

# Science & Motion Sports

## SAM PuttLab

### Installation Guide

Thank you for choosing the SAM PuttLab system!

This Installation describes the hardware and software installation process and the “Measurement”-feature in a simple way.

⚠ For optimal results first read the section “General information” on page 2.

⚠ Based on the “Delivery checklist” on page 4 please check that all items listed are included in the package.

⚠ Follow the sequence of the steps to avoid problems during installation.

#### Installation steps:

- Hardware installation page 5
- Software installation page 9
- Start software for the first time page 13
- Do your first measurement page 15



### 1. General information

**SAM PuttLab is an analysis and training system based on ultrasound technology. It analyzes more than 40 important parameters of your putting stroke and displays the results in easy to understand graphic reports.**

Minimum hardware requirements: Pentium IV with at least 1.5 GHz, 2 GB RAM, 250 MB free on your hard drive, free USB port. Software requirements: Windows Vista, 7, 8, 10 (32 or 64 Bit). Science & Motion Sports takes no responsibility if the system does not work properly under lower hardware and software specifications.

- This Installation Guide gives you a quick overview for the installation of the SAM PuttLab. After installation please read the complete operating manual on the included PuttLab setup stick for further details, or press F1 in the SAM PuttLab software to open the corresponding page in the manual.
- If you want to use the SAM PuttLab indoors, choose a place with a minimum distance of 1 meter / 3 feet to walls or other objects placed on the ground. Generally it could be a problem to do measurements in very small rooms with wall distances of less than 2-3 m (6.5-10 ft).
- After positioning the PuttLab base unit please be sure that no other objects like chairs, boxes etc. are placed inside a range of 1.5 meters / 5 feet from the unit. Objects close to the Base Unit could lead to interferences of the ultrasonic signals and may reduce the quality of recordings.
- If you use the SAM PuttLab outdoors, protect the system against direct rain. Both the Triplet and the BaseUnit are not water resistant! If there is a strong or stormy wind during the recordings this will have impact to the signal quality (noise). Try to find a place where the system is protected from the wind (maybe use a windshield).
- Please note that the automatic stroke recognition, the result data display and rating of the strokes is optimized for a putt length of 3-5 m (10-16 ft) on a stimp of 10.
- To operate the FlexTriplet you need a Lithium battery of type CR2 (photo battery). The batteries included in this package are not rechargeable. Do not try to recharge them!
- If you have any problem with the SAM PuttLab please contact us via email: [support@scienceandmotion.com](mailto:support@scienceandmotion.com) or use the support form online on [www.scienceandmotion.de](http://www.scienceandmotion.de).

## 2. Safety warnings



### 2.1 General handling precautions

- ⚠ Do not take apart/modify the equipment in any manner other than described in the manual.  
*Fire or electrical shock may result from improper handling of its components.*
- ⚠ If you hear unusual noises, see smoke, feel excessive heat or smell anything unusual, immediately unplug the USB cable and contact your retailer.  
*Continued use may result in fires or electrical shock.*
- ⚠ When cleaning the equipment, use a well-wrung, water-moistened cloth. Do not use flammable liquids, such as alcohol, benzene or thinners.  
*If a flammable liquid enters the inner electrical parts, fire or electrical shock may result.*
- ⚠ Some of the package components are shipped inside plastic bags.  
*These bags can be dangerous.*  
**To avoid danger of suffocation, keep the plastic bags away from babies and children!**



### 2.2 Transport and storage

- You can easily take the SAM PuttLab wherever you want within the original case. Please insert the parts into the case as they were shipped. Don't store it in a damp or wet place!
- When not in use for extended periods of time, remove the battery from the Triplet. Also unplug the USB cable for safety.

