CALIBUR

User Manual

Calibur Pocket boxes
hwdvt ver.: 1.4.0
Mobile app ver.: 2.14.4
November 21., 2022[1]

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[1] Seems too old? The latest version is always available here: https://calibur.ai/calibur-manual/

Welcome!

Glad to have you in our community! Let's get into the future of fencing!

Package contents

1 strip bundle
- 2x Calibur pocket boxes
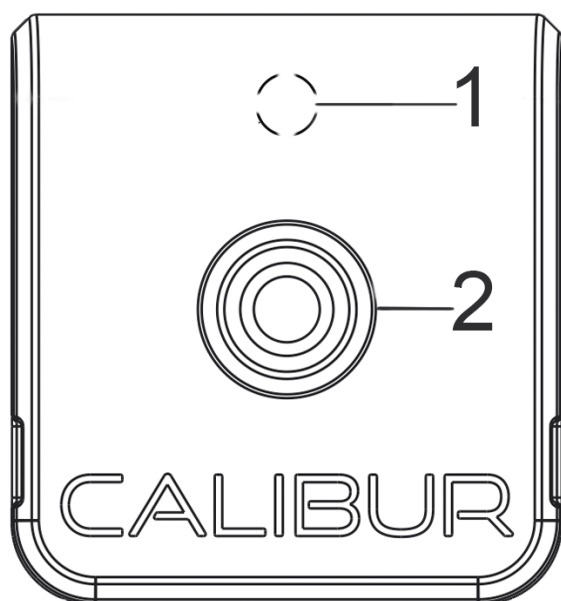- Double headed charging cable

2 strips bundle
- 4x Calibur pocket boxes
- 2x Double headed charging cable

3 strips bundle
- 6x Calibur pocket boxes
- 3x Double headed charging cable

Calibur pocket box
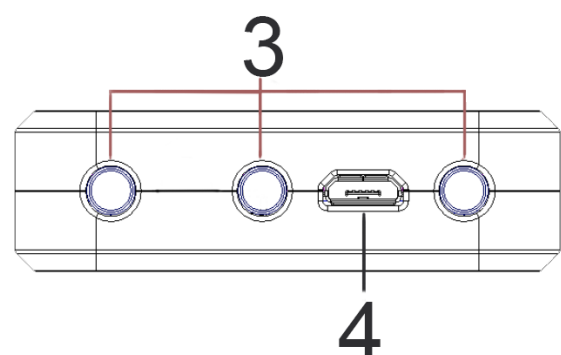
1. Status LED

Blue: turned on, no connection.
Green: connected to the app.
Red: charging needed.
White: charging finished.
Off: firmware update mode[2]
/turned off
Blinking: on and off-target hits

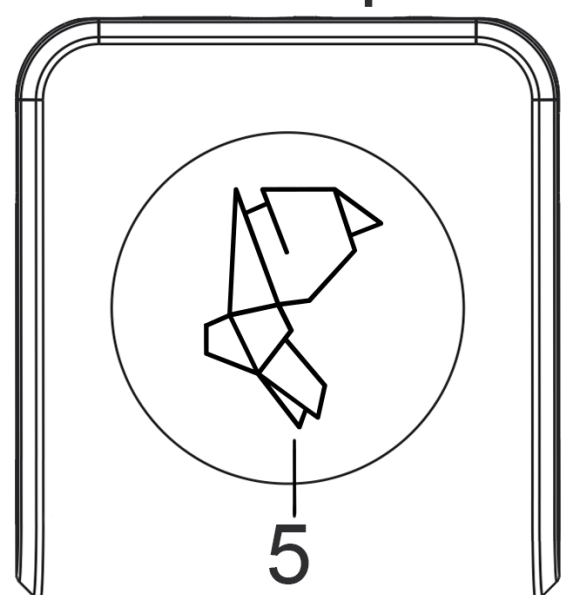## 2. Press Button

Press once to turn on
Press twice to turn off

3. Body cord connector

Plug in your body cord before fencing. (Banana sockets are marked from left to right as A, B, C.)

4. Micro USB port

Plug in to charge
Plug in and out to hard reset

5. ID sticker

Look for the icon in the app when connecting

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[2] More details in chapter: *Firmware update on the pocket box*

Calibur mobile app

Installation

Minimum system requirements:
- Android: 8.0 (Oreo)
- iOS: 10.0

Download the app from the appropriate application store:[3]

Android	**iOS (Apple)**
Google Play Amazon Appstore	App Store
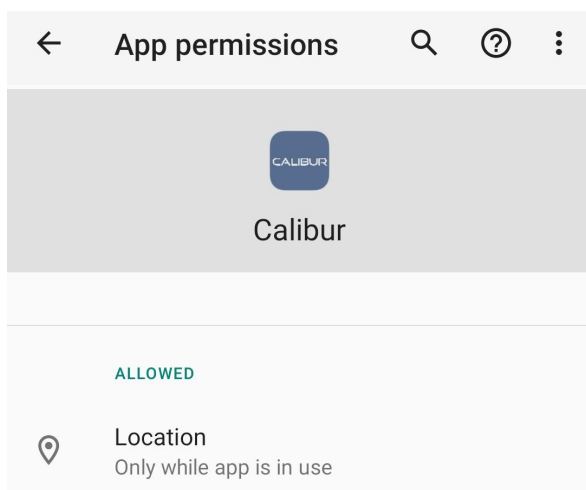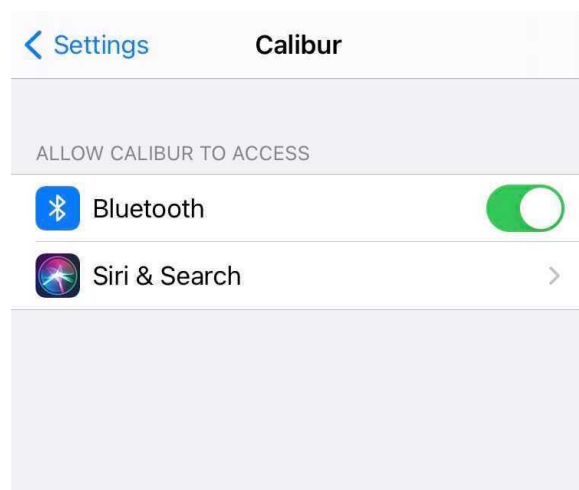
Enable Bluetooth and Location services. You can check this later in your phone/tablet Settings.

