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Revisions:

Version	Date	Description
V23.102.2	2024.03.08	First release
V24.102.3	2025.02.12	Updated some feature descriptions

Read Before Use:



Operate in strict accordance with this manual.

If you have any questions during use, contact our customer service.

Disclaimer:

- The purchased products, services, and features are stipulated by the contract. All or part of the products, services, and features described in this manual may not be within the scope of your purchase or usage. Unless otherwise specified in the contract, all the content in this manual is provided "AS IS" without warranties of any kind, express or implied.
- The content of this manual is subject to change due to product upgrades and other reasons. Sveaverken reserves the right to modify the content of this manual without notice.
- This manual only provides guidance for use of this product. Every effort has been made in the preparation of this manual to ensure accuracy of the content, but no information in this manual constitutes a warranty of any kind, express or implied.

Safety Instructions

Before using this product, ensure that you have read and understood all the operation instructions and precautions in this *Sveaverken Auto Steer System Software User Manual*.

Safety Instructions

Once the control terminal is started, the following popup appears, informing you of safety risks to which you must pay more attention.

Safety Instructions
Before using this system, make sure that you have read the user manual and keep in mind the following safety requirements:
(1) Operators must hold the licenses as required by local laws, including but not limited to driving licenses.
(2) Do not drive under the influence of alcohol or when you are tired.
(3) Drive in an open field far from the crowd and vehicles to avoid personal injuries or property damages.
I Understand

Operator

- 1. People under eighteen or not meeting the age requirement of local laws and regulations are not allowed to operate this product.
- 2. Do not drive under the influence of medicines, alcohol, and drugs.
- 3. Do not drive when feeling tired.
- 4. Operators must hold the driving licenses as required by local laws and regulations.

Operating Environment

- 1. Drive in an open field far from the crowd and ensure that there are no irrelevant personnel or vehicles in the operation area.
- 2. Stay away from people, livestock, obstacles, wires, tall buildings, airports, and signal towers to avoid interference with signals.
- 3. Do not operate in extreme weathers such as heavy rain, thick fog, snow, lightning, and strong wind.
- 4. Ensure that there is no human or obstacle around the vehicle's path during testing, calibration, adjustment, or automatic turning to prevent personal injury or property damage.

Operation

- 1. Do not get on or off the vehicle during operation.
- 2. Monitor the operation condition in real time during operation to ensure timely intervention when necessary.
- 3. Drive the vehicle in the manual mode on public roads or in public places.

Inspection

- 1. Ensure that there is sufficient oil in the fuel tank of the vehicle.
- 2. Ensure that the parameter calibration is complete on the control terminal before operation.
- 3. Ensure that the antennas and the angle sensor are properly installed. If any is moved, calibrate it again before use.
- 4. Ensure that all cables are intact. If any damage is found, stop the operation and replace the cable.

Others

- 1. Disassembling the product housing without authorization may invalidate the warranty.
- 2. Damage caused by force majeure events, such as lightning strikes, overvoltage, and collision, is not covered by the warranty.
- Connect the devices strictly in accordance with this manual. When connecting cables such as data cables, hold the end of the plug and gently plug or unplug it. Do not pull the plug by force or twist it, which may break the pins.
- Follow the power supply requirements for this product (system). The supply voltage for the control terminal and the electric steering wheel is 9 V–36 V.

FCC Warning

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.

- Increase the separation between the equipment and receiver.

-Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

-Consult the dealer or an experienced radio/TV technician for help

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference

(2) This device must accept any interference received, including interference that may cause undesired operation.

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment shall be installed and operated with minimum distance 20cm between the radiator & body.

Preface

Use of Manual

This manual describes how to use Sveaverken **F100**, **F100H**, **F200** Auto Steer System in concise, simple, and clear language, so that users can master each operation procedure easily, quickly, and accurately.

Technical Support

Starting from the date of purchase, users will be provided with the technical support and upgrade services from Sveaverken.

Contact Sveaverken by any of the following methods:

• Official website: https://www.sveaverken.com

Applicable standard: Q/440300 SVEA 001-2022

Contents

Chapter 1 Software Operation Instructions	1
1 Workflow Overview	1
2 Installation and Commissioning	1
2.1 Selecting a Language	1
2.2 Sign-up/Login	2
2.3 Entering Installation Information	3
2.4 Home Screen	4
2.5 Connecting to a Signal Source	5
2.6 Setting Vehicle Parameters	
2.7 Calibrating the Angle Sensor	
2.8 Calibrating the Vehicle	17
2.9 Setting Implement Parameters	21
2.10 Calibrating the Implement	23
3 Preparations	25
3.1 Checking the Signal Source Connection	25
3.2 Checking the Task Configuration	25
3.3 Creating a Boundary and Guidance Line	29
4 Starting the Task	47
4.1 Home Screen Elements	47
4.2 Task Operations	49
5 Applications	67
5.1 Smart U-turn	68
5.2 Basic U-turn	73
5.3 Manual Intervention	78
5.4 NMEA (Optional cable required)	80
5.5 Radar Output Module (Optional)	81
5.6 Easy Control (Optional)	81
5.7 Mini Control(Optional)	85
5.8 Easy Switch(Optional)	85
5.9 Remote Debugging	
5.10 Camera (Optional)	
5.11 Electric Power Steering	
5.12 Data Transfer	90
5.13 Get Tractor Data (Connect OBD)	94

	97
6.1 Device Status	
6.2 Task Data	. 103
6.3 Device Settings	. 105
6.4 Field	114
6.5 Universal	121
6.6 System	. 128
Chapter 2 Common Faults and Solutions	. 132

Chapter 1 Software Operation Instructions

1 Workflow Overview

This chapter describes the main operation processes and related functions of Sveaverken Auto Steer System. Before using the system for the first time, you need to complete the installation, commissioning, and preparations to start the autosteering operation successfully.

2 Installation and Commissioning

Use the following workflow to install and commission the system for the first time:

Select a language \rightarrow Sign up and log in \rightarrow Enter installation information \rightarrow Connect to a signal source \rightarrow **Obtain heading*** \rightarrow Set the vehicle parameters \rightarrow Calibrate the angle sensor \rightarrow Calibrate the vehicle \rightarrow Calibrate the implement \rightarrow Complete

* Drive the vehicle straight ahead for a while, and the heading is obtained automatically. If not, choose MENU > SYSTEM > Heading calibration.

2.1 Selecting a Language

Power on the control terminal, select a language, and tap Next to open the sign-up/login screen.

 Language		
	中文	
	English	
	日本語	
	Español	
	Türk	
	Deutsch	
	Français	
	~	

Figure 1. Select a language

2.2 Sign-up/Login

The sign-up/login screen is displayed in the language you selected.

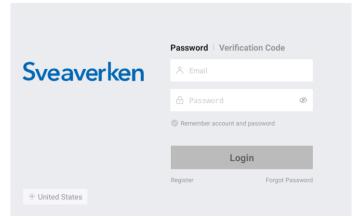
Sign up: For the first time use, you need to sign up. Tap **Register** to open the sign-up screen, enter your email address, verification code, and password, and then read and agree to the User Privacy Agreement.

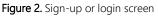
Log in: If you have an account already, you can log in directly by entering your username (email address) and password.

Forgot password: If you forgot your password, tap Forgot Password to reset the password. Enter your email address, verification code, and new password, and then tap Login to enter the home screen of the system.

Select country/region: The system automatically selects the country or region based on your

location, or you can tap () in the lower left corner and select your country or region. Ensure that the country or region you selected is true, and we bear no responsibility for any consequences arising from your wrong selection.





In addition, add code scanning login method. Use Sveaverken APP to scan QR code, which is convenient for users to log in quickly.

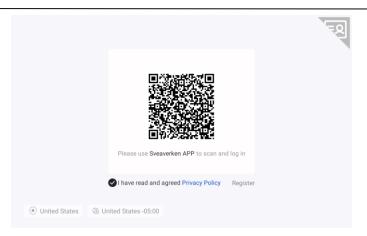


Figure 3. Sign-up or login screen

Sveaverken APP download method:

- IOS users can directly search for Sveaverken in the App store and download it.
- Android and IOS users can use cell phone scanning QR code to download.





2.3 Entering Installation Information

For the first time use, you need to enter the user information, installation information, and machine information. Note that the information you entered may have an impact on your aftersales service, so strictly follow the following procedure:

Step 1: Enter the user information, and tap Next.

	1/2 Plea	ise enter user inform tems cannot be filled in, you can fil	nation I in None	
	User name Please input user	name	Date of Birth 1970-01-01	
Step 2: Enter	the installation		Next te user information Confirm.	
	2/2 Insta	allation Information tems cannot be filled in, you can fil	l in None	
	Installer's Name Enter		Installation Date	
		Return	Confirm	



2.4 Home Screen

The home screen is displayed upon login. You can view the network connection and operation status in real time. For convenience, your account information is automatically saved locally, so that you are logged in automatically to open the home screen every time the system is powered on. Refer to section 4.1 "Home Screen Elements" for details.



Figure 6. Home screen

2.5 Connecting to a Signal Source

After the home screen is opened, connect to a correction signal source.

Step 1: Choose MENU > DEVICE SETTINGS > Correction Source.

MENU 📠 Manually	driving			×
DEVICE SETTINGS	÷11			0
FIELD	tļt	_	110	
UNIVERSAL	Coefficient Commissioning	Driver Debugging	Implement Calibration	Automatically Driving Settings
APPLICATIONS	8			
SYSTEM				
	Correction Source	Diagnostics Center		
		****	-	
	Vehicle Library	Implement	Angle Sensor	Vehicle

Figure 7. Select Correction Source

Step 2: Tap Network RTK, Mobile Base Station RTK, SBAS, PPP, Bluetooth RTK, or External Bluetooth RTK, to initiate a connection request or set connection parameters. The connection mode you enabled is selected automatically the next time you log in.