### 2.3 About locations for usage of SAM PuttLab



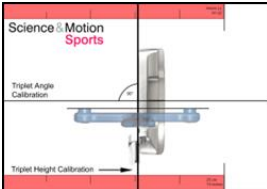

- ⚠ Do not place the equipment near flammable liquids such as alcohol or thinners.  
*If these come in contact with internal electrical parts fire or electrical shock may result.*
- ⚠ Do not place the following objects on top of the equipment:
  1. Metallic objects, such as necklaces.
  2. Containers with liquid, such as cups, vases, and flower pots.*If the internal electrical parts come in contact with these, fire or electrical shock may result.*  
**If any of these objects or liquids enter the equipment, immediately unplug the USB cable and contact you retailer.**
- ⚠ Do not place the equipment in the following areas:
  1. Areas with high temperatures (higher than 60°).
  2. Areas near flame sources.*Fire or electrical shock may result.*

### 3. Delivery checklist

		
Tripod	Base Unit	
		
Triplet Calibration Sheet	FlexTriplet with FlexClip	
		
USB cable	Battery	
		
Software License document with download instructions	Laser Alignment Board (optional)	Laser with battery charger (optional)

### 4. Hardware installation

#### Needed parts:

				
Base Unit	FlexTriplet with FlexClip	Tripod	Triplet Calibration Sheet	Battery

#### 4.1 Inserting the battery

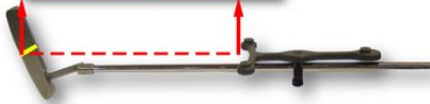
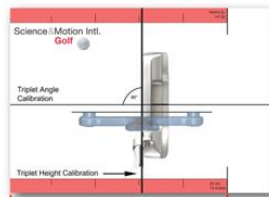


1. Open the battery case on the backside of the FlexTriplet.
2. Insert the battery into the inset.
3. Close the battery case.



If you activate the FlexTriplet by pressing the button and the LED on the front turns red, the battery is empty. You need to replace it. For further information about battery life, battery type and buying new batteries please see section 8.3 (page 20).

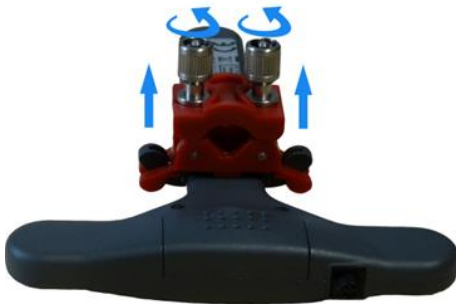
### 4.2 Mount the FlexTriplet to a putter



1. Position the FlexTriplet at a distance of 25 cm (10 inch) from the lower edge of putter head.



The Triplet Calibration Sheet helps you to measure the correct distance.



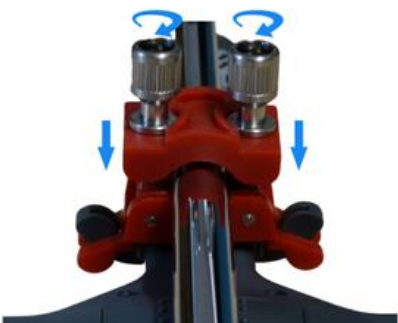
2. Release both nuts of the FlexClip.



The FlexTriplet can be mounted to putters with different shaft diameters by adjusting the two nuts of the FlexClip.



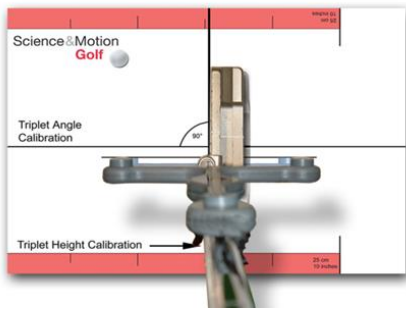
3. Place FlexTriplet on the shaft of the golf club.
4. Flap the red fastener around the shaft.
5. Flap the second screw into the fasteners notch (blue arrow).



6. Fasten both FlexClip screws evenly until the FlexTriplet is fixed lightly on the shaft.
7. Fasten the FlexClip as displayed in the left picture. Not lock it as shown in the red box image.



