

## Gungnir Elite Dartstracker



### Quick Start Guide V1.2

An online version of this guide and more can be found here :



<https://gungnirdarts.com/gungnirdarts-downloads.html>

### **Quick Start Guide**

First mount the complete surround level on the wall or a dart standard with the bull at 2,37 m. Make sure the surround is level when attached to the wall by using the supplied liquid level.



*Figure 1: The surround must be mounted level*

Attach the mount to the board.



*Figure 2: Attach the board mount*

Make sure the board itself is level when placed on the surround.



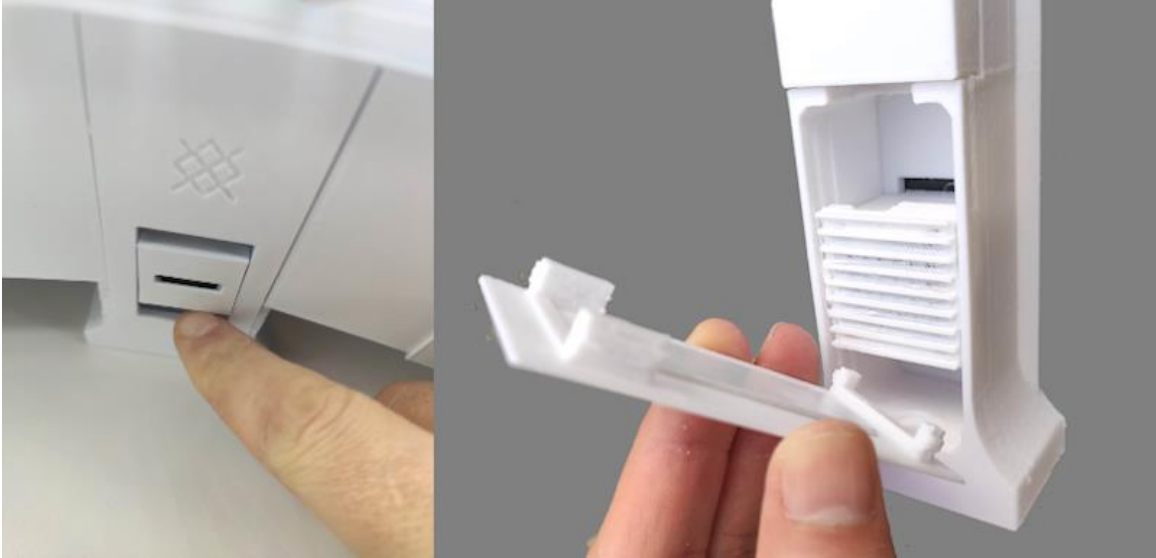
*Figure 3: The board must be level after the board mount is attached*

Now with the board in place first adjust the camera heights with the camera height tool. If you hold the thick end on the board, the tip should be at the same height as the black aperture of the camera holder. If this is not the case, move the camera up or down so it is at the same height as the tip. Mind that height in this context does not mean distance to the bull, it means distance from the back of the surround.



*Figure 4: The tip of the camera height tool should be at the same height as the black aperture of the camera holder*

Do this for all 4 cameras. You can try to move a camera from the front first and try it out, but to fix a camera in position open the camera foot from the back and remove the strip from the double sided tape on the backplate.



*Figure 5: Move the camera from the front or the back of the camera foot*

Now plug in the power of the ledstrip and the Raspberry Pi.

Start the Gungnirdarts app on your Android device or Windows device. Check the Google Playstore or Windows Store for the Gungnirdarts app.

After installing and running the app, Press Search to find the board.



*Figure 6: Start screen of the Gungnir Dartstrainer*

If this is the first time you connect, you will get a question if you want to do a Full Calibration. If you don't get the question Go to Settings...Gungnir Dartstracker..Full Calibration and follow the instructions that appear on the screen.

