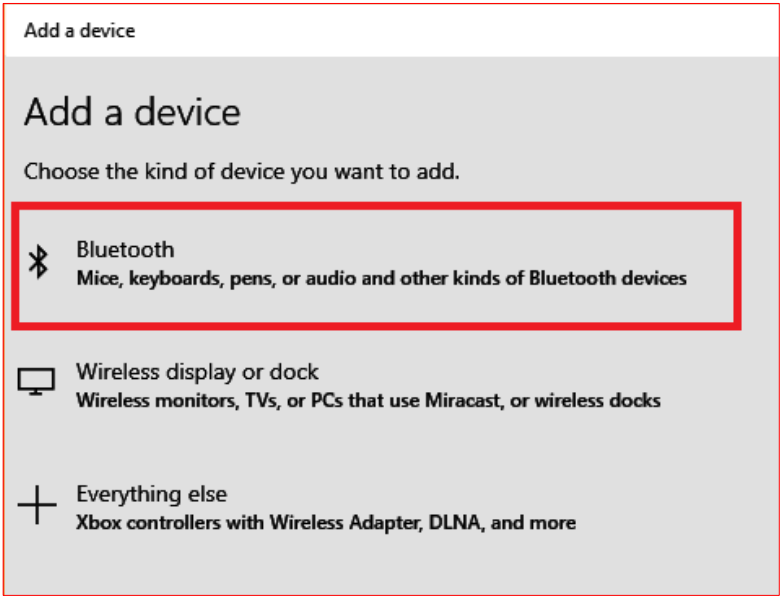
Installing the Classic Bluetooth unit of the caliper is very similar to the installation of the Bluetooth unit of the ArborSonic3D or ArborElectro.

- Make sure Bluetooth is enabled on your PC.
- Turn on the caliper by pressing its button once. For about 6 seconds '- - - -' is displayed which shows that booting up is in progress. When numbers appear, the caliper is ready to be used.

