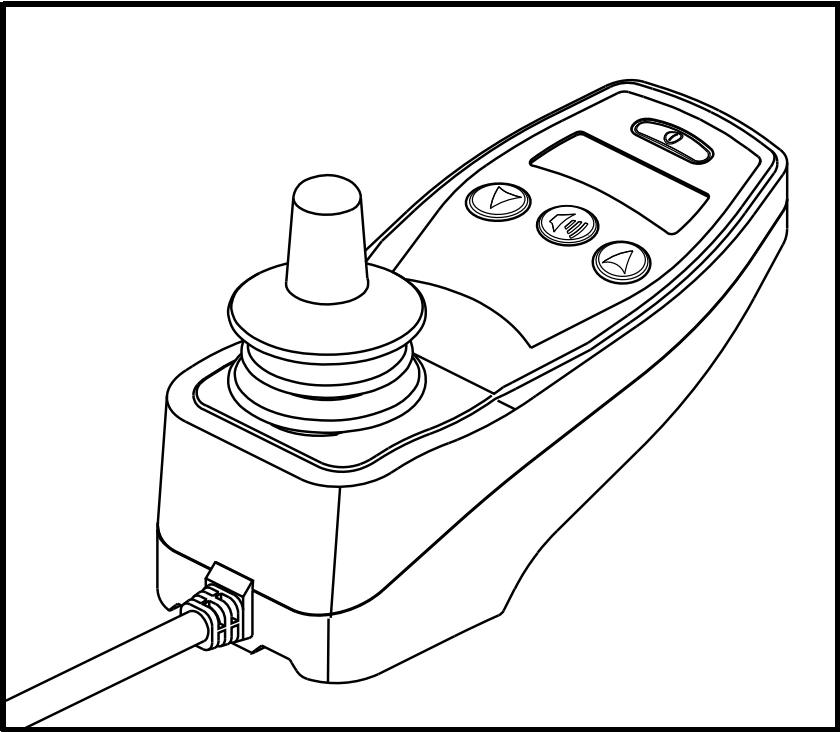


# **BASIC OPERATION INSTRUCTIONS**

# **NE<sup>TM</sup> Controller**



**QUANTUM REHAB<sup>®</sup>**

A DIVISION OF PRIDE MOBILITY PRODUCTS<sup>®</sup> CORP.

# SAFETY GUIDELINES



**WARNING! A Quantum Rehab Provider or a qualified technician must perform the initial setup of this product and must perform all of the instructions in this manual.**

The symbols below are used throughout this owner's manual and on the controller to identify warnings and important information. It is very important for you to read them and understand them completely.



**WARNING! Indicates a potentially hazardous condition/situation. Failure to follow designated procedures can cause either personal injury, component damage, or malfunction. On the product, this icon is represented as a black symbol on a yellow triangle with a black border.**



**MANDATORY! These actions should be performed as specified. Failure to perform mandatory actions can cause personal injury and/or equipment damage. On the product, this icon is represented as a white symbol on a blue dot with a white border.**



**PROHIBITED! These actions are prohibited. These actions should not be performed at any time or in any circumstances. Performing a prohibited action can cause personal injury and/or equipment damage. On the product, this icon is represented as a black symbol with a red circle and a red slash.**

***NOTE: These instructions are compiled from the latest specifications and product information available at the time of publication. We reserve the right to make changes as they become necessary. Any changes to our products may cause slight variations between the illustrations and explanations in this manual and the product you have purchased. The latest/current version of this manual is available on our website.***

***NOTE: This product is compliant with WEEE, RoHS, and REACH directives and requirements.***

***NOTE: The NE Controller and its components are not made with natural rubber latex. Consult with the manufacturer regarding any after-market accessories.***

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# LABEL INFORMATION

## PRODUCT SAFETY SYMBOLS

The symbols below are used on the controller to identify warnings, mandatory actions, and prohibited actions. It is very important for you to read and understand them completely.



**Read and follow the information in the owner's manual.**



**Avoid exposure to rain, snow, ice, salt, or standing water whenever possible. Maintain and store in a clean and dry condition.**



**EMI/RFI—This product has been tested and passed at an immunity level of 20 V/m.**



**Disposal and recycling—Contact your Quantum Rehab Provider for information on proper disposal and recycling of your Pride product and its packaging.**

## INTRODUCTION

WELCOME to Quantum Rehab, a division of Pride Mobility Products (Pride). The product you have purchased combines state-of-the-art components with **safety**, comfort, and styling in mind. We are confident that the design features will provide you with the conveniences you expect during your daily activities. Understanding how to **safely** operate and care for this product should bring you years of trouble free operations and service.

