

# Motion Module

**The Trio Motion Module (TMM) is a compact *Motion Coordinator* based on Trio's proven high performance 32 bit DSP technology.**

It incorporates all of the flexible motion commands of Trio's larger *Motion Coordinators*.

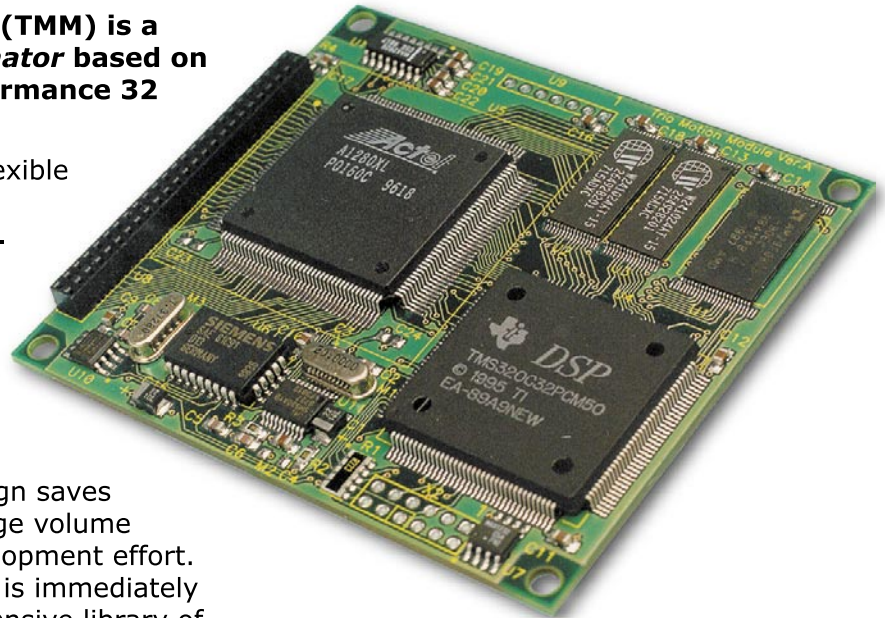
The Module has been designed to be integrated inside your digital drive to provide a compact, cost effective solution for OEM applications.

Using an off-the-shelf design saves drive manufacturers or large volume OEM's many years of development effort. Windows support software is immediately available, as is a comprehensive library of application programs.

The design can use the standard PCB layout or a customised layout. For high volumes both the design and appropriate software can be licensed.

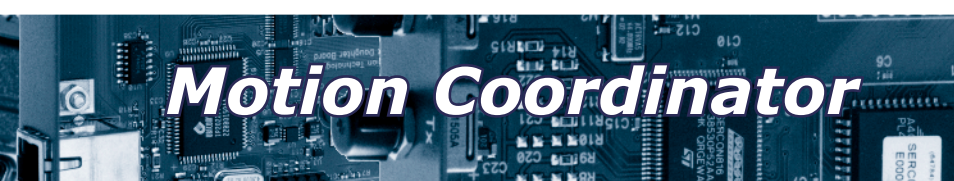
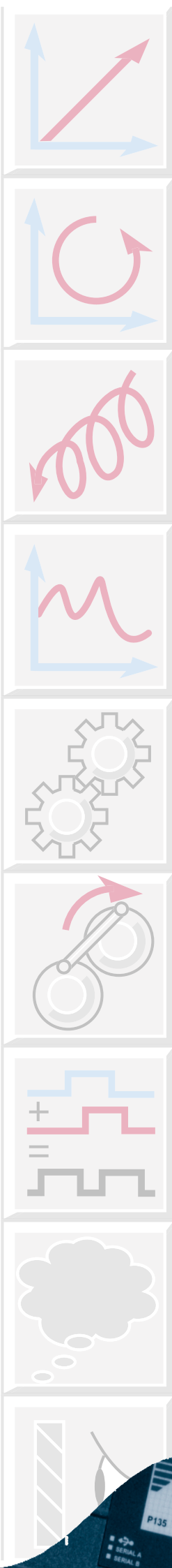
The Motion Module features Trio's Multi-tasking BASIC language which provides true pre-emptive multi-tasking of up to 4 simultaneous processes.

