

CamSoft Corporation

CamSoft and Galil Turn Graphics Into Real-time Motion

A revolutionary concept by a company called CamSoft Corporation converts screen graphics directly into multi-axis machine tool motion. When joined with a powerful Galil motion controller, the company's software allows very high-speed machine tool applications to be solved quickly and easily.

CamSoft's CNC control tool kit allows the user to create and customize his controller for any two- to eight-axis CNC machine tool using a standard PC. Its open architecture and flexibility make CamSoft's tool kit perhaps the most advanced CNC controller on the market today at any price.

The tool kit combines a software package (including CAD/CAM) and a high-speed Galil motion controller. It does not require a programmable logic controller (PLC) or any G code. All logic is handled through Windows using dual 32 CPU processors for extra speed and reliability. The kit can respond to events in real time in a few milliseconds—the animation changes as the machine cuts.

CamSoft uses the Galil DMC-18x0 and DMC-18x2 series PCI bus motion controllers in configurations from two to eight axes. Designed to fit in a single PCI slot of a PC, the DMC-18x0 and DMC-18x2 controllers allow control of step or servo motors on any combination of axes. CamSoft also uses Galil's DMC-21x2 Ethernet controllers for applications that require a controller outside of the PC.

Any mode of motion can be programmed including linear and circular interpolation, contouring, electronic gearing and ecam. One CamSoft application, for example, uses the linear interpolation mode for simultaneous five-axis control where new segments are sent ahead of motion and the vector speed can be changed on the "fly."

CamSoft engineers particularly like the ease of programming and flexibility inherent in Galil motion controllers. According to Gary Corey of CamSoft, "I am familiar with many motion controllers. Galil is way ahead in terms of ease of use and configurability."

CamSoft also likes Galil's technical support. "Galil engineers promptly answer my questions. This is important because I really am exercising the full potential of the controller," says Corey.



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because the Galil motion controller and the CAD/CAM system are in one integrated unit, no code needs to be written or reviewed. The standard programming method allows for manual or off-line G-code programming, as well. ■

High speed is particularly important in applications such as mold making where a large CNC file needs to be processed quickly when prescribing complex 3D profiles in real time. CamSoft's tool kit finds uses in applications involving such varied machine tools as milling machines, lathes and water jets.

CamSoft's software provides an easy-to-use graphical user interface and can be customized by the user for a particular CNC application. The user does not have to be a Visual Basic, C or C++ programmer. CamSoft's control software provides the user with a variety of tools to build the interface such as "drag and drop" objects (buttons, knobs, gauges, etc.) and fill-in-the-blank dialogue boxes for changing attributes (color, size, screen placement, etc.). The software runs on Windows 98SE, ME, NT, 2000 and XP.

The graphics can be drawn in the CAD/CAM system that is included in the tool kit or can be imported from standard CAD file formats such as DXF, IGES, Gerber or HPGL. There is no program size limitation. And,

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