



#seriousfun

User Guide

SQ Air 10

Interactive target



sportquantum.com

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European and world junior champion,
multiple French champion

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Foreword





The SQ Air 10 Interactive Target is designed for air pistol and air rifles shooting sports with a maximum energy of 7.5 Joules (official limit for ISSF and olympic shooting disciplines). The target measure the impact position on a transparent polycarbonate impact plate, behind which a screen displays visuals controlled by the SQ Touch tablet. The system provides real-time scoring accurate to the tenth of a point. In the default configuration, the SQ Air 10 interactive target and SQ Touch tablet are connected via an Ethernet cable, but wireless connectivity is also possible using Wi-Fi mode.

Technology

The research teams at SPORT QUANTUM and CEA List have jointly developed a technology capable of precisely locating impacts through shockwave measurements. This groundbreaking innovation has resulted in four international technological patents which achieves the performance standards required by ISSF and Olympic disciplines, including accuracy surpassing one tenth of a point or 125 micrometers.

Improve

Because progress relies on performance measurement, the SQ Air 10 provides shooters of all levels, from beginners to competitors, with the capability to analyze all aspects of their shooting practice, track their progress over time, and access effective training methods.

Have fun & share

Whether you are a child or an adult, an enthusiast or a competitor, sport shooting remains a leisure activity. SPORT QUANTUM technology proposes an innovative approach to precision shooting training. Shooters have access to an important library of training and fun exercises that focus on methodology, accuracy and right pace. Moreover, they can engage in friendly competition by practicing on the same cards as other athletes and share their performance and passion on social network platforms.

Competition

The SQ Air 10 target is approved worldwide by the ISSF for all official disciplines



Additional approvals for national disciplines are also available for France (FFTir), UK (NSRA postal competitions), Norway, Sweden, Czech Republic, Austria and Finland.



Software

There are 4 main software elements in the Sport Quantum products:

- The **App**: The application that runs on the tablet (aka. the "APK"). The App is available for Android systems version 8 and above.
- The **Supervisor**: The application that runs on the supervisor computer (aka. "SynQro"). The Supervisor is available on Windows, MacOS and Linux.
- The **Firmware**: The application that runs on your target .
- The **Online** web portal <https://sqm.app> : The application that is directly available on internet used as first for QR Code export, and for SQ Online in the future

All software are the same on any of the device (SQ Air 10, SQ Fire, ...) or the tablet (SQ Touch, Teclast, ...) except for the SQ Air 10 v1 (pre 2020) device.

Version numbering X.Y.Z

Each software is identified by a version number which is composed of 3 numbers in the format X.Y.Z for instance 4.7.23

- The **first** number X (4 in the example) is the **major** version number. Changes in this number indicates a **notable evolution** from the previous version, and **most likely incompatible with the previous versions environments**.
- The **second** number Y (7 in the example) is the **minor** version number. Changes in this number indicates a small evolution from the previous version, and **most likely incompatible with the previous versions environments**.

An **even number indicates a release version** (production ready) version, an **odd number indicated a development version**. For instance, v2.3.54 will be a development version, used only for new features being actively developed and tested by only a few users whereas v2.2.5 will be a release version used by most of the user base.

- The **third** number Z (23 in the example) is the **patch** version number. Changes in this number indicates a **bugfix**, or a **very small change** from the previous version, and **compatible with the current X.Y.** version environment**.

Version compatibility

- The App, Supervisor and Firmware versioning is done so that if the major and minor version numbers, ie the X and Y are the same, then, the software are compatible and can work together.

SQ App Usage and features



Export your score (Beta version) page 50

The SQ Air 10 system offers a convenient way to export and share your shooting results on social media directly from a smartphone using a QR code generator. You can have access to detailed statistics about your shooting session as well as PDF and CVS export. Only your smartphone needs to be connected to internet, no dedicated application is required on the smartphone besides scanning the QR Code. Scan the QR Code from the SQ Touch and you have everything available on your phone !

Add favorites (page 30)

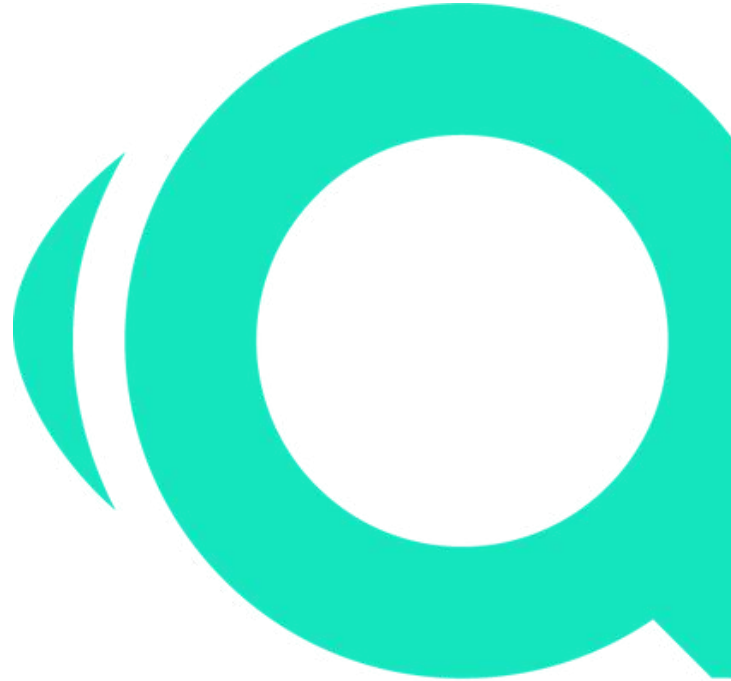
Save the customized disciplines from the App to favorites so you can easily recall the parameters that you use the most. Get all the disciplines you have been using in your clubs readily available for everyone in one click !

ISSF Finals : Organize ISSF finals from the Supervisor **SynQro** with arbitrary number of competitors. The official rules available on the Supervisor **SynQro** makes it easy to handle shoot-offs, protests and rankings. Easily organize finals anytime with any number of competitors !

DSB disciplines : Besides the ISSF official disciplines (finals, and precision shooting). The following DSB disciplines have been made directly available from the App

DAVID21+, WMShots, ProtoS : Directly from the Supervisor **SynQro** import and export start-lists using the most common industry-standard format, ensuring seamless integration and compatibility with other systems to manage shooting event start-lists and results.

SQ App start and configuration



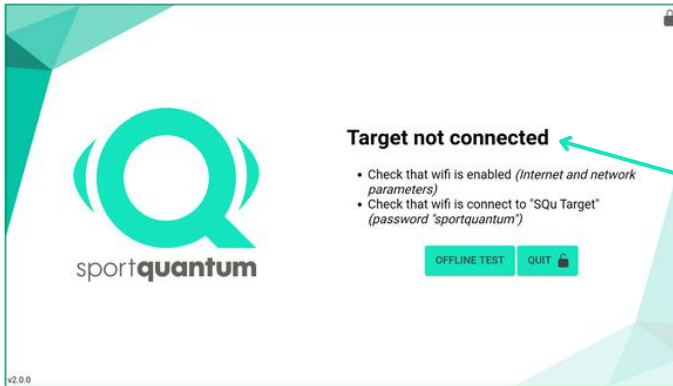


Start up: open the App and connect to the target

If the App does not open automatically, click on the SQ App icon. The App should connect automatically to the target.

If you see this page :

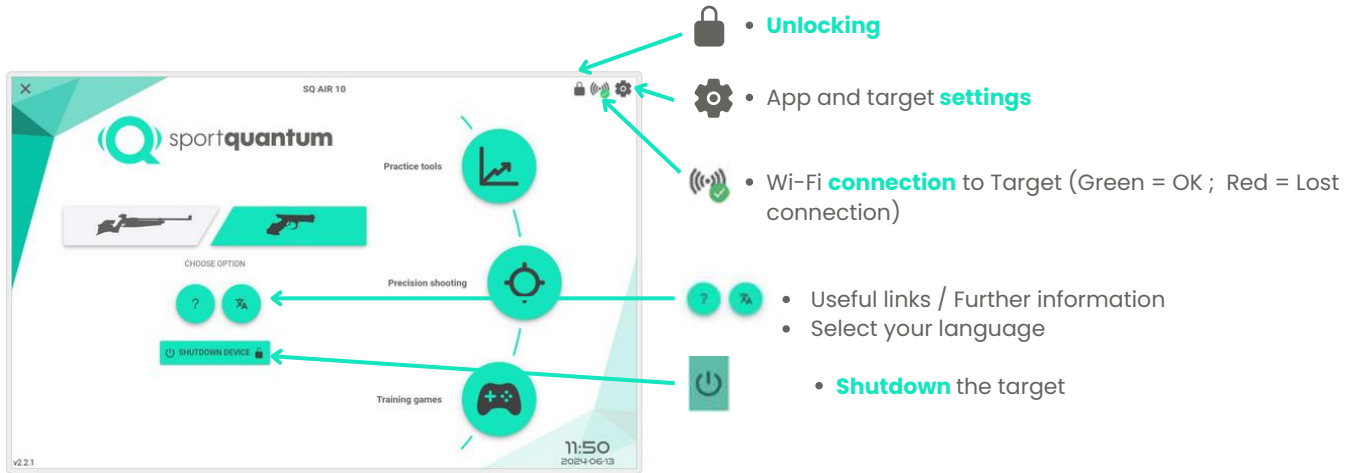
- if you use wired connection, verify that the cable is plugged correctly to the SQ Touch and SQ Air 10
- if you use wireless connection, please refer to Wi-Fi settings on page 58



If the tablet SQ Touch is **not connected to the target**, go to

- **Settings** and connect the **Wi-Fi** as shown on page 68

SQ App landing page

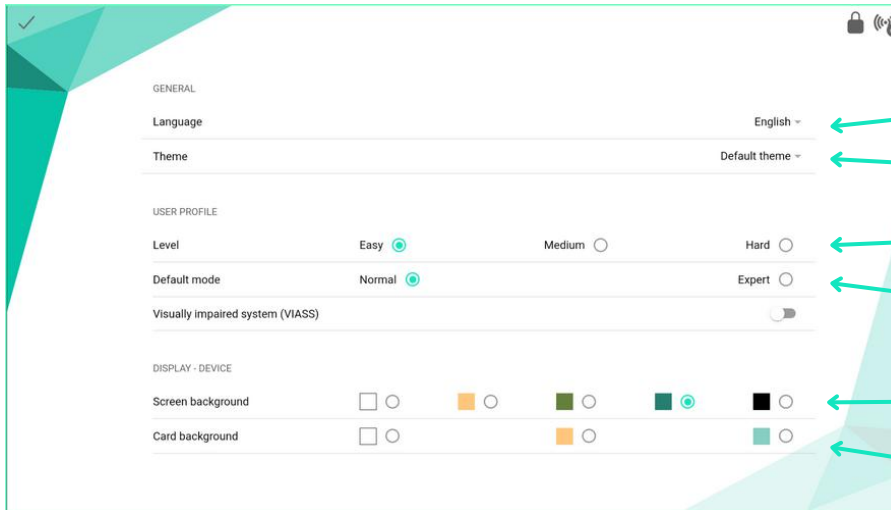


The screenshot shows the SQ App landing page with the following elements and callouts:

- Unlocking:** A padlock icon in the top right corner.
- App and target settings:** A gear icon in the top right corner.
- Wi-Fi connection to Target:** A Wi-Fi signal icon in the top right corner, with a note: (Green = OK ; Red = Lost connection).
- Useful links / Further information:** A question mark icon and a language selection icon (two 'A's) in the center.
- Select your language:** A language selection icon (two 'A's) in the center.
- Shutdown the target:** A power button icon in the bottom right.

The app interface includes a header with 'SQ AIR 10', a 'sportquantum' logo, a 'CHOOSE OPTION' section with a rifle and handgun, and three main activity buttons: 'Practice tools' (line graph), 'Precision shooting' (crosshair), and 'Training games' (game controller). A 'SHUTDOWN DEVICE' button is located below the 'Precision shooting' button. The bottom right corner shows the time '11:50' and date '2024-06-13'.

Click on  to access the app and target parameters page



The screenshot shows the 'App and target settings' page. It is divided into four sections: GENERAL, USER PROFILE, and DISPLAY - DEVICE. The GENERAL section includes 'Language' (English) and 'Theme' (Default theme). The USER PROFILE section includes 'Level' (Easy), 'Default mode' (Normal), and 'Visually impaired system (VIASS)' (off). The DISPLAY - DEVICE section includes 'Screen background' (dark green) and 'Card background' (teal). Callouts with arrows point to these settings, explaining their function.

Select your favorite language
(8 options)

Light and dark mode

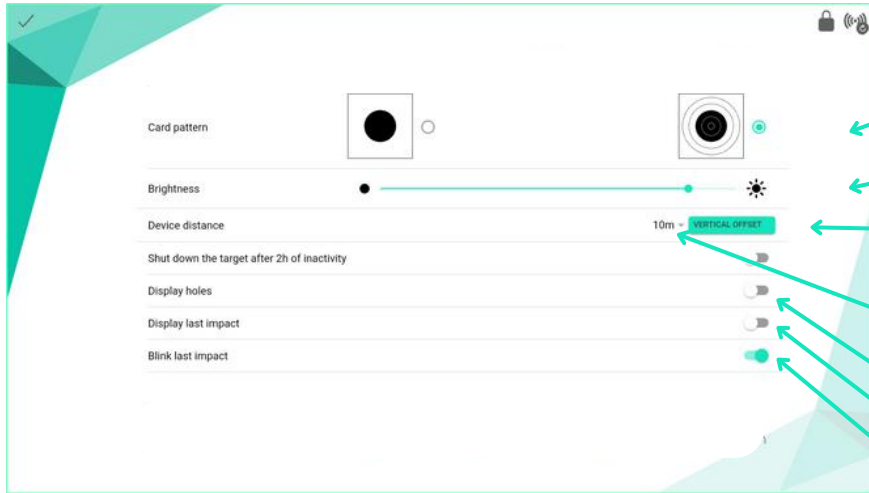
Default difficulty for practice and fun
exercises

Expert: Display advanced information
(average point...) by default

Screen background
(around the card) on the target

Card background on the target

Display parameters on your target



Display zones on the target

Brightness of the target

Select the target position (shooting distance) from 3m up to 15m

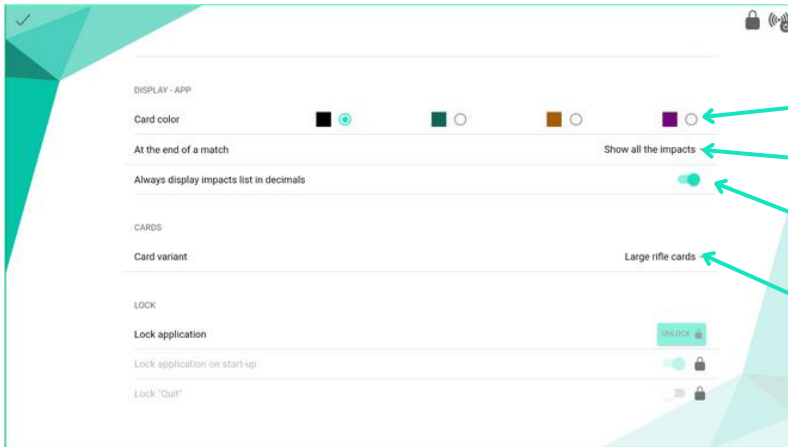
When the shooting distance is not 10m, adjust the rifle aiming point. Set the position of the red dot at the current impact position while aiming at the center

Display impacts on the target

Display the last impact on the target

Display a blinking last impact on the target

Display on your SQ Touch tablet



Color of the black zones on the SQ Touch App

Display all impacts at the end of the match

Display decimal scores for each impact. The global scoring is not affected

Use pistol sized cards when using rifle option for some practice and fun cards

App and target settings

Lock application now for this session

Lock the application by default. All protected actions and parameters will need to be unlocked by a password

