

USER MANUAL

# EYE XO 2

Important: Read before using.



# Notice

## Grounding Instructions

In the event of a malfunction or breakdown, grounding provides a path of least resistance for electrical current to reduce the risk of electric shock. This tool is equipped with an electrical cord having an equipment grounding conductor and a grounding plug. The plug must be plugged into a matching outlet that is properly installed and grounded in accordance with all local codes and ordinances.

Do not modify the plug provided. If it will not fit the outlet, have proper outlet installed by a qualified electrician.

## Step 1: Hardware Installation Guide



## Step 2: Software Installation Guide


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# To Ensure Safe Use






Improper handling or operation of this machine may result in injury or damage to property. Points which must be observed to prevent injury or damage are described as follows.

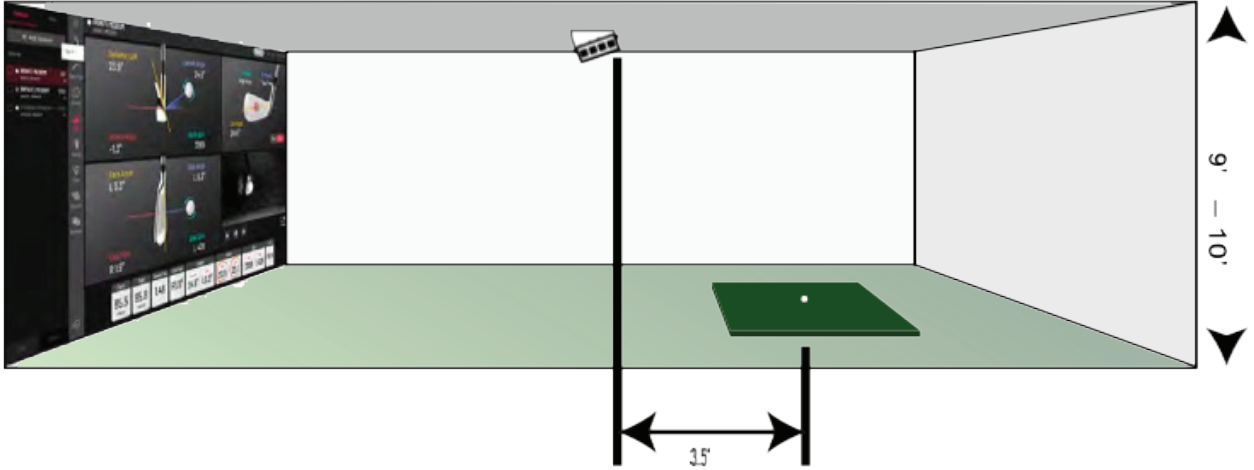
 <b>WARNING</b>	Used for instructions intended to alert the user to the risk of severe injury should the unit be used improperly.
 <b>Caution</b>	Used for instructions intended to alert the user to the risk of injury or material damage should the unit be used improperly. Material damage refers to damage to home, furnishing, or anything within the unit's vicinity.
 <b>NEVER</b>	This symbol alerts the user to items that should never be carried out.

# To Ensure Safe Use - Cont

 This is a heavy machine.

 WARNING!

	Install in a level and stable location. Failure to do so may result in falling of the machine, leading to injury.
	Never attempt to disassemble, repair, or modify shock, or injury. Entrust repairs to a trained technician.
	Never use outside or in any location where exposure to water or high humidity may occur. Do not touch the power cord or electrical outlet with wet or dirty hands. Doing so may result in electrical shock.
	Conduct play in a clean and brightly lit location. Operating in a dark or cluttered space may lead to accidents.
	Be aware of your surroundings and use cautiously with children around. Swinging the club during play without being aware will result in serious injury or death.



Category	Requirement
CPU	Intel i5 8400 or higher*
RAM	8 GB
Graphics Card	GeForceGTX 1060 or higher
Operating System	Windows 10 (64bit) Version 1803 or higher
Resolution	1920 x 1080
Connectivity	Ethernet Port Required

\* AMD: 3rd gen Ryzen or higher and AMD Ryzen 3600 or higher (AMD 2700 is not compatible).

The following items are included with the sensor. Make sure they are all present and accounted for.



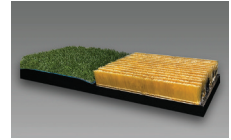
**EYE XO2 Sensor Bar**



**Bracket**



**Calibration Chart**



**Trouble Mats**



**Power Cable**



**Power Adapter**



**Power Connector**



**USB Ethernet Adapter**



**Ethernet LAN Cable**



**Level**



**Club Stickers**



**M4 32mm screws**



**M6 15mm screws**






**M6 15mm low screws**

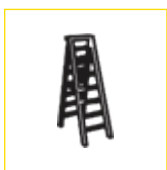


**M6 15mm high screws**

# Hardware Install

 <b>WARNING</b>	Used for instructions intended to alert the user to the risk of severe injury should the unit be used improperly.
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 <b>CAUTION</b>	This symbol alerts the user to items that should never be carried out.