**Read and follow** all instructions, warnings, and notes in this manual before attempting to operate your product for the first time. You must also read all instructions, warnings, and notes contained in any supplemental instructional booklets for the controller, front riggings, and/or seating system that accompanied your power chair before initial operation. Your **safety** depends upon you, as well as your provider, caretaker, or healthcare professional in using good judgement.

This manual is to be used in addition to the power base owner's manual that came with your power chair. If there is any information in this manual which you do not understand, or if you require additional assistance for setup or operation, please contact your Quantum Rehab Provider. **Failure to follow the instructions, warnings, and notes in this manual and those located on your Pride product can result in personal injury and/or product damage and will void Pride's product warranty.**

## PURCHASER'S AGREEMENT

By accepting delivery of this product, you promise that you will not change, alter, or modify this product or remove or render inoperable or unsafe any guards, shields, or other safety features of this product; fail, refuse, or neglect to install any retrofit kits from time to time provided by Pride to enhance or preserve the safe use of this product.

***NOTE: If you ever lose or misplace your copy of this manual, contact us and we will be glad to send you a new one immediately.***

**My Quantum Rehab Provider Is:**

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Phone Number: \_\_\_\_\_

Purchase Date: \_\_\_\_\_

## NE CONTROLLER

The NE controller is a modular electronic controller system that allows you to operate your power chair. It is designed to allow the user to have complete control over chair movement and speed.

The controller has been pre-programmed to meet a typical user's needs. The program is set using a hand-held programmer provided by the controller manufacturer.



**WARNING! The controller program can affect speed, acceleration, deceleration, dynamic stability, and braking. If it is programmed incorrectly or outside of the safe limits as determined by your healthcare professional, it can create a dangerous situation. Only the power chair manufacturer, an authorized representative of the manufacturer, or a trained service technician should program the controller.**

## PRECAUTIONARY GUIDELINES

Before operating the NE controller, please read the following. These guidelines are provided for your benefit and will aid you in the safe operation of the controller system.

- Turn off the power to the controller when transferring to or from your power chair.
- Follow all of the procedures and heed the warnings as explained in your power chair owner's manual.

## Electromagnetic and Radio Frequency Interference (EMI/RFI)



**WARNING!** Laboratory tests have shown that electromagnetic and radio frequency waves can have an adverse effect on the performance of electrically-powered mobility vehicles.

Electromagnetic and Radio Frequency Interference can come from sources such as cellular phones, mobile two-way radios (such as walkie-talkies), radio stations, TV stations, amateur radio (HAM) transmitters, wireless computer links, microwave signals, paging transmitters, and medium-range mobile transceivers used by emergency vehicles. In some cases, these waves can cause unintended movement or damage to the control system. Every electrically-powered mobility vehicle has an immunity (or resistance) to EMI. The higher the immunity level, the greater the protection against EMI. This product has been tested and has passed at an immunity level of 20 V/m.



**WARNING!** Be aware that cell phones, two-way radios, laptops, electricity generators or high power sources, and other types of radio transmitters may cause unintended movement of your electrically-powered mobility vehicle due to EMI. Do not turn ON hand-held personal communication devices, such as citizens band (CB) radios and cellular phones, while the powered wheelchair is turned on. Be aware of nearby transmitters, such as radio or TV stations, and avoid coming into close proximity to them.



**WARNING!** The addition of accessories or components to the electrically-powered mobility vehicle can increase the susceptibility of the vehicle to EMI. Do not modify your power chair in any way not authorized by Pride.

**WARNING!** The electrically-powered mobility vehicle itself can disturb the performance of other electrical devices located nearby, such as alarm systems.

**NOTE:** For further information on EMI/RFI, go to the Resource Center on [www.pridemobility.com](http://www.pridemobility.com). If unintended motion or brake release occurs, turn your power chair off as soon as it is safe to do so. Call Pride or your Quantum Rehab Provider to report the incident.



## NE Controller Features

Figure 1 provides information on the NE components and connections. Use this diagram to familiarize yourself with the function and location of each component before using the NE Controller.

The following functions are available with the NE Controller:

■ Joystick Control

The joystick is used to control the direction and speed of the power chair.

■ Drive Profile Selection

The user can select one of five available drive profiles.

■ Lock Mode

When enabled, the function allows the user to “lock out” unauthorized users.

