# UNLEASH THE POWER OF YOUR E-BIKE'S MOTOR



**USER MANUAL** 

Version 1.17 for Android Devices

This user manual explains all of the features of the **ST UNLOCKER** mobile. This manual is provided as a reference for the operation of the app. Please be sure to read through this entire manual completely in order to fully understand the apps functions and capabilities.

# **TABLE OF CONTENTS**

TABLE OF CONTENTS
READ THIS FIRST! (WARNING BEFORE USAGE)
DRIVE UNIT / MOBILE DEVICE COMPATIBILITY
CONNECTING TO YOUR E-BIKE
E-BIKE'S INFO
STANDARD FEATURES - MAIN MENU
I. PRESETS – OVERVIEW
PRESETS - SAVE A CUSTOM PRESET
II. ASSIST SETTINGS
III. GEARS SETTINGS
IV. OTHER SETTINGS
V. LIGHT SETTINGS
VI. SPEEDOMETER CALIBRATION
VII. STATISTICS
VIII. BLACK BOX
STANDARD APP SETTINGS
GET THE PREMIUM LICENSE
HOW-TO: REQUEST A LICENSE
PREMIUM FEATURES: MAIN MENU (Licensed Version)
IX. PREMIUM FEATURE: MARKET SETTINGS
X. PREMIUM FEATURE: DRIVE UNIT ANGLE
XI. PREMIUM FEATURE: WHEEL CIRCUMFERENCE
XII. PREMIUM FEATURE: TOP SPEED ADJUSTMENT
XIII. AUTO PRESETS (Configuration)
XIV. HOME SCREEN PRESET WIDGETS
FAQ / TROUBLESHOOTING
LICENSE AGREEMENT / RELEASE OF LIABILITY
TRADEMARK LEGAL NOTICE

NOTE: The app screenshots shown in this manual are taken from different devices and are meant as examples only; your device version my look slightly different from what is shown.

# **READ THIS FIRST! (WARNING BEFORE USAGE)**



# ANY ELECTRIC BIKE MODIFICATION AND/OR TUNING IS DONE <u>AT YOUR OWN RISK!</u>

# IF YOU ARE WORRIED ABOUT POSSIBLY VOIDING YOUR WARRANTY, <u>DO NOT USE THIS</u> <u>APP</u>. JUST STICK TO THE FACTORY APP.

THE USAGE OF **ST UNLOCKER** MAY VOID THE MANUFACTURER'S WARRANTY OF YOUR ELECTRIC BIKE AND/OR CAUSE IREVERSIBLE OR PERMANENT DAMAGE TO YOUR E-BIKE, DRIVE UNIT (MOTOR), BATTERY, AND RELATED COMPONENTS. THERE ARE NO GUARANTEES ATTACHED TO THE USAGE OF THE **ST UNLOCKER** APP.

NO LIABILITY IS ASSUMED FOR ANY PAST, PRESENT, OR FUTURE DAMAGES TO EQUIPMENT, PROPERTY, OBJECTS AND/OR PERSONS CAUSED BY THE USAGE AND/OR MODIFICATIONS MADE USING THE **ST UNLOCKER** APP.

ANY ELECTRIC BIKES MODIFIED USING THE **ST UNLOCKER** APP MAY ONLY BE LEGALLY USED ON PRIVATE, ENCLOSED AREAS OR DESIGNATED ROUTES. BE AWARE OF YOUR LOCAL LAWS. MODIFIED ELECTRIC BICYCLES ARE NOT ALLOWED ON PUBLIC ROADS AND ANY OTHER AREAS WHERE TRAFFIC LAWS APPLY.

# ALWAYS FOLLOW THE LEGAL REGULATIONS IN YOUR AREA. YOU ARE RESPONSIBLE FOR HOW, WHEN, AND WHERE YOU USE YOUR E-BIKE.

## RIDE SAFELY, AND ALWAYS USE A CERTIFIED BICYCLE HELMET.

# **DRIVE UNIT / MOBILE DEVICE COMPATIBILITY**

The following shows the settings and adjustments available through the **ST UNLOCKER** app for Android based on your E-Bike's drive unit (motor) and system firmware version; you must be running firmware *equal to or older than* the version specified below.

# **DRIVE UNIT AND FIRMWARE VERSIONS**

			DRI	VE UNIT TY	PE	
	E5000*	E6100*	E7000	E8000	EP8***	EP801/EP600****
Standard App Features						
Assist Level	4.4.9	4.7.7	4.7.7	4.9.5	4.1.11	4.1.1
Torque Level	4.4.9	4.7.7	4.7.7	4.9.5	4.1.11	4.1.1
Power Output	4.4.9	4.7.7	4.7.7	4.9.5	-	-
Overall Torque/Power	-	-	-	-	4.1.11	4.1.1
Assist Start Level	-	-	-	-	4.1.11	4.1.1
Gears Adjustment	4.3.0	4.5.0	4.5.0	4.8.0	4.0.2	-
Light Control Settings	4.3.0	4.5.0	4.5.0	4.8.0	4.0.2	-
Speedometer	4.4.9	4.7.7	4.7.7	4.9.5	4.1.11	4.1.1
Calibration						
Black Box Data	4.4.9	4.7.7	4.7.7	4.9.5	4.1.11	4.1.1
Auto Preset	4.4.9	4.7.7	4.7.7	4.9.5	4.1.11	4.1.1
Configuration						
Preset Home Screen	4.4.9	4.7.7	4.7.7	4.9.5	4.1.11	4.1.1
Widgets						
Licensed App Added Fe	atures					
Market Setting	4.3.0	4.5.0	4.5.0	4.8.0	4.0.2	-
Wheel Circumference	4.3.0	4.5.0	4.5.0	4.8.0	4.0.2	-
Drive Unit Mounting	4.3.0	4.5.0	4.5.0	4.8.0	4.0.2	-
Angle						
Top Speed	-	-	-	4.3.2	-	-
Adjustment**						