## NECESSARY TOOLS



Ladder



Phillips Screwdriver

## NECESSARY PARTS



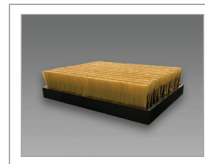
M4 32mm Screw x9



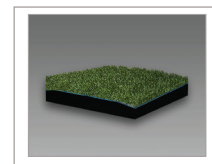
Bracket



Sensor Bar



Bunker Mat

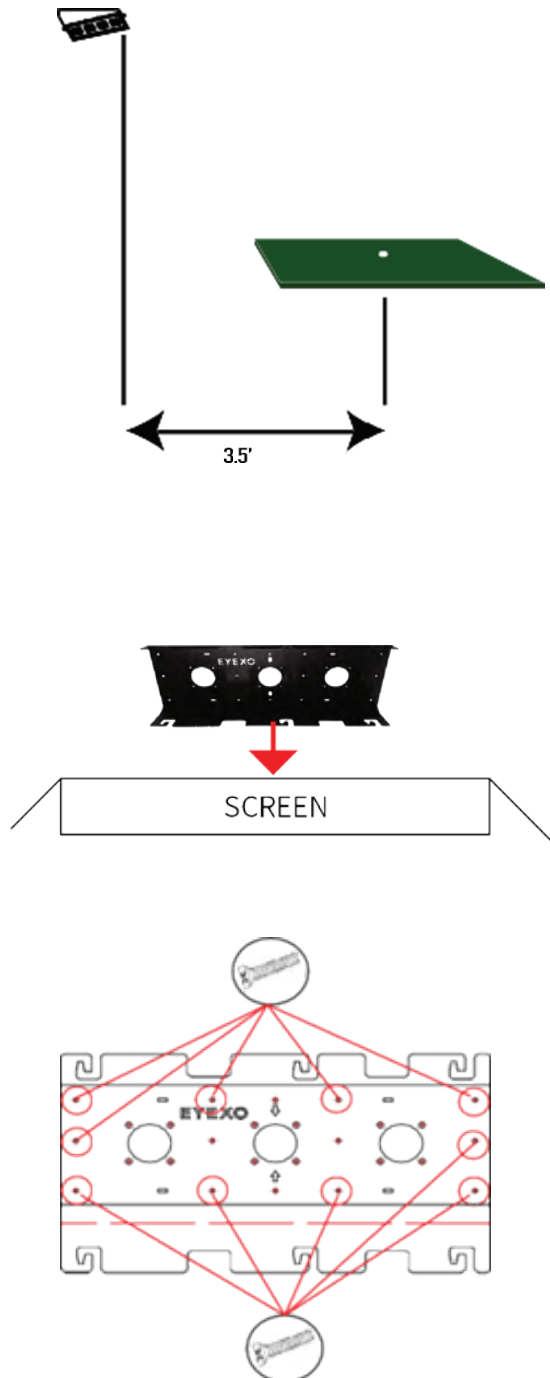


Rough Mat



# Hardware Install

## Step 1: Mount Bracket



**1** The EYE XO2 Sensor and bracket come attached together in the box. Slightly loosen the black M6 15 mm screws that are holding the sensor to the bracket so you can remove it. Please make sure you have measured 3.5 feet from the front and middle of the sensor to your tee position. Do NOT align to the bracket.

**2** Place the ladder under the location on the ceiling where the bracket will be mounted. Place the bracket flat against the ceiling with the hinges facing down toward the ground. The longer side of the hinges must be closet towards the impact

**3** With the bracket in position, grab the 10 silver M4 32mm screws and screw them in the locations below in the diagram.

# Hardware Install

## Step 2: Insert Sensor

After the bracket has been firmly mounted to the ceiling, you will install the sensor bar.

1

The sensor bar comes with 6 black M6 15mm screws already inserted; 3 screws in the front and 3 screws in the back. Make sure all 6 screws are about halfway into the bar and even in length.



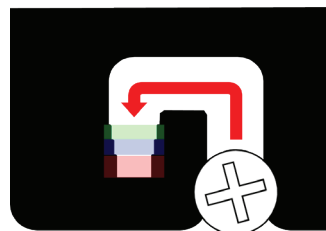
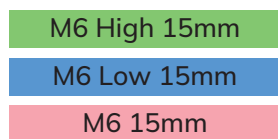
2

Slide the sensor bar with the 6 screws up and over through the bracket hinges. Make sure the screws are secured in the hook part of the hinges. Once the sensor is secured in the bracket hinges, tighten the 6 screws to the bracket.



3

The tilt of the sensor can be adjusted with the high and low M6 15mm screws. The regular M6 15mm screws are already screwed into the sensor. You can change this out with the M6 155 High or Low screws to adjust the angle/ tilt.



# Hardware Install

## Step 3: Connection



Ethernet LAN Cable



Power Cable



Power Adapter



Power Connector

NECESSARY PARTS

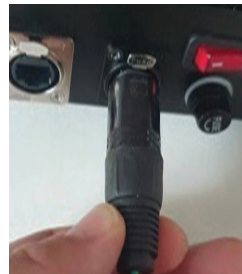
1

Take out the Ethernet LAN cable from the box. Connect the end with the tag that reads “Connect this side of LAN cable to Sensor ONLY” to the sensor. Connect the other end DIRECTLY to your PC ethernet port and NOT the USB adapter.

Ethernet LAN



Power Connector



2

Take out all 3 components of the power source: power cable, power adapter, and power connector. Connect all 3 accordingly and connect the “Power Connector” end directly to the sensor as shown below. Turn on red switch.

*Note: The plug must be plugged into a matching outlet that is properly installed and grounded in accordance with all local codes and ordinances.*

*An extra green grounding wire is provided on the end of the power connector in case your outlet is not grounded.*

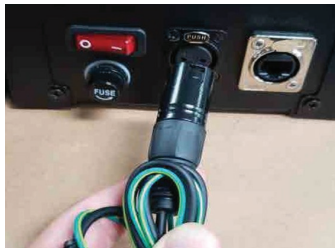
*\*\*Make sure to check the connection status before you start the software installation process.*

# Hardware Install

## Step 4: Connection Status

It is important before you start the network setup process, that you have the sensor bar powered on and connected to your PC with the LAN cable provided to you in the shipping box.

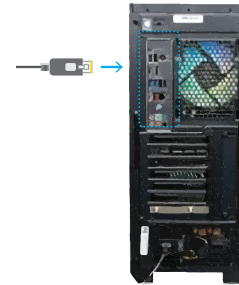
Make sure the LAN cable is DIRECTLY connected to your PC in the back Ethernet port. Do NOT have it connected to the USB Adapter or a hub.



Sensor



LAN Cable  
(Ethernet)



PC

# Hardware Installation

You will need to create an insert in your current hitting mat or hitting turf. Please reference the dimensions below or use your Trouble Mats as a reference for creating an insert in your hitting area. The Trouble Mats can be placed anywhere in the hitting zone. When calibrating your EYE XO2, you'll have the option to move the calibration box left or right where your Trouble Mats are inserted, as long as it is in the hitting zone of 28" W x 21" L.



Rough

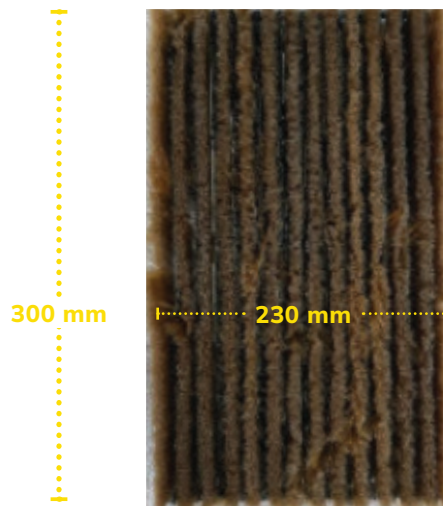


Bunker

For those who wish to use their own hitting mat with the trouble mats. We recommend using a hitting mat at least 1.5" deep to support the base of the trouble mats.



Rough





Bunker

\* Both trouble mats are the same length x width

## Disclaimer:

Uneekor Inc. does not assume responsibility for any damage caused to your hitting mat or any injury that may occur when creating an insert in for the Trouble Mats.

# Software Installation Warning

 <b>WARNING</b>	<p>Please make sure PC requirements are met from section 1 “Installation Environment,” before the installation process. Failure to do will result in installation issues and slow gameplay.</p>
 <b>WARNING</b>	<p>Please make sure the connection statuses are clear and everything is paired. Failure to do will result in installation issues.</p>



# Software Installation

To begin the software installation for your EYE XO2. Please download the Uneekor Launcher found under the resources tab of Uneekor.com or use the link below.