Lock "Quit button". The user will not be able to leave the App without a password

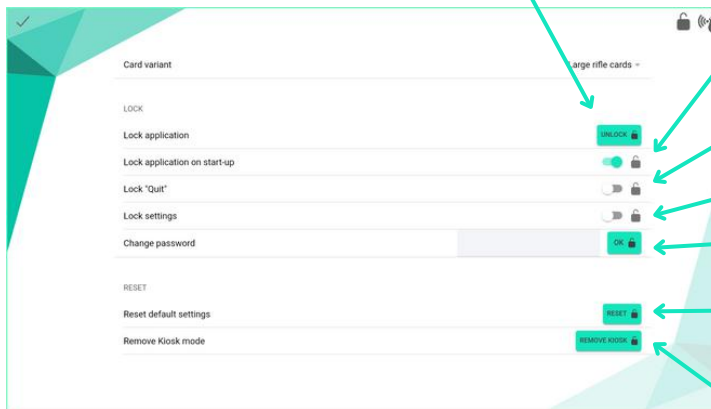
Lock "Settings". The user will not be able to modify the target and App settings without a password

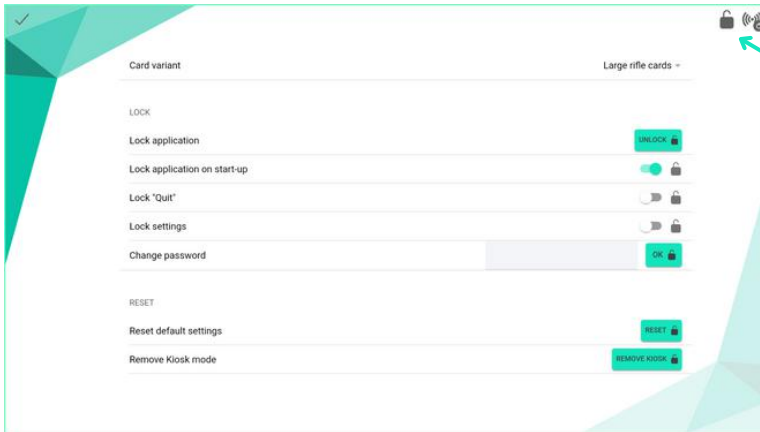
Change the current lock password. The default password is "1896"

Reset all settings to factory default, including connection parameters


Remove kiosk. The default operating system parameters operation (OS parameters, access other Apps, etc.) will be accessible even if the App is locked.


Kiosk is enabled by default. If the kiosk has been removed, it can be enabled again by an administrator



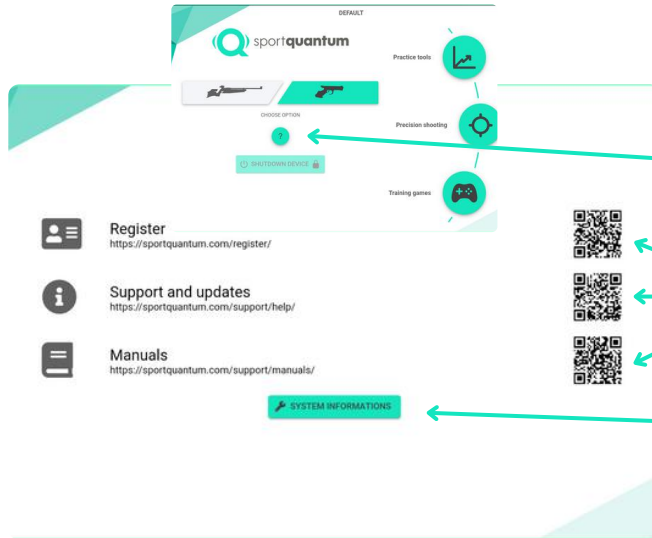


How to unlock the SPORT QUANTUM application

1. Click on icon 
2. Enter the following password "1896"
3. Click on "Unlock".

When the App is unlocked, all buttons and features locked with the  icon will be accessible.

NB : Only an App full reset by an administrator can be used in case of lost password



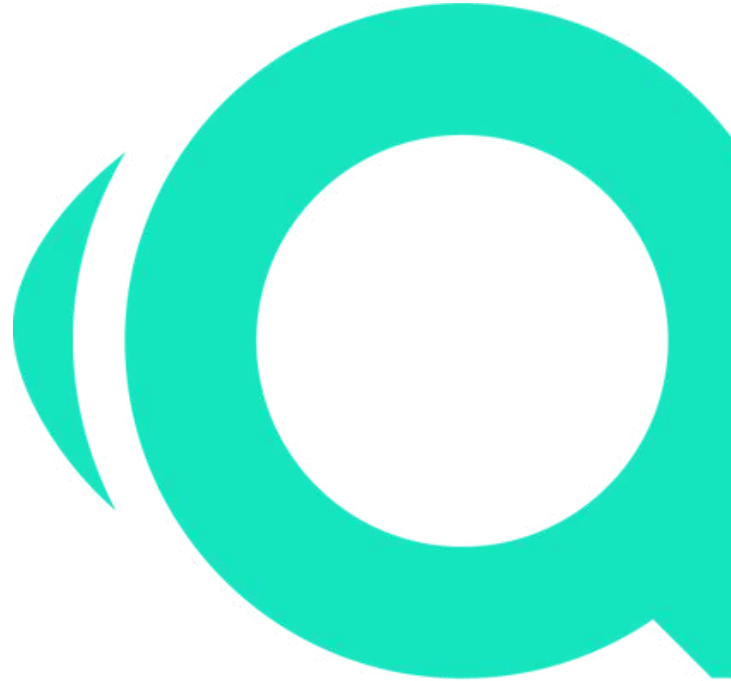
Useful links

By clicking on "?" you will find useful links mentioned below

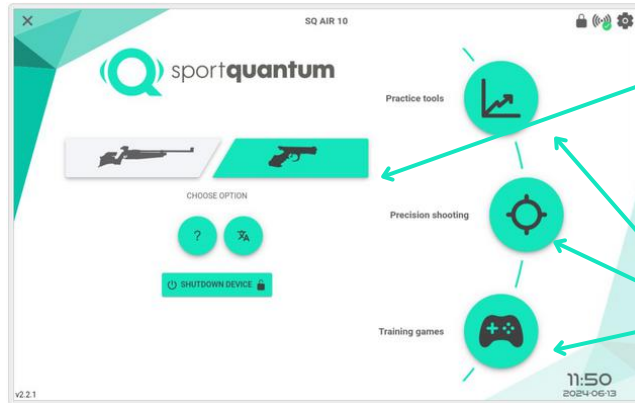
Simply scan the QR codes with your mobile device to access to updated documents and information on SPORT QUANTUM website.

Access system information. This information will be asked by SPORT QUANTUM support

App and target usage



Weapon selection and activities



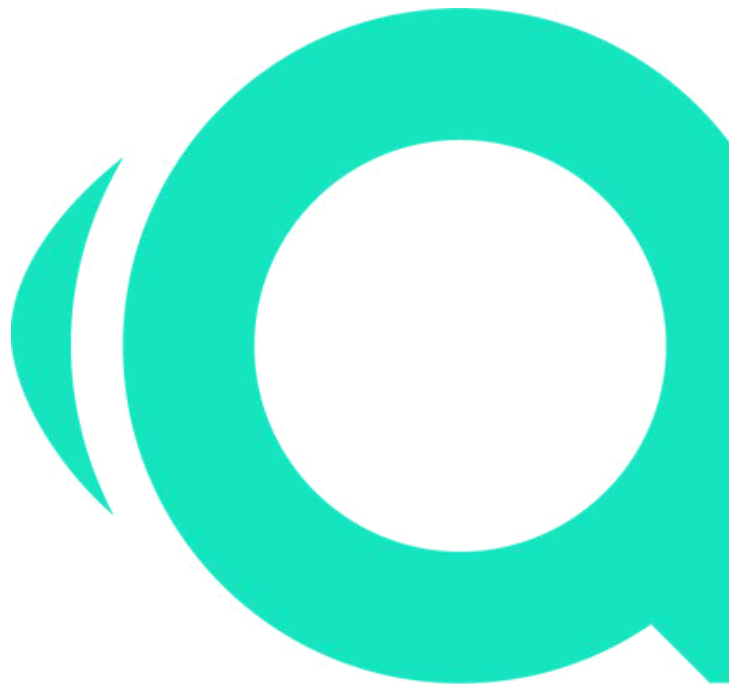
Select your **Weapon**: Rifle or Pistol

You can change your weapon at any time by returning to the main menu.

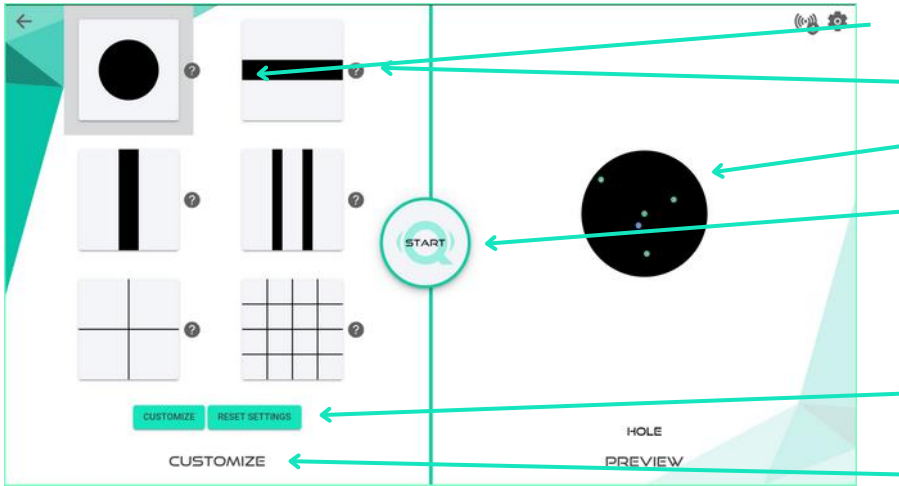
Then select your **Activity** :

- Practice tools and exercise
- Precision shooting - competition and practice
- Training games - Playfull learning

Practice tools

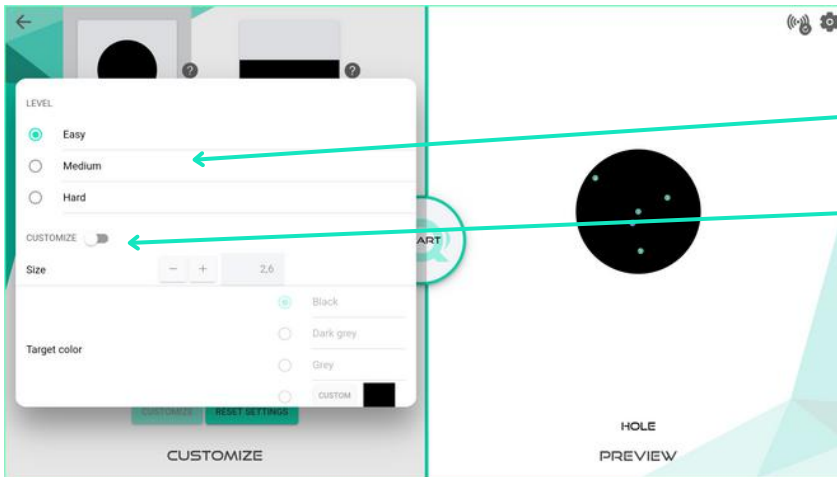


Training tools



The screenshot shows a training interface with a grid of exercise options on the left, a central preview area, and a bottom navigation bar. Callouts point to various elements:

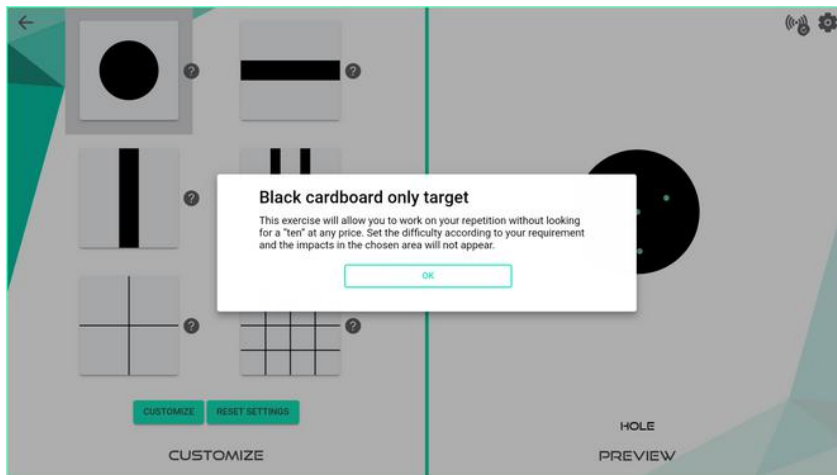
- Choose your training exercise:** Points to the top-right corner of the exercise grid.
- Information about the exercise:** Points to a question mark icon on the top-right exercise card.
- Preview current exercise with customized settings if any:** Points to the circular preview area on the right.
- Start the exercise:** Points to the circular 'START' button in the center.
- Reset the exercise settings:** Points to the 'RESET SETTINGS' button in the bottom bar.
- Customise the exercise according to your level or expectations:** Points to the 'CUSTOMIZE' button in the bottom bar.



3 predefined levels of difficulty

Or full customisation of the exercise :

- Size of the visual
- Color of the visual
- Impact display
- ...

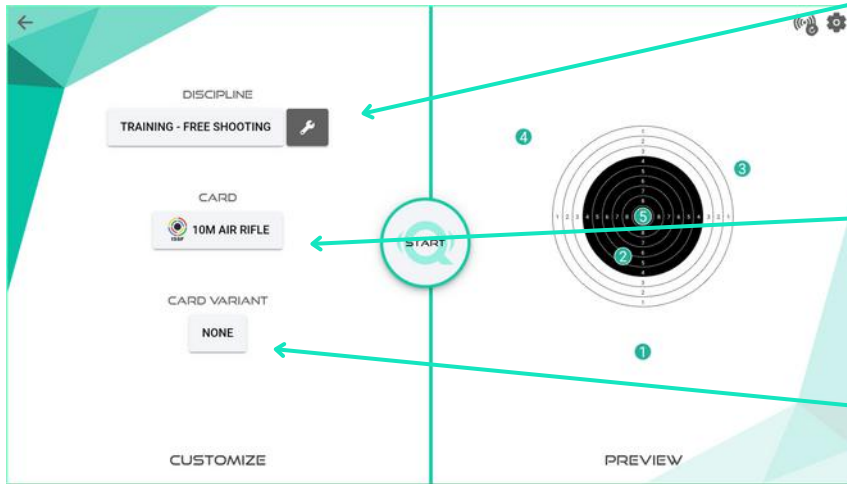


Information about the exercise

Precision shooting



Choose your target visual : 3 steps



- **First step: discipline**

Choose the discipline between free shooting, training contracts and challenges with official competitions disciplines (precision shooting, rapid fire, team shooting, etc.)