When the calibration asks for the black sphere place it in the center of the bull and push it into the board up to the thick part just below the sphere. **Important: Make sure there are no number ring holders blocking the direct line of a camera view to the bull.** If so rotate the board until every camera has a free view at the board, but if this is a problem you can try the solution at '**Calibration failing due to number ring holders blocking a camera view.**' offered in the 'Tips & Tricks' section at the end of this document.



Figure 7: Place the sphere in the center of the bull





Figure 8: Push the sphere all the way down to the thick part

After this step the calibration will ask to place darts at specific positions around the board to get a basic estimate of the sectors on your board.

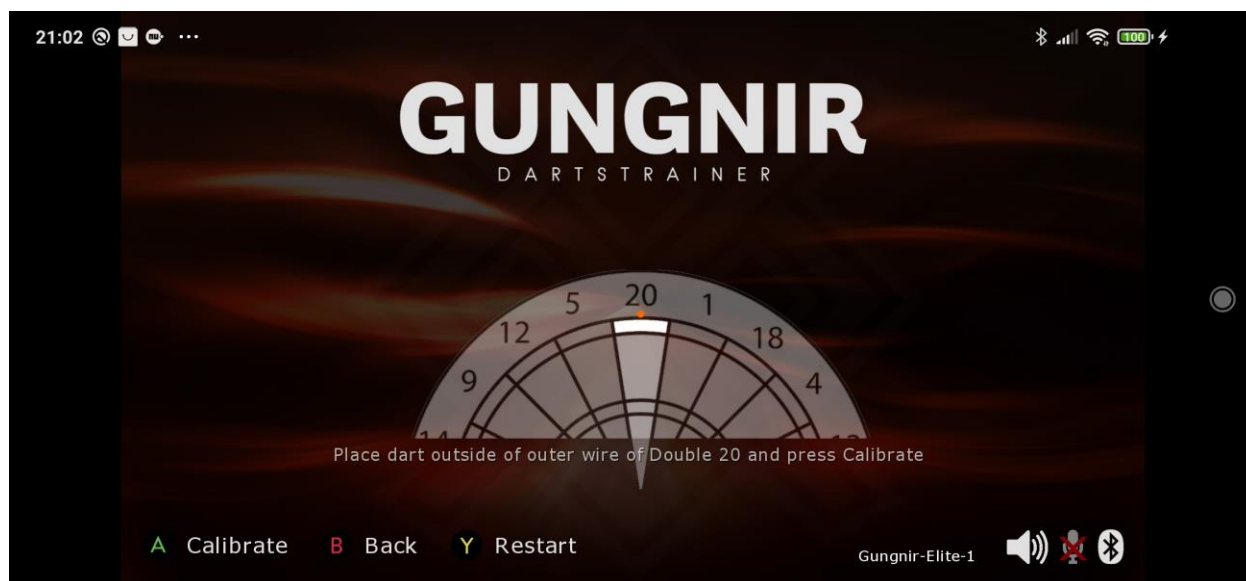


Figure 9: Place a dart at the position indicated by the orange dot



*Figure 10: The place of the dart on the board*

When this last calibration step is done you can put the numbering back on the board and you will be taken to the Free Practice mode to start throwing and see the detection at work. In case a dart is wrongly detected, correct it by tapping on the throw until it has the right value. When no alternatives are left a special panel will open in which you can select your throw manually. After submitting the complete turn the dartstracker will adjust the values for the changed sectors automatically. This way your dartstracker will become more accurate with every correction made.