Updates

A notification appears about updates, when your phone is online. **Enable automatic updates**. It's critical to keep the app updated for best results and to use the latest features.

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[3] Make sure to download the app named just *Calibur*, not the one of the name *Calibur B*. The latter is compatible with an early pocket box prototype only.

For more info on automatic app updates visit: [Android](#),[4] [iOS](#)[5].

Using Wi-Fi

It is not necessary to be online during bouting. It is recommended to go online on a regular basis for updates[6] and to upload data for our AI model.[7]

Using a bigger screen

You can connect your phone directly to a bigger screen if it supports HDMI. There are several USB/Lightning-HDMI adapters for this purpose as well.[8] Alternatively, the app can be easily mirrored to a desktop machine connected to a display or even a projector.

To mirror the app to MacBooks or PCs, there are tons of different tools. We recommend using the LetsView app. It requires the mobile device and the computer to join the same Wi-Fi network.

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[4] https://support.google.com/googleplay/answer/113412?hl=en4
[5] https://support.apple.com/en-us/HT202180
[6] More details in this chapter: *Firmware update on the pocket box*
[7] The data is anonim and cannot be connected to your identity.
[8] Apple has its own self-made [adapter](#) for connecting iOS devices to a bigger screen.

Recommendations

A well maintained device will make the experience better:

1. Keep the number of apps on the phone as low as possible.
2. Turn off auto-synchronization and notifications for other apps.
3. When using an older device, do a factory reset first.
4. Close all other apps during fencing.
5. Disconnect other Bluetooth devices (headset, smartwatch…)

On the first use

1. **Make sure Bluetooth is turned on**

2. **Enable using Bluetooth services for the app**: In the popup asking for permission to use *location and/or Bluetooth services*. Press *OK/Allow*, so the app can connect to the pocket boxes. To revoke or grant this permission open the phone's settings[9]

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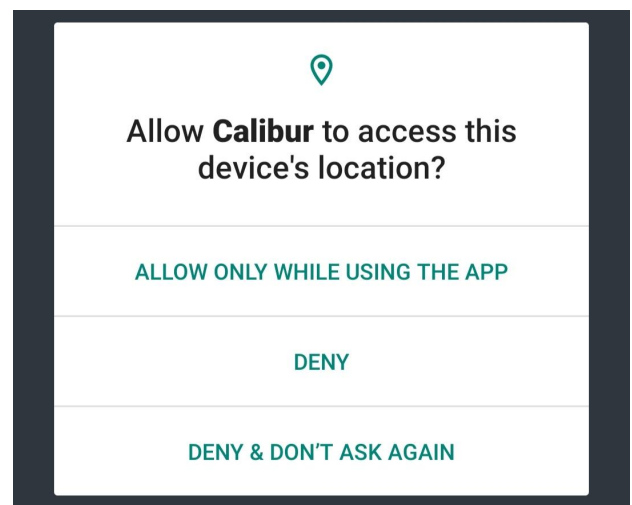
[9] iOS: support.apple.com/en-us/HT210578,
  Android: support.google.com/accounts/answer/6179507

Scoreboard

The main screen (use the ≡ icon to navigate)
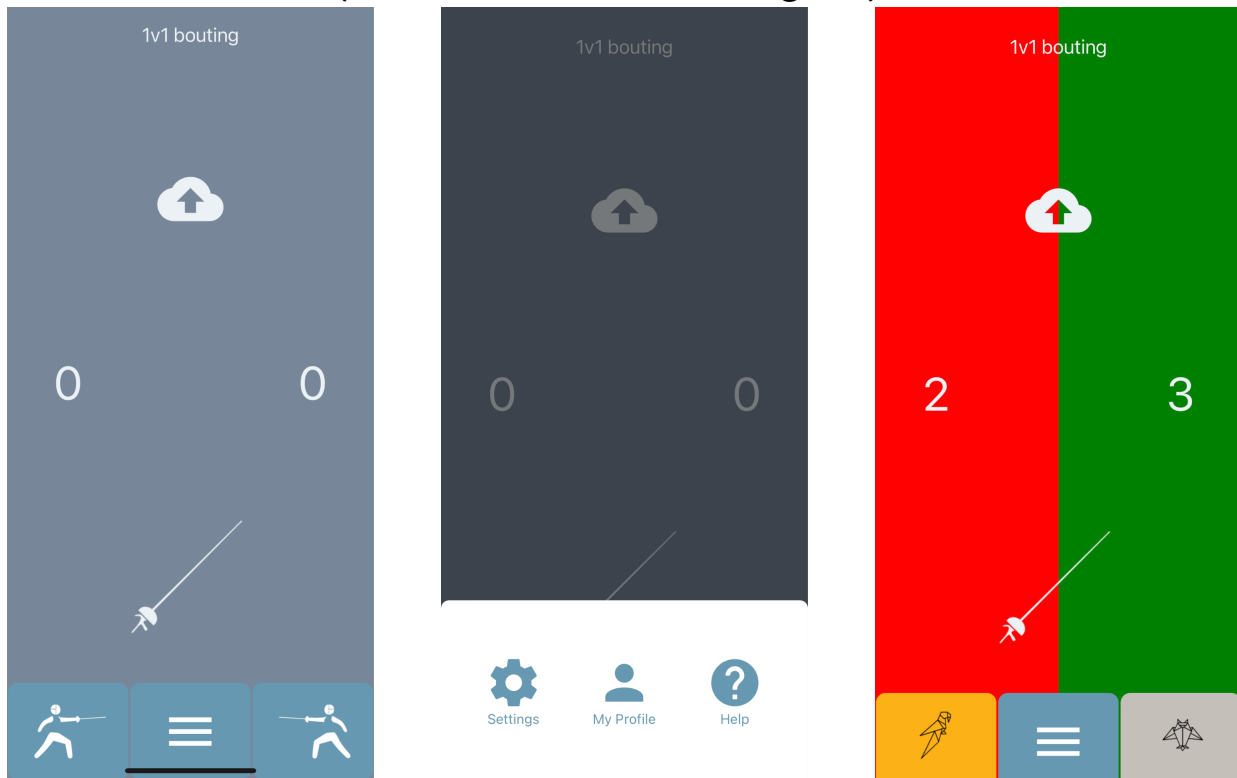