\* E5000/E6100 assist settings MAY reset back to default when powered off.

\*\* Only when equipped with the SC-E8000 display unit or EW-EN100 Junction.

\*\*\* EP8 RS is a regular EP8 motor with software power & torque limitations. It has the same firmware as a regular EP8.

\*\*\*\* EP801/EP600 are not supported for the derestriction

# **MOBILE DEVICE COMPATIBILITY (TUNING INTERFACE)**

The **ST UNLOCKER** app is compatible with most **Android** devices that have Bluetooth and **Android version 5.0 or newer** installed.





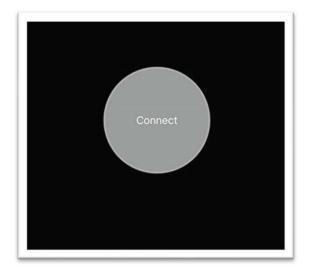
# **CONNECTING TO YOUR E-BIKE**

Follow the steps below to connect the **ST UNLOCKER** app to your E-Bike. Make sure you have Bluetooth turned ON in your mobile device, then go ahead and open the **ST UNLOCKER** app.

#### **STEP 1**

First turn your E-Bike on, then immediately tap on the [**CONNECT**] button.

(If you're having trouble connecting to your E-Bike, see the **FAQ / TROUBLESHOOTING** page for suggestions.)





#### STEP 2

If this is the first time using the app, you will see the Information pop-up. Follow the instructions to initiate the connection. Tap [**OK**] or [**DON'T SHOW AGAIN**] to go back to the connect screen.

#### STEP 3

Tap [**CONNECT**] again and after a moment, the Bluetooth name of your E-Bike should show up in the **ST UNLOCKER** app. Tap on your E-Bike 's name to connect.



At this point the **ST UNLOCKER** app will gather and collect your E-Bike's settings and information. Keep your mobile device awake and within range of your E-Bike and allow the app to finish collecting information.

# **E-BIKE'S INFO**

After the **ST UNLOCKER** app has successfully gathered your E-Bike's settings and information, you will be taken to the **E-BIKE'S INFO** screen. The top half of this info screen will show your E-Bike specifications and the following information at a glance:

Ē ...

Motor Model	$\equiv$ E-Bike's	Info
Shows the type of motor and display	Motor model	DU-EF
unit equipped on your E-Bike.	Firmware ver	4.1.10
Firmware Version	Serial	0000-
Shows the current firmware of your motor and display unit.	Serial ID	GHX0
Serial Number	Total distance	150.5
This is your E-Bike system serial number.	Battery state	55 %
Serial ID	Battery health	100 %
This is your E-Bike system serial ID (numbers on the motor)	Market 🤱	US (o
Total Distance	Circumference 🤱	2072
	Speed correction	0.0 %
This is the total distance travelled by	Assist Setting	gs
your E-Bike's motor (odometer).	Active profile	Profile
Battery State	#1 Eco	Lv 3/1
This is the current charge level of your E-Bike's battery and	#1 Trail	Lv 7/1
the battery model	#1 Boost	Lv 10, 5/5
Battery Health	#2 Eco	Lv 2/1
This shows your relative battery health and the total number	#2 Eco #2 Trail	Lv 7/1
of charge cycles.		Lv 10/
Gears (Type, Front/Rear)	#2 Boost	5/5
This shows specified rear mech type, highest mechanical	Max speed	32 km
gear ratio, and drive unit mounting angle.	Walk	Powe
Light Status and Reserve Time	Overall Power/1	orque
Allows you to set a reserve time for optional LED lighting	Max Torque	85 Nn
powered by your	Min Torque	20 Nn
E-Bike's optional light circuit.	Power Limit Eco	500 V
	Power Limit Trail	500 W
	Power Limit Boost	500 V
	Gears	
The App informs you which settings are not factory default	Туре	Mech

