

**drive**

**DeVilbiss**  
HEALTHCARE



# Seren Powerchair

User Manual

CE

Nithsdale

Wheelchairs

# TABLE OF CONTENTS

INTRODUCTION	-----1
IMPORTANT PRECAUTIONS	-----2
ELECTROMAGNETIC INTERFERENCE AND WARNINGS	-----3
SAFETY WARNING AND INSTRUCTION LABELS	-----5
PRODUCT OVERVIEW	-----6
OPERATING YOUR POWER CHAIR	-----8
GBK54030 LiNX LE SYSTEM INSTALLATION	-----11
DISASSEMBLING / RE-ASSEMBLING YOUR POWER CHAIR	---18
CHARGING THE BATTERIES	-----19
CARE AND MAINTENANCE	-----20
TECHNICAL SPECIFICATIONS	-----22

## INTRODUCTION

**Thank you and congratulations on purchasing your new Drive DeVilbiss Mobility Scooter. It is designed to provide you with transportation ability indoors and outdoors. Nithsdale Wheelchairs**

We pride ourselves in providing safe and comfortable products. Our goal is to ensure your complete satisfaction. We sincerely hope you enjoy your Mobility Scooter.

Please read and observe all warnings and instruction provided in this owner's manual before you operate any of the various convenient functions of this scooter. Please retain this booklet for future reference.

In case of a serious incident with the product, you should inform the manufacturer and the competent authority in your country.

**If you have any queries or concerns, please contact Drive DeVilbiss Healthcare Ltd or your local dealer.**



**European Representative :**

**Emergo Europe**

Prinsessegracht 20  
2514 AP The Hague  
The Netherlands



**Manufacturer :**

**Chien Ti Enterprise Co., Ltd**

No.13, Lane 227 Fu Ying Rd,  
Hsin Chuang District,  
New Taipei City, Taiwan



**Importer :**

**Drive DeVilbiss Healthcare Ltd.**

Sidhil Business Park, Holmfield,  
Halifax, West Yorkshire,  
HX2 9TN, Great Britain

## IMPORTANT PRECAUTIONS

- Only one person at a time can ride a Drive DeVilbiss Power Chair.
- Maximum load is 136 kg/300 lbs.
- Turn off power before getting on or off your power chair.
- Always drive carefully with your feet on the footplate and be aware of others in your area.
- Always use pedestrian crossings wherever possible. Take extreme when care crossing roads.
- Do not drive on slopes exceeding 6 degrees, and take extreme care when turning on slopes.
- Do not use full power when turning to sharp corners.
- Take great care and drive in low speeds when backing up, riding downhill, or on uneven surfaces and climbing curb.
- The power chair may not operate well in high humidity.
- Never put your power chair in neutral when staying on slopes.
- Follow all traffic laws when riding in the vicinity of public roads.
- It is NOT recommended to use your power chair in wet environments as it may cause damage.



**This powerchair must not be used as a seat in a motor vehicle.**

## ELECTROMAGNETIC INTERFERENCE AND WARNINGS

**CAUTION:** It is very important that you read this information regarding the possible effects of Electromagnetic Interference on your power chair.

Powered wheelchairs and motorized scooters may be susceptible to electromagnetic interference (EMI), which is interfering electromagnetic energy (EM) emitted from sources such as radio stations, TV stations, amateur radio (HAM) transmitters, two-way radios, and cellular phones. The interference (from radio wave sources) can cause the motorized scooter to release its brakes, move by itself, or move in unintended directions. It can also permanently damage the motorized scooter control system. The intensity of the interfering EM energy can be measured in volts per meter (V/m). Each motorized scooter can resist EMI up to a certain intensity. This is called its "immunity level." The higher the immunity level, the greater the protection will be. At this time, current technology is capable of achieving at least a 20 V/m immunity level, which would provide useful protection from the more common sources of radiated EMI. The immunity level of this motorized scooter model is 20 V/m.

There are a number of sources of relatively intense electromagnetic fields in the everyday environment. Some of these sources are obvious and easy to avoid. Others are not apparent and exposure is unavoidable. However, we believe that by following the warnings listed below, your risk to EMI will be minimized.

**The sources of radiated EMI can be broadly classified into three types :**

1. Hand-held portable transceivers (transmitters-receivers) with the antenna mounted directly on the transmitting unit. Examples include: citizens band (CB) radios, "walkie talkie," security, fire, and police transceivers, cellular telephones, and other personal communication devices.

 **Some cellular telephones and similar devices transmit signals while they are ON, even when not being used.**

2. Medium-range mobile transceivers, such as those used in police cars, fire trucks, ambulances, and taxis. These usually have the antenna mounted on the outside of the vehicle.
3. Long-range transmitters and transceivers such as commercial broadcast transmitters (radio and TV broadcast antenna towers) and amateur (HAM) radios.

 **Other types of hand-held devices, such as cordless phones, laptop computers, AM/FM radios, TV sets, CD players, and cassette players, and small appliances, such as electric shavers and hair dryers, so far as we know, are not likely to cause EMI problems to your motorized scooter.**

**Power Chair Electromagnetic Interference :**

Because EM energy rapidly becomes more intense as one moves closer to the transmitting antenna (source), the EM fields from hand-held radio wave sources (transceivers) are of special concern. It is possible to unintentionally bring high levels of EM energy very close to the power chair control system while using these devices. This can affect power chair movement and braking. Therefore, the warnings listed below are recommended to prevent possible interference with the control system of the power chair.