1

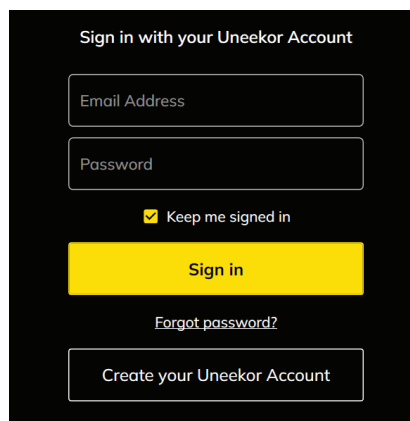
## [Uneekor Launcher](#)

For further information on using the Uneekor Launcher, please see below.

## [Overview Guide](#)

2

After downloading the launcher, create an account by clicking “Create your Uneekor Account.” If you already have an account, select sign in.

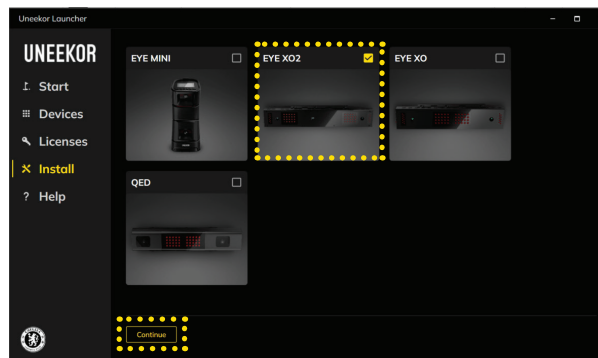


3

Go to the “Install” tab on the left side of the launcher and select the EYE XO2, then continue.

For the remainder of the software installation, please follow the step-by-step guide on the Launcher.

If you have any issues with installation, please see the next two pages.

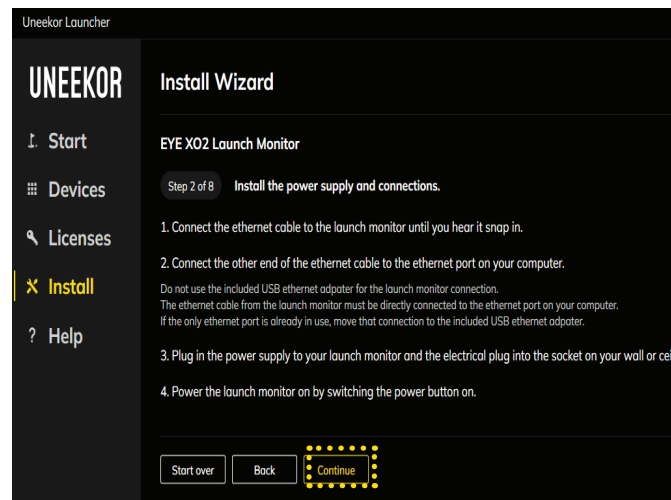


# Software Installation - Cont

4

Ensure your EYE XO2 is plugged into the power and the CAT6 cable is connected from the EYE XO2, directly into the Ethernet port on your PC. If connected using the USB 3.0 adaptor, you'll run into issues using the EYE XO2.

If these conditions are met, click "Continue."

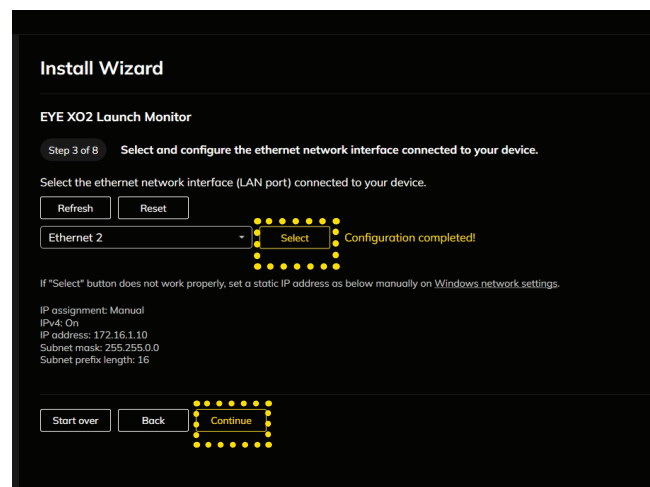


5

If you only have one Ethernet port on your PC, then you should only have one option for the selection of Ethernet ports.

If you have 2 or more Ethernet ports, select the Ethernet port your EYE XO2 is connected to in the drop down and click "Select."

Once the proper Ethernet port is selected, press "Continue"





# Software Installation - Cont

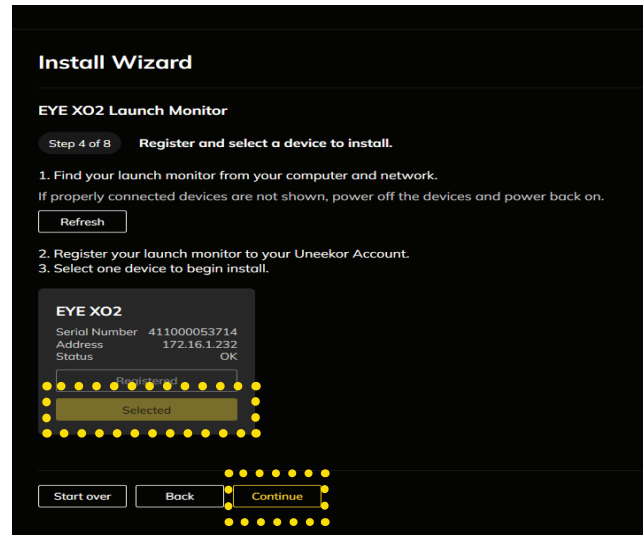
6

You will see your EYE XO2 here. Click “Select” and then “Continue” on the bottom.

If you do not see your EYE XO2, press the “Refresh” button.

If your EYE XO2 still does not appear return to step 5 and select a different Ethernet port and click “Select.”

If you continue having issues, please power off your EYE XO2. Then ensure your EYE XO2 is connected properly to your PC and power outlet, and then close and reopen the Uneekor Launcher to start the installation process over.



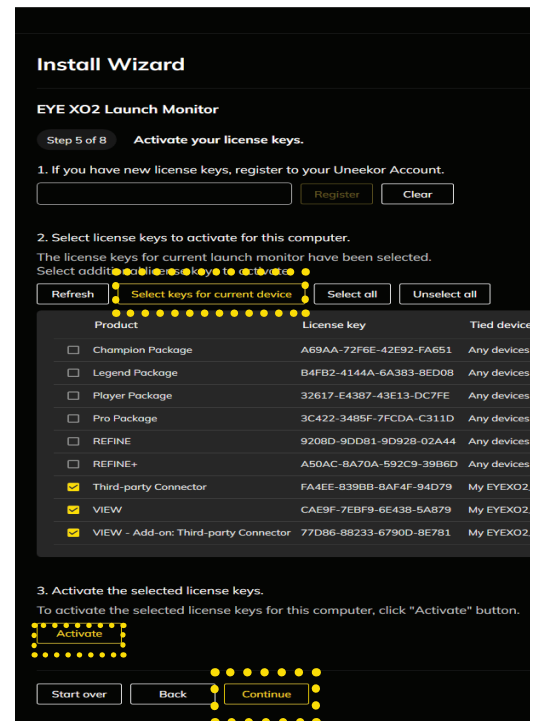
Uneekor Launcher

7

You may enter license keys manually using the box under 1. (Swing Optix, Refine/+, and Balance Optix)

Under 2. your 3rd Party Connector, View, and Refine+ 30-Day Trial will already be present. Individually select which licenses you would like to activate using the box on the left or you can press the “Select Keys for Current Device” to activate all keys associated with your EYE XO2. Make sure to press “Activate” under 3. and then press “Continue.”

