

Stack Radar



User's Manual



TheStack



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Introduction

Thank you for your purchase of the Stack Radar. This device is a portable launch monitor developed to measure swing speed and ball speed simultaneously. It will also report swing speed when there is not any ball contact. This device can be connected to your smart phone using **Bluetooth®**.

Safety Precautions (Please read)

Please read these safety precautions before use to ensure proper usage. The precautions shown here will assist in proper usage and prevent harm or damage to the user and those in proximity. We kindly ask you to observe this important safety-related content.

Symbols Used in This Manual



This symbol indicates a warning or caution.









This symbol indicates an action that must NOT be performed (prohibited action).



This symbol indicates an action that must be performed.



Warning

-  Do not use this device for practicing in places such as public places whereby the swinging apparatus or ball can be hazardous.
-  When using this device, pay sufficient attention to the surrounding conditions and check the area around you to confirm that there are no other people or objects in the swing trajectory.
-  Individuals with medical devices such as a pacemaker should contact the medical device manufacturer or their physician beforehand to confirm that their medical device will not be affected by radio waves.
-  Never attempt to disassemble or modify this device. (Doing so could result in an accident or malfunction such as fire, injury or electric shock.)
-  Turn off the power and remove the batteries in areas where use of this device is prohibited, such as in airplanes or on boats. (Failure to do so could result in other electronic equipment being affected.)
-  Immediately stop use of this device in the event it is damaged or emits smoke or an abnormal odor. (Failure to do so could result in fire, electric shock, or injury.)



Caution

- ⊘ Do not use in environments where water could permeate the device, such as in rain. (Doing so could cause the device to malfunction as it is not waterproof. Also, be aware that any malfunctions caused by water permeation are not covered by warranty.)
- ⊘ This device is a precision instrument. As such, do not store it in the following locations. (Doing so could result in discoloration, deformation, or malfunction.)
 - Locations subject to high temperatures, such as those subject to direct sunlight or near heating equipment
 - On vehicle dashboards or in vehicles with windows closed in hot weather
 - Locations subject to high levels of humidity or dust
- ⊘ Do not drop the device or subject it to high impact forces. (Doing so could result in damage or malfunction.)
 - * Particular caution is necessary in the case of the LCD, which could be damaged by such impact.
- ⊘ Do not place heavy objects on the device or sit/stand on it. (Doing so could result in injury, damage, or malfunction.)
- ⊘ Do not apply pressure to this device while stowed inside caddy bags or other types of bags. (Doing so could result in housing or LCD damage or malfunction.)
- ! When not using the device for long periods of time, store it after first removing the batteries. (Failure to do so could result in battery fluid leakage, which may cause malfunction.)
- ⊘ Do not attempt to operate the buttons using objects such as golf clubs. (Doing so could result in damage or malfunction.)
- ⊘ Using this device near other radio devices, televisions, radios, or computers could cause this device or those other devices to be affected.
- ⊘ Using this device near equipment with drive units such as automatic doors, auto tee-up systems, air conditioners, or circulators could result in malfunctions.
- ⊘ Do not grip the sensor part of this device with your hands or bring reflective objects such as metals near it as doing so could cause the sensor to malfunction.

FCC CAUTION

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

This device contains license-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's license-exempt RSS(s). Operation is subject to the following two conditions:

1. This device may not cause interference.
2. This device must accept any interference, including interference that may cause undesired operation of the device.

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Main Features

- Golf Swing
 - Swing speed, ball speed and estimated carry distance can be displayed simultaneously.
 - The number shown in the middle of the LCD display can be switched between ball speed and smash factor.
 - The displayed units of measurement can be switched between imperial ("MPH" and "yard") and metric ("km/h" and "m")
 - Golf swings without ball contact will display swing speed.
 - Up to 500 instances of measurement data can be saved in the history.
- The Stack System Speed Training
 - Swing speed is displayed as the top number on the display.

Description of Contents

- (1) Stack Radar•••1
- (2) User's Manual (this manual)•••1

* Batteries are not included. Please use four commercially sold AAA alkaline batteries.

(1)



(2)



Names and Functions of Parts

LCD Screen

Displays measurement results and history.

ON/OFF & ENTER button

Turns the radar on/off. It is also used for entering/exiting club selection mode.

Battery compartment (rear)

Use four **commercially sold AAA alkaline batteries**.

* Batteries are not included.



Tripod socket (rear)

Use for installing to fixtures on tripods, etc.

MODE button

Toggles the display between Smash Factor and Ball Speed

Scroll buttons

Used for scrolling measurement history and club selection.