**Warnings :**

Electromagnetic interference (EMI) from sources such as radio and TV stations, amateur radio (HAM) transmitters, two-way radios, and cellular phones can affect the power chair. Following the warnings listed below should reduce the chance of unintended brake release or power chair movement, which could result in serious injury.

1. Do not operate hand-held transceivers (transmitters-receivers), such as citizens band (CB) radios, or turn ON personal communication devices, such as cellular phones, while the power chair is turned ON;
2. Be aware of nearby transmitters, such as radio or TV stations, and try to avoid coming close to them;
3. If unintended movement or brake release occurs, turn the power chair OFF as soon as it is safe;
4. Be aware that adding accessories or components, or modifying the power chair, may make it more susceptible to EMI; and
5. Report all incidents of unintended movement or brake release to the distributor on the back cover of this manual. Note whether there is a source of EMI nearby.

**Important Information**

1. 20 volts per meter (V/m) is a generally achievable and useful immunity level against EMI (as of May 1994). The higher the level, the greater the protection.
2. The immunity level of this product is 20 V/m.

**SAFETY WARNING AND INSTRUCTION LABELS**



<p><b>1</b></p>	<p><b>Warning Sticker</b></p> <ol style="list-style-type: none"> <li>1. Please read the instruction Booklet carefully before using your Power Chair.</li> <li>2. Keep the power chair properly maintained</li> <li>3. Do not drive the power chair on slippery surfaces or on slopes over 6 degrees limit.</li> <li>4. Do not drive on highway, crowded roads, or unfamiliar areas.</li> <li>5. Do not turn at high speed in either forward or reverse.</li> <li>6. Do not wash with water or leave power chair in a humid environment since water can damage the electronic parts.</li> <li>7. Always re-engage the emergency freewheel device after use.</li> </ol>												
<p><b>2</b></p>	<table border="0"> <tr> <td> <b>Serial Number</b></td> <td> <b>EU Authorized representative</b></td> </tr> <tr> <td> <b>Model Number</b></td> <td> <b>Medical Device</b></td> </tr> <tr> <td> <b>Date of Manufacture</b></td> <td> <b>European Conformity</b></td> </tr> <tr> <td> <b>Manufacturer</b></td> <td> <b>Consult Instructions for Use</b></td> </tr> <tr> <td> <b>Warning</b></td> <td> <b>Maximum weight capacity</b></td> </tr> <tr> <td> <b>WEEE Conformity</b></td> <td> <b>Importer Information</b></td> </tr> </table>	<b>Serial Number</b>	<b>EU Authorized representative</b>	<b>Model Number</b>	<b>Medical Device</b>	<b>Date of Manufacture</b>	<b>European Conformity</b>	<b>Manufacturer</b>	<b>Consult Instructions for Use</b>	<b>Warning</b>	<b>Maximum weight capacity</b>	<b>WEEE Conformity</b>	<b>Importer Information</b>
<b>Serial Number</b>	<b>EU Authorized representative</b>												
<b>Model Number</b>	<b>Medical Device</b>												
<b>Date of Manufacture</b>	<b>European Conformity</b>												
<b>Manufacturer</b>	<b>Consult Instructions for Use</b>												
<b>Warning</b>	<b>Maximum weight capacity</b>												
<b>WEEE Conformity</b>	<b>Importer Information</b>												
<p><b>3</b></p>	<p><b>Wiring diagram label</b></p>												
<p><b>4</b></p>	<p><b>Left N-D Lever adjustment label which instructs freewheel mode operation.</b></p>												
<p><b>5</b></p>	<p><b>Right N-D Lever adjustment label which instructs freewheel mode operation.</b></p>												

**PRODUCT OVERVIEW**

Before attempting to drive this scooter on your own, it is important that you familiarize yourself with the controls, and how to operate them.

**Intended use :** The Drive DeVilbiss Power Chair provide a means by which a disabled occupant i.e. a disabled person or a person not having the full capacity to walk unaided to have mobility and the freedom to travel.

