Rapsodo®

PITCHING 2.0

USER MANUAL

CONTENTS

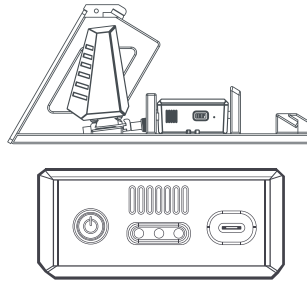**Rapsodo®**

WHAT'S INSIDE THE BOX

1. Monitor

2. Protective Tank & RCE

3. USB Cables & Charger
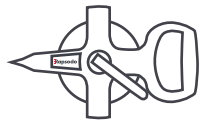
4. Measuring Tape

5. Monitor Clip

6. Protective Cases

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RAPSODO CLOUD + DIAMOND APP

1. Create a coach account and player profiles at **cloud.rapsodo.com.** Log in Credentials will be the same for **Cloud & Diamond App**
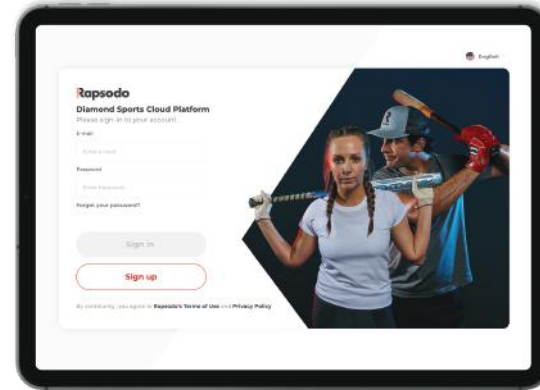
2. The **Rapsodo Diamond App** must be downloaded in order to use **PITCHING 2.0**

