



Phoenix Technologies Incorporated

High Performance Real-Time

3D Motion Capture Systems For Professionals

www.ptiphoenix.com

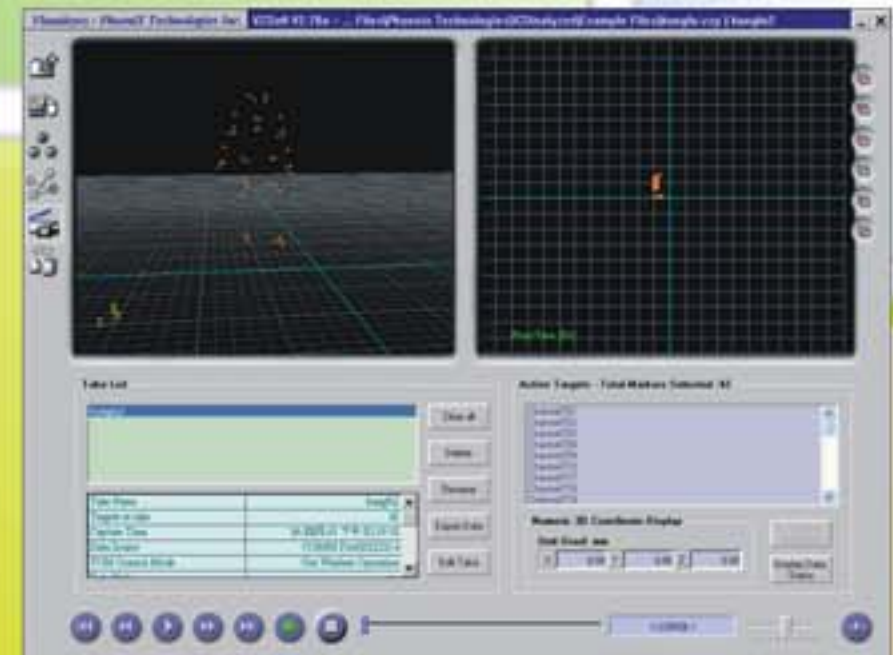
SOFTWARE

VZSoft™ Graphical User Interface

This is the very friendly user interface of every Visualeyez™ system. It allows you to control and setup the system to capture 3D motion data in the way you like. Then you can use it to view, edit, export or stream the captured data to many industry standard animation or scientific applications such as MotionBuilder, Maya, Softimage, 3D Max, Famous 3D, LabView, Matlab, Visual3D, Quest 3D, VRCO and VRPN.

VZSoft™ functions and controls:

- Auto or manual marker selection for capture
- Marker naming and labelling
- Random marker capture sequence editing
- Set sampling period and pattern to meet application needs
- Marker stick-figure definition and display
- Edit marker data
- Define Coordinate Reference Frame (Graphically or Scientifically)
- Display 3D marker positions in orthogonal and perspective views simultaneously
- Real-time data filtering and smoothing
- Auto repeat for repetitive captures
- Stream data to application software in real time or during playback
- Record, replay and convert data
- Digitize 3D objects with optional VZProbe™