The App informs you which settings are not factory default using this icon **1** 

Serial	0000-0000-0001
Serial ID	GHX0JA16VTZ
Total distance	150.5 km
Battery state	55 % (BT-E8010)
Battery health	100 % (2 cycles)
Market 🌖	US (original EU)
Circumference 🌗	2072 mm
Speed correction	0.0 %
Assist Setting	IS
Active profile	Profile #2
#1 Eco	Lv 3/10 (70%), 49Nm, St 5/5
#1 Trail	Lv 7/10 (240%), 78Nm, St 5/5
#1 Boost	Lv 10/10 (400%), 85Nm, St 5/5
#2 Eco	Lv 2/10 (40%), 49Nm, St 5/5
#2 Trail	Lv 7/10 (240%), 85Nm, St 5/5
#2 Boost	Lv 10/10 (400%), 85Nm, St 5/5
Max speed	32 km/h
Walk	Powerful
Overall Power/Te	orque Limiters
Max Torque	85 Nm
Min Torque	20 Nm
Power Limit Eco	500 W
Power Limit Trail	500 W
Power Limit Boost	500 W
Gears	
Туре	Mechanical
Front / Rear (11th) chain ring	34T / 10T
Mount angle	-30°
Light	
Status	Always On
Reserved time	150 min
Light Output	27.0 W

P800 / SC-EM800

\*Other settings shown (Market, Circumference, Assist Settings, Speed Correction, etc.) will be covered in more detail later in this manual.

\*\* The list of available parameters depends on the motor model as well as on the firmware version.

The bottom half of the info screen shows tuning settings. To start tuning your E-Bike, tap on the menu icon at the top-left of the info screen to get to the MAIN MENU.

# **STANDARD FEATURES - MAIN MENU**

If you have an unlicensed version, the **MAIN MENU** of the **ST UNLOCKER** app will have the standard options described below\*.

• Disconnect from E-Bike Tap and confirm to close the Bluetooth connection between ST Unlocker the app and E-Bike. • E-Bike's Info Takes you back to the E-Bike Info screen. • Presets (see section I) Allows you to save the current settings or recall your custom setting presets. **Disconnect from E-Bike**  Assist Settings (see section II) This is where you can adjust your motor's assist, torque, and maximum power. Presets • Gears Settings (see section III) (4) Assist Settings This is where you can specify your rear mech type and highest gear ratio. 8 Gears Settings • Other Settings (see section IV) Allows you to change overall Power/Torque settings, if **Light Settings** available. • Light Settings (see section V) Allows you to set a reserve time for optional LED lighting. 6%) **Circumference Settings** • Speedometer Calibration / Circumference Settings (see section VI) Allows you to calibrate the speedometer. £1) Black Box • Statistics (see section VII) Allows you to see the bike's usage statistics App Settings Black Box (see section VIII) Allows you to view internal data recorded by the drive Get the Premium licence unit  $(\mathcal{I})$ Manual (PDF) • Standard App Settings Application-specific settings. ₽ Exit App

\*The availability and functionality of the tuning options above are dependent on the firmware installed in your motor; to see what firmware versions are compatible, please see the DRIVE UNIT / MOBILE DEVICE COMPATIBILITY section for more information.

# I. PRESETS – OVERVIEW

In this section you can select, create, save, and recall system presets for your E-Bike. To get started, the easiest way is to begin with the default (built-in) preset examples.

#### • How-To Load Default Presets

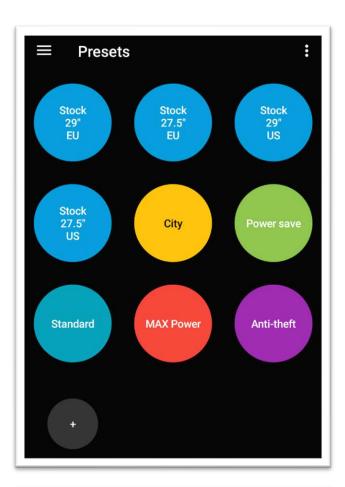
To load the built-in preset examples, tap on the Presets sub-menu (the three dots on the upper-right corner of the screen).

#### • Select and Apply a Preset

To select a preset, simply tap the preset, then tap **[OK]** to confirm.

#### • Delete a Preset

To delete a preset, tap and hold the preset, then tap **[DELETE]** in the window that pops up.



#### • Apply a Preset

To apply a preset (load the preset into your E-Bike), tap the desired preset. The app will show you the preset's assist settings and ask you to confirm – tap on **[OK]** to load the presets to your E-Bike. Apply settings from the preset "Stock 27.5" US" ? Assist Eco: 60% 30Nm 500W Assist Trail: 90% 70Nm 500W Assist Boost: 300% 70Nm 500W

TIP: After you are done tuning and you've exited the **ST UNLOCKER** app, don't forget to power cycle (turn off, then on) your E-Bike before use.

# PRESETS - SAVE A CUSTOM PRESET

You can save your own customized presets into the app for later use. To save your custom presets, you must do the following steps:

#### STEP 1

Before saving a custom preset, first use the **ST UNLOCKER** app and adjust your E-Bike settings to your liking.

#### STEP 2

Go to the **PRESETS** screen and tap the empty circle with the **+** symbol.



#### **STEP 3**

A window will pop up allowing you to specify a name for your preset, and you can specify which settings to save in the preset. When you are happy with the preset, tap on **[OK]** to save your custom preset.

You should now be able to see your newly made custom preset on the **PRESETS** screen.

	Preset #1
Color	
	Apply Assist settings
	Apply Circumference settings
	🛃 Apply Market settings
	Apply Speed settings

# II. ASSIST SETTINGS

This is where you can adjust your motor assist, torque, and maximum power settings for each of the three drive modes (ECO, TRAIL, and BOOST).