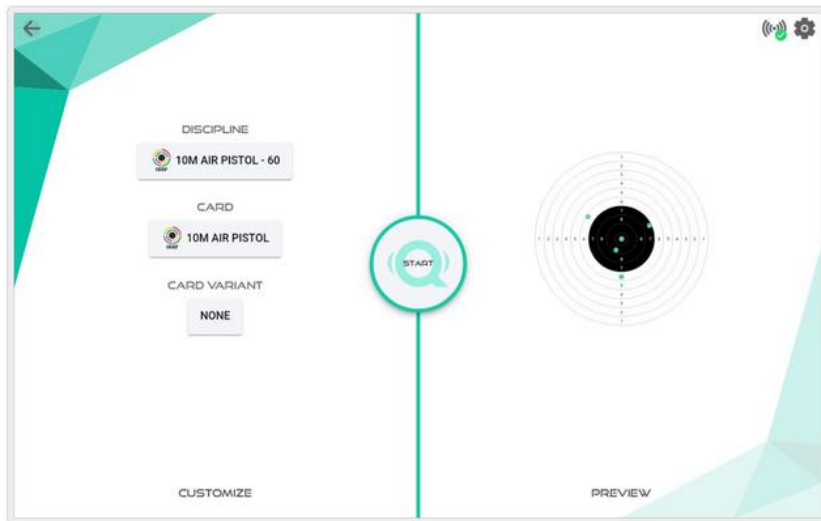
- **Second step: card design**

Choose the card visual design from official national or international federations

- **Third step: card variant**

Choose the visual overlay for a specific training (entry exercise, centering exercise, blurred visual)

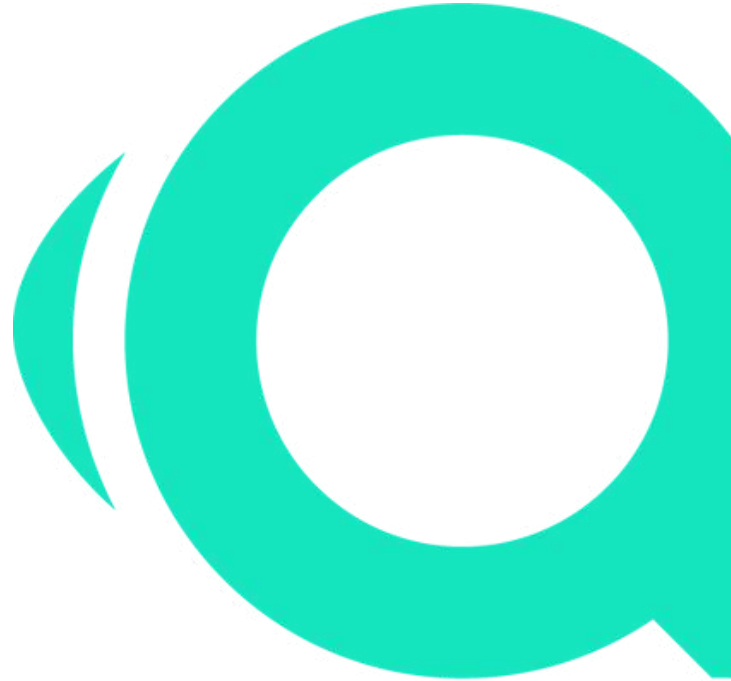
Choose your target visual : 3 steps



Example of a **3-steps** configuration

- 1) ISSF Discipline 10m Rifle 60 shots
- 2) On a nordics Luftsprint rifle card
- 3) Target entry practice

First step: Training or competition configuration



Choice of discipline

Training or challenges (competitions)



DISCIPLINE

TRAINING - FREE SHOOTING

CARD

10M AIR RIFLE

CARD VARIANT

NONE

CUSTOMIZE

START

TRAINING CHALLENGE

PICK A DISCIPLINE

10M AIR RIFLE

CUSTOMIZE

PREVIEW

TRAINING CHALLENGE

PICK A DISCIPLINE

FFFR

Ch. de France des clubs Adultes, qualifications

Ch. de France des clubs EDI, qualifications

30 Coups

40 Coups

8 élèves à 10m

3x20

CUSTOMIZE

PREVIEW

Choose the discipline

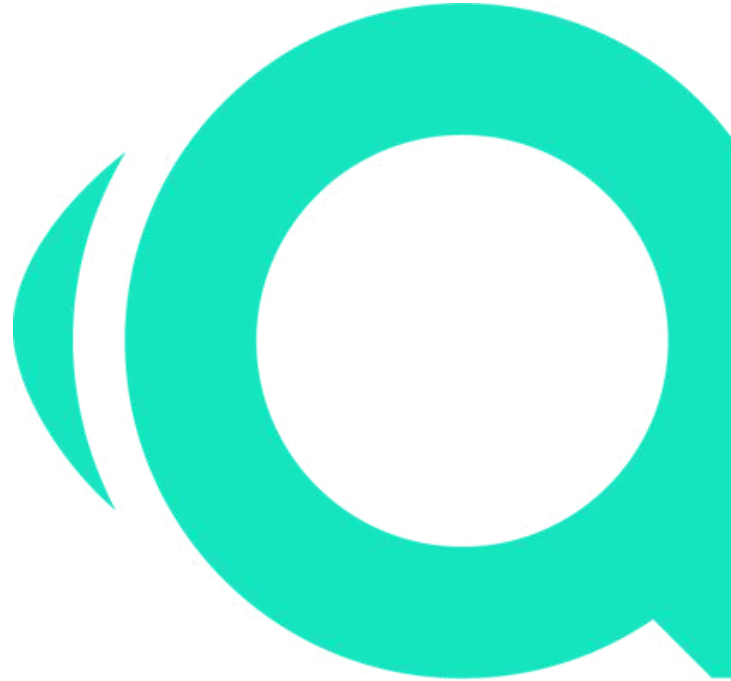
Challenge/competition mode

Training mode

- Work on your precision in free shooting mode and customize your session
- Work on your concentration with contract-type precision exercises

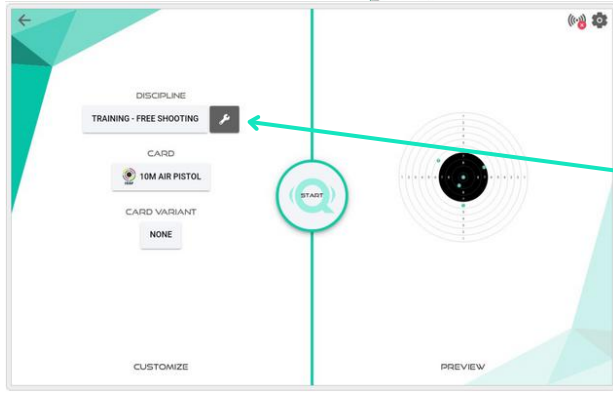
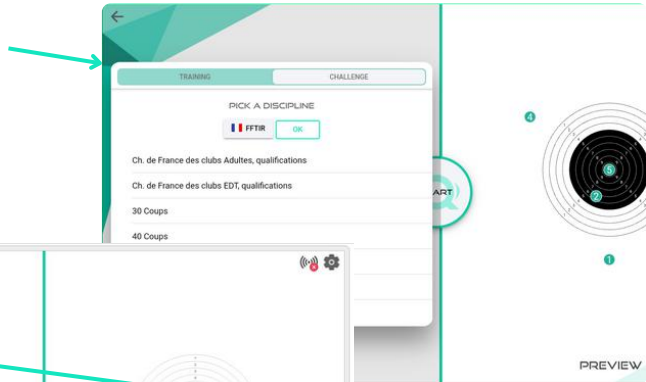
First step: discipline

- Free shooting
- Contract training

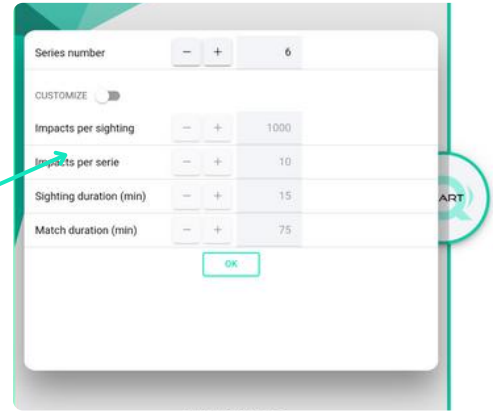


Choice of discipline (Free shooting)

Choose TRAINING



Customize your training !



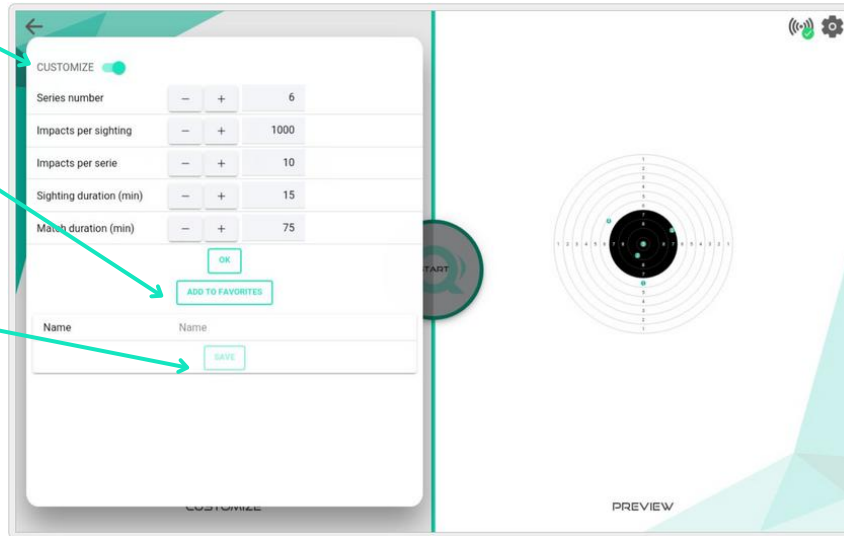
Choice of discipline (Favorites)

Add favorites to easily recall current App disciplines customizations that corresponds to local disciplines used in clubs

Customize as you like

Add to favorites

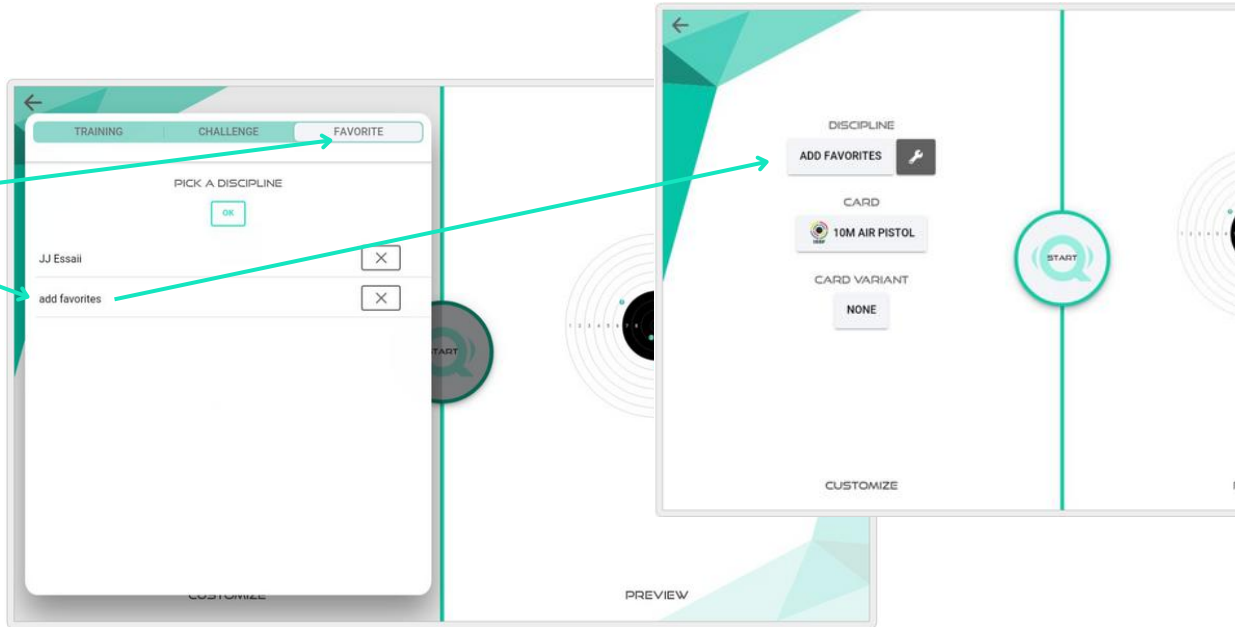
Name it and Save



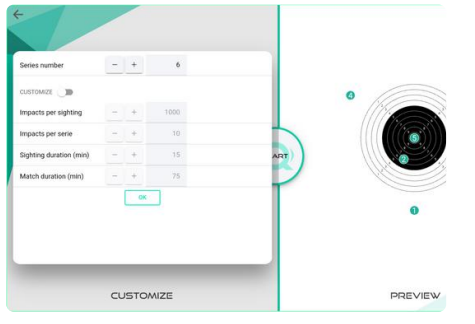
Choice of discipline (Favorites)

You can now recall any of your favorite

add favorites



Choice of discipline (contracts)



Contract target - Pyramid

The goal is to shot every score present within the pyramid. Each floor is at least equal to the previous one. Challenge more yourself choosing the 'bottom-top' approach. Thanks to this exercise you will be challenging yourself either during each shot or with the view to do a global performance.

Longest series "Contract" target

Test your discipline, stamina and mental strength by shooting the longest possible series without any misses. You can adjust the degree of difficulty according to your specific requirements.

Free shooting

Custom your own classic shooting session.

Contract target - Points

Reach 5 or 10 points with as few shots as possible. Depending on the chosen level, each shot will give you points... or penalties!

Hard	Medium	Easy	Points
10.9 - 10.4	10.9 - 9.4	10.9 - 8.4	+2
10.3 - 10.0	9.3 - 9.0	8.3 - 8.0	+1
9.9 - 9.4	8.9 - 8.4	7.9 - 7.4	0
9.3 - 9.0	8.3 - 8.0	7.3 - 7.0	-1
8.9 - 8.0	7.9 - 7.0	6.9 - 6.0	-2

OK



Contract target - Points

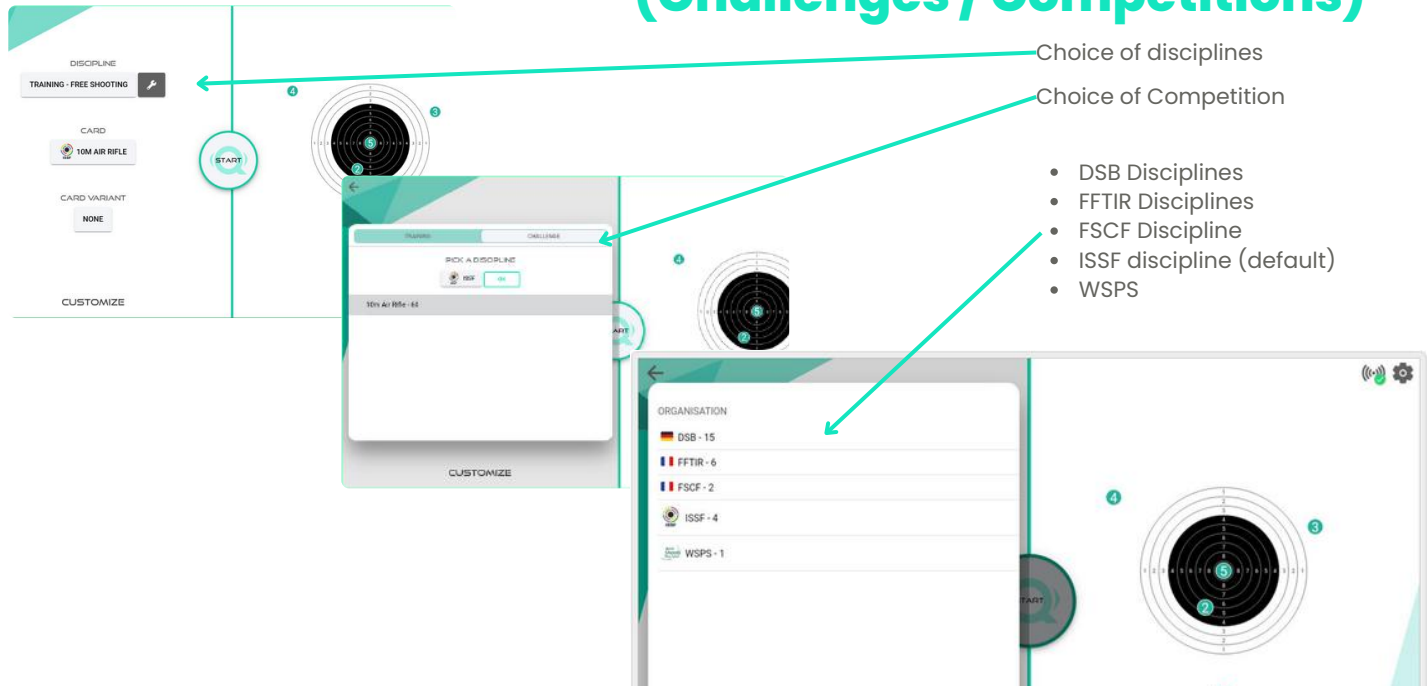
Reach 5 or 10 points with as few shots as possible. Depending on the chosen level, each shot will give you points ... or penalties!