3. Go to the Apple App Store and search **Rapsodo Diamond** to download

Download App

App Requirements
- Latest version of iOS
- iPad Air 2 or newer

Membership Requirements
- Team membership required to collect and store all data

PRODUCT OVERVIEW

3 Monitor

4 RCE

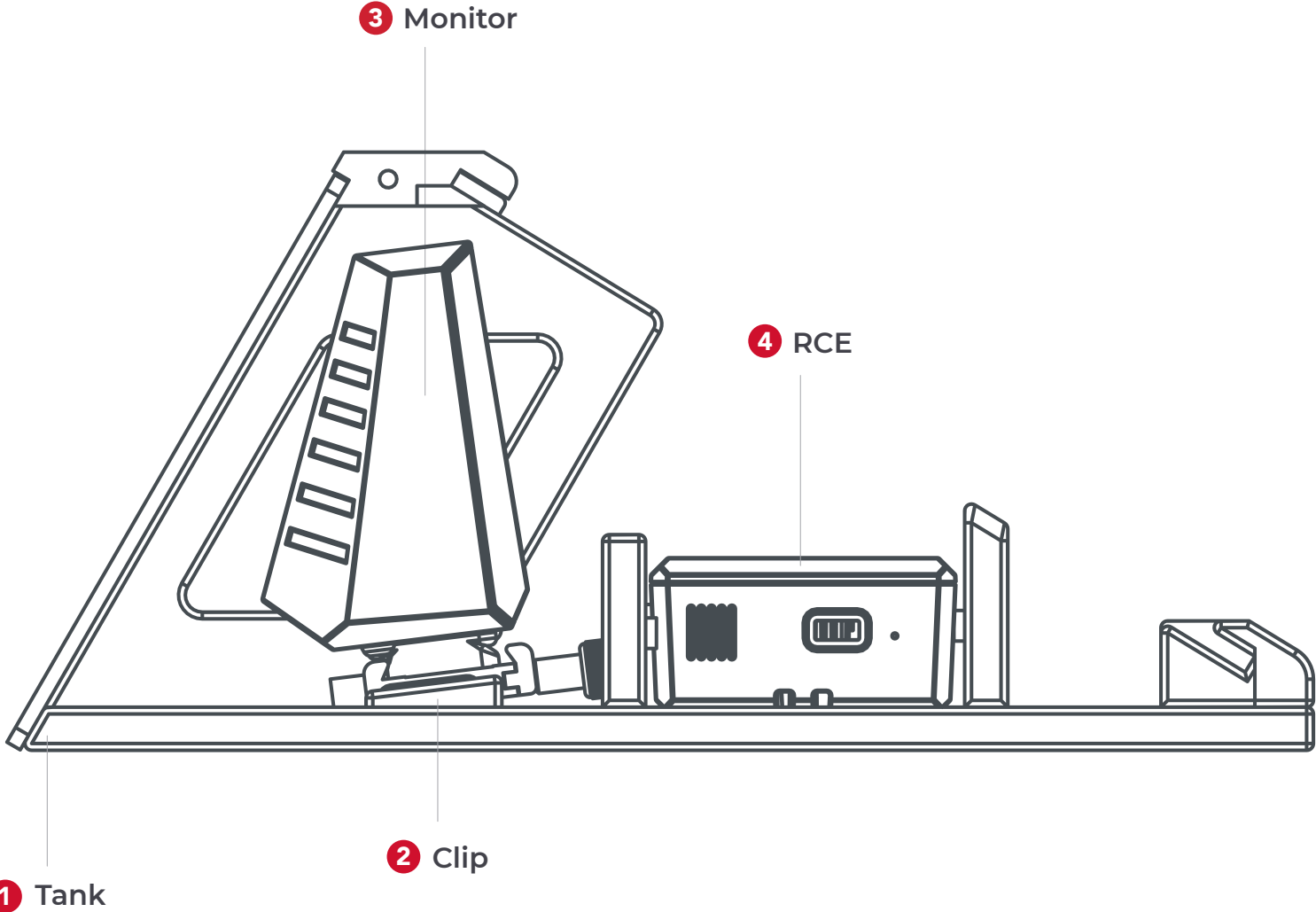**2** Clip

1 Tank

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OPERATING THE MONITOR

Turning the Monitor ON

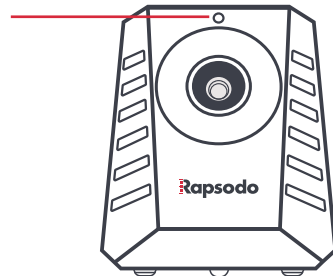- To turn the monitor on, press the power button

- The front LED display will show RED indicating the monitor is on but not ready to measure

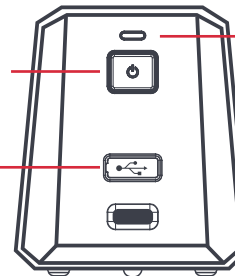- The rear LED will show RED when ready to connect

Turning the Monitor OFF

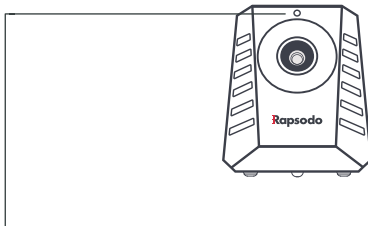- Press the power button

Front LED light

Play information

Rear LED light

Connectivity and
battery information

ON / OFF button

Micro-USB port

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# UNDERSTANDING THE MONITOR LED DISPLAYS

Front LED Display

The front LED display provides information on the monitor status, and will give the "GREEN LIGHT" to pitch when the device is ready to measure.

● **RED LIGHT** '' NOT READY ''
Monitor is switched on, but not ready to measure.

● **GREEN LIGHT** '' PITCH ''
Monitor is ready for pitching. When appearing after blue light just after a pitch: data is ready to be viewed on app, and ready for next pitch.

● **BLUE LIGHT** '' PROCESSING ''
Monitor is processing data after a valid pitch. Wait for the green light to appear which should take only a few seconds.

Rear LED Display

The rear LED display provides information on connectivity and battery. This display will be especially important when pairing the app with the monitor.
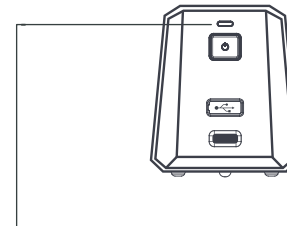
● **RED LIGHT**
Not connected to RCE, waiting for USB sync.

