

Basic Operation Instructions







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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 power chair 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 red slash.

NOTE: This owner's manual is 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: This product meets IPX4 classification (IEC 60529).

NOTE: The Q-Logic 2 Controller and its components are not made with natural rubber latex. Consult with the manufacturer regarding any after-market accessories.

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Product Safety Symbols

The symbols below are used on the power chair 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 Pride/Quantum Rehab Provider for information on proper disposal and recycling of your Pride/Quantum product and its packaging.

Q-Logic 2 Controller

The Q-Logic 2 Controller is a fully programmable, modular electronic controller system that allows you to operate your power chair. The Q-Logic 2 has several input devices available that operate through a power module. The hand control will primarily be discussed in this manual, along with references to the Enhanced Display, Stand-alone Joystick, and Attendant Control. Additional input devices are also available for the Q-Logic 2. Contact your Quantum Rehab Provider for more information.

The controller has been pre-programmed to meet a typical user's needs. The program is adjusted using either a personal computer with software provided by the controller manufacturer or with a hand-held programmer, also provided by the controller manufacturer, by your Quantum Rehab Provider or a trained service technician.



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.

NOTE: When a power chair is equipped with multiple input devices, the device that powered up the chair will be in control.

Precautionary Guidelines

Before operating the Q-Logic 2 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 before you are seated in your power chair.
- Follow all of the procedures and heed the warnings as explained in your power chair owner's manual.

Operating the Q-Logic 2 Controller

The Q-Logic 2 hand control is used to operate your power chair and all of its components.

On/Off button and Mode Select Lever

The on/off and Mode Select lever turns the system on and off, is used to recycle the power and is also used to select drive profiles.



WARNING! When faced with an emergency stop situation, release the joystick, then press the on/ off to stop the power chair. Use caution. Be advised that pressing the on/off button may cause the power chair to stop abruptly.

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

Joystick

The joystick controls the driving speed and direction of the power chair and is used to navigate the menus on the LCD screen. When the joystick is at rest, it is in the neutral (center) position and the chair is stationary. In order to drive the chair, the joystick must be taken out of neutral. Moving the joystick in any direction will switch the chair from neutral to drive, and the chair will move in the direction indicated by the joystick position. The farther away from the neutral position the joystick is, the faster the chair will move in that direction. To stop chair movement, simply release the joystick or move it back to the neutral position. The chair's electromagnetic brakes will engage after the chair has come to a controlled stop.

Lock/Unlock Procedure

The Q-Logic 2 Controller comes with a programmable lock/unlock option.

NOTE: The lock-out feature is not programmed at the factory. To have this feature added, contact your Quantum Rehab Provider.

To lock the controller:

- 1. Power the controller on.
- 2. Push and hold the On/Off and Mode Select Lever in the on position until the controller turns off. The controller is now locked.

To unlock the controller:

- 1. Turn the controller on. The words "System Lock" will appear on the display screen.
- 2. Move the joystick to the full forward position until you hear a beep.
- 3. Move the joystick to the full reverse position until you hear a beep.
- 4. Release the joystick. The controller is now unlocked.

Speed Adjustment Knob

The speed adjustment knob is used to control the speed of the power chair.

To change the speed:

- 1. Push the on/off button and Mode Select Lever up once to power on the chair and the controller.
- 2. To increase your speed, press the speed adjustment knob up.
- 3. To decrease your speed, press the speed adjustment knob down.

Keypad

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

Horn Button

The horn button activates a warning horn.

Menu Button

The menu button is used to access user accessibility features such as trip odometer reset and time set.

Key 1 and Key 2 Select Buttons

The key 1 select button is used to quickly and easily select drive profile 1. The key 2 select button selects the seat. Contact your Quantum Rehab Provider with any questions.

NOTE: If you Q-Logic 2 Controller is equipped with a lighting system, the menu button and key 1/key 2 select button will be replaced with a light button and left/right turn indicator buttons.

Light Button

The light button controls the front headlights and rear running lights.

To operate the lights:

- 1. Push the On/Off and Mode Select Lever up once to power on the chair and the controller.
- 2. Press the light button once to activate the front headlights and rear running lights.
- 3. Press the light button again to turn off the lighting system.