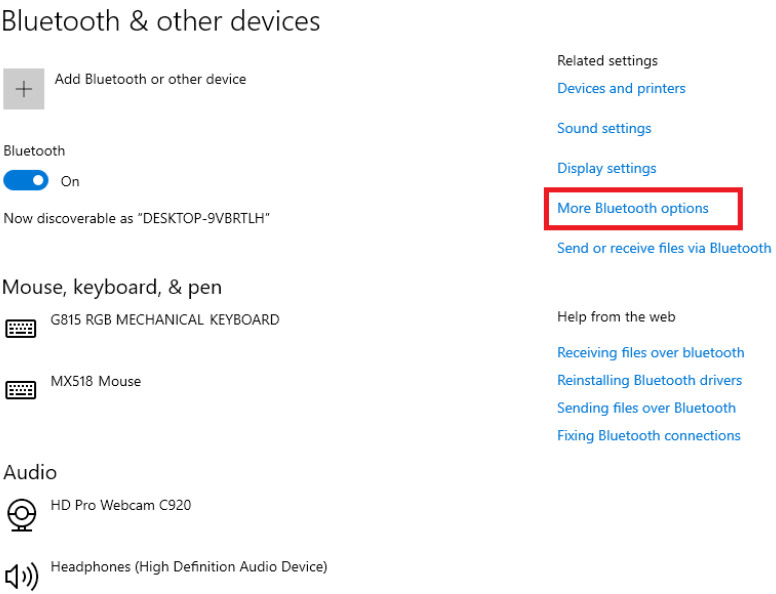


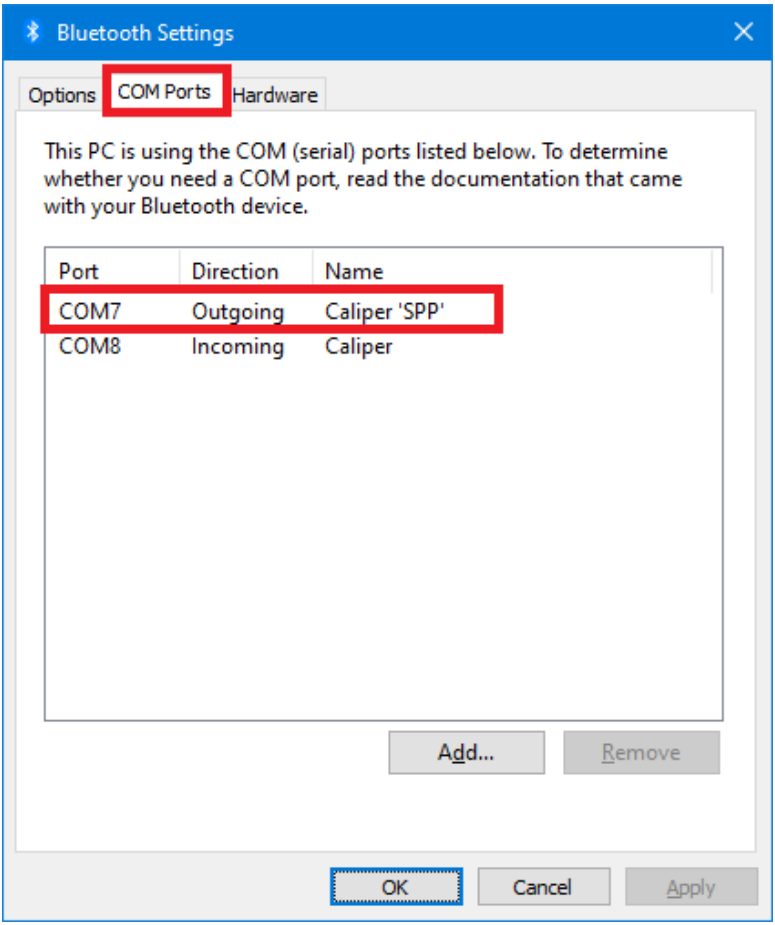
- Go to the control panel or taskbar of your Windows PC. Click the Bluetooth icon and select *Add Device*, then select *Add Bluetooth or other device* and *Bluetooth*.


Settings
Bluetooth & other devices
Add Bluetooth or other device
Bluetooth
On
Now discoverable as "DESKTOP-9VBRTLH"


Add a device
Add a device
Choose the kind of device you want to add.
Bluetooth
Mice, keyboards, pens, or audio and other kinds of Bluetooth devices
Wireless display or dock
Wireless monitors, TVs, or PCs that use Miracast, or wireless docks
Everything else
Xbox controllers with Wireless Adapter, DLNA, and more

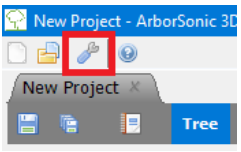
- Wait for *Caliper* to appear in the list and select it. You may have to enter the security PIN code which is *1234*.
- After pairing check the newly installed COM ports by clicking *More Bluetooth options* (you may have to scroll down), then click *COM Ports*, and then look for an *Outgoing* port with *Caliper* in the name.

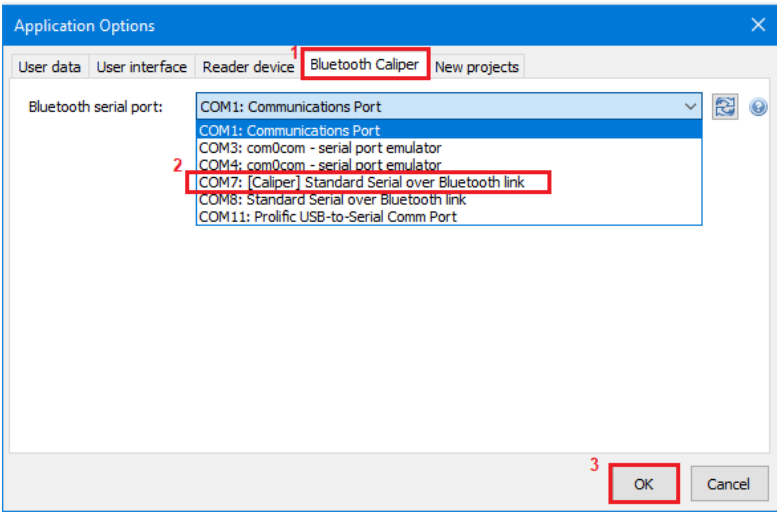



Bluetooth Settings
Options
COM Ports
Hardware
This PC is using the COM (serial) ports listed below. To determine whether you need a COM port, read the documentation that came with your Bluetooth device.
Port
Direction
Name
COM7
Outgoing
Caliper 'SPP'
COM8
Incoming
Caliper
Add...
Remove
OK
Cancel
Apply

