The Motion Monitor

...The Total Solution in Motion Capture®

The MotionMonitor™ is a turn-key 3-D motion capture system designed to synchronously collect data from kinematic trackers, EMG, force plates, video, event markers and other analog devices. Data generated from a rich collection of analytical tools are immediately available for playback with graphical displays of all data outputs. Stunning 3-D computer-rendered animations of the subject can be viewed as a skeleton, stick figure, or humanoid. Real-time measurement of the human body's movement, muscle recruitment and external forces acting on the body is achieved using the broadest range of hardware available in the market.

contact us for more information:

(773) 244-6470

support@innsport.com

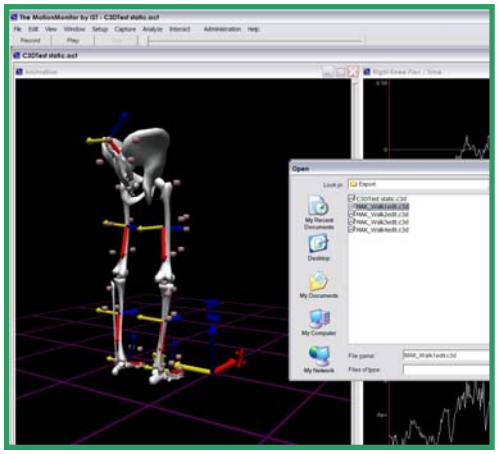
www.innsport.com

Integrated systems are pre-configured with hardware for real-time data collection and to meet your specific requirements:

- Ascension's FOB, MiniBirds, MotionStar and driveBay
- Polhemus' Fastrak, Patriot and Liberty
- Motion Analysis Corp's Hawk and Eagle Cameras
- Qualisys' ProReflex and Oqus Cameras
- PhaseSpace's Impulse
- Northern Digital's Optotrak 3020 and Certus
- Organic Motion's BioStage
- Bertec, AMTI and Kistler force plates
- ATI, AMTI and Bertec mini-load cells
- All analog EMG systems
- Eyelink II eye tracking system
- Phantom Haptic devices
- Virtual Reality Displays
- Single/Multiple Video Cameras

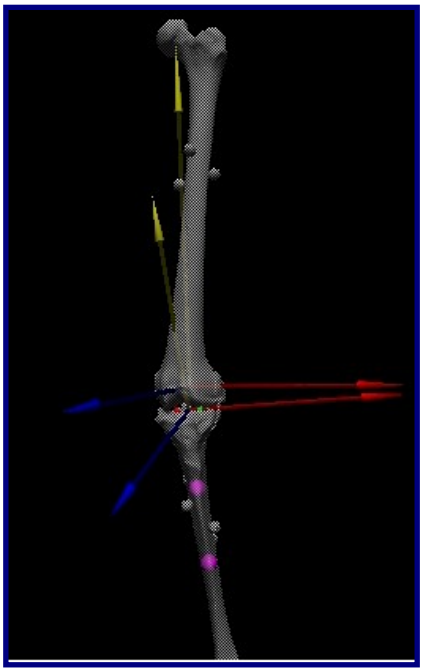
Analyze Data collected from any hardware using The MotionMonitor C3D Model Builder:

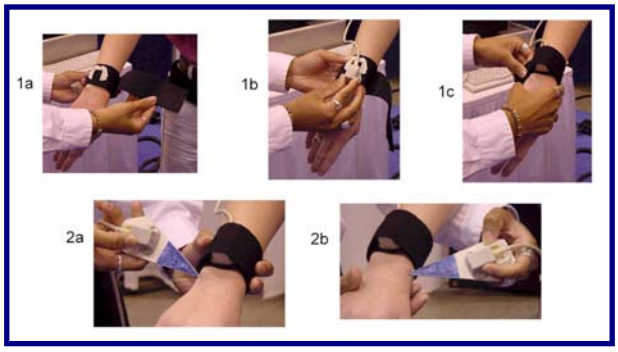
- Import C3D motion and analog data and construct models in 4 simple steps
- Use marker sets and rigid bodies, established or user-defined
- Define virtual joint centers, landmarks & segment coordinate systems
- Define hip and shoulder joint centers using functional methods
- Apply the ISB Shoulder Protocol
- Save model templates for faster setup



Subject set-up designed to meet your unique requirements:

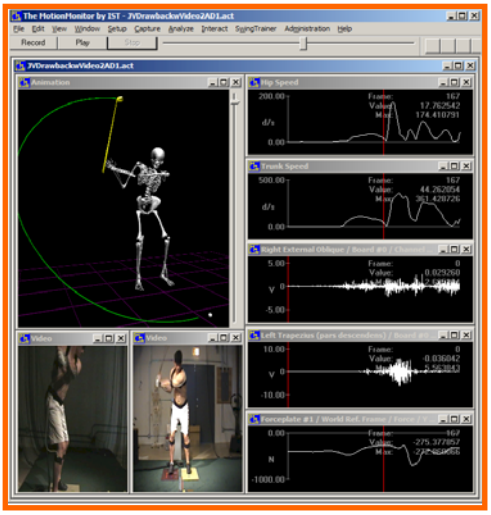
- Create a stylus to assist in precise digitization of anatomical landmarks
- Define a Global World Axes consistent with your research protocol
- Align axes of force plates and hand transducers with global axes
- Use quick release sensor cuffs for a faster and more consistent subject set-up
- Digitize landmarks and track virtual joint centers
- Determine joint centers and segment orientation using accepted protocols such as the Bell, Davis or Functional methods for hip and shoulder joint centers
- Or, extract joint centers, local coordinate systems and landmarks automatically from CT or MRI reconstructions as shown in the image on the right





