

# Compumotor

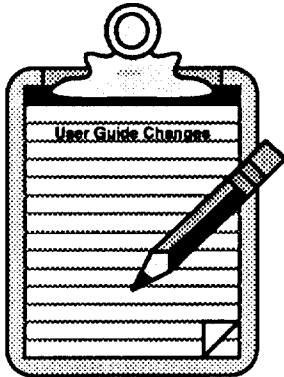
## CX Indexer/Drive User Guide

Compumotor Division  
Parker Hannifin Corporation  
p/n 88-005939-04 A May 7, 1993



# U S E R   G U I D E   C H A N G E S U M M A R Y

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The following is a summary of the primary changes to this user guide since the last version was released. This user guide, version 88-005939-04A, supersedes version 88-005939-04Y.

The entire user guide has been changed according to the new Compumotor user guide styles and illustration standards. Also, the chapters have been renumbered and reorganized.

## Chapter 1. Introduction

Changes to Chapter 1 are summarized as follows:

- New voltage requirements (CX and CXT Drives)
- Updated product features
- New theory of operation section

## Chapter 2. Getting Started

Changes to Chapter 2 are summarized as follows:

- New and updated system connection procedures
- New factory default jumper settings
- Additional jumper-selectable motor resolutions
- Ship kit changes

## Chapter 3. Installation

Changes to Chapter 3 are summarized as follows:

- All optional jumper settings moved to Chapter 2
- New drive mounting guidelines
- Added guidelines for coupling the load to the motor

## Chapter 4. Software Reference

Changes to Chapter 4 are summarized as follows:

- Complete list of all X commands, with syntaxes and descriptions

## Chapter 5. Hardware Reference

Changes to Chapter 5 are summarized as follows:

- Added default jumper settings
- Added CX and CXT Series motor specifications
- New system pinouts and connector illustrations
- Updated Compumotor motor cable color codes
- Updated drive dimensional drawings (refer to catalog for motor dimensional drawings)
- Removed speed/torque curves (refer to the catalog)
- Removed options jumper settings (refer to Chapter 2)
- System specifications updated to show new input power requirements and available resolutions.

## Chapter 6. Maintenance & Troubleshooting

Changes to Chapter 6 are summarized as follows:

- New list of suggested spare parts
- New drive and motor maintenance information
- New troubleshooting methods
- New procedures for returning the system to affect repairs or upgrades

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# O V E R V I E W

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## How To Use This User Guide

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This user guide is designed to help you install, develop, and maintain your system. Each chapter begins with a list of specific objectives that should be met after you have read the chapter. This section is intended to help you find and use information in this manual.

## Assumptions

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This user guide assumes that you have the skills or fundamental understanding of the following information.

- IBM (or IBM-compatible) computer experience
- Basic electronics concepts (voltage, switches, current, etc.)
- Basic motion control concepts (torque, velocity, distance, force, etc.)

With this level of understanding, you can effectively use this manual to install, develop, and maintain your system. You can get information about basic motion control concepts by referring to the current Parker Compumotor Motion Control Catalog.

## Contents of This User Guide

This user guide contains the following information.

Chapter ① Introduction	This chapter provides a description of the product and a brief account of its specific features.
Chapter ② Getting Started	This chapter contains a list of items you should have received with your shipment. It will help you become familiar with the system and ensure that each component functions properly. You will configure the system properly in this chapter.
Chapter ③ Installation	This chapter will help you properly mount the system and make all electrical and non-electrical connections. Upon completion of this chapter, your system should be completely installed and ready to perform basic operations.
Chapter ④ Application Design	This chapter will help you customize the system to meet your application's needs. Important application considerations are discussed. Sample applications are provided.
Chapter ⑤ Software Reference	This chapter explains Compumotor's X-Series programming language in detail. It describes command syntax and system parameters that affect command usage. An alphabetical list of all commands, with a syntax and command description for each command is included.

## Chapter ⑥ Hardware Reference

This chapter contains information on system specifications (dimensions and performance). This chapter is as a quick-reference tool for proper switch settings and I/O connections.

## Chapter ⑦ Maintenance & Troubleshooting

This chapter describes Compumotor's recommended system maintenance procedures. It also provides methods for isolating and resolving hardware and software problems.

## Process Overview

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To ensure trouble-free operation, you should pay special attention to the environment in which the CX Indexer/Drive equipment will operate, the layout and mounting, and the wiring and grounding practices used. These recommendations are intended to help you easily and safely integrate CX Indexer/Drive equipment into your facility. Industrial environments often contain conditions that may adversely affect solid state equipment. Electrical noise or atmospheric contamination, may also affect the CX Indexer/Drive System.

## Developing Your Application

Before you develop and implement your application, there are several issues that you should consider and address.

- ❑ Clarify the requirements of your application. Clearly define what you expect the system to do.
- ❑ Assess your resources and limitations. This will help you find the most efficient and effective means of developing and implementing your application.
- ❑ Follow the guidelines and instructions outlined in this user guide. Do not skip any steps or procedures. Proper installation and implementation can only be ensured if all procedures are completed in the proper sequence.

## Installation Procedures

Before you attempt to install this product, you should complete the following steps:

- ① Review this entire user guide. Become familiar with the manual's contents so that you can quickly find the information you need.
- ② Develop a basic understanding of all system components, their functions, and interrelationships.
- ③ Complete the basic system configuration and wiring instructions provided in *Chapter 2, Getting Started*.
- ④ Perform as many basic moves and functions as you can with the preliminary configuration. You can only perform this task if you have reviewed the entire user guide. You should try to simulate the task(s) that you expect to perform when you permanently install your application (however, do not attach a load at this time). This will give you a realistic preview of what to expect from the complete configuration.
- ⑤ After you have tested all of the system's functions and used or become familiar with all of the system's features, carefully read *Chapter 3, Installation*.
- ⑥ After you have read *Chapter 3, Installation* and clearly understand what must be done to properly install the system, you should begin the installation process. Do not deviate from the sequence or installation methods provided.
- ⑦ Before you begin to customize your system, check all of the system functions and features to ensure that you have completed the installation process correctly.

The successful completion of these steps will prevent subsequent performance problems and allow you to isolate and resolve any potential system difficulties before they affect your system's operation.

## Related Publications

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The following publications may be helpful resources.

The current Parker Compumotor Motion Control Catalog. The catalog is available from Parker Compumotor at (800) 358-9068 or (707) 584-7558.

Schram, Peter (editor). *The National Electric Code Handbook (Third Edition)*. Quincy, MA: National Fire Protection Association.