● **GREEN LIGHT**
Successfully connected to RCE through USB.

☀ **RED FLASHING LIGHT**
Warning for low battery, please recharge monitor.

● **AMBER LIGHT**
Switched off, and charging.

● **OFF**
If USB is plugged into a charging device or PC, it means the battery is fully charged.

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OPERATING THE RAPSODO COMPUTING ENGINE (RCE)

Turning the RCE ON

- To turn the RCE on, press the power button

- After 10-15 seconds the power LED will turn on and the RCE will be ready to connect to the monitor

Turning the RCE OFF

- Press the power button

- It will take 10-15 seconds for the RCE to turn off

FRONT

LEDs
Connectivity and battery information

USB-C Charging Port

ON / OFF button

BACK

USB Port that connects to monitor

Lanyard connection

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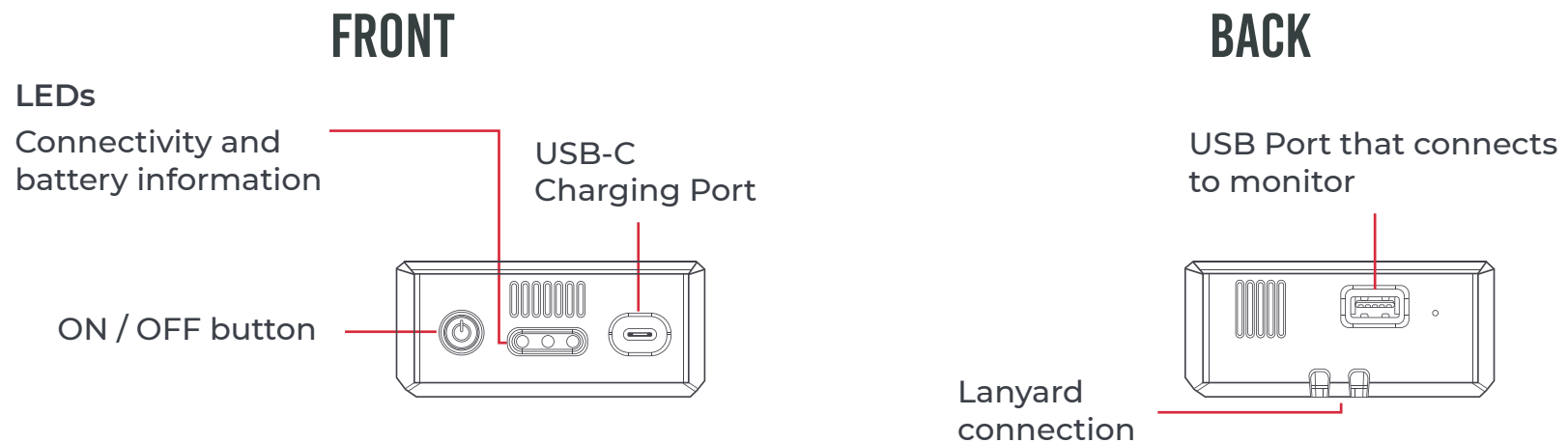
UNDERSTANDING THE RCE LED DISPLAYS

Power Battery   Monitor

Connection to App
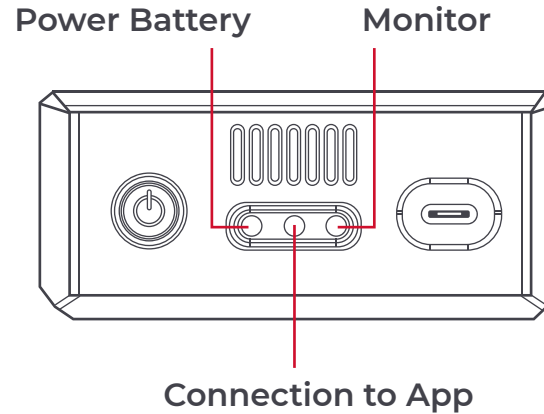
● ● ● RCE and monitor connected.

● ● ● RCE and monitor connected to application, needs calibrated or on 'Pause Mode'.