■ Sleep Mode

A feature designed to shut off power if the joystick remains stationary for a preprogrammed period of time. This function is intended to preserve battery charge and can be disabled through programming.

■ Thermal Rollback

A safety feature designed to prevent the power chair from overheating and causing damage to the motors or controller.

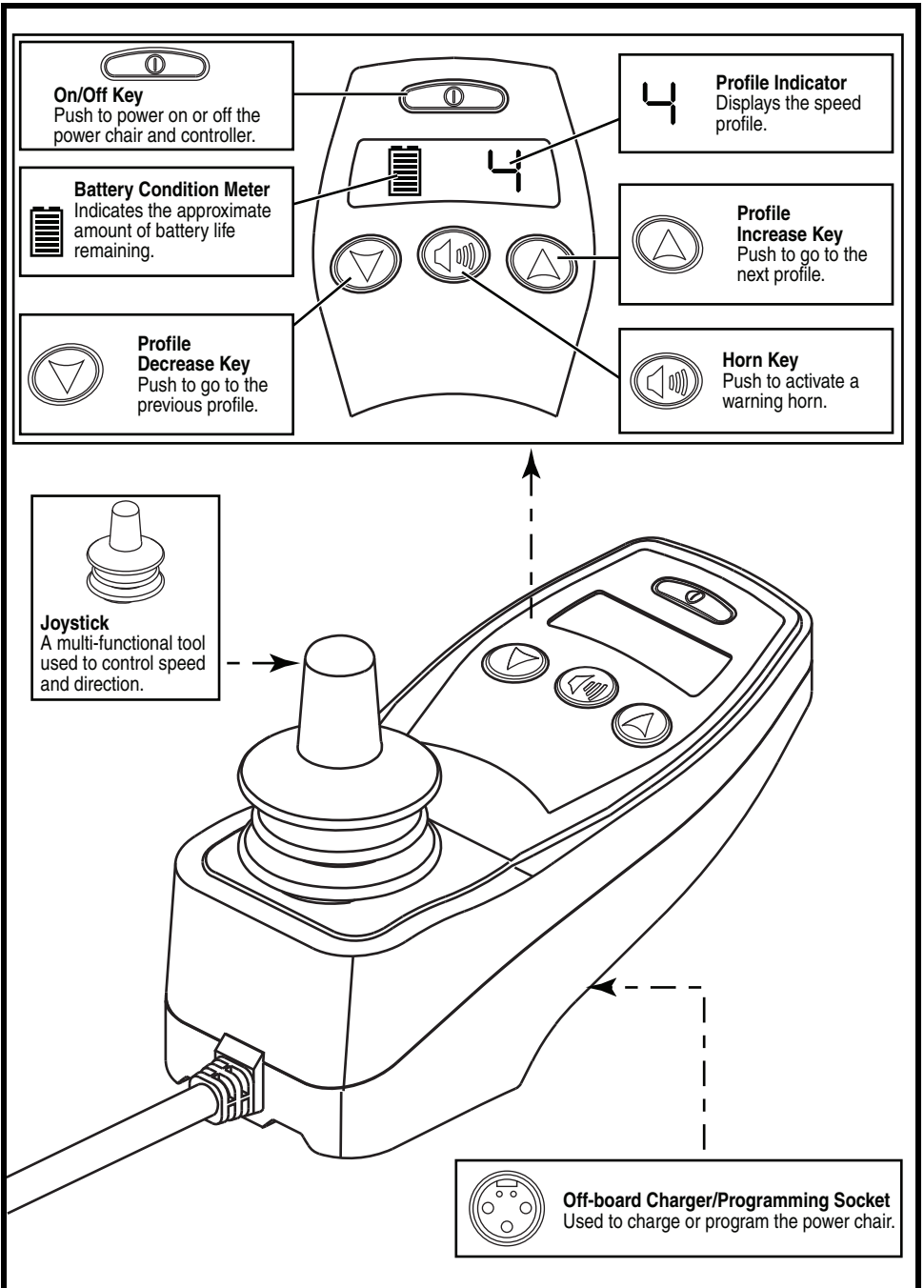


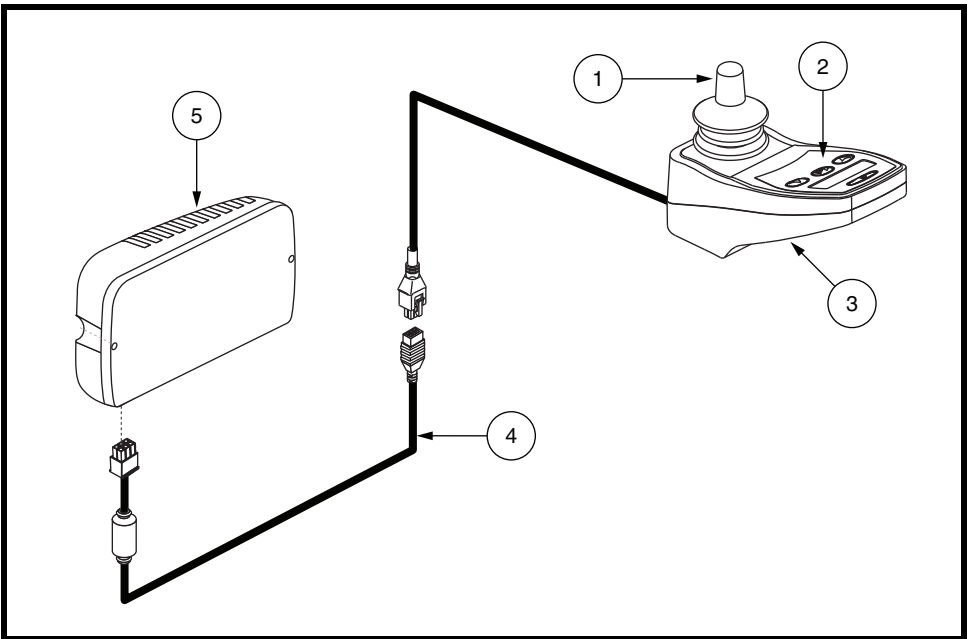
Figure 1. NE Controller Described

## OPERATING THE NE CONTROLLER

The NE controller is used to operate your power chair and all of its components.

**The NE controller consists of (see figure 2):**

1. joystick
2. keypad
3. off-board charger/programming socket
4. controller connector
5. power module



**Figure 2. NE Controller Components**

### Joystick Control

The joystick controls the direction and speed of your power chair. When you move the joystick from the neutral (center) position, the