÷	Correction Source	Ŷ	.≉ 40	* .11	03:51
	Network RTK				
	Mobile Base Station RTK				
	SBAS				
	🕑 РРР				

Figure 8. Connect to a signal source

2.5.1 Network RTK

To enable the network RTK mode, tap **Network RTK**, and the **NTRIP** and **NRTK** options are displayed.

NTRIP

Tap NTRIP, and enter information in the popup dialog.

NTRIP host: Enter the host and port, and tap **Get Source**. The node with the strongest signal strength is displayed automatically in the **Source Node** box.

NTRIP account: Enter your account and password, and tap **OK** to complete the connection.

	NTRIP		
Host	Please enter	•	
Port	Please enter	Get Source	
Source Node	Please enter	•]
Account	Please enter	•]
Password	Please enter	Ø	
× Ca	ncel	🗸 ок	

Figure 9. Enter NTRIP information

NRTK

Tap NRTK, and the NRTK account bound is automatically logged in.

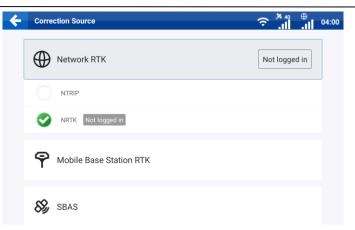


Figure 10. Select NRTK

Note:

Check whether the mode is available in your region by contacting us as described in section "Technical Support" or contacting the local dealer.

2.5.2 Mobile Base Station RTK

For the mobile base station RTK mode, the connection method is selected depending on the base station type.

Pairing via Code

Tap **Mobile Base Station RTK**, and select **Pairing via Code**. In the popup dialog, enter the frequency code of the base station and tap **OK**. For details about the base station's frequency code, refer to its user manual.

Applicable base stations: Sveaverken mobile base stations whose service codes start with BS or BSA. You can also set public frequencies in the popup dialog. The frequencies must be 410 MHz to 470 MHz with a maximum of five decimal places. If the base station's service code starts with BSA, public frequency settings are not supported.

÷	Correction Source	중
	Pairing via Code	
	Enter the 8-bit code.	*
	Set Public Frequencies If you want to set public frequencies, please set the same value station	as the base
	410-470	MHz
	410-470	MHz
	8 × Cancel × C	ж

Figure 11. Pair via code

Pairing via Frequency

Tap **Mobile Base Station RTK**, and select **Pairing via Frequency**. In the popup dialog, enter the frequency of the base station and tap **OK**. The frequency must be 410 MHz to 470 MHz with a maximum of five decimal places. For details about the base station's frequency, refer to its user manual.

Applicable base stations: Sveaverken high-power base stations whose service codes start with FQ.

Pairing via Frequency	
6	
410-470 MHz *	
4	
X Cancel V OK	

Figure 12. Pair via frequency

Pairing via Channel

Tap **Mobile Base Station RTK**, and select **Pairing via Frequency**. In the popup dialog, select the same channel, over-the-air baud rate, and radio communication protocol, and then tap **OK**. For details about the parameter settings of the base station, refer to its user manual.

Applicable base stations: Sveaverken V1(T) mobile base stations.

÷	GNSS	Configuration			2024.02.27 02:27
			Pairing via Channel		
	٢			\$	*
		Over-the-air Baud Rate			
		4800bps	9600bps	19200bps	
		Radio Communication	Protocol		
		TRIMMARK3	TRIMTALK	TT450S	
	ſ	× Cancel		🗸 ок	

Figure 13. Pair via Channel

Universal pairing

Power on the base station, and set its frequency, over-the-air baud rate, and radio communication protocol on the base station. Tap **Mobile Base Station RTK**, and select **Universal pairing**. In the popup dialog, set the same frequency, over-the-air baud rate, and radio communication protocol, and then tap **OK**. For details about the parameter settings of the base station, refer to its user manual.

Universal pairing 410-470 MHz * Over-the-air Baud Rate 4800bps 9600bps 19200bps Radio Communication Protocol]
Over-the-air Baud Rate 4800bps 9600bps 19200bps	
4800bps 9600bps 19200bps	
Radio Communication Protocol	
TRIMMARK3 TRIMTALK TT450S	
× Cancel ✓ OK	

Figure 14. Universal Pairing

Base stations of other brands must support the following features:

Frequency: 410-470 MHz

Baud rate: 4,800 bps/ 9,600 bps/ 19,200 bps

Radio communication protocol: Transparent-EOT/ TRIMMARK3/ TRIMTALK

Differential data format: RTCM 2.X / 3.X

Note:

1. Base station pairing may take up to 3 minutes.

2. If RTK connection keeps failing, try switching the RTK connection mode a few times.

2.5.3 SBAS

Tap SBAS, and select WAAS, MSAS, EGNOS, GAGAN, or SDCM. The operation cannot be started until **connected** is displayed at the right of SBAS. To switch to a different signal source, tap the source, and then tap OK in the popup dialog.

SBAS
🤡 waas 🗸
MSAS
EGNOS
GAGAN
SDCM

Figure 15. SBAS connection established

Note: The operation cannot be started when **RTK Status** is 1 in **Diagnostics Center** > **Scenario**. Once the connection is established, **RTK Status** becomes 2 and the signal source icon in the upper right corner becomes "S00-S20".

* Please check whether the hardware support SBAS or not

2.5.4 PPP

Tap the PPP option. The operation cannot be started until the PPP has completed configuration and convergence.

Phase	Correction Source	Status bar	Prompt			
Configurin g	PPP U	- Sat PPP				
Configured	Configured		Configuration completed			

PPP Connection Status

Converging	PPP IIII Configured	PPP	PPConfigured Convergence takes time, please wait patiently,
Converged		[₽] ııl PPP	Convergence completed

2.5.5 Bluetooth RTK

Note: This mode is only available in Japan.

2.5.6 External Bluetooth RTK

Note: This mode is only available in Japan.

2.6 Setting Vehicle Parameters

To add, delete, modify, check, upload, synchronize, and calibrate the vehicle information, choose **MENU** > **DEVICE SETTINGS** > **Vehicle Library**.

MENU 📠 Manually	driving			×
DEVICE SETTINGS	ţ;			9
FIELD	IŧT			
UNIVERSAL	Coefficient Commissioning	Driver Debugging	Implement Calibration	Automatically Driving Settings
APPLICATIONS	8			
SYSTEM				
	Correction Source	Diagnostics Center		
			-	-
	Vehicle Library	Implement	Angle Sensor	Vehicle

Figure 16. Select Vehicle Library

2.6.1 Parameter Settings

To enter the vehicle settings screen, tap **New** or **Edit**. Enter the basic information on the **Information** tab (Steer Ready (CAN) needs to be activated, and Hardware ID 8+6+-- above supports Hydraulic Steering Wheel), and then tap **Next**. Measure and enter the vehicle parameters on the **Parameters** tab, and then tap **Next**. Check the vehicle information on the **Summary** tab, and then tap **Save**.

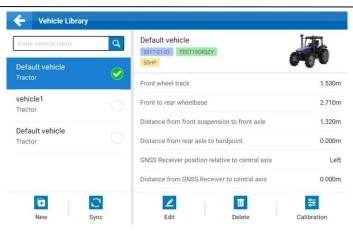


Figure 17. Vehicle library

Information	Parameters		Summary
Name	Vehicle Ty	pe	
Default vehicle1	Tractor		•
Steering Control Type	Horsepow	er	
Electronic Steering Wheel	▼ ★ Please	enter	HP
Vehicle Brand	Please enter Purchase	r <mark>a non-zero value</mark> Date	
Please enter	2017-01	-01	
Vehicle Model			
迢 Quick Impo	rt	> Next	

Figure 18. Information tab

Nami	Sele	ect steering control t	уре	ų
* De Steer Ele Vehic	-	\bigcirc	٢	▼ HP
Electro	onic Steering Wheel	Steer Ready(CAN)	Hydraulic Steering Whe	el 🗄
Vehic	× Cancel		🗸 ок	
		ort	>1 Next	

Figure 19.	Information-select Control	Туре
------------	----------------------------	------

New			×
Information	Parameters	Summary	
	Front wheel track 1.53 Front to rear wheelbase 2.71	n © n	
	Distance from front suspension to from 1.32 Distance from rear axle to hardpoint	nt axle 🔊 n	1
К В	ack >I N	Next	

Figure 20. Parameters tab

Information	Param	eters	Summary
ation			
Name	Default vehicle1	Vehicle Type	Tractor
Vehicle Brand		Horsepower	90
Vehicle Model		Purchase Date	2017-01-01
eters	Front wheel track		1.53m
	Front to rear wheelbase		2.71m
Distance	e from front suspension to fron	t axle	1.32m

Figure 21. Summary tab

Quick Import

When creating and editing vehicles, you can also click on Quick Import, select the vehicle type, brand, and model, and automatically fill in the vehicle information that has already been entered into the system.

Note: First use requires a network connection.

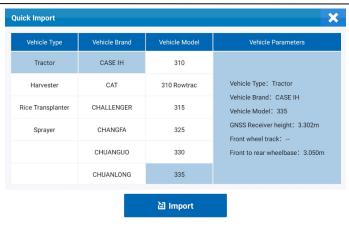
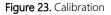


Figure 22. Quick Import

2.6.2 Calibration

Tap **Calibration**, and **Angle Sensor Calibration** and **Vehicle Calibration** are displayed on the screen. Refer to section 2.7 "Calibrating the Angle Sensor" and section 2.8 "Calibrating the Vehicle" for details.