Hardware installation is now complete. The next steps will walk you through calibration.



# CALIBRATION GUIDE



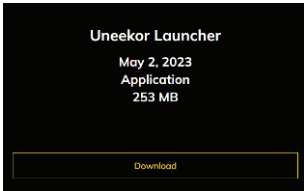
### Calibration Chart

Parts required



### Level



Tool required

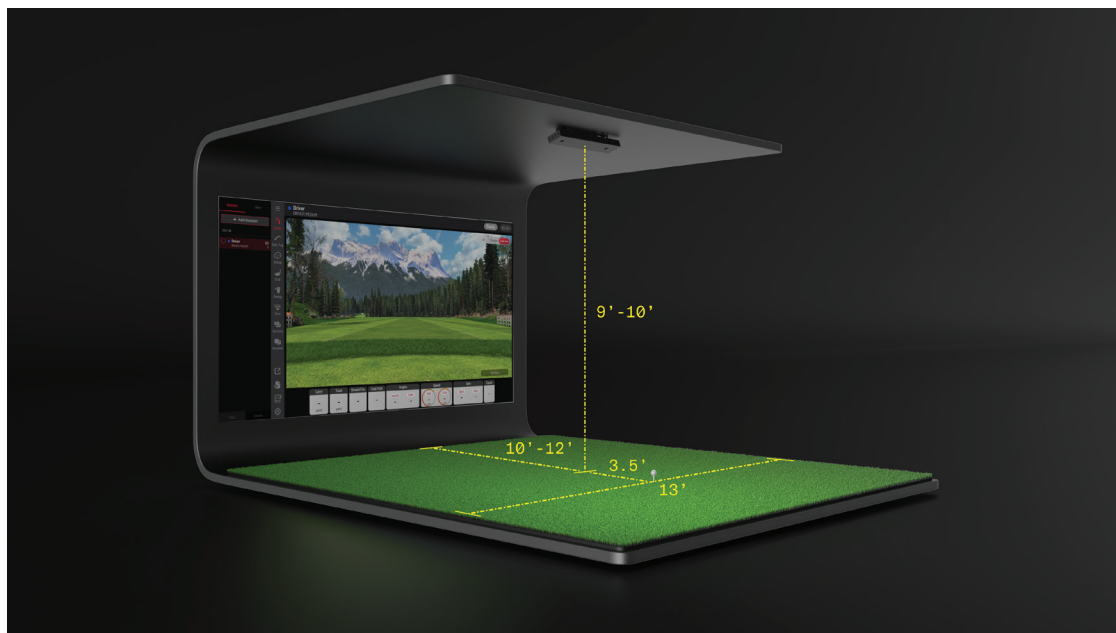


### Uneekor Launcher

Software required

# To Ensure Safe Use

 <b>WARNING</b>	Confirm you have successfully finished the hardware and software installation before you begin the calibration process.
 <b>WARNING</b>	The mounting position of the EYE XO2 sensor must be perfectly aligned 3 feet 6 inches in front of your tee position and between 9 - 10 feet for the ceiling height. Failure to meet these requirements will result in accuracy issues.



# Calibrating

During the installation process of the EYE XO2 using the launcher, it will automatically pull up the calibration tool.

Please follow the prompts on the launcher to calibrate your EYE XO2. If you have any issues calibrating your device using the instructions on the launcher, please see the next page.

Prior to calibrating your EYE XO2. Ensure you have the Trouble Mats inserted correctly. Each side of the Trouble Mats should be touching with no gaps or space between each Trouble Mat. Trouble Mats can be placed on either left or right side of the hitting zone (when calibrating with Trouble Mats, you are able to slide the calibration boxes for the Trouble Mats to the area your Trouble Mats are inserted).



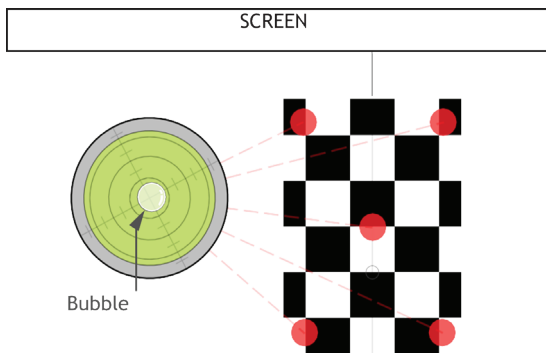
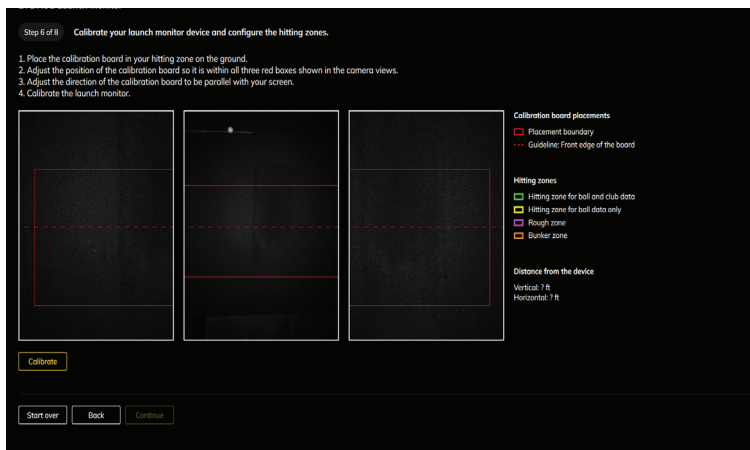
# Calibrating

## Step 1

During Step 6 of the installation process, the calibration tool on the right will open. Please follow the prompts on the screen.

Lay the calibration board flat and ensure the calibration board is within the red squares on all 3 windows.

\*Ensure there are no other objects visible in each camera view when calibrating your launch monitor.



## Step 2

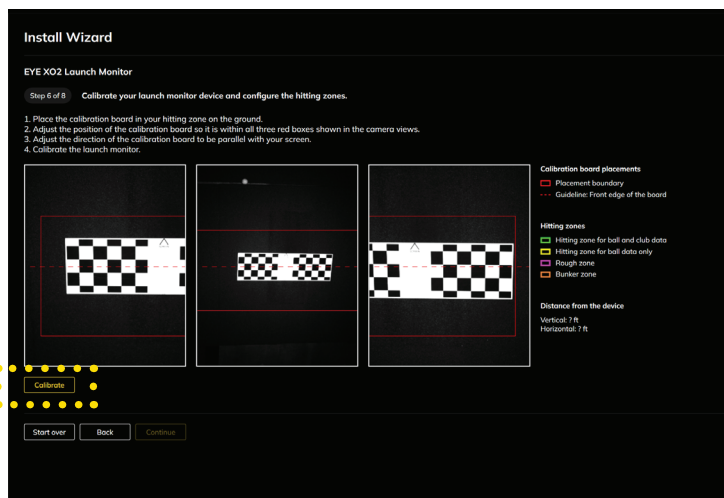
Next, place the bubble leveling tool on the calibration board to confirm that the hitting mat is level front to back and side to side.

