



Ability Drive® Manual



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User's Manual for Ability Drive®

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The information in this manual is subject to change without notice.

You can download the latest version of this manual in English from

toltechnologies.com/ADTmanual

Welcome

Ability Drive® gives you the power to be independently mobile in your powered wheelchair.

This manual will help you get started driving your chair right away. Once you are fully operational, don't forget to check out the additional information and videos available at:

toltechnologies.com/support

Install Ability Drive® from:

abilitydrive.app

Contact Us

You may contact us via Slack using the Chat button on the settings screen of Ability Drive® or tt-customers.slack.com

In the United States, Canada, or the United Kingdom

Contact us via email: support@toltechnologies.com

Call or text: +1(425)242-3902

In the European Union

Contact our Authorized Representative via email: info@aabentoft.dk

Call or text: +45 86 97 53 00

Please fill out our warranty registration at:

toltechnologies.com/warranty

Terms & Conditions

Only use your power wheelchair in a safe environment.

Only use Ability Drive® on a supported eye gaze device with a supported power wheelchair. See tolttechnologies.com/supportedDevices for the most updated list of devices.

Only use the Ability Drive® app with the corresponding Ability Drive® hardware.

Every effort has been made to make Ability Drive® safe. We are not responsible for errors or omissions to the software, hardware, or this manual.

Tolt Technologies™ takes no responsibility for what a person chooses to do with their chair, nor the situation that they decide to be in. It is up to the person and caregivers along with their Assistive Technology Professionals and prescribing providers to determine when the use of Ability Drive® is safe and appropriate.

Ability Drive® is a control interface allowing an eye gaze device to control a power wheelchair. The eye gaze device selected, the power wheelchair selected and how the power wheelchair is configured affects the performance and safety of Ability Drive®. Please review the power wheelchair and the eye gaze device specifications, limitations, and usage parameters. Ability Drive® does not affect the power wheelchair's performance or the ability to accelerate, achieve maximum speeds, brake, turn or climb obstacles. The power wheelchair must be configured with safe limits for all available modes including driving and seating.

Intended Use

Ability Drive® is intended to be used with a power wheelchair as a control device for people who can not use a joystick. This device is intended primarily to provide a way for people who have movement challenges due to injury, disability, or illness to control their power wheelchair.

Ability Drive® meets the definition for medical equipment; and is registered as a Class 1 medical device with the US FDA and a Class 1 medical device with Health Canada. Ability Drive® does not sustain or support life. In case of device failure, **user must ensure that there is an alternative method of controlling the power wheelchair available as a back-up, such as an attendant control.**

Warnings

CAUTION! First drive

The first time you drive your wheelchair must be in the presence of a certified Assistive Technology Professional or therapist who is qualified to ensure that the wheelchair is properly configured for you, and you are in a safe environment.

CAUTION! Qualified service technician

Only carry out maintenance and minor adjustments that are specified in the user manual. All other maintenance, service, configuration, and repairs must be carried out by a qualified service technician authorized by Tolt Technologies™.

WARNING! Do not drive near edges or on elevated surfaces

Ability Drive® is not designed to be used near edges or on elevated surfaces, such as ramps, stairs, and multi-level floors.

CAUTION! Sunlight interferes with eye control

Eye control cameras rely upon being able to see your eyes' pupils clearly to determine where you are looking on the display device. Sunlight interferes with these cameras and can cause loss of control. You may lose precision of control or be stranded. See Appendix 9 on Page 30 for mitigation strategies.

CAUTION! Changing seating position can affect eye control

Eye control cameras rely upon a proper position relative to your head in order to have a clear view of your eyes. Changing seating position can cause this relative position and the camera view to be compromised resulting in loss of precision control.

WARNING! Do not drive while reclined, tilted, or elevated.

Do not drive the wheelchair using Ability Drive® while the wheelchair is reclined, tilted, or elevated. These positions can affect the camera view in Ability Drive®.

WARNING! Do not drive on public roads

Do not drive the wheelchair on public streets or roads. Your wheelchair is not an automobile. Obey all local pedestrian rules and always drive your wheelchair defensively. Ability Drive® is a wheelchair control interface only, it does not change how your wheelchair behaves.

WARNING! Do not drive near fast-moving objects

Do not drive the wheelchair near fast-moving objects such as trains, planes, cars, and buses.

WARNING! Replace damaged components

If either the plug or cable becomes damaged, both must be replaced by qualified personnel.

WARNING! Use only approved eye gaze devices

Using Ability Drive® on untested devices is known to be unsafe and can cause injury.

WARNING! Do not modify the wheelchair or Ability Drive® components

Do not modify your wheelchair, Ability Drive®, or any of its components. Ability Drive® and your wheelchair have been configured specifically for your needs as prescribed by your healthcare provider. Special skills, training, and knowledge are needed to set up, modify, and repair Ability Drive® and the wheelchair.

CAUTION! Do not use a damaged wheelchair

If the wheelchair or its accessories have suffered transportation damage during driving, or damage from other causes, you must inform your assistive technology professional as soon as possible and immediately stop using your wheelchair. There is a risk that the wheelchair or its accessories can no longer be used safely. Contact your service provider for further information.

WARNING! Discontinue use after extraordinary events

Do not use your device if it has been dropped, crushed, exposed to fire, submerged in water, or involved in a vehicular accident, or other extraordinary events. Events like these can lead to significant damage that is impossible to detect upon inspection. Contact your service provider. Damage caused by these types of incidents exceeds the limits covered by the manufacturer's warranty.

WARNING! Supervise children and those with cognitive disabilities

Do not let children or people with cognitive disabilities drive the wheelchair without supervision. A buddy button must be available for the caregiver.

WARNING! Discontinue use if the wheelchair does not behave as it should

If the wheelchair is not behaving as it should, or if you suspect that something is wrong, stop Ability Drive® immediately to stop the wheelchair. Turn off the power and contact your service provider or Tolt Technologies™ for further information.

WARNING! Turn off the power before you transfer or before you lift the armrest

Turn off the power before you transfer in or out of the wheelchair or lift the armrest. If you do not, it can lead to bodily injury.

CAUTION! Eye gaze devices must be securely mounted

Eye gaze devices must be securely mounted in the appropriate position for eye gaze control. The mounting system must be able to maintain the positioning of the eye gazed device while the power wheelchair is being driven.

WARNING! Installing software or changing settings can lead to lack of control

Installing 3rd party software, or changing the default settings such as power management, or notifications on approved devices can lead to Ability Drive® being less responsive to eye gaze commands leading to lack of powerchair control and potential injury.

! WARNING! Stacked equipment

Use of this equipment adjacent to or stacked with other equipment should be avoided because it could result in improper operation. If such use is necessary, this equipment and the other equipment should be observed to verify that they are operating normally.

! WARNING! Use approved cables

Use of accessories, transducers and cables other than those specified or provided by the manufacturer of this equipment could result in increased electromagnetic emissions or decreased electromagnetic immunity of this equipment and result in improper operation.