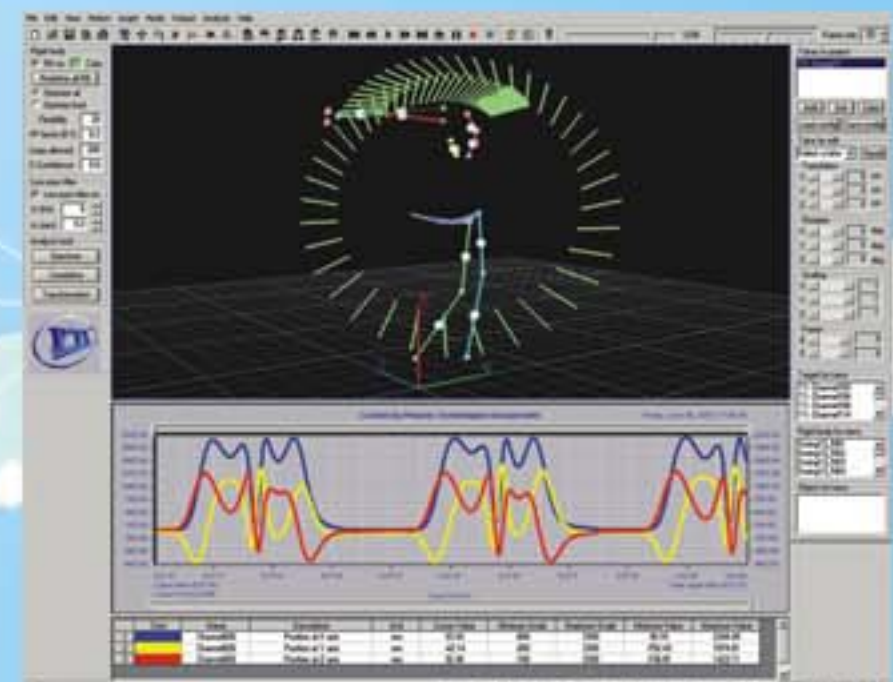
VZAutoCal™

VZAutoCal™ is for motion capture with a multi-tracker Visualeyez™ system (an 'MTS') without having to do any manual system calibration! Its basic functions are: 1. Transmit user commands (via the VZSoft™ GUI) to the trackers; 2. Gather the multiple data streams generated by the trackers and fuse them together; 3. Send the single fused data stream (as the MTS output) back to the VZSoft™. In order for VZAutoCal™ to fuse the data properly, the position and orientation of each slave tracker relative to the master tracker must be accurately determined. This process is called 'system calibration'. To date all other motion capture systems require this process to be carried out with manual labour work from the user in a separate calibration procedure done before a capture session. VZAutoCal™ not only performs this process automatically at the start of a capture session, but can also repeat the process periodically to keep the system calibration in the most accurate state continuously. Thus a capture session with a Visualeyez™ system is started simply with the actor(s) walking into the capture area. There is no need for the user to manually calibrate the system at all!



VZAnalyzer™

This toolbox provides functions for real-time or offline data processing, analysis and feedback purposes. Angles, rigid bodies (for occlusion compensation), etc. can be easily calculated. The motion tracing and graphing functions can plot a multitude of physical parameters of individual or groups of markers. Multiple takes from different motion capture projects can be analyzed together or compared for differences. Virtual markers can be defined based on physical markers to track motions of unreachable points of interest.