#### • Assist (by Percentage)

This parameter adjusts how much additional assist your E-Bike motor will provide, relative to your pedaling input. For example, setting this to 60% means your E-Bike's motor will add an additional 60% of your input as electric assist (up to maximum torque setting, below).

#### • Max Torque (in Nm)

This parameter adjusts the maximum amount of torque your E-Bike will produce during electric assist, regardless of your pedaling input.

#### • Power (Maximum, in Watts)\*

This parameter limits the maximum amount of total power your E-Bike will produce during assist. A higher setting means more total power.

#### • Assist Start (Level) \*\*

This parameter affects on assist engage. More level means fastest assist start.

#### • Assist Max Speed \*\*\*

This parameter limits assist by the maximum speed. The Maximum speed is depends on the market settings

• Active Profile \*\* Sets the active assist profile

"Default" button allows you to change the settings of each mode to default (factory predefined)

≡ Assist Setti	ings
PROFILE #1	PROFILE #2
Active profile	
Eco	
Assist Level (10)	< Lv.3 70% >
Max torque (Nm)	< 49 >
Assist Start (5)	< Lv.5 >
	O Default
Trail	
Assist Level (10)	< Lv.7 240% >
Max torque (Nm)	< 78 >
Assist Start (5)	< Lv.5 >
	O Default
Boost	
Assist Level (10)	< Lv.10 400% >
Max torque (Nm)	< 85 >
Assist Start (5)	< Lv.5 >
	Default
Other settings	
Max speed	< 32 > km/h
Riding characterist	ics
(unk) arbbot indina arbotic indi arbotic indina arbotic indina arbotic indina arb	40 60 80 100 Rider pedaling Input Torque (Nm)

\*The "Power" adjustment can be disabled in the "App Settings" page to prevent the user from forcing the E-Bike to exceed the system's safe rated output.

\*\* Available for EP8/EP801/EP600 motors only

\*\*\* May not be available on your bike because of FW/motor

Use the controls to modify each parameter for each drive mode, then when you're finished tap [UPDATE] to transfer the settings to your E-Bike. If you want to go back to factory settings, simply tap the [DEFAULT] button for each mode, then tap [UPDATE] to adjust your drive modes back to the OEM default parameters.

TIP: After you are done tuning and you've exited the **ST UNLOCKER** app, don't forget to power cycle (turn off, then on) your E-Bike before use.

# **III. GEARS SETTINGS**

This is where you can specify or adjust the gearing on your E-Bike to modify system calibration and accurate system readings.

- **Type** Select the type of shifting system on your E-Bike.
- Chainrings Front\*
   Set this parameter to the tooth size of your LARGEST front chainring.
- Chainrings Rear\* Set this parameter to the tooth size of your SMALLEST rear cassette cog.
- Number of gears\* Set this parameter according to the number of gears in your cassette.

≡ G	ears Setti	ings		
Туре	C Elect	hanical trical/Di2 hanical Int trical Interr hanical Int trical Interr	nal ernal w/	
Chain rin	igs			
Front		<	34	> Teeth
Rear 11t	h	<	10	Teeth
Number	of gears	<	11	>

\*The "Chainrings" adjustments can be disabled in the APP SETTINGS page to prevent the user from modifying the chainring sizing of the E-Bike.

Use the controls to modify each parameter for your gear setup, then when you're finished tap [UPDATE] to transfer the settings to your E-Bike.

In most cases, there is no need to change gear settings when you change the cassette or front sprocket. Often a change will result in an E010 error, in which case you must return to the factory settings.

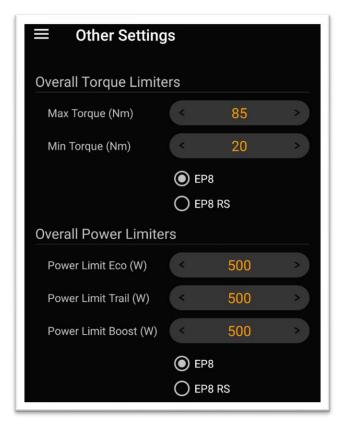
# **IV. OTHER SETTINGS**

For EP8/EP801/EP600 motors is possible to change overall Power and Torque settings. The App also has presets for turning a full powered motor into an RS version and back.

• Min/Max Torque These are lower and upper limiters for motor output.

#### • Power limiters

Maximum power output by a motor. The power depends on a max torque and cadence.



Use the arrows to modify each gear parameter, then when you're finished tap [**UPDATE**] to save the settings to your E-Bike.

# **V. LIGHT SETTINGS**

If you have an optional LED light connected to your drive unit's light circuit, here you can set a specific calculated time for your LED lights that will be reserved by the system.

• Status

Toggles the reserved preset on/off.

#### Reserved Time

Set this parameter to the amount of time to reserve for operation of your LED lights (in minutes).

• Light Output

This parameter allows the motor to accurately calculate the remaining battery reserve to keep the light on.