Connecting

- Tap to select weapon:

   / / [10]

- Turn on the pocket box and put it next to the mobile device
  LED: Blue
- Turn on Bluetooth
- Tap the icon to automatically connect to the closest pocket box
  LED: Green
  The ID sticker's figure appears in place of the icon
- Tap the icon and repeat

Fencer on the left

Searching for the closest pocket box...
Keep it as close to the mobile device as possible.

Fencer on the left

Connected to 4V8ZO

Current firmware version on the box: 8
Latest available firmware version: 8

Load the latest firmware

Disconnect

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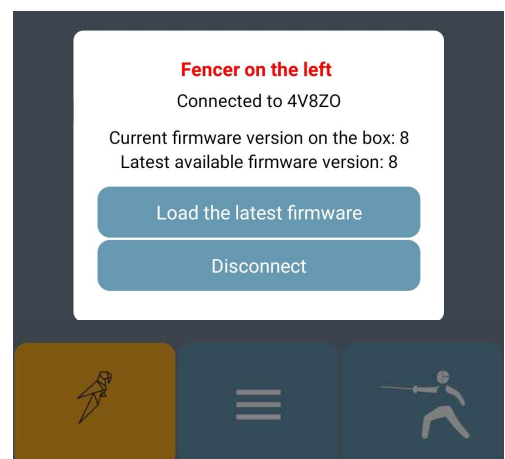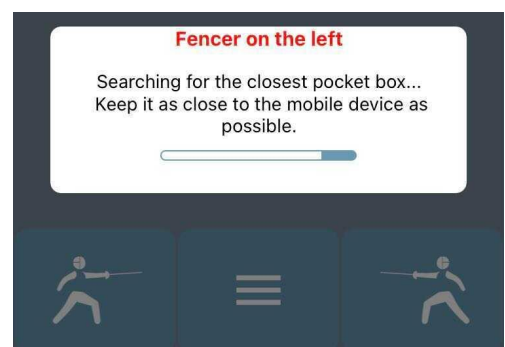
[10] Épée, foil or sabre. It always shows the currently selected weapon, and switches to the next one on tapping. Sabre mode is in an early, experimental version with a few limitations. Check these tips for better results: cali.how/select (select *Sabre*)

- Try on and off-target hits: check the LED on the pocket box
    - Épée and foil
        - Short-blink: Bellguard hits
        - Long-blink: On-target hits
        - White light: Off-target hits (not on épée)
    - Sabre: various color combinations, usable for troubleshooting.
    - TIPS: always test in real bout like circumstances, with 2 fencers hitting each other (instead of a lamé laid on the ground e.g.)
        - For good results connect BOTH fencers and wear fencing uniforms
        - Put the box into your pocket
        - Do not touch the tip, guard or blade when hitting
        - Foil: do not keep the tip on the lamé/guard before testing hits, do it as in an actual bout[11]
- Tap the corners of the Scoreboard to increase/decrease the counters, tap a counter to reset to 0

Selecting game mode
- Tap the mode selector button in the top of the Scoreboard (Its text label is the name of the current mode. Default: *1v1 bouting*)
- A popup appears with 3 options, tap one of them:
    - *1v1 bouting*: a simple fencing bout.
    - *Target practicing (experimental)*: Enable to differently indicate 2 target areas (like a dart board) when target practicing for épée.[12] Put a piece of metal tape[13] into the middle of your target. Connect one pocket box to your weapon

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[11] Illustration here
[12] You use the app for smart target practicing with foil too, but then you don't need to turn on this switch, because in foil, 2 target areas (on and off-target) are indicated in different ways by default. You just need to put the crocodile clip of the foil body cord to the metal tape instead of a lamé.
[13] Available in DIY stores, e.g. Conrad

and the other one to the metal tape with a banana plug-crocodile clip cable[14] via the C pin. Hits on the metal tape will be indicated as valid ones (red/green) and the others as invalid ones (white). Épée and foil only.

○ *Reaction time game mode (duel)*
Enable to practice executing a fencing action as quickly as possible. Connect both pocket boxes on the Scoreboard, press "Start game" in the popup appearing, wait for the blue light that is displayed at a random time in a few seconds, then hit as soon as you can. The app will measure and display the time elapsed between the blue light and the hit. In its current form, this game mode enables 2 fencers to compete in speed.[15] Épée and foil only.

Settings and customisations

Display Scoreboard elements
Disable unnecessary elements to see the lights on a bigger surface
● *Display the step-by-step tutorial on the next app start*
Enable for text bubbles on Scoreboard
● *Display scores*
● *Display + and minus buttons*
● *Display timer*
● *Display bout counter*
● *Display button to open menu for advanced competition features*
Menu to set bout counter, yellow/red cards, priority, remote control mode

Register hits

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[14] It can be replaced with a foil-sabre body cord: in this case, the p[...] body wire goes into the banana socket C of the pocket box.
[15] Single mode is coming soon.