## Step 3

Before pressing "Calibrate" below the first camera window, make sure the top of the calibration board is parallel with the impact screen and no other objects are visible in the calibration windows.

If all the above conditions are met, click "Calibrate" on the bottom left.

Please wait while your EYE XO2 calibrates.



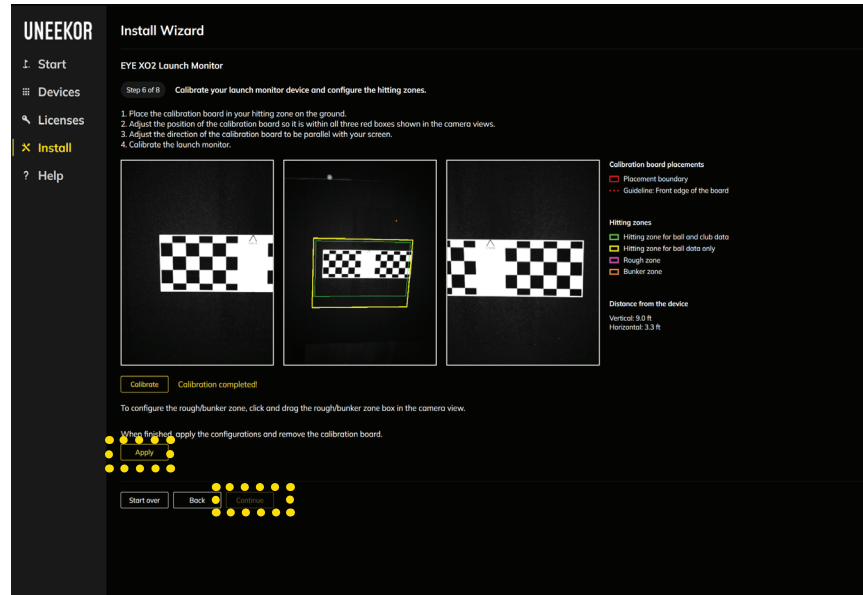
# Calibrating

## Step 4

\*\* Calibrating without Trouble Mats

Once the system is finished calibrating the launch monitor, you will see the screen pictured to the right.

Remove the Calibration board, click “Apply” and then click “Continue.”



## Step 5

\*\* Calibrating with Trouble Mats

Click “Enable rough/ bunker zone” to calibrate your sensor with the trouble mats.

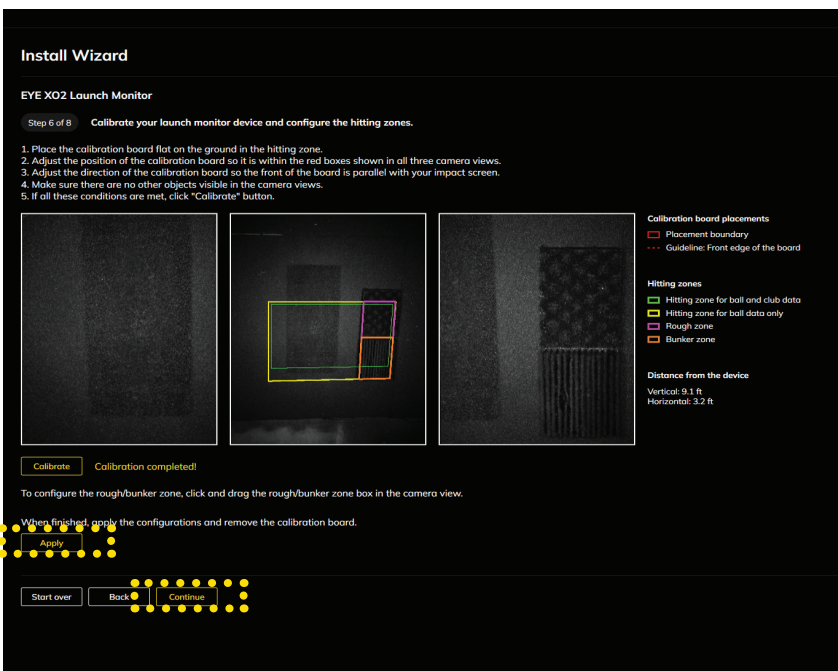
Remove the calibration board and insert the Trouble Mat Inserts, if you have not already.

Ensure you have placed the rough mat in front, and the bunker mat in the back with each mat touching the other. Please make sure there is not a gap between the edges of the trouble mats.

Note you are able to slide the trouble mat calibration box left, right, up, and down if you decide to insert the mats on the left or right side of the hitting zone.

Click “Apply” and then “Continue”

Calibration is now complete.



# Calibrating

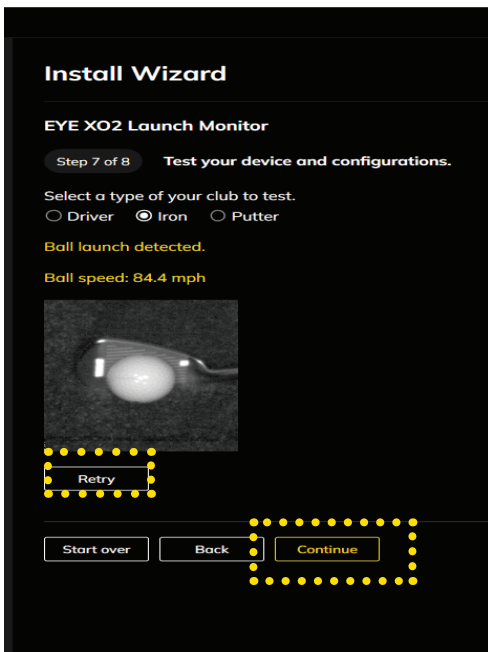
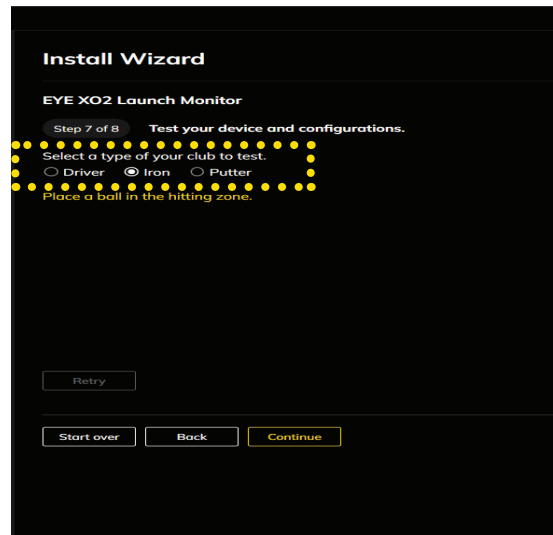
## Calibrating with no Trouble Mats

### Step 6

Once the system is finished calibrating the launch monitor you will see the screen pictured below.