÷	Vehicle Calibration		
	Angle Sensor Calibration	>	
	Vehicle Calibration	>	



2.6.3 Other Actions

Delete

To delete the vehicle information, tap a vehicle, and then tap **Delete**. The deleted information cannot be restored. This action is unavailable when there is only one vehicle in the vehicle library.

Synchronize

To download the vehicle information from the cloud to the control terminal, tap Sync.

2.7 Calibrating the Angle Sensor

After setting the vehicle parameters, calibrate the angle sensor to ensure the steering control accuracy. Choose **MENU** > **DEVICE SETTINGS** > **Angle Sensor Calibration**. Select the sensor type, and the corresponding settings screen appears.

MENU 📠 Manually	y driving			×
DEVICE SETTINGS	ţ,			6
FIELD	IŧT	14		
UNIVERSAL	Coefficient Commissioning	Driver Debugging	Implement Calibration	Automatically Driving Settings
APPLICATIONS				
SYSTEM				
	Correction Source	Diagnostics Center		
			-	
	Vehicle Library	Implement	Angle Sensor	Vehicle

Figure 24. Select Angle Sensor Calibration

2.7.1 No Angle Sensor

When no angle sensor is installed, select **No Angle Sensor** for the sensor type, and the corresponding settings screen appears. Tap the calibration button to automatically calibrate. (The current version can only be automatically calibrated after the Automatically Driving Settings - Accuracy Compensation is turned on.)

Vehicle steering speed ratio

Turn the steering wheel from the left limit position to the right limit position, and record the number of turns. The vehicle steering speed ratio is the value multiplied by 6.

Maximum turning angle

The maximum angle that the wheels can turn to the left or right from the aligned position.

Compensation coefficient

After setting the vehicle steering speed ratio and maximum turning angle, you need to adjust the compensation coefficient, if the straight line performance is less than satisfactory in the autosteering mode. The default value is 0. When the steering wheel responds too slowly, increase the value, which cannot exceed 10. If the steering wheel responds too fast, decrease the value moderately.

Angle Sensor Calibration	
Angle Sensor Type	
No Angle Sensor	Attitude Sensor Hall Sensor
Set the vehicle steering speed ratio 🔞	Maximum Turning Angle
16.0	S0 S0
Compensation coefficient @	0
	Save

Figure 25. Calibration for no angle sensor installed

2.7.2 Attitude Sensor

If an attitude sensor is installed, select **Attitude Sensor** for the sensor type, and the corresponding settings screen appears.

Maximum turning angle

The maximum angle that the wheels can turn to the left or right from the aligned position.

Angle Sensor Calibration		
Angle Sensor Type		
No Angle Sensor	Attitude Sensor	Hall Sensor
Installation Position		
Left wheel	Middle	Right Wheel
Maximum Turning Angle 50		⊗ОК
Baud Rate		
500K •		

Figure 26. Calibrate the attitude sensor

2.7.3 Hall Sensor

If a Hall sensor is installed, select **Hall Sensor** for the sensor type, and the corresponding settings screen appears. You can check the calibration parameters and real-time parameters on the screen. Select the installation position, tap **Calibration** at the bottom, and turn the steering wheel to the leftmost, rightmost, and center positions as prompted.

Angle Sensor Cali	ibration		
Angle Sensor Type			
No Angle Sensor	Confirm	Hall Sensor	
Installation Position			
Left wheel	Middle	Right Wheel	
Calibration of Angle Senso	۶r		
0.0v	0.0 v	0.0 v	
Median Voltage	Left Limit Voltage	Right Limit Voltage	
Real-time parameters of a	ngle sensor		
0.1	450 v	0.0	
Output	t Voltage	Output Angle	
	Figure 27. Calibrate the	Hall sensor	
(
. 🕒	G.		Y
Please turn the wheel to the leftmost	Please turn the wheel to the ri	ghtmost Please turn	the wheel to the cent
🗸 ок	🗸 ок		🗸 ок

Figure 28. Hall sensor calibration process

2.8 Calibrating the Vehicle

After calibrating the angle sensor, calibrate the vehicle for offset correction. Choose $\ensuremath{\mathsf{MENU}}\xspace >$

DEVICE SETTINGS	> Vehicle	Calibration,	and then	tap	Start Ca	libration.
-----------------	-----------	--------------	----------	-----	----------	------------

Pitch angle offset	Roll angle offset	
0.0	0.0	8
nstall angle offset	Angle center value	
0.0	0.0	8
Pitch angle	Roll angle	
Note:		
 Please make sure that the vehicle has enou The vehicle should try to drive at a constant 		
3. Drive in straight line at least 50m	apeed of 5° oknyn	



Read and follow the instructions on the right of the calibration screen.

Step 1: Drive the vehicle to the start point on a level and wide-open ground, and tap **A** in the lower right corner to mark point A.



Figure 30. Mark point A

Step 2: Manually drive the vehicle straight ahead for at least 50 m, and mark point B. The driving distance from point A is shown in real time in the lower right corner.



Figure 31. Mark point B

Step 3: Manually turn the vehicle around, and return to point B with the vehicle heading towards point A.



Figure 32. Return to point B after turning around

Step 4: Tap Manual to switch to the autosteering mode, and the vehicle returns to point A along the guidance line you have just created. The vehicle switches to the manual mode automatically once point A is reached.

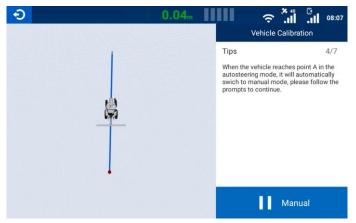


Figure 33. Return to point A

Step 5: Manually turn the vehicle around, and return to point A with the vehicle heading towards point B.



Figure 34. Return to point A after turning around

Step 6: Tap Manual to switch to the autosteering mode, and the vehicle returns to point B along the guidance line you have just created.

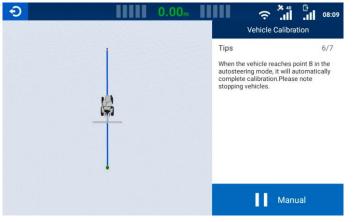


Figure 35. Return to point B

Step 7: The calibration result is displayed automatically after point B is reached. Tap \checkmark in the lower right corner to complete the calibration.

<u></u>		0.00m	Vehicle Calibr	
			Tips	7/7
			Calibration Completed	
			Pitch angle offset	0.0
	(9)		Roll angle offset	0.0
	(F)		Install angle offset	0.0
			Angle center value	0.0
			Pitch angle	0.00
			Roll angle	0.00

Figure 36. Confirm the calibration result

Note:

Complete the angle sensor calibration before the vehicle calibration.

2.9 Setting Implement Parameters

To add, delete, modify, check, upload, synchronize, and calibrate the implement information,

choose MENU > DEVICE SETTINGS > Implement Library.

MENU 🙇 Manually o	Iriving			×
DEVICE SETTINGS	÷14			6
FIELD	† ! †	4	A A O	
UNIVERSAL	Coefficient Commissioning	Driver Debugging	Implement Calibration	Automatically Driving Settings
APPLICATIONS				
SYSTEM				
	Correction Source	Diagnostics Center		
			-	-
	Vehicle Library	Implement	Angle Sensor	Vehicle

Figure 37. Select Implement Library

2.9.1 Parameter Settings

To enter the implement settings screen, tap **New** or **Edit**. Select the implement type on the **Type** tab, and then tap **Next**. Enter the basic information on the **Information** tab, and then tap **Next**. Measure and enter the implement parameters on the **Parameters** tab, and then tap **Next**. Check the implement information on the **Summary** tab, and then tap **Save**.

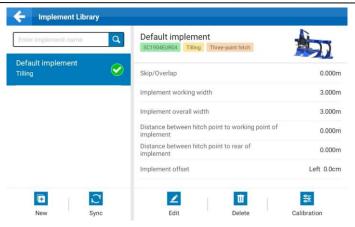


Figure 38. Implement library

Tilling Spraying Seedi	R 🦈
Tilling Spraying Seedi	
	ng Harvest
TR. 🦗 😽	H CCCC
Plant Land leveling Ditchin	ng Ridging

Figure 39. Type tab

New implements		×
Туре	Information	Parameters Summary
Name		Way of connection
* Please enter		★ Please enter ▼
The input cannot be blank Brand of the implement		The input cannot be blank Model of the implement
Please enter		Please enter
	K Deals	NI Mare
	K Back	> ∎ Next

Figure 40. Information tab

New implements		Information	Parameters	Summary
Type		Skip/Overlap 0.0 Implement wo * 3.0		Summary m
	ŀ	Implement over * 3.0 Distance betw	een hitch point to working point of	o m

Figure 41. Parameters tab

Туре		Information	Parameters	Summary
ic Information				
Name		Default implement1	Way of connection	Three-point hitch
Brand of the imple	ment		Model of the implement	
Type of impleme	ent	Tilling		
ameters		Skip/Overlap		0in
	Im	plement working width		9ft 10.11in
	Im	plement overall width		9ft 10.11in
			int of implement	0in

Figure 42. Summary tab

2.9.2 Calibration

To enter the implement calibration screen, tap **Calibration**. Refer to section 2.10 "Calibrating the Implement" for details.

2.9.3 Other Actions

Delete

To delete the implement information, tap an implement, and then tap **Delete**. The deleted information cannot be restored. This action is unavailable when there is only one implement in the implement library.

