

# ACUTROL3000 Control System Update

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The Multi Axis Digital Motion Control System ACUTROL3000 is in continuous development. Additional new features and improvements in software and hardware are implemented.

The ACUTROL3000 controller has demonstrated reliable operation over the last two years; even so, the software continues to mature with the addition of new features and improvements. System integrators and users have stated that this controller offers more features and flexibility than any other controller in use while maintaining simplicity of operation.

## GUI Upgrade

The ACUTROL3000 depends heavily on the use of COTS components; recently, we

upgraded the GUI with a P4 embedded computer and changed to a display panel that uses LVDS video format. This version is being built by an outside manufacturer, and will be delivered in systems after the middle of the year. The GUI application software has been upgraded to LabView 8 and the RT operating system has been upgraded to LynxOS 4.

## ACUTROL3000 Installed Base

The ACUTROL3000 has proven itself to be the controller of choice for new systems

placed into service and for the refurbishment of various systems in use with obsolete instrumentation but serviceable mechanics.

## Motion Data Freeze

A Data Freeze feature has been added to the ACUTROL3000, which provides a method to asynchronously capture dynamic motion data using an IEEE-488 or Ethernet non-real-time interface. This is accomplished by inputting a customer-generated signal (pulse) that represents the instant in time that motion data is to be collected. When the controller detects a Freeze Pulse, a hardware counter measures the time between the pulse and the occurrence of the next ACUTROL sample. During the next ACUTROL frame, a time skew corrected vector of motion data is generated and a status bit is set to indicate that the captured data can be read using the ACUTRONIC Command Language (ACL) communication protocol. After the host computer reads the data, the hardware is automatically armed and waits for another Freeze Pulse. Only motion data is corrected in this manner and one Freeze Pulse is used to capture data on all axes. ]