Please take a test shot to ensure the EYE XO2 was calibrated correctly and operational.

Select the applicable club you will be testing and take a shot.



### Step 7

After you've hit a ball, you'll see the Club Optix Camera view of the impact and ball speed.

If you would like to take another test shot, select "Retry" then choose the applicable club and take another shot.

If satisfied, click "Continue" and you're finished with installation and calibration of your EYE XO2.

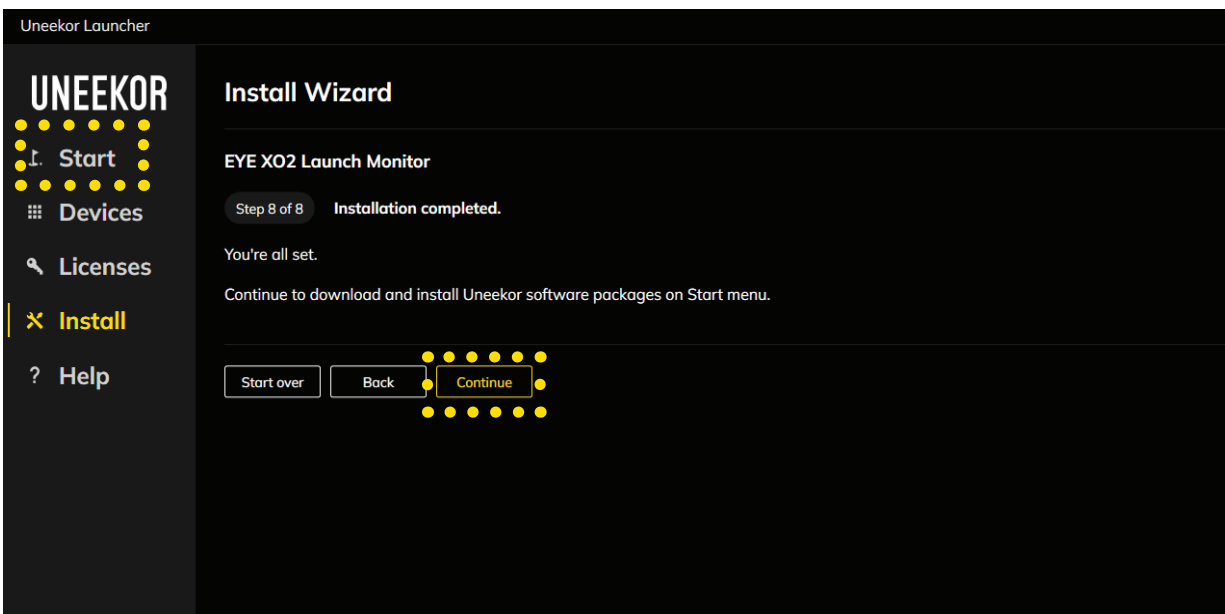
# Calibrating

## Calibrating with Trouble Mats

### Step 7

Installation and calibration of your EYE XO2 is now complete.

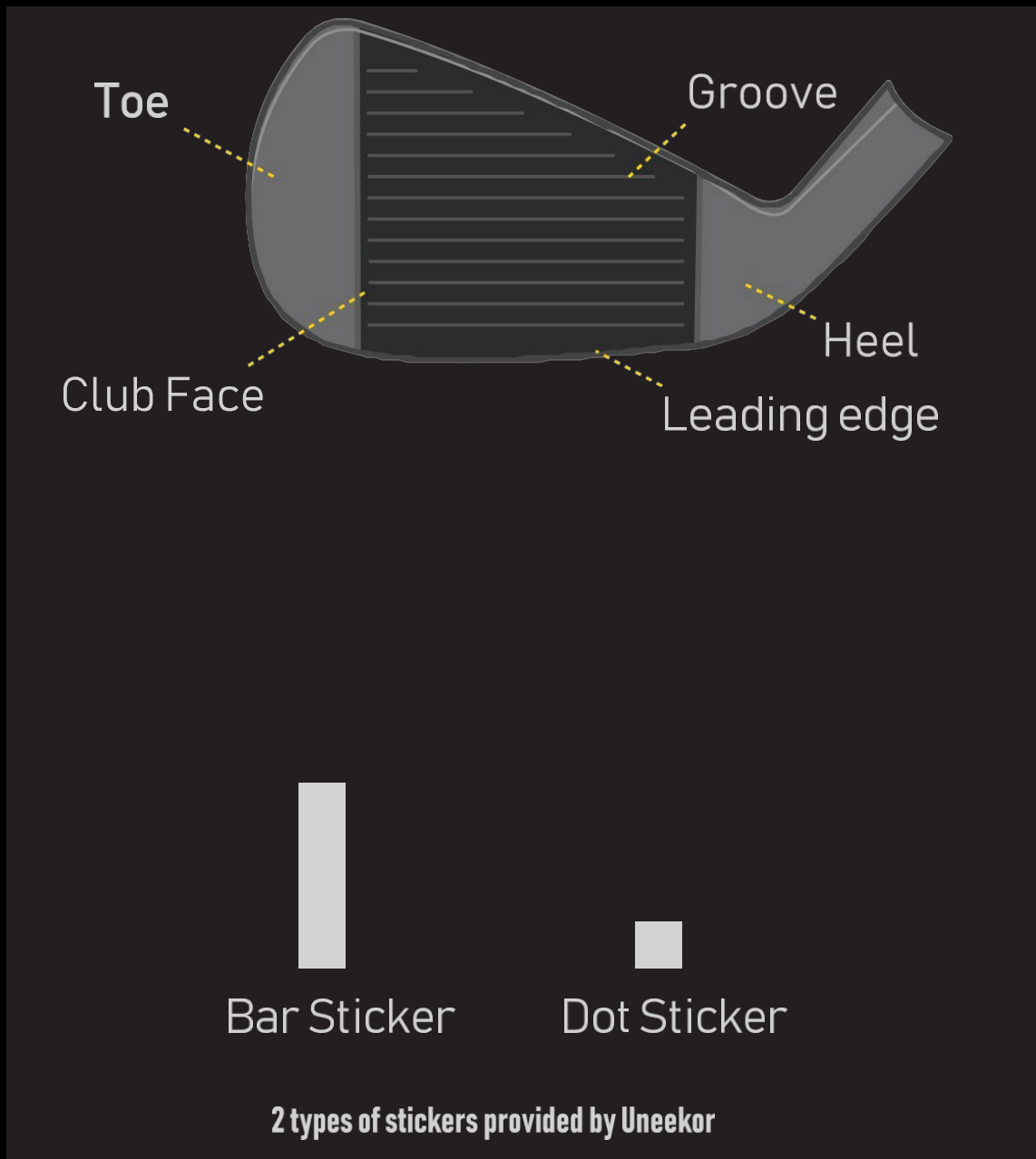
Click “Continue” and navigate to the “Start” tab on the left column to proceed to installing your View and Refine/ Refine+ software. \*(Refine/ Refine+ sold separately)





