

Biofeedback

Motion Analysis provides the hardware and software systems for the clinician to custom design a biofeedback environment for each specific patient. Using our BioFeedTrak software, auditory signals can detect movement that is millimeters outside a particular range of motion. Patients can begin to work by themselves to relearn movements damaged by neurological disease or accident.

Benefits include:

- Engages patient
- Provides incentive and reward
- Motivates volitional effort
- Reduces tedious nature of therapy
- Feedback indicates performance and results
- Enhances sensormotor integration
- Facilitates neural plasticity for recovery of motor and cognitive functions
- Assists stroke patients with recovering reaching and grasping ability

Typical System Configuration

BIOFEEDBACK SYSTEM

- 6-10 Eagle or Hawk cameras
- Cortex
- Skeleton Builder
- KinTools RT
- BioFeedTrak

Choosing the correct camera and number of cameras for your motion capture system is dependent on various factors including:

- Size of capture area
- Size of physical room
- Complexity of movement
- Speed of movement
- Current and future needs

Your Motion Analysis account representative will work with you to determine the best configuration. Our systems integrate fully with EMG and forceplate data, as well as many other hardwares. Customers have full access to an SDK in order to develop their own software interfaces.

Recommended Cameras

Eagle Digital Camera

- Resolution of 1.3 million pixels
- 1-500 Hz selectable frame rates
- Up to 2,000 frames per second at reduced resolution
- High quality 35mm lenses for low optical distortion
- Built-in zoom provides more visual options
- 237 LED's for brighter and better light uniformity
- Four body mount points for variable positioning
- Software controlled electronic shutter
- Software controlled adjustable light output
- Separate zoom, iris and focus settings independent of ringlight

Hawk Digital Camera

- Resolution of .3 million pixels
- 1- 200 Hz selectable frame rates
- C-Mount or Zoom lenses available
- 237 LED's for brighter and better light uniformity
- Four body mount points for variable positioning
- Software controlled electronic shutter
- Software controlled adjustable lightoutput
- Separate zoom, iris and focus settings independent of ringlight

Recommended Software

Cortex - our core motion capture software comprises tracking, editing, scripting and modeling functions in a *single integrated package*.

Skeleton Builder - creates skeletons that are relatively simple, direct and fast calculations of segments (bones) that are defined and calculated from one marker center to another.

KinTools RT - a full-body, three-dimensional kinetics and kinematics analysis package .

BioFeedTrak - design and implement biofeedback programs that can enable clinicians and patients to receive instantaneous audio feedback to kinematic movements.