OMNI user manual

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Name	**Date**	**Comment**
Adrian	5.1.24	Initial draft

Introduction

The Omni is an automatic scoring system for steel darts and is compatible with most of competition sized dartboards and darts on the market. The Omni consists of a ring light with four integrated cameras. The Omni connects to the official DartCounter app and is compatible with all features inside DartCounter.

How to get the best performance of Omni

- The Omni works best when used on a fixed dartboard on a fixed wall. Movements and vibrations impact the performance of the Omni.
- Turn off all light sources that additionally spot onto the dartboard.
- Do not touch or shift the Omni ring light when you are removing darts. If you shift the ring light, consider calibrating the dartboard again.
- The Omni works best with the recommended equipment. See the section "Compatibility" for details.
- If your darts are not sticking firmly in the dartboard and shift slightly down it can cause "Out" detections.

Note: Miscounts can always be corrected in the DartCounter app.

Assembling your OMNI system

Parts List

A   1x Omni ring light

B   1x Omni pressing box

C   4x Omni magnetic legs

D   1x Omni power supply (3.0m)

E   1x Country adapter UK/EU/AU/JP&US

F   1x Omni power cable for MOD Hub (0.4m)

G   9x Omni legs and processing box Screw (M4x8mm)

H   1x Allen key (2.5mm)

Before mounting your system

Before mounting the Omni system to your dartboard, ensure that your dartboard is firmly fixed to the wall. Vibrations of the dartboard lead to inaccurate scoring.

This can be achieved by screwing the screw of your dartboard as deep as possible and using stabilizing rubber pieces on the back. Other board fixing mechanism will do the job as well. If you have a MOD Hub installed, you can use it as well.

Assembly and mounting

1. Place the ring light front side down on a flat surface.
2. Screw the Omni magnetic legs (C) with the provided allen-key (H) to the Omni ring light using the Omni screws (G). The legs must point inwards.
3. Hold the processing box in a slight 25° angle and slide it vertically into the master leg. You recognize the master leg by the cut out in one of the 4 camera housings.
4. If the processing box is fully inserted, press it against the leg and **keep it tight until you finished the next step**. Otherwise, the processing box will fall out on its own.
5. Screw the processing box to the master leg with the provided allen-key (H) using the Omni screws (G).
6. Plug in the LED power cable to the side of the processing box.
7. Optional: If you want to use a surround, mount it now.
8. Mount the Omni system to your Dartboard. The Omni magnetic legs (C) will keep the Omni ring light (A) in place.
9. The 4 Omni magnetic legs (C) need to be aligned at 45°angles . Use the blade lines between the numbers 9/12, 18/4, 15/2 and 7/16 as reference to align the Omni magnetic legs (C).

Powering the Omni

Always use one of the mentioned power supplies to power the Omni.

Powering the Omni with the included power supply (F)
Attach the correct country adapter (E) to the Omni power supply (D). Plug the Omni power supply (D) into the outlet and the other end into the back of the processing box. Only use the official included power supply to power the Omni.

Powering the Omni with the MOD Hub (supplied separately)
Plug the Omni power cable for MOD Hub (F) with the straight end into the DC1 outlet of the MOD Hub and the angled end into the Omni processing box (B). Do not plug in any other device in DC2.

Using your Omni

Calibrating the dartboard

To ensure the best accuracy, your dartboard needs to be calibrated. The Omni has an automatic calibration function. This process usually takes about 20s.

Notes:

- You need to calibrate your dartboard always if the Omni is mounted.
- You don't need to calibrate your dartboard every day.
- Consider calibrating your dartboard again if you experience too many miscounts.
  It is possible, that the Omni ring light or the dartboard shifted slightly away from its position during the last calibration.

How to Calibrate your dartboard:

Ensure, that the legs are all positioned in 45° and align with the corresponding blade lines. Remove all darts and hands from the dartboard. The dartboard must be empty during the whole calibration process.

Automatic calibration:

1. Select "Calibrate Dartboard" in the DartCounter app.
2. Wait while the dartboard is being calibrated. The process takes between 20s and 80s.
3. If the calibration still fails after several attempts, use the manual calibration method.

Manual calibration (TBC) :

1. Ensure, that the legs are all positioned in 45° and align with the spider lines.
2. Select "Manually calibrating dartboard" in the DartCounter app.
3. Manually select the 4 calibration points on each camera view. The points are the inner double ring between the segments 20/1, 6/10, 3/19 and 11/14.
4. The DartCounter App will provide a front view of the dartboard and marks each segment. If the segments match with the mask, confirm the calibration.
5. Repeat this step 4 times for each camera view.

Compatibility

The Omni is an automatic scoring system for steel darts and is compatible with most of competition sized dartboards and darts on the market.

We recommend using one of the tested dartboards:

- Target ASPAR
- Winmau Blade 5
- Winmau Blade 6
- Unicorn Eclipse Ultra (TBC)
- Unicorn Pro2 (TBC)

- One80 Gladiator 3
- Mission Samurai 2 (TBC)
- Koto King Pro (TBC)

Other dartboards

The Omni is a vision based, high accuracy system. Visuals and dimension of the dartboard impacts the performance. It is possible that you encounter more issues with the automatic calibration, but you can always calibrate manually.

If you want to use another than our recommended dartboards, look out for following properties:

- Red/Green and black/white colouring
- Competition sized triple and double rings (radius and width)
- Outside diameter between 440 – 460mm

Darts

- Darts with very short stems tend to cause more miscounts than normal sized ones.

How to correct miscounts

The DartCounter app will display the segment of each thrown dart in real time.
Below your score are three empty blocks, which will be automatically updated with your hit segments.

1. You can click on the blocks and correct a miscounted dart.
2. Confirm your correction.
3. Pull out the darts.

Note: If you pull out the darts before making a correction, the automatic player change will already be initiated.

How to handle system errors in the Omni app

There are a few known system errors that might occur.

Automatic player change does not work
Click on "Player change" to change the player manually.

The Omni did not record all darts that I have thrown
This can happen if your darts land outside of the camera view or a dart bounced out quickly from the dartboard. Click on "all darts thrown". All remaining darts will be registered as 'OUT' darts and granted 0 points. You are still able to manually correct all three darts as usual.

DartCounter asks me to remove all darts

For proper operation, the surface of the dartboard needs to be empty when starting a new game or leg. If the Omni recognizes darts on the dartboard, DartCounter will remind you to remove them. If there are no darts in the dartboard, click on "Darts removed" and you can continue your game.

How to handle system errors

Automatic exposure failed

Restart the system and see if the problem is resolved.

If the problem is not resolved you can try following points and always reboot the Omni in between:

1. Ensure that the dartboard is completely empty when booting the system.
2. Turn off all light sources that spot onto the dartboard.
3. Try to turn off all lights in the room.
4. Try to completely darken the room.

Other error 2

Not known yet.

Other error 3

Not known yet.

If a system error persist or is not listed here, contact Team Target.

FCC Warnning:

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

• Reorient or relocate the receiving antenna.

• Increase the separation between the equipment and receiver.

• Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

• Consult the dealer or an experienced radio/TV technician for help.

Caution: Any changes or modifications to this device not explicitly approved by manufacturer could void your authority to operate this equipment.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1)This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator and your body.