First step: Challenges / Competitions

- DSB Competition
- FFTIR Competition
- FSCF Competition
- ISSF Competition
- WSPS Competition



Choice of discipline (Challenges / Competitions)

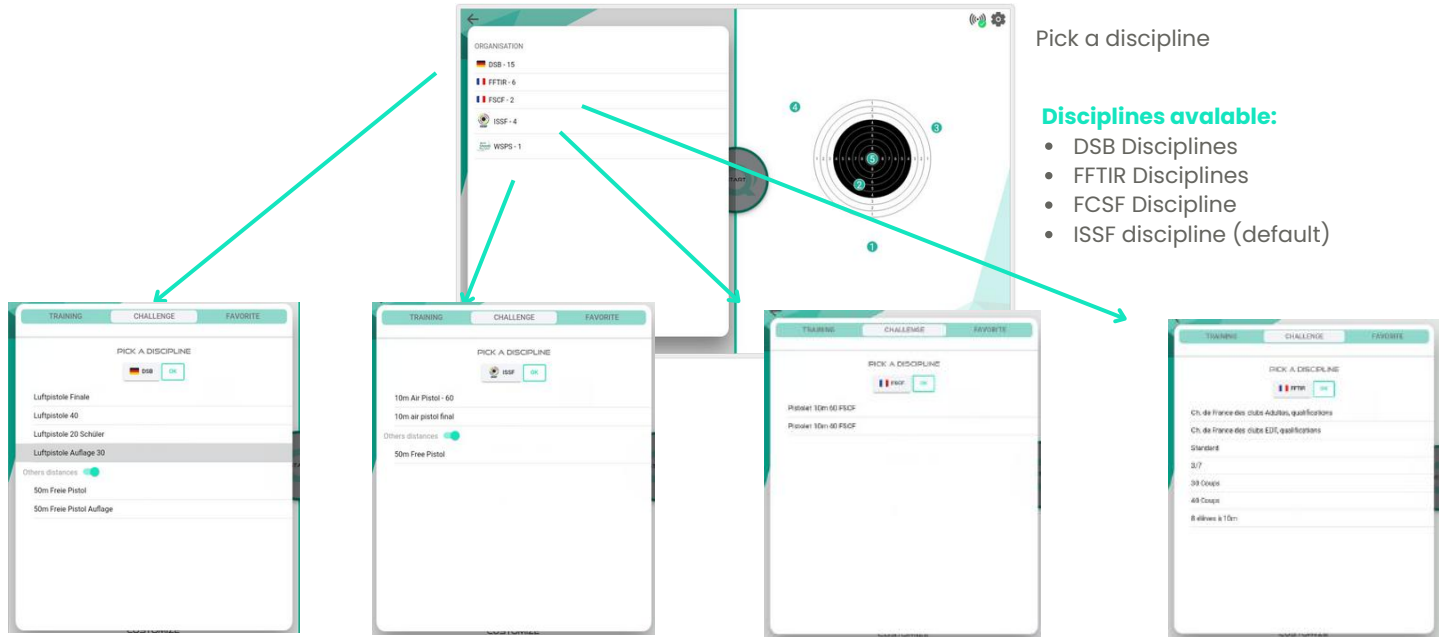


Choice of disciplines

Choice of Competition

- DSB Disciplines
- FFTIR Disciplines
- FSCF Discipline
- ISSF discipline (default)
- WSPS

Choice of discipline (Challenges / Competition)



Pick a discipline

Disciplines available:

- DSB Disciplines
- FFTIR Disciplines
- FCSF Discipline
- ISSF discipline (default)

Choice of discipline (Challenges / Competition)

- FFTIR Disciplines – Pistol

- 1-** Ch. de France des clubs Adultes, qualifications
- 2-** Ch. de France des clubs EDT, qualifications
- 3-** Standard
- 4-** 3 / 7
- 5-** 30 coups
- 6-** 40 coups
- 7-** 8 élèves à 10m

- FFTIR Disciplines – Rifle

- 1-** Ch. de France des clubs Adultes, qualifications
- 2-** Ch. de France des clubs EDT, qualifications
- 3-** 30 coups
- 4-** 40 coups
- 5-** 8 élèves à 10m
- 6-** 3x20

- FCSF Discipline – Pistol

- 1-** Pistolet 10m – 60 FCBF
- 2-** Pistolet 10m – 40 FCBF

- FCSF Discipline – Rifle

- 1-** Carabine 10m – 60 FCBF
- 2-** Carabine 10m – 40 FCBF

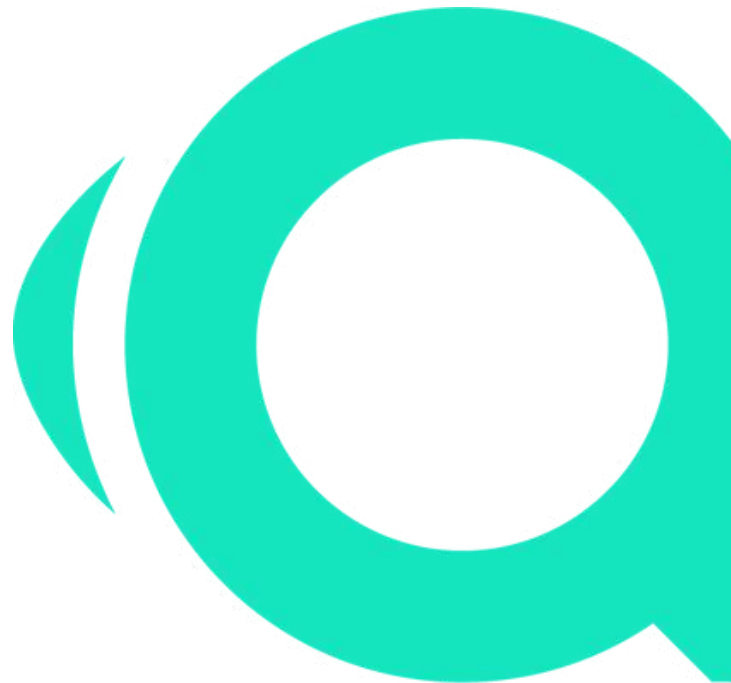
- ISSF Discipline –Pistol

- 1-** 10m Air Pistolet – 60

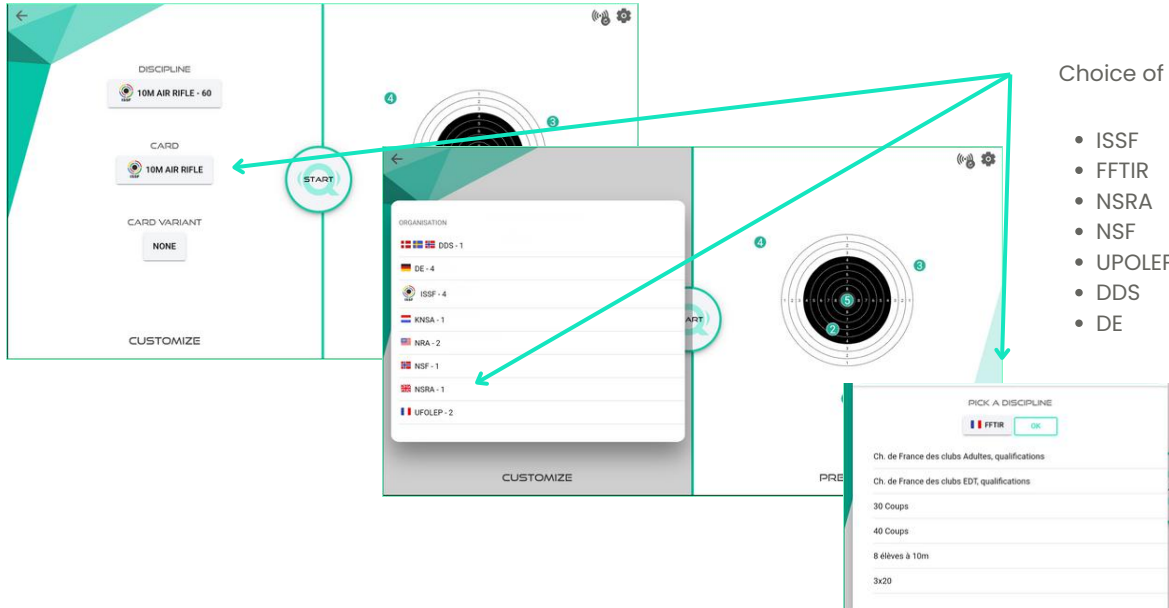
- FCSF Discipline – Rifle

- 1-** 10m Air Rifle – 60

Second step : Card design



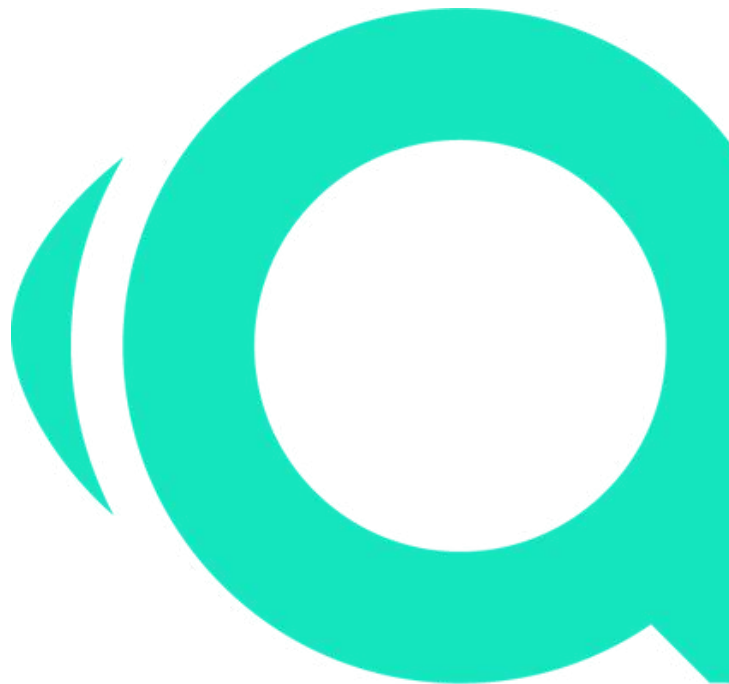
Choice of card design (National and international federations)



Choice of cartons

- ISSF
- FFTIR
- NSRA
- NSF
- UPOLEP
- DDS
- DE

Third step: Card variants



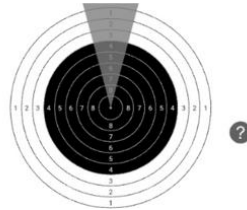
Card variants

- None



Default choice

- Target entry card



Target entry card

Slowly guide your aiming equipment without leaving the grey area until you reach your blank margin. Repeat this exercise to mechanise your target entry and also to check your position in relation to the target and the reproducibility of your position.

- Target Centring



Centring card

Work on and gain confidence in your stability with this exercise which will show you that a good "aim / release / hold" in the zone will give you a result corresponding to your movement on target.

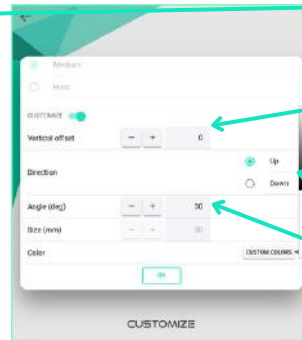
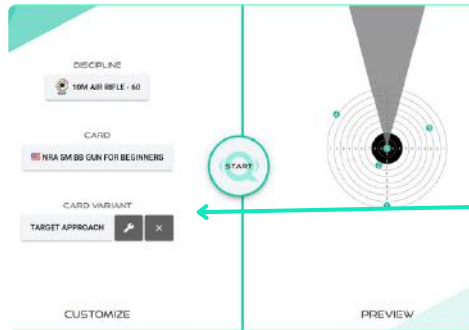
- Blurred target



Blurred target

Sometimes your vision isn't clear. Simulate it on a blurred blurred target.

Card variants customization : target entry



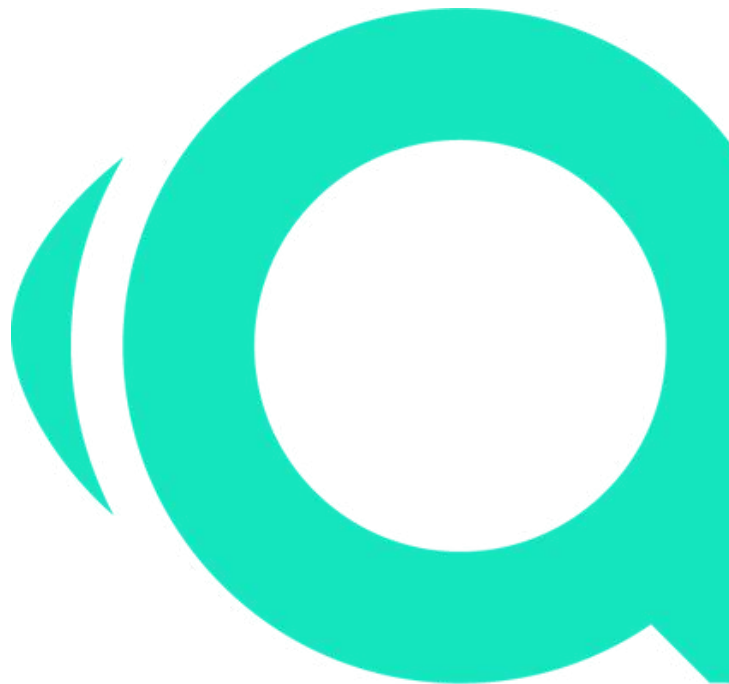
Customize

Distance from the tip of the triangle and the center of the target

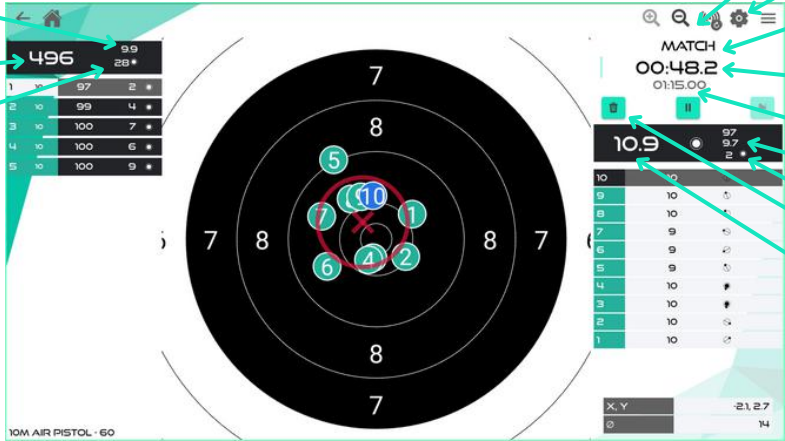
Direction of the approach (from top or bottom)

Angle or size (if angle is 0) between the triangle edges

Shooting session



shooting session



Average impact score

Total score

Number of inner tens

Activate zoom (according to defined zoom mode)

Display settings

Current sequence (sighting, match, loading, wait, ...)