## Hardware installation



8. Place the putter head on the Triplet Calibration Sheet.



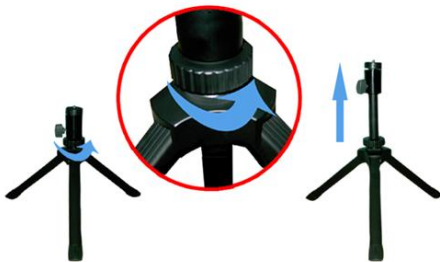
The FlexTriplet has to be mounted to the putter head with an angle of 90°. The Triplet Calibration Sheet will help you.

9. Adjust the angle between putter head and FlexTriplet (exactly to 90°) by using the line on the sheet.
10. Fasten the FlexClip screws.



If you lost the Triplet Calibration Sheet, you can find a copy on the PuttLab Setup Stick.

### 4.3 Setting up the BaseUnit with Tripod



1. Unscrew the Tripod.
2. Expand the Tripod to a total height of 30 cm (12 inch).
3. Tighten the nuts again.

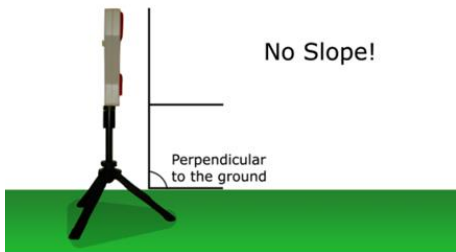


4. Mount the BaseUnit onto the head of the universal joint.



Be careful not to tighten the tripod screw too heavy, otherwise the thread in the base Unit could be damaged..

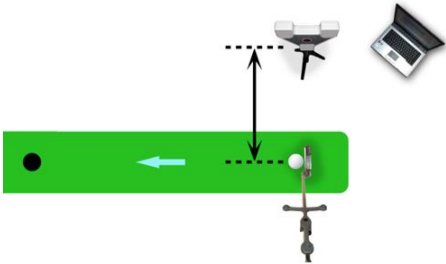
## Hardware installation



5. Place the BaseUnit with the tripod on a flat and stable ground.



Check if the angle of the BaseUnit is perpendicular to the ground.

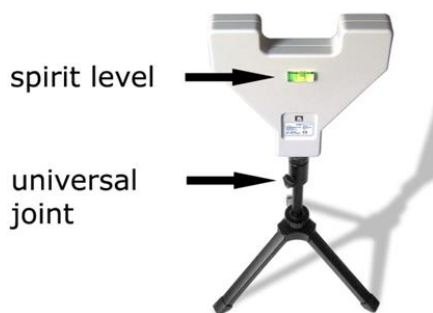


6. Arrange the components as shown on the picture on the left.



The distance between your putter with the mounted FlexTriplet and the BaseUnit should be approximately 0.5 m (20 inch).

7. Set up your PC or notebook close to the position from where you are going to putt.



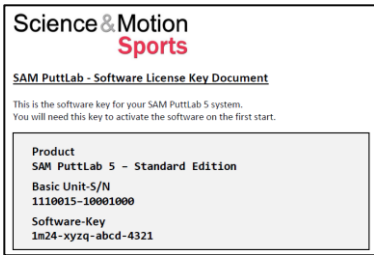
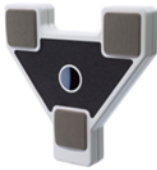

8. Check the horizontal alignment with the spirit level on the backside of the BaseUnit.
9. If necessary, adjust the alignment with the universal joint of the tripod.

✓ **Sequence “Hardware installation” is completed!**



### 5. Software installation

#### Needed parts:

		
Software License document with download instructions	BaseUnit	USB cable

#### Software download:

Please go to the following website to register and download your PuttLab software:

<http://www.scienceandmotion.com/get-puttlab-software/>

Please register for SAM PuttLab software download:

First name (required)	<input type="text"/>
Last name (required)	<input type="text"/>
Organisation	<input type="text"/>
E-Mail (required)	<input type="text"/>
Phone (required)	<input type="text"/>
City (required)	<input type="text"/>
ZIP code (required)	<input type="text"/>
Country (required)	<input type="text" value="Please select..."/>
Hardware serial number [Click here for more information]	<input type="text"/>
Security code: C V6 D	<input type="text"/>
<input type="button" value="SEND"/>	

1. Enter the following link in your browser:  
[www.scienceandmotion.com/get-puttlab-software/](http://www.scienceandmotion.com/get-puttlab-software/)

☞ The SAM PuttLab software registration form opens.

