Imagine it. Move it.

Success Stories   QuickSilver Controls, Inc

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Since 1998, QuickSilver Controls products have been used in a variety of applications and projects. We have been in small projects all the way to large OEM applications. From medical to military, from packaging to entertainment, QCI remains a versatile and cutting edge solution in the motion control industry.

Check out some areas where our hybrid servo motors and controllers have been used.

General Markets and Applications

- ❖ Animatronics
- ❖ Automotive
- ❖ Camera Positioning
- ❖ Cap/Bolt Tightening
- ❖ Document/ paper handling
- ❖ Electronic Assembly/Test
- ❖ Entertainment Industry
- ❖ Food Processes and Handling
- ❖ Medical Test Equipment
- ❖ Medical Pharmaceutical
- ❖ Packaging

- ❖ Pick and Place
- ❖ Robotics
- ❖ Semiconductor
- ❖ Tensioning Systems
- ❖ Test and Measurement Equipment
- ❖ Textile
- ❖ Web Handler
- ❖ Wire/Rope Manufacturing
- ❖ Military
- ❖ Wind/ Unwind

Detailed Applications

Animatronics: Servos and Controls used to make lifelike animals such as dolphins, bears and pigs for art shows, amusement parks, commercials and motion pictures. (http://youtu.be/TTIvi-n9QJY)

Anti-lock Brake Test System: used for the Joint Strike Force Fighter.

Art: Emergent Surface is a transformable wall of 26 panels each controlled by a QuickSilver Controls servo motor. (http://youtu.be/x6fYBPMTOQc)

Automotive Testing: QCI products are used in cycling automobile components such as brake pedals, door handles, switches and knobs.

Autonomous Vehicles: Servos are used for steering and throttle control for surveillance aircraft, unmanned bomb detection units and autonomous air drop units.

Autonomous Vehicles (Intelligent Ground Vehicle Competition): QuickSilver controls is proud to be on the winning team for several years.

Binder/ Cutter: High torque and PC control make our products ideal for cutting, transport and paper guides.

Bottling: Used in inspection and labeling the high inertial miss-match is used to spin bottles using a program based Cam feature.

Camera Positioning: QCI's high inertial ratio capability allows direct drive and smooth motion when moving professional cameras on a gantry for recording commercials.

Cap/Bolt Tightening: High adjustable torque at low speeds allows for advanced tightening control. Advanced encoder feedback allows for detection of cross thread and no bottle.

Caulk Tube filling Machine: High torque at low speeds allows for accurate filling on assembly lines.

Chip Handling: Servos move chip trays, palletize and de-palletize IC chips.

Circuit board Assembly: The extreme accuracy and short fast moves used in assembly, soldering and thermal bonding make the QuickSilver high torque servos the choice in assembly situations.

Circuit Board Vision inspection: Using QCI Trademarked Anti Hunt inspections can be accomplished without servo dither.

Conveyor systems: QuickControl software's key feature "drag-mode" (slip Clutch) prevents velocity "windup" during a jam.

Data Collection: Using low speeds and smooth operations one axis can move a probe across test materials for measurements. The controller then can read data from its analog inputs and record it in real time to its on-board non-volatile memory for later retrieval.

Door open/ Close/Lock: High torque at low speeds and versatile open/close profile allows detection of door/lock positions.

Drill & Blade Sharpener: Controllers used in automated drill sharpening and band saw re-tip saw sharpener.

Home Entertainment: QuickSilver Controls smooth quiet motion is ideal for use in the home environment, used to move bed controls, automatically adjust curtains and move Televisions from hidden compartments.

Eye Scanner: Quiet operation and serial interface to PC allows for smooth operation during eye surgery scanning the cornea.

Exercise Equipment: used in Physical Therapy, servos and controllers help guide patients recovery exercises.

Filament Windings: winding filament in the manufacture of lightbulbs.

Film Processing: Servos direct drive 70 mm film reels to shuttle film through an editing station or processing station. High inertial mismatch allows a 23 frame servo to direct drive film without a gearhead.

Food Processing: IP 65 motors are used on a variety of food manufacturing machines such as candy, tortillas and beverage applications.

Grinding Wheel: Multi axis system to re-dress grinding wheels.

