

ACTIVE WAND USER GUIDE



Electronic Calibration Device



Introducing the Active Wand

The Vicon Active Wand is an electronic motion capture calibration device that contains five pairs of LEDs. The Active Wand is used to calibrate both optical and reference video cameras. As some reference video cameras don't have strobes, the LEDs in the Active Wand make it easier to identify and locate markers from the reference video camera images.




Active Wand controls and indicators

- 1 On/Off switch
- 2 LED mode switch - Strobe/continuous mode
- 3 Intensity adjustment screw
- 4 Battery charge indicator LEDs
- 5 Bubble level
- 6 Battery charger connection
- 7 Camera strobe sensor
- 8 NIR On/Off switch (Switches on/off NIR LEDs on NIR wands or IR LEDs on IR wands)
- 9 Handle/battery holder
- 10 Active Wand level screws
- 11 Tripod attachment
- 12 Forceplate alignment guides x 3 (can be fitted as shown or as appropriate for your requirements)

For quality calibration, ensure the NIR switch, which is ON by default, is set correctly. If your system has:

- NIR (Near Infra Red) or IR (Infra Red) strobes, ensure the switch is set to ON.
- VR (Visible Red) strobes, set the switch to OFF.
- A mixture of NIR or IR and VR strobes, ensure the NIR switch is set to ON. (For pre S edition cameras, contact Vicon Support.)

 **Tip**

If the floor is uneven, adjust the level screws **10** and check the bubble level to ensure the wand is level. If you are using a small or sunken force plate, to enable the Active Wand to lie level you may need to change the position of the pivot screws from the default **A** to the alternative position **B**.


Using the Active Wand

Use Strobe mode whenever possible. However, in the following cases, Continuous mode may give better results:

- In large volumes, if the camera’s strobes are not bright enough to activate the wand’s sensor
- In cases of high light pollution, for example, in direct sunlight
- To calibrate camcorders

Synchronize the Active Wand to the cameras


1. Turn on the Active Wand.
2. If necessary, move the LED Mode switch to Strobe mode.
The LEDs begin to flash.
3. Place the Active Wand in the capture volume where it is visible by the Vicon cameras. When the LEDs appear to stop flashing, the Active Wand is synchronized to the cameras.

 **Note**
When in Strobe mode, the Active Wand will not sync to camera rates less than 50 Hz.

Understand the battery charge indicator LEDs

When you turn on the Active Wand, the battery charge indicator LEDs illuminate for approximately five seconds to indicate the amount of charge in the battery:

- Five green LEDs: Fully charged
- One green LED: Recharge needed
- No LEDs: Fully depleted (flat)

 **Warning**
Before charging the battery, turn off the Active Wand.

Charge the Active Wand battery

To charge the battery:

1. Plug in the supplied Active Wand battery charger.

⚠ Caution
To prevent damage to the Active Wand, use only the supplied charger.

2. Insert the charger connector into the Active Wand and leave it to charge.
Note that a full recharge takes approximately four hours.
3. When the battery is fully charged, indicated by five green LEDs, detach the charger.
The green battery charge indicator LEDs remain illuminated for about 10 seconds.

⚠ Warning
This product contains a lithium ion battery.

- Do not incinerate the battery.
- Do not disassemble the battery.
- Do not short the battery terminals.
- Do not expose the product or the battery to high temperatures (140°F/60°C).
- As the battery is subject to shipping regulations, use only the original packaging to ship the unit. For further shipping instructions, contact Vicon.

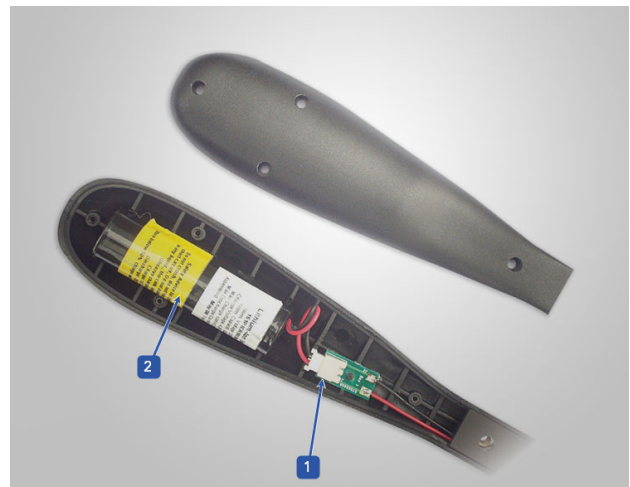
Replacing the Active Wand battery

⚠ Warning
Before replacing the battery, turn off the Active Wand.