Display Scoreboard elements		
Display the step-by-step tutorial on the next app start	⚪	❓
Display scores	🟢	❓
Display + and - buttons	⚪	❓
Display timer	⚪	❓
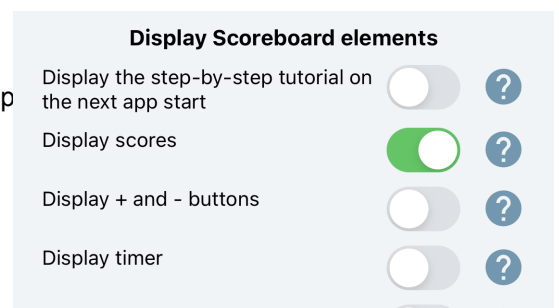
- *Indication length*
  The duration of light and sound on hits
- *Automatic touch count*
  Disable for manual score count only
- *Register only valid hits*
  Disable to register all hits
- *Foil: distinguish bellguard hits
  from on-target*
  Enable to not register on-target hits on bellguard[16]

Other
- *Pocket box scanning length*
  Scanning duration for pocket boxes
  when connecting
- *Touch labeling*
  For troubleshooting only
- *Reset settings to default*

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[16] The default value is off, because when fencers get really sweaty, the algorithm tends to detect bellguard when hitting the lamé. This will be fixed in a later firmware update.

Bout result tracking[17]

Save results

- Sign in to your account or create one in the *My Profile* screen
- Press the ☁ icon on the *Scoreboard* and set your opponent's username

Track results
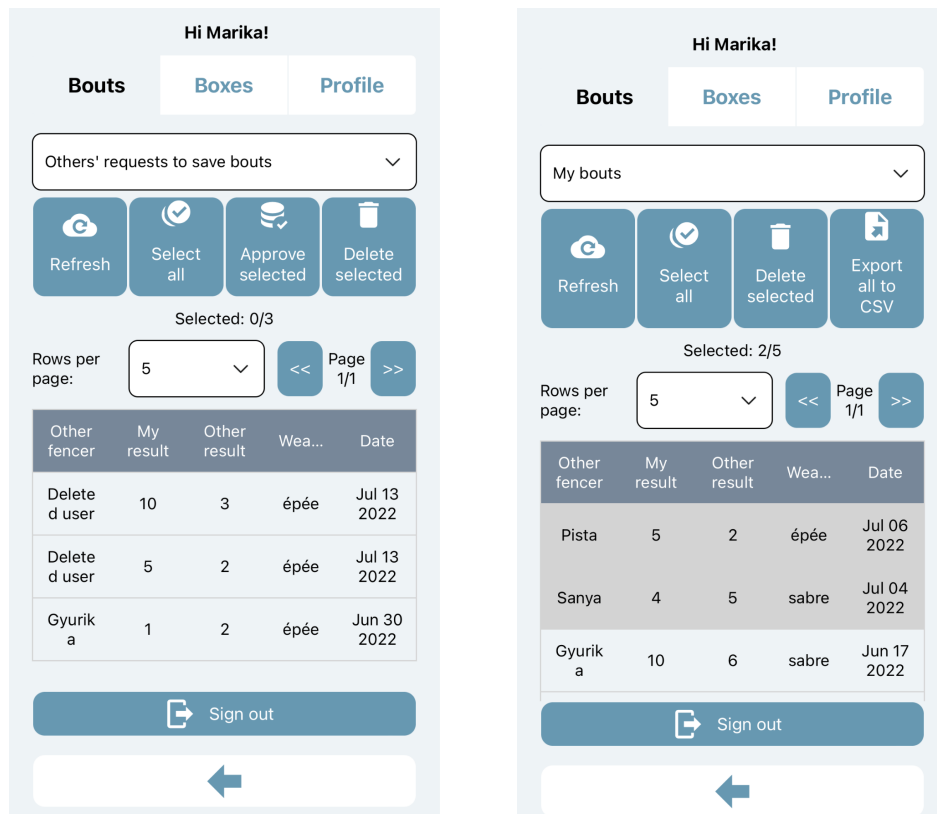
- Go to *My Profile* (sign in if needed)
- Go to the *Bouts* submenu
- Select an option from the dropdown menu:
  - *Requests to save bouts from others*: bout results that were saved by other users with you as the opponent
  - *My Bouts*: results you saved, or other users saved but you confirmed

- Tap the rows or use the *(De)select all* button to select bouts

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- *Delete selected*
- *Approve selected* (confirm and move from *Requests* to *My bouts*)
- *Export to CSV*: save all data to a spreadsheet for analysis

Remote control mode

To let referees control the *Calibur* scoring app from the other side of the piste, another app, *Calibur Remote Controller* is needed too. It's supposed to run on another phone and can wirelessly trigger the following actions in the scoring app:

- Start/stop the timer,
- Change the current value of the timer,
- Set yellow/red cards,
- Change touch counter,
- Change bout counter,
- Set priority manually or randomly.

