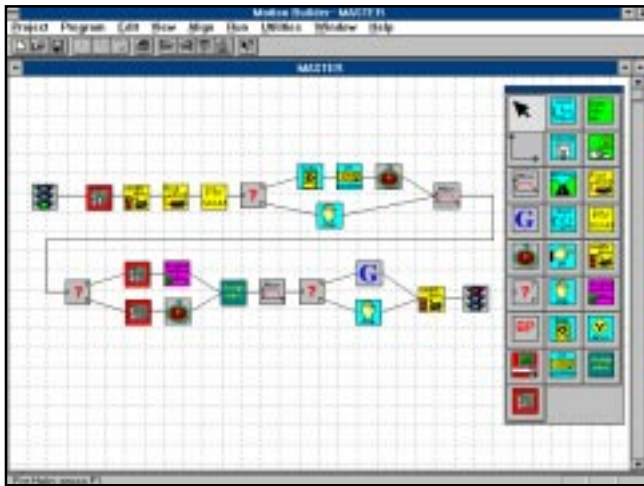# Motion Builder: making motion control programming easy

Motion Builder revolutionises motion control programming by providing a software tool which decreases the learning curve of motion control programming. Motion Builder allows users to design and program their motion control application in a way they are already familiar with—a flow chart style method. This innovative tool shortens your system design time and reduces your overall system cost by decreasing programming and troubleshooting cost.

Motion Builder, a Microsoft Windows-based graphical-development environment, allows expert and novice programmers to easily program Compumotor's 6000 Series products without learning a new programming language or syntax. Visual icons, representing the motion function you want to perform, are simply dragged and dropped.
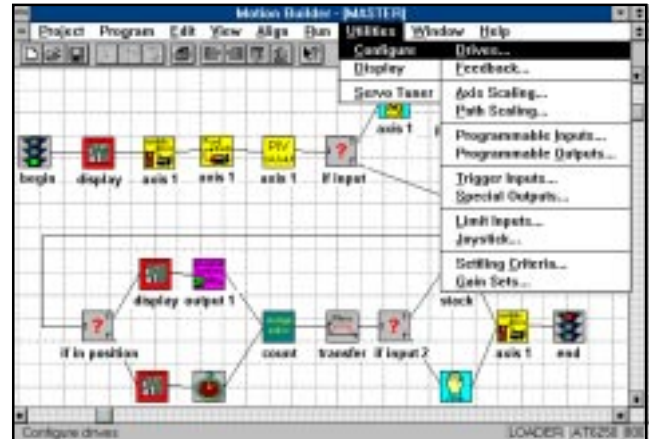

- Graphical motion–development environment
- Visual programming
- "Fill-in-the-form" process details
- Motion icons with label and comment fields
- Real-time display environment
- Debug environment
- On-line Help system

Motion Builder provides a user-friendly graphical environment for designing motion control applications. Visual icons representing standard motion and process control operations are selected from a floating palette. In addition to visually programming Compumotor's 6000 Series products, it can completely configure the motion controller; program the motion with visual icons; compile, run and debug the program—all from the same tool!

You simply select the 6000 Series product you are using and Motion Builder then configures the on-line help for steppers and servos from one to four axes, communication
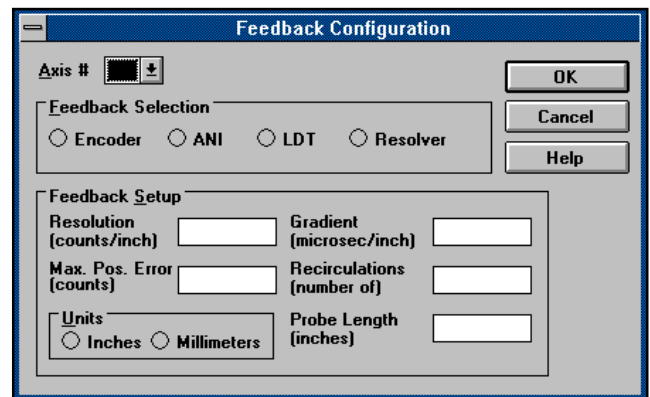
protocol for serial or PC ISA bus communication, and graphical icons to reflect your product.