2. Fill out the form.
3. Click the “SEND” button.  
☞ You will be directed to a webpage with the information needed for download and installation of the SAM PuttLab software.
4. Click the download link and unzip to a local folder on your computer.
5. Run the included Setup EXE file.



During installation you may be asked if you want to take over your existing data from a previous software version to the new installation. Press

## Software installation

YES on this question if you want to transfer all your existing data to the new installation (this information only applies if you do an update for an existing PuttLab).



☞ The setup screen appears.

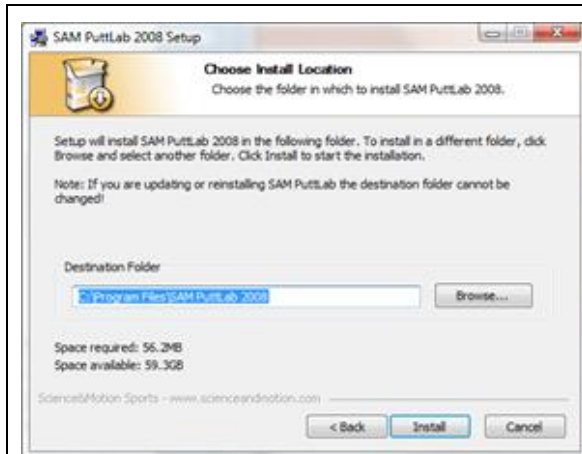
6. Click the “Next” button to continue.



7. Accept the license agreement by checking the box below the agreement.

8. Click the “Next” button.

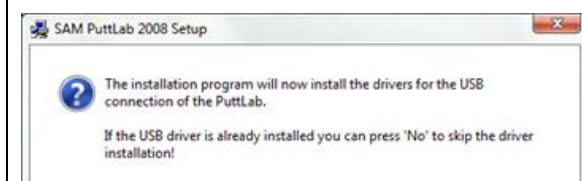
## Software installation



☞ A destination folder will be shown.

9. Click the “Install” button or browse for a different destination.

☞ After setup procedure has copied all files to your hard disk, you will be asked to install the USB driver.



10. Click the “Yes” button.

☞ Setup will analyze your operating system.

11. Click “OK” to continue.



☞ The Windows “Device Driver Installation Wizard” will appear.

12. Click on the „Next“ button.

☞ Depending on the operating system you are using, Windows may ask you if you want to install the driver.

13. Click the “Install driver anyway” button and continue installation.

## Software installation



- ☞ After software installation is finished you will be prompted to connect the BaseUnit to your PC using the USB cable.

14. Connect the BaseUnit now to your pc or notebook.

- ☞ After you plug the BaseUnit into the USB port, your computer will notice a newly attached device.

**Depending on the operating system and security settings you are using, Windows alerts you with a pop up. Allow the installation process to proceed when you see one of these alerts. Other commonly used terms to allow a process to proceed are: “Unblock”, “Yes” and “Permit”.**

- ☞ After the USB driver has been successfully installed, another window pops up.

15. Click the “Finish” button.

16. Remove the PuttLab Setup Stick from USB port.

- ✓ **Sequence “Software installation” is completed.**

## 6. Start the software for the first time



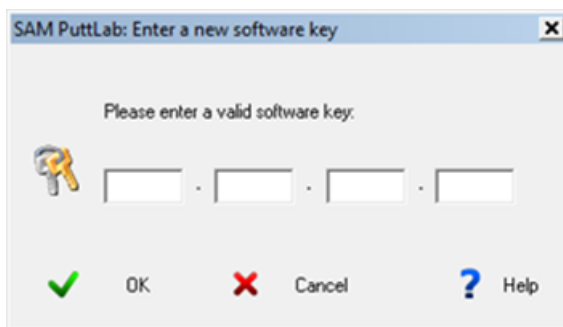
Be sure to have the Base unit connected to a USB port on your computer before you start the software!