● ● ● Ready to record data.

● ● ● Data processing.

● ● ● RCE switched off and charging.

● ● ● Warning for low battery, please recharge monitor.

● ● ● RCE turned on, not connected to app and monitor.

● ● ● RCE turned on, connected to app but not the monitor.

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CHARGING THE DEVICES

Charging the Monitor

- The battery can be charged by connecting the included Micro-USB cable into the port on the rear monitor panel.

- The rear LED will show AMBER indicating the monitor is charging.

- The rear LED will switch off indicating the device has been sufficiently charged.

- The LED indication will FLASH RED indicating the battery charge is getting low and the battery should be charged.
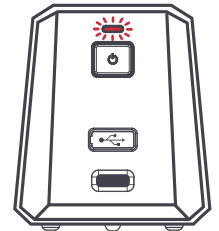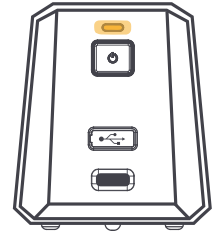
Charging the RCE

- The battery can be charged by connecting the included USB-C cable to the USB-C charging port. (located on the side of the power button)

- The power LED will show AMBER indicating the monitor is charging.

- The power LED will switch off indicating the device has been sufficiently charged.

- The LED indication will FLASH RED indicating the battery charge is getting low and the battery should be charged.

NOTE: The monitor and RCE must be charged separately to ensure a complete charge for each device.

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PAIRING THE RCE AND DIAMOND APP

1. Connect the RCE to the monitor via USB to mini USB.
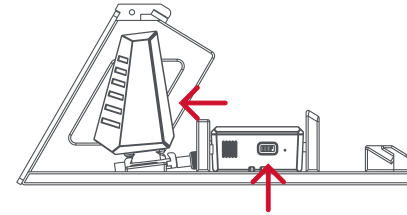
2. Press the power button on the monitor and RCE.

3. Connect to Rapsodo Wi-Fi in iPad settings.

4. Open the Rapsodo Diamond App and press the Wi-Fi Connection button.

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DEVICE PLACEMENT AND SETUP

NOTE: Rapsodo PITCHING 2.0 operates in a tank. Correct positioning is important to get accurate results.

1. Internal Tank Set-Up

1.1. Attach monitor to mount plate.
1.2. Place RCE in housing.
1.3. Connect USB from monitor to RCE.
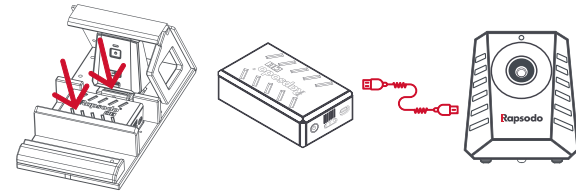
2. Tank Positioning

2.1. Rapsodo PITCHING 2.0 should be placed 15'6" from the front of home plate and the camera opening should face the pitcher.
2.2. The tank should be placed on an even surface and SHOULD NOT be used in the rain or wet conditions.

⚠ Rapsodo PITCHING 2.0 should only be used at the designated distance and on a flat surface. Improper placement may cause injury.
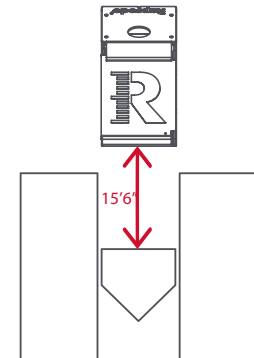
3. Calibration

3.1. Align monitor angles with help of the application.
3.2. Use azimuth view and tape measure to position the tank directly in the center of the pitching lane.

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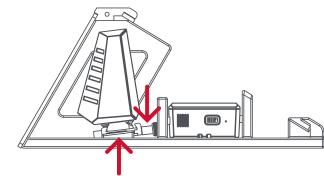
CALIBRATION

1. Select recalibrate from devices tab in bottom right-hand corner.

2. Adjust monitor angles to 20 degrees and 90 degrees.

3. To calibrate the monitor have a person stand on the center of home plate. The red line in the azimuth view should go directly down the middle of home plate.