**Indication :** The occupant is an adult who requires a power chair due to current or anticipated mobility limitations.

**Contra-indications :** Individuals that exceed the maximum user weight.



Figure 1 - SEREN Power Chair Front View

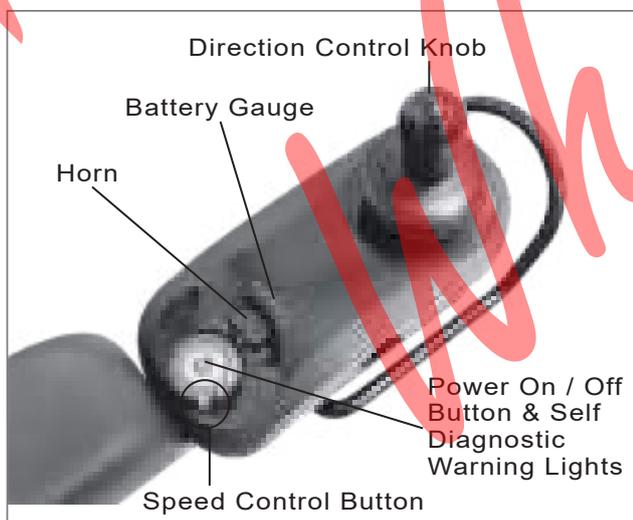


Figure 2 - SEREN Joystick

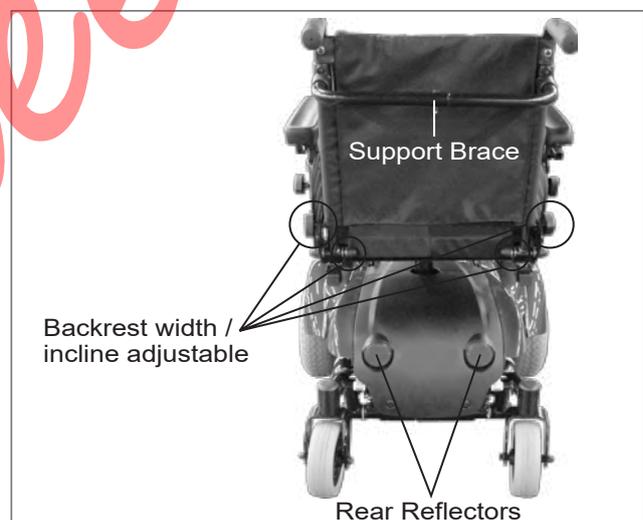


Figure 3 - SEREN Power Chair Rear View

**JOYSTICK :**

- Self Diagnostic Warning Lights

Flashing of lights indicates there is a problem within power chair. See section 2.1.8, 2.1.9 and 3 for more information.

- Battery Gauge

There are eleven LED lights on joystick. When all LED lights are on, batteries are fully charged; The Battery Gauge is used to indicate power on and provides an estimate of the remaining battery capacity.

Any green LEDs lit indicate well charged batteries.

If only amber and red LEDs are lit, the batteries are moderately charged. Recharge before undertaking a long trip.

If only red LEDs are lit, the batteries are running out of charge. Recharge as soon as possible.

- Extendable Bracket

By releasing Knob (B) the joystick bracket (C) is able to extend and retract. With joystick retracted, this enables you to pull up to any table, and tighten knob (B), when adjusted to a comfortable position.



Figure 4



Figure 5

**FOOTPLATE :**

- Footplate

The footplate can be adjusted according to your specific needs. The width and height of the footplate can be adjusted. To adjust footplate, loosen screw and arrange height to desired position, then, tightened screw to secure plate in place. (D & E)

**POWER BASE :**

- Free-Wheeling Lever

When lever is in N (Neutral) position, power chair can be moved manually.

When lever is in D (Drive) position, power chair can be driven. Normal position is D.

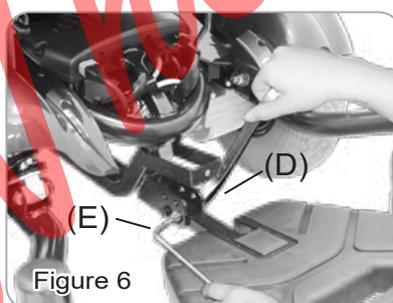


Figure 6

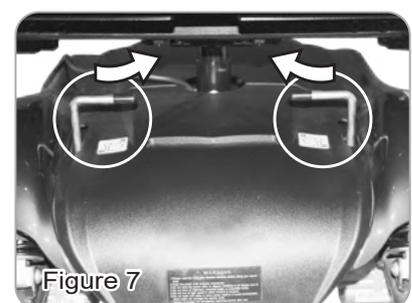


Figure 7

## OPERATING YOUR SCOOTER

Before beginning your journey with your new power chair, make sure power chair is on a level surface and clear of any obstacle. Although your power chair is able to climb slopes, it is safer to practice on a levelled surface.

1. Before operating with your power chair, check the following:

- free-wheeling lever is on D.
- speed dial is at the lowest speed (fully turned counter clockwise).

2. Sit on chair and fasten seat belt.

3. When power is turned on, all battery gauge LED lights should be lit lighting. The self-diagnostic warning lights should not be blinking.

4. While resting your arm on armrests, joystick should be within reach. By pushing joystick slightly forward, power chair will move forward slowly, and pushing joystick fully forward, chair will move at normal speed. And adjusting speed dial will also decrease or increase speed. Also, with joystick, you are able to turn chair in 360°. When joystick is let go and back in centre position, chair will stop.

5. Practice driving where there is no obstacle. Start at slowest speed and move forward and backward; make some turns. As you get more comfortable, you can increase the speed by turning speed dial knob clockwise.

### Operation armrest :

- Pull pin out can release lock and able to lift up armrest.
- Use hex spanner to loosen the screw, adjust armrest height to a comfortable height and fasten the screw.
- By lifting up lever (K) to rotate seat (See Fig. 12)

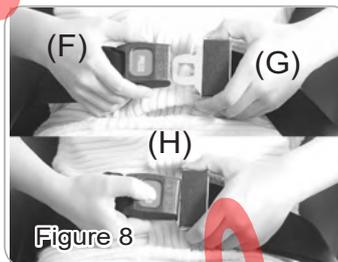


Figure 8

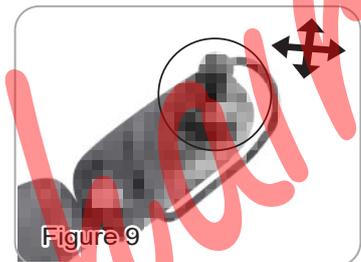


Figure 9

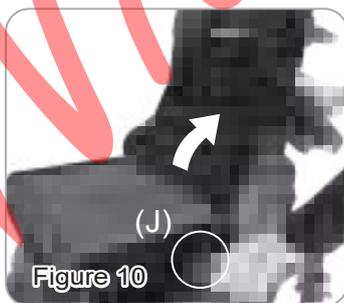


Figure 10

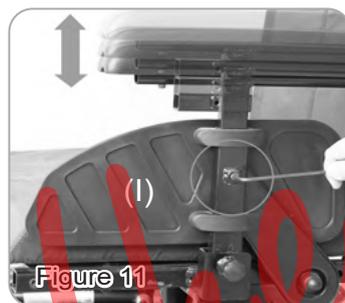


Figure 11

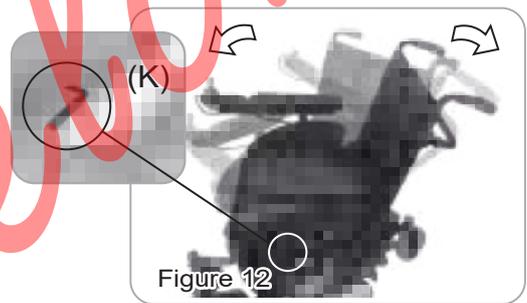


Figure 12

### Seat Adjustment :

(A). Armrests' Width Adjustment By releasing both sides knobs, and adjust armrests to a comfortable position, then tighten with knobs.