Elapsed time in sequence (click to display the remaining time instead)

Total duration of the sequence

Average impact score of current serie

Number of inner tens of current serie

Delete all impacts of current serie

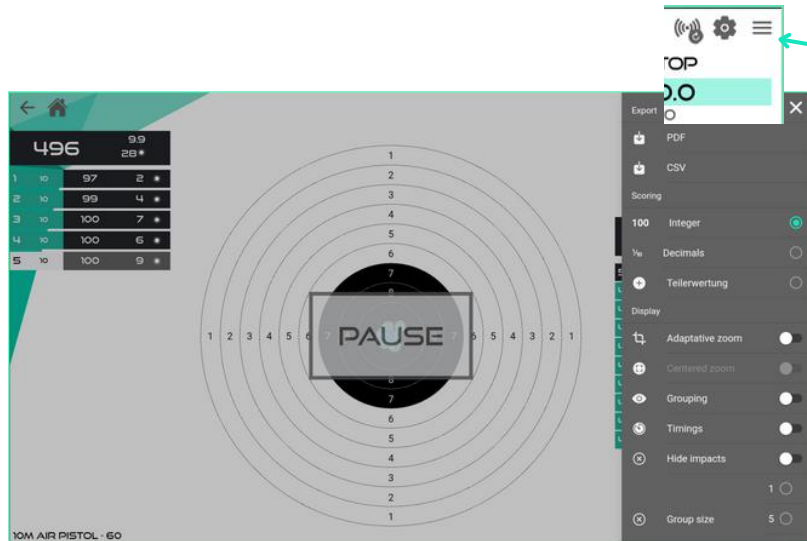
Last impact score

When the grouping is selected in the display options, the red grouping circle shows the average dispersion of current serie of impacts.
The X,Y and σ are the center coordinates and diameter of this grouping circle.
This information can be used to adjust your sighting device.

1	97	2	*
2	99	4	*
3	100	7	*
4	100	6	*
5	100	9	*

10	10
9	10
8	10
7	10
6	9
5	9
4	10
3	10
2	10
1	10


Impact and score display settings



Click on this icon

Score display type (integer, decimals, teiler)

Zoom mode (adaptive to adapt to the impacts, centered to keep the target in the middle)

Grouping display 

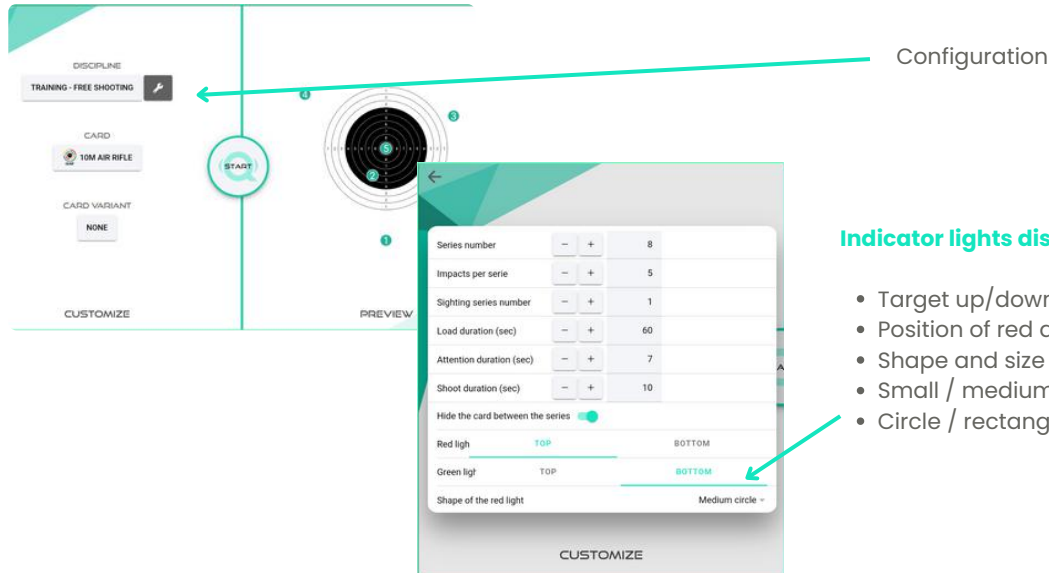
Timing display of each impact

Hide impact

Display impacts by batches of 1, 5 or 10

Ring	Score	Count	Star
1	10	97	2 *
2	10	99	4 *
3	10	100	7 *
4	10	100	6 *
5	10	100	9 *

Rapid fire "standard" shooting settings

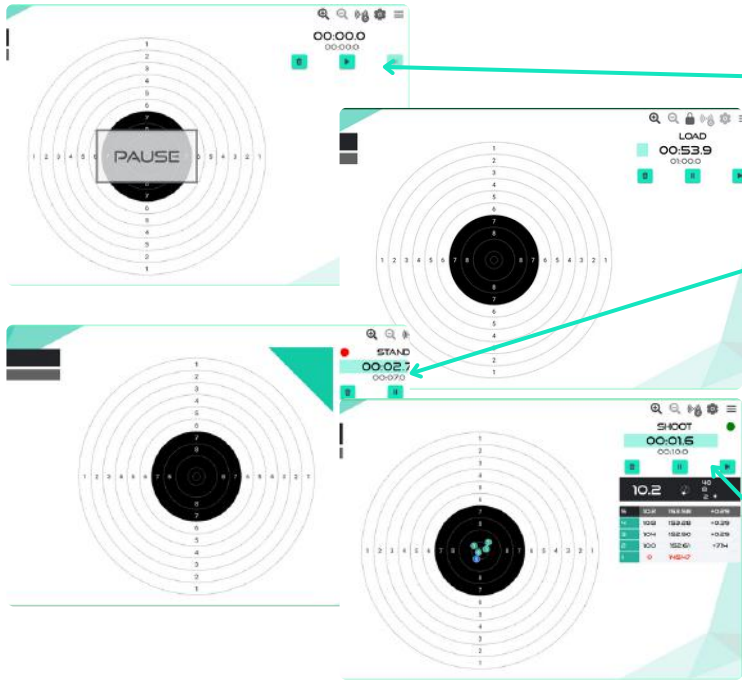



Configuration

Indicator lights display options:

- Target up/down
- Position of red and green light
- Shape and size of red and green light
- Small / medium / large
- Circle / rectangle

Rapid fire "standard" shooting





1 - Start the session with the icon 

2 - 60 seconds to load your weapon

3 - 7 seconds of standby

4 - 10 seconds to shoot 5 impacts

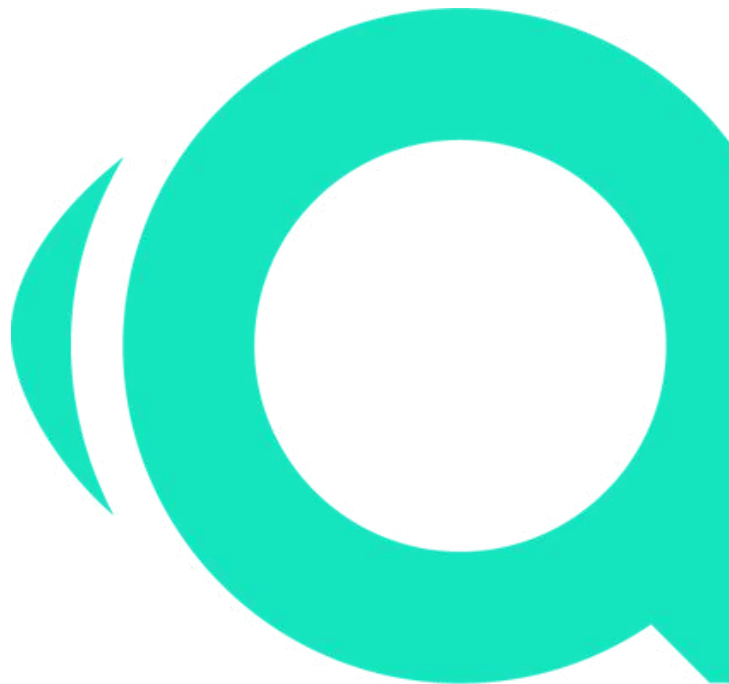
A bright red or green display on the tablet and on the target tells you when you can and cannot shoot

-  You can shoot
-  You cannot shoot

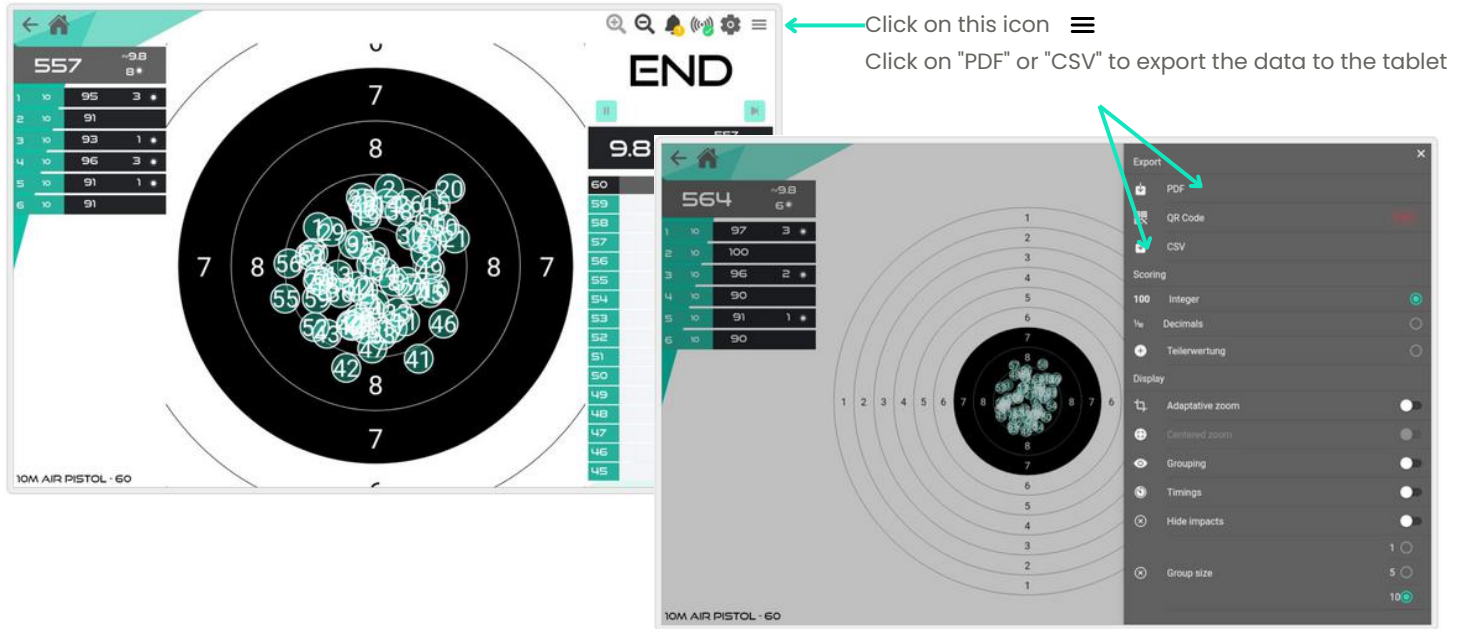
Score and timing of each impacts are displayed. Impacts before or after the allowed shooting time are scored 0.


IMPACT	SCORE	TIME	STATUS
1	10	00:01.5	OK
2	0	00:01.0	NO
3	0	00:01.0	NO
4	0	00:01.0	NO
5	0	00:01.0	NO
TOTAL	10.2		

Export shooting results



Save your results in PDF or CSV format



Click on this icon 

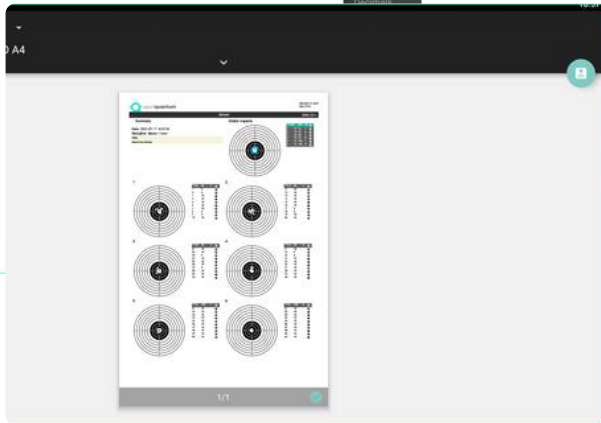
Click on "PDF" or "CSV" to export the data to the tablet

The image shows two screenshots of the SportQuantum app. The left screenshot shows a dartboard with a score of 557 and a list of scores for 6 rounds. The right screenshot shows the same app with an 'END' screen and a score of 98. An arrow points to the menu icon in the top right corner of the right screenshot. Below this, an 'Export' menu is shown with options for PDF, QR Code, and CSV. The 'Export' menu also includes settings for Scoring (Integer, Decimals, Teilwertung), Display (Adaptive zoom, Centered zoom, Grouping, Timings, Hide impacts, Group size), and a close button (X).

Save your results in PDF or CSV format



Enter your notes and click Export

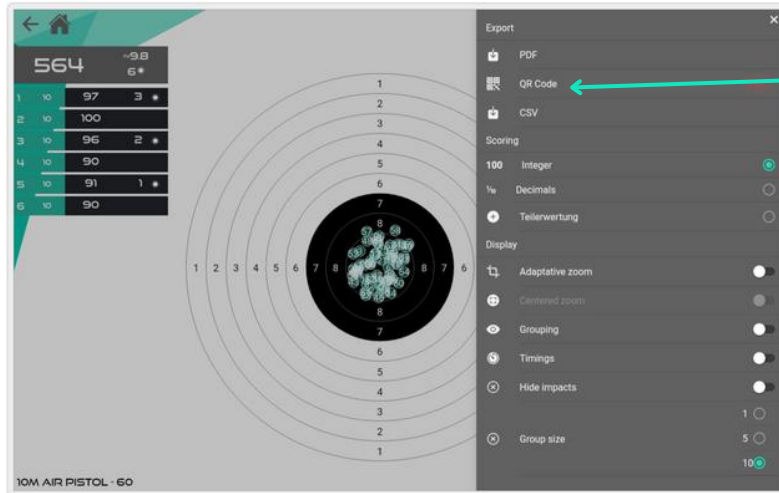


Click on download

The file will be saved in the "Download" folder of the SQ Touch tablet.

Export: QR code generator

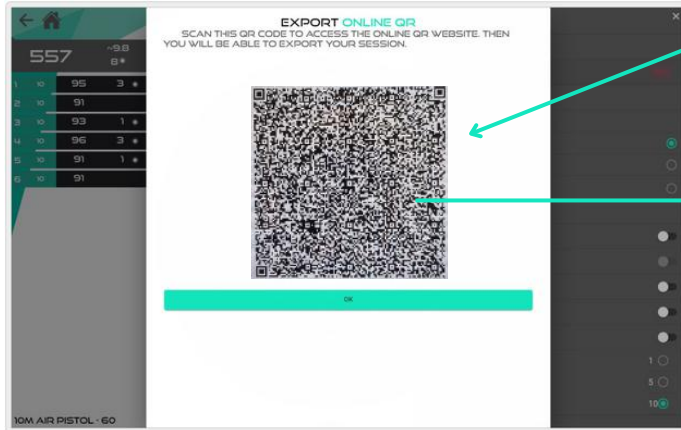
A convenient way to export shooting results directly to a smartphone using a QR code generator. This method simplifies the process compared to exporting PDF and CSV files, especially in kiosk mode



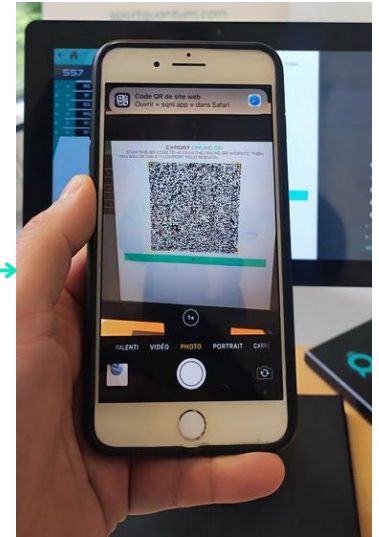
Click on "QR Code"

Export: QR code generator

- On your phone or tablet, open the built-in camera app.
- Point the camera at the QR code.
- Tap the banner that appears on your phone or tablet.