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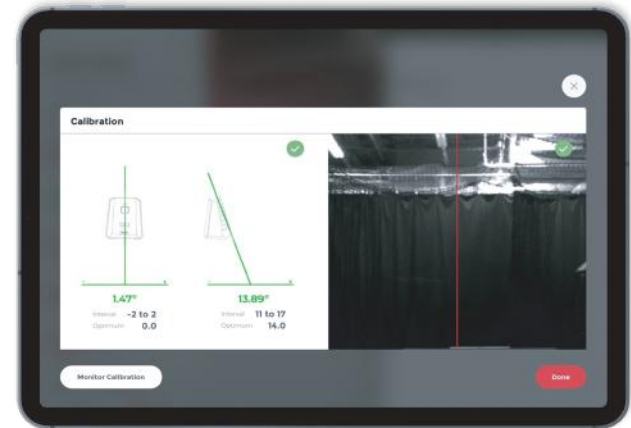
TROUBLESHOOTING TABLE

App shows low monitor battery	Charge RCE and monitor separately.
Results seem inaccurate	Make sure the tank is placed at 15'6" and you have correctly calibrated the monitor.
Can't connect to app	Disconnect and reconnect to WI-FI and Diamond App, make sure monitor is green.
Data not syncing to cloud	Disconnect from RCE Wi-Fi and connect to an internet-based Wi-Fi. Press sync button in top right corner and leave app open. For more detailed syncing progress, navigate to Settings > Upload Progress within Diamond App

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SPECIFICATIONS: BALL FLIGHT

Velocity
How fast a pitch is traveling during flight, measured in miles per hour (MPH).

Spin Rate
The rate at which the ball spins during flight, measured in rotations per minute (RPM). There is a stronger correlation between spin rate and swinging-strike percentage than between velocity and swinging-strike percentage.

Spin Efficiency
The percentage of spin directly impacting the movement of a pitch. Spin Efficiency is the ratio of true spin to total spin.

Spin Direction
The tilt or angle of the baseball from the release point, measured in degrees, created by the Magnus effect. The Magnus Effect is created by the air pressure surrounding the spinning baseball on its path to home plate.

Strike Zone Analysis
Instantly see Strike Zone feedback while automatically tracking Strike Percentage and Heat Map Breakdowns.

True Spin Rate
The spin directly impacting the movement of a pitch. Also known as "useful spin," it is perpendicular to the direction the ball is traveling, deflecting the otherwise straight horizontal and vertical path of the ball.

Pitch Break
How much a ball has moved when it crosses the strike zone compared to what its position would have been without spin. Break is measured horizontally and vertically in inches.

3D Trajectory
The ball flight is show in two trajectories. A dotted line represents what the pitch would have done without spin and the solid line represents the actual movement of the pitch.

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SPECIFICATIONS: RELEASE

Release Height
The height of the ball at the point of release.

Release Angle
The vertical angle at which the ball was released out of the hand

Release Side
The distance away from the center of the rubber from the left (-) or the right (+)

Horizontal Angle
The horizontal angle the ball was released out of the hand from the left (-) or the right (+)

Release Extension
The distance away from the front of the rubber the ball was released

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DIAMOND APP

Requirements:

- Rapsodo Diamond App.

- Rapsodo Team Membership.

- iPads: iPad Pro 2nd Generation or newer.

- Most recent iOS software.

After adding your player roster in Diamond App or cloud.rapsodo.com (See Page 2), continue with the following.

Starting a Session:

- See Pairing the RCE and Diamond App (Page 9) and Calibration (Page 11) section of user manual.

- Select a player and session to begin.

- Once the main play screen loads, you can throw a pitch and data will start recording.

Session Types:

Pitching:

- Certified Assessment: 15-pitch scripted session to analyze and evaluate each athlete. Must throw a fastball as base pitch, 5 pitches maximum. Will receive overall score of session and individual pitch scores once synced to cloud.

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DIAMOND APP

- Low Intent: Bullpen where a pitcher will not reach 100%. Can be used for arm maintenanceor pitch development where pitcher is at a lower intensity/volume to feel and track how the ball is moving differently.