Synchronize

To download the implement information from the cloud to the control terminal, tap Sync.

2.10 Calibrating the Implement

23 ©2025 Sveaverken. All rights reserved.

After calibrating the vehicle, calibrate the implement if there is any skip or overlap between adjacent trajectories. Choose **MENU** > **DEVICE SETTINGS** > **Implement Calibration**.

e that the heading directions should be changed ding to the figure shown above Manual calculation		Automatically calculation	С
ding to the figure shown above Manual calculation Correction cumulative value Correction value		0 in 0 Correction value	
	Note that the heading directions should be changed cording to the figure shown above	Manual calculation	S
Left 0 in Left 0 in	Correction cumulative value	Correction value	
	Left 0 in	Left 0	in
	Empty	Correct	

Figure 43. Calibrate the implement

Automatic calculation of correction value

The system works out the correction value automatically based on the skip or overlap values you entered.

Manual calculation of correction value

Alternatively, you can calculate and enter the correction value based on your experience or demand.

Correct

Tap **Correct**, and the correction value is added to the cumulative correction value. You can tap **Correct** repeatedly.

Empty

To clear the automatic or manual correction value, as well as the cumulative correction value, tap **Empty**.

← II	nplement Calibration			
Tips 1. Please d	Manual c	alculation	0	
	Offset Direction			
	Left	Right	in	
	Correction value	in		
2. Note the according	Please enter values in the range 0 - 787 1. If a is greater than b, choose left; if a is less than b,choose right;			
Correct	2. Correction value = $a - b$ or $b - a + 4$, positive number;			
Let	3.The value range is 0-787	3.The value range is 0-787		
	× Cancel	√ ОК		
	Empty	Correct		

Figure 44. Manual calculation

The above installation and commissioning aims to ensure high-accuracy navigation. Before any operation, you still need to make the following preparations.

3 Preparations

Make the following preparations before any operation:

Check the signal source connection \rightarrow check the task configuration (create or select a field * \rightarrow create or select a task \rightarrow create or select a boundary * \rightarrow create or select a guidance line) \rightarrow check the implement configuration \rightarrow obtain heading \rightarrow start the operation.

* Field and boundary are only included in advanced mode. For basic mode users, only task and guidance line setting are required.

3.1 Checking the Signal Source Connection

Before any operation, check the signal source connection. Refer to section 2.5 "Connecting to a Signal Source" for details.

3.2 Checking the Task Configuration

To preview and switch the fields, tasks, boundaries, guidance lines, and implements, tap **Overview** on the home screen. Refer to section 6.4 "Field" for details on how to add, delete, modify, check, and manage the fields, tasks, boundaries, and guidance lines.

Note: The functions related to fields and boundaries are only available after activating advanced mode.

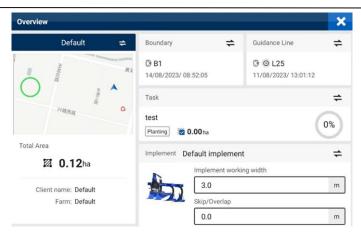


Figure 45. Overview

3.2.1 Creating or Selecting a Field (Available after activating advanced mode)

The field name, field map, field area, client name, and farm name are displayed on the left of the

Overview screen. Tap 🚔 to switch to another field or create a field.

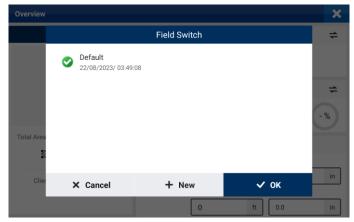


Figure 46. Switch the field

Overview			×
	Creat	e field	÷
	Field Name		
	Client name		\$
	Farm Name	· · ·	- %
Total Area		•	
Clier	× Cancel	✓ ок	in
		0 ft 0.0	in

Figure 47. Create a field

3.2.2 Creating or Selecting a Task

The task name, task type, operation area, and completion rate are displayed in the Task section on

the right of the **Overview** screen. Tap 🗢 to switch to another task bound to the same field or create a task.

Overview				×
		Task Switch		≑
	Default(2)	0.01 acre		
	Default Deep_ghing 20.00 are			4
Total Area				
Clier	× Cancel	+ New	🗸 ок	in
		0	ft 0.0	in

Figure 48. Switch the task

Overview				×
		New task		ŧ
	Task Name			
	Task Type			ŧ
	Harvest	Planting	Seeding	- %
Total Area	Spraying (pesticide)	Spray (fertilizer, etc	Underdrainage	
e	Surface leveling	Bundling	Ploughing	
Clier	× Cancel		🗸 ок	in
		0	ft 0.0	in

Figure 49. Create a task

3.2.3 Selecting a Boundary (Available after activating advanced mode)

The boundary name, signal source used, and creation time are displayed in the Boundary section

on the right of the **Overview** screen. Tap = to switch to another boundary bound to the same field. If no boundary is required for the operation, keep the boundary part empty. Refer to section 3.3 "Creating a Boundary and Guidance Line" for details on boundary creation.

Overview				×
		Boundary Switch		4
Total Area	ψ B1 22/08/2023/ 05:36:45			tta ↔
Clier	× Cancel		🗸 ок	in
		0	ft 0.0	in

Figure 50. Switch the boundary

3.2.4 Selecting a Guidance Line

The guidance line name and type, signal source used, and creation time are displayed in the

Guidance Line section on the right of the Overview screen. Tap to switch to another guidance line bound to the same field. If no guidance line is required for the operation, keep the guidance line part empty. Refer to section 3.3 "Creating a Boundary and Guidance Line" for details on

guidance line creation.

Overview				×
	Guidance I	_ine Switch		≑
	⊕			
				#
				- %
Total Area				#
Clier	× Cancel	🗸 ок		in
		0 ft	0.0	in

Figure 51. Switch the guidance line

3.2.5 Checking the Implement Configuration

The implement name, working width, and skip/overlap are displayed in the Implement section on

the right of the **Overview** screen. Tap 👘 to switch to another implement. Refer to section 2.9 "Setting Implement Parameters" for details on implement creation.

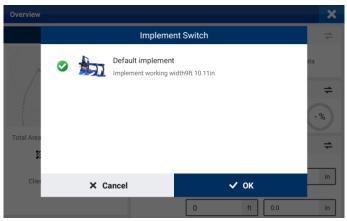


Figure 52. Switch the implement

3.3 Creating a Boundary and Guidance Line

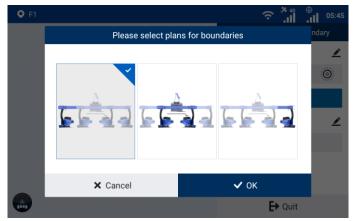
To record the boundary (available after activating advanced mode) or create different types of guidance lines, tap Line Creation on the home screen. Tap in the lower left corner to record the operation while the boundary and guidance line are created.

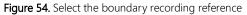
O F1	
	Guidance Line and Boundary
	Guidance Line 💉
	I ∿ 🏏 🍥
0	А
·	Boundary 💉
	۲
	E→ Quit

Figure 53. Create a guidance line

3.3.1 Creating a Boundary (Available after activating advanced mode)

Tap On the right, and select the leftmost, center, or rightmost position as the reference based on the boundary and implement position relation.





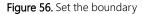
Drive around the field and return to the start point to record a complete boundary.

Q F1	?	⊕ .II 05:48	
	Guidance Line and Boundary		
	Guidance Line	×	
	1 N M	\odot	
	А		
	Boundary	<u>/</u>	
	× II		
	🗗 Quit		

Figure 55. Record the boundary

When recording the boundary, you can tap ⁴ in the upper right corner of the **Boundary** section to edit the boundary name, headland distance and offset direction.

Q F1	<u> </u>	⊕ .II 05:49
	Boundary Setting	ndary
	Boundary Name	<u> </u>
	82	O
	Headland Distance	
Z/Z	Offset	<u>_</u>
	Outside Inside	
	X Cancel V OK	
	E> Quit	t



The system determines whether the boundary recorded can be used. If the boundary cannot be used directly, the system processes it as follows.

Bou	Boundary		Illustration		
Distance x from the start	x ≤50 m	Connect the start point and the end point with a straight line.			
point to the end point	50 m < x	Resume the recording.	8 0 1		
	Boundary length < 80 m	Resume the recording.	8 0 0		
Consist	Boundary too narrow	Description			
Special boundary	Multiple sub- areas within the boundary	Record the boundary again.			

3.3.2 Creating a Guidance Line

The process to create a guidance line depends on the guidance line mode you select. Now there are the straight line, the A+ line, the curve, the pivot mode, the headland and the diagonal line.

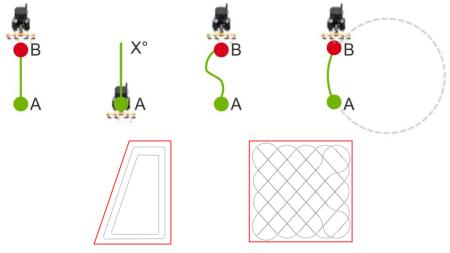


Figure 57. Six guidance line modes

3.3.2.1 AB straight line mode

Set point A and point B to create a straight line. This mode is applicable to regularly shaped fields. Access the boundary and guidance line creation screen, and tap to select the AB straight line mode. Drive the vehicle to the start point, and tap A to set the current position as point A.