Left/Right Turn Indicator Buttons

The left/right turn indicator buttons toggle either the left or right turn indicators.

To operate the turn indicators:

- 1. Push the On/Off and Mode Select Lever up once to power on the chair and the controller.
- 2. Press the desired turn indicator button once to turn on that indicator.
- 3. Press the same turn indicator button again to turn off that indicator.

NOTE: If the left turn indicator is activated, pressing the right indicator button will turn off the left indicator and activate the right indicator.

NOTE: The turn indicator buttons also control the hazard lights. Press both turn indicator buttons at the same time to activate the hazard lights and press both buttons again to turn off the hazard lights. If the hazard lights are left on and the controller is turned off, the hazard lights will continue to flash. The Q-Logic 2 must be turned back on and both turn indicator buttons must be pressed to deactivate the hazard lights.

LCD Screen

The Q-Logic 2 provides the user with easily intuited feedback information via the LCD screen. The circle at the bottom middle of the screen represent a stoplight. A green light indicates full drive operation, an amber light indicates limited drive operation, and a red light indicates that drive operation is prohibited.

Drive Screen

The LCD provides the current time in either 12- or 24-hour clock format, the current profile, drive operation, the speed adjustment setting, the trip odometer, and the overall odometer reading.

Drive/Function Inhibit status is depicted as a green light in lower center of the screen. Actuator adjustment will affect the inhibit status. As your seat and/or back angle increases, a red light will indicate full drive lockout. If your power chair is equipped with a seat lift, a yellow light will indicate speed reduction as the seat is elevated. To return your power chair to green status, reverse operation.

Drive Profile Selection

Your Q-Logic 2 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 two different ways. Profiles 1-5 may be selected by pressing the On/Off and Mode Select Lever in the forward direction. Profile 1 may be selected by simply pressing the Key 1 select button. The selected profile is displayed on the Drive Screen.

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

To select a profile setting using the On/Off and Mode Select Lever:

- 1. Push the On/Off and Mode Select Lever up once to power on the chair and the controller.
- 2. Push the On/Off and Mode Select Lever up again to select a drive profile. Continue to cycle through the five available drive profiles.

NOTE: You can only scroll forward through the drive profiles. Pushing the On/Off and Mode Select Lever down will power off the controller.



WARNING! Drive/Function Inhibit status is read-only in your actuator adjustment (seat screen). This function is disabled in drive mode in order to prevent unintended loss of function in your power chair. Take caution when negotiating obstacles, ramps, and inclines. Whenever possible, utilize an attendant in these conditions.

WARNING! Operating your power chair on inclines and/or with tilt/recline function will affect your power chair's stability.

Actuator Adjustment (Seat Screen)

The Q-Logic 2 Controller can control five power seat actuators using the mode select lever and the joystick.

To select and adjust an actuator:

- 1. Push the On/Off and Mode Select Lever up once to power on the chair and the controller.
- 2. Push the On/Off and Mode Select Lever up several times until the seat screen is displayed on the LCD or push the key 2 select button once to go directly to actuator mode.
- 3. Push the joystick to the left or right to cycle through the available actuators until the desired actuators are illuminated on the actuator indicator. See figure 1.
- 4. When the desired actuator is selected, give a forward command to the joystick to adjust position in one direction or give a reverse command to the joystick to adjust position in the opposite direction.
- 5. Push up and release the On/Off and Mode Select Lever until you return to the desired drive profile.



Figure 1. Actuator Selection

NOTE: The Drive/Function Inhibit status is affected only in the actuator adjustment (seat screen).

iLevel® Feature (Optional)

Your power chair may be equipped with the iLevel® feature that will be used in conjunction with your TRU-Balance® 3 Power Positioning System. The iLevel® feature is mounted on a Quantum power base for enhanced stability when the seating system is elevated.

There are certain situations, including some medical conditions, where the power chair user will need to practice operating the power chair equipped with iLevel® in the presense of a trained attendant. A trained attendant can be defined as a family member or care professional specially trained in assisting a power chair user in various daily living activities.

As you begin using iLevel® during daily activities, you will probably encounter situations in which you will need some practice. Simply take your time and you will soon be in full and confident control.