- Setting up the caliper in ArborSonic 3D

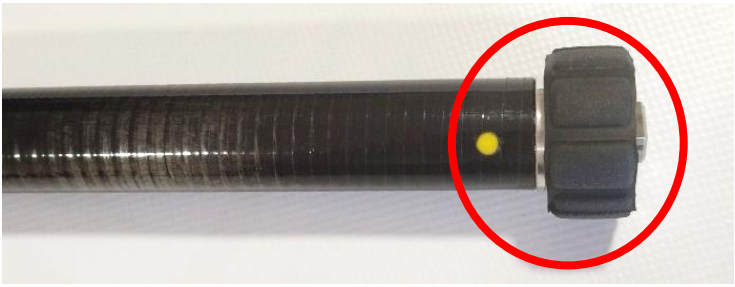
  - Go to the settings with the wrench icon
  - Select *Bluetooth Caliper*.
  - Select the Caliper COM port





Using the Bluetooth Caliper

The two arms of the caliper need to be inserted into the slots on the main part. The arms and extension arms are color-coded, the right arm has a yellow mark.



The Bluetooth caliper is equipped with two arms and is capable of having two extension arms. The measurement will take place between the tips of the measuring arms. Without an extension, the caliper is capable of measuring distances up to 1100 mm. The extension arms allow for measurements up to a distance of 1999 mm.

When using the extension arms, ensure that the nut on the end is fastened properly. You can do this manually.

Keep the screws clean, and if necessary, apply some grease.

Measurement with the Bluetooth caliper

1. Switch on the caliper by pressing the yellow button, and wait for the boot up to finish. This takes approximately 6 seconds.
2. When the battery is too low, the text **LOB** is displayed, in this case, the caliper needs to be recharged with the provided charger. Please never use any other charger than the one provided with the product.
3. Calibration: to establish a precise zero point, touch the measuring tips and hold the yellow button for five seconds. When the display shows C110 (for 1100 mm mode) or C200 (for 2000 mm mode when using extension arms), zero calibration is done.
4. The calibration settings are saved and will be remembered by the device when it is used again.
5. Recalibration is needed
    a. After extension arms are added or removed
    b. In case of wrong values (short arm: 1100 mm, extension arm: 1999 mm)

Usage of the caliper in ArborSonic 3D

Start the ArborSonic 3D software and go to the *Geometry* page. To use the caliper, select Irregular or Elliptical shape. Turn the caliper on and click the *Start BT Caliper* button.

When heard from the PC speakers: *Please measure distance between 2 and 1*. Place the measuring tips to point the mentioned sensors are entering the trunk, then press the yellow button. The data should be transmitted immediately, and you should hear the directions for the next sensor pair. Make sure to turn the speakers on and set maximum volume. The distance from the caliper will always be registered in the selected (blue) cell on the geometry page.

Please handle the calipers with special care. Only touch the measuring points, never force the caliper arms, it may bend the calipers tips. In case of extra force, it may destroy the arms as well.

Once all the points are registered, the shape of the trunk will be displayed which can be used to verify the results. If there were any mistakes during the measurement then the image will be either distorted or is not shown at all. The potentially invalid data will be highlighted red. You can repeat the measurement of certain distances by the following steps.

1. Click *Start BT Caliper*
2. Select a previously measured cell
3. Press the yellow button

Usage of the caliper in ArborElectro

Start the program and push *Start* on the left down corner on Sensor Layout tab. A green bar with the text *Status: Caliper Connected*" should appear.
Similar to ArborSonic 3D, "Please measure distance between 2 and 1" should be played through the loudspeakers of the PC. The process is the same as described in the previous section.

Usage Notes

Apply short presses for the measurement. Do not push and hold the button during the measurement because it may cause a recalibration at the wrong position.

The caliper turns off automatically after 120 seconds of idle time, the display will start to blink before this happens. To prevent shutting down, press the button.

Maintenance

You can monitor the battery condition it the ArborSonic software. Battery voltage appears on the *Geometry* screen during use. The actual voltage is transmitted when you

press the caliper button. If voltage goes below 3.5V, please charge the battery.

The caliper has integrated batteries that can be charged with the attached cable via an USB port. The charging time is about 25 hours. During the charging process the red LED will be lit. Battery is fully charged when the light turns green.

IMPORTANT:

- Deep discharge may destroy the battery, to avoid this keep caliper charged. When not used for 3-4 month, please recharge the caliper.
- The caliper is not water resistant, do not use it in rain. However, it can take a couple of drops, water protection level is rated IP21.
- The extension arms should be pulled in a direction parallel to the arms when removed, do not twist or bend them, otherwise the joint might be damaged.

Contact

In case of any questions, feel free to contact us:
Email: office@fakopp.com
Web: www.fakopp.com

Caliper with the 2-meter setup

Caliper with the 2-meter setup

Caliper with the 1.1-meter setup