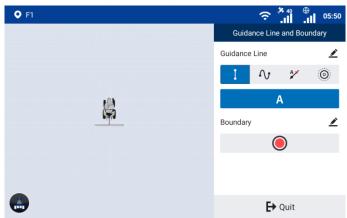


Figure 58. Set point A

Stay in the manual mode, and drive the vehicle for at least 10 m. Tap 🕒 to set the current position as point B, or tap 💌 to cancel point A.

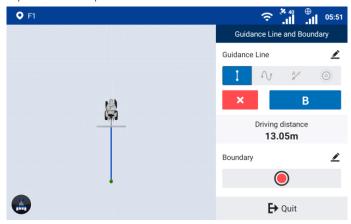


Figure 59. Set point B

Tap \checkmark to generate and import the AB line, and the system goes to the home screen and uses the AB line automatically. You can also keep driving the vehicle to another point and tap \blacksquare to change point B to the new position, or tap \checkmark to cancel the guidance line creation.

● F1	?
	Guidance Line and Boundary
	Guidance Line 🗾
	I 🗤 🏏 🎯
虔	Х В 🗸
	Driving distance 16.06m
	Boundary 🗾
	۲
	₽ Quit

Figure 60. Import the guidance line

When creating a guidance line, you can tap \checkmark in the upper right corner of the **Guidance Line** section to set the guidance line name.

Q F1		?	⊕ .∎∎ 05:51
	Guidance L	ine Setting	ndary
	Guidance Line Name		<u> </u>
222	L2		O
<u> </u>			~
24			
(7)			<u>_</u>
	× Cancel	✓ ок	
	× Cancer		_
		🗗 Quit	

Figure 61. Change the guidance line name

Creating guidance lines while recording the boundary

While recording the boundary, you can create AB straight guidance lines by following the same process mentioned above.

• Default	?"
	Guidance Line and Boundary
	Guidance Line
	I ~ % ©
	×B
	Driving distance 7.99m
	Boundary 🗾
	× "
	E→ Quit

Figure 62. Create a guidance line while recording the boundary

After a guidance line is imported successfully, you can tap + in the **Guidance Line** section to create a new guidance line. All AB lines created during the boundary recording are saved under the current field, and can be switched during a task operation. Refer to section 4.2.4 "Switching Boundaries or Guidance Lines" for details. After the boundary is recorded, the system goes to the home screen and uses the last AB line imported automatically.

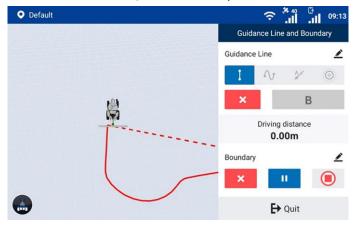


Figure 63. Record boundary edges as the guidance lines

3.3.2.2 A+ line mode

Set point A and the heading of the vehicle to create a straight guidance line. This mode is

applicable to large fields and operations by multiple operators.

Access the guidance line creation screen, and tap 💋 to select the A+ line mode. Drive the vehicle to the start point, and tap 🔺 to set the current position as point A.

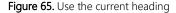


Figure 64. Set point A

You can use your current heading as the heading for creating an A+ line, or enter the heading manually.

a. Tap \blacksquare on the map to set the current heading as the heading of the A+ line.





b. To enter a heading manually, tap \checkmark on the right panel, and a popup window appears. Enter a heading relative to the true north in a clockwise direction. The heading must be in the range of 0– 360°, with a maximum of four decimal places.

Q F1	Enter A+ Li	ne Heading	
	270.5		
(× Cancel	🗸 ок	s ► Quit

Figure 66. Enter the heading manually

Tap \checkmark to generate and import the A+ line, and the system goes to the home screen and uses the A+ line automatically. You can also keep driving the vehicle to another point and tap \checkmark to change point A to the new position, or tap \checkmark to cancel the line creation.

When creating a guidance line, you can tap 🖌 in the upper right corner to change the guidance line name.

3.3.2.3 Curve mode

Use the curved trajectory between point A and point B to generate a guidance line. This mode is applicable to irregularly shaped fields or special fields.

Access the guidance line creation screen, and tap Λ to select the curve mode. Drive the vehicle to the start point, and tap Λ to set the current position as point A.



Figure 67. Set point A

Stay in the manual mode, and drive along a curve for at least 50 m. Tap 🔳 to set the current

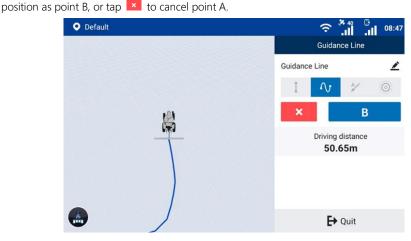


Figure 68. Set point B

When creating a guidance line, you can tap \checkmark in the upper right corner to change the guidance line name.

Tap \checkmark to import the curve line, and the system goes to the home screen and uses the curve line automatically. You can also tap \checkmark to cancel the line creation.



Figure 69. Confirm the curve line

Note:

1. Point A is the start point and point B is recommended to be a point on the headland at the other side of the field.

2. The system automatically extends the line segments beyond the two end points along the tangent directions of the two end points, so the line segments beyond the end points are straight

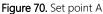
lines.

3.3.2.4 Pivot mode

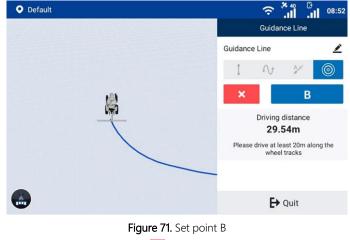
Record an arc AB to determine the pivot point and radius. This mode is applicable to fields using the center-pivot irrigation method.

Access the guidance line creation screen, and tap
 to select the pivot mode. Drive the vehicle to
 the start point, and tap
 to set the current position as point A.





Stay in the manual mode, drive along the circular field edge for at least 20 m, and then tap **B** to set the current positon as point B.



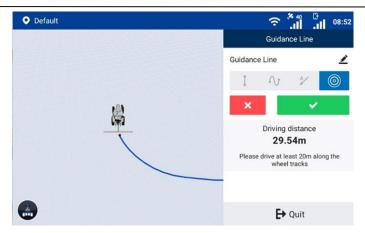


Figure 72. Generate the pivot circle

After you tap \checkmark , a popup window appears. Enter the distance from the implement edge to the field edge in the popup window, and tap **OK** to import the pivot circle. The system goes to the home screen and uses the pivot circle automatically. When creating a guidance line, you can tap

in the upper right corner to change the guidance line name and the distance to the field edge.

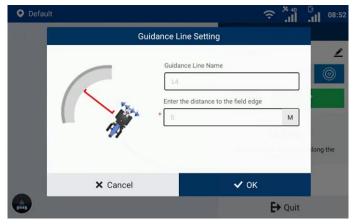


Figure 73. Enter the distance to the field edge

Note: During a task operation with a pivot pattern, when you are returning to the start point after finishing one circular path, stop the autosteering operation according to the on-screen instructions 20 m away from the start point, drive the vehicle manually to the next circular path, and repeat the above steps until operations along all circular paths are completed.

3.3.2.5 Combination Line

You can create a combination of straight and curved lines.

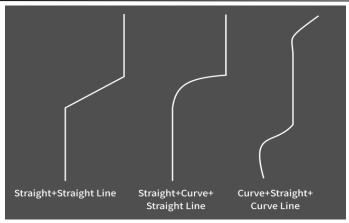


Figure 74. Combination Line

Access the guidance line creation screen, select the combination line. Click the record button. At this time, the driving vehicle records the curve.

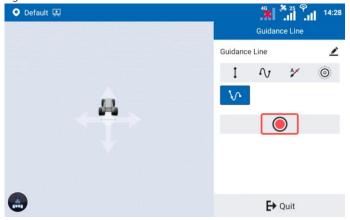


Figure 75. Selecting Combination Lines

O Default 🖳	4 ⁶	
	Guidance Line)
	Guidance Line	1
	1 ~ %	0
	V ^	
	×	
15.35m		
	E → Quit	

Figure 76. Start Recording

If you need to record a straight line, please drive the car to the starting position of the straight line, click the pause button, and drive to the ending position of the straight line. At this time, the line will be displayed as a straight dashed line. Clicking the start button will connect the dashed line to a solid line. Continue driving, the recorded line will be a curve again.

Default Click Continue to connect the current point with the pause point in a straight line	1		25 P	14:29
	Guidance	e Line		×
	I	Λ_J	2	0
	\mathbf{v}			
	×			
59.45m				
1				
\mathbf{A}				
		₽	Quit	

Figure 77. Pause Recording

Click to end recording, save and import the combination line.



Figure 78. Import the Combination Line

Note: After importing, the curvature of the combination line will be processed to ensure that it can be driven automatically.

3.3.2.6 Headland

Generate an inward offset guidance line based on the shape of the boundary. Suitable for work on the edge of the field, especially for irregular field.

Access the guidance line creation screen, and tap 🔳 to select the Headland mode.

1.If the boundary has already been imported, a Headland will be generated based on the current imported boundary.

If the boundary has not been imported or needs to be replaced, you can create or select the desired boundary to generate a Headland.

After confirming the boundary, click the next button.

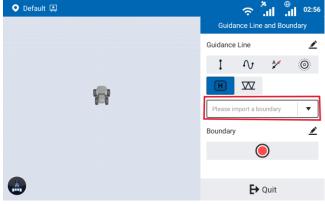


Figure 79. Confirm a boundary

2.Select the Generate Headland method.