To use the remote controller:

1. In the Calibur app, go to Settings and turn on this switch: *Display button to open menu for advanced competition features*. Turn on displaying all features you want to control remotely.[18]
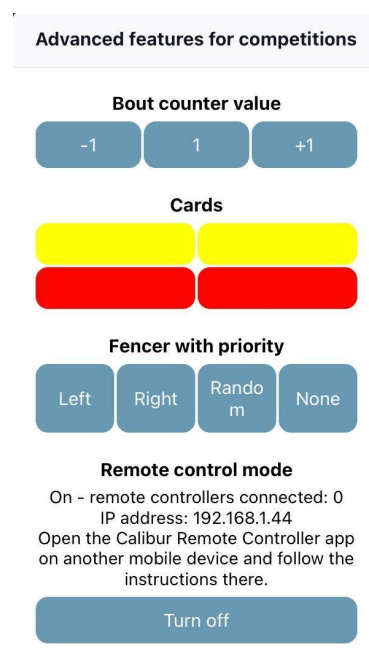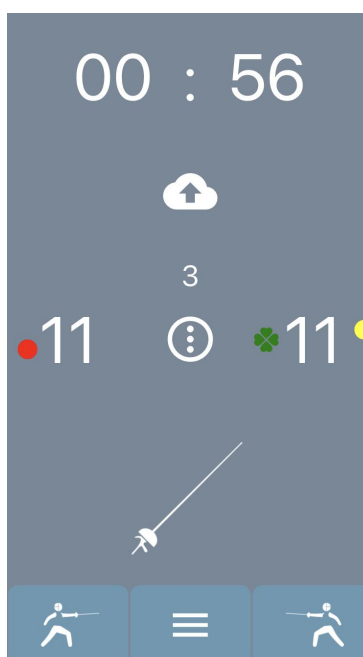
2. Install *Calibur Remote Controller* to another phone.

	Download	Minimum system requirements
Android	Google Play	5.0
iOS	App Store	12.4

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[18] Potentially: *Display scores*, *Display timer*, *Display bout counter*

3. Connect both mobile devices to the **same** Wi-Fi network.[19]
4. In the Calibur app, tap the ⋮ button on the Scoreboard and tap *Remote control mode* in the popup.
5. An IP address appears in the popup; enter it to the textfield in the *Remote Controller* app and press *Connect*.
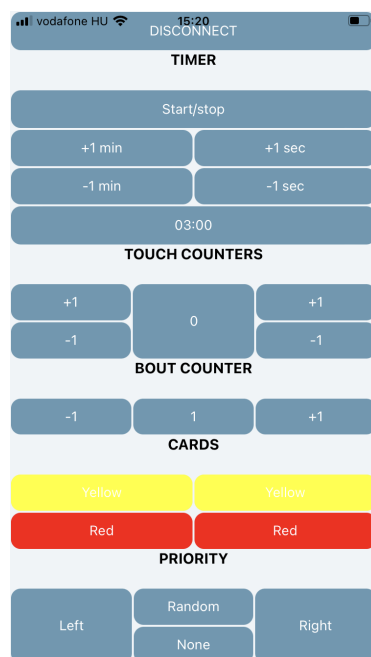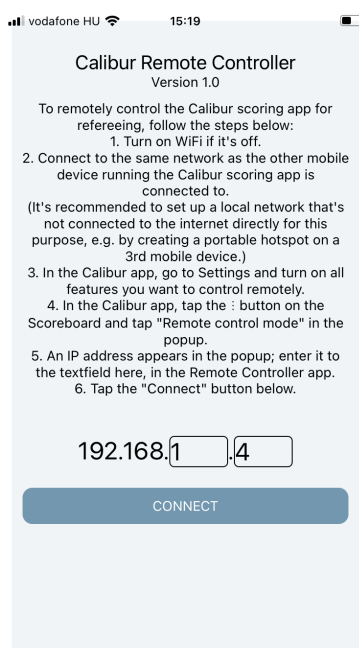
Help

Useful infos,
current software version,
troubleshooting wizard
and this manual.
In case of any technical issue, please
follow the steps of the troubleshooting
wizard. If the tips there don't help,
contact us via the form
in the end of the wizard.
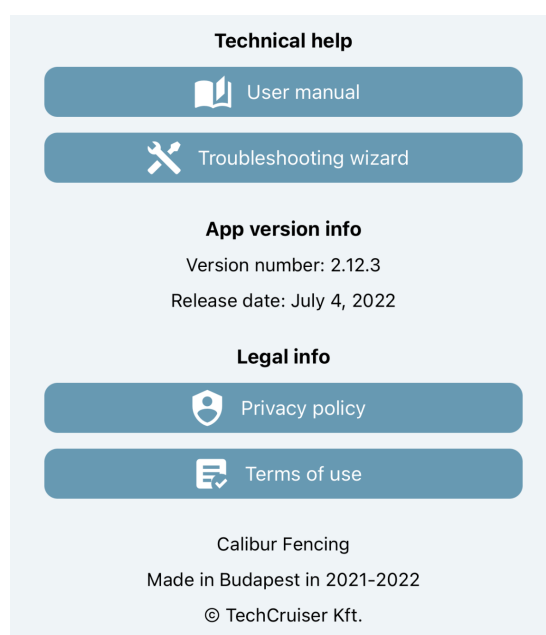
[19] To avoid any latency caused by heavy data traffic, it's worth using a local network only for remote control. The easiest way is setting up a portable hotspot on a third mobile device.

Firmware update [20]

On the pocket box via Bluetooth
- Connect to the internet
- When a firmware update is released this pop-up appears
- Press *Load the latest firmware* in the pocket box menu
- Wait for the download to finish
- Firmware will be updated automatically (1-2 mins)
- Press *Restart*