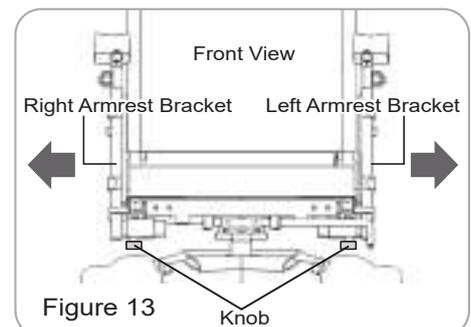


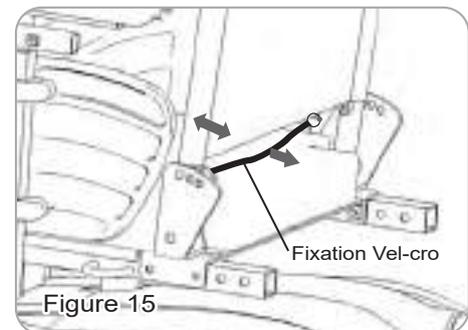
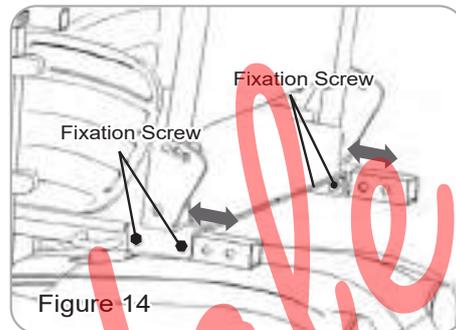
Figure 13

**(B). Seat's Depth Adjustment**

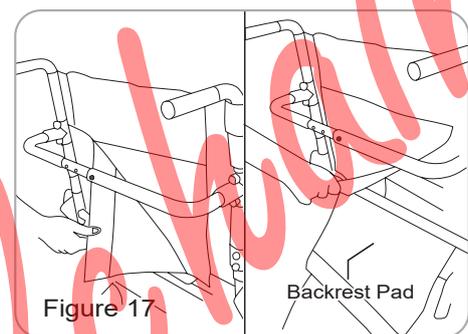
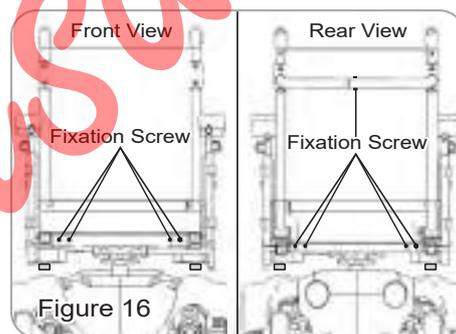
By releasing fixation screws from back sides, and adjust to a comfortable position, then tighten with fixation screws.

**(C). Backrest Angle Adjustment**

By pulling the fixation vel-cro backwards to disengage the pins from the holes, and adjust angle to a comfortable position, then release fixation vel-cro to engage to it's position.

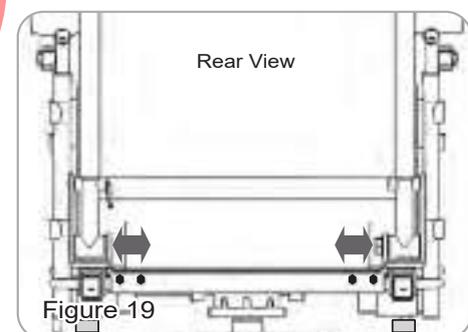
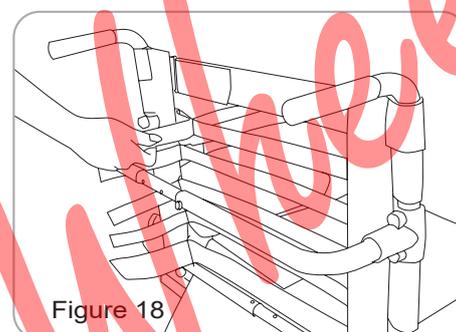
**(D). Seat's Width Adjustment**

1. By taking front&rear and support brace's fixation screws(9pcs) off.
2. Take off backrest pad by release it's vel-cro.



3. Release all backrest's vel-cro straps.

4. Adjust frame to a comfortable width position and adjust vel-cro to appropriate tightness, then put backrest pad back, complete by tighten 9pcs of width fixation screws.

**Keep in mind these rules :**

- Use your power chair only where it is safe to walk.
- Drive in low speed when reversing, riding downhill on ramp or curb or on uneven surface.

**Other Operating Information :**

**Hill climbing :** You may need to use a higher speed. For a higher speed, turn speed dial

**Down slopes :** Proceed with downward, slope slowly, and turn speed dial counter clockwise. This enables good control when speed is set in slower motion. However, your power chair will not self accelerate down hills due to automatic braking, taking effect should you attempt to drive too fast.

