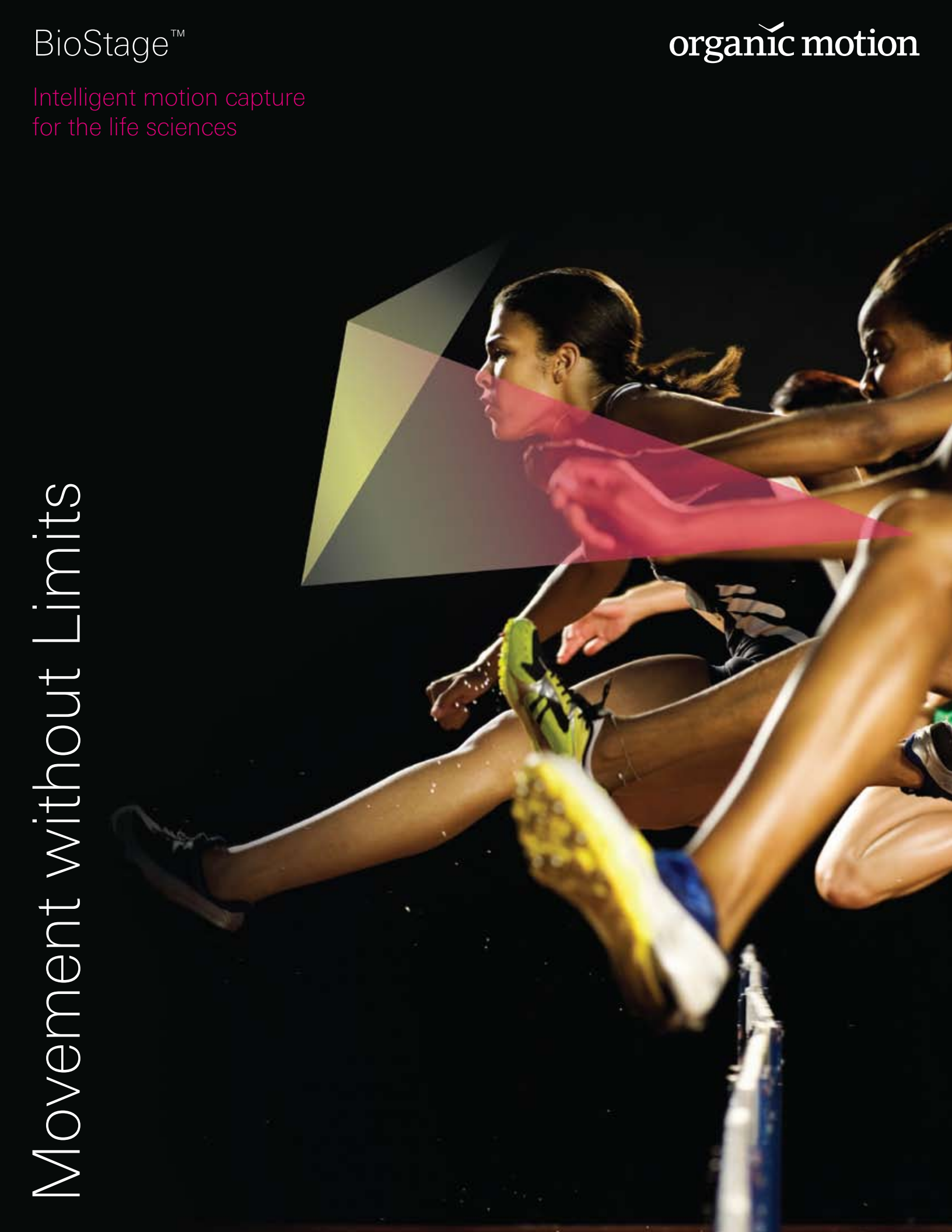
BioStage™

organic motion

Intelligent motion capture
for the life sciences

# Movement without Limits



# Introducing BioStage™ by Organic Motion™

Turn BioStage on.

Your subject simply steps in and gets instantly tracked.

Watch as clean 3D motion data flows in real-time.

There is nothing to wear, nothing to attach.

No need to change clothing, calibrate flashing dots, or worry about marker occlusion.

Get ready for the natural motion capture of BioStage.

Motion capture that dramatically reduces the time and cost to achieve clinical-quality motion data.

Motion capture that removes the tracking devices and operating technician.

Motion capture that enables the non-intrusive, high speed tracking of any subject.

BioStage gives medical researchers, sports trainers, and biomechanics engineers a powerful new tool to track all aspects of human motion. Unlike all other motion capture systems, BioStage tracks the entire human body naturally, instantly generating the most comprehensive motion data, with absolutely no devices to wear of any kind.

Within seconds, BioStage views, calibrates, captures, and streams pure motion data directly into the leading 3D software for analyzing biomechanical motion, C-Motion's Visual3D™. Or data can stream via our robust Software Development Kit (SDK), giving researchers the full power to analyze not only motion data, but also the subject's 3D mesh and surface texture. You can easily synch motion data with video of the subject – all in real-time.