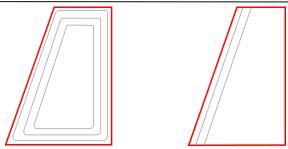
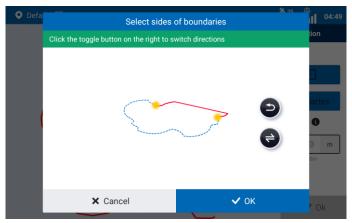
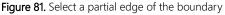


Figure 80. Two Headland generation methods

(1) Generate Headland based on the whole boundary: The shape of Headland is basically the same as that of the boundaries.

(2) Generate Headland based on part of the boundary: Select part of the line from the boundary to generate Headland. Tap Partial boundary line to select the two endpoints of a line on the boundary.





3.Confirm the Reserved Safety Distance and the Headland Number.

Reserved Safety Distance: Safe distance from the boundary during operation.

Headland Number: Number of generated headlands.

O Default	ج <mark>بنا 25 م</mark> ربع 25 Headland Configuration
	Type
	Reserved Safety Distance
	1.0 © m
6-3	Please enter values in the range -5m - 99m Headland Number
	1 Second
	K Back V OK

Figure 82. Confirmation parameters

4.Confirm the settings to generate Headland.

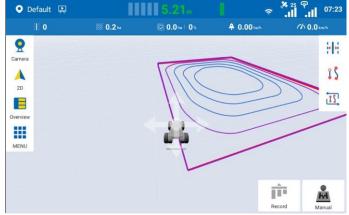


Figure 83. Headland operation interface

Notes:

1) Headland close to the boundary is Reserved Safety Distance+Half of guidance line width from the boundary.

2) Headland are not available for data transfer via USB. You can choose to generate it again after USB transfer of the boundary.

3) The Headland Number can be modified in Menu-Field- Guidance Line.

÷	Field	8	Boundary	Guidance L	ine	Task
			Edit the guida	ance line		ne
Guidance	Guidance L	ine Name			8	
⊕ L1 (1Line)	Headland N	umber			0	
	Input range 1-	-3				1:50
						1:50
	×	Cancel		~	ок	
			<u> </u>			

Figure 84. Edit Headland

3.3.2.7 Diagonal line

Diagonal line is generated for harrowing based on the shape of the boundary. By harrowing the field twice through the cross harrowing operation, the harrowing effect is flatter and the harrowing efficiency is higher.

Access the guidance line creation screen, and tap 🚾 to select the Diagonal line mode.

1.If the boundary has already been imported, a Diagonal line will be generated based on the current imported boundary.

If the boundary has not been imported or needs to be replaced, you can create or select the desired boundary to generate a Diagonal line.

After confirming the boundary, click the next button.

O Default 💻	
	Guidance Line and Boundary
	Guidance Line 🗡
	I ∿ 🏏 🎯
8	B1 🗸
	Boundary 🗾
	۲
•	₽ Quit



2.Confirm the Reserved Safety Distance and the Turning Points Number.

Reserved Safety Distance: Safe distance from the boundary during operation.

Turning Points Number : The number of turns when driving diagonally from one side of the boundary to the other. The optimal number of turns will be automatically recommended during setup.

● Default 💻	Image: Contract of the second
	Diagonal Line Configuration
	Reserved Safety Distance
	1.0 🙁 m
	Please enter values in the range 0 - 10m Turning Points Number
	0 🛞
	Please enter values in the range 0 - 0
	Back V Ok

Figure 86. Confirmation parameters

3.Confirm the settings to generate Diagonal line. There will be a blue dotted line to guide you to the starting point of the job.

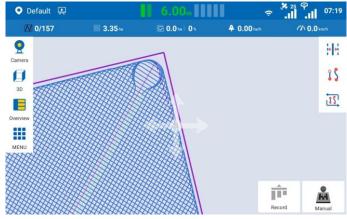


Figure 87. Diagonal line operation interface

Note : Diagonal line is not available for data transfer via USB. You can choose to generate it again after USB transfer of the boundary.

4 Starting the Task

4.1 Home Screen Elements

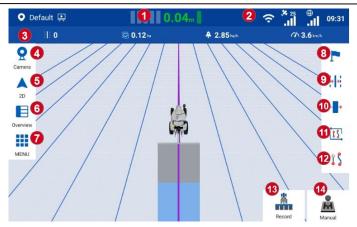


Figure 88. Home screen elements

- 1. Offset value: Displays the offset of the current path relative to the guidance line.
- Signal strength icons: Shows the strength of the satellite signal (satellite tracking), RTK correction signal, or other correction source signals.
- 3. Real-time task operation data: Shows the current task operation data, including, from left to right, the guidance line number, the total field area (available after activating advanced mode), the operated area, the completion ratio (available after activating advanced mode), the operation efficiency, and the current speed.
- Camera button: Tap to turn on the camera. Refer to section 4.2.14 "Turning on the Camera" for details.
- 5. View switch button: Tap to switch between the 2D view and the 3D view. Refer to section 4.2.13 "Switching Views" for details.
- 6. Overview button: Click to view or switch task configuration.
- 7. **Menu button:** Click to enter device settings, field management, universal settings, application center and system settings.
- Mark headland button: When there is no boundary, two lines of field end can be marked at a distance of more than 50m. An early warning will pop out when it is about to arrive at the field end.
- Guidance line translation button: Click to translate the guidance line to be center aligned to the vehicle or to translate it to the left or right by a certain distance. Only available under manual driving mode.
- 10. **Trim button:** Click to translate the position of the vehicle to the left or right with small steps. Only available under auto driving mode.
- 11. Switch button: Click to switch to another boundary or guidance line.
- 12. Line creation button: Click to start drawing a new boundary or a new guidance line.

13. **Operation recording button:** Tap to turn on or off the operation recording. Refer to section 4.2.2 "Turning On or Off Operation Recording" for details.



The task operation is being recorded.



The task operation is not being recorded.

14. **Driving mode button:** Tap to switch to the autosteering or manual mode. Refer to section 4.2.1 "Switching the Driving Mode" for details.



You are driving in the autosteering mode.



You are driving in the manual mode.

4.2 Task Operations

An autosteering operation can be started after the installation, commissioning, and task preparation processes. During a task operation, you can switch the driving mode, turn on or off the operation recording, switch the boundary or guidance line, enable an advanced feature, translate the guidance line or boundary*, scale up or down a pivot guidance line or boundary, trim the vehicle position, mark the headlands, switch the view, and turn on the camera.

* boundary only available after activating advanced mode.

4.2.1 Switching the Driving Mode

Tap the driving mode button in the lower right corner to switch between the autosteering and manual mode.



Manual: This is the default mode when the system is powered on. In this mode, you must control the steering wheel manually for a task operation, and can switch the boundary or the guidance line, translate the boundary or the guidance line, or mark the headlands.



Autosteering: This mode can only be enabled when a guidance line is imported. In this mode, the steering wheel is controlled by the system for an autosteering operation, and you can turn on or off the task recording, trim the vehicle position, mark the headlands, switch the view, and turn on the Wi-Fi camera. To perform other operations, switch to the manual mode first.

4.2.2 Turning On or Off Operation Recording

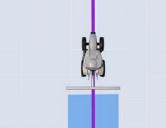
Tap **Record** in the lower right corner of the home screen to turn on or off the operation recording.

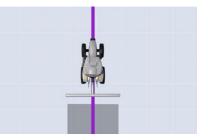


Operation recording off: In this status, the task operation data is not recorded and the operated area is not shown on both the home screen and the task records screen.



Operation recording on: In this status, the task operation data is recorded and the operated area is shown on both the home screen and the task records screen. On the home screen, the operated area is rendered in blue in the autosteering mode and in gray in the manual mode.





4.2.3 Guiding Line for Resuming a Task Operation

You can start the same task for several times, and the task operation data recorded each time is saved under the task. In case that a task has historical operation data, when the system is powered on or when you resume the task, the system loads the last operation data of that task, and in addition to the operated areas rendered in colors, the mapping guidance panel shows a red dash line to guide you to the end point of the last operation. This line is only for guidance, and you can resume the operation anywhere.

Note: The red guiding line disappears after the operation recording is turned on.

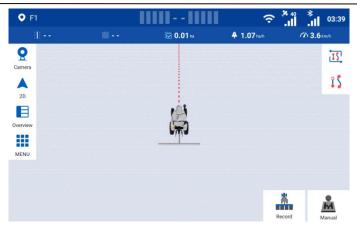


Figure 89. Guiding line for resuming a task operation

4.2.4 Switching Boundaries (available after activating advanced mode) or Guidance Lines

In the manual mode, tap **Switch** at the bottom of the home screen, and change the current boundary or guidance line to another boundary or guidance line under the same field.

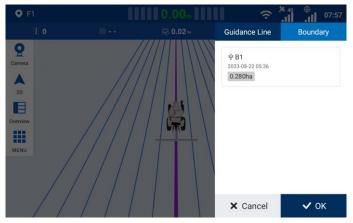


Figure 90. Switch the boundary

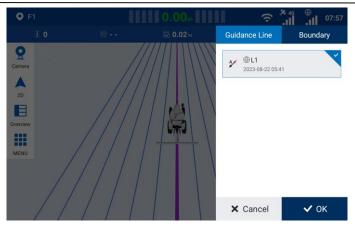


Figure 91. Switch the guidance line

4.2.5 Enabling an Advanced Feature

Once an advanced feature such as Smart U-turn or Basic U-turn is enabled, you can access the feature directly from the home screen.



Figure 92. Access an advanced feature from the home screen

4.2.6 Translating a Guidance Line

For a straight guidance line, such as an AB line or A+ line, you can translate the guidance line to the left or right in a perpendicular direction to the guidance line you are currently engaging. For a curved guidance line, such as the curve line or pivot circle, you can translate the guidance line to the front, back, left or right relative to your current heading.