**Curb climbing :** Approach slowly from right angles to the curb. A direct approach is needed. Do not attempt greater than a 2" curb.

If Self-Diagnostic Warning Lights start to flash, identify problem from chart in section 3 and take action.

**If power chair breaks down and must be moved, please follow below directions :**

1. Get off power chair.
2. Push free-wheeling lever to N.
3. Move power chair slowly to a safe location.
4. Push free-wheeling lever back to D.

Nithsdale  
Wheelchairs



*Nithsdale  
Wheelchairs*



dynamic™ 

LiNX LE System Installation Manual

# 1 Installation procedure

1. First read and fully understand this manual.
2. Mount all the electrical parts of the wheelchair system (motors, park brakes, batteries, Power Module, Remote) on the wheelchair to identify physical dimensions.
3. Do not connect any cables before all the parts of the electrical system are mounted.
4. Connect the LiNX LE System Power Module to the motors the park brakes and the Remote.
5. Connect the LiNX LE System Power Module to the batteries.

**Do not turn on the wheelchair yet.**



### Warning:

*Do not connect the positive terminal (B+) of the battery to the LiNX LE System Power Module until the wheelchair is completely wired and ready for testing as described in the Testing section.*

6. Lift the wheelchair off the ground and check the installation thoroughly.
7. Program the system to the requirements of a particular wheelchair or user.
8. Test the system for functionality and safety.

## 2 Operation

### 2.1.1 Power up / down



### Note:

*In the unlikely event that the wheelchair is in a runaway situation, the user can press the Remote's power button to perform an EMERGENCY STOP. See section 2.1.2 Emergency stop*



Figure 20

To switch ON the LiNX LE System, press the Power button. The Power button is the only user input that can activate the system.

If the system is healthy, the Status indicator (through the Power button) will light up green, and the Battery Gauge will display the current battery status.

If there is a fault with the system when powering up, the status indicator will indicate the fault with a series of red flashes (see section 3 Diagnostics). If the fault is one that prevents the system from driving, then the battery gauge will flash continuously.



Figure 21

To switch OFF the system, press the Power button; the system will power down and the Status indicator will switch off.

The Power button is also used to perform an EMERGENCY STOP. See next section.



### See also:

*2.1.9 The status indicator*

### 2.1.2 Emergency stop

If the user needs to stop the wheelchair quickly, the Power button can be pressed to perform an EMERGENCY STOP. The wheelchair will come to a halt quickly; the rate is set by the Emergency Deceleration parameter.

 **See also:**  
*If this parameter is set too high, the user can lose balance or fall out of the chair.*

### 2.1.3 Drive inhibit indication

Drive inhibit mode is indicated by the battery gauge with a right-to-left chase sequence.

The chase sequence starts with the green LED on the right-hand side, and one-by-one, each LED will switch on and then off. When the sequence completes at the left-most red LED, it begins again at the right-hand side.

The chase sequence continues until the error condition has been cleared.

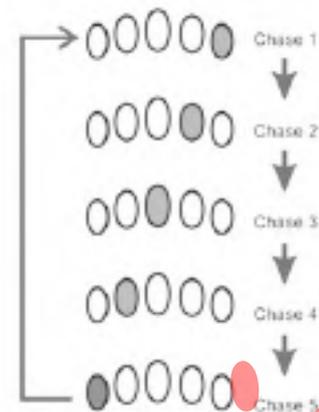


Figure 22 Drive inhibit chase sequence

### 2.1.4 OONAPU

OONAPU ("Out Of Neutral At Power Up") is a safety feature that prevents accidental movement of the wheelchair, either when powering up, or when the wheelchair comes out of an inhibit state.

If the LiNX LE System is turned on (or comes out of an inhibit state) while the joystick is not in the centre position, an OONAPU warning is displayed. During an OONAPU warning, the battery gauge LEDs will flash continually to alert the user, and the chair will not drive. If the joystick is returned to the centre position within five seconds, the warning will clear and the wheelchair will drive normally.

However, if the joystick remains out of neutral for longer than five seconds, an OONAPU error will occur; the error is displayed by the Status indicator flashing red, and the chair will not drive. To clear the error, return the joystick to the neutral position and power the unit off and then on again.

 **See also:**  
 3. Error indication

### 2.1.5 The joystick



figure 23 The joystick

The joystick controls the direction and speed of the wheelchair.

When the joystick is deflected from the centre position, the wheelchair will move in the direction of the joystick movement.

The speed of the wheelchair is proportional to the joystick deflection, so that the further the joystick is moved from the centre position, the faster the wheelchair will travel.

The joystick can also be used to wake up the system in sleep mode.

**2.1.6 Controlling maximum speed**



The speed dial allows the user to limit the maximum speed of the wheelchair (that is, the speed when the joystick is fully deflected) to suit their preference and environment.

The dial offers 10 discrete steps between the lowest speed (dial set to the left) and the highest speed (dial set to the right).



As a visual reminder, a speed symbol (shown left) is positioned just below the speed dial to indicate the low and high positions of the speed dial.

**2.1.7 The horn**



The Horn button is located above the Power button. Press the Horn button to sound the horn. The horn will sound for as long as the Horn button is pressed.

**2.1.8 The battery gauge**

The battery gauge comprises five different LEDs (1 x RED, 2 x AMBER, 2 x GREEN), situated above the Remote's Horn button. The number of LEDs lit depends on the status of the battery, as shown below.

The battery gauge LEDs are also used to display charging information. See section 2.2 Battery charging for more details.