Elevation (Seat Screen)

The iLevel® feature can be activated by selecting the elevating seat actuator.

To select and adjust the seat elevation using the Q-Logic 2 Controller:

- 1. Push the On/Off and Mode Select Lever up once to power on the chair and the controller.
- 2. Push the On/Off and Mode Select Lever up several times until the seat screen is displayed on the LCD or push the key 2 select button once to go directly to seat screen. **See figure 2.**
- 3. Push the joystick to the left or right to cycle through to the elevating seat mode, this is illuminated on the actuator indicator. See figure 2.

NOTE: If your Q-Logic 2 settings are different than those described, contact your Quantum Rehab Provider. Your Quantum Rehab Provider may have changed the programming of your Q-Logic 2 Controller.

- 4. When the elevating seat mode is selected, give a forward command to the joystick to adjust position in one direction or give a reverse command to the joystick to adjust position in the opposite direction.
- 5. If you want to return to another profile, push up and release the On/Off and Mode Select Lever until you return to the desired drive profile.

To activate the iLevel® using a single switch:

- 1. Press once and hold the single switch once to raise the seat and activate iLevel®.
- 2. Press and hold the single switch to lower the seat.

NOTE: The iLevel® feature is automatically engaged when the power elevating seat is activated and the iLevel® indicator is displayed on your controller. See figure 3.

The power chair should be used on an indoor, level surface, such as malls, offices, and/or medical facilities to activate iLevel®. Once the seating system actuator is started, the iLevel® boots limit movement of the front caster wheels and restrict the power chair to 1 in. - 1.5 in. (2.54 cm - 3.81 cm) of climbing ability. The seating system can be reclined or tilted up to 20° while the iLevel® feature is activated.

WARNING! The iLevel® feature should be used only on flat, level, indoor surface, such as in malls, offices, and/or medical facilities. Never raise the seat from its lowest position on an inclined surface. Failure to heed this warning can result in the power chair tipping over.

WARNING! The iLevel® feature is intended for limited outdoor use on only flat, level, hardscape surfaces. If you are unsure of your environment, do not use iLevel® outdoors.



WARNING! Always fasten the positioning belt when operating the power chair.

WARNING! Do not operate the iLevel® or change the seat height in any way while your power chair is positioned under a fixed object, such as a table or a desk. Keep area clear prior to and during movement.



PROHIBITED! Never use the iLevel® outdoors on uneven terrain (gravel, hills or other uneven, non-compact terrain) or in fields.

NOTE: The iLevel® feature is equipped with a system that allows the power chair to drive at a predetermined, safe speed when the seat is elevated. Always check to be sure this system is operating properly before using your power chair.

NOTE: If a warning appears on the Q-Logic 2 controller LCD stating "iLevel® is not engaged," the power chair's speed will be reduced to 25% when elevated. If this warning appears while on level ground, please discontinue use of iLevel® feature and consult your Quantum Rehab Provider for assistance.



Figure 4. Single Switch

Figure 3. Q-Logic 2 Controller Indicators

Main Menu

The Main Menu screen displays a list of preference settings that are user adjustable: 12-hr./24-hr. clock, amount of backlighting, measurement system (miles/kilometers), English, German, Italian, French, and Spanish language choice, and tripmeter and odometer resetting.

To make a selection from the Main Menu:

- 1. Push the Main Menu button.
- 2. Push the joystick up or down to scroll through the available main menu functions.
- 3. When the desired function is highlighted on the LCD, push the joystick to the right to select that function.
- 4. To return to the previous screen, push the joystick to the left.



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Figure 5D. Menu Screens

To change units of measurement:

- 1. Push the On/Off and Mode Select Lever up once to power on the chair and the controller.
- 2. Push the Menu button to access the Main Menu screen. See figure 5B.
- 3. Use the joystick to highlight the Handcontrol Settings option, then push the joystick to the right to select that function. See figure 5B.
- 4. Use the joystick to highlight the Sound & Display option, then push the joystick right to select that function.
- 5. Use the joystick to highlight the Measurement System option, then push the joystick right to select that function.
- 6. Use the joystick to highlight the Max option, then push the joystick right to select that function. **See figure 5B.**
- 7. Push the joystick left to select the ESC option and return to the Sound & Display menu. See figure 5B.
- 8. Press the Menu button to return to drive mode.