$\equiv$ Light Settings	
Status	<ul> <li>On</li> <li>Off</li> <li>Always On</li> </ul>
Settings	
Reserved time	< 150 > min
Light Output	< 27.0 > W

Use the arrows to modify each gear parameter, then when you're finished tap [**UPDATE**] to save the settings to your E-Bike.

# VI. SPEEDOMETER CALIBRATION

In **CIRCUMFERENCE SETTINGS** this is where you can calibrate the speedometer for more accurate speed readings. This does not alter the drive unit's actual top speed; it only affects the speed shown on the display unit.

 Speed Correction (Percentage)\* You can adjust this to calibrate the speed shown on your display unit; the percentage represents the system's speed/odometer internal multiplier from -5% to +5%.

Circumference Settin	ngs
Circumference	
Correction	< 0.0 > %

\*NOTE: The Speed Correction setting is available for E-8000 (4.7+) or E-7000/E-6000 (4.4+) or EP8/EP801/EP600.

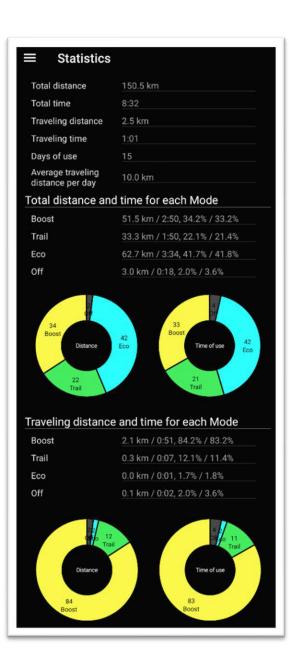
If you make any changes above, don't forget to tap [UPDATE] to save the changes.

\*The availability and functionality of the premium tuning options above are dependent on the firmware installed in your motor; to see what firmware versions are compatible, please see the DRIVE UNIT / MOBILE DEVICE COMPATIBILITY section for more information.

*TIP: After you are done tuning and you've exited the* **ST UNLOCKER** *app, don't forget to power cycle (turn off, then on) your E-Bike before use.* 

# VII. STATISTICS

This is where you can view bike's statistics\*\*



\*The availability and functionality of the options above are dependent on the motor and the firmware installed in the motor

\*\* The statistics on the screenshot are only available for EP8/EP801/EP600 motors. For other motors the stats will be limited.

# VIII. BLACK BOX

This is where you can view internal data recorded by the drive unit, plus various other information. To load the data, you must first tap on **[READ]** to export the data from the system and into the **ST UNLOCKER** app.

- Time of Use Time of usage since last reset.
- Distance Distanced travelled since last reset.
- Total Distance
   Total distance travelled by the system (odometer); NOT RESETTABLE.
- Avg. Speed Average speed since last reset
- Max Speed Maximum speed reached by the system; <u>NOT RESETTABLE</u>.
- Regulation Log (EP8/EP801/EP600 only)

The motor stores all regulation changes such as market settings and wheel circumference settings

	MOTOR	DISPLAY	SWITCH
o			
Stored data			
0x00	Real Property in the second second	2020000000	Sec. 1
Time of use	0h 05m		
Distance	1.2 km		
Total distance	1.2 km		
Avg speed	12.6 km/h		
Max speed	46.6 km/h		
Error data			

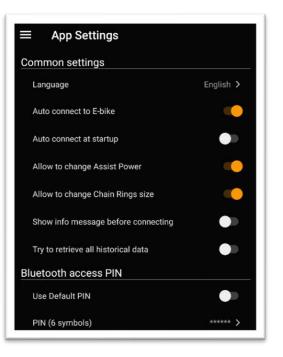
≡ Black	Box		
REGULATION LOG	MOTOR	DISPLAY	SWITCH
11/27/20 8:24	4 AM		
Market	US		
Circumference	2300	mm	
	0x000	0	

\*The availability and functionality of the options above are dependent on the motor and the firmware installed in the motor; to see what firmware versions are compatible, please see the DRIVE UNIT / MOBILE DEVICE COMPATIBILITY section for more information.

# **STANDARD APP SETTINGS**

Here you can adjust other miscellaneous application settings, as described below.

- Language Select your desired language.
- Auto Connect to E-bike
   When checked, just press the
   CONNECT button when you first start
   the app, and the app will connect to
   your E-bike automatically as soon as
   the E-bike is powered on.
- Auto Connect at startup When checked, the app will immediately connect to the bike when launched
- Allow to change Assist Power Enables or disables the "Power" adjustment slider on the ASSIST SETTINGS page.



 Allow to change Chain Rings size Enables or disables the "Chain Rings" adjustment on the GEARS SETTINGS page.

#### • Show Info message before connecting Enables or disables the "How to Connect" pop-up information message.

- **Try to retrieve all historical data** If this option is enabled, on the **BLACK BOX** page the App will attempt to retrieve all data from the Motor memory, including unidentified data.
- Use Default PIN Check to force the app to use the default Bluetooth access PIN code (000000)
- Bluetooth Access PIN

If you are using a custom Bluetooth access PIN code to connect to your E-Bike, enter the Bluetooth access PIN here.

# **GET THE PREMIUM LICENSE**

To unlock more tuning options for your E-Bike you can request a license.

