VICON

# BONITA

QUICK START GUIDE

# WELCOME TO VICON BONITA

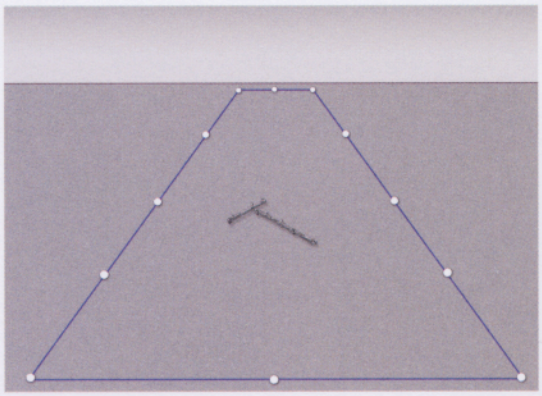
THIS QUICKSTART GUIDE WILL HELP YOU ASSEMBLE YOUR SYSTEM, LEARN BASIC PROCEDURES AND START STREAMING DATA.

## VICON SOFTWARE//

- Install your Vicon software before proceeding.

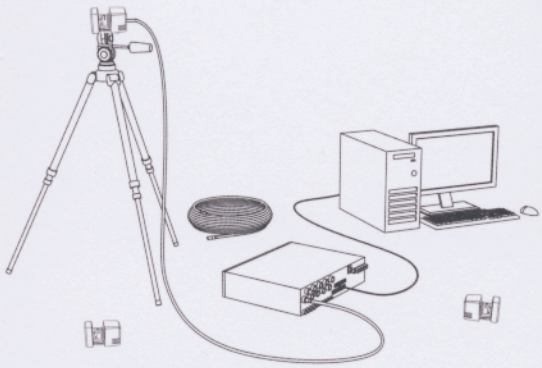
## DEFINE CAPTURE VOLUME//

- Layout the intended capture volume by placing markers around the edges of the volume. Often markers can be placed on the floor, as shown. If the volume to be captured is higher up, markers will need to be placed accordingly. This makes it easier to visualize the capture space.



## INSTALL CAMERAS//

- Install each camera on a tripod, on the wall, or on a ceiling mounted grid. Please note that camera mounts are not provided, unless ordered separately.
- Insert the network cable into the camera and then connect the cable to the Power over Ethernet (PoE) switch or Vicon Giganet. It may take up to a minute for the camera to power up. If after a minute the camera has not powered up, please refer to the online help in your software.



## SETUP THE PC CONNECTION TO THE DEVICES//

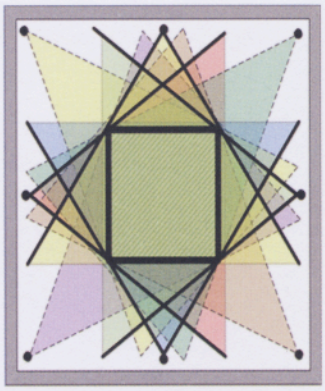
- Connect the PoE switch or Giganet to the PC.
- Enter the following IP address – 192.168.10.1 on the Network card that the system is connected to.
- Enter the following Subnet Mask – 255.255.254.0.

## START SOFTWARE//

- Double click the Vicon software icon on your desktop.
- Connect to the Vicon system and check all cameras have been recognized.

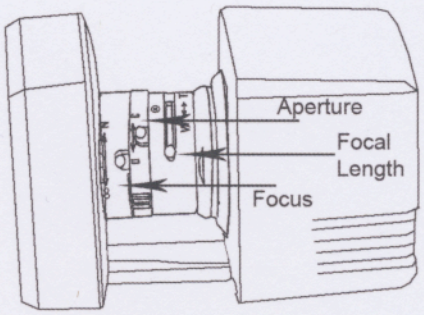
## AIM CAMERAS//

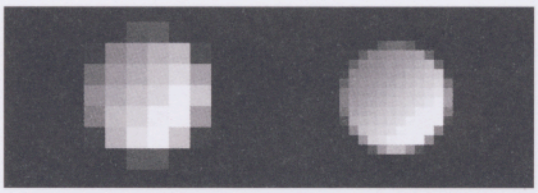
- Select a camera in the software.
- Display the 2D camera view in your software.
- Aim the camera so that it points where required, usually the center of the volume.



## ADJUST CAMERAS//

- Adjust the focal length adjustment ring (this is the ring farthest from the strobe). Adjusting the focal length from W (wide angle) to T (telephoto) allows you to narrow the view to focus in on the area or T to W to widen it.
- Once you have the focal length adjusted correctly, adjust the focus of the camera by turning the focus adjustment ring (this is the ring closest to the strobe). You may find it easiest to change the "Grayscale mode" to ALL under the camera's properties. A small, well defined blob denotes good focus.
- You can then adjust the aperture as needed by turning the aperture adjustment ring (this is the ring that is between the focal length and focus rings). The aperture ring allows you to adjust the amount of light that hits the image sensor – O (open) allows more light to hit the sensor and C (closed) reduces the amount of light that hits the sensor. Try to get good, clear images of markers even when they are close together. The markers should not be too small, and the center should be just off-white (not fully saturated).