Note: This feature is only supported in the manual mode.



Figure 93. Translate a guidance line

Translating an AB line or A+ line

When you are using a straight guidance line, tap it in the lower right corner of the mapping guidance panel in the manual mode, and select **Translate to the current position** or **Guidance Line Translation** as required.

- Translate to the current position: Drive the vehicle to an appropriate position, select Translate to the current position, and tap OK to translate the guidance line to the vehicle position.
- Guidance Line Translation: Select Guidance Line Translation, set the moving direction and distance, and then tap OK to translate the current guidance line to an appropriate position.

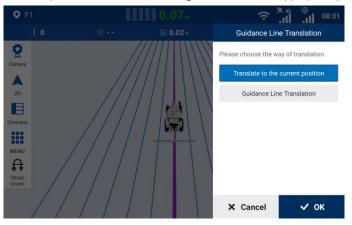


Figure 94. Translate to the current position

Q F1		0.07m	:* î	0 ⊕ 08:01
o		🖾 0.02 ha	Guidance Line T	ranslation
2 Camera	/		Please choose the way of	of translation
Camera		///////////////////////////////////////	Translate to the cur	rent position
2D	//		Guidance Line T	ranslation
Overview	-///		Moving direction	
	////		Left	Right
MENU			Moving distance	
Smart			20	cm
U-turn				
//	///		× Cancel	🗸 ок

Figure 95. Translate a straight line

Translating a curve line or pivot circle

When you are using a curved guidance line, such as a curve line or pivot circle, tap it in the lower right corner of the mapping guidance panel in the manual mode, enter the translation distance, and tap a direction button to move the guidance line to an appropriate position. You can use different direction buttons to translate the guidance line for multiple times. Tap **Close** to end the guidance line translation.

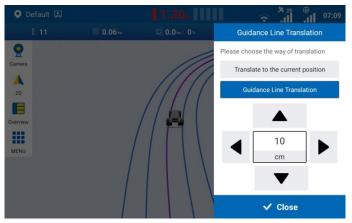


Figure 96. Translate a curve line



Figure 97. Translate a pivot line

4.2.7 Shifting the Boundary (Available after activating advanced mode)

To shift the boundary during a task operation, choose MENU > FIELD > Field > Boundary, tap \square at the bottom, and the system goes to the home screen and displays the boundary shift panel



÷	Field	Boundary	Guidance Line	Tas	sk
C	Default			Boundary Name	
[] ≉ B1				B1	
2023-08-1	16 09:14 🥑	\sim		Headland Position	
		(Outside	
				Headland Distance	
				0.00	m
				Area	
				0.22	ha
				Created Time	
				2023-08-16 09	:14
		P	2 U	1 6	2

Figure 98. Boundary

Enter the boundary shift distance, and tap a direction button to shift the boundary by the set distance. You can shift the boundary in different directions for multiple times to an appropriate position. Tap **Close** to end the boundary shift.

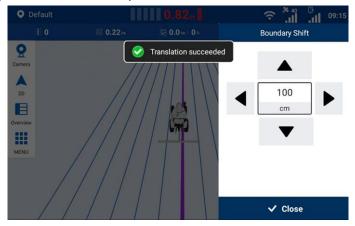


Figure 99. Shift the boundary

4.2.8 Scaling Up or Down a Pivot Circle

When you are using a pivot circle, you can use the scaling feature to adjust the radius. In the manual mode, tap \bigcirc in the lower right corner of the mapping guidance panel, and select **Scale to current position** or **Scale by specified distance** as required.



Figure 100. Scaling button

- Scale to current position: Drive the vehicle to the target point, select Scale to current position, and tap OK to scale the pivot circle to the vehicle position.
- Scale by specified distance: Select Scale by specified distance, set the scaling direction and distance, and then tap OK to scale the pivot circle to an appropriate position.



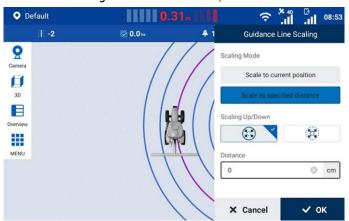


Figure 102. Scale by specified distance

4.2.9 Scaling Up or Down the Boundary (Available after activating advanced mode)

During a task operation, to scale up or down the boundary according to the actual headland

positions, choose MENU > FIELD > Field > Boundary, tap \checkmark at the bottom, and set the scaling direction and distance in the popup window.

Note: To edit the current applied boundary, tap in the lower right corner to cancel the application, edit the boundary as required, and apply this boundary again.

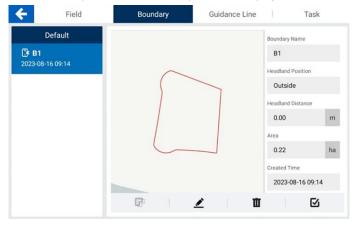


Figure 103. Boundary

÷	Field	Boundary	Guidance Line		Task
		Edit the bo	undary		
B1 2023-08-	Boundary Name				
2023-00	B1			\otimes	
	Offset	_			
		Outside	Inside		m
	Headland Dista	nce			
	3			m	ha
	×c	ancel	🗸 ок		:14
			∠ ∎		C.

Figure 104. Edit the boundary

A new black boundary appears on the map on both the boundary information screen and the home screen, and the system plans the operation path and records the operation data based on the new boundary. The original red boundary is displayed only for reference.

Sveaverken Auto Steer System Software User Manual

←	Field	Boundary	Guidance Line	Ta	ask
	Default			Boundary Name	
[]≉ B1				B1	
2023-08-	16 09:14			Headland Position	1
				Inside	
				Headland Distance	e
				3.00	m
				Area	
				0.17	ha
				Created Time	
				2023-08-16 0	9:14
		P	_ 1		2

Figure 105. New boundary

4.2.10 Trim

During the autosteering operation, the vehicle can steer offline as a result of the unstable satellite

signal. In this case, you can use the trim feature to move the vehicle. Tap ⁺ in the lower right corner of the mapping guidance panel, set the increment value in the right panel, and tap the left or right direction button to move the vehicle. You can move the vehicle in different directions for multiple times to an appropriate position. Tap **Close** to end the trim operation.

Note: This only changes the vehicle position temporarily, and the previous settings resume when the vehicle moves to the next guidance line or the manual mode is enabled.



Figure 106. Trim button

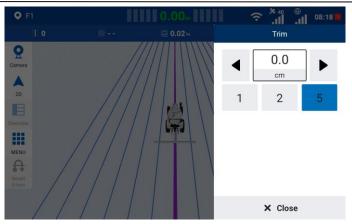


Figure 107. Trim

4.2.11 Marking Headlands

With the headlands marked, the system is able to give warnings about the headland positions, to avoid accidents in the autosteering mode, especially when operating at night.



Figure 108. Headland marking button

When a guidance line is imported, drive the vehicle to the headland position, tap right corner of the mapping guidance panel to mark the current position as the headland. The headland line appears as a line perpendicular to the current guidance line.

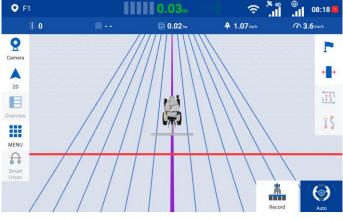
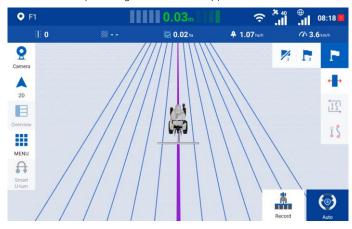


Figure 109. Headland 1



To mark the next headland, tap \checkmark again, and = \square appears.

Figure 110. Mark the next headland

Drive the vehicle along the current guidance line for at least 50 m, and tap *t* to mark the current position as headland 2.

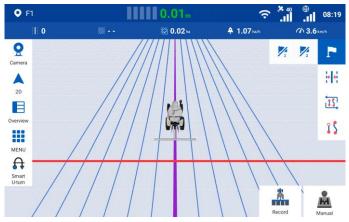


Figure 111. Headland 2

After the headlands are marked, the system gives sound and message alarms at the alarm distance from the headland. If you switch to the manual mode, the alarm sound and message disappear. The alarm distance can be adjusted in **SYSTEM** > **Alert**.

Note:

- 1. A maximum of two headlands are allowed.
- 2. When no guidance lines are imported, headland marking is not supported.
- 3. The marked headlands are canceled when a new guidance line is used.

4.2.12 Tramline

Tramline lines can be generated on the currently imported guidance line to view two spacing guidance lines on the interface. Tramline lines are commonly used for plant protection operations such as watering and fertilizing.

1.Select the guidance line for which you want to display Tramlines (AB straight, A+ straight and curved guidance lines only) in Menu-FIELD-Field-Guidance Line. Turn on the Tramline function and enter the interval number.

← Field	Boundary	Guidance Line	Task
Default Guidance Line Name			Framline O
⊕ L5 (0.7700*) ⊕ L2			Suidance Line Name
(85.6500°)		,	m Ingle 0.7700 °
▼ ₩ Diagonal Harrowing(2)	<u>_</u>	T I	Created Time

Figure 112. Enable Tramline Display

2.Import the guidance line which the Tramline function is turned on. Drive the vehicle to the guidance line where the Tramline needs to be set and tap the Tramline button. The current guidance line will be set as the starting line of the Tramline and other Tramlines will be generated to the left and right depending on the interval number.