electromagnetic brakes release and allow your power chair to move. The farther you push the joystick from its neutral position, the faster your power chair moves. When you release the joystick and allow it to return to the neutral position, you engage the electromagnetic brakes. This causes your power chair to decelerate and come to a complete stop.

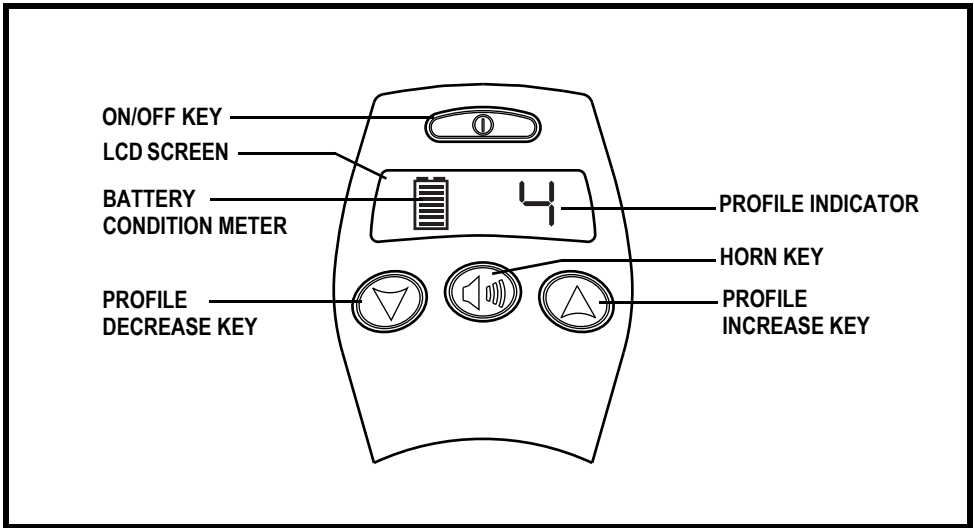


Figure 3. NE Controller Keypad

### Keypad

The keypad is located directly in front of the joystick. It contains keys that you will use to control your power chair. See **figure 3**.

### On/Off Key

The on/off key turns the system on and off.



**WARNING! Unless faced with an emergency situation, do not use the on/off key to stop the chair. This will cause the power chair to stop abruptly.**

**WARNING! Always turn the power off when you are stationary to prevent unexpected movement.**

### Horn Key

The horn key activates a warning horn.