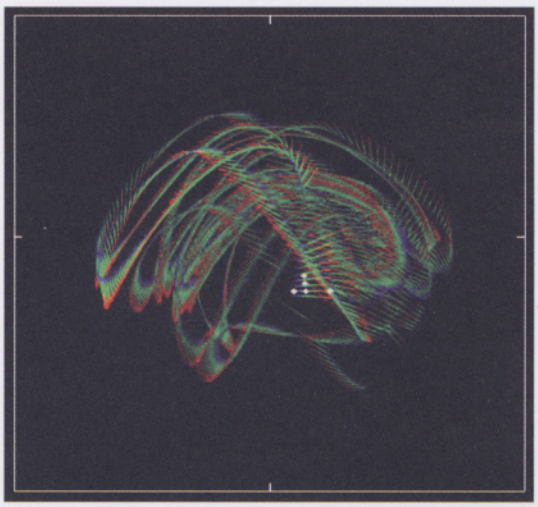


## CALIBRATE THE CAMERAS//

- Make sure that you remove from the capture volume any unnecessary objects, such as calibration objects and markers.
- View all cameras in the software.
- Remove any unwanted reflections by creating a Camera Mask in the software. For additional information, please refer to the online help.

- Start Calibration. (This process should take no more than five seconds per camera.)
  - Wave the calibration wand within the volume.
  - Make sure that the tracks are evenly distributed throughout the volume. You can view the distribution of the tracks in the Camera View.
  - When there are sufficient tracks within the volume (about 1000), stop calibration, if calibration doesn't stop automatically. The Vicon software automatically processes the calibration.



## SET VOLUME ORIGIN//

- Place the wand where you want to establish the origin.
- Start and stop the Set Volume origin function of the software.
- The software will now automatically reorient the cameras around the origin.

### YOUR SYSTEM IS NOW READY TO STREAM DATA.

Additional information about Set-up, Calibration, and Tracking can be found in the online help of your Vicon software.
Please visit **Vicon.com** if you need more information or contact your local Vicon office.

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PWC Building, Singapore 048424
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www.vicon.com

## BONITA REGULATORY INFORMATION//

### FEDERAL COMMUNICATIONS COMMISSION

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. 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.

**Warning** Changes or modifications to the supplied system not expressly approved by the party responsible for FCC compliance could void the user's authority to operate the equipment.

## FOR CUSTOMERS WITHIN THE EUROPEAN UNION//

### Restriction of the Use of certain Hazardous Substances in Electrical and Electronic Equipment (RoHS)

Vicon Bonita hardware is fully RoHS-compliant. The European Union Directive 2002/95/EC provides that new electrical and electronic equipment put on the market for the first time from 1 July 2006 shall not contain more than permitted levels of lead, cadmium, mercury, hexavalent chromium, polybrominated biphenyls (PBB), or polybrominated diphenyl ethers (PBDE).

### Waste Electrical and Electronic Equipment (WEEE)

The use of the symbol indicates that this product 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.

For more detailed information about the recycling of this product, please contact Vicon Motion Systems Limited or your nearest agent.

## CE DECLARATION OF CONFORMITY //

CE 0088

### DECLARATION OF CONFORMITY

Medical Devices Directive 93/42/EEC and Electromagnetic Compatibility to EMC Directive 2004/108/EC.

We, VICON MOTION SYSTEMS LIMITED
Unit 14 Minns Estate, Oxford OX2 0JB
United Kingdom

OMG
www.omgplc.com

declare that the VICON Bonita motion capture camera manufactured by VICON MOTION SYSTEMS LIMITED meets ANNEX V and VII Section 5 of the Medical Devices Directive 93/42/EEC in that the Quality Management System has been approved by Lloyd's Register Quality Assurance, a notified body of the European Union (Reg No. 0088) for the manufacture and support of the aforementioned CLASS 1 Medical device. Product Configurations and Software Options overleaf details the product configurations and software options that conform to the metrological requirements of the Directive.

**VICON MOTION SYSTEMS LIMITED** has tested and demonstrated that all products of its own manufacture meet 2004/108/EC:

**Electromagnetic Compatibility to:**
EN60601-1-2:2007
**General Requirements for Basic Safety and Essential Performance to:**
EN60601-1:2006

T.M.L. Shannon, TD, FIE (Aust), CPEng (Biomedical), FRSM, FRSA
Director of Regulatory Compliance
1st October 2009

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, ionizing radiation, sterile, or life- or safety-critical environments.

## PRODUCT CONFIGURATIONS AND SOFTWARE OPTIONS//

This page provides information relating to the CE Declaration of Conformity.

**Conformity of the Metrological Performance of CLASS 1 Products Manufactured in Accordance with Annex VII, Section 5 of the Medical Devices Directive 93/42/EEC of the 14th June 1993.**

We, **VICON MOTION SYSTEMS LIMITED**
Unit 14 Minns Estate
Oxford OX2 0JB
United Kingdom

declare that the VICON Bonita motion capture camera manufactured by VICON MOTION SYSTEMS LIMITED has been tested prior to shipment and meets the following metrological performance:

Testing using the following Vicon application software: Tracker V1.0 or later, Nexus 1.5 or later, Blade 1.8 or later.

