Quintic Ball Roll v3.4
‘The Launch Monitor for Putting’

Set-up & Calibration Instructions
2016

www.quinticballroll.com
• PLEASE ENSURE YOUR QUINTIC BALL ROLL SOFTWARE IS INSTALLED AND UNLOCKED BEFORE SET-UP & CALIBRATION: Through Quintic Security each Quintic Licence is dedicated to recognise one computer. Click Register Now to enter your 25 digit 'A' Security Code. Please note: Any changes (e.g. new hard drive, re-formatting the hard drive, new operating system, new computer.) locks out the Licence and the Quintic Program will not function.

• PLEASE INSTALL the Quintic USB3 high-speed drivers (64 or 32 bit version). Once correctly installed, the light on the back of the Quintic USB3 camera will go from red to green (as below). This signifies that the computer has recognised the presence of the camera. If the camera is RED, please refer to the camera driver installation section.

• Open Quintic Ball Roll v3.4 from the desktop icon. After the USB3 camera is installed correctly and connected, the ‘Open Live Camera’ button will be active. Please click this to see the live USB3 camera image. PLEASE ensure Camera is connected FIRST, before opening Quintic Ball Roll v3.4

• To select the optimal camera recording speed, click on ‘Camera Frame Speed’. This section of the software will enable you to find the optimum speed for the camera on your computer. Note and select the best Frame Rate for your computer to record using your Ball Roll analysis software. The maximum frame speed for the USB3 camera is 365.51 frames per second (fps), but the system will set the suggested maximum as 360fps. Once selected click ‘Save Camera Parameters’. The camera parameters will be saved for next time you OPEN the Quintic software.

• If the camera is less than 300fps please refer to the camera driver installation section, reconfigure the USB3 port drivers on your computer or contact info@quintic.com for further help.

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Setting Up the Quintic Ball Roll v 3.4 System

Ball to Target Line

LEFT Hand Golfer
Ball Position

Distance from Ball to Target Line to Camera Lens:
112cm / 44"

RIGHT Hand Golfer
Ball Position

Ball to Target Line

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• The camera lens used for Quintic Ball Roll is a fixed lens (fixed focus length of 12mm) with manual focus and exposure (with locking screws) and has to be a fixed calibrated distance of **112cm / 44”** from the Ball to Target Line 'T' Bar to the front of the camera lens (see image above). The camera must be positioned correctly, focused and correct aperture (light setting) prior to any data collection using the calibration procedure within the software.

• Make a mark on the floor / grass where all the putts will be hit from (we suggest using a permanent marker or something similar). This is to ensure ball position remains constant throughout the session, and the system is correctly calibrated to this ball position.
  (N.B. Please note the different ball positions for a right/left handed golfer. The images in this tutorial are based upon a right handed golfer.) However, once the putt for a left hander has been collected, ball travelling from right to left during the LIVE image – the display image will be left to right (the same as for a right hander)

• Position the 'T' Bar on the 'Ball to Target Line' BEFORE you position the two marked balls. Use your mark on the floor and a laser/chalk line to position the ‘T’ bar in the correct position. Please see the image on the right, which depicts the laser line going down the central line of the ‘T’ bar, and then can be seen running up the flag pole in the hole (the target).
  (N.B. Please note that although a laser line is used for this calibration tutorial, a chalk line would work equally as well. In addition, for a breaking putt the chosen target line must allow for your assessment of break and speed.)

• Additionally the Camera Exposure must be set correctly. By clicking on ‘Camera Exposure Time’ a bar will appear whereby you move the pointer to set the exposure time. Please note, the shorter (faster) the exposure, the sharper the images will appear within the software, however you will require more light in the area. Please be aware of changing light conditions (especially outdoors with intermittent cloud cover). It is possible to open and alter ‘Camera Exposure’ without impacting the frame capture speed or calibration, so the exposure can be adjusted between putts.

• **REMEMBER the Sunlight Filter for the 12mm fixed lens if using the system outdoors!**
Calibrating the Balls

- Click on ‘Calibrate’, then ‘Ball’, and position two balls into the cut-outs in the ‘T’ Bar.