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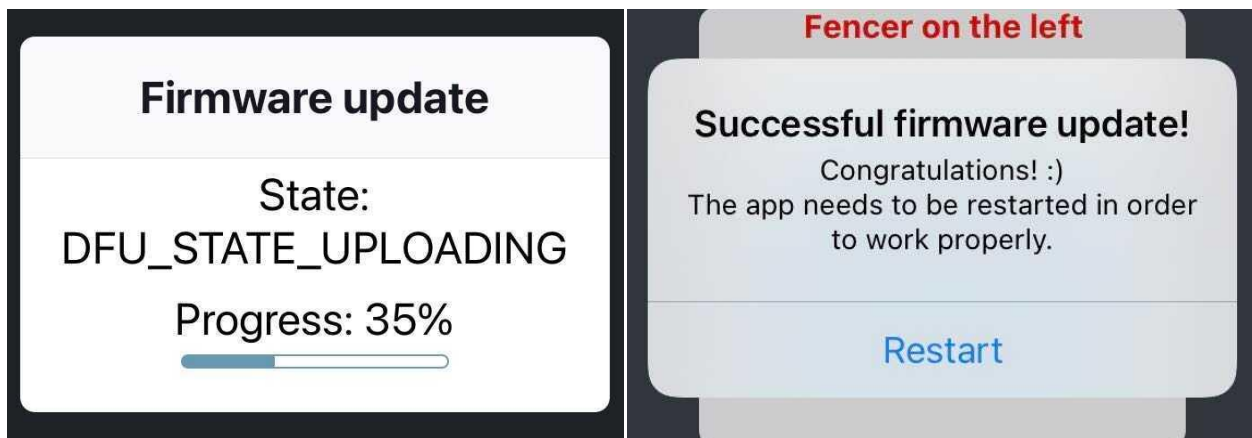
[20]TIP: Check our tutorial video:
https://youtu.be/Vm2S6thhHTw

Troubleshooting[21]

Touches do not register

Connect BOTH pocket boxes, wear FULL fencing equipment and check LED during hits

No LED blink → **Try different bodycord/weapon**

LED short blink → **Which weapon do you use?**

LED long blink → **Reconnect pocket boxes**

Try different bodycord/weapon
- Issue resolved
- Issue remains

Which weapon do you use?
- ÉPÉE
- FOIL

Reconnect pocket boxes
- Issue resolved
- Issue remains

Restart device+app
- Issue remains
- Issue resolved

Are the fencers VERY sweaty?*
- No → Restart device+app
- Yes → Turn off this switch in Settings: "Foil: distinguish bellguard hits from on-target"**

Reinstall Firmware
- Issue remains

You're ready to fence

Contact support

*When the glove is dripping wet
** Sweat can influence accuracy, wait for future update

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[21] Press the *Troubleshooting wizard* button in the app's *Help* menu before, then the app will walk you through these processes step-by-step.

FOIL: Lamé touches register as off-target

- Check body cord connections to lamé, weapon and pocket box on both sides
-Connect BOTH devices to the app

Issue remains

Try quick thrusts on lamé
-DO NOT hold the blade with your hand,
-DO NOT keep the tip on the lame*

Issue remains

Try changing weapon/body cord

Issue remains

Try turning off this switch in Settings: "Register only valid hits as valid"

Issue resolved

Issue resolved

You're ready to fence

Contact support

Check video on our youtube channel

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Touches register on bellguard

Check Settings to turn on this switch: "Register only valid hits as valid".

Which weapon do you use?

ÉPÉE

FOIL

Are you trying it bare handed?

Turn on this switch in Settings: "Foil: distinguish bellguard hits from on-target"

Yes

No, with gloves on

Issue remains

Put on dry gloves

Put the device in your pocket

Issue resolved

Issue remains

Try quick thrusts on guard
-DO NOT hold the blade with your hand,
-DO NOT keep the tip on the guard*

You're ready to fence

Contact support

Delay in registering hits (slow light*/sound)

(especially when using older phones)
-Disconnect all other Bluetooth devices
-Close all other apps
-Turn off notifications
-Delete all unused apps

Issue disappears

Issue remains

Try factory reset on the phone

Issue disappears

Issue remains

Try a newer phone (iOS device if possible)

Issue disappears

Issue remains

You're ready to fence

Contact support
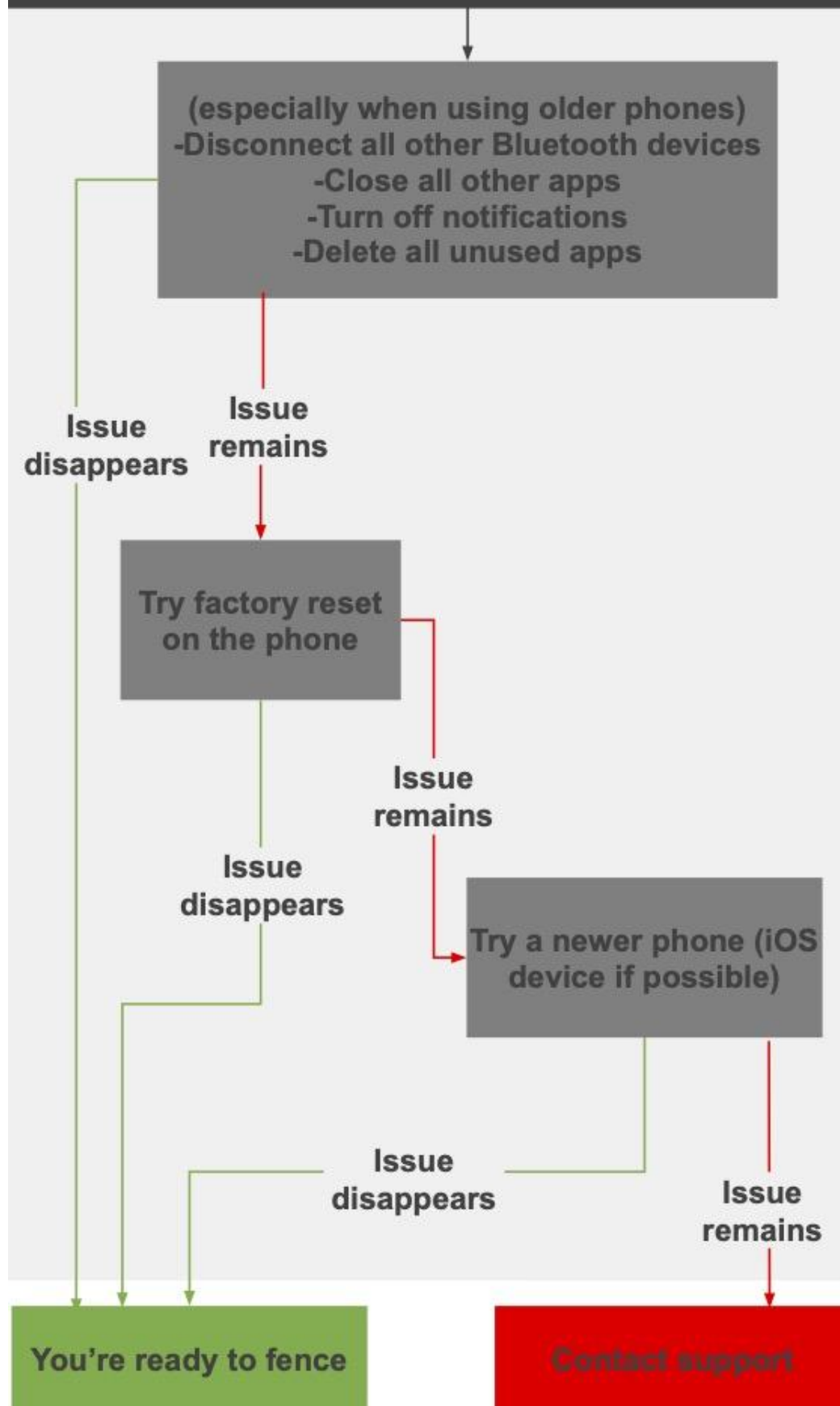
*light is not yet fully optimised, sound plays much faster