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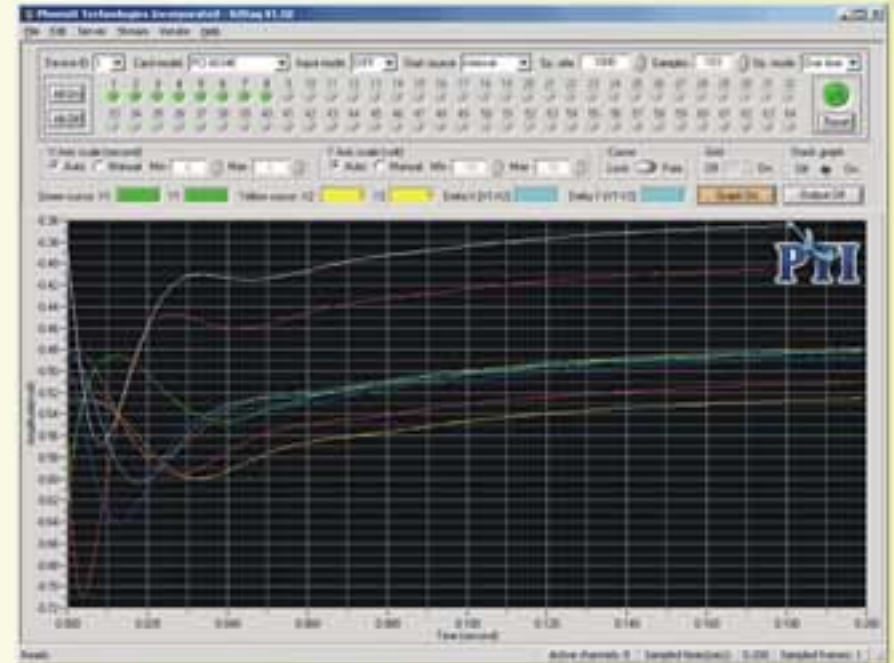
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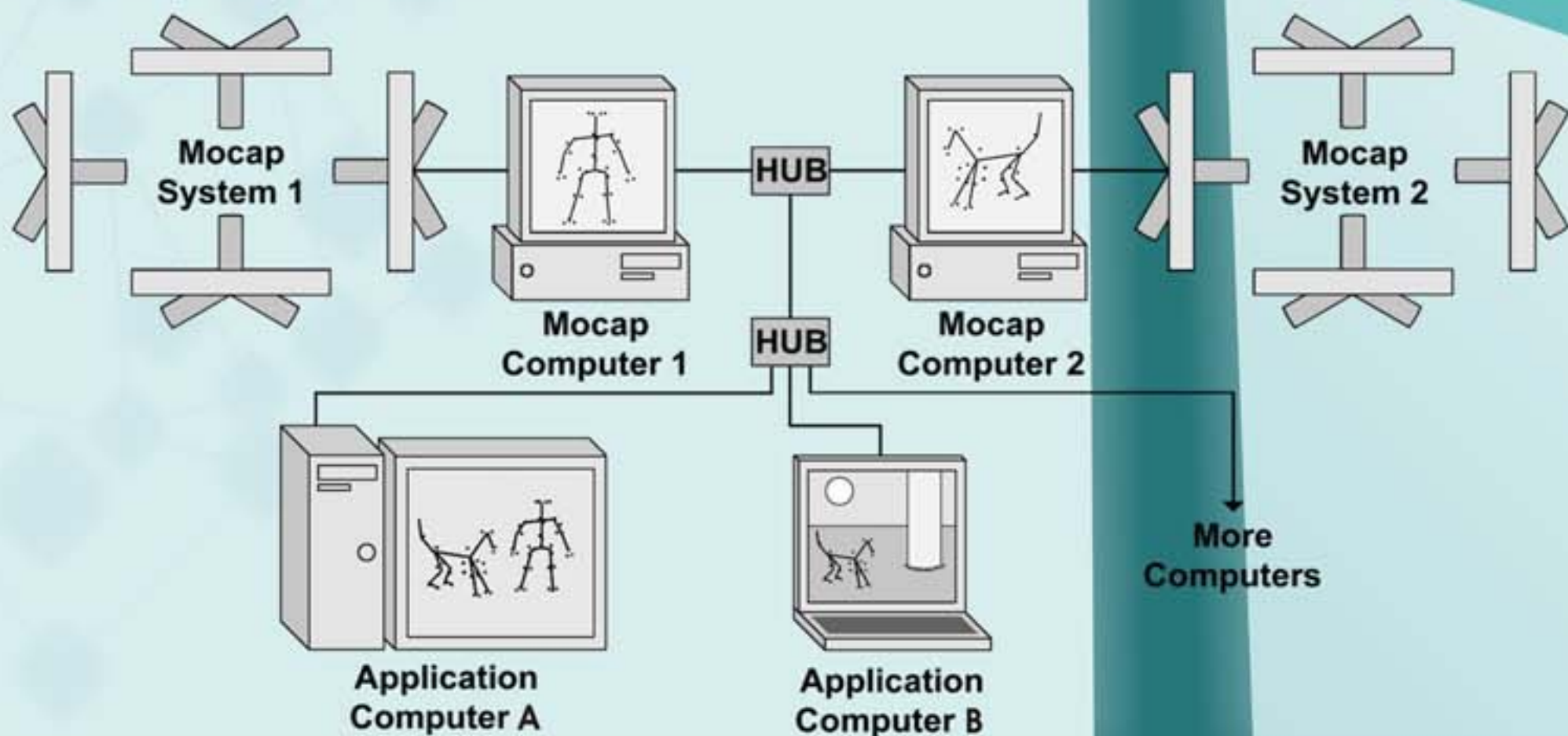
VZDaq™

This software allows the user to synchronize motion capture by a Visualeyze™ system with analog data acquisition by a wide range of National Instruments A/D cards. One application of VZDaq™ allows the user to read in up to 64 analog channel data and plots them during acquisition. The acquired analog data can be integrated with the captured motion data into one file, and be analyzed in VZAnalyzer™, LabView or Matlab for various applications. VZDaq™ can operate on a different computer from that of the motion capture host and send the acquired analog data via TCP/IP to merge with the motion data. This can reduce workload on the host computer and allow an independently developed analog data monitoring station to be integrated with the motion capture system without much effort.



HydraNet™

This optional data combination and dispatching subsystem allows data captured by one or more Visualeyze™ motion capture system(s) to be combined and/or streamed in real time to as many workstations as the user desires. Each workstation can pick and choose the data it needs for its own application. Thus complex motions can be captured by a number of smaller systems, and applications requiring high computing power can be accomplished by distributed parallel processing.



Plug-ins

Plug-ins are available for integrating a Visualeyze™ system with popular software for animation and scientific applications. The current line-up of plug-ins include:

- LabView
- MATLAB
- Visual3D
- VRPN
- Quest 3D
- MotionBuilder
- Maya
- 3D Studio Max
- Famous 3D
- Softimage

SDK Available

For innovative users, a software development kit (SDK) is available for developing user applications to utilize the motion data captured by a Visualeyze™ system in real-time or off-line.

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