

## CyberGrasp<sup>®</sup>

*The CyberGrasp device is an innovative force-feedback system for your fingers and hand. A CyberGrasp system provides ungrounded (hand-referenced) force feedback to each finger and the palm, allowing you to feel computer-generated or tele-manipulated objects that you “reach into your computer” and grasp.*

Grasp forces are produced by a network of tendons routed to the fingertips via the exoskeleton. There are five actuators, one for each finger, which can be individually programmed to prevent the user's fingers from penetrating or crushing a virtual solid object. The high-bandwidth actuators are located in a small actuator module which can be placed on the desktop. Additionally, since a CyberGrasp device does not provide grounded forces, the actuator module can also be worn in an CyberGlove Systems GraspPack™ backpack for portable operation, dramatically increasing the effective workspace.

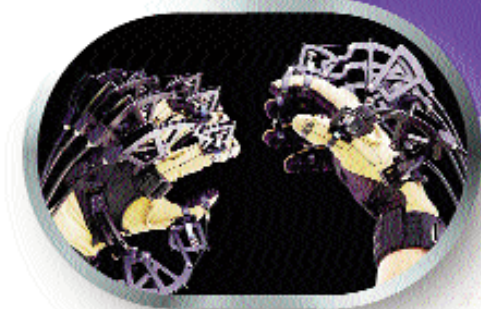
The CyberGrasp system exerts grasp forces perpendicular to each fingertip, allowing full range of hand motion without restriction. The CyberGrasp system is fully adjustable and designed to accommodate a wide variety of hand sizes.

### Hand-referenced Haptic Feedback

The CyberGrasp hardware is a lightweight, force-reflecting exoskeleton that slips over a CyberGlove<sup>®</sup> device and provides grasping force feedback to each finger relative to the palm. With the CyberGrasp force feedback system, you're able to feel the size and shape of computer-generated 3D objects you're holding in a simulated virtual world.



*The CyberGrasp “hand-referenced” haptic feedback*



### Specifications

- **Force:** 12 N per finger (max, continuous)
- **Weight:** 16 oz (exoskeleton without CyberGlove system)
- **Workspace:** 1 meter spherical radius from the Actuator Module
- **CyberGlove:** A CyberGlove device is required for a CyberGrasp system (22-sensor CyberGlove device recommended)
- **Instrumentation Unit:** A Force Control Unit and Actuator Module are included
- **Interface:** Ethernet
- **CyberForce<sup>®</sup> robotic armature option recommended with the CyberGrasp system**

### About CyberGlove Systems LLC

Launched in 1990, the family of CyberGlove products is the established and most sophisticated data glove solution in the marketplace. CyberGlove Systems spun off from Immersion Corporation in March 2009. The product family includes four data-glove solutions and the VirtualHand Software Development Kit (SDK). The products let users capture detailed finger, hand, and arm movement, allowing them to “reach in and manipulate” digital objects in virtual reality.

With CyberGlove products, users can more quickly prototype and animate in virtual reality thereby saving both time and money. Customers include Fortune 500 and Global 500 corporations, government agencies, and universities in the U.S., Europe, Asia, Middle East, and South America.



VirtualHand<sup>®</sup> is CyberGlove Systems' real-time, 3D, hand-interaction software.

### For More Information

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