Measurement area

Measure by aiming this side in the launch direction.

[Remaining Battery Power Display]

The LCD screen displays the remaining battery power and informs users when battery replacement is necessary.



Sufficient battery power remains.



Replace batteries soon.

* Using non-alkaline batteries such as rechargeable nickel-metal hydride batteries may result in the remaining battery power not being displayed correctly.

Inserting Batteries

(1) Open the battery compartment cover.



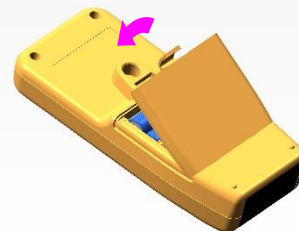
Lift the cover while pushing down the clip.

(2) Insert the batteries.



Check the direction of the batteries and insert them one at a time.

(3) Close the cover.



Insert the lower tabs into the grooves and press down the cover.

[Regarding Batteries]

- We recommended use of commercially sold AAA alkaline batteries.
- Although rechargeable nickel–metal hydride batteries can also be used, doing so may result in decreased operating time.
- When not using the device for long periods of time, store it after first removing the batteries.

[Estimated Battery Life]

When using AAA alkaline batteries, the estimated battery life when used 1 hr. per day is approximately 3 Weeks.

* Battery life will depend upon usage conditions and usage environment factors such as temperature.

Turning On the Power

Press and hold the ON/OFF button for approximately 2 seconds.

⇒ You will hear two electronic beeps, meaning the power is on.

[Auto Power-Off]

The power will automatically turn off after 10 minutes if no swings are measured and no buttons are pressed.

* The Auto Power-Off feature can be disabled by holding the ON/OFF button down for 2 seconds while pressing the MODE button. In this case, "OFF" will be shown on the screen for approximately 1 second, after which it will return to the normal screen.

Turning Off the Power

Press and hold the ON/OFF button for approximately 2 seconds.

⇒ You will hear one electronic beep, meaning the power is off.

Measuring

The swing speed immediately before impact, and the ball speed after impact (or smash factor), are measured simultaneously, after which they are displayed along with estimated carry distance on the LCD screen.

(1) Turning on the power

* See "Turning On the Power" on page 6

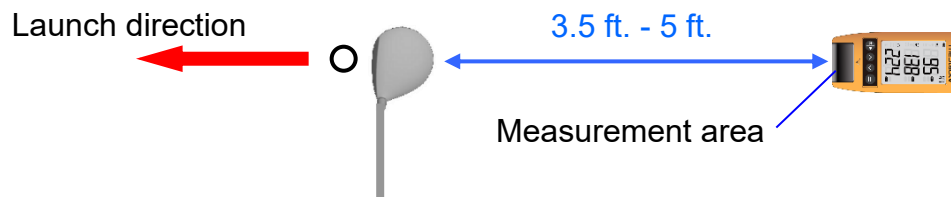
(2) Selecting the club number to be used

- Quickly press the ENTER button.
⇒ The club selection displayed at the top-right of the screen will blink.
- Use the Scroll buttons to switch club numbers.
(W1:Driver , W3-9:Fairway , H3-6:Hybrid , I3-LW: Irons)
- Complete the selection by pressing the ENTER button.
- The W1 setting has a minimum threshold, which prevents the radar from triggering if a golfer has a very fast backswing.
- The threshold value can be changed, please refer to page 10.
* To enhance the estimated carry distance the club selection should closely match the club being used by the golfer

(3) Setting up the device

Set up the device as shown below.

- * Set the device on a flat surface and make sure there are no obstructions between the device and the ball. It may be necessary to elevate the radar 2" to 4" to ensure no obstructions.
- * Correct measurement will not be possible if the device is set up in a different direction from the launch direction, or if set up at the incorrect height.
- * The same setup method can be used for left-handed players.