To change the language choice:

- 1. Push the On/Off and Mode Select Lever up once to power on the chair and the controller.
- 2. Push the Menu button to access the Main Menu screen. See figure 5A.
- 3. Use the joystick to hightlight the Handcontrol Settings option, then push the joystick right to select that function. See figure 5A.
- 4. Use the joystick to highlight the Language option, then push the joystick right to select that function.
- 5. Use the joystick to highlight the Language option, then push the joystick right to select that function.
- 6. Push the joystick up until the desired language is displayed. See figure 5A.
- 7. Push the joystick left to select the ESC option and return to the Sound & Display menu.
- 8. Push the Menu button to return to drive mode.

Bluetooth® Menu

To add a Bluetooth screen (Aux menu must be enabled by provider to use Bluetooth® functions).

The Q-Logic 2 hand control is equipped with built-in Bluetooth® that allows you to connect to a computer, smartphone, or tablet. To access the Bluetooth® functionality, you must navigate to an AUX profile where you will able to access the Bluetooth® features.

NOTE: The Bluetooth® within the Q-Logic 2 controller is not active during driving or seating operation. Once a Bluetooth® screen is accessed, the Bluetooth® becomes active and connection to the paired deviced is allowed. At no time will a connected device interrupt normal operation of the power chair.

- 1. Push the On/Off and Mode Select Lever up once to power on the chair and controller.
- 2. Push the Menu button to access the Main Menu screen. See figure 6A.
- 3. Use the joystick to highlight the Handcontrol settings option, then push the joystick to select that function.
- 4. Use the joystick to highlight the Bluetooth option, then push the joystick to the right to select that function.
- 5. Use the joystick to highlight the Bluetooth function you wish to enable, then push the joystick to the right to select that function.

NOTE: The first time you select each Bluetooth function, the "Powercycle Needed" message will appear. To proceed, you must use the On/Off and Mode Select Lever to power off, then power back on the controller to enable your selected Bluetooth function.

- 6. Push the joystick forward to enable the Bluetooth screen. See figure 6A.
- 7. Push the joystick left to select the Esc option and return to the Bluetooth menu.
- 8. Press the menu button to return to drive mode.

NOTE: This product has been tested for and has passed Electromagnetic and Radio Frequency Interference (EMI/RFI). Please refer to the Consumer Safety Guide for more information regarding EMI/RFI. Although we do no recommend using a cell phone while driving a power chair, the system is capable of receiving and/or making calls through a cell phone device, accessing music files, contact lists, and navigating a device menu.

Bluetooth	Electronic	Specifications
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Bluetooth Output Power	10 mW
Operation Range	40 m LOS (Line of Sight)
Operating Temperature	-40° F to 185° F / -40°C to 85° C
Storage Temperature	-67° F to 302°F / -55°C to 150°C
RF Wireless Technology Type	Co-existence with IEEE 802.11 (AWMA, AFH)
Encryption security	128-bit

EMC Testing on Sample Wheelchair

Susceptibility	Tested to 20 V/m to IEC 61000-4-3
Emissions	To CISPR11, Group 1, Class B
ESD	To IEC 61000-4-2



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Figure 6A. Bluetooth Menu



Figure 6B. Bluetooth Menu

Auxillary (Aux) Menu

The Aux Menu screen displays the auxiliary operations that are available when operating in the Aux profile. In a standard basic system with only a hand control and a power module, typically there is no Aux profile. In more complex systems, an Aux profile provides access to the operations made possible by the additional modules. Contact your Quantum Rehab Provider for more information.



Figure 7. Aux Menu Screen

Standyby Select Menu

The Standby Select Manu screen appears after the programmed timeout when Standby Select is enabled. Standby Select allows the user to navigate through the available profiles without the use of a Mode Key. The profile that was active when the timeout occurred is highlighted. Contact your Quantum Rehab Provider for more information.



Figure 8. Standby Select Menu Screen

Attendant Control and Stand-Alone Joystick

For more information on these applications, contact your Quantum Rehab Provider.