Check if the LED inside the lower grid of the Base Unit is lit green! Otherwise the USB driver installation has failed. If so, repeat step “Software installation” of this Installation Guide!



1. Double-click on the desktop icon to start the SAM PuttLab software. You can also start the software through the Window start-menu under “Programs > SAM PuttLab 6” (6 is the version number).



- ☞ You will be prompted to enter the software key printed on the software key document.



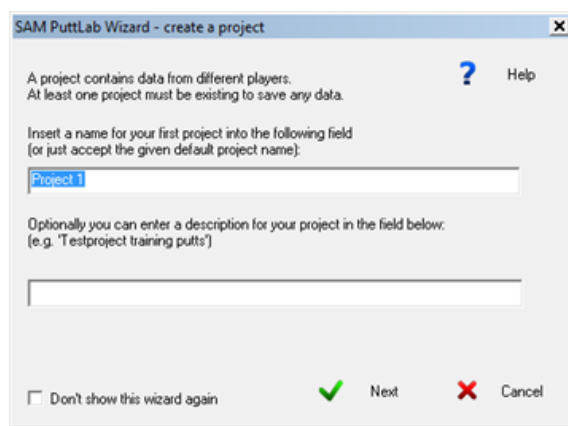
The key which is provided to you is a unique key for your product. Keep it in a secure place.

2. Type in the key and press the “Ok” button.
  - ☞ With the input of the software key the software checks if the correct BaseUnit is connected to your PC.



If you get an error message press the “Help” button on the software key dialog for help with problems during the registration.

## Start the software for the first time



The screenshot shows a window titled "SAM PuttLab Wizard - create a project". It contains the following text: "A project contains data from different players. At least one project must be existing to save any data." Below this is a "Help" button with a question mark icon. The next instruction is "Insert a name for your first project into the following field (or just accept the given default project name):". There is a text input field with "Project 1" entered. Below that, it says "Optionally you can enter a description for your project in the field below: (e.g. 'Testproject training putts')". There is another empty text input field. At the bottom, there is a checkbox labeled "Don't show this wizard again", a green checkmark icon, a "Next" button, a red X icon, and a "Cancel" button.

☞ The "SAM PuttLab Wizard" will appear.



The data in the software is organized in projects that contain the corresponding players. For each player you can have several measurements.

3. Follow the instructions on the screen and create a first project and a player.

☞ After you have finished the process the Wizard will close and you will be re-directed to the main program window.

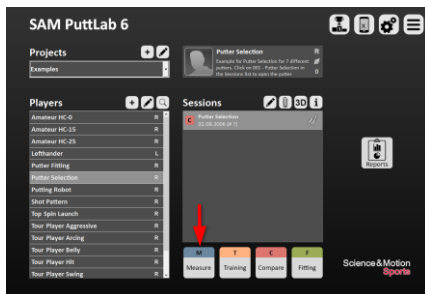


If you need help on the input fields press the "Help" button on the Wizard pages at any time.

✓ **Sequence "Start the software for the first time" is completed.**

## 7. Do your first measurement

### 7.1 Create a measurement

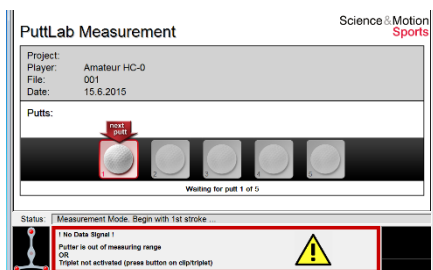


1. Select the “Measure” icon from Main Screen start the first measurement.



☞ “Start Measurement” screen opens

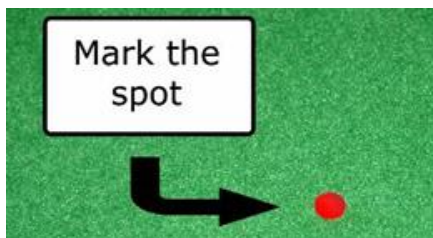
2. Press the “Start” button.