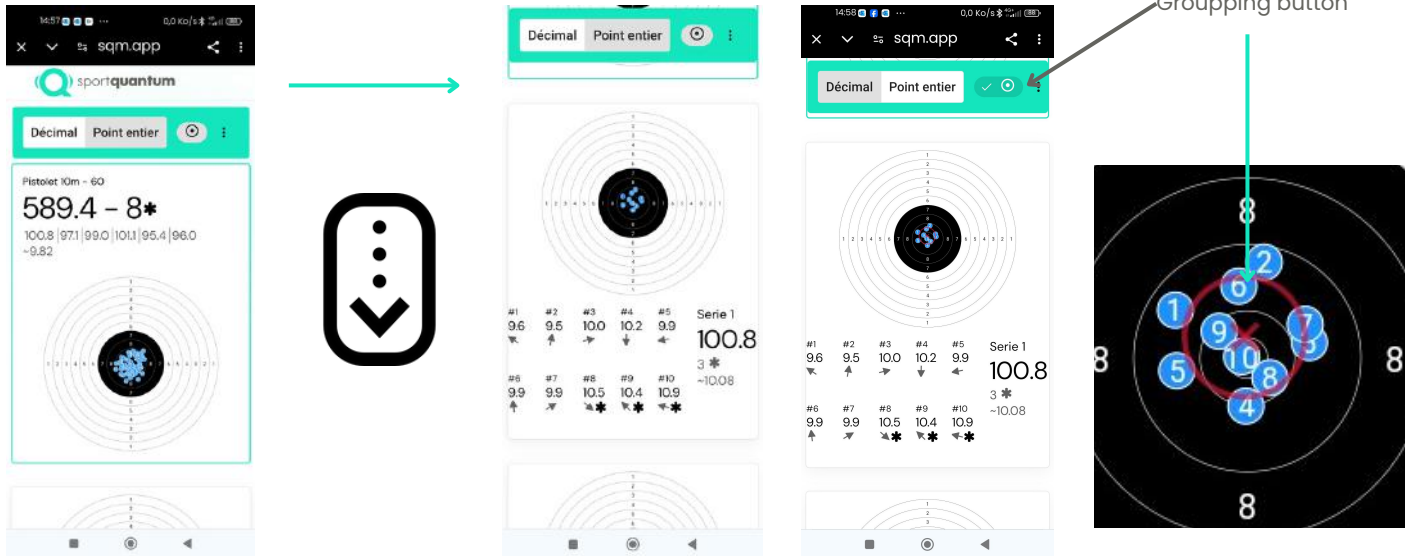
Click on "QR Code"





Online monitoring report

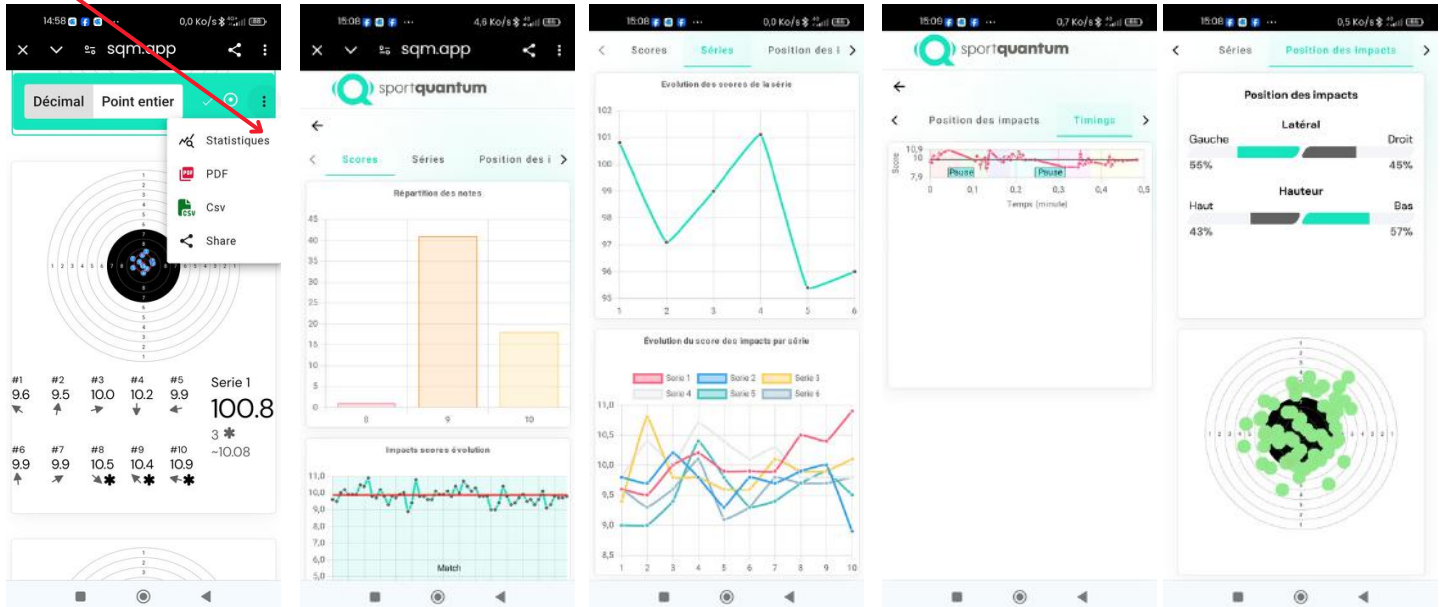
- On your phone you will be able to analyse all your results



Grouping button

#1	#2	#3	#4	#5	Serie 1
9.6	9.5	10.0	10.2	9.9	100.8
↘	↑	→	↓	←	3*
#6	#7	#8	#9	#10	-10.08
9.9	9.9	10.5	10.4	10.9	
↑	↘	↘*	↘*	↘*	

- On your phone you will be able to see dashboard statistics

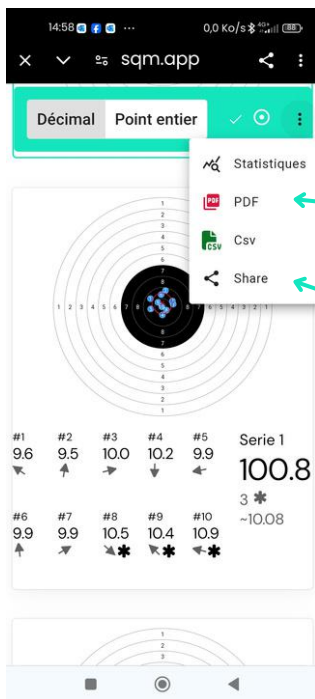


The screenshots illustrate the following dashboard features:

- Top Left:** A navigation menu with options like 'Statistiques', 'PDF', 'Csv', and 'Share'. A red arrow points to the 'Statistiques' option.
- Second Screen:** A 'Scores' dashboard showing a bar chart titled 'Répartition des notes' and a line chart titled 'Impacts scores évolution'.
- Third Screen:** A 'Scores' dashboard showing a line chart titled 'Evolution des scores de la série' and another line chart titled 'Evolution du score des impacts par série'.
- Fourth Screen:** A 'Position des impacts' dashboard showing a line chart titled 'Position des impacts' and a 'Timings' sub-chart.
- Fifth Screen:** A 'Position des impacts' dashboard showing two horizontal bar charts: 'Latéral' (56% Gauche, 45% Droit) and 'Hauteur' (43% Haut, 57% Bas).
- Sixth Screen:** A circular radar chart showing player impact data.



Online monitoring report



- And you can also easily generate your pdf or CSV file , or share on social account

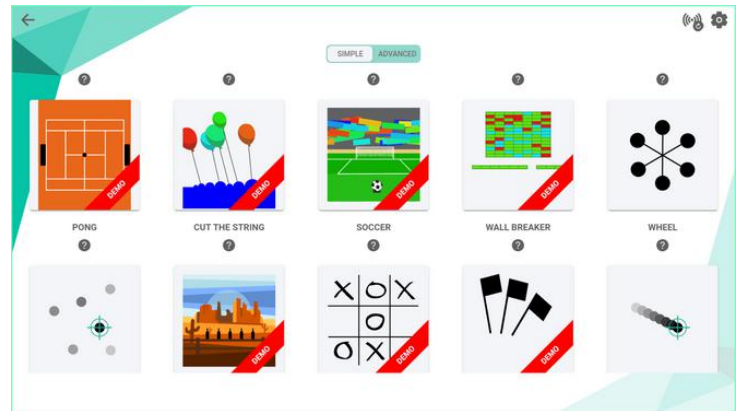
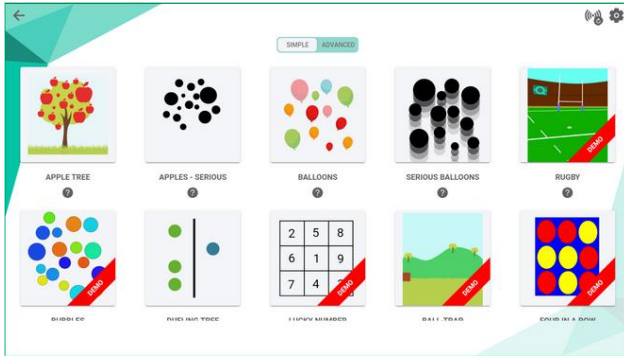
- And you can also easily **share on social !**



Playful learning



Choice of training games



Choice of training games

Individual games

Apple tree
Balloons (Simple / Advanced)
Rugby
Football
Bubbles
Lucky number
Ball-trap
Bottles
Cut the string
Wall breaker
Wheel (Simple / Advanced)
Random Targets (Simple / Advanced)
Pipes
Random trajectories (Simple / Advanced)
Christmas tree

Multiplayer games

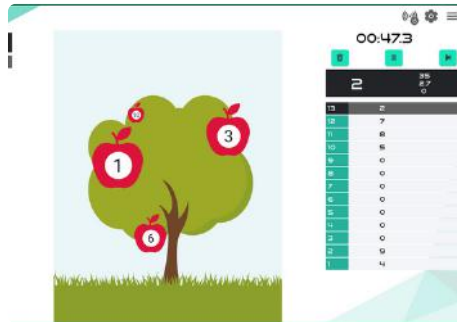
Dueling Tree (Simple / Advanced)
Four in a row
Pong
Tic-tac-toe
Darts (Simple / Advanced)
Archery
Wheel of fortune

*** Some games are in demo mode : the number of impacts and duration of use are limited**

Examples: Apples and balloons



- Balloons game
- Balloons of different size and speed are moving on the screen. The smaller the balloons, the more points they score.

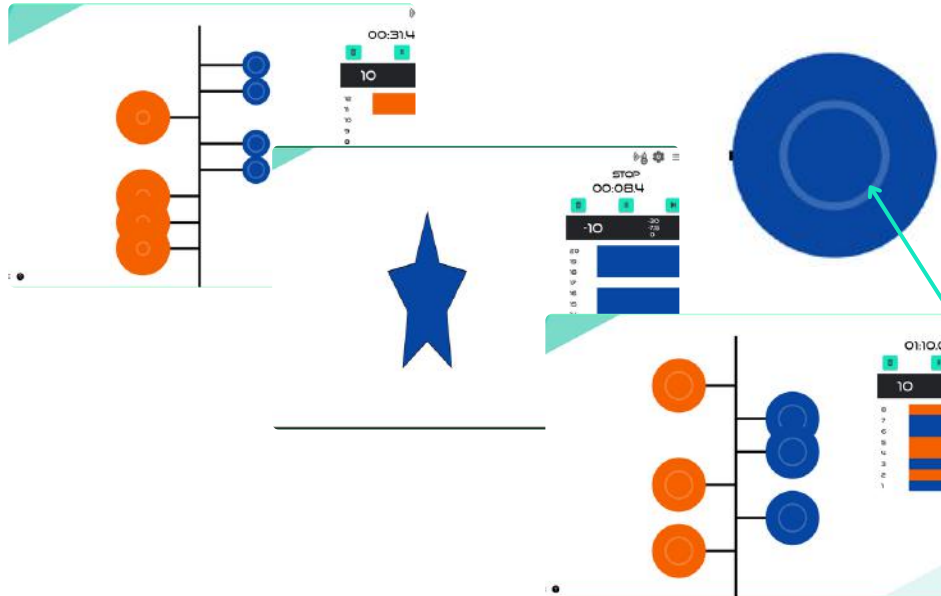


Apple tree game

Apples of different sizes fall from the tree. The goal is to hit them successfully. The smaller the apples more points they score.

When an apple is hit, the corresponding score is displayed

Multiplayer game example: dueling tree



Dueling tree

Two players will compete by shooting at the same time at the target (each in their own leaf color).

When a target is hit, its color changes and passes to the opponent's side

The first of the two players to have no target left wins.

Area (configurable) to hit

Technical Specifications



SQ Air 10 – General overview

Target power supply

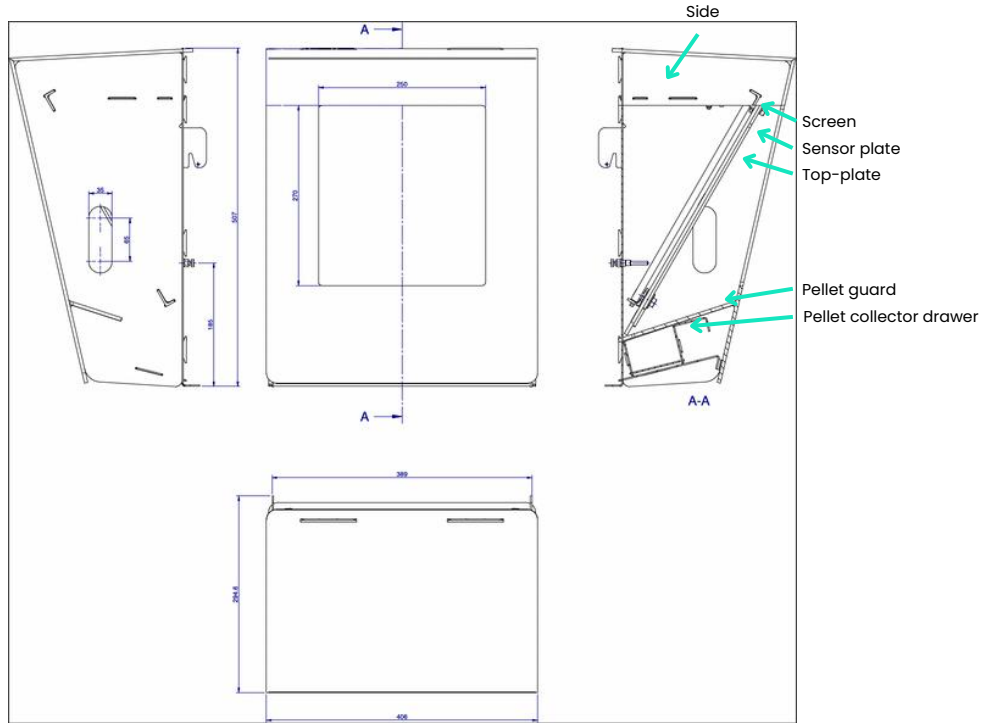
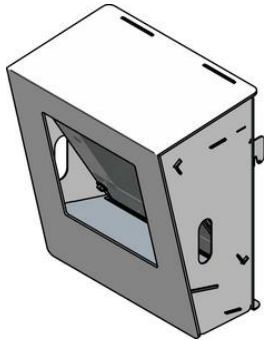
SQ Touch (tablet)
+ Power supply
+ RJ45-
Ethernet-
network cable



Target SQ Air 10

Mounting bracket
+ 2 screws

Target dimensions



NB : All dimensions are expresses in millimeters (mm)

Technical specification

Description	Technical Specifications
Dimensions	507 mm x 406 mm x 295 mm
Weight	9 kg
Maximum weapon muzzle energy at 10m	7.5 J (joules) recommended (premature top plate wear above 8 J)
Main power supply	110-240V AC / 50-60 Hz
Power supply to the target	12 V DC
Temperature	Operation range 0°C - 35°C, storage range -10°C - 60°C (storage below 0°C might cause premature wear of the system)
Humidity	8-80%
Power consumption	25 W
Maximum brightness	1500 Cd / m ²

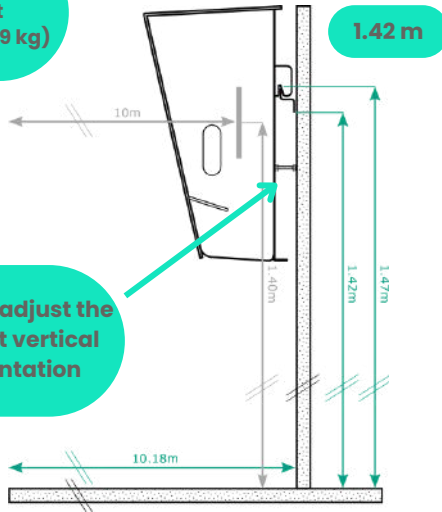
First installation process



Getting started with SQ Air 10 interactive target

SQ Air 10
Target
(weight = 9 kg)

Bolt to adjust the
target vertical
orientation



The target must be securely fixed :

- Using the supplied wall-mounted bracket (see attached diagram)
- Using an optional supported tripod.