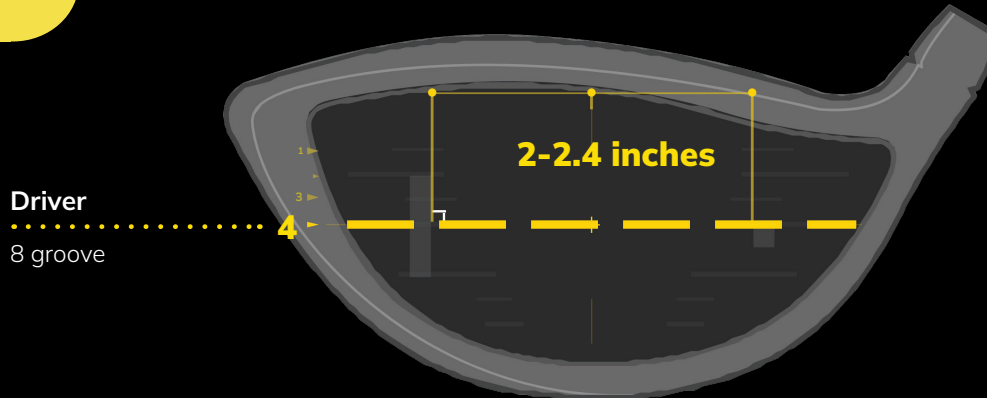
# CLUB STICKER PLACEMENT

## Overview



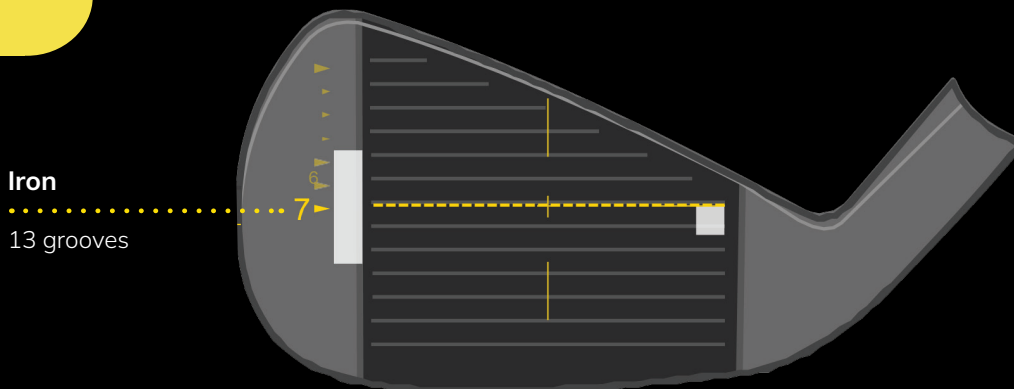
# CLUB STICKER PLACEMENT

## Driver



- 1.) The position closest to the horizontal center line should be used as a reference.
- 2.) The Dot sticker should line up to the middle of the Bar sticker.
- 3.) Avoid placing both stickers near the sweet spot.
- 4.) Attach to the flat surface of the face to avoid creasing or bending the stickers.
- 5.) Attach in line with the grooves.

## Iron



### 1. Bar Sticker

Align the middle of the Bar Sticker to the horizontal center line or the 7th groove.

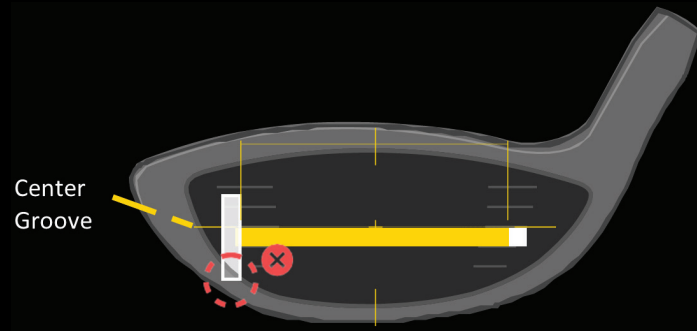
### 2. Dot Sticker

Align to the middle of the bar sticker and parallel between the grooves.

# STICKER APPLICATION 1

## Woods/Hybrids

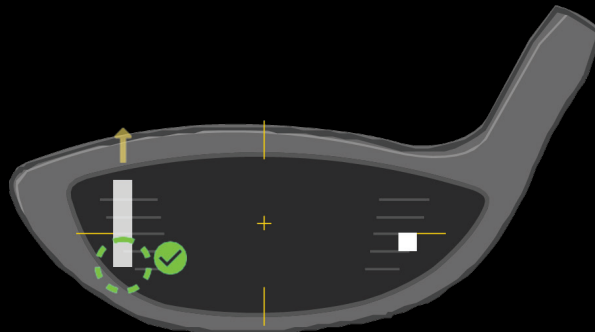
The sticker must not cross or bend over the leading edge.



Bring the stickers in the sweet spot if it cannot fit inside the whole face.



The sticker must be attached inside the club face for proper reading.



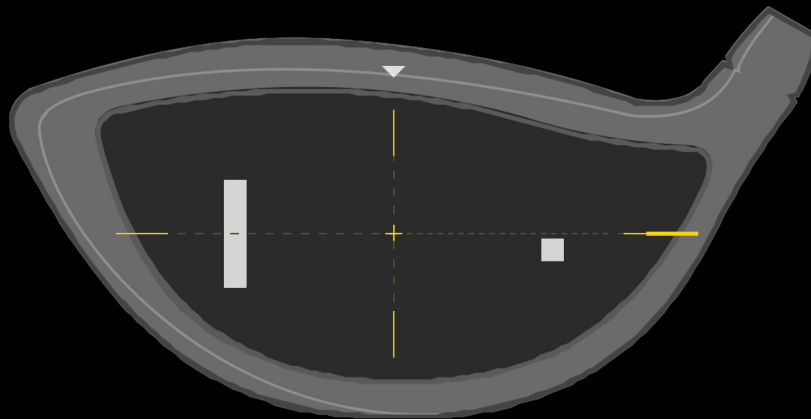
All 4 corners of the stickers must be attached to the club face. If the club face is short and all 4 horizontal line so all of the Bar Sticker can be placed inside the club face.

*\*In the case where you do have to raise the horizontal line beyond the center to fit all 4 corners of the Bar Sticker, the data will be calculated higher.*

# STICKER APPLICATION 2

## Driver

### Clubs Without Grooves



All 4 corners of the stickers should be attached inside the club face. If there is an aim marker on the crown of the driver, use it as reference for the vertical center line. The top of the bar and dot sticker must be aligned with the horizontal center line.

