



# ORMEC

## MotionPRO™ Software

Motion Development Software

ORMEC's MotionPRO™ development software provides a complete *motion programming environment* on any IBM-PC or true compatible computer. It is available in both Servo Developer's and Maintenance kits, and provides software tools to simplify creating, implementing and maintaining MotionBASIC® programs.

### Communications/Hypertext

MotionPRO™ provides an elegant interface between your development computer and motion control system. System configuration, serial communications and interaction with memory disks are also easily achieved. All documentation is on-line and accessible with a single keystroke with ORMEC's unique hypertext manual system.

### MotionBASIC® Tools

An important ingredient of the MotionPRO™ Servo Developer's Kit is a collection of motion control software development programs and utilities called **MotionBASIC® Tools**. These tools are designed to save development time and simplify applying Generation III.

Tools include MotionBASIC® programs which support our standard MMI-840, OIT-MONO and OIT-EGA operator interfaces. These programs provide standard screens for viewing the status of system I/O and handling faults. In addition, the user can easily generate custom operator interface menus.

The **I/O Display Module** displays the status of up to 128 discrete input and output points using a table of names which you create. The display is updated in real-time, which means that the I/O points are continuously scanned, and changes are displayed as they occur. Turning outputs "on" or "off" for testing



### MotionPRO™: Servo Developer's & Maintenance Kits

Features	Developer's Kit	Maintenance Kit
<i>Interactive serial communications with motion controller</i>	✓	✓
Debug tools	✓	✓
Automatic screen-oriented system configuration	✓	✓
Context-sensitive help	✓	✓
MotionBASIC® file management tools	✓	✓
MotionPRO™ directives	✓	✓
MotionBASIC® integrated line editor	✓	✓
<i>Hypertext on-line reference manuals</i>	✓	✓
<i>Extensive library of MotionBASIC® programming tools</i>	✓	
I/O Display menus	✓	
Man-Machine Interface modules for MMI-840 and OIT	✓	
Documentation Tool	✓	
Error Handler	✓	
<i>Powerful Multi-Edit™ program file editor</i>	✓	
MotionBASIC® program development/management macros	✓	
<i>WindowDOS file management software</i>	✓	

and/or troubleshooting purposes is as simple as positioning the cursor on the screen and pressing "Enter".

The **Error Handler Module** traps and processes errors and system faults---and provides for application specific error trapping and safe shutdown procedures. The Fault Display portion of the module provides a display of the current fault status of the controller and its servo axes. Plus an operator function to clear the faults and restart the machine.

The **Man-Machine Interface Module** is a menuing system which you can easily configure to create operator data entry screens for your application. Using MENU.BAS, you configure a structured family of menus, each of which allows you to edit application parameters, select modes of operation and initiate machine functions. The module also provides parameter range limit checking, default values and password protection as

appropriate.

All of ORMEC's standard MotionBASIC® Tools have been written so they can be included to form part of a larger application program. Configuration information is contained within a single block of DATA statements which makes it very easy to adapt it to your particular application.

### Program Development/Management

The Developer's Kit also simplifies program development and management with professionally designed programs which are fully integrated with the MotionPRO™ development environment.

A customized version of the Multi-Edit™ program editor includes specific capabilities for editing & maintaining MotionBASIC® programs. Built-in macros generate program headers which include cross reference information about program variables and subroutines. Multi-Edit™ and MotionPRO™ also provide a programming environment which doesn't require line numbers.

WindowDOS™ fits elegantly within the MotionPRO™ environment and provides an array of file management utilities for managing files during the development process.

### ORDERING GUIDE

MotionPRO™ Motion Control Development Software

LDS-120/MPRO	MotionPRO™ Laptop Development System. Includes cables.
MPR-SDK/3	MotionPRO™ Servo Developer's Kit, 3.5" disks ("5" for 5.25" disks). Includes cables.
MPR-SMK/3	MotionPRO™ Servo Maintenance Kit, 3.5" disks ("5" for 5.25" disks). Includes cables.
CBL-SER-AT	Serial Coil Cord, 3 ft extendable to 12 ft, 9-pin, IBM-AT
CBL-SER-PC	Serial Coil Cord, 3 ft extendable to 12 ft, 25-pin, IBM-PC

## Laptop Development System: Power and Portability Speed Application Development

ORMEC's Laptop Development System provides a powerful, full-featured software environment for developing and maintaining motion control applications. Loaded with ORMEC's MotionPRO™ Programming & Communications software, the LDS-120 provides a truly functional notebook-sized PC that is ideal for motion control applications.

MotionPRO™ is a PC-compatible "windows-oriented" development software package designed specifically for Generation III motion controllers. This environment features "pull-down" menus and "pop-up" windows that make it easy to use. Plus ORMEC's MotionBASIC® Hypertext for quick, easy access to on-line programming documentation and MotionBASIC® Tools which simplify creation of application software.

The powerful Multi-Edit™ program editor and WindowDOS™ file management utility provided work elegantly within the MotionPRO™ environment.



ORMEC's Laptop Development System combines a full array of motion control development software with the portability and power of a PC/AT compatible "brief case size" laptop computer.

### SPECIFICATIONS

#### Software

- MotionPRO™ Servo Developer's Kit Software
- MotionBASIC® Tools: I/O Display menu, Error Handler Menu & Man-Machine Interface modules
- Multi-Edit™ Program Editor
- WindowDOS™ File Management System
- Ormec Servo Analyst software for analyzing motor/drive requirements for specific application

#### On-line Documentation

- Hypertext on-line documentation including MotionBASIC®, Laptop Computer and MS-DOS manuals

#### Operating System

- MS-DOS® 5.0 operating system

More details on the MotionPRO™ software on pages 22, 23 and 35.

#### Processor

- 80386SX, running at 20 MHz
- Real time clock/calendar

#### Memory

- 1 MB RAM standard
- 5 MB, with 4 MB RAM option

#### Disk Drives

- One 60 MB hard drive
- One 1.44 MB 3 1/2" diskette drive

#### Display

- Backlit supertwist LCD display with adjustable brightness and contrast
- 9" Diagonal Backlit LCD
- VGA compatible

#### Keyboard

- Full-function, standard key-spaced, 83-key sculptured keyboard
- Twelve function keys
- Eight dedicated cursor control keys
- Special Fn key for extended functions

#### Standard Interfaces

- Parallel printer port
- Two 9-pin RS-232C serial port
- External keyboard and CRT ports

#### Power

- Runs on removable, rechargeable battery pack with power management and fast recharge features
- Includes universal adapter (100-240 VAC 50-60 Hz input; 12 VDC output)
- Low battery warning light

#### Dimensions

- 11.8" W x 8.3" D x 2.0" H
- Weight--6.7 lbs including battery pack

#### Warranty

- One year limited warranty