The Attendant Control and the Stand-alone Joystick are similarly laid out:

- On/Off Button Enables/disables power
- <u>Actuator LEDs</u> Indicates actuators in use

- <u>Battery Condition Meter</u> Indicates battery charge
- Mode LED Used for profile selection

Joystick

The joystick controls speed and direction in Drive mode. Push the joystick to the right to select actuators in Seat mode. Move the joystick forward or backward to activate the desired actuator(s).

On/Off and Mode Jacks

Allow for remote On/Off and Mode switch installations

Enhanced Display

The Enhanced Display module is primarily used with specialty control devices such as a head array. It also can be used to provide a graphical display for the Stand-alone joystick. When used with a hand control, it provides a larger display than the hand control's LCD. The Enhanced Display is mainly used in more advanced applications. Contact your Quantum Rehab Provider for more information.

The Enhanced Display has the following controls:

On/Off Button

Enables/disables power

On/Off and Mode Jacks

Allow for remote On/Off and Mode switch installations

Mode Button

Allows changes to client modes without using the client's switch or input device.

9-pin D-sub Connector

Allows for connection of a specialty control device.

LCD Screen

A color LCD display that may be equipped with built-in infrared (IR) for remote control and with Bluetooth mouse control.

<u>4-Direction Navigation Key</u>

The up/down arrows of the the four-direction navigation key activate seating functions while the left/ right arrows select previous (left) or next (right) seating functions (multiple seating functions required). The up/down arrows also navigate up and down through the menu on the menu screen, and the left/ right arrows function as Esc command (left) and Select (right).



Display Suono Italiano

Figure 9A. Enhanced Display Settings



Figure 9B. Enhanced Display Settings



Figure 9C. Enhanced Display Settings



Figure 9D. Enhanced Display Settings

Sleep Mode

A Q-Logic 2 Controller offers a sleep mode feature that will shut off the main power if the joystick remains stationary for a programmed period of time from 0 to 240 minutes. To restore power and resume operation of the chair, push the On/Off and Mode Select Lever up once. A set time of 0 minutes disables the sleep mode feature.

Thermal Rollback

The Q-Logic 2 Controller is equipped with a thermal rollback circuit that 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.

Battery Condition Meter

The battery condition meter is located in front of the joystick on the hand conrol and is an LED on the Attendant Control and Stand-alone Joystick.



Figure 10. Battery Condition Meter

Q-Logic 2 Error Codes

The Q-Logic 2 displays three types of messages: information, warning, and error. See figure 11.

- Information: Displays information that does not impact power chair functionality or performance.
- **Warning:** Alerts you to conditions that may affect power chair functionality and performance.
- **Error:** Alerts you to conditions that influence power chair functionality and performance.

Error codes are displayed on the LCD by number. 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 11. Error Codes

Error Code	Diagnosis	Solution
35, 37	Joystick Fault/Connection, Stop Sign Error #35 occurs on the screen	Check if joystick cable is connected. Turn On/Off Mode Select Lever off and then back on again to recycle the power. *See additional information in note below
36, 110	Joystick Not Centered	Release joystick while turning chair on.
46	High Battery Voltage	Disconnect charger.
47, 101, 105	Low Battery Voltage	Charge battery.
49-53	Motor Not Connected	Check motor brake connector
74-75	Motor Disconnected	Check motor brake connector
81-90	Motor/Brake Fault	Check motor brake connector
107	Charger Drive Inhibit	Disconnect charger.
111 - 112	Center Detect Fault	Check if joystick cable is connected.
131 - 132	Motor Fault	Check motor wiring.
141, 187	Drive/Actuator Restriction	Clear restriction.
192 - 195	Motor Disconnected/Shorted	Check motor brake connector.
200 - 201	Motor Fault	Check motor wiring.

NOTE: The On/Off Mode Select Lever is located on the left hand side of the controller/ joystick's screen. This is shown on Page 2 of this manual as number 3 as well as to the figure on the right. The On/Off Mode Select is a toggle switch.



Care and Maintenance

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

Temperature

Some parts of your power chair are suspectible to extreme changes in temperature. Always keep your power chair between the temperatures of 18°F (-8°C) and 122°F (50°C).

Warranty

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





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