- High Intent: Bullpen where the pitcher faces no live hitters, but the pitcher is throwing at 100%.

- Flat Ground: Pitcher is not throwing off a mound.

- Live: Live At-Bats, scrimmages, or game like environment. Track and compare how a pitcher performs when facing live batters.

- Rehab: Low-intent, low volume session, where players are on a strict pitch count after injury/fatigue. Sessions will not be included in the overall averages in reports.

Views:

There are 3 different screens to view when using Diamond App.

- Data Screen
- Video Screen
- Field View

NOTE: Video is automatically on when beginning a session, if you would like to turn videos off select the red recording button at the top middle of the screen and it will disappear, this means videos are now off.

Collecting Data:

- Once a pitch has been thrown, a processing wheel should appear, 4-8 seconds later the data should appear on the screen.

DIAMOND APP

- If the processing wheel does not appear, please make sure you are properly lined up with the unit and the correct session type is being used.

- If the processing wheel appears but no data is recorded, not enough clear readings were captured. Continue your session as normal. If no readings continue to occur, please recalibrate. If they continue to occur, please reach out to customer support.

- If the processing wheel is showing even when a ball is not in play, please make sure of the following:

  - Other lanes with players are at least 8 ft apart.
  - No fans or HVAC units are turned on and blowing around the unit.
  - No other players are practicing behind the player recording data.

Completing a Session:

- Finish session in bottom right-hand corner .

- Connect to Internet (Wi-Fi)

- Open Rapsodo Diamond App go to Settings > Upload Progress > And select the sync button in the top left corner.

- Arrows will start spinning, leave app open and awake until all files have been uploaded in the progress bar.

- Go to cloud.rapsodo.com, those sessions will now appear under the player. If sessions are not visible, please allow your iPad more time to sync the data.

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GENERAL INFORMATION

Interference
Rapsodo PITCHING 2.0 is an extremely sensitive and accurate data-tracking monitor. While Rapsodo PITCHING 2.0 hardware has been engineered to achieve accuracy within a regular baseball/softball environment; many everyday items like electrical appliances, computers, cell phones, bulbs, etc. may produce electrical or optical interference that can generate false readings. You need to be aware of these kinds of products in the environment where Rapsodo PITCHING 2.0 is used, as they may cause interferences.

Use In Well-Lit Environments
Rapsodo PITCHING 2.0 should be used in well lit locations. Performance may vary in certain lighting conditions, particularly in low light conditions, which may result in incorrect measurements.

Do not use Rapsodo PITCHING 2.0 in Wet Conditions
Rapsodo PITCHING 2.0 is not water resistant. Do NOT expose the device to water as it may get damaged.

App Updates
Rapsodo will periodically update and improve the features of the Rapsodo Diamond App. It is recommended that users regularly download the latest version to make for the highest monitor performance.

Return Policy and Warranty
Rapsodo provides a (1) one-year limited warranty for manufacturing defects. Under conditions of the warranty agreement, purchasers will be entitled to repair or replacement for defective Rapsodo products. This warranty begins from the date of initial purchase. Rapsodo may also choose to refund the purchase price of the product to the purchaser, at its sole discretion. Warranty detailed information and return policy can be found online at www.rapsodo.com/pages/return-policy.

Regulatory notice: Waste electrical and electronic equipment
The symbol on the product or its packaging signifies that this product has to be disposed separately from ordinary household wastes at its end of life. Please kindly be aware that this is your responsibility to dispose electronic equipment at recycling centres in order to help conserve natural resources. Each country in the European Union should have its collection centres for electrical and electronic equipment recycling. For information about your recycling drop off point, please contact your local electrical and electronic equipment waste management authority. Do not dispose of the Rapsodo device with household waste. Batteries are not to be disposed of in municipal waste stream and require separate collection. Disposal of the packaging and your Rapsodo should be done in accordance with local regulations.

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SUPPORT/CONTACT

If you have any questions or need any assistance, please reach out to your dedicated account manager, or contact us at:

@ support@rapsodo.com

📞 1.844.772.7763

🌐 www.rapsodo.com

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