☞ The measure screen will open.

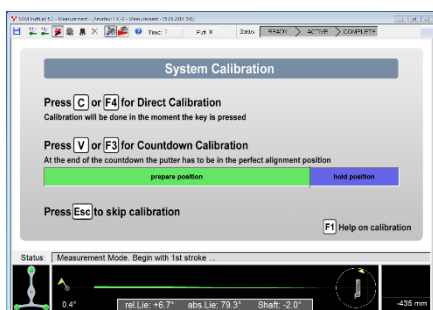


Please continue on to next steps.



3. Mark the spot from where you will make all your putts (with chalk or sticky tape).
4. Place a golf ball exactly on the spot.
5. Move in front of the BaseUnit.
6. Shortly press the button on the FlexTriplet.

☞ LED on the FlexTriplet turns green



☞ If you are inside the measuring range the “No Data Signal” text box will disappear and you can see the motion of your putter animated with graphs/corresponding numbers on the screen.

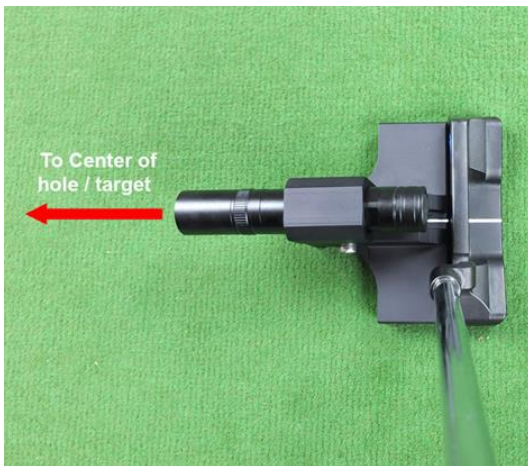
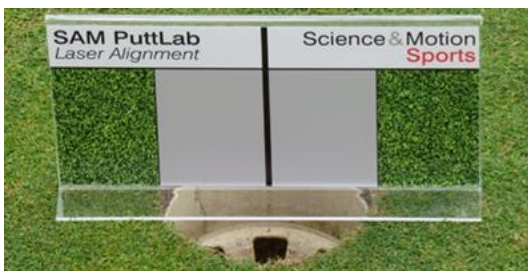
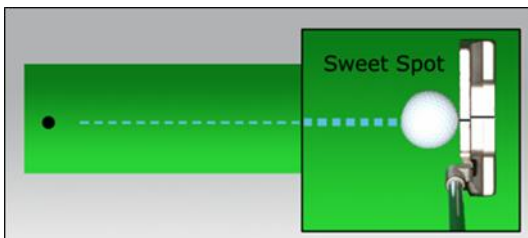


If the LED on the FlexTriplet is green-flashing or red-flashing, see page 19!



## 7.2 Execute the calibration

In this step the system will be calibrated to your putt position and direction. The calibration will be executed in the “Direct Calibration” mode. This means that firstly you should find your address position and hold your club stable in this position, then finally press the “C” button on your keyboard to calibrate.



1. Move to your putt position.
2. Set the putter on the ground like shown in the picture on the left (ball in sweet spot of the putter head).
3. Place the Laser Alignment board directly behind the hole (the black line should be in the middle of the hole) or target position.



Alternatively, you can place any other object behind the hole/target to make the laser beam visible (like the PuttLab suitcase).

4. Align the putter head exactly to the target by using the Laser and the Laser Alignment board.
  - Place the Laser on the putter like displayed in the picture on the left. The white line on the back of the Laser should meet the marking line or sweet spot of the putter.
  - Now activate the Laser by pushing the button on the barrel end.
  - Align the putter until the laser points to the target.