! WARNING! Portable RF communications equipment

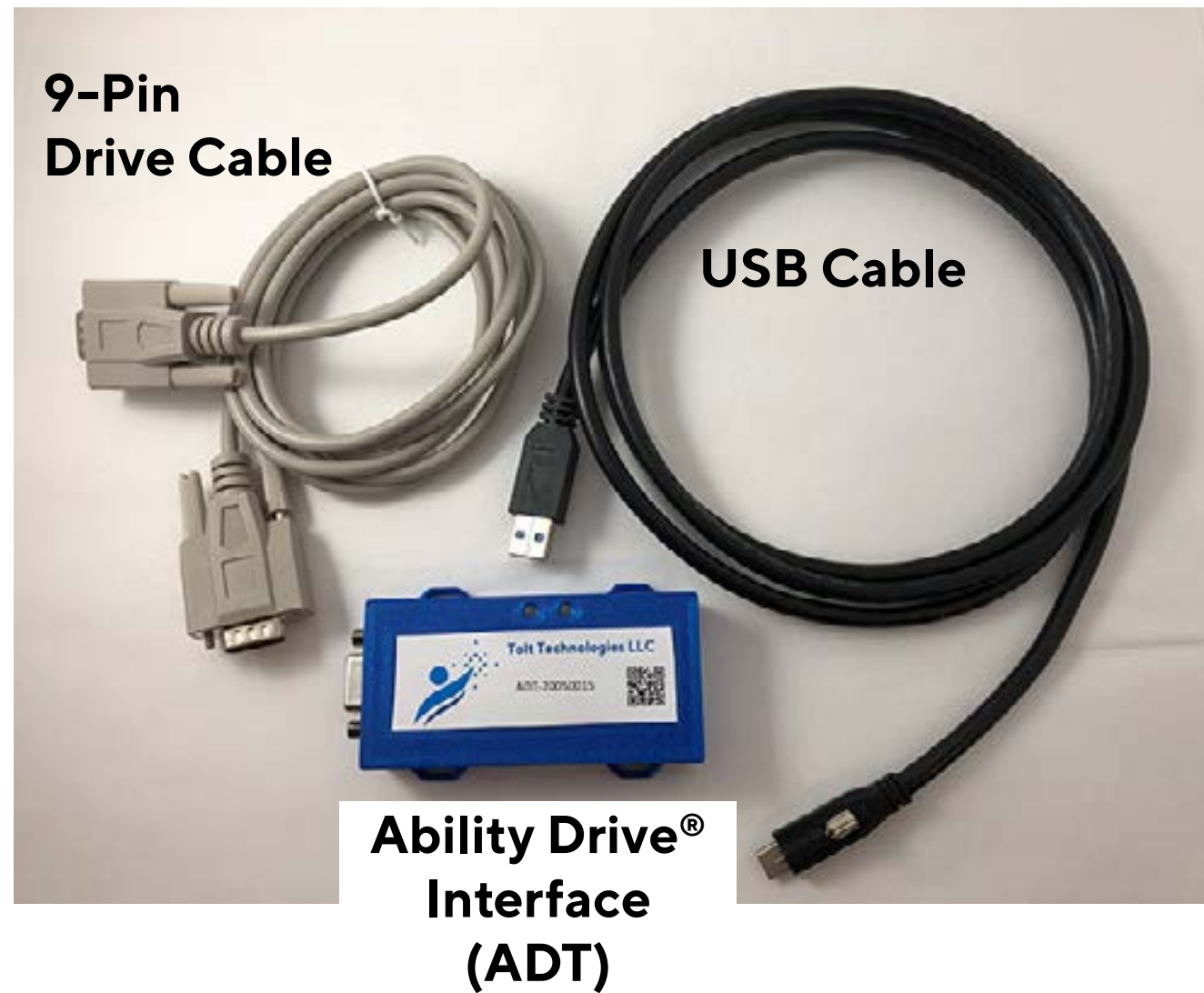
Portable RF communications equipment (including peripherals such as antenna cables and external antennas) should be used no closer than 30 cm (12 inches) to any part of the ADT, including cables specified by the manufacturer. Otherwise, degradation of the performance of this equipment could result.

! WARNING! Ability Drive® is not to be used for life sustaining or life saving

Use of this equipment is not ment to provide life sustaining or life saving functionality.

Patents Pending

What's In The Box



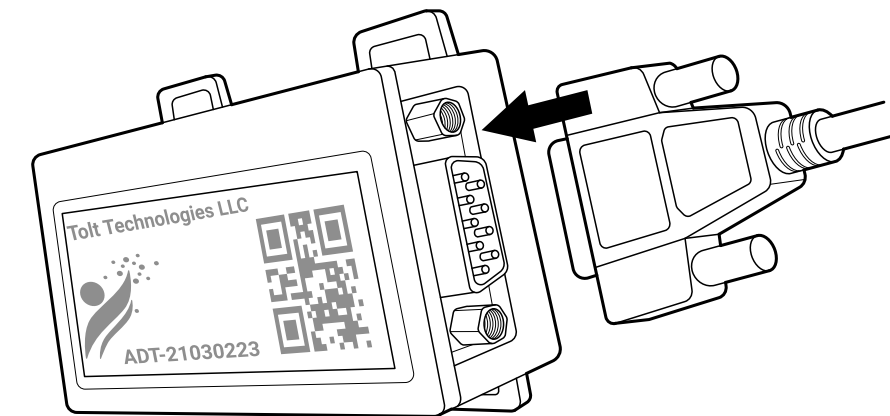
Software installation: abilitydrive.app

Installing the ADT For Assistive Technology Professional(ATP)

1. Configure the wheelchair's programming according to its appropriate Programming Guide, found on our website:

<https://tolttechnologies.freshdesk.com/support/solutions>

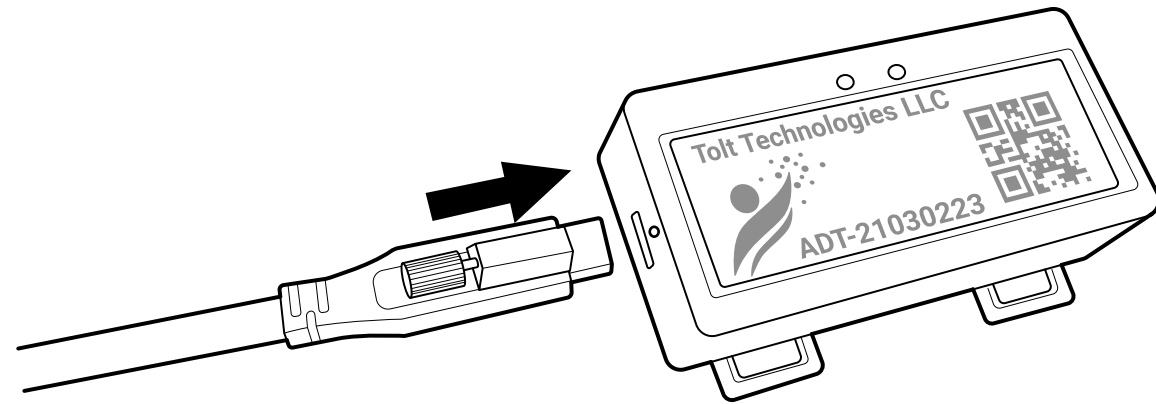
2. Connect the 9-pin cable to the ADT (Ability Drive® Interface Box) and the wheelchair's input port.