Application parameters are specified by answering a series of questions contained within a series of drop-down dialogue boxes. The topics for configuration include:

- Drive and feedback type
- Axis and path scaling
- Programmable inputs and outputs
- Home and end-of-travel limits
- Joystick and analogue I/O
- Servo gain sets
- Settling criteria for move complete
- Performance criteria for steppers

When you select one of these parameters, a dialogue box appears. Shown here is an example of the feedback configuration dialogue box.
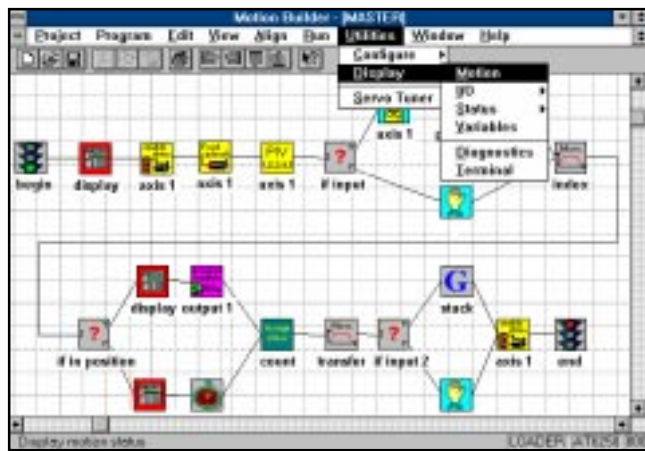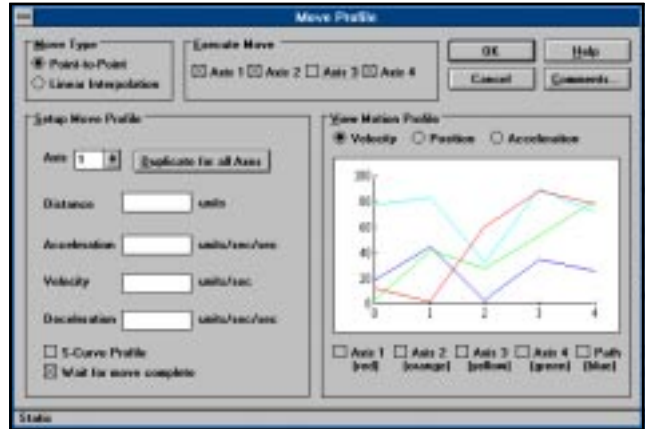
Parker Automation

Rapid, error-free program creation

Programming is accomplished by selecting the motion or process functions from the floating palette and dropping them, one by one, onto the chart. Each function's action is set up by a Windows dialogue box associated with the icon.

For example, double clicking on the Move icon brings up the dialogue box where values for move parameters are entered.

When all functions are on the screen, a special tool connects the icons in a manner indicating the program flow. When the program diagram is complete, the program is compiled and can be executed.

You can even display real-time controller information while your program is running:

An on-line help system is also included in Motion Builder.

The on-line help system includes:

- Context sensitive help
- Help index with search
- Tooltip help
- Status bar help
- Motion (motor and encoder position, velocity)
- I/O (programmable I/O, analogue I/O, limits)
- Status (axis, system)
- Variables
- Diagnostics
- Terminal (communications interface)

A debug environment is also included in Motion Builder. The user can set program break points by selecting the break point icon from the palette and dropping it into the area (beginning and end) of the program that needs to be debugged. Another debugging aid is the single-step mode. This allows the user to control and step through the program, executing the icons one at a time.

Benefits

- Easy programming
- Shorten your system design time
- Cut your cost
- Eliminate syntax errors