Can't turn on pocket box
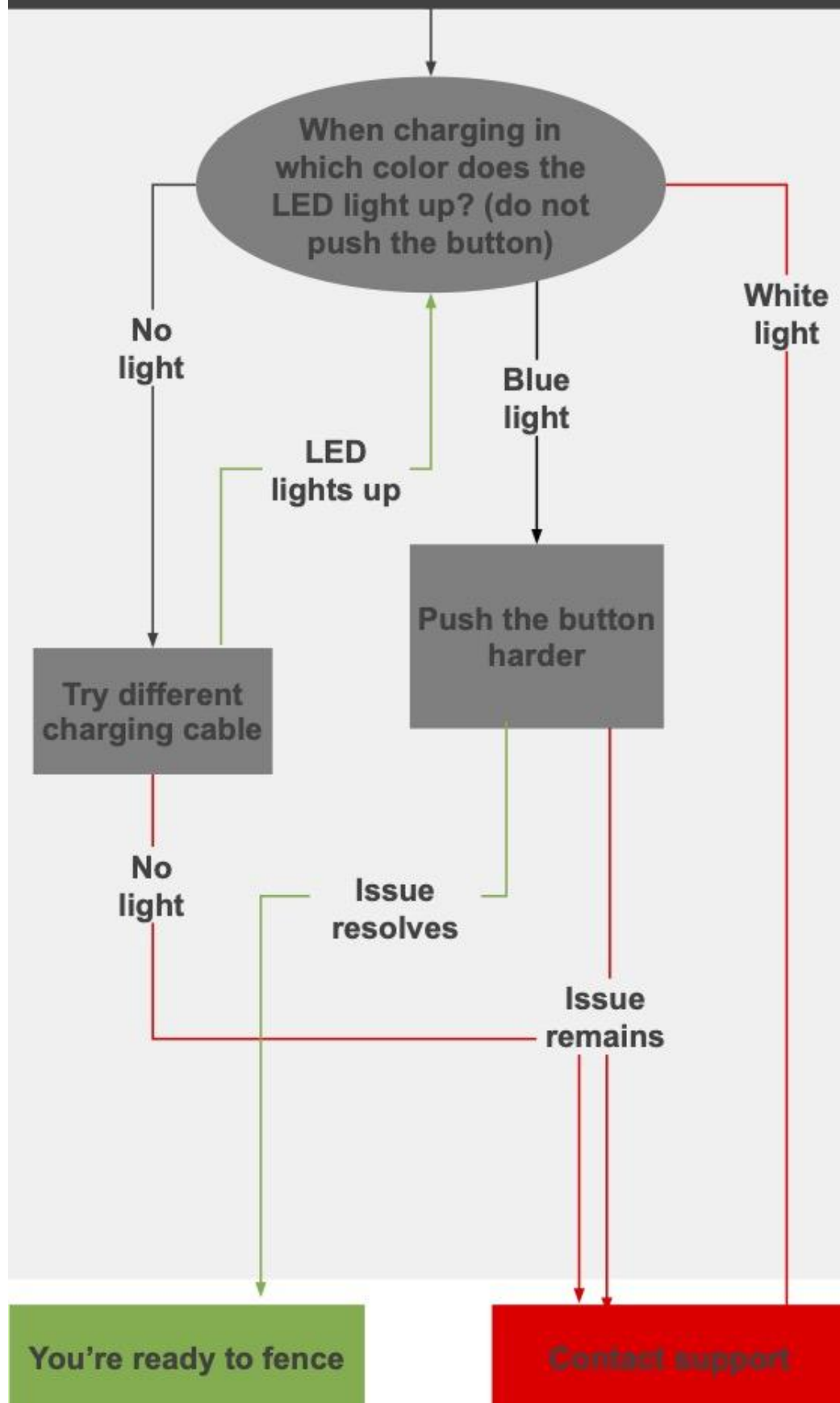
When charging in which color does the LED light up? (do not push the button)

No light

White light

Blue light

LED lights up

Push the button harder

Try different charging cable

No light

Issue resolves

Issue remains

You're ready to fence

Contact support

*please send us the phone type and OS version

19

Can't turn off pocket box

Did you push the button 2X?