## The Premium license costs 30 EURO (~ 30 USD) excluding VAT.

The licensed app will unlock premium tuning options and other features\*:

- Market Settings
- Drive Unit Mounting Angle
- Wheel Circumference
- Top Speed Adjustment



# HOW-TO: REQUEST A LICENSE

Go to the Main Menu and tap
 "Get the Premium License" and then select
 "Send the License request"

2. Your mobile device will open the built-in Mail app and pre-fill your E-Bike information in the Message field.

3. Simply tap **Send** to send the email request. Shortly you should receive a reply with a payment request.

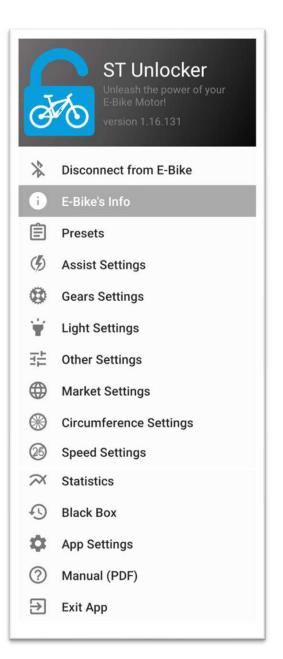
Cancel	License request	Send
To: info@stun	locker.com	<b>(</b>
Cc/Bcc, From:		
Subject: Licer	ise request	
License requ	lest for:	
Motor mode	: DU-E8000 / SC-E8000	
Firmware ver	r: 4.3.2 / 4.0.6	
Serial:	11111110	

\*The availability and functionality of the premium tuning options above are dependent on the firmware installed in your motor; to see what firmware versions are compatible, please see the **DRIVE UNIT / MOBILE DEVICE COMPATIBILITY** section for more information.

# PREMIUM FEATURES: MAIN MENU (Licensed Version)

If you have upgraded to the licensed version, the **MAIN MENU** of the **ST UNLOCKER** app will have additional tuning options\*.

- Market Settings (See section IX) Allows you to set the assist maximum speed limit cut-off based on the drive unit's market destination.
- Drive Unit Angle (See section X) Allows you to adjust the mounting angle parameter of your drive unit.
- Wheel Circumference (See section XI) Specify your wheel circumference for accurate speedometer calibration.
- Top Speed Adjustment (See section XII) Allows you to raise the motor assist speed limit cut-off point (also known as "derestricting").



\*The availability and functionality of the premium tuning options above are dependent on the firmware installed in your motor; to see what firmware versions are compatible, please see the DRIVE UNIT / MOBILE DEVICE COMPATIBILITY section for more information.

# **IX. PREMIUM FEATURE: MARKET SETTINGS**

This is where you can select your motor's "market setting" to specify the maximum speed limit cut-off for your E-Bike's assist.

- Europe (25 km/h limit) Select this to restrict your E-Bike assist to 25 km/h (15.5 mph) max.
- United States (32 km/h limit) Select this to restrict your E-Bike assist to 32 km/h (19.9 mph) max.
- Japan (25 km/h limit) Select this to restrict your E-Bike assist to 25 km/h (15.5 mph) max.
- Taiwan (25 km/h limit) Select this to restrict your E-Bike assist to 25 km/h (15.5 mph) max.
- Korea (25 km/h limit) Select this to restrict your E-Bike assist to 25 km/h (15.5 mph) max.

If you make any changes above, don't forget to tap [UPDATE] to save the changes.

\*The availability and functionality of the premium tuning options above are dependent on the firmware installed in your motor; to see what firmware versions are compatible, please see the DRIVE UNIT / MOBILE DEVICE COMPATIBILITY section for more information.

TIP: After you are done tuning and you've exited the **ST UNLOCKER** app, don't forget to power cycle (turn off, then on) your E-Bike before use.

≡	Market Settings
Marl	ket
С	) Europe (25 km/h limit)
	United States (32 km/h limit)
С	) Japan (25 km/h limit)
С	) Taiwan (25 km/h limit)
С	) Korea (25 km/h limit)

# X. PREMIUM FEATURE: DRIVE UNIT ANGLE

As an added premium feature to the **GEARS** section, this is where you can adjust the parameter of your E-Bike's drive unit mounting angle; this parameter can increase the WALK speed on certain model E-Bikes.

Other settings (Mount Angle)\*
 Use this to adjust the mounting angle parameter of your drive unit; altering the mounting angle may increase the top speed of WALK MODE when activated.

$\equiv$ Gears Settings					
	Mec	hanical			
	O Electrical/Di2				
<b>T</b>	O Mechanical Internal				
Туре	O Electrical Internal				
	O Mechanical Internal w/ Belt				
	O Elec	trical Inter	nal w/ Be	elt	
Chain rir	Chain rings				
Front	Front		34	Teeth	
Rear 11t	Rear 11th		10	> Teeth	
Number of gears		<	11.	>	
Other se	Other settings				
Mount angle		<	-30	> •	

If you make any changes above, don't forget to tap [UPDATE] to save the changes.

\*The availability and functionality of the premium tuning options above are dependent on the firmware installed in your motor; to see what firmware versions are compatible, please see the DRIVE UNIT / MOBILE DEVICE COMPATIBILITY section for more information.