### LCD Screen

The LCD screen provides the user with easily intuited feedback information such as battery condition, drive profile, power chair speed, warnings, and error codes. See **figure 4**.

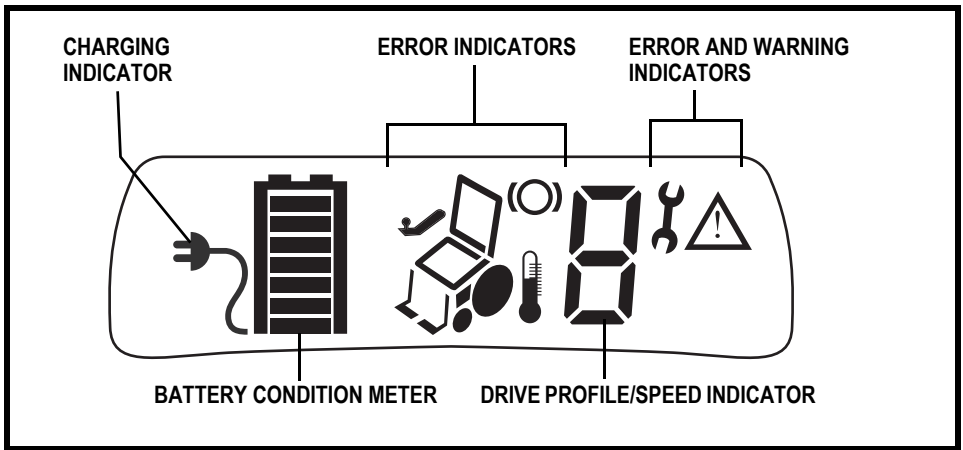


Figure 4. LCD Screen

The brake icon, error, warning, power base, and temperature warning indicators are only lit when the system detects a condition that triggers them.

The charging indicator is steadily lit with segments of the battery condition meter scrolling up when the charger is plugged in. When the charging indicator is flashing, it indicates the detection of a problem. See NE Error Codes.

### Drive Profile Selection

Your NE controller may be programmed for up to five drive profiles that allow the system to be custom tailored to your environment. The drive profile may be changed by pressing the profile decrease key or the profile increase key.

***NOTE: Drive profiles are set by your Quantum Rehab Provider. Contact your Quantum Rehab Provider to change or add a drive profile.***

## Battery Condition Meter

The battery condition meter consists of a 7-segment display on the LCD. As the battery voltage drops, the number of lights reduces from top to bottom. When the battery capacity drops to 10% or below, the bottom segment will flash.

- **Bottom Segment Flashing:** The battery charge is low; charge the batteries as soon as possible.
- **Scrolling Up of Segments (with charging indicator):** The controller is in inhibit or charging mode.
- **All or No Segments Flashing Quickly (Code):** The controller has detected a fault; refer to the NE Error Code table.

## Joystick Out of Center

If the joystick is not in the center position when the power is switched on, a warning indicator will flash on the LCD display. A warning flashes for several seconds and then becomes an error if the joystick is not returned to center. (Refer to the NE Error Codes table.) Power the NE controller off and allow the joystick to return to the center (neutral) position and then power the controller back on to restart. If the warning or error does not clear, contact your Quantum Rehab Provider.

## CONTROLLER CONNECTOR

This connects the NE controller to the power module located on the power base.

## OFF-BOARD CHARGER/PROGRAMMING SOCKET

You may use an off-board charger to charge the power chair batteries through the 5-pin socket located on the front of the NE controller. If you use an off-board charger, the charger current should not exceed 8 amps. Contact your Quantum Rehab Provider for more information.



**WARNING! Only chargers with Neutrik NC3MX plugs should be connected to the off-board charger/programming socket. See your Quantum Rehab Provider for more information.**

***NOTE: The socket may also be used for reprogramming the NE controller. Contact your Quantum Rehab Provider for more information.***

## LOCK MODE

The NE controller can have a feature enabled that allows you to “lock out” unauthorized users.

### To lock the controller:

1. While the power is on, press and hold the on/off key until the system shuts off.
2. The system is now locked.

### To unlock the controller:

1. Press the on/off key to turn on the controller. A key icon will be displayed on the LCD screen.
2. Move the joystick to the full forward position until the controller beeps.
3. Move the joystick to the full reverse position until the controller beeps.
4. Release the joystick. The NE controller is now unlocked.

