

OEM670X/675X Servo Controller/Drive User Guide

Revision D Change Summary

The following is a summary of the primary technical changes to this user guide since the last version was released. This user guide, part number 88-013858-01 **D** (released on May 15, 1998), supersedes 88-013858-01 **C**.

OEM SERIES MOTORS ARE OBSOLETE

OEM2300, OEM2303, OEM3400, and OEM3401 motors are no longer sold by Compumotor. Information about these motors appears has been removed from this user guide.

SM SERIES AND NEOMETRIC SERIES MOTORS ADDED

We have added Compumotor servo motors to this user guide. For information about SM Series and NeoMetric Series servo motors, see *Chapter ③ Specifications* (page 52).

OEM675X DRIVE ADDED

Information for Compumotor's new OEM675X Drive has been added throughout this user guide.

OEM670X/675X USER GUIDE CREATED

Hardware information for the OEM670X previously appeared in the OEM670T user guide, part number 88-013599-01. That hardware information has been added to the OEM670X software reference guide. Users receive a single user guide, part number 88-013858-01.

RESISTOR SELECTION SIMPLIFIED (PG. 18)

A new table (page 18) simplifies selection of response and foldback resistors for Compumotor motors.

RESISTORS ADDED TO SHIP KIT (PG. 18)

A package of resistors now ships with the drive. Users select four of these resistors, and install them in the OEM670X and OEM675X for optimum performance. (The OEM675X ships from the factory with no resistors installed; users *must* install resistors.)

CE AND LVD INFORMATION (PG. 147)

CE and LVD installation information begins on page 147.



Product Type:
OEM670X Position Servo Controller/Drive
OEM675X Position Servo Controller/Drive

The above products are in compliance with the requirements of directives

- **72/23/EEC Low Voltage Directive**
- **93/68/EEC CE Marking Directive**

The OEM670X/675X, when installed according to the procedures in the main body of this user guide, may not necessarily comply with the Low Voltage Directive (LVD) of the European Community. To install the OEM670X/675X so that it complies with LVD, you must follow the additional procedures described in *Appendix A, LVD Installation Instructions*. If you do not follow these instructions, the LVD protection of the product may be impaired.

The OEM670X/675X Series of drives are sold as complex components to professional assemblers. As components, they are not required to be compliant with Electromagnetic Compatibility Directive 89/336/EEC. However, information is offered in Compumotor's *EMC Installation Guide* on how to install the OEM670X/675X in a manner most likely to minimize the effects of drive emissions and to maximize the immunity of drives from externally generated interference.

Compumotor Division



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About This User Guide

You may not need to read this user guide from cover to cover! You can find essential information in the first three chapters—a product description in Chapter 1, installation instructions in Chapter 2, and specifications for the drive and motors in Chapter 3. This may be all you need to use the OEM670X/675X.

Later chapters contain additional information about selected topics. Read them if you need a deeper understanding about these topics.

Special internal circuits, including an extended discussion of the current foldback circuit and the response circuit, are covered in Chapter 4. This chapter may interest you if you want to achieve optimum performance from the drive by adjusting the selectable resistors.

Hall effect sensors, and the way they affect commutation in brushless servo motors, are described in Chapter 5. If you use motors from manufacturers other than Compumotor, you may need this information to determine how to connect your motor to the drive.

Power supply selection is covered in Chapter 6. Read this chapter for information about calculating the power your system requires, how regeneration affects power supplies, and how you can specify a power supply for your system.

Troubleshooting procedures are covered in Chapter 7.

Names In This User Guide

This user guide describes two products:

- OEM670X Position Servo Controller/Drive
- OEM675X Position Servo Controller/Drive

Preface • OEM670X/675X

In this user guide, when we use the name OEM670X/675X, it will apply to both products. Because most features are identical for both products, this will usually be the case.

If we need to point out differences between the products, for features that are not identical, we will specifically call the product by its full name—OEM670 or OEM675X.

In *Appendix B Software Reference*, when we refer to "the controller", we are referring to the OEM670X/675X.

Warnings and Cautions

Warning and caution notes alert you to problems that may occur if you do not follow the instructions correctly. Situations that may cause bodily injury are presented as warnings. Situations that may cause system damage are presented as cautions.

A typical warning note is shown below.

WARNING

Do not touch the motor immediately after it has been in use for an extended period of time. The motor may be hot.

A typical caution note is shown below.

CAUTION

Do not turn on power unless the motor's Hall effect sensors, Hall +5, and Hall GND are connected to the drive. The motor may be destroyed by overheating if these connections are not made.