### MEASUREMENT CRITERIA

- No fewer than four cameras fully viewing the static markers and rigid body objects.
- Measurement volume no less than 4 m x 4 m x 1.5 m.
- Independent of the lens fitted to each camera.
- Controlled lighting (no greater than 100 lux) and temperature (17-25° C)

### PASSIVE MARKER RESOLUTION

Resolution of the distance between the centres of two static 14 mm spherical markers to within 1 mm Mean; 1 mm Standard Deviation; sample size no less than 100.

### RIGID BODIES

The mean and standard deviation derived from a sample size of no less than one 100 measurements of two static and defined, fixed rigid body object origins shall not exceed 1 mm within the volume in any axis.

## MEDICAL DEVICE ADVERSE EVENT REPORTING//

Use the appropriate information and form to report any adverse events involving Vicon Bonita Cameras:

- MHRA Adverse Incident Reporting (EU)
- FDA MedWatch Adverse Event Reporting Program (US)

Should an adverse incident occur, the appropriate form is to be completed and forwarded within one working day to Vicon Motion Systems Limited through one of the following addresses:

**Oxford**
Vicon Motion Systems Limited
Unit 14 Minns Estate
Oxford OX2 0JB
United Kingdom
Tel: +44 (0)1865 261800
Fax: +44 (0)1865 240527

**Los Angeles**
Vicon Motion Systems Inc.
5419 McConnell Avenue
Los Angeles, CA 90066 USA
Tel: +1 310 306 6131
Fax: +1 310 437 4299

**Denver**
Vicon Motion Systems Inc.
7388 S. Revere Parkway
Suite 901
Centennial, CO 80112 USA
Tel: +1 (303) 799 8686
Fax: +1 (303) 799 8690

### MHRA ADVERSE INCIDENT REPORT FORM

The information in this section covers the reporting of incidents involving medical devices to the UK Medicines and Healthcare products Regulatory Agency (MHRA). The MHRA is a UK government agency and European Union Competent Authority which is responsible for ensuring that medicines and medical devices work, and are acceptably safe. Use the form specified in this chapter to report an adverse incident involving a medical device within the European Union.

Full information and guidance on reporting Adverse Incidents is published in MHRA Device Bulletin DB 2008(01) Reporting Adverse Incidents and Disseminating Medical Advice Alerts.

For details on reporting requirements, contact the MHRA:

**Medicines and Healthcare products Regulatory Agency**
Market Towers
1 Nine Elms Lane
London SW8 5NQ UK
Tel: +44 (0)20 7084 2000
Fax: +44 (0)20 7084 2353
Web: **www.mhra.gov.uk**

You can obtain the MHRA Adverse Incident Report Form from the MHRA Web site (**http://www.mhra.gov.uk/Safetyinformation/Reportingsafetyproblems/Devices/index.htm**).

Separate online and printed versions of the form are available on that Web site.

### NOTICE TO AGENTS

For inclusion in all Vicon systems supplied from the United Kingdom for use within the European Union (for supply and use in the United States of America, see FDA MedWatch Adverse Event Reporting Program (US)). The master Medicines and Healthcare products Regulatory Agency (MHRA) file is located at Vicon Motion Systems Limited. Should an adverse incident occur, the appropriate form is to be completed and forwarded within one working day to Vicon Motion Systems Limited at one of the addresses listed.

## FDA MEDWATCH ADVERSE EVENT REPORTING PROGRAM (US)//

### FDA ADVERSE EVENT REPORT FORM

This section covers the reporting of incidents to the US Department of Health & Human Services.

**Department of Health & Human Services, US Food and Drug Administration Medical Device Reporting System—Reportable Events** Code of Federal Regulations Title 21, Volume 8 Revised as of April 1, 2006 Cite:

> 21CFG803.32 Under 803.1(a) device user facilities and manufacturers must report deaths and serious injuries that a device has or may have caused or contributed to. Should such an event occur, please complete the form specified in this section and forward it in accordance with the applicable regulations and time limits to your nearest Vicon office.

You can obtain the FDA Adverse Event Report Form (MEDWATCH form FDA 3500A) from the FDA's MedWatch Adverse Event Reporting program on their Web site (**http://www.fda.gov/medwatch/safety/FDA-3500A_fillable.pdf**). This PDF form can be completed online or printed out.

### NOTICE TO AGENTS

For inclusion in all Vicon systems supplied to the United States of America (for supply and use outside the US, see MHRA Adverse Incident Reporting (UK)). The master Medical Device Reporting (MDR) file is located at Vicon Motion Systems Limited. Should an adverse event occur, MEDWATCH Form FDA 3500A (10/05) is to be completed and forwarded within one working day to Vicon Motion Systems Limited (see Medical Device Adverse Event Reporting).