For all other mounting options, please refer to the accessory instructions

- The back of the target must be 10.18m at the firing line
- The center of the precision pistol target visual must be set at 1.40m from the ground. To do this, the bottom of the bracket must be set at 1.42m or the top of the bracket or tripod must be set at 1.47m.

Setting up the target



- Fix the bracket to the wall using the supplied screws and wall plugs (for concrete walls)
- Hang the target on the bracket using the two hooks on the back of the target
- Adjust the inclination of the target using the "verticality" bolts

Use a spirit level to check verticality

- Put the corresponding SQ Touch tablet on the shooting lane table


Precaution of use



- **Important:** before the first use, apply some silicon gel using a clean cloth, apply a little silicone gel to the polycarbonate top-plate impact plate that protects the SQ Air 10's sensor plate
- Repeat this action regularly to create a light protective film, especially at the center of the target
- Between two maintenance sessions with silicone gel, clean your target with rubbing alcohol and a soft cloth to remove potential dust traces
- Position the power supply unit in an area protected from direct fire
- Once your target has been powered off, it can be powered back on either by shooting at it or by unplugging and plugging back the power supply after 10 seconds.
- **Important :** Do not shoot at the target without the cover or the pellet drawer

The rifle visual might not appear at the center of the target. This is a normal behavior to increase the durability of the top-plate : every ~100 impacts, a new center position is will be automatically selected when possible.

This behavior can be adapted by the supervisor to guarantee competition fairness between athletes.

When a new top-plate is installed, the impact counter and center position is reset to the initial center position. To reset the top-plate impact counter, go to the connexion page  and click "Reset Top-plate counter"

Peer-to peer Wi-Fi setup

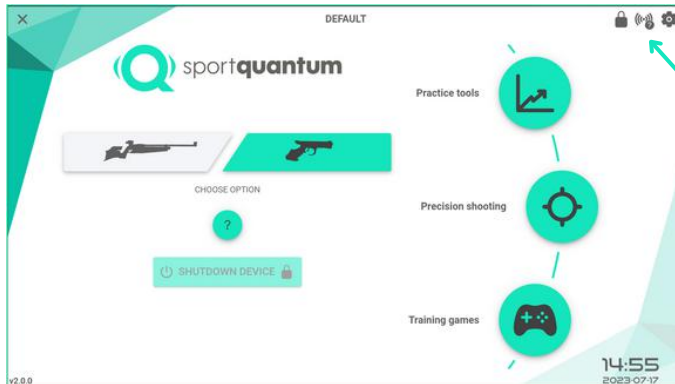
The Wi-Fi connection quality between the tablet and the target may be influenced by the surrounding environment. Specifically, a high concentration of Wi-Fi devices such as smartphones, computers, targets, tablets, or disruptions from radio frequencies caused by metallic walls or tables can significantly degrade the Wi-Fi signal. In such instances, the connection between the tablet and the target may experience slowdowns or interruptions.

This is a known limitation of the Wi-Fi technology and is independent of the SPORT QUANTUM product.

In situations where high reliability is crucial, such as official competitions, it is strongly recommended to use wired connection.



Connection status between the SQ App and the target



- **Connection status** to target (click to go to the connection settings)

Different possible status:

- SQ App is connected to the target
- The SQ App is not connected to the target. Please refer to the trouble shooting section p73
- The SQ App is currently trying to reconnect to the target



Connection settings



• Shutdown the target

• Number of impacts received by the target

• Number of impacts received by the target
(reset at each plate change)

• System information (expert)



Connection settings



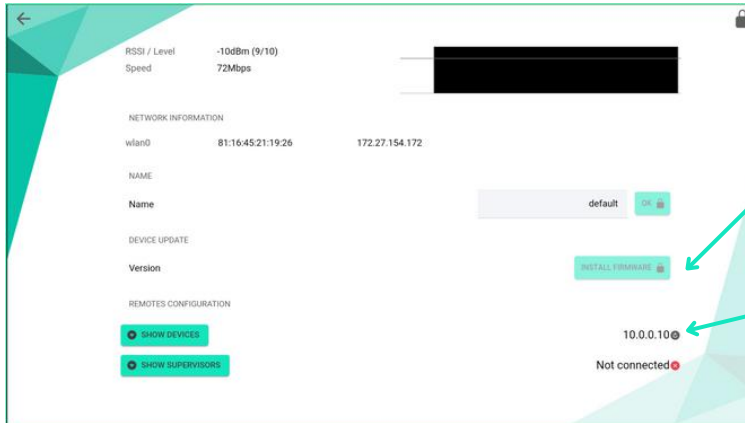
- System information (expert)



- Set the shooting lane name (used by the supervisor)



Connection settings

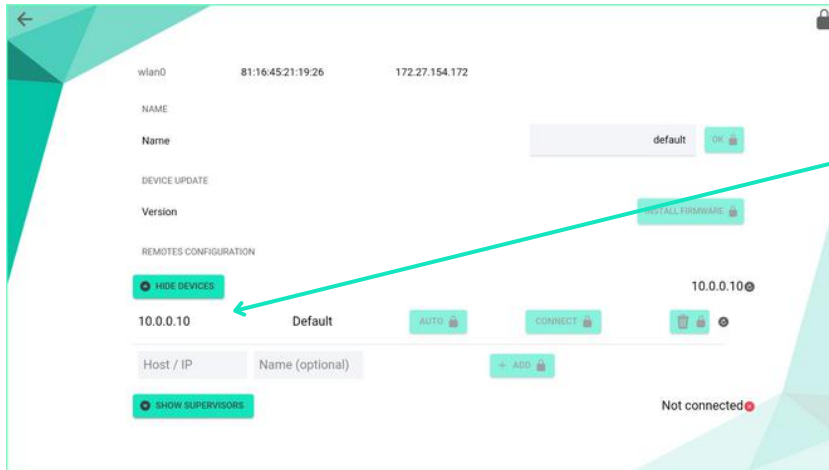


- Target firmware update. Please refer to maintenance section for further details

- Current configured target IP address and connection status



If needed, you can change the configured IP address that the App uses to connect to the target.

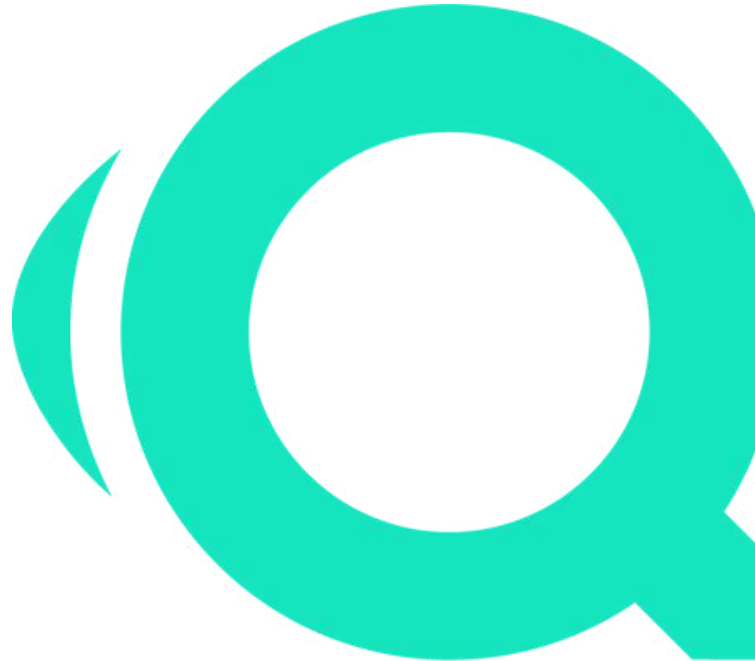


To add a new IP address configuration, enter the new IP address in the "Host / IP" dialog and click "Add" and "Connect". Then choose if this new connection will be the one used automatically by clicking the corresponding "Auto" button.



Show devices

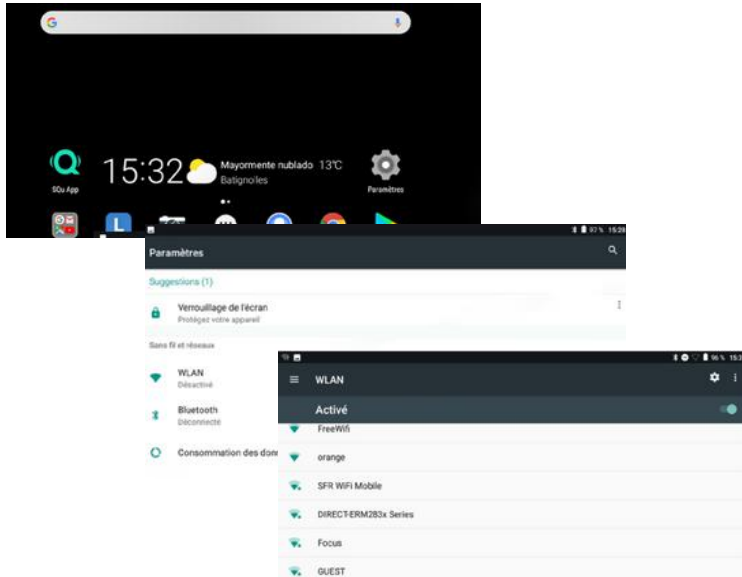
Troubleshooting Wi-Fi connection problems



Possible cause 1: The SQ Touch tablet Wi-Fi is not paired with the target

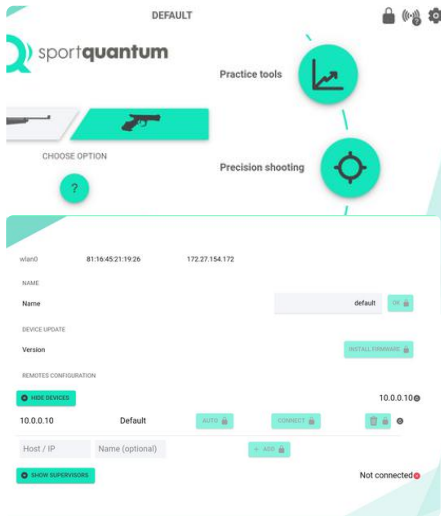
First, verify the pairing status of your tablet with the target

1. Quit the SQ App
2. Click on "Settings"
3. Check if the WLAN status below the WLAN line is "enabled" (see next step 4) or "disabled" (see next step 5).
4. If the status is "enabled", verify that the specified SSID is "SQ Target XXXX" of the corresponding target (might wrongly paired with your Internet box, a mobile phone etc.). If the corresponding SSID is correct, go to next page "Possible cause 2", else continue to step 5.
5. If status is "disabled" or the SSID is incorrect, click on the WLAN line and select the correct SSID "SQu Target XXXX" of the corresponding target. You can find this SSID at the bottom of the target screen. Enter "sportquantum" as the default password if asked.



Possible cause 2 : The SQ App is not connected to the target

Please verify in the previous page (Possible cause 1) that the SQ Touch tablet Wi-Fi is paired with the target.

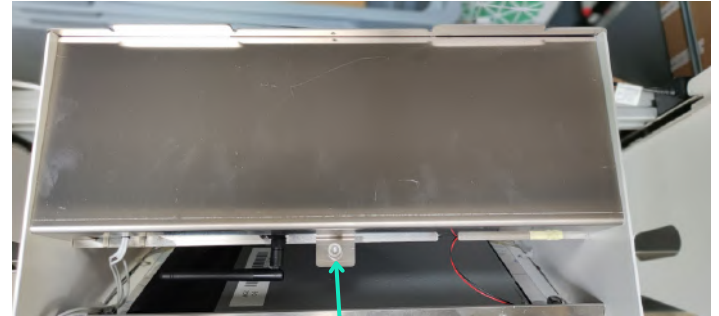
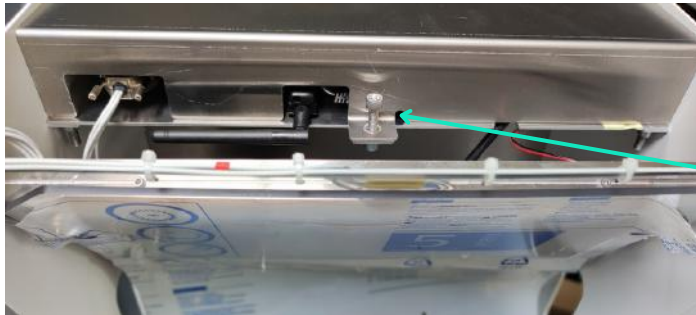


1. Go to the homepage of the App
2. Click on the (⚙️) settings icon at the top right
3. Scroll down and verify the message displayed in the "Remotes configuration" section. If "Show devices" line shows "Not connected" with a red cross or if the line shows an IP address in the format "XX.XX.XX.XX" with a red icon after, proceed to next step. If the line shows a green icon, your connection is operational
4. On the corresponding target, check the configured IP displayed on bottom line of the target screen (in the format "XX.XX.XX.XX"). NB: If your target is in peer-to-peer mode, it should show "10.0.0.10"
5. Click on the (🔒) icon to unlock the settings. The default password is "1896"
6. Click on "Show targets" and click on "Auto" and "Connect" in front of the default line "10.0.0.10" if your target is in peer-to-peer mode. Otherwise go to step7
7. Enter in "Host / IP" field the IP displayed at the bottom of the corresponding target screen (in the format "XX.XX.XX.XX") and click "+Add" 8. On the new added line, click "Auto" and "Connect"

Service and support

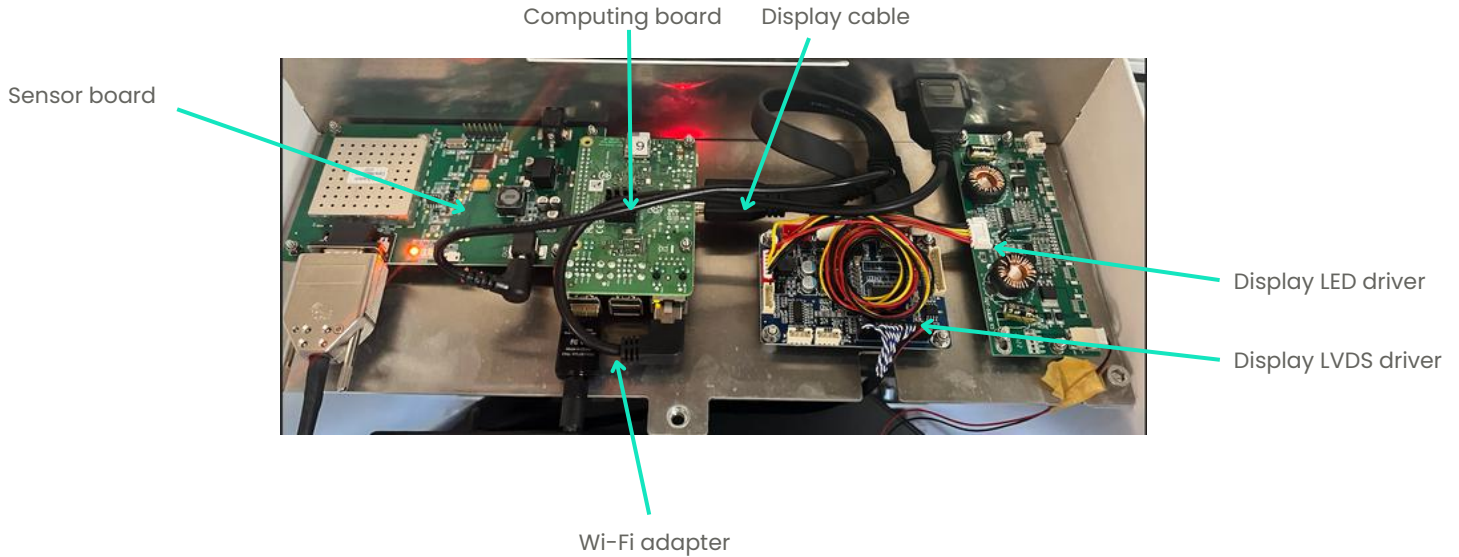


Electronics unit



Remove the screw to access to the electronic unit

Electronics unit





The serial number is located in front of the target, at the bottom right.