To replace the Active Wand battery:

1. Remove the screws from the handle.
2. To reveal the battery, detach the back of the handle.
3. Unplug the battery connector **1**.
4. Remove the old battery **2**.
5. Place the new battery into the battery holder.
6. Attach the battery connector.
7. Replace the Active Wand handle and screws.
8. Turn on the Active Wand, run it in Continuous mode until the battery is flat, then **fully recharge it** (page 3).

This enables the Active Wand to calculate the battery life.



i Note
To order additional batteries, contact sales@vicon.com¹.
Due to current shipping regulations, which do not permit shipment of lone lithium ion batteries, you will be asked to return your wand. Vicon will then fit a new battery before shipping your wand back to you.

¹ <mailto:sales@vicon.com>

Active Wand regulatory information

These topics provide important and required consumer information on how Vicon Active Wand complies with regulatory standards, including product recycling. The [certification \(page 7\)](#) that Vicon Active Wand has achieved for meeting stated international standards is also included.

- [Radio and television interference \(US and Canadian customers\) \(page 5\)](#)
- [Environmental regulations \(EU customers\) \(page 6\)](#)

Radio and television interference (US and Canadian customers)

This topic contains information concerning compliance with regulations of radio and television interference.

For United States of America customers

Federal Communications Commission (FCC) Part 15 Information



This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules (CFR 47:Part 15:B:2013). These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. 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. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his own expense.

Properly shielded and grounded cables and connectors must be used in order to meet FCC emission limits. Vicon Motion Systems Ltd is not responsible for any radio or television interference caused by using other than recommended cables and connectors or by unauthorized changes or modifications to this equipment. Unauthorized changes or modifications could void the user's authority to operate the 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.

For Canadian customers

Conformity to the Canadian Interference-Causing Equipment Regulations

This Class A digital apparatus meets the requirements of the Canadian Interference-Causing Equipment Regulations ICES-003:2004.

Avis de conformité à la réglementation d'Industrie Canada

Cet appareil numérique de la classe A respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada ICES-003:2004.

Environmental regulations (EU customers)

Restriction of the use of certain hazardous substances in electrical and electronic equipment – RoHS and recast (RoHS 2)

This equipment is fully RoHS- and RoHS 2- compliant. RoHS Directive 2002/95/EC provides that new electrical and electronic equipment put on the market for the first time from 1st July 2006 should not contain lead, cadmium, mercury, hexavalent chromium, polybrominated biphenyls (PBB), or polybrominated diphenyl ethers (PBDE). The European Union Directive [2011/65/EU](#)² provides that new electrical and electronic equipment put on the market for the first time from 3rd January 2014 shall not contain more than permitted levels of lead, cadmium, mercury, hexavalent chromium, polybrominated biphenyls (PBB), or polybrominated diphenyl ethers (PBDE; PentaBDE, OctaBDE; DecaBDE), Mercury (Hg).

REACH Declaration of Conformity

Vicon Motion Systems Ltd is a manufacturer of electronic hardware. We are therefore considered a "downstream user" as far as the REACH document is concerned. Vicon Motion Systems Ltd is therefore not obligated to register with the European Agency for Chemicals 'ECHA'.

Products sold by Vicon Motion Systems Ltd are "articles" as defined in REACH (Article 3 Definitions). Moreover and under normal and reasonably foreseeable circumstances of application, the articles supplied shall not release any substance. For that, Vicon Motion Systems Ltd is neither obligatory for registration nor for the creation of material safety data sheets.

In order to assure our customers of the continual supply of reliable and safe products, we ensure that our suppliers fulfill all requirements regarding chemical substances and prepared materials.

Waste Electrical and Electronic Equipment (WEEE)

(Applicable in the European Union and other European countries with separate collection systems)



The use of the symbol as a marking on the equipment, accessories or literature indicates that this product and its electronic accessories (e.g. USB cable) may not be treated as household waste. By ensuring this product is disposed of correctly, you will help prevent potential negative consequences for the environment and human health, which could otherwise be caused by inappropriate waste handling of this product.

Household users should contact either the retailer where they purchased this device, or their local government office, for details of where and how they can take these items for environmentally safe recycling.

Business users should contact their supplier and check the terms and conditions of the purchasing contract. This device and its electronic accessories should not be mixed with other commercial waste for disposal.

² <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32011L0065>

EU Declaration of Conformity - Active Wand



Declaration of Conformity

Medical Devices Directive 93/42/EEC as amended by
EU Council Directive 2007/47/EC of 5th September 2007 and
Electromagnetic Compatibility to EMC Directive 2014/30/EU
Electrical Safety to Low Voltage Directive 2014/35/EU

We, Vicon Motion Systems Limited
Unit 6, Oxford Industrial Park
Mead Road, Yarnton, Oxford, OX5 1QU

declare that the active calibration wand as part of a Vicon Gait Analysis System manufactured by VICON MOTION SYSTEMS LIMITED in that the Quality Management System has been approved by BSI Assurance UK Ltd for the manufacture and support of the aforementioned CLASS 1 Medical device.