## Do your first measurement

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- ☞ You should now see the Laser beam on the center area of the Laser Alignment board or on the ball positioned in front of the hole. If this is not the case move the Laser until the beam is visible on the target object.
- ☞ Be sure the laser beam still points to the center.

5. Hold your putter stable in the address position.

6. Press the “C” on the keyboard or press the “execute direct calibration” button.



- ✓ **After calibration has finished without an error message the system is calibrated and ready to record your putts.**



If you are only one person working on the system, please use the “countdown

calibration” button



(please go to page 22 for more information).



The calibration of the system must be done after every software startup, every change of the ball position or target position, change of the putter and repositioning of the FlexTriplet on the golf club.

### 7.3 Make your first putt

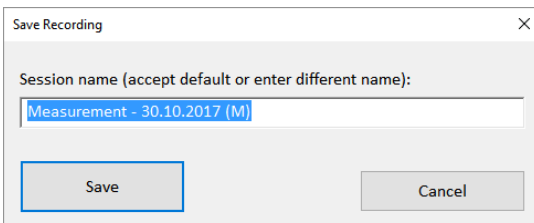
Status:

Ready...

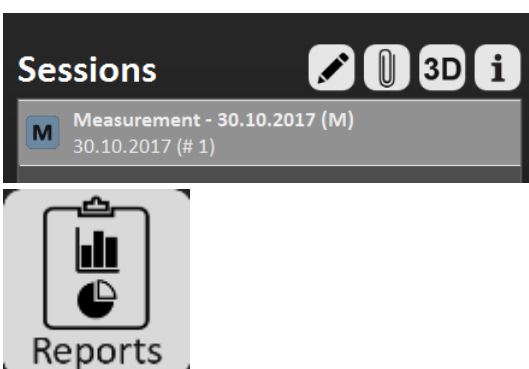
1. Hold the putter head still for 2 seconds before executing a stroke until the "Ready" signal on the top of the screen turns green.
2. Then putt.



- ☞ After you have made your putt you can verify if it has been recorded by checking the checked-off putts on the screen.



3. Repeat step 1 and 2 until all strokes are recorded.
- ☞ After all putts are recorded you will be asked to save the recording. Press the Save button.



- ✓ **Congratulations! You've done your first measurements.**






By double clicking on the session in the list or by clicking on the Reports button you can now open a result Report to review your putting results.

**Don't forget to check out the help functions in the PuttLab software to get a maximum of information on all features of the software.**

**Press the F1 key in the main screen of the SAM PuttLab software to open the help overview page. Or open the settings and go to the "Program Help" page.**




## 8. Important Information

### 8.1 LED Status of the FlexTriplet





<p>Green – constant</p> 	<p>FlexTriplet is activated and sending signals from the sensor.</p> <ul style="list-style-type: none"> <li>☞ You can hear a gentle buzzing noise.</li> <li>☞ If you don't make a measure the active mode lasts for 90 seconds. Then the FlexTriplet turns into standby mode.</li> </ul>	<p>Strokes can be made in front of the BaseUnit.</p>
<p>Green – flashing</p> 	<p>FlexTriplet is in standby mode.</p> <ul style="list-style-type: none"> <li>☞ The Standby mode lasts for 30 seconds. Then the FlexTriplet automatically turns off.</li> </ul>	 <p>As soon as you move in front of the BaseUnit the FlexTriplet activates itself for measurements.</p>
<p>Red - flashing</p> 	<p>Battery is empty.</p>	 <p>Replace battery with a new one (see section 8.3 on the next page).</p>

### 8.2 LED Status of the BaseUnit

After finishing the software and driver installation of the SAM PuttLab and connecting the BaseUnit for the first time there are two possible LED statuses:

Green 	Driver installation is working correctly.	You can make a measurement.
Black / Off (does not light up) 	Driver installation is NOT working correctly.	 Re-install the SAM PuttLab software. Be sure that the driver installation during the setup is executed (see page 9 – “Software Installation”).