**2.1.8.1 Normal operation**

Battery Gauge	Battery Level	Notes
	Fully charged	This level is set by the battery Gauge Maximum parameter.
	Consider charging battery	
	Battery needs charging	This level is set by the battery Gauge Minimum parameter.

Figure 28 Battery gauge operation

### 2.1.8.2 High voltage warning



Figure 29 High voltage warning

A high voltage warning is indicated by all LEDs on, and the green LEDs flashing. This occurs when the battery voltage level has risen above the high voltage warning set-point.

### 2.1.8.3 Low voltage warning



Figure 30 Low voltage warning

A low voltage warning is indicated with the left-most LED flashing. This occurs when the battery voltage level has decreased below its low voltage warning set-point.

Charge the battery immediately.

### 2.1.8.4 Cut-off voltage



Figure 31 Cut-off voltage

When the battery voltage decreases below the battery cut-off voltage:

- the first (red) LED will flash on the battery gauge
- the status indicator (under the power button) will display a flash code 2 or 7
- the horn will sound once every 10 seconds

### 2.1.9 The status indicator



Figure 32 The status indicator

The status indicator is located underneath the power button. When the LiNX LE System is not powered up, the status indicator is not lit.

When the LiNX LE System is powered up, and there are no faults with the system, the status indicator will be lit green.

If, when powered up, there is a fault with the system, then the status indicator will flash red. The number of flashes will indicate the type of error. See section 3. Error indication for flash codes.



**See also:**  
3 Error indication

**2.1.10 The XLR charger connector**



The XLR charger connector, which is located on the right-hand side of the Remote, is used to connect to either a battery charger or the LiNX Access Key.

Figure 33 The XLR charger connector

**See also:**  
2.2 Battery charging

**Warning:**  
Make sure that the battery charger that is used with the vehicle has a drive inhibit function that is correctly connected for use with the controller. The maximum voltage on the inhibit pin must not exceed 3V if a battery voltage is to be detected when the battery charger is connected. If you are not sure, ask your dealer or vehicle manufacturer.  
  
The XLR charger connector on the Remote is to be used exclusively for the intended purpose. Warranty will be voided if any unauthorised device is connected to this port.

**2.1.11 The LiNX Communications Bus connector**



The LiNX Communications Bus connector can be found on the lower front of the Remote (see Figure 34 The Remote: user interface and connectors). The LiNX Communications Bus loom plugs directly into this socket, providing the Remote with both power and communication to the power module.

Figure 34 The LiNX Communications Bus connector

**The lock function**

The lock function is used, primarily, to restrict who can use the system, but also can help prevent unintentional use of the controls for when the system is not required for any length of time.

When a system is locked (see below), the system is powered down, and the user controls are not responsive. If the power button is pressed when the system is locked, the locked status is displayed to the user by the Battery Gauge.

To unlock the system, an unlock sequence must be performed (see below) by the user within a specific timeframe. If the sequence is not performed correctly, within the timeframe, the system remains locked.



Power OFF

To lock the system, press and hold the Power button for 4 seconds.

When entering the locked state, the battery gauge will indicate the transition by flashing LEDs 1, 3, and 5 (far left, middle, and far right) 3 times.



Power ON

To unlock the system, press the Power button once, and then, press the Horn button twice - the Horn button must be pressed twice within 10 seconds of pressing the Power button.



If the user implements the unlock sequence incorrectly, or the Power button is pressed again before the unlock sequence is complete, the system will return to the locked state.

During an unlock attempt, the battery gauge will indicate the system is in a Locked state by flashing LEDs 1, 3, and 5 (far left, middle, and far right) until either the system is powered off, unlocked, or the Sequence Timeout is reached.

## 2.2 Battery charging

Plug the battery charger into the Remote's XLR socket.

The Battery Gauge will indicate the system is being charged by cycling between a left-to-right chase sequence, and then displaying the approximate battery charge state at the end of the chase sequence.

Driving is prevented (inhibited) while the system is being charged.

The LE system does not have to be powered up when charging the battery, however, if it is not powered up, then the battery gauge will not display the charging state/ chase sequence.

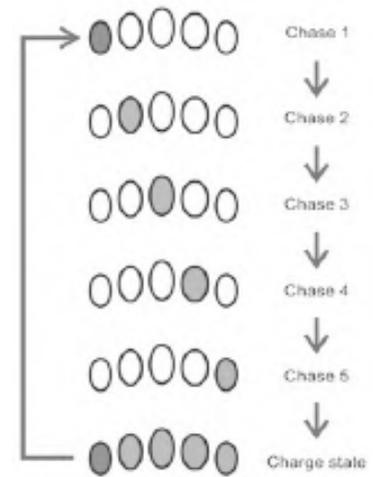


Figure 35 Battery charging chase sequence

**Warning:**  
*The maximum charging current for the LiNX LE System is 6A.*  
*The wheelchair manufacturer must specify an appropriate battery charger for the batteries used in the wheelchair.*  
*The wheelchair manufacturer must also specify the maximum current of any battery chargers to be used with the controller and warn against using battery chargers of higher current ratings.*  
*The battery charger must have over-current protection in the form of a non-resettable fuse.*  
*It is the responsibility of the wheelchair manufacturer to manage the risks of battery over-charging and any related gas emissions.*  
*To protect the wheelchair wiring from over currents while charging the batteries, chargers must have the ability to reduce their current output when electrically shorted.*

## 3 Error indication



Figure 36  
The status indicator

If, when powered up, there is an error with the system, then the status indicator will flash red. The number of flashes will indicate the type of error. These are described in the table below.