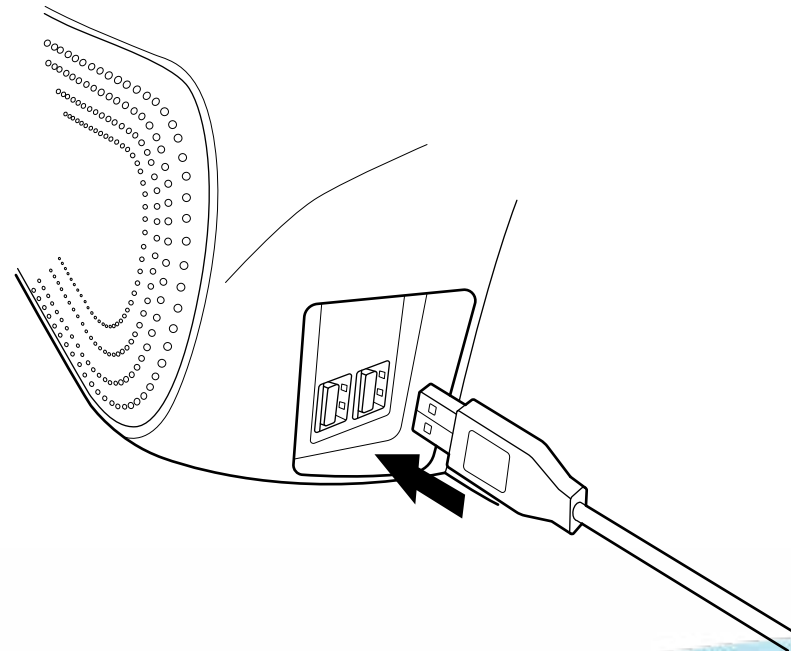
3. Connect a buddy button, as a power switch, to the input jack next to the input port. If the wheelchair owner is unable to press the buddy button, it is recommended to affix the buddy button near the back of a headrest where a caregiver can easily access it.

Installing the ADT For Assistive Technology Professional(ATP)

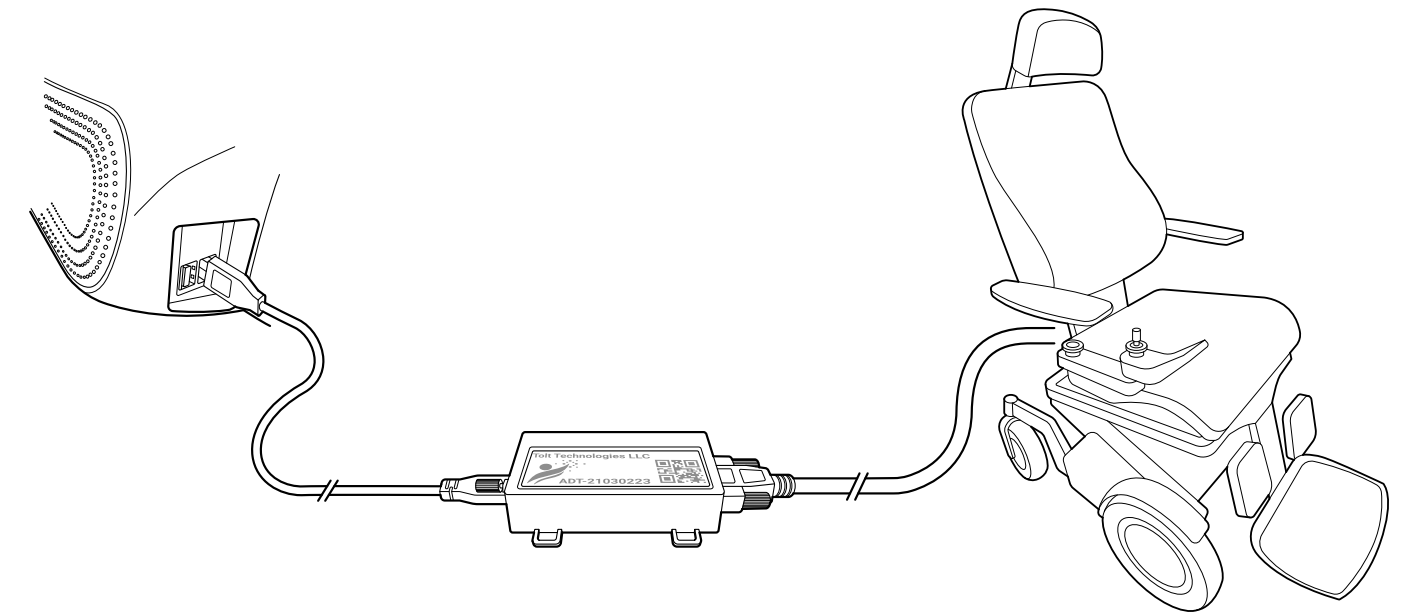
4. Connect the USB-C single screw cable to the ADT and screw the cable in.



5. Connect the USB cable that was screwed in to the ADT to the supported eye gaze device.



Installing the ADT For Assistive Technology Professional(ATP)



Ability Drive® Hardware interface Connected

6. Make sure that the ADT and all of the cables are secured to the chair in a way that the communication device can be move out of the way or removed for client transfers. Secure cables in a way that protects them from damage by movement of the wheels, movement of the arm rest, abrasion of the cable during daily use, or damages to the cable connectors.

7. Using a web browser, install the Ability Drive® application on the approved eye gaze device from:

abilitydrive.app

First Use

1. Move the wheelchair to a safe location with plenty of clear space. Test the wheelchair with the ATP in the seat, not the owner of the wheelchair. Hold the emergency stop / buddy button in your hand while initially testing and configuring the speed and turn parameters of the chair.
2. Calibrate eye gaze on the eye gaze device. See the documentation of the eye gaze device to determine how to calibrate.
3. Launch the Ability Drive® application on the eye gaze device. When the application is running and the ADT is connected to the eye gaze device, one of the LED's on the ADT will light up. Note: No LED's will be lit if the Ability Drive® application is not running on the eye gaze device.
4. Look at the forward button, the wheelchair should move forward if properly configured. Note: When a drive command is being sent to the chair the second LED will light up.
5. Perform the Safety Evaluation with the user.
6. Train the user on how to use Ability Drive®.
7. Leave this documentation with the user.