During the measurement different status will occur:

Red 	BaseUnit is in measuring mode, but receives no signal from the triplet.	 Be sure that the FlexTriplet is activated and in front of the BaseUnit.
Orange 	Infrared connection is interrupted or the FlexTriplet is out of range.	 Be sure that the FlexTriplet is in front of the BaseUnit and that there are no objects/persons between unit and triplet.

### 8.3 Batteries for the FlexTriplet

Needed battery type	Lithium battery CR2 (photo battery)
Battery life (constant usage)	> 30 hours
Time until next battery change (daily use of 2 h)	> 30 days



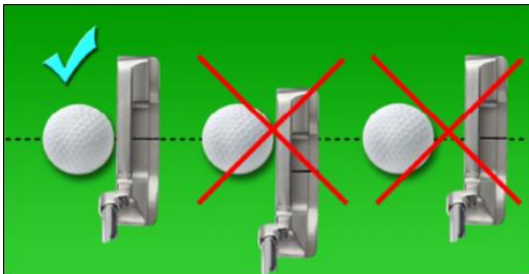
If you have difficulties finding the batteries please contact Science & Motion Sports.

### 8.4 Calibration

#### 8.4.1 Why is it so important

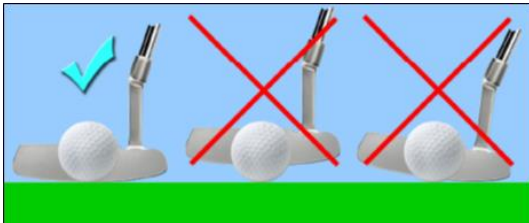
The calibration of the system must be done after every software startup, every change of ball position or the target position, change of the putter and repositioning of the FlexTriplet on the golf club. All the data will correspond to the ball position and the target direction from the calibration point. Without proper calibration the result data may be inconsistent and the reports differ from your real strokes. So, try to be very accurate while executing the calibration!

#### 8.4.2 Correct calibration position



##### Top view calibration position



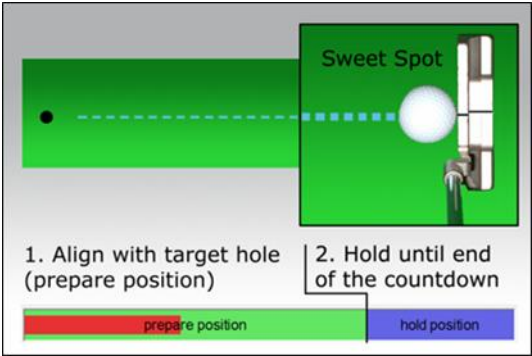


- ☞ Be sure to have your club head close to the ball and in horizontal sweet spot position when you calibrate.



##### Side view calibration position

- ☞ Be sure to have your club head set on the ground in proper lie angle (club head bottom flat to the ground) when you calibrate.

### 8.4.3 Calibration methods

There are two ways to calibrate the SAM PuttLab system	
<b>Direct calibration</b>	<p>Press the “C”-key or the “execute direct calibration” button  on the keyboard!</p> <p>✓ <b>The SAM PuttLab will be directly calibrated</b></p> <div><p>This is the best and easiest way to calibrate when you are more than one person working on the system.</p></div>
<b>Calibration via automatic countdown</b> 	<ol style="list-style-type: none"><li>1. Press the “V”-key or the “calibration countdown” button  on the keyboard!</li><li>2. Find your address position during the countdown time (default: 15 seconds).</li><li>3. Hold the club stable in the “hold position” at the end of the countdown.</li></ol> <div><p>This is the easiest way to calibrate when you are only one person working on the system.</p></div>

## 9. Personal notes

[illegible]

## 10. More Info / contact

<b>Science &amp; Motion Sports</b>	
Website	<a href="http://www.scienceandmotion.com">www.scienceandmotion.com</a>
E-Mail	<a href="mailto:info@scienceandmotion.com">info@scienceandmotion.com</a>