Cycling 3DMA

A COMPLETE SOLUTION FOR ADVANCED BIKE FITTING

- 3D tracking
- Full-body
- Real time
- No wires
- 100 FPS
3D Motion capture

Cycling 3DMA belongs to a family of products built upon ‘3DMA’, a powerful 3D motion capture engine used by biomechanists, sport scientists, PT and doctors all over the world through its various packages.

In particular, Cycling 3DMA is tailored to meet the requirements of bike fitters and it presents relevant information on the cyclist’s full body posture on the bike.

Interested in research? This package also offers data export functionalities (biomechanical parameters in CSV files, marker trajectories) and hardware integration (surface EMG for instance). Ask us about it!

REAL-TIME ANALYSIS
Data sets are presented live and automatically: Parameters, graphs and 3D views. Get immediate feedback for any dynamic adjustment of the bike.

TRUE 3D: A FULL 360° VIEW
Motion capture cameras track markers in 3D space which are used to reconstruct the actual body motion. Use pan, tilt and zoom tools to move around at will.

PRECISION & ACCURACY
A well-calibrated system boasts millimetric precision and accuracy in marker tracking. Seamlessly detect 1-2 mm marker shifts anywhere in the ‘capture volume’!

100 FPS
The data is acquired, processed and displayed to the fitter at a frame rate of 100 Hz/FPS (Frames Per Second). For instance a cyclist pedalling at 120 rpm would register 50 ‘takes’ per crank cycle, resulting in a smooth interpolation.

FULL-BODY ANALYSIS
After a few seconds, Cycling 3DMA provides tracking data and automatic analysis of the entire body: yes, on every joint.
A wealth of data

The amount of information provided by a 3D motion capture system is huge, sometimes overwhelming. A great deal of effort has been put into offering simple tools to easily manage, visualize and ultimately use that information. Some of the software features are:

- **Database**
  - Subject records
  - Export/import
  - Autosave feature

- **Time graphs**
  - Variables vs time
  - Spatial curves
  - Moving statistics

- **Dashboard**
  - Real-time data
  - Averages
  - Adjustable range

- **3D visualization**
  - Body simulation
  - Trajectories
  - Angles

- **Reporting**
  - Print-ready
  - Customizable
  - Add your text

Analysis protocols

Cycling 3DMA includes a set of user-ready ‘analysis protocols’. What exactly are these? Protocols are a combination of software tools tailored to analyze a specific gesture or sport. Each protocol involves a marker configuration, a list of graphs, relevant biomechanical parameters, certain events calculated automatically, a dashboard and a report template. All of these are carefully designed and work together to facilitate the user’s job. The goal: to move from data collection on to data processing and result display as fast as possible.

- Full-body cycling analysis
- Left-side analysis only
- Right-side analysis only
- Road bike measurement
- TT/Tri bike measurement
- MTB bike measurement
- Pre-fitting assessment (*)
- Feet analysis only (*)

(*) Currently under development.
We back you up

REMOTE ASSISTANCE

By purchasing Cycling 3DMA you get free, unlimited remote support for the installation and first trials. We want you to feel confident quickly. With the instructions and tutorials provided and our supervision, it will be up and running in no time.

FREE SOFTWARE UPDATES

Existing users get free updates. For good. With no annual fees. There is roughly one major update every year, and a few minor updates. With this free-for-all policy, you’ll always enjoy the latest enhancements and functionalities at no cost.

WHAT’S IN THE BOX?

The standard package includes everything you need to set up your new 3D system:

- Mocap cameras, cabling and sync devices
- Calibration tool
- Marker set and tracking accessories
- Software security dongle
- Software installation files
- Camera wall mounts or tripods
- Optionally, the computer

ANY REQUIRED COMPUTER SPECS?

Cycling 3DMA requires a few minimum computer specifications to ensure a smooth operation:

- Laptop or desktop computer
- Windows 7, 8.1 or 10 (Windows 10 preferred)
- Intel i5 or i7 processor (Intel i7 preferred)
- 8GB RAM (16GB welcome, not strictly required)
- 2 or 3 available USB ports
- Mid-range NVIDIA graphic card recommended
- Large screen recommended (24” on)