For a list of supported devices and additional documentation and videos of how to configure a power wheelchair, installing the ADT and Ability Drive®, and using Ability Drive® see:

toltechnologies.com/support

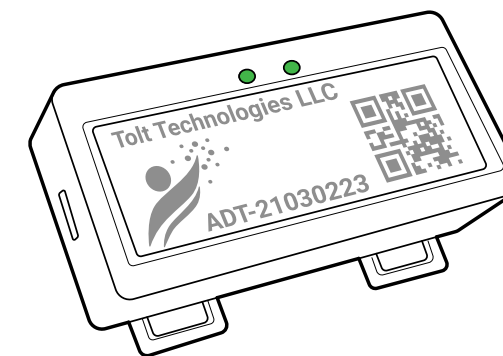
LED Status Lights

When the ADT is first plugged into a powered eye gaze device the ADT will quickly flash 5 times and then both LED's will turn off.

When the ADT is plugged in via USB to an eye gaze device running Ability Drive™ a single LED will be lit.



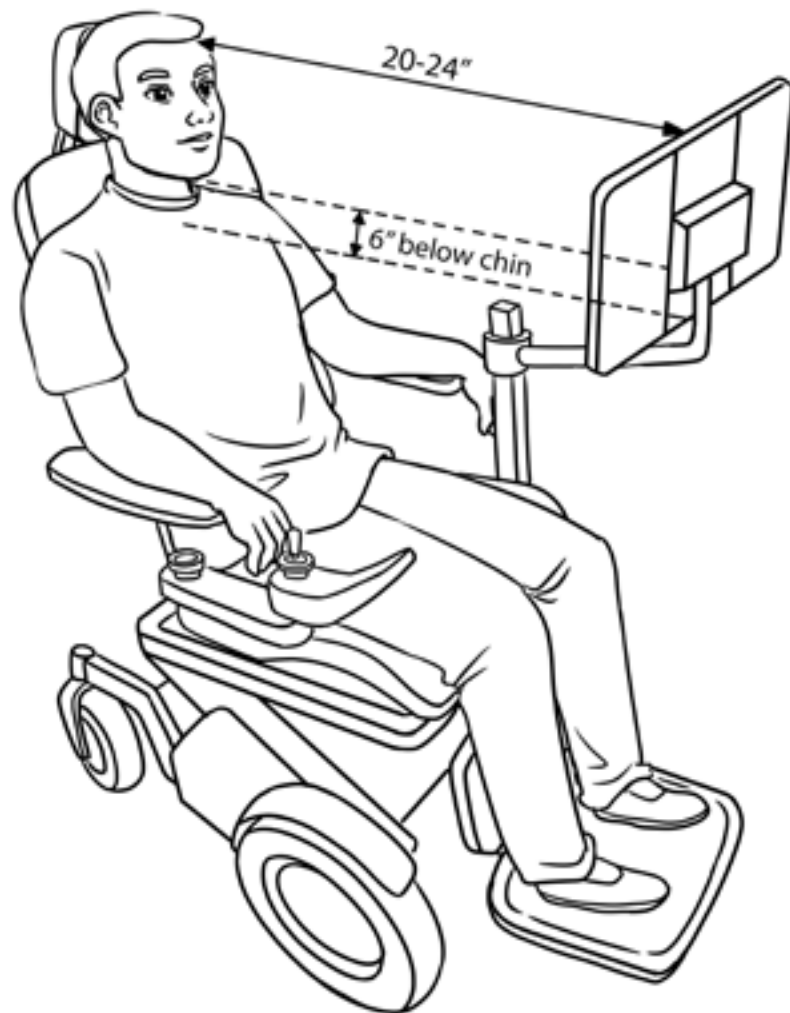
When the ADT is plugged into an eye gaze device running Ability Drive™ and a drive command is being sent from Ability Drive®, the second LED on the ADT will light up while the drive command is being sent after a short delay.



If the ADT is responding properly and the power wheelchair is still not driving, check the power wheelchair's programming and make sure that it is in the profile for Ability Drive®.


Positioning the eye gaze device

Position the eye gaze device 20" to 24" in front of the client's face, with the bottom of the device approximately 6" below their chin. This is an approximation of eye gaze device placement. Use your eye gaze device's guidelines on positioning.



Stopping the Wheelchair

There are 5 ways to stop the wheelchair:

1. Close your eyes.
2. Look away from the computer screen.
3. Look at the stop/pause icon on the drive screen.
4. Look at the settings icon on the drive screen. 
5. You or a caregiver can press a buddy button that is attached to the wheelchair drive power. Position the buddy button where you or a caregiver can easily press it if needed.

Note: when stopped, the wheelchair gradually decelerates to prevent the seat occupant from being ejected from the seat. It will take up to a few feet to come to a complete stop.

Note: If the eye gaze device is interrupted, a power failure occurs, or the eye gaze device can not locate the eyes, the chair will come to a stop. Use standard methods of powering on the wheelchair and configuring the eye gaze device to reestablish eye gaze driving of the power wheelchair.

Evaluation Notes

Safety Evaluation

Driving Skills	Yes	No	N/A	Comments
Can drive forward in a straight line				
Can start on command				
Can stop on command				
Can turn left & right on cue and/or in response to the environment				
Can stop the chair with the stop button				
Can stop the chair by closing their eyes				
Can stop the chair by looking off the screen				
Demonstrates adequate observational skills				
The eye gaze device is able to be moved or removed for client transfers				
The environment is safe for power wheel-chair driving				
(If applicable - Mode button) Understands Mode button behavior and how to switch modes				
(If applicable - Mode button) Understands all available modes function and control				
(If applicable - Mode button) The tilt and recline are limited to safe angles and no loss of the ability to use eye gaze occurs				

Safety Evaluation Completed by: _____

The above checklist is a minimum guideline for the use of Ability Drive® and does not address all the situations that Ability Drive® will be used in. Make sure your client is able to use Ability Drive® safely in their power chair with their eye gaze device in their environment.

Driving

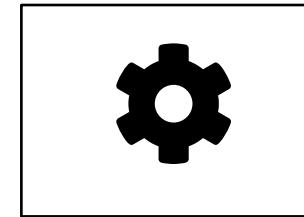
Ability Drive® will show what the rear facing camera sees in the app, creating a “transparent” computer view of what is in front of you.



Look at an arrow to drive the wheelchair in that direction.

To **stop** do any of the following: close your eyes, look off of the computer screen, look at the stop icon, look at the settings icon, or use the buddy button.

Settings



Select the Gear icon from the Drive screen to access Settings.