(4) Swinging

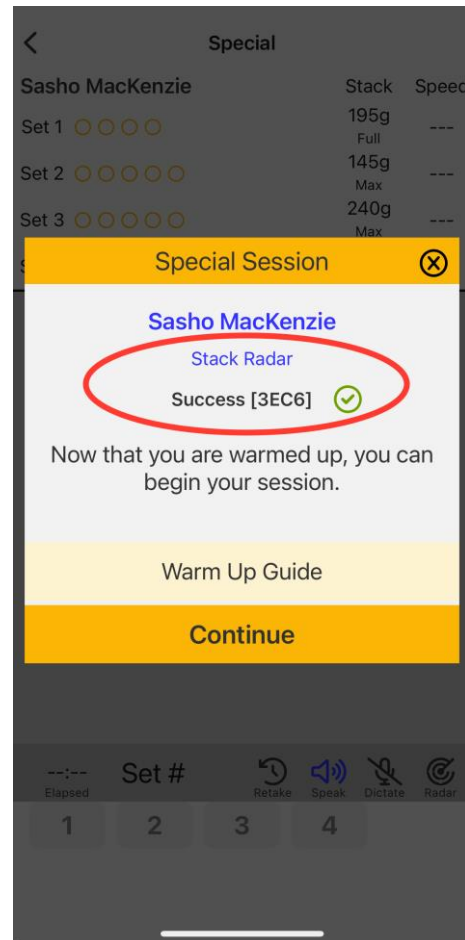
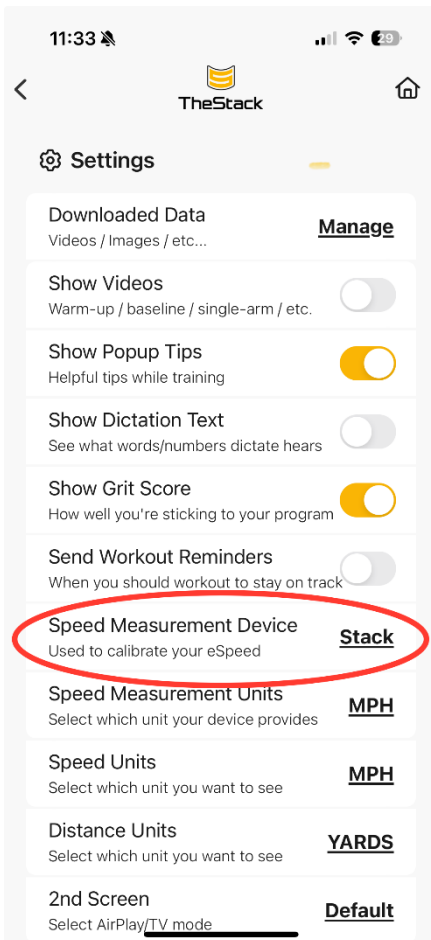
After the swing, the results will be shown on the LCD screen.

- * When data updates, the display on the LCD screen will blink.
- * Measurements will not be possible while the display is blinking. Wait until the display stops blinking before swinging again.

Using with The Stack System

The Stack Radar uses **connectionless** Bluetooth technology. There is no pairing with your phone/tablet required, just turn on the Stack Radar (notice the Bluetooth icon flash at the top of the screen) then open TheStack App and start your session. Unlike other Bluetooth connections you may be used to, you will not need to go to your Settings App to pair.

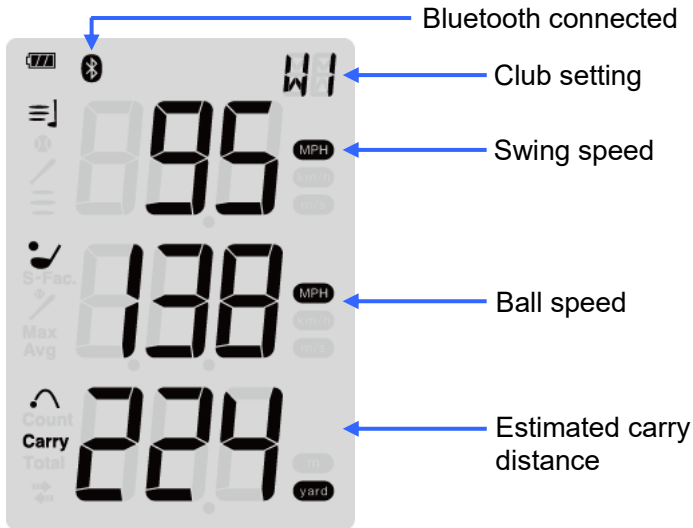
- (1) Turn on the Stack Radar by holding down the Power button until you hear a beep and the screen display is visible.
- (2) Launch TheStack app. Access Settings from the Menu and select Stack Radar. The Bluetooth connection between the radar and the app will be shown on the screen prior to starting your workout. You can also change your radar selection from this screen.



Description of Screen Displays

[Display Screen]

Swing speed, ball speed, and estimated carry distance are all displayed simultaneously.