**\*CLUB DATA CANNOT BE READ IF THE BALL IS COVERING ONE OF THE TWO STICKERS. CLUB DATA WILL BE ONLY SHOWN IF BOTH STICKERS ARE VISIBLE.\***

# Appendix

## Understanding the Data

### Club Data

#### Club Speed



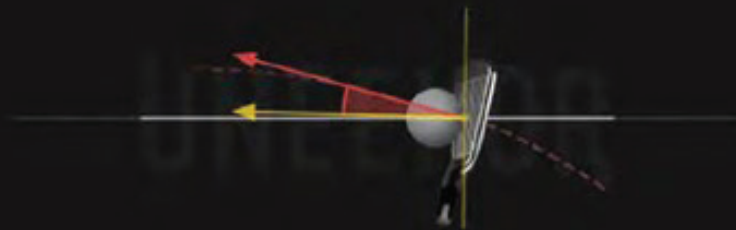
The speed of the club before impact.

#### Smash Factor



The amount of energy transferred from the club head to the golf ball.

#### Face to Path



The amount of energy transferred from the club head to the golf ball.

# Appendix

Cont.

## Understanding the Data

### Club Data

#### Attack Angle



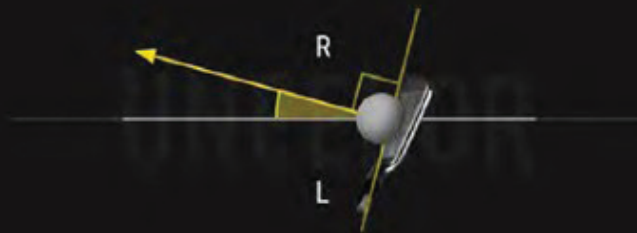
The up and down movement of the club head at the time of impact. Attack angle is measured relative to the horizon.

#### Club Path



The in to out or out to in movement of the club head's geometric center at the time of impact. Club Path is the direction (right or left) the club head is moving at impact and is measured relative to the target line.

#### Face Angle



The direction (right or left) the club face is pointed at impact. It is measured relative to the target line.

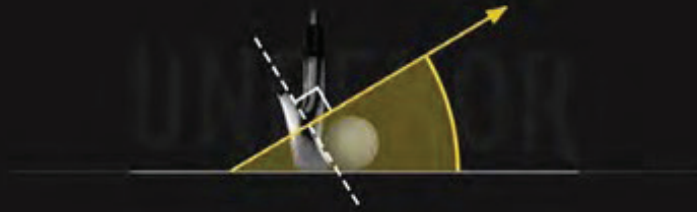
# Appendix

Cont.

## Understanding the Data

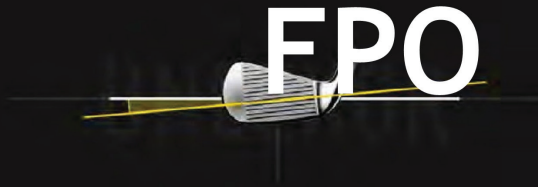
### Club Data

#### Dynamic Loft



The amount of loft of the club face at the center point of impact.

#### Club Lie Angle



Lie angle is the angle created between the center of the shaft and ground when you put your iron down in the address position.

#### Impact Point

Vertical, Horizontal



Where you strike the ball on the club face.

# Appendix

Cont.

## Understanding the Data

### Ball Data

Ball Speed



Measurement of the golf ball's velocity measured just after impact with the club face

Side Spin



Measurement of horizontal spin on the golf ball that causes your golf ball to slice or draw

Back Spin



Measurement of reverse rotation of the golf ball in relation to the ball's trajectory (Backspin generates an upward force that lifts the ball)



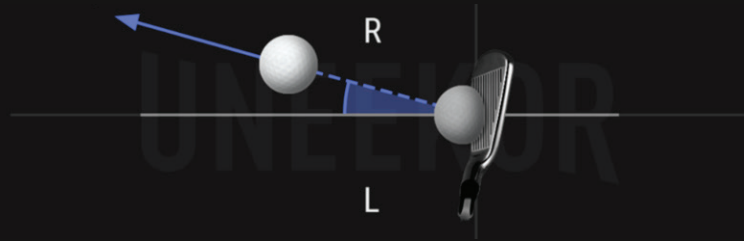
# Appendix

Cont.

## Understanding the Data

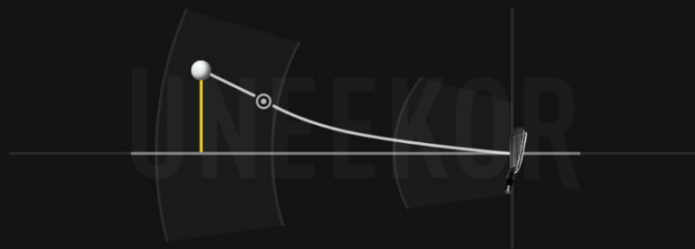
### Ball Data

Side Angle



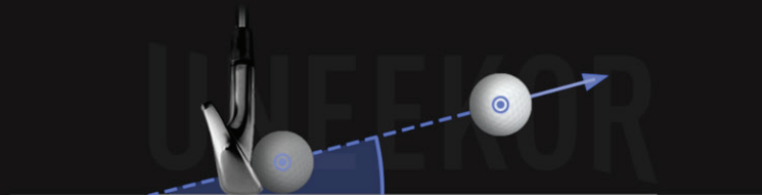
Angle at which the ball starts its flight, relative to a straight target line (Horizontal launch angle)

Side Total



Distance the ball travels in the air left or right of the target

Launch Angle



The initial angle of ascent of the golf ball just after impact (relative to the ground)

# Appendix

Cont.

## Understanding the Data

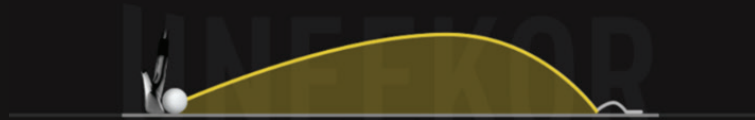
### Ball Data

Angle of Descent



The angle the golf ball comes down after hitting the apex

Flight Time



The total amount of time that the golf ball spends in the air prior to landing on the ground

Distance to Apex



Distance the ball travels in the air before hitting the peak height of the ball's trajectory

# Appendix

Cont.

## Understanding the Data

### Ball Data

Carry



Distance the ball travels in the air

Run



Distance the ball travels after making contact with the ground

Total Distance



Total distance the golf ball travels including the carry and roll

# Specifications

Items	Contents
Components	3 High Speed Cameras w/ Infrared LED Boards 1 Control Board 1 Power Board
Data Interface	Ethernet (CAT6 and above)
Communication Speed	1 Gbps
Spin Data	Total Spin $\pm 12,000$ rpm
Measurement Range	Ball Speed Putter: 0.1 m/s ~ 30 m/s Ball Speed Driver/Iron: 5 m/s ~ 100 m/s
Sensing Angle	Driver: -5 ~ 50 Degree Iron: 0.1 ~ 80 Degree (shots over 60° can damage the unit)

# Links

[Launcher Overview Guide](#)

[Uneekor Launcher](#)

[Resources](#)

[Support](#)

[FAQ](#)

MASTER YOUR PASSION

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