No

Yes

Push the button harder

Issue remains

Push it twice

Issue resolves

Issue resolves

Issue remains

Issue resolves

The pocket box is off

Contact support
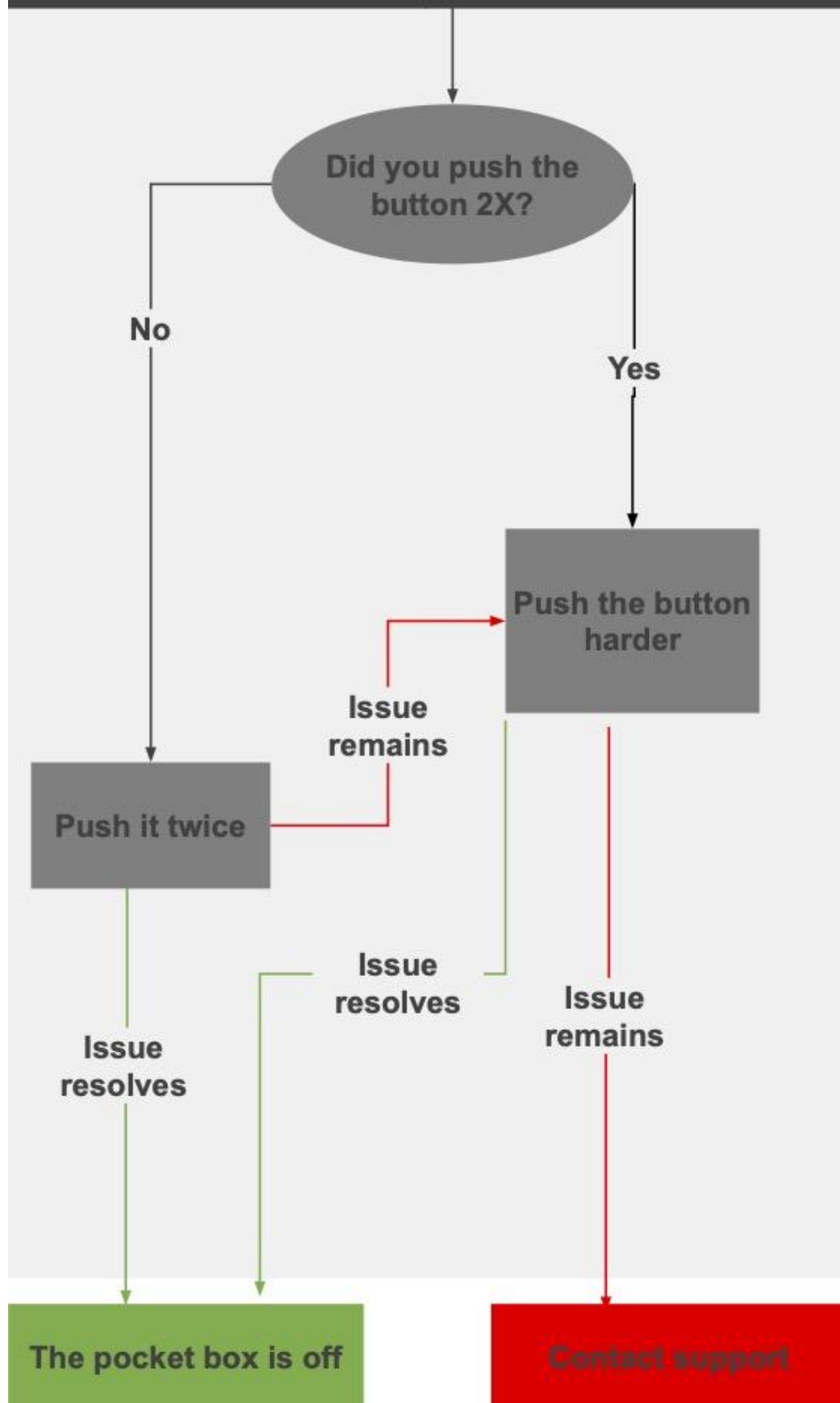
*please send us the phone type and OS version

Important info

Warranty

The warranty is valid for 12 months from the date of purchase. It includes free repair for any defects in materials or assembly. If you encounter a major fault or defective system, you need to stop using the system. Get in touch with us immediately to ensure that you will be eligible for a warranty claim.

Please, get in touch on our Whatsapp, Facebook page or send an email to support@caliburfencing.com for support.

Disclaimer

Calibur products were designed for fencing under normal circumstances. If fencers use the system under non-standard or unsafe fencing conditions (not wearing a glove or proper mask, etc.) we cannot guarantee the reliability of the system. We also cannot take responsibility for damage that results from improper use of the system, or use of the system in a way outside of its intended purpose.

Disposal of Product

In case your Calibur pocket boxes need to be disposed of, please note that waste electronics have to be recycled separately from unsorted municipal waste.

Waste electrical and electronic equipment must not be disposed of as unsorted municipal waste and in particular does not belong in the household waste. Rather, these devices should be collected separately and disposed of via the local collection and return systems.

By separating and recycling your system at the time of disposal you will help to conserve natural resources and ensure that the system is recycled in a manner that protects human health and the environment.

Battery hazard notice

- Batteries may leak or explode if misused
- Do not try to open the pocket box and the inner battery.
- Do not short-circuit the connectors
- Do not dispose of batteries in a fire, they may leak or explode.

Compliance

EMF

This product complies with all applicable standards and regulations regarding exposure to electromagnetic fields.

CE

The Calibur pocket box meets the minimum requirements for safety and electromagnetic compatibility of electronic devices, and conforms with the relevant European Union directives and recommendations

FCC

These Calibur pocket boxes have 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 reason- able 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 instruction manual, 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 equipment and receiver.
- Consult the dealer or an experienced radio/TV technician for help.

Pacemaker Notice: This product contains strong magnets and utilizes wireless technology. Consult with a medical professional before using.

Keep out of reach of children.
The 'Calibur' logo is a registered trademark.
Made in Hungary.