This declaration of conformity is issued under the sole responsibility of the manufacturer.

VICON MOTION SYSTEMS LIMITED has tested and demonstrated that all products of its own manufacture meet 2014/30/EU:

Electromagnetic Compatibility to:
EN60601-1-2:2007

General Requirements for Safety to:
EN60601-1:2006 + A12:2014

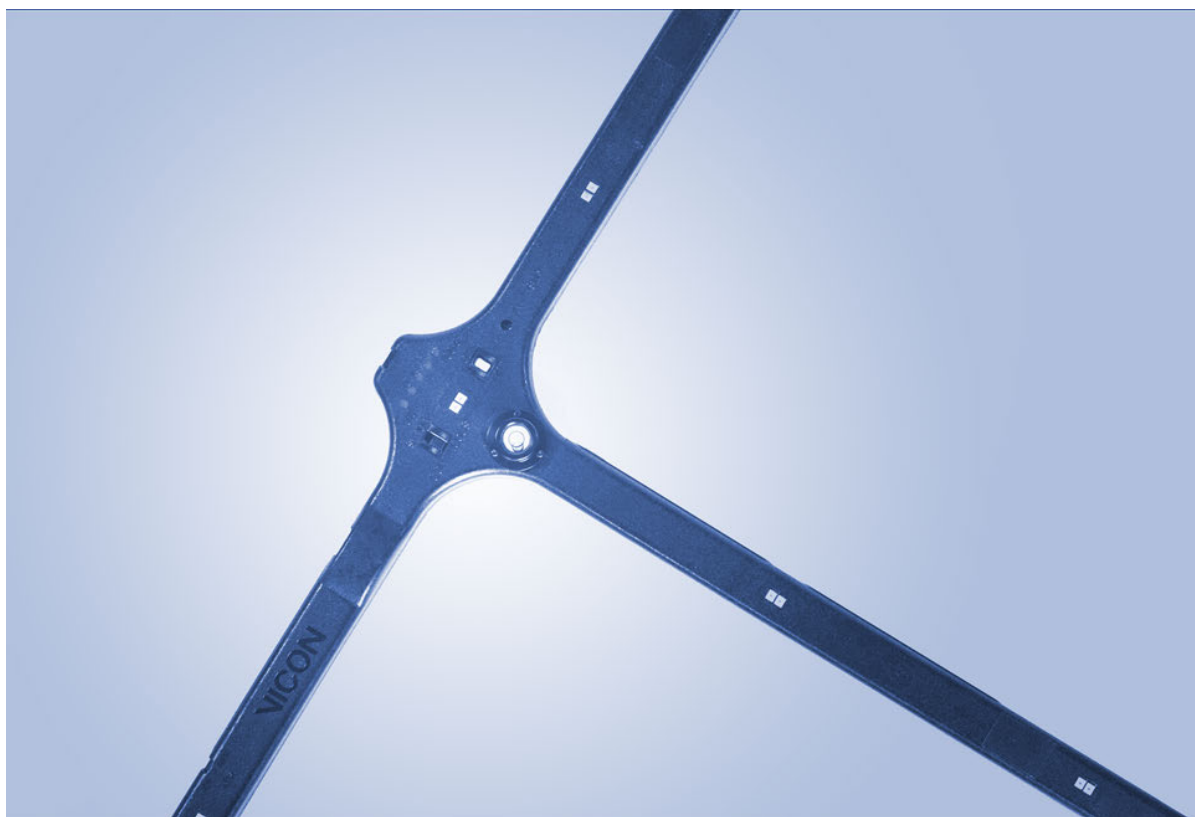
Software Development, Conformity and Support
EN ISO 13485:2016
EN ISO 14971:2019
BS EN 62304:2006 + A1:2015, IEC 62304:2006/A1:2015

Thomas Shannon TD PhD FIE (Aust) CPEng (Biomed.)
Director of Compliance

16th March 2021

Date of Expiration Validity of the MD727611 Certificate.

Not for use in an operating theatre anaesthetic gas or oxygen-rich environments. Not for use where there is a risk of compromising the essential performance of medical electrical equipment. Not suitable for use in high magnetic flux, ionising radiation, sterile, or life- or safety-critical environments.



If you need more information than that supplied in the documentation or on the [Vicon Support web pages](#)³, please contact Vicon:

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³ <https://www.vicon.com/support>

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