Camera View			Support	
Buttons	Settings Gaze Enabled	Delay Long	Contrast High	Size Large
Button Layout				
Other		Mode Switch Visible	Driving Mode Momentary	Gaze Dot Small
1	Tobii IS5_Large_Pc_Eye_5_IS514-200915000104			
2	NoEyes			
3	ADT Interface: abilitydrive-2006			
4	A13J-20060077 AbilityDrive 2110.0.0.0			
			Exit	
			Drive	

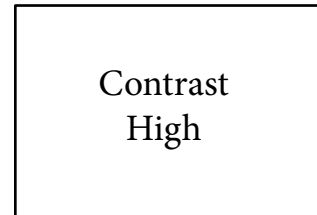
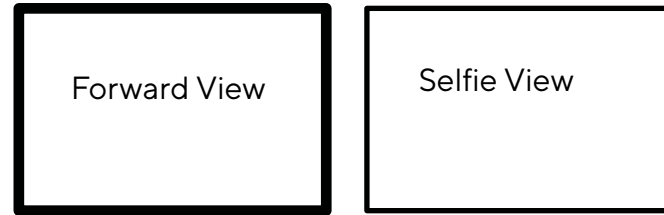
Status Messages:

- 1 - The serial number of the eye gaze camera.
- 2 - If the camera can see the users eyes.
- 3 - The model of the ADT hardware.
- 4 - The computer name and the version of Ability Drive®.

Drive Button Settings

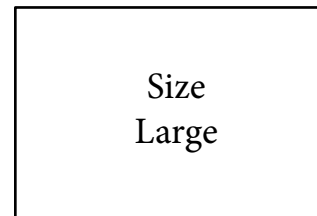
Camera View

Select the forward camera view



Contrast can be set to:

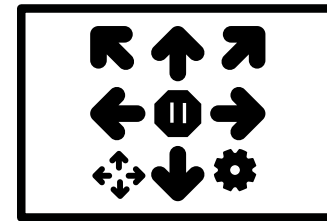
- High* - The drive buttons have almost no opacity.
- Medium* - The drive buttons have moderate opacity.
- Low* - The drive buttons are nearly transparent.



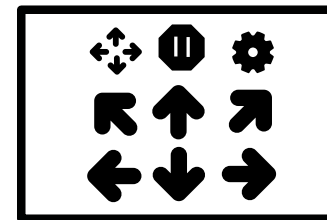
Size can be set to:

- Large* - the drive buttons will be large on the screen.
- Small* - the drive buttons will be small allowing for more rear facing camera image to be displayed. Note the smaller buttons require more precise eye gaze control.

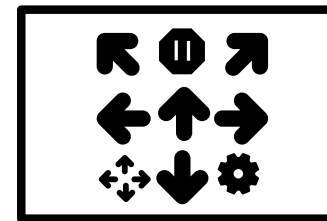
Button Layout Settings



Drive Screen Standard Layout

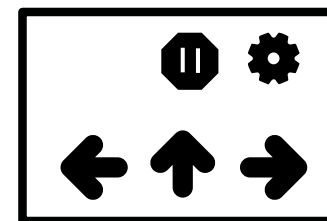


Drive Screen Compact Layout



Center Drive

The forward drive is moved to the center of the screen.



Drive Screen Simplified

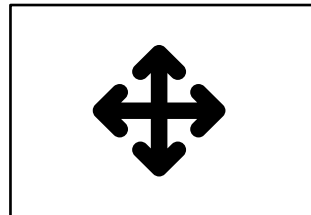
This is a simplified version of Ability Drive® to be used in training or pediatrics.

Other Settings

Mode Button Visible

Mode Button - This feature is available to be requested by the professional configuring the power wheelchair only. Please contact your power wheelchair provider to schedule a time to have it turned on. Ability Drive® by default has this option turned off and not visible.

The mode button is only available in certain wheelchair configurations.



Hidden - The mode button will not be visible on your drive screen.

Driving Mode Momentary

Driving Mode - This feature is by request only, contact support@toltechnologies.com to request it. Ability Drive® by default uses momentary driving.

Semi_Latched - This changes the drive button behavior. To start the chair driving, look at the desired direction arrow. The chair will driving in that direction as long as the you don't look at another button, look off of the screen, or close your eyes. This should only be used with advanced users familiar with Ability Drive®. This option is not available for all eye trackers.

Momentary - The chair will only drive while a drice button is being looked at and will stop once the gaze is off the button.

Exit and Drive

Gaze Dot Visible

Gaze Dot

Small - Displays a small red dot on the screen where your eyes are looking.

Large - Displays a large red dot on the screen where your eyes are looking.

Off - Does not display the gaze dot.



Exit

Exit

Exits Ability Drive® and returns to the eye gaze device's main screen.



Drive

Drive

Returns to the Drive screen.

Appendix A

A1 - Technical Specifications

Model	ADT
Dimensions	9.0 cm x 5.0 cm x 2.0 cm
Weight	54 grams
Connectors	1x DB9 conforming to the TRACE Switched Alternative Drive Input Standard 1x USB-C carrying USB 2.1 data signals
LEDs	2x LEDs (Computer Connection, Drive Switch Depressed)
Power Supply	5v from the USB-C connector, < 0.1 amp
Allowable Operating Temperature	-10° C to +60° C
Maximum Frequency	16 MHz, non-intentional radiator, FCC Exempt per 15.103(e)
Material Safety	Not classified as hazardous in compliance with Regulation (EC) 1272/2008

A2 - Directives and Standards

The Ability Drive® Interface complies with the following directives:

- * Medical Device Directive 93/42/EEC
- * Low voltage Directive 2014/35/EU
- * Electromagnetic Compatibility (EMC) Directive 2014/30/EU
- * RoHS2 Directive 2011/65/EU
- * Packaging and Labeling of Substances (EC) 1272/2008
- * Reach Directive 2006/121/EC, 1907/2006/EC Annex 17


A3 - CE Statement

This equipment complies with the requirements relating to electromagnetic compatibility, the essential protection requirement of Electromagnetic Compatibility (EMC) Directive 2014/30/EU on the approximation of the laws of the Member States relating to electromagnetic compatibility and Radio Equipment Directive (RED) 2014/53/EU to meet the regulation of the radio equipment and telecommunications terminal equipment.

A4 - FCC Statement

This device complies with Part 15 of the FCC Rules. It is a non-intentional radiator with a maximum frequency of 16 MHz. This device is exempt per 15.103(e) as a prescribed medical device.

A5 - Caution and Warning

 Is used to signal a caution or warning.

A6 - UKCA Statement

Rahana Ltd are the UK Responsible Person (UKRP) for Ability Drive®.

Address: C/O Geoff Cowley & Co Limited, Willow Park Upton Lane, Stoke Golding, Nuneaton, Warwickshire, United Kingdom, CV13 6EU

Email: enquiries@rehanalife.co.uk

Website: rahanalife.co.uk

ADT (+G187ADT0/\$\$+7**serial#**-), ADT is used with a powered wheelchair as a control device. Ability Drive conforms with [UK Medical Devices Regulations 2002](#) (SI 2002 No 618, as amended) (UK MDR 2002) It is a Class 1 Medical Device Accessory, it is non-sterile and non-measuring.

