



New York University School of Medicine
Office of Industrial Liaison/Technology Transfer

Direct Drive Robots

Robotics

Principal Inventor:

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Description of the Technology:

Advances in high performance materials and components such as rare earth magnetics, aluminum wire, epoxy composite materials and adhesives, hall effect sensors, PIC based microcontrollers and power MOSFET's combined with powerful CAD tools and prototyping equipment have now made these miniature devices possible. Deeply rooted in Computer Science and Engineering Practice, research in the field of Robotics and Manufacturing began at this site almost 20 years ago. We have finely honed our leading-edge resources with advanced computer hardware and software plus state of the art test equipment, materials and precision machine tools. With this tradition of excellence now sharply focused on Human-Computer Interaction and Augmentation, we continue to explore the exciting new challenge of Multimedia Technology.

Features and Benefits:

We have developed Miniature Direct Drive DC Motor Actuators for Robotics. These devices feature low friction, small size, high speed, low construction cost, no gear backlash, operate safely without the use of limit switches and generate moderate torque at a high power to weight ratio.

Applications:

Our initial experiments indicate the feasibility of constructing a variety of new, high speed, low cost actuators for applications in camera pointing or tracking and robot eyes, hands and legs. Our patented link is modular, scaleable and easily reconfigurable making it well suited for miniature walking robots and other devices requiring many degrees of freedom.

Patent Status:

U.S. Patent No. 5,672,724 *issued* September 30, 1997.

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