- This will open up the image below, displaying two yellow circles and two red lines. By moving the camera unit (NOT the ‘T’ Bar) and adjusting the feet on the tripod unit you need to ensure that the two balls fit precisely inside the yellow circles and the vertical red line runs directly through the central groove of the ‘T’ Bar (this ensures the camera is 90 degrees to the path of the putt). Additionally, to ensure that the camera is level, make sure the horizontal red line is parallel to the base of the ‘T’ Bar. Ensure you can see the three black dots in both balls – Ideally try and have one dot in each quarter of the golf ball… (see image below)
Carefully slide the ‘T’ bar out of the way, click ‘Reset’ and then ‘Calibrate’, ‘Ball’ again.

Once you click Calibrate Ball, two small red dots (At the end of the yellow scaling ruler) should both turn **GREEN** after a 10 seconds (see image below). This means the software has correctly identified the balls. If either of the balls are not correctly positioned or lit then the corresponding dot will stay **RED** – please adjust the position of the camera / exposure / lighting and try again. Please ensure you can see the 3 black dots in both balls, otherwise the light will not turn green.
• Note the Ball Brightness figures just below the control buttons (highlighted in RED in image above). The ball brightness value should be between 100 – 115 and ideally there should be no more than 5 difference in the ball brightness value between the left and right balls. If the difference is greater than 5, please check the angle of the light on the stand (it may not be square / or the camera not square on the bracket) and look for any additional light source within the room. If possible block out this additional light source.

• If the Ball Brightness is too high or low, the software may not be able to identify the golf balls. If the dots do not turn green within 30 seconds, please confirm that the three dots are visible, the balls are within the yellow circles, and if all this is correct, adjust the ‘Ball Brightness’ by either altering the ‘f’ stop value on the camera lens (by rotating the middle ring on the lens), or by changing the exposure time within the ‘Camera Exposure Time’ option.

• An example of the ball being overexposed: (Ball Brightness 140)
• An example of the ball being underexposed: (Ball Brightness 70)

• Once the ball dots have gone **GREEN**, the information box appears notifying you that Ball Calibration is complete. If you are happy with this calibration click ‘Yes’. If you wish to make changes and recalibrate, click ‘Retry’.

• When happy remove the second ball and click on the ‘Test’ button. This will ensure that the computer can locate the golf ball and three dots correctly prior to any data capture.

• If the ball has been found three crosses (Red, Blue, Green) will be displayed on the software along with the location of the golf ball (Red Circle and Cross). The Ball’s Brightness level will also be displayed underneath the 16” mark on the yellow scaling ruler.

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Please note: It is a good idea to mark on the floor / green the location of the 0” (right handed players) and if measuring a left hander, mark the 12” location.
Calibrating the Putter

- Firstly, attach the supplied club markers to the putter. The smaller of the two markers goes on the Toe of the club, the larger on the base of the Shaft (as displayed below). N.B. Although these markers should peel off without any problem, we do not recommend they are left on the club for too long. If so, they may be more difficult to peel off, but should only leave a sticky residue if this happens. The markers don’t have to be vertical, but would recommend you try and locate them approximately in the vertical plane. Don’t worry if the stickers are not perfectly vertical, or even if the toe marker curls over the toe (some models have a rounded toe design)

- You will be required to enter the distance between the MIDDLE of the two shaft markers and the MIDDLE of the two toe markers using the metal ruler. In the example below 8.5cm. Please ensure you are as accurate as possible during this measurement.
Putter Calibration (LASER)

- Set Putter Calibration Self-Timer ON (Via the HELP Menu)

- Once the software has been calibrated for the golf balls please remove the tee bar and two balls. Place the alignment board directly behind the hole (or target if using a slope). Please ensure you take your time with this next procedure as the more accurately this is done the more accurate the data you will collect. The location of the back of the laser MUST be as close as possible to the Address and Impact position of the putter face. The objective of the laser is to ensure the putter face is square to the target line. Therefore, the position of the laser is vital. Please see image below of what the laser position should look like within the Quintic software.
Please note: the golf ball will be inside the yellow circle. You can see from the above image that the putter face is therefore directly behind the back of the golf ball. PLEASE try and ensure the leading edge of the putter is as close to the back of the yellow circle (ball) as possible. If you are too far away from the correct location, the software will notify you.
Switch on the Quintic laser and position it so that the beam hits the centre of the alignment board (or ‘starting line’ when putting on a slope) When the laser and alignment board are positioned correctly move the putter so it is pressed ‘FLUSH’ against the back of the laser in the address position / shaft vertical & lie flat position of the golfer / club. You can select the time (seconds) for the self-timer to count down from 10 seconds. You will hear audio beeps from 5 seconds, until a long beep when the software will take the recording for the club data.