This allows parts of a complex application to be developed, tested and run independently, although the tasks can share data and motion control hardware. Up to 3 axes can be initialised in the software of each Motion Module. The built-in CAN networking enables distributed drive networks



- ▲ **Compact 74mm x 83mm PCB**
- ▲ **Flash Eprom Program and Parameter Storage**
- ▲ **Multi-Tasking BASIC Programming**
- ▲ **MotionPerfect Application Development Software**
- ▲ **CAN Networking**
- ▲ **Dual Port RAM or Parallel Interface to Drive**
- ▲ **Motion Coordinator for Servo Drives, Stepper Drives and Closed-loop Inverters**

**Motion Coordinator**



**Powerful, Flexible Programming System**

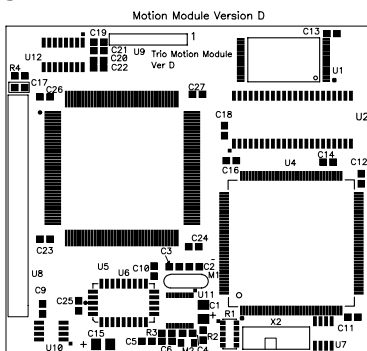
- BASIC programming
- Multi-tasking (up to 3 programs running concurrently)
- Fast & accurate floating point maths functions
- Flash EPROM program storage
- Downloadable system software

**Motion Functions**

- Linear and circular Interpolation
- Control up to 3 axes (including one 'virtual' axis)
- Software cam profiles and electronic gearboxes
- Axis summing and virtual axes for generation of complex profiles.
- Hardware registration

**Motion Module Component Specifications**

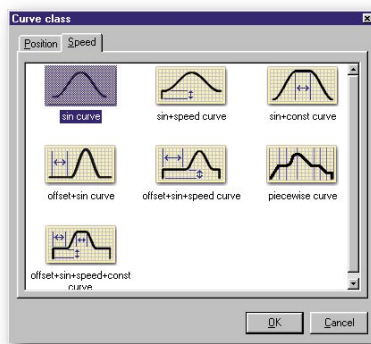
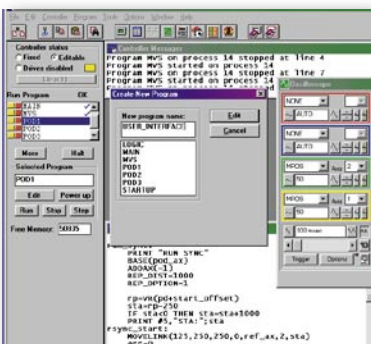
- TMS320C32 32-bit DSP running at 40MHz with 16bit bus
- 4MBit SRAM running with zero wait states
- 8MBit flash EPROM for system and application storage
- Custom gate array, incorporating:
  - Glue logic
  - 2 encoder interfaces
  - 2 stepper pulse generators
  - IO functions
  - Interface to drive processor
  - 2 serial interfaces
- Low noise clock oscillator
- Reset controller
- CAN interface IC & transceiver



**Motion Perfect**

Integrated software development environment for Windows™ 95/98/ME/2000/XP. The software program is available to download free from the Trio website.

- Project Manager
- Advanced Screen Editor with Integrated Debugger
- Trace user variables, table memory and motion parameters during program execution
- Software Oscilloscope
- Start screen can be customised with your company logo.



Distributed By:

**Flexible Motion Control**

- Interpolation up to 24 axes
- Circular Interpolation
- Helical Interpolation
- Cam Profiles
- Software Gearboxes
- Linked Movement
- Axis Superimposition
- Imaginary Axes
- Hardware Registration

*Any Axis can run any move type*

**Interface Flexibility**

- 2 serial ports with RS232 buffer built in.
- Serial interface for programming via PC
- Flexible IO scheme - up to 16 channels built-in plus expansion via CAN
- 16-bit direct register interface to drive processor
- CAN Interface may be used for controlling external amplifiers, linking to other MotionModules or to other CAN devices.

**Dimensions**

PCB Dimensions:  
74mm x 83mm (h x w).

**Ordering Information**

Product code: MM