Please always refer to the serial number in all your communication with our support team



- **Target doesn't light up:**


1. Check if the power supply is correctly plugged on both ends
2. Check the red LED on the sensor board (see picture 71). If the sensor board LED is off go to step 2, else go to step 3.
 - 2a. Check if the power supply is not damaged (you can test on another target). If the power supply is damaged, it needs to be replaced.
 - 2b. If the power supply is working, then the sensor board needs to be replaced.
3. The sensor board and the power supply are working correctly. Check the red LED on the computing board (see picture 71). If the computing board LED is off it needs to be replaced.
4. Check if the SQ Touch can connect correctly to the target (even if the target display is off). If it can connect go to step 5, else go to step 7.
5. Check if the display cable is correctly plugged in.
6. Check if the LED driver and the LVDS driver are correctly connected. If the problem persists, contact support
7. Update the Firmware on a new SD card on the computing board (refer to specific maintenance procedure). If the SQ Touch cannot correctly connect after this procedure, the computing board needs to be replaced.



- **Target and the tablet are switched on but connect icon shows a red cross** 

1. If you have a Wi-Fi installation check the Wi-Fi pairing : refer to the procedure p59, else go to step.
2. If you have a wired installation, check if the RJ45 are correctly plugged in.
3. Check the SQ App/target connection parameters p60.
4. Check that the SQ App and the target have compatible versions (in the format X.X.X).
Version of the target firmware can be found on the bottom left of the screen.
Version of the App can be found in bottom left of the home page.
The first two numbers should be the same (for instance App v2.0.1 and target firmware v2.0.0).
If the versions are not compatible, upgrade either the App or target firmware.
5. If the problem persists, contact your local support.

- **Impact not detected : Your target displays lines of code that read "Parasite impact: minError=885.131 vIdeal=1.560975"**

1. Check that you do not have a "parasite impact" message in the App  icon.
2. If you have "parasite impact messages", check that there is no silicon oil or air bubbles that are trapped between the sensor plate and the top-plate (impact plate).. Otherwise, disassemble the top-plate and clean both internal surfaces with rubbing alcohol.
3. It's necessary to reapply a small quantity of silicon oil on the exterior surface of the top-plate (impact plate) is necessary.
4. Change the top-plate (impact plate).
5. Check that the sensor plate connector is correctly plugged in the sensor board.
6. If the problem persists, contact your local support.



Troubleshooting



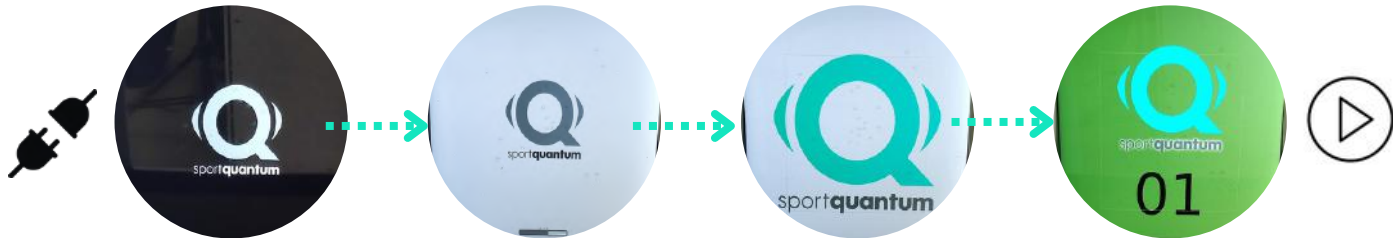
- **You are experiencing connection problem between the target and the tablet.**
The tablet is not displaying successes even though the target seems to be working perfectly.

1. Switch off your entire targeting system:

- SQ Air 10 target: Unplug your targets because when you switch them off using the tablet, they go into standby mode.
- SQ Touch tablet: As tablets are fitted with batteries, you should switch them off completely by pressing and holding the power button.

2. Then switch your system back on in the following order...

1. The SQ Air 10 target first (White logo on black background , then white back ground and grey logo)
 2. Once your SQ Air 10 target displays the green Sport Quantum Q on a white background, you can switch the SQ Touch tablet back on. When the background of the target screen turns green, the tablet is connected.
- If, despite these steps, the problem persists, contact your local support



Maintenance



Recommended maintenance procedure



- In order to guarantee optimum operation of the Products, the Customer undertakes to :
- Respect the maintenance operations indicated:
 - Surface of the top-plate (impact plate) of the Product should be brushed with silicone oil once a week or every 250 shots, using, for example, a cloth or absorbent paper. Do not use mineral oil or spray!
 - Leads tray should be emptied approximately every 3,000 shots.
 - Regularly check that there is no dust inside the product and at least clean up twice a year
 - As a result of electrostatic phenomena, dust may trapped between the screen and the transparent polycarbonate impact plate, so unscrew the polycarbonate plate (4 screws) and clean the polycarbonate plate and the screen with product suitable for cleaning TV screens or computer screens.
 - Once a year, the target should be dusted with a compressed air spray suitable for cleaning computers, cameras or any other electronic device.
 - Never use acetone on the polycarbonate plate
 - If the top-plate (impact plate) shows significant deformation, replace it with a new plate supplied by SPORT QUANTUM
- Update the Solutions whenever SPORT QUANTUM provides information.
- Failure to follow the maintenance rules may result in faster deterioration of the Products and, above all, loss of the warranty.
- The Customer is responsible for carrying out the necessary maintenance operations as defined, at regular intervals and in a professional manner. To this end, the Customer must employ competent personnel for the operation and maintenance of the Products.

Warranty





Warranty



SPORT QUANTUM guarantees that all delivered products will be free from any physical and manufacturing defects under normal conditions of use and service for a period of two (2) years from the delivery date.

If a product is faulty, SPORT QUANTUM or the local distributor may either replace it (with at least an equivalent product) or repair it (with refurbished spare parts or new spare parts), as the company or the distributor deems fit.

The Customer must give SPORT QUANTUM time required, as well as the opportunity, to carry out the repair or replacement.

This warranty is only valid if the original invoice (showing the date of purchase, the type of product and, if applicable, the name of the distributor) is enclosed with the faulty product.

SPORT QUANTUM reserves the right to refuse to carry out a repair free of charge if these documents are absent, incomplete or illegible.

The warranty is not valid in the cases provided for in the General Terms and Conditions of Sale. Nor does the warranty cover parts affected by normal wear and tear, as specified in the General Terms and Conditions of Use of the products.

Extension of Warranty

If the Customer subscribes to an annual warranty extension, the Warranty and Repair Conditions keep their full validity, except for the duration of the warranty.

The warranty period is :

- For new Products: Two (2) years from the date of pick-up by the carrier.
- For repaired Products: Six (6) months on repaired Products and on replaced spare parts, from the date on which the carrier takes delivery of the repaired Products.
- In the case of a subscription and for the "continuous" supply of Solutions: at any time during the subscription period.

Management faults during the warranty period



- Service and support form can be downloaded from www.sportquantum.com must be duly completed and enclosed with any faulty item. Customer may be charged for the diagnostic costs. If the form is not provided
- During the warranty period, SPORT QUANTUM or the local Distributor will organize the transport at its discretion.
- SPORT QUANTUM shall bear the cost of repairing and returning the item to the Customer if the fault is covered by the warranty.
- If the fault is not covered by the warranty, as stated in the General Terms and Conditions of Sale and the General Terms and Conditions of Use of said product, the request will be treated as an out-of-warranty fault, that is to say that transport costs, administrative fees and maintenance costs will be invoiced to the Customer.



Management of out-of-warranty faults



- Service and support form can be downloaded from www.sportquantum.com must be duly completed and enclosed with any faulty item.
- The Customer will bear the cost of transport to SPORT QUANTUM or the local Distributor and the return shipment costs.
- For each repair request, there will be an administrative fee.
- Labour will be billed and the spare parts will be invoiced at their list price at the time of the repair.
- Please contact SPORT QUANTUM or your local distributor regarding any express repair request.
- If no fault is found, the Customer will still be invoiced the administrative and diagnostic fees.



General Recycling Statement

- SPORT QUANTUM encourages owners of electronic equipment to responsibly recycle their equipment when it is no longer needed.

Information about Recycling in the European Union

- The top-plate (impact plate) as well as the plastic hood shall be disposed with recyclable waste



Important Battery and WEEE Information

- Batteries and electrical and electronic equipment marked with the symbol of a crossed-out wheeled bin may not be disposed as unsorted municipal waste. Batteries and waste of electrical and electronic equipment (WEEE) shall be treated separately using the collection framework available to customers for the return, recycling, and treatment of batteries and WEEE.
- When possible, remove and isolate batteries from WEEE prior to placing WEEE in the waste collection stream. Batteries are to be collected separately using the framework available for the return, recycling and treatment of batteries and accumulators.
- SPORT QUANTUM products sold in the European Union, meet the requirements of Directive 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment.



Declaration of Conformity with the Requisite CE Standard

- Conformity European Union

Terms and conditions





Rules of use



The Rules of Use below detail the rights and obligations of SPORT QUANTUM's customers when using a Product or Solution. It is the Customer's responsibility to pass on these Rules of Use to all Users of the Products and Solutions, and to ensure that they are respected. In the case of an authorized minor User (under 18 years of age), the Customer must transmit these Usage Rules to the holder of parental authority, who accepts them and ensures that the minor child has understood them.

SPORT QUANTUM may modify these Rules of Use from time to time. These modifications will be available thirty (30) days before they come into force on the www.SportQuantum.com website. It is the responsibility of each Customer to ensure that he/she has the current Rules of Use at all times.

Safety rules for product use



In order to guarantee maximum safety in the use of the Products, the Customer and/or User must ensure in particular, but not exclusively, that :

- The place where the Product is installed and used is adapted to the safety requirements of Sport Shooting, in accordance with the regulations of the country in force, and with the rules of use of Sport Shooting as promoted by the International Sport Shooting Federation (I.S.S.F.) or the Sport Shooting Federation of the country where the target is used.
- Any spectators or other persons must be behind the shooter.
- All safety rules relating to the use of weapons must be observed.
- It is imperative to shoot facing the target, with the weapon strictly perpendicular to the hanging plane, the target itself being mounted vertically using the adjustment screws. The shot must land on the dedicated surface, i.e. the screen.
- All users and spectators are under the supervision of a person capable of ensuring compliance with all the safety rules governing the practice of Sport Shooting, in accordance with the aforementioned safety requirements.
- In addition, to prevent any risk of electrocution, never immerse the cord, plug or device in water or any other liquid, and never carry out maintenance operations when the equipment is live.



Dangers inherent to sport shooting



Consequently, SPORT QUANTUM cannot be held responsible for any accident occurring during the use of the Product. SPORT QUANTUM provides electronic targets but is in no way responsible for their use, for the use of weapons, and for compliance with the safety rules and good practices inherent in this sport, which, given its dangerous nature, must be systematically respected at all times and by everyone.

The Products are intended for experienced Sport Shooters who are fully familiar with the rules and practices of this sport as defined by the International Shooting Sport Federation (I.S.S.F.).

Customers of SPORT QUANTUM, as well as any other User of a Product, are aware of the dangers of this sport, and undertake to respect all the safety rules applied and applicable to the practice of this sport during any use of the Product, whatever the purpose and location (in a Shooting Sport club, at a Shooter's home, or any other location suitable for Shooting Sport). In particular, but not exclusively, care must always be taken to ensure that :

- Weapons are unloaded and secured when not in immediate use.
- A loaded weapon is always in hand
- A loaded weapon is always pointed to the target.
- Under-age children must comply with the age-appropriate restrictions on access to weapons and sports as defined by current legislation.

Perfect working condition



To ensure proper operation of the Product and Solutions, the environmental conditions necessary for the use of such a target must be respected, in particular :

- In the event of malfunction, problems or damage to the Product, the Customer and/or User must disconnect it immediately and contact SPORT QUANTUM's After-Sales Service as soon as possible.
- If the Product shows signs of malfunction during use, unplug it immediately.
- Do not use a defective unit or attempt to repair it yourself.
- If the unit is dropped or accidentally immersed in water or any other liquid, unplug it immediately. Do not use the unit afterwards.
- Humidity should be at a reasonable level, and in any case below 80%.
- Product is not suitable for outdoor use.
- The Product is a precision tool. It must not be dropped or subjected to shocks other than the impact of pellets on the polycarbonate plate, the latter coming from a weapon whose power does not exceed the thresholds indicated below.
- The electrical power and current of the target's power supply must be constant and between 100 and 240 V AC 50/60 Hz.

Perfect working condition



- **Never shoot at the target without the front cover and the pellet drawer.**
- The product must be hung with care and must be strong enough to withstand the weight of the target over a long period of time, and the power of the impacts during shooting.
- The front cover must be carefully positioned, . If the target cover is damaged target must be out of use and cover raplace.
- The transformer/adapter box and the target's power cable must be protected from fire at all times.
- Regularly check that the the top-plate (impact plate) is securely screwed down, especially after each transport.
- The Wi-Fi connection quality between the tablet and the target may be influenced by the surrounding environment. Specifically, a high concentration of Wi-Fi devices such as smartphones, computers, targets, tablets, or disruptions from radio frequencies caused by metallic walls or tables can significantly degrade the Wi-Fi signal. In such instances, the connection between the tablet and the target may experience slowdowns or interruptions.
- This is a known limitation of the Wi-Fi technology and is independant of the SPORT QUANTUM product.
- In situations where high reliability is crucial, such as official competitions, it is strongly recommended to use wired connection.
- In any case, never attempt to use the Product for purposes other than those for which it was designed.



Updating of the SQ- App application and target firmware



It may be necessary from time to time to obtain updates or new versions of the Solutions and/or Product firmware, in particular to correct any bugs, but also to adapt to any changes in the framework defined by the ISSF - International Shooting Sport Federation - issf-sports.org

It is the responsibility of the Customer and/or User to ensure that they have the latest available version of the SQ App and firmware. The latest updates are transmitted by SPORT QUANTUM by any available means. It is nevertheless advisable to check the compatibility of the hardware version of the Product and the available software versions beforehand.

Contact





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