A7 - EUCE Statement

A/S Aabentoft are the EU Authorized Representative (EUAR) for Ability Drive®.

Address: A/S Aabentoft Løgtelvej 93 8541 Skødstrup, Denmark

Phone: +45 86 97 53 00

Email: info@aabentoft.dk

Website: aabentoft.dk/en

ADT (00860010808504+7serial#-), ADT is used with a powered wheelchair as a control device.

Ability Drive conforms with EU Medical Devices Regulations (EU)2017/745-MDR.

It is a Class 1 Medical Device Accessory; it is non-sterile and non-measuring.

A8 - WEEE Statement

Directive 2012/19/EU on Waste Electrical and Electronic Equipment (WEEE)



Separate collection for waste of electrical and electronic equipment.

A9 - Outdoor Strategies for mitigating sunlight interference

Select a sunlight tolerant eye gaze device.

Use an umbrella to shield the eye gaze device.

Use a wide brimmed hat to shield the eyes from sunlight.

B1 - Directives and Standards for the European Union

Guidance and manufacturer's declaration - electromagnetic emissions

The [EQUIPMENT or SYSTEM] is intended for use in the electromagnetic environment specified below. The customer or the user of the [EQUIPMENT or SYSTEM] should assure that it is used in such an environment.

Emissions test	Compliance	Electromagnetic environment - guidance
RF emissions CISPR 11	Group 1	The [EQUIPMENT or SYSTEM] uses RF energy only for its internal function. Therefore, its RF emissions are very low and are not likely to cause any interference in nearby electronic equipment.
RF emissions CISPR 11	Class B	
	[See 5.2.2.1 c) and Figure 1]	The [ME EQUIPMENT or ME SYSTEM] is suitable for use in all establishments other than domestic and those directly connected to the public low-voltage power supply network that supplies buildings used for domestic purposes.

Guidance and manufacturer's declaration - electromagnetic immunity


The [EQUIPMENT or SYSTEM] is intended for use in the electromagnetic environment specified below. The customer or the user of the [EQUIPMENT or SYSTEM] should assure that it is used in such an environment.

Immunity test	IEC 60601 test level	Electromagnetic environment - guidance
Electrostatic discharge (ESD) IEC 61000-4-2	±8 kV contact ±15 kV air	Floors should be wood, concrete or ceramic tile. If floors are covered with synthetic material, the relative humidity should be at least 30 %.
Power frequency (50/60 Hz) magnetic field IEC 61000-4-8	30 A/m	
Proximity magnetic fields IEC 61000-4-39	30 kHz 8 A/m 134.2 kHz 65 A/m 13.56 7.5 A/m	

NOTE U_T is the a.c. mains voltage prior to application of the test level.

Guidance and manufacturer's declaration - electromagnetic immunity

The [EQUIPMENT or SYSTEM] is intended for use in the electromagnetic environment specified below. The customer or the user of the [EQUIPMENT or SYSTEM] should assure that it is used in such an environment.

Immunity test	IEC 60601 test level	Compliance level	Electromagnetic environment - guidance
Radiated RF IEC 61000-4-3 (ISO 7176-21)	20 V/m 80 MHz to 2.7 GHz	[E1]= 20 V/m	<p>Portable and mobile RF communications equipment should be used no closer to any part of the [EQUIPMENT or SYSTEM], including cables, than the recommended separation distance calculated from the equation applicable to the frequency of the transmitter.</p> <p>Recommended separation distance</p> $d = \left[\frac{35}{V_1} \right] \sqrt{P}$ $d = \left[\frac{35}{E_1} \right] \sqrt{P} \quad 80 \text{ MHz to } 800 \text{ MHz}$ $d = \left[\frac{7}{E_1} \right] \sqrt{P} \quad 800 \text{ MHz to } 2,5 \text{ GHz}$ <p>where P is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer and d is the recommended separation distance in meters (m).</p> <p>Field strengths from fixed RF transmitters, as determined by an electromagnetic site survey,^a should be less than the compliance level in each frequency range. ^b</p> <p>Interference may occur in the vicinity of equipment marked with the following symbol:</p> 

NOTE 1 At 80 MHz and 800 MHz, the higher frequency range applies.

NOTE 2 These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.

Guidance and manufacturer's declaration - electromagnetic immunity

The [EQUIPMENT or SYSTEM] is intended for use in the electromagnetic environment specified below. The customer or the user of the system should assure that it is used in such an environment.

Immunity test	IEC 60601 test level	Compliance level	Electromagnetic environment - guidance
385MHz, PM 18 Hz	27v/m	27v/m	Portable and mobile RF communications equipment should be used no closer to any part of the [EQUIPMENT or SYSTEM], including cables, than 30 cm (12 inches) of the transmitter.
450MHz, FM ±5 kHz deviation 1 kHz sine	28v/m	28v/m	
710MHz, PM 217 Hz	9v/m	9v/m	
745MHz, PM 217 Hz	9v/m	9v/m	
780MHz, PM 217 Hz	9v/m	9v/m	
810MHz, PM 18 Hz	28v/m	28v/m	
870MHz, PM 18 Hz	28v/m	28v/m	
930MHz, PM 18 Hz	28v/m	28v/m	
1720MHz, PM 217 Hz	28v/m	28v/m	
1845MHz, PM 217 Hz	28v/m	28v/m	
1970MHz, PM 217 Hz	28v/m	28v/m	
2450MHz, PM 217 Hz	28v/m	28v/m	
5240MHz, PM 217 Hz	9v/m	9v/m	
5500MHz, PM 217 Hz	9v/m	9v/m	
5785MHz, PM 217 Hz	9v/m	9v/m	

Warranty

Tolt Technologies Limited Warranty

This Limited Warranty explains the limited warranty and related services that Tolt Technologies provides to its customers. This Limited Warranty applies to shipments of covered products by Tolt Technologies on or after April 1, 2019. This warranty gives you specific legal rights, and you may also have other rights, which may vary from state to state. This warranty applies to the greatest extent permitted by applicable law.

BEFORE USING THE PRODUCT, PLEASE READ THIS LIMITED WARRANTY CAREFULLY. IF YOU DO NOT AGREE TO THE TERMS OF THIS LIMITED WARRANTY, DO NOT USE THE PRODUCT. RETURN THE PRODUCT TO THE AUTHORIZED DISTRIBUTOR FROM WHOM THE PRODUCT WAS PURCHASED.

Who May Use this Limited Warranty?

Tolt Technologies provides this limited warranty to customers that have purchased one of its products from a Tolt Technologies authorized distributor (each customer referred to in this Warranty as “you” or “your”). **This Limited Warranty applies to residents of the United States only and contains a binding arbitration agreement and a class action waiver. If you live in the United States, the binding arbitration agreement and class action waiver affect your rights under this warranty. Please read the text under the section titled “Binding Arbitration Agreement; Class Action Waiver” carefully.** This warranty is non-transferable and is available to initial purchasers only.