Ensure that the putter is pressed squared against the back of the laser otherwise the alignment of the putter will not be correct (even though the laser is aiming at your target!). The image below shows the putter pressed corrected and aligned square to the target.
The two images below represent occasions where the putter would not be aligned square.
Now that the putter is positioned correctly you can begin to calibrate the putter. First click the calibrate button located on the tool bar. Then select putter and the image below should appear.

Once you have clicked ‘OK’ the software should calibrate the putter. If the putter is successfully calibrated a screen such as the one below will be produced. The final step of the calibration and aligning the putter is to insert the distance between the top shaft marker and the top toe marker using the metal ruler. Please ensure you are as accurate as possible during this measurement.
• Please note, it is also possible to calibrate the putter in the player’s particular golf stance - the face, lie and shaft angle readings from the software are relative to the calibration frame. It is recommended for accurate results, that the lie of the putter is as close to the normal address position (i.e. do not have the toe or the heel too high off the ground in comparison to your normal set-up).

• If you calibrate the software using the players own address position (for example a 2 degree shaft lean at address) the software will report positive or negative values based on the calibrated position. For example, is a player adding loft during the stroke, or delothing by increasing the forward shaft lean.

• If your need to know the shaft angle relative to the vertical (0 degrees = Vertical) the club needs to be calibrated vertically using the spirit level provided, along with keeping the face flush to the ‘T’ Bar. Position the club shaft so as the spirit levels reads the club shaft as vertical (see images below).

This is an option if you require a vertical shaft at putter calibration – the majority of clients use the shaft angle of the golfer at their own address position for coaching / fitting...

Once you are happy the face is square, and the shaft is vertical, click on ‘ Calibrate’, then click ‘Putter’ This process requires TWO people, one to hold the club, one to click the buttons on the computer.
• If the software is unable to identify the putter, the following information box will appear notifying you. The example below shows the Toe of the club being too high, obstructing one of the shaft markers. As the information box informs you, please check the position of the putter, check that all markers are visible to the camera and check the lighting (especially if you are working outside and the conditions may have changed).

• You will be required to enter the distance between the MIDDLE of the two shaft markers and the MIDDLE of the two toe markers using the metal ruler. In the example below 8.5cm. Please ensure you are as accurate as possible during this measurement.

Collecting Data

• You are now ready to start collecting data. Start putting from either Ball Position 0” (Right hander) or 12” (Left hander in the opposite direction) that you have calibrated and marked. The software will automatically recognize that as the calibrated ball position for subsequent putts with no need to re-calibrate.

• Although we suggest you mark the address ball position on the ground during the calibration process, if you have not, use the green guides on the ruler below the video to position the ball. The centre of the golf ball should be inside these lines (either the ones around 0 inches for right handed golfers, or the lines around 12 inches for left handed golfers).

• When ready to hit a putt, position the ball in the correct position, and click on ‘Start Putt’. Flashing crosses (Green, Blue and Red) will appear on the black dots on the ball signifying that the software has identified the ball (see below). You may now complete your putt. Enjoy!

• If any invalid putts are recorded, please read the message displayed in order to rectify the solution, a small movement, markers are not tracked correctly, dropped frames during capture…
Please note, if you are receiving an error stating that the ‘critical event markers’ could not be tracked and markers will be interpolated during impact, please click continue to see the data. You may have to adjust the position of the toe marker on the club very slightly. If the putter used has a particularly shiny face some reflections may be created around the point of impact which will invalidate the data collection of the club. Please reposition the markers slightly over the face as shown in the below images and recalibrate the putter.
You can save single putts or ‘Create Putting Session Directory’ by clicking on the file icon. The Directory allows you to add selected putts one by one through the session. The results can be viewed in the Summary Tab.

- There is also an Auto Save option for sessions of putts. To enable, click on ‘Help’ and tick ‘Auto Save Putts’.
- Metric / Imperial
- Ball Only
- Self Calibration Timer On/Off

Finally, there is an option for the client to insert their own company logo. The logo is permanently displayed within the Quintic software. Please see example below, please contact info@quintic.com for further details on the location required for client logo.
REMEMBER the Sunlight Filter for the 12mm fixed lens if using the system outdoors!