Flash code	Error description
1	Remote / joystick error
2	Network or configuration error
3	Left motor error
4	Right motor error
5	Left park brake error
6	Right park brake error
7	Module error (other than Remote)

For more information about the error, and what to do about it, open the logs within one of the programming & diagnostic tools.

## DISASSEMBLING / RE-ASSEMBLING YOUR POWER CHAIR

Taking apart your power chair enables you to save space when keeping it in storage or carrying it along in your vehicle. Powerchair disassembly does not require specialist tools

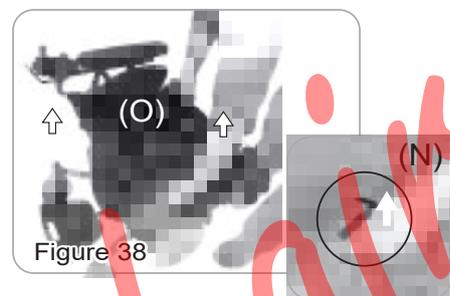
### Joystick Cable Removal :

Please follow instructions below to remove joystick cable (M) from armrest.

1. Unplug joystick cable (See Fig. 37).
2. Press lock pins underneath front and along seat sides to unlock, then lift chair up to remove (See Fig. 38) Joystick cable is tied up by 3 cord clips on armrest (See circles on figure 37). Remove cable from armrest.

### Seat Removal :

1. Disconnect communication bus connector (M)
2. Pull up the seat lock lever (N).
3. Lift up on seat assembly (O) to remove (See Fig. 38).



### Body Shroud Removal :

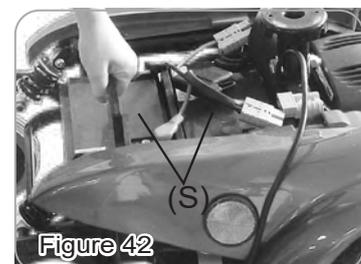
1. Remove 3 push rivets (P1) from both front shroud (P) and rear shroud (P2).
2. Follow the arrow's direction to lift up shrouds (See Fig. 39).



**! use a screwdriver to press down at the centre of the push rivet to release the shroud.**

### Battery Removal :

1. Disconnect two battery plugs (Q) (See Fig. 40).
2. Unfasten velcro strap that hold batteries in place (See Fig. 41).
3. Remove two batteries (S) (See Fig. 42).



**! Be careful when carry the batteries as they are heavy. DO NOT connect the Positive (+) to the Negative (-) battery terminal by any conductive metals.**

### Re-assemble :

To re-assemble your power chair, you can repeat disassembly directions in reverse.

## CHARGING THE BATTERIES

Your Drive DeVilbiss power chair is equipped with two, service free 12V.36Ah rechargeable batteries and one 24V/5A off-board charger. Batteries must be charged before using power chair for the first time and it is recommended to be charged up to 8 - 14 hours after each day's use. Be sure power switch is in OFF position and free-wheeling lever is in "D" position.

### Charging the batteries :

1. Position power chair next to a standard wall outlet.
2. Insert the battery charger cord into the chair input battery charging socket (XLR charger connector see 2.1.10).
3. Plug the other end of power cord into a standard electrical wall outlet.
4. Switch the charger power On.

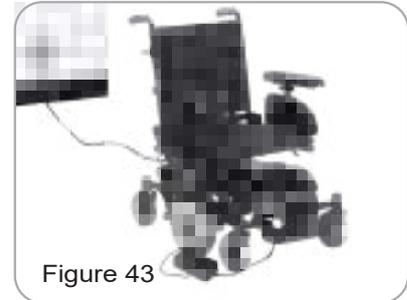


Figure 43

### During the recharge :

While the batteries are being recharged, an orange light appears on the battery charger, indicating that the power is connected and charging is in progress.

### At the end of the recharge cycle :

1. A green light will appear on the charger. This indicates that the batteries are fully charged and ready for use.
2. Please unplug power cord from wall outlet and power chair. The power cord should be stored in a safe and dry area until next use.



**If charging your power chair for over 8 - 14 hours and it does not function, please check :**

- fuse is not burned out
- power chair is turned off
- circuit breaker is pushed in
- if none of above is the problem, contact your authorized dealer.

**The time needed to recharge will vary depending on depletion of batteries. Charging for longer than necessary will not harm batteries. They cannot be overcharged.**

### For safety, please follow the guidelines below :

1. DO NOT use the charger if the power cord is damaged.
2. DO NOT use an extension cord when charging your batteries.  
A risk of fire and/or electric shock could be encountered.
3. DO NOT take apart the charger, as this will void the warranty.

### Keep in mind these rules :

- Fully charge batteries at least once a month, or more if you use power chair regularly. Charge after each trip exceeding 3 kilometres.
- If storing your power chair for some time (1 month or more), make sure that batteries are fully charged, and on returning, charge them again before using power chair.
- Batteries will only give maximum performance after power chair has been used, and batteries have been recharged up to 10 times.

Please be aware that the travelling range of your power chair is impacted by how fast the batteries are discharged. This will depend on many circumstances, such as ambient temperature, condition of the surface of the road, tyre pressure, weight of the user, driving environment (inclines etc.) and utilisation of your lighting system if fitted. We recommend that you test your local ride with a family member to ensure a safe journey.

## CARE AND MAINTENANCE

Taking care of your power chair will keep it in optimal condition. It is recommended that you have your dealer provide a thorough inspection and servicing. Regular cleaning will reveal loose or worn parts and enhance the smooth operation of your powerchair. Routine maintenance will extend the life and efficiency of your powerchair.

### BODY SHROUD :

If your power chair is dirty, use a damp or lightly soapy cloth to wipe it down. Do not use running water to wash or rinse power chair in order to protect electrical parts. Polish with an automotive liquid polish.