[Regarding Estimated Carry Distance]

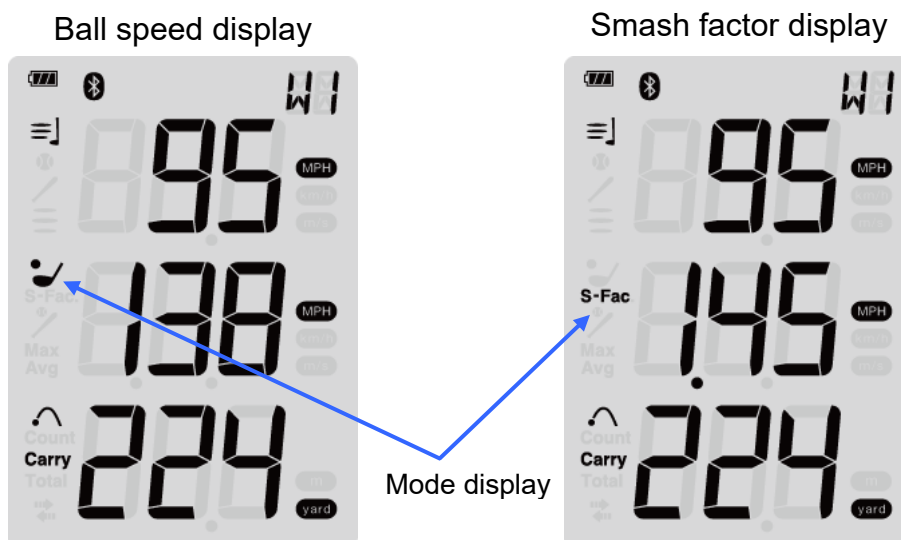
- This device measures estimated carry distance based on proprietary algorithms
- “Estimated carry distance” is the carry distance calculated using the measured ball speed together with the estimated launch angle and spin rate for each club.
- Depending on the club setting, actual carry distances may differ with the estimated carry distance.
- The direction of hit balls is not taken into consideration.

- * Swing speed will be measured during practice swings (swings without ball contact).
- * On occasion, ball speed and carry distance may be reported on swings without ball contact. These are measurement artifacts and should be disregarded

[Toggling between Ball speed and Smash factor display]


The display can be switched between “Ball speed” and “Smash factor” by quickly pressing the MODE button.

- * The selected mode can be confirmed by looking for the icons shown to the left of the display.





Checking History Data

This device enables up to 500 instances of measurement data to be saved in the history. Use the following procedure to display history data.

- Press the Up Scroll button .
 - ⇒ The most previous measurement results will be displayed.
- * You can continue to scroll by continuously pressing the Scroll buttons.
- * When the total number of data reaches 500, the oldest data will be automatically overwritten.


[Deleting History Data]

The history data in can be deleted by continuously pressing the Up and Down Scroll buttons simultaneously for 2 or more seconds   .

Switching units of measurement

The units of measurement displayed on this device can be switched between imperial and metric. Use the following procedure to switch the displayed units of measurement.

Switching displayed units of measurement

- Press and hold the Down Scroll button  and ENTER button simultaneously.

⇒ Every time the above buttons are pressed, the displayed units of measurement will switched between imperial and metric.
“MPH” and “yard” ⇔ “km/h” and “m”

- * The operations and usage methods remain the same.
- * Next time the device is restarted, the displayed units of measurement will be the same as those when the device was turned off.

Displayed unit
of speed
MPH ⇔ km/h

Displayed unit
of distance
yard ⇔ m



Setting the minimum threshold

The W1 setting has a minimum threshold, which prevents the radar from triggering if a golfer has a very fast backswing.

- In "W1" setting, Press and hold the MODE button for approximately 2 seconds to change modes and select the appropriate mode.
- Continuously pressing the MODE button will scroll through the four modes in order.

- L0: No setting
- L1: 35 mph
- L2: 45 mph (Default)
- L3: 55 mph



Troubleshooting

- Power doesn't turn on
 - Check whether the orientation of the batteries is correct.
 - Take the batteries out before putting them back in. When doing so, check to make sure proper contact is being made between metal portions.
 - Check the remaining battery power and replace with new batteries if necessary.
- TheStack App is not connecting via Bluetooth to the Stack Radar
 - If swing speed data is being displayed on the the Stack Radar screen, but not in TheStack App, then please ensure that Bluetooth is enabled in your device Settings.
 - If Bluetooth is enabled, but swing speeds are not being sent to TheStack app, then force close TheStack app, turn off the the Stack Radar and repeat the connection steps (page 8).
- Measurements are not being reported (display does not change after a swing)
 - Check whether the device is set up correctly or try setting up the device again using the methods described in this manual.
 - Try elevating the device 2" to 4" above the ground by placing on a small tripod or other stable object.
 - When a ball is launched at a extremely high trajectory angle (as could be expected when using lob wedge), ball speed may be slower and measurement may not be possible due to the specified smash factor threshold not being met. (This is due to the specifications of the device and is not a malfunction.)
- Measurements seem incorrect
 - The swing speeds displayed by this device are those measured using our company's unique criteria. For that reason, measurements may differ from those displayed by measurement devices from other manufacturers.
 - Check whether the device is set up correctly or try setting up the device again using the methods described in this manual.
 - Correct ball speeds may not be displayed depending on the type of ball used. Also, the speeds of plastic practice balls and sponge balls cannot be measured.
 - In rare cases, ball speed and carry distance may be displayed during practice swings. This is due to noise interference and such measurement results are not accurate.