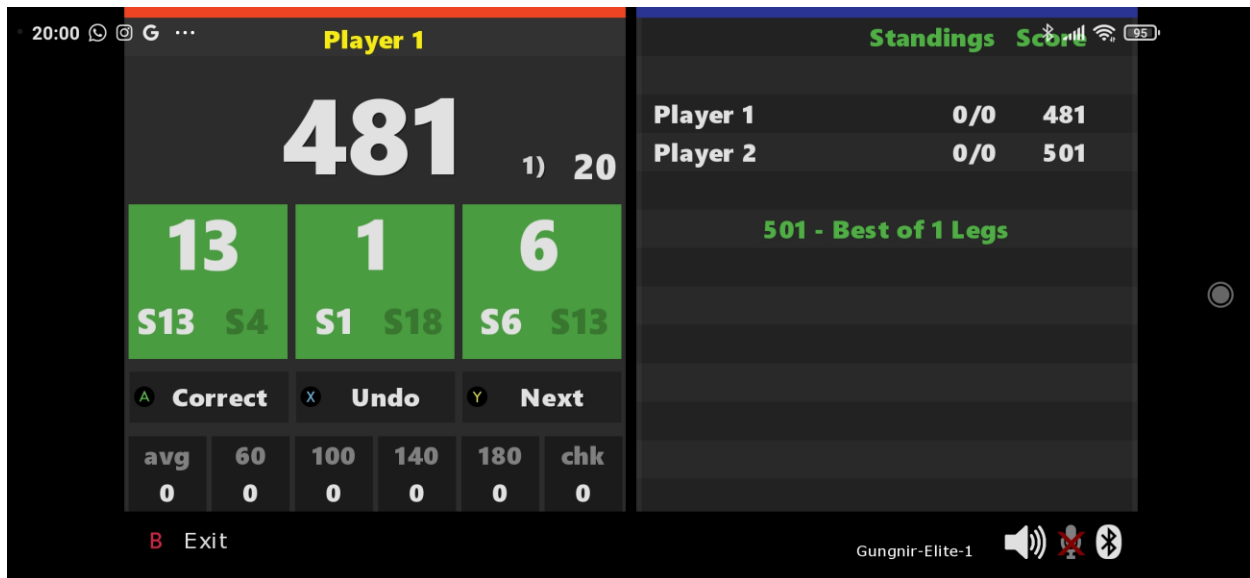


Figure 111: The alternative is shown at the right bottom of the throw

## Maintenance

Whenever you start the Gungnirdarts app it will take you to the Quick Calibration routine to correct for slight camera changes. Mind that for this routine to work, the surround needs to be lower or same height as the dartboard, so the cameras can see the edge of the board itself, otherwise do this calibration by taking the surround of. If needed it can be disabled in the Settings...Gungnir Dartstracker...Configuration menu.

## Have fun playing!

Oh, and where does the name Gungnir come from ? Gungnir is the Spear of Odin and is also referred to as the "Spear of Heaven". It is an ancient weapon and is known for always hitting the target of the attacker regardless of the attacker's skill.

## Tips & Tricks

Below important things to know about the Dartstracker & Gungnirdarts App.

- **Calibration failing due to number ring holders blocking a camera view.**

The first thing you can try is to rotate the board to a position where no number ring holder is blocking the direct line of view of a camera to the bull. If this is not possible or you want to be able to rotate and use every sector on the board, you can remove the number ring holders and use a surround with the numbers on it. This way you can rotate the board for every sector and have removed a source of inaccuracy.



Figure 122: Solution for camera views blocked by number ring holders.

- **Dartboard is found in the Gungnirdarts app, but when playing a game no connection can be made or nothing happens when connected.**

This usually happens when the Dartstracker is rebooted or the Gungnirdarts app was in the background and reactivated. You can fix this by killing the app and then start it again. Also make sure bluetooth and location permission have been given to the app.

- **No caller sounds in the Gungnirdarts app (or how to change voice)**

This happens when the preferred text to speech service in Android is not set to google speech services. Go on your Adnroid device to settings and search for the text to speech settings. Then choose as preferred engine the google Speechrecognition and synthesis. You can also change the voice that the app uses here.

- **The Gungnirdarts app suddenly stops**

If you have enabled 'Voice Command' in the app by tapping the microphone at the right bottom, it sometimes happens that the underlying processing engine crashes. There is no workaround at the moment, if it happens too often disable voice command.

- **More information and updates**

Check the Change Log and Downloads sections of the <https://gungnirdarts.com> website to check for updates of the Gungnirdarts app and the Dartstracker with instructions how to install them.