Powerful control of data collection:

- Event driven triggers for exact start or end of data collection
- Autosave/Autoname features for hands-free data collection
- Event on-set and duration tracked using a choice of hardware switches such as IR, LEDs and FSRs
- User defined software switches for contingent start or end conditions
- Automatic synchronization of data collected from devices with different sampling rates



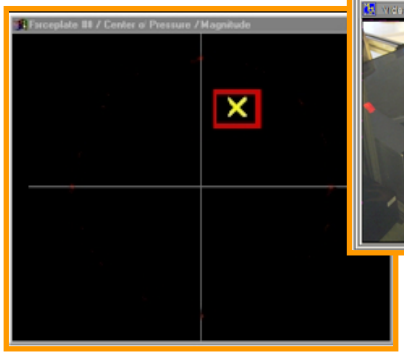
Immediate playback ensures accurate collection of data:

- No digitizing, post-processing or lost markers
- All kinematic and kinetic data are user-selectable from drop-down menus with no programming required
- New variables can be defined using standard mathematical notation including vector and matrix operations
- Force plate data includes COP, forces and moments
- EMG signals include Raw, RMS, Power Spectrum and Exposure Variance Analysis
- Joint power and work
- Helical Axes

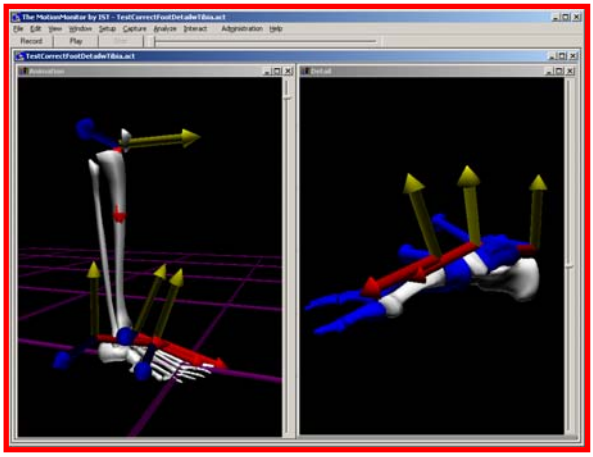
Data Reduction features will speed analysis:

- Employ analog filters such as Butterworth and Chebyshev with cut-off frequencies for each sensor and each analog channel
- Use Bandpass filters in the frequency domain
- Apply user-defined, Dempster or Zatsiorsky anthropometric assumptions
- Define segment local axes and orientation
- Automatically or manually define events in post-processing
- Normalize activities in time or by subject height and mass
- Perform ensemble averaging with added statistical outputs
- View all data in frequency or time domain
- Use real-time drawing tools with synchronized video

Biofeedback for motor control, neuro research and rehab:



- Present stimuli on 2-D monitors, Virtual Reality Immersive stereoscopic displays or at locations in the real world using simple drop down menus
- Control the position of tracking or “chase” cursors with kinematic position, EMG, analog signals or gaze vectors
- Audio, visual or analog output signals are generated based on proximity of “chase” cursor to targets
- Perturbate targets or “chase” variables with user defined “gain” formulas
- Apply assistive or resistive force feedback using single or dual haptic devices



Additional features to enhance your productivity:

- Use pre-defined protocols such as ISB Shoulder and Ankle protocol
- Preference files designed for specific applications such as gait and balance
- Detail module for tracking individual bones on the hand, foot and spine
- Meshfile generator to create images from CT & MRI scans
- User-defined calculations to eliminate the need for additional processing of data
- Scripting functions to facilitate complex data collection

Benefit from unparalleled commitment to post-sale support:

- All systems are installed on-site and “plug-in-the-wall ready”
- On-site training is provided to maximize value for your purchase and facilitate data collection
- Maintenance, Subscription and Support programs ensure that the product you buy today remains state of the art

The Motion Monitor

...The Total Solution in Motion Capture

What's new in The MotionMonitor Version 8....

Features	Improved	New
The MotionMonitor C3D Model Builder for import of data from all hardware	X	
Support for Multi-sensored Body Segments in the C3D Model Builder		X
Support for ISB Shoulder Protocol in the C3D Model Builder		X
Support for Bertec's Split-belt Instrumented Treadmill		X
Support for AMTI's Instrumented Walker for upper extremity forces		X
Real-Time support for MAC & Qualisys passive optical cameras	X	
Real-Time support for PhaseSpace Impulse active optical system		X
Stream Fixed-Marker Sets from optical systems		X
Biofeedback Module for Immersive Virtual Reality Displays	X	
Support for user-defined objects in VR Displays		X
Support for Phantom Haptic Devices	X	
Support for Dual-Phantom Haptic Devices		X
Enhanced integration with Eyelink II includes definition of floors, walls, desks and other planes	X	
Additional Eyelink II data such as blinks, saccades, fixations and pupil diameter		X
Expanded User Defined Data functionality – vector, matrix, Boolean, offset operators in addition to math, trig and calculus	X	
Additional telestrator functions for integrated video includes computation of areas and lengths	X	
User-defined protocols for defining and naming landmarks for digitizing	X	
Scripting functions to facilitate complex data collection using a series of preference files	X	
Modify setup parameters such as world axes and force plate axes in post-processing	X	
Modify local segment axes' position and orientation in post-processing		X
Register CT/MRI scans for tracking internal landmarks both in-vitro and in-vivo during collection of activities and to define bone geometry	X	
Output data in real-time as either analog signal, TTL pulse or raw/processed variables over TCP/IP		X