TIP: After you are done tuning and you've exited the **ST UNLOCKER** app, don't forget to power cycle (turn off, then on) your E-Bike before use.

# XI. PREMIUM FEATURE: WHEEL CIRCUMFERENCE

As an added premium feature to the **CIRCUMFERENCE** section, his is where you can select and/or calibrate your E-Bike's wheel size specification for accurate speedometer readings.

- Circumference Presets Select 29", 27.5", 26", or 700c to match the actual wheel size of your E-Bike.
- Circumference (Custom) If you select "Custom", use the left/right arrow heads to set your actual tire circumference as measured in millimeters.

< 2230 > mm
2230
< 0.0 > %

If you make any changes above, don't forget to tap [UPDATE] to save the changes.

\*The availability and functionality of the premium tuning options above are dependent on the firmware installed in your motor; to see what firmware versions are compatible, please see the **DRIVE UNIT** / **MOBILE DEVICE COMPATIBILITY** section for more information.

# XII. PREMIUM FEATURE: TOP SPEED ADJUSTMENT

This is where you can raise or lower the motor assist speed limit cut-off point (also known as "derestricting") for each of the three drive modes (ECO, TRAIL, and BOOST).

Speed Set	ttings*
-----------	---------

When you set a speed, your E-Bike's motor will continue to provide assist until you reach this speed. Raising the speed means you'll have more assist beyond the OEM speed limit.

$\equiv$ Speed Settings			
Speed Limiters			
Eco	< 32 > km/h		
Trail	< 40 > km/h		
Boost	< 48 > km/h		
O Default			

Use the arrow heads to modify each parameter for each drive mode, then when you're finished tap [UPDATE] to transfer the settings to your E-Bike.

**\*NOTE: This setting is only available for E-bikes that are equipped with the DU-E8000** drive unit with **firmware 4.3.2** and the **SC-E8000** display unit only.

\*The availability and functionality of the premium tuning options above are dependent on the firmware installed in your motor; to see what firmware versions are compatible, please see the DRIVE UNIT / MOBILE DEVICE COMPATIBILITY section for more information.

TIP: After you are done tuning and you've exited the **ST UNLOCKER** app, don't forget to power cycle (turn off, then on) your E-Bike before use.

# XIII. AUTO PRESETS (Configuration)

As an added feature to the **APP SETTINGS** section, this feature allows you to select two Presets (see the **PRESETS** section) that will automatically be loaded into your E-Bike when used in conjunction with the **ST UNLOCKER** app home screen Icon. The App requires the connection to a bike to change these settings.

- Preset for Widget/Shortcut
   Here you can select one of your
   PRESETS to become the WIDGET PRESET;
   leave this setting at "None"
   to disable this feature.
- Preset for the bike restriction (Panic) Here you can select one of your
   PRESETS to become the PANIC PRESET; leave this setting at "None" to disable this feature.

Once you set your Auto Presets, you can activate them automatically from your mobile device's home screen through the **ST UNLOCKER** app icon. Simply press and hold the icon and a small menu will pop up:

• Panic (Restrict)

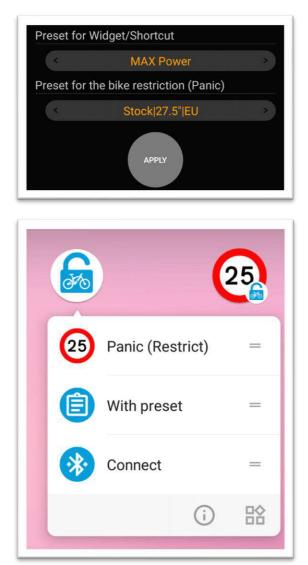
Example: Use when you want to quickly configure your E-Bike back to standard (stock) settings.

• With Preset

Ideally used with E5000 and E6100 systems where the system may sometimes reset all parameters with each E-Bike restart.

#### • Connect

Quick-connects the **ST UNLOCKER** app to your E-Bike without applying a Preset.



# XIV. HOME SCREEN PRESET WIDGETS

This feature allows you to have standard home screen widgets that automatically activate your AUTO **PRESETS** with a single tap.

- 1. Add A New Widget Press and hold on any homescreen on your Android mobile device.
- Select the ST UNLOCKER Widget under the 'Add to Home' menu.
- Choose a Widget Size
   The ST UNLOCKER app features two
   types of widgets: a small, standard
   looking shortcut icon (non-resizable)
   and a larger, re-sizeable widget icon
   that can be resized up to full screen.

You will now have one-tap access to your **AUTO PRESETS** you configured, without having to open the **ST UNLOCKER** app.



	25				
25 Panic (Restrict)	=	With preset Connect			
With preset	=	Panic Shor Preset Sho			
Connect	=				
(i)	訟				

# FAQ / TROUBLESHOOTING

### First time connecting to your E-Bike?

Before you attempt to use the **ST UNLOCKER** app, you must first already establish a Bluetooth Low-Energy (BLE) paired connection between the "E-T\*be" app (on your mobile device) and your E-Bike. To do this, go to the App Store on your device and download the "E-T\*be" app. Launch the "E-T\*be" app and follow the directions to pair the to your E-Bike. Once you have successfully paired your device, you do not have to do it again. You can close the "E-T\*be" app and begin using the **ST UNLOCKER** app.