### SEAT AND ARMRESTS :

The seat material used by Drive DeVilbiss Healthcare is of high quality and will remain in good condition for many years if treated responsibly. Using a damp cloth helps clean the upholstery greatly. Please note that using power chair outdoors could lead to sun damage to upholstery material, and normal wearing and tearing is not covered under warranty.

### SEAT BELT :

A damp cloth with mild soap should only be used to clean seat belts. Wipe seat belts gently and remove residue. Do not use any chemical products to clean seat belts as fabric will be weakened.



**An authorized dealer should handle all maintenance and repair associating with electronics, batteries, motor parts, and tires. Here are the guidelines that can be followed by authorized dealer.**

### FLAT SPOT (for solid tires only) :

During storage period, a flat spot may occur to solid tires. Weather conditions and storage period determine the condition of flat spots. By driving power chair 20 to 30 minutes, flat spots could be eliminated.

### TIRE PRESSURE (for air-filled tires only) :

The condition of tires and maintenance of specified tire pressures not only influence tire life, but also effect road safety to a very considerable extent. Incorrect pressure is often a cause of tire problems and could result in an accident. The recommended tire pressure is 35 psi.

### TIRE TREAD :

Inspect the tires frequently for any signs of damage, such as unusual wearing or insufficient tread depth. Tread depth should not be allowed to drop below 1 mm.

### ELECTRICAL CONNECTIONS :

Make sure battery terminals and all plug connectors are secured and firmly attached. If battery terminals are corroded, please contact your dealer for replacement.

### HARDWARE :

Check that all hardware is securely fastened. Replace any missing hardware by contacting your dealer.

### STORING :

Between uses, your power chair is best stored in a dry location at room temperature.

**Other Problems :**

- **Power chair will not move when power is turned on :**
  1. Check Battery Gauge on joystick. All LED lights should be on.
  2. Check Self-Diagnostic Warning Light. It should be steady; if it is flashing, see the chart in section 3 for problem identification.
  3. Check all electrical connections to be sure they are tight.
  4. Make sure batteries are connected correctly. Refer to "Installation of Batteries" in section 1.
  5. If none of above correct problem, contact your authorized dealer.
- If charging your scooter for over 14 hours and light on charger does not change to green, then contact your authorized dealer.

Nithsdale  
Wheelchairs

## SPECIFICATION

Seat Type	Padded, Breathable Ballistic Nylon Back Rest
Overall Length	995 mm / 39"
Overall Width	610 mm / 24"
Overall Height	930 mm / 37"
Wheels Front	155 mm / 6"
Wheels Middle	260 mm / 10"
Wheels Rear	155 mm / 6"
Weight W/ Batteries	80 kg / 176 lbs
Max. Speed	6.7 kmph / 4.2 mph
Weight Capacity	136 kg / 300 lbs
Ground Clearance	60 mm / 2.4"
Grade Climbable	6 degree
Curb Climbing	40 mm / 1.6"
Turning Radius	620 mm / 24.4"
Stopping Distance	1.1 meter
Brake	Electro-Mechanical
Seat Width	420 - 470 mm / 16.5" - 18.5"
Seat Depth	450 - 475 - 500 mm / 17.7" - 18.7" - 19.6"
Armrest Height	225 - 280 - 270 mm / 8.9" - 9.8" - 10.6"
Seat Back Angle	100 - 120 degree
Seat Back Height	445 mm / 17.5"
Drive Train	2 Motor, Rear-Wheel Drive
Battery Weight	24.2 kg / 53 lbs
Motor Size	420W 4900 r.p.m
Travel Range	20 km / 12.4 Miles
Battery	(2) 12V. 36Ah
Charger	5A Off Board
Input Voltage range	115/230 Vac
Input frequency range	50/60 Hz
Output Voltage	24 Vdc
Charging Output Voltage	28.8 Vdc
Output Current	5A
Output Power	144W

\*Subject to change without notice. ( Rev. 7, 2021/04/08 )

Nithsdale

Wheelchairs

Nithsdale

Wheelchairs

## Warranty Information

Drive DeVilbiss Seren Powerchairs are warranted for 12 months (24 months frame) from the date of purchase on side frames and crossbars. (NB Batteries are warranted for 12 months.)

- » During the warranty period any parts that have become defective due to faulty workmanship or material will be repaired or replaced without charge by Drive DeVilbiss supplier/dealer
- » The warranty excludes tyres, punctures and items that become worn due to normal wear and tear such as upholstery and armrest pads
- » The warranty excludes all items that have been subject to undue wear and tear and misuse
- » Unauthorised changes or modifications will forfeit your warranty
- » If a defect or fault is discovered, the Drive DeVilbiss supplier/dealer from whom the powerchair was purchased should be notified immediately

## Limitation of Liability

The warranty does not extend to the consequential costs resulting from fault clearance, in particular freight and travel costs, loss of earnings, expenses, etc. The manufacturer will not accept responsibility for any damage or injury caused by misuse or non-observance of the instructions set out in this user manual.

Dealer Stamp

Nithsdale Wheelchairs

**drive**

**DeVilbiss**  
HEALTHCARE

Drive DeVilbiss Healthcare Ltd. Sidhil Business Park,  
Holmfield, Halifax, West Yorkshire, HX2 9TN, Great Britain

Tel: 0845 0600 333

Fax: 0845 0600 334

Email: [info@drivedevilbiss.co.uk](mailto:info@drivedevilbiss.co.uk)

[www.drivedevilbiss.co.uk](http://www.drivedevilbiss.co.uk)