What Products Does this Limited Warranty Cover?

This warranty applies to the products manufactured or customarily supplied by Tolt Technologies, which include **Ability Drive™ and associated components selected and supplied by Tolt Technologies**. To qualify for warranty coverage, you must have registered with Tolt Technologies and the serial number on the product must be visible and not have been obscured, altered, or removed.

What Defects Does this Limited Warranty Cover, and For How Long?

This warranty covers defects in materials and workmanship, under proper use, maintenance, and care according to the owner’s manual, warnings and instructions accompanying the product, for a period of **two years** from the date of delivery to you. The warranty period is not extended if we repair or replace the product. We may change the availability of this Limited Warranty at our sole discretion. Change in Limited Warranties will not be retroactive.

What Is Not Covered By this Limited Warranty?

This warranty covers parts, repair or replacement of the Tolt Technologies product only. It DOES NOT include Labor, service calls, shipping costs and other charges that may be incurred in servicing the “under warranty” part for such repairs which are not included in this warranty or attributable to the product or expressly authorized in writing by Tolt Technologies.

This warranty is conditioned upon installation and proper use, maintenance, and repair of the product under normal operating conditions. All warranty coverage shall become null and void if structural modifications have been made to the product or if equipment has been mounted to the product for which no prior specifications were provided. This warranty shall also become null and void if the product is repaired or any part replaced by persons other than Tolt Technologies or an authorized distributor.

This warranty does not cover: (a) normal wear and tear; (b) damage caused by improper installation, misuse, or accident; (c) negligent damage; (d) damage caused by extraordinary impact events, such as automobile accidents, dropping, or crushing; (e) damage caused by use of the product in a manner contradictory or in violation of the terms of the owner’s manual, warnings or instructions accompanying the product, including but not limited to use of the product near or in hazardous environments such as roads, driveways, bodies of water, ramps, stairs or changes of elevation; (f) any product that has been operated or repaired with parts other than genuine Tolt Technologies replacement parts; (g) damage caused by acts of God or nature, such as fire, flood, vandalism, water, wind, tornado, earthquake, or other causes beyond Tolt Technologies’ control; (h) any product that has been altered or repaired in any way that affects the reliability of such product or detracts from its performance or appearance; (i) any product for which the identification plate or serial number has been altered, defaced, or removed; (j) scuffs, cracks, blemishes, scratches and other non-structural damage that does not affect the structural integrity of the product; (k) products purchased through unauthorized distributors, auction sites, or third-party market places, or (l) used or counterfeit products.

How Do You Obtain Warranty Service?

To submit a warranty claim, please send an email to support@toltechnologies.com with the following information:

- Σ Submit a description of the problem, the product serial number(s), and any photos that you might have to the authorized distributor from whom you purchased the product.
 - o If you do not receive satisfactory warranty service or you cannot locate the authorized dealer from whom you purchased the product, then call Tolt Technologies Technical Service Supervisor at 1-425-242-3902.
- Σ In the event of a defect in material or workmanship, Tolt Technologies will issue a return authorization number.
 - o You must receive a written return authorization before returning any product for repair or replacement.
 - o Tolt Technologies will not pay for repairs or replacement that were not authorized in advance.
- Σ Products, components, or parts approved for replacement by Tolt Technologies must be returned to Tolt Technologies freight- prepaid.
 - o You must pay any transportation or similar costs associated with returning or replacing a defective product.
 - o Tolt Technologies recommends that you insure the product for its full replacement cost when shipping.

What Are Your Remedies Under this Limited Warranty?

Our responsibility under this warranty is limited to the repair or replacement of the affected product or component. Tolt Technologies will advise or instruct its authorized distributor to either repair or replace the product or component. Tolt Technologies has the option, in its sole discretion, to determine whether to repair or replace the product or component.

LIMITATION OF LIABILITY.

TO THE GREATEST EXTENT PERMITTED BY APPLICABLE LAW, THE REPAIR OR REPLACEMENT OF THE AFFECTED PRODUCT CONSTITUTES YOUR SOLE REMEDY AND TOLT TECHNOLOGIES’ ONLY OBLIGATION UNDER THIS WARRANTY. TOLT TECHNOLOGIES SHALL HAVE NO OTHER OBLIGATION WHATSOEVER, AND NEITHER TOLT TECHNOLOGIES NOR ANY OF ITS AUTHORIZED DISTRIBUTORS SHALL HAVE ANY OTHER LIABILITY WHATSOEVER WITH RESPECT TO THE PRODUCT, INCLUDING, WITHOUT LIMITATION, ANY LIABILITY FOR ANY OTHER COSTS OR DAMAGES THAT YOU MAY SUFFER, SUCH AS LOSS OF USE, LOST PROFITS, CONSEQUENTIAL, SPECIAL, INCIDENTAL, EXEMPLARY, OR PUNITIVE DAMAGES OR LOSSES, WHETHER DIRECT OR INDIRECT, INCLUDING BUT NOT LIMITED TO ANY DAMAGES IN THE FORM OF LEGAL FEES, ECONOMIC LOSS, PERSONAL INJURIES, OR ANY DAMAGES CAUSED BY CIRCUMSTANCES BEYOND THE CONTROL OF TOLT TECHNOLOGIES. IN NO EVENT SHALL DAMAGES FOR BREACH OF ANY WARRANTY EXCEED THE ORIGINAL COST OF THE PRODUCT. FURTHERMORE, TOLT TECHNOLOGIES SHALL NOT BE LIABLE FOR ANY LOSS OR DAMAGES RESULTING FROM A CAUSE OVER WHICH WE DO NOT HAVE CONTROL, INCLUDING WITHOUT LIMITATION: (I) UNAUTHORIZED OR NEGLIGENT USE OF THE PRODUCT, (II) UNSAFE OPERATION OF THE PRODUCT; (III) ANY AUTHORIZED DISTRIBUTOR’S FAILURE TO COMPLY WITH APPLICABLE LAWS OR ANY DISTRIBUTOR’S INTENTIONAL, NEGLIGENT OR WRONGFUL ACTIONS OR OMISSIONS; OR (IV) ANY OTHER ACTS, OMISSIONS, NEGLIGENCE OR CONDITIONS OUTSIDE OF OUR CONTROL, INCLUDING WITHOUT LIMITATION, FAILURE OF ELECTRONIC OR MECHANICAL EQUIPMENT, OR OTHER INTERCONNECT PROBLEMS, OPERATOR ERRORS, MECHANICAL FAILURES OR DIFFICULTIES. IN SOME STATES DO NOT ALLOW THE EXCLUSION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATION OR EXCLUSION MAY NOT APPLY TO YOU.