#### I'm having trouble connecting ST UNLOCKER to my E-Bike?

If you can connect with the "E-T\*be" app (see above) but you're having trouble connecting with ST UNLOCKER, try the following, in order:

- 1. Turn your E-Bike off and completely close ALL device apps
- 2. Restart **ST UNLOCKER** app first.
- 3. Turn your E-Bike on, then tap "Connect" in the **ST UNLOCKER** app.

#### I can connect, but then the ST UNLOCKER app loses the initial connection to my E-Bike?

If it looks like you made a successful initial connection but then the app gets disconnected, this means that the PIN code in the **ST UNLOCKER** app's **APP SETTINGS** page <u>does not match</u> the PIN code set in your E-Bike. Go to the **APP SETTINGS** page, enter correct PIN, then try again.

#### I'm pretty sure my PIN is correct; how can I check this to be sure?

If you believe that the PIN code you know is correct and original "E-T\*be" App works fine with your bike try uninstalling the "E-T\*be" app, then reinstall it from the app store. The first time you open the "E-T\*be" app it will ask you for your E-Bike's PIN. Enter the PIN you know and see if it connects; if it doesn't, then you have the wrong PIN code. If you forgot your PIN code you can reset it with Factory Windows app with the PCE interface, or go to your local E-Bike dealer and have them reset the PIN code for you.

#### I tried all of the above, I still can't connect to my E-Bike?

If you still can't connect, go to your mobile device's BLUETOOTH settings and if you see your E-Bike listed, unpair it first, then restart the **ST UNLOCKER** app and try again.

#### I tried using this app with my E-Bike, and nothing seems to be happening?

We have tested the app extensively on numerous bikes, firmware versions, mobile devices, and configurations listed in this manual with success. Many customers have also had success. However obviously we cannot test EVERY system available. That said, there are no guarantees that the app will be compatible with your specific E-Bike/system/firmware.

If you have tried all the other suggestions above and you still can't connect, try updating the firmware to the current version using the factory "E-T\*be app.

#### What is the default Bluetooth passkey for my E-Bike?

The default Bluetooth passkey is "000000".

#### Is the app compatible with the EW-EN100 Junction?

Yes.

#### What happens to my ST UNLOCKER settings if I use the E-Bike's factory app?

If you connect to your E-Bike using the E-Bike's factory app and make any changes, this will override any changes you made using **ST UNLOCKER** back to the factory default ranges, including maximum assist, torque, and any speed limit modifications. Thus, to take advantage of all the capabilities of **ST UNLOCKER**, we suggest that you <u>do not use the E-Bike's factory app</u> concurrently and just use the **ST UNLOCKER** app for all tuning.

#### My display unit showing the wrong speed, how do I fix this?

First, make sure you selected the correct wheel diameter for your E-Bike in the CIRCUMFERENCE SETTINGS area – you can use the presets, or measure your wheel to get the exact diameter. Next, determine which direction to make adjustments: if your display is showing slower than your actual speed, reduce the wheel diameter. If your display is showing faster than your actual speed, increase the wheel diameter. NOTE: If you're using **E-8000 (firmware 4.7+)** or **E-7000/E-6000 (4.4+)** or **EP8/EP801/EP600** you can keep your wheel circumference the same, and just adjust the speed displayed in +/-5% increments with the SPEED CORRECTION setting.

#### Can I use this app to downgrade my firmware?

No, the **ST UNLOCKER** app does not downgrade firmware. You only need the E-T\*be app and earlier firmware files to downgrade.

#### Can you tell me where to download earlier firmware or send me the files?

No, because we don't want to be blamed if you try to install it but fail and brick your e-Bike (it's possible to recover it using PCE interface).

#### HELP! I tried to downgrade my firmware, but now my E-Bike isn't working!

Sorry to hear that. Please read page 3. Anyway, you can recover it using PCE interface.

# If I have to get my bike serviced under warranty, will they know/can they find out if I've used an app to modify my E-Bike?

It's possible. It depends. At this point, we have no evidence to prove that dealers can determine the use of the **ST UNLOCKER** app. The **ST UNLOCKER** does not write anything to the regulation log (for

# EP8/EP801/EP600 motors). *We strongly recommend that you change ALL settings to factory defaults (region, circumference, assistant settings, lights, etc.) and upgrade the firmware to the latest version*

<u>using E-T\*be app BEFORE visiting a service center</u>. If you're afraid you might void your warranty coverage if something goes wrong with your E-Bike and you have to take it to a service center, then simply don't use the ST UNLOCKER app – stick to the factory E-T\*be app instead.

#### Can you guarantee that I won't mess anything up using this app?

Of course not! Just because the **ST UNLOCKER** app can modify your E-Bike system do these extra things, it doesn't mean that everyone who uses it will have 100% trouble-free success. We don't know how you will use the app, so we don't know if you'll use it right or be stupid and try to force your E-Bike to do things it shouldn't do. The **ST UNLOCKER** app is just a tool; what you do with the tool and how you use it is your responsibility.

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