Guide Adjuster: Replaced hand operated guides on machine tools.

Hard Drive Test Assembly: Multi- Axis arm to move drive. Servos are networked for PC or PLC control.

Hair Transplant: Smooth motions in quiet operations.

Index Tables: With high holding torque and high inertial miss-match we can direct drive these tables.

Labeling: Variable torque used in feed/take-up rolls, high acceleration and deceleration to apply labels with no overshoot.

Machine Builders: Our highly versatile cost effective controllers allows users to learn one system and use it over and over.

Material Cutter: High holding torque for accurate cutting.

Medical Sample testing: An XYZ system that lays down a grid of test tubes for DNA samples or blood work.

Multiple Axis Via Step and Direction: Cutting applications including water jet, knife and laser. Better response to step and direction than typical stepper systems due to our patented servo algorithm. (http://youtu.be/iSn9u6U4ptY)

Oven/ Test Chamber Feeds: Continuously controllable low speed torque that is great for feed processes such as semiconductor and wafer processing applications.

Packaging: Smooth motion and high torque help to move conveyor machines, diverters, sorters labelers and wrapping machines.

Prescription Medicine Dispensing Machine: These multi-axis machines require a compact design and low power consumption. The required torque curves are ideal for stepper motors, but need servo control for accuracy and to reduce power consumption.

Precision Parachute: In this military application servos guided a parachute to deliver a payload to a desired target when pushed out of a plane.

Part Sorter: The servo is programed to go to a unique position using inputs from a PLC.

Pill Crusher/ Presser: Read position at time load cell hits a certain threshold.

Pneumatic/Hydraulic Axis Replacement: A servo plus an Actuator is less expensive than a pneumatic axis with four or more stops. This eliminates valves, stop cylinders, and shock absorbers.

Precision pumps: Precise speed and position control allow for ultra-accurate fluid delivery. Low speed high torque is ideal for most precision mechanical pumps.

Printing: with designs that require multiple axis networks, QCI's compact design combined with high torque is ideal for high end printing machines for magazines and books. (http://youtu.be/iSn9u6U4ptY)

Projector/ Camera/ shutter Control: Millisecond moves allow for accurate shutter control.

Rope/ Wire Braiding: Electronic Gearing used to braid rope or wire based on line speed using gar rations accurate to seven decimal places.

Rotary knife: Rotary knife systems are widely used to cut, seal and perforate material moving along a conveyor. The knife must either speed up or slowdown to be ready for the next cut. Cut lengths can be calculated by reading registration mark on the material or can come from the user via an HMI.

Show Playback: used in the entertainment industry, playback positon data to the network at 24 or 30 frames per second. Using standard DMX512 format multiple servos are networked together for such things as control of animatronic puppets or stage props. (http://youtu.be/0h_YSrf45h

Sewing Machines: Material feed plus stitch axis to perform precision stitching.

Nozzle Calibration: Precise amount of liquid squeezed through a nozzle to allow calibration of spray.

Test Equipment: Our low EMI does not interfere with sensitive instrumentation. (http://youtu.be/AGN0MuSzYDo)

Test fixtures for schools and Labs: software configuration and PC based data collection allows for the servos to be used over again on many different fixtures.

Trolley: The servo is mounted on a battery operated or buss bar feed trolley. The servo moves the trolley in response to digital signals. The advantages include lightweight structure, can be battery operated but still have high torque at low speeds all while using low voltage.

Vending Machines: The servos compact size, accuracy and low power requirements are a great alternative to usual stepper or DC brush motors

Veterinary CAT scanner: Used on a special table to move large animals like a horse in and out of a CAT scan machine. (http://youtu.be/5nRSgBIqt)

Welding Machine: we do well in noisy applications with the addition of a connector filter. (http://youtu.be/AKfYjhAzXeY)

Wafer Handling: the servos are used to move video camera used for inspection. Anti-Hunt™, no servo dithering while stopped is a key feature in our success in this application.

Wind/Un-Wind: the servos precise torque control and electronic slip clutch feature called Drag Mode, allows for constant tension as a reel payout and take up product. Analog inputs can be used to input dancer arms. (http://youtu.be/K1V3p9_vPQk)