TO THE GREATEST EXTENT PERMITTED BY APPLICABLE LAW, IN LIEU OF ANY OTHER REMEDY FOR ANY AND ALL LOSSES AND DAMAGES RESULTING FROM ANY CAUSE WHATSOEVER (INCLUDING TOLT TECHNOLOGIES' NEGLIGENCE, ALLEGED DAMAGE, OR DEFECTIVE GOODS, NO MATTER WHETHER SUCH DEFECTS ARE DISCOVERABLE OR LATENT), TOLT MAY, AT ITS SOLE OPTION AND IN ITS DISCRETION, REPAIR OR REPLACE YOUR PRODUCT, OR REFUND ITS PURCHASE PRICE. AS NOTED, SOME STATES (INCLUDING, NEW JERSEY) AND PROVINCES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATION OR EXCLUSION MAY NOT APPLY TO YOU.

All Other Warranties or Guarantees Disclaimed and Excluded

TO THE GREATEST EXTENT PERMITTED BY APPLICABLE LAW, THIS WARRANTY CONSTITUTES TOLT TECHNOLOGIES' SOLE WARRANTY WITH RESPECT TO ANY PRODUCT OR COMPONENT OF THE PRODUCT. TO THE FULLEST EXTENT PERMITTED BY APPLICABLE LAW, TOLT TECHNOLOGIES DISCLAIMS ALL OTHER WARRANTIES, WHETHER EXPRESS OR IMPLIED BY LAW, INCLUDING, BUT NOT LIMITED TO, ANY WARRANTY OF MERCHANTABILITY, NON-INFRINGEMENT, TITLE, OR FITNESS FOR A PARTICULAR PURPOSE. IF AN IMPLIED WARRANTY DOES APPLY TO ANY PRODUCT, THE TERM OF SUCH IMPLIED WARRANTY WILL NOT EXCEED TWO YEARS. SOME STATES (INCLUDING WASHINGTON AND NEW

JERSEY) DO NOT ALLOW DISCLAIMER OF IMPLIED WARRANTIES, SO THE ABOVE LIMITATION MAY NOT APPLY TO YOU. SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, SO THE ABOVE LIMITATION MAY NOT APPLY TO YOU.

BINDING ARBITRATION AGREEMENT; CLASS ACTION WAIVER

If you and Tolt Technologies have a dispute, you and Tolt Technologies agree to try for 60 days to resolve it informally. IF YOU AND TOLT TECHNOLOGIES CANNOT RESOLVE ANY SUCH DISPUTE, YOU AND TOLT TECHNOLOGIES AGREE TO BINDING INDIVIDUAL ARBITRATION BEFORE THE AMERICAN ARBITRATION ASSOCIATION UNDER THE FEDERAL ARBITRATION ACT (FAA), AND NOT TO SUE IN COURT IN FRONT OF A JUDGE OR JURY. INSTEAD, A NEUTRAL ARBITRATOR WILL DECIDE. TO THE GREATEST EXTENT PERMITTED BY APPLICABLE LAW, CLASS ACTION LAWSUITS, CLASS-WIDE ARBITRATIONS, PRIVATE ATTORNEY GENERAL ACTIONS, AND ANY OTHER PROCEEDING WHERE SOMEONE ACTS IN A REPRESENTATIVE CAPACITY ARE NOT ALLOWED; NOR IS COMBINING INDIVIDUAL PROCEEDINGS WITHOUT THE CONSENT OF ALL PARTIES. YOU ARE AGREEING TO GIVE UP ANY RIGHTS TO LITIGATE DISPUTES IN A COURT OR BEFORE A JURY, OR TO PARTICIPATE IN A CLASS ACTION OR REPRESENTATIVE ACTION WITH RESPECT TO A CLAIM. OTHER RIGHTS THAT YOU WOULD HAVE IF YOU WENT TO COURT MAY ALSO BE UNAVAILABLE OR MAY BE LIMITED IN ARBITRATION.

Disputes Covered. The term "dispute" is as broad as it can be. It includes any claim or controversy between you and Tolt Technologies concerning the product, its price, or these Terms and Conditions, under any legal theory including contract, warranty, tort, statute, or regulation.

Mail a Notice of Dispute First. If you have a dispute and our customer service representatives cannot resolve it, send a Notice of Dispute by U.S. Mail to Tolt Technologies, Attn: Arbitration, 14023 284th Circle NE, Duvall WA, 98019. Include your name, address, how to contact you, a description of the problem, and your desired outcome. After 60 days, you or Tolt Technologies may start an arbitration if the dispute **remains** unresolved.

Arbitration Procedure. The AAA will conduct any arbitration under its Consumer Arbitration Rules. For more information, see www.adr.org or call 1-800-778-7879. In a dispute involving \$25,000 or less, any hearing will be telephonic unless the arbitrator finds good cause to hold an in-person hearing instead. Any in-person hearing will take place in King County, Washington. The arbitrator may award the same damages to you individually as a court could. The arbitrator may award declaratory or injunctive relief only to you individually to satisfy your individual claim.

Arbitration Fees and Payments.

The costs of the arbitrator shall be paid by the losing party. In the event the arbitrator modifies the discipline imposed, the costs shall be shared equally by the parties. Costs of the court reporter, if any, shall be paid by the party who requested the presence of the reporter; however, nothing shall preclude the parties from agreeing to share equally in the costs of the reporter. If one party chooses to record the hearing, it shall provide the other and the arbitrator with a copy of that recording. If a cancellation fee is imposed on the parties by the arbitrator, it shall be paid by the party whose actions were responsible for the imposition of said fee.

Must File Within One Year. You and Tolt Technologies must file in arbitration any claim or dispute within one year from when the claim first arose otherwise, the claim is permanently barred.

Conflict with AAA Rules. These Terms and Conditions govern to the extent they conflict with the AAA's Consumer Arbitration Rules.

Applicable Law and Place to Resolve Disputes

The laws of the State of Washington shall govern the interpretation of these Terms and Conditions, claims for its breach, and all other claims (including consumer protection, unfair competition, and tort claims), regardless of conflict of laws principles, except that the AAA governs everything related to arbitration.

Severability

If any provision of these Terms and Conditions is found to be illegal or unenforceable, that provision will be severed but the rest will remain applicable. If the binding arbitration provisions or class action waiver is found to be illegal or unenforceable as to all or some parts of a dispute, then those parts will not be arbitrated but will proceed in court, with the rest proceeding in arbitration.

General Terms and Conditions

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state. This warranty may only be amended, waived, or extended by written document signed by an authorized officer of Tolt Technologies. The waiver by Tolt Technologies of any individual limitation of this warranty shall not operate as a waiver of any other limitation of this warranty or of any future right, power, or privilege of Tolt Technologies. If any provision of this warranty is found to be illegal or unenforceable, that provision will be severed but the rest will remain applicable. Additional Terms and Conditions applicable to the products can be found at <https://toltechnologies.com/ad/terms> and in the documentation provided with our products. Separate and apart from your relationship with Tolt Technologies, you may also have rights with respect to the party from which you acquired the product.