Specifications

- Microwave sensor oscillation frequency: 24 GHz (K band) / Transmission output: 10 mW or less
- Possible measurement range:
 - Swing speed/ball speed: 25 mph - 200 mph
 - ✘ W1 mode: 45mph - 250mph (having a higher speed threshold mitigates accidentally triggering of the radar when employing a fast back swing)
- Power: Power supply voltage = 6 V (using four AAA batteries) / Battery life: Approx. 3 Weeks when used 1 hr. per day
- Communications system: Bluetooth Ver. 5.0
- Used frequency range: 2.402GHz-2.480GHz
- Operating temperature range: 0°C - 40°C / 32°F - 100°F (no condensation)
- Device external dimensions: 60 mm × 126 mm × 25 mm / 2.4" × 5.0" × 1.0" (excludes protruding sections)
- Weight: 144 g (includes batteries)

Warranty and After-Sales Service

In the event the device stops operating normally, stop use and contact the Inquiry Desk listed below.

Inquiry Desk (North America)
The Stack System, L.P.,
850 W Lincoln St., Phoenix, AZ 85007, U.S.A
EMAIL : info@thestacksystem.com

- If a malfunction occurs over the course of normal use during the warranty period stated in the warranty, we will repair the product free-of-charge in accordance with the content of this manual.
- If repairs are necessary during the warranty period, attach the warranty to the product and request the retailer to perform repairs.
- Note that charges will be applied for repairs performed for the following reasons, even during the warranty period.
 - (1) Malfunctions or damage that occur due to fire, earthquakes, wind or flood damage, lightning, other natural hazards, or abnormal voltages
 - (2) Malfunctions or damage that occur due to strong impacts applied after purchase when the product is moved or dropped, etc.
 - (3) Malfunctions or damage for which the user is deemed to be at fault, such as improper repair or modification
 - (4) Malfunctions or damage caused by the product getting wet or being left in extreme environments (such as high temperatures due to direct sunlight or extremely low temperatures)
 - (5) Changes in appearance, such as due to being scratched during use
 - (6) Replacement of consumables or accessories
 - (7) Malfunctions or damage that occur due to battery fluid leakage
 - (8) Malfunctions or damage deemed to have resulted from issues caused by the instructions in this user's manual not being followed
 - (9) If the warranty is not presented or required information (date of purchase, retailer name, etc.) is not filled in
- Please store this warranty in a safe location as it cannot be reissued.
 - * Issues whereby the above mentioned conditions apply , as well as the scope of warranty when they do not apply, will be handled at our discretion.
- This warranty does not limit the legal rights of the customer. Upon expiration of the warranty period, please direct any questions regarding repairs to the retailer from which the product was purchased or to the Inquiry Desk listed above.

TheStack Speed Radar Warranty

* Customer	Name: Address: (Postal code:)	
	Telephone number:	
	* Date of purchase DD/MM/YYYY	Warranty period 1 year from date of purchase
	Serial No.:	
	Information for customers: <ul style="list-style-type: none"> ● This warranty provides the guidelines for warranty review as stated in this manual. Please read this manual carefully and ensure that all items have been properly completed. ● Before requesting repairs, first take time to confirm that the device power-up procedures and troubleshooting methods have been followed correctly. 	
	* Retailer name/address/telephone number	

* This warranty is invalid if there is no information entered in the asterisk (*) fields. When taking possession of the warranty, please check that the date of purchase, retailer name, address, and telephone number have been filled in. Immediately contact the retailer from which this device was purchased if any omissions are found.

The Stack System, L.P.,
 850 W Lincoln St., Phoenix, AZ 85007, U.S.A

Supplier's Declaration of Conformity

February 1, 2024

Unique Identifier

TheStack Speed Radar (HS-130X_ST_BLE)

Responsible Party – U.S. Contact Information

The Stack System, L.P.,

850 W Lincoln St., Phoenix, AZ 85007, U.S.A

EMAIL: info@thestacksystem.com

FCC Compliance Statement (for products subject to Part 15)

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TheStack

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