BioStage is an advanced optical tracking system that sees humans the way humans see each other. Based on its high level of cognition and artificial intelligence, BioStage understands the movement it sees rather then simply connecting the "dots" as conventional mo-cap systems do.

BioStage is highly flexible to meet a wide range of science and sports requirements – from tracking a physically challenged patient to capturing a top athlete in her peak form. From scanning a rapid succession of subjects to providing the stability needed in demanding lab environments.

Achieve stunning advances in life science research and motion analysis.

# The days of restrictive body suits are over.

High speed Organic Motion cameras act as the eyes of this groundbreaking computer vision system.

BioStage is a complete motion capture solution that considerably improves the process of 3D human motion analysis.

Real-time on-screen rendering of comprehensive 3D data, including 3D mesh and texture information.

## Applications

- Sports and human performance
- Gait Analysis
- Rehabilitation
- Physical Therapy
- Orthopedics
- Biomechanical research and education
- Posture, balance and motor control
- Ergonomics

"Organic Motion's combination of cognitive predictive tracking and computer vision allows the actor to do almost anything on screen and maintain a clean result."
FX Guide

"Organic Motion's benefits extend beyond creating characters for games and movies"
Macworld

"Cheaper, cleaner and immediately usable animation data–what's not to like here?"
Newsweek

"Doing away with the trademark spandex suit and ping-pong balls in favor of a come as you are approach."
Engadget

"Organic Motion reveals better way to Mo-Cap."
Game Daily

Motion capture the way it should be.

Simple, Clean, Brilliant.

Real life in real-time.

Motion analysis the human way.

Just what the doctor ordered.

## 10 Reasons to Love BioStage

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|---|---|
| 01 | Everything needed to create your own advanced motion analysis lab |
| 02 | No body suit or markers ever needed |
| 03 | Auto-calibrates in seconds to each subject |
| 04 | Generates clean real-time 3D data which can be synched back to the original video |
| 05 | Also functions as a real-time 3D scanner producing 3D mesh and textures |
| 06 | Dramatic reduction of time and cost to create clinical-quality data |
| 07 | Flows real-time into C-Motion's Visual3D™ |
| 08 | Operates without a technician, further reducing operating costs |
| 09 | Integrates with 3rd party devices such as force plates and EMG |
| 10 | Brilliant motion analysis from calibration to capture to clean data in 5 minutes, not 2 hours |

# BioStage™ System 1.0

November 2007 Release

Intelligent motion capture for the life sciences

System Description subject to change
Release version defined in End User License Agreement

## Scanning

- Scan Space - 4m x 4m x 2.5m; 12ft x 12ft x 7.5ft
- 60-120 fps, Real Time with 25-100ms latency
- XYZ Positional Accuracy (arms, legs) up to 1.0mm
- Rotational Accuracy (arms, legs other than along axis) up to 1°
- Rotational Accuracy (along axis) up to 2°
- Bones: 21 bones - 6 degrees of freedom each
- Tracks one Subject (Two Subject expansion Module available 2008)
- Tracks props with a substitute supplied (upgrade available)
- Designed for indoor use in typical artificial and/or natural lighting

## Equipment

- Vision Processor
- 10 Cameras: 120 fps, gray scale
- Resolution equivalent to 2 mega pixel of marker-based system, high speed NTSC actual
- Cameras can synch and genlock with external timecode at 120fps and slower
- Scalable Scaffolding and reflective cloth to create scan space
- All connection cables

## Software

- Biomechanical Plug-in: flows data real-time into Visual3D, the leading biomechanical motion analysis software, from C-Motion, Inc.
- Software Development Kit (SDK) available
- Two Subject and Finger Tracking expansion Modules (early 2008)
- Ankle/Foot Tracking expansion Module (mid 2008)
- Prop Tracking Upgrade – Prop is tracked by applying pattern (early 2008)

## Output Format

- Supported through Visual3D and SDK, exports ASCII; inquire for specific formats
- 3D mesh variable from 500 to 8,000 triangles
- Surface texture via video

## Calibration

- Lens Calibration: All lens distortion is pre-calibrated prior to shipping
- System Calibration: On site in approximately 3 minutes - via a pattern board (provided)
- Subject Calibration: On site in approximately 1 minute - BioStage auto-learns after first 'acquisition' of Subject

Organic Motion, Inc. is a leading innovator of computer vision and motion capture systems. The company is headquartered in New York City. Organic Motion's Stage™, BioStage™, and OpenStage™ systems radically enhance motion capture and analysis for the life sciences, the entertainment industry, and for customized retail motion applications.

Contact Organic Motion directly to learn more about how BioStage could significantly improve your motion analysis capabilities while dramatically lowering your process costs and delivery times.

To test drive BioStage call our headquarters 212-776-6100.
Visit our website **www.organicmotion.com**

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