## SLEEP MODE

The NE controller offers a sleep mode feature which will shut off the main power if the joystick remains stationary for a programmed period of time from 0-60 minutes. To restore power and resume operation of the chair, push the on/off key once.

***NOTE: Timing for the sleep mode/auto shutoff is set by your Quantum Rehab Provider. Contact your Quantum Rehab Provider to change or turn off this feature.***

## THERMAL ROLLBACK

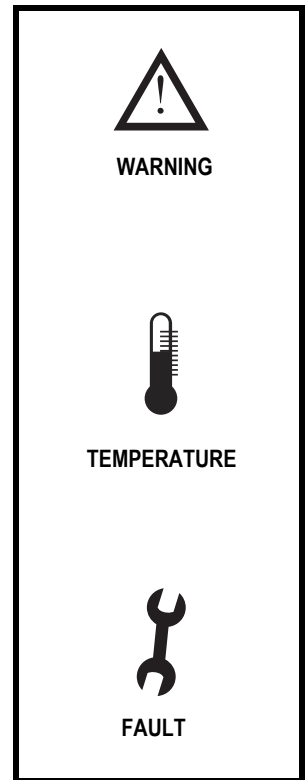
The NE controller is equipped with a thermal rollback circuit which monitors the temperature of the chair's motors and controller. If either exceeds the safe operating temperature, the controller reduces the output to 20% of full operation level. This reduces the chair's speed and allows a cool down period. Once the temperature returns to a safe level, the chair will resume normal operation.

## NE ERROR CODES

The NE displays four types of messages: information, warning, temperature, and fault.





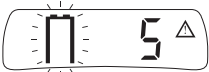
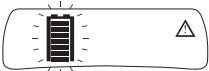



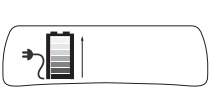
- **Information:** Displays information about the power chair's functionality or performance. There is no icon associated with an information message.
- **Warning:** Alerts you to conditions that may affect power chair functionality and performance. **See figure 5.**
- **Temperature:** Alerts you to conditions relating to the temperature of your power chair components that can affect functionality and performance. **See figure 5.**
- **Fault:** Alerts you to conditions that influence power chair functionality and performance. **See figure 5.**

Error codes are displayed on the LCD screen as icons. The following table identifies the error codes that may be easily rectified, probable causes, and possible solutions. If you receive one of these error codes, follow the recommended solution, and if the problem persists or you receive any other error code or experience any other problem with your power chair, contact your Quantum Rehab Provider.



**Figure 5. Types of Errors**



LCD DISPLAY	DIAGNOSIS	SOLUTION
	Power Section Error	Cycle power. Check power module and joystick module connections and wiring.
	Joystick Out of Center	Release joystick and make sure the joystick is in center position. Power off and on again. Check connections.
	Communication Error	Check joystick cable connections.
	Motor/Brake Error	Check motor/brake connectors.
	Low Battery Voltage	Charge batteries.
	High Battery Voltage	Disconnect charger.
	Drive Thermal Warning	Allow motors to cool.
	Open Motor Error	Check motor connectors.
	Low Battery	Recharge batteries.
	Battery Charging Inhibit	Unplug charger when charging is complete. Check connections.

**Table 1: NE Error Codes**

**CARE AND MAINTENANCE**

Refer to your power chair owner's manual for proper cleaning and disposal instructions.

**WARRANTY**

Refer to your power chair owner's manual for specific information on controller warranty.

# NOTES



**QUANTUM REHAB®**

A DIVISION OF PRIDE MOBILITY PRODUCTS® CORP.

**Pride Mobility Products Corporation**  
182 Susquehanna Avenue  
Exeter, PA 18643-2694  
USA

**Pride Mobility Products Company**  
5095 South Service Road  
Beamsville, Ontario  
Canada  
L0R 1B3

**Pride Mobility Products Ltd.**  
32 Wedgwood Road  
Bicester, Oxfordshire OX26 4UL  
UK

**Pride Mobility Products Australia Pty. Ltd.**  
20-24 Apollo Drive  
Hallam, Victoria 3803  
Australia

**Pride Mobility Products Italia S.r.l.**  
Via del Progresso - ang. Via del Lavoro  
Loc. Prato della Corte  
00065-Fiano Romano (RM)

**Pride Mobility Products Europe B.V.**  
Castricummer Werf 26  
1901 RW Castricum  
The Netherlands

***Pride***®  
*Mobility Products Corp.*



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