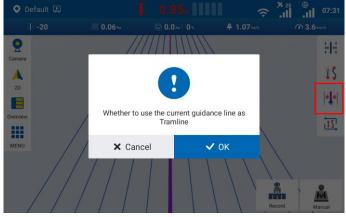


Figure 113. Setting the Tramline Start Line

3. Use Tramline to work.



Figure 114. Tramline operations

Note:

1) When the Save As New Guidance Line switch is turned on (see 6.3.4 Automatically Driving Settings), a new guidance line will be generated if the starting line is setting for Tramline.

2) When using the Basic U-turn function, if currently traveling on a Tramline, a U-turn to the next line will also go to the adjacent Tramline; if currently traveling on a non-Tramline, a U-turn to the next line will also travel to the non-Tramline.

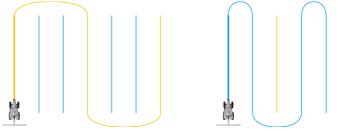


Figure 115. Tramline using Basic U-turn

4.2.13 Switching Views

To switch to the 2D view or 3D view, tap the view switch button in the upper left corner of the mapping guidance panel.





Figure 116. View switch button

The 2D view shows a top view of the planned paths and operation trajectories.

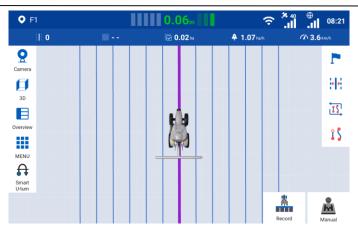


Figure 117. 2D view

The 3D view shows a perspective top view of the current operation.

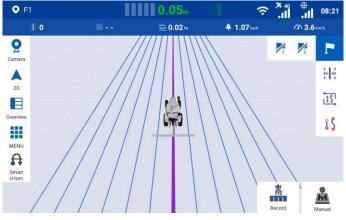


Figure 118. 3D view

4.2.14 Turning on the Camera

A camera installed on the vehicle body helps to monitor the real view of the operation site, and assists with reversing if installed on the back of the vehicle. When a camera is turned on, the system splits the screen to show the mapping guidance panel and the camera image.



Figure 119. Camera button

When no cameras are connected, tap Add a camera on the camera panel, and follow the instructions in section 5.10 "Camera (Optional)" to connect the camera.

When two cameras are connected, you can tap the number at the bottom of the camera image panel to switch to another camera image.

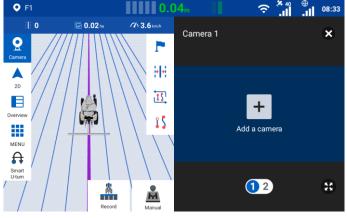


Figure 120. Screen splitting

Tap 👪 at the bottom to expand the camera image to full screen. Tap 🇯 to restore the screen splitting.

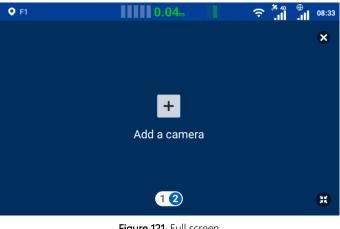


Figure 121. Full screen

õ Tap X in the upper right corner or in the upper left corner of the mapping guidance

screen to close the camera image.

4.2.15 Trajectory Clearing

If you need to clear the trajectory on the homepage, you can long press the trajectory record

button on the homepage and click confirm in the pop-up confirmation window to clear the trajectory and data of the current task.

You can also click the clear button on the Overview and Field-Task interface to clear the job trajectory and job data.

Overview		🗙 🗲 Gui	idance Line		Task
	♥ ¥ L1 19/12/2024/14:24:57				Task Name Default Cumulative Operation Time 0.00h Cperation Area 0.00 ha
	Implement working width 8.000 Skip/Overlap	÷ ∩ ∩ 1	+	@ 8 1	Repeated Task Area 0.00 ha Created Time 2024-12-19 14:24

Figure 122. Clear Button

5 Applications

MENU 🚊 Manually driving × DEVICE SETTINGS 0 ľ, ISO • FIELD Smart U-turn Basic U-turn ISOBUS Wi-Fi Camera DIAGNOSTICS CENTER \odot UNIVERSAL ΞN APPLICATIONS Manual NMEA Easy Control Intervention SYSTEM -----Remote Debugging Speed Output Data Transfer

Choose MENU > APPLICATIONS to access all the application features.

Figure 123. Applications

5.1 Smart U-turn

Smart U-turn (Available after activating advanced mode) can plan the whole-process operation paths (including the turning-around at the headlands) automatically and autosteer the vehicle throughout the whole task operation. It can plan the headland operation appropriately, reduce the turning-around distance by 30%, and improve the operation efficiency.

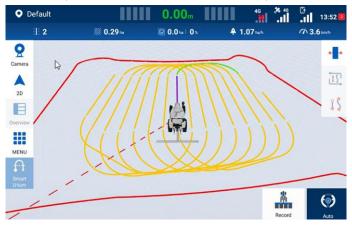


Figure 124. Smart U-turn

Access the Smart U-turn screen, and enable Smart U-turn in the upper left corner.

When Smart U-turn is activated, a green dot is shown on the Smart U-turn icon in the application list, and also the Smart U-turn icon is shown at the home screen.



5.1.1 Applicable Fields

Field	Planning	Illustration
Rectangular fields or close-to-rectangular fields	Whole area planning	
Quadrilateral fields with the four angles close to the right angle	Whole area planning	
Close-to-rectangular fields with small gaps	Whole area planning	
Quadrilateral fields with large gaps; or fields with large triangular spaces, such as the polygonal fields, triangular fields, and droplet-shaped fields	Partial planning	
Too narrow fields or too small fields	Planning not available	<u> </u>

5.1.2 Using Smart U-turn

Follow the procedure below to use Smart U-turn.

Set the vehicle parameters and the implement parameters as described in section 6.3.7 "Vehicle Library" and section 6.3.8 "Implement Library". Note that the **Turning Radius** (the radius measured by the outer wheels of the vehicle while making a complete turn), **Implement overall width** (width of the implement), and **Distance between hitch point to rear of implement** (length of the implement) must be accurate.

Configure the field, boundary, guidance line, and task as described in section 3.2 "Checking the Task Configuration". Note that a guidance line is required for Smart U-turn operation. If you have already applied a guidance line, the system uses that guidance line to plan paths. If you have not applied any guidance lines, the system shows a popup window, asking whether you need the system to generate a guidance line for you, and generates a guidance line and plans operation paths that best suit the current boundary automatically if you confirm that system operation. Drive the vehicle to any appropriate positon within the field. You are not required to drive the vehicle to the headland, as Smart U-turn is able to plan the paths at any point within the field. Tap the Smart U-turn button at the bottom of the home screen, and set the Smart U-turn direction and the headland operation mode in the popup window.



Figure 126. Set the Smart U-turn parameters

Headland Operation	Description	Illustration
Auto	The system generates the headland operation paths automatically according to the boundary, and the vehicle follows the paths automatically to complete the headland operation.	
Manual	After the straight-line autosteering operations are completed, the system generates the recommended headland paths for you. You need to drive the vehicle and operate along the paths manually.	

Smart U-turn Headland Operation Modes

A popup appears for confirmation. Check the information in the popup window, and tap **OK** to apply your settings. Note that when the coverage rate is greater than 95%, the system applies the Smart U-turn settings automatically without the confirmation popup.

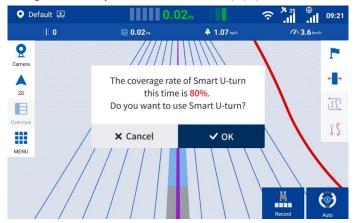
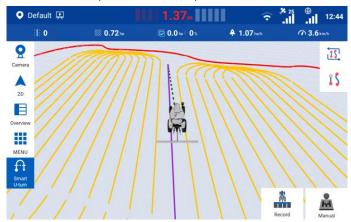


Figure 127. Smart U-turn confirmation popup



Follow the green line to the start point and start the operation.

Figure 128. Follow the guiding line to the start point

Note:

- Before Smart U-turn planning, ensure that the vehicle is close to the start point, and heads to the same direction as the planned path.
- When the angle of the vehicle heading relative to the guidance line is large, the vehicle may fail to engage the guidance line.
- When the vehicle fails to engage the guidance line even though the vehicle heading line is parallel with the guidance line, check whether the vehicle heads to the opposite direction as the planned path.

Error prevention scheme:

Scenario 1: When you have changed settings of the task, boundary, guidance line, vehicle, implement, headland operation or U-turn direction, the system cancels the Smart U-turn planning automatically, and you need to set the Smart U-turn parameters again so that the system can generate the new paths.

Scenario 2: When no settings have been changed, the system uses the same Smart U-turn plan next time you enable Smart U-turn.

Scenario 3: Before generating a Smart U-turn plan, if operation data for part of the field already exists, the system plans the paths only for the remaining area of the field to avoid repeated operation.

5.2 Basic U-turn

This feature (Available after activating advanced mode or separate activation needed under basic mode) plans the turning-around paths for two adjacent guidance lines and autosteers the vehicle to turn around, so that the vehicle can turn around at the headland easily and flexibly.

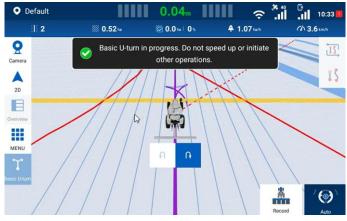


Figure 129. Basic U-turn

Note: As an advanced feature, Basic U-turn must be activated with an activation code. To obtain the activation code, contact us as described in section "Technical Support", or contact the local dealer.

5.2.1 Activating Basic U-turn

Tap **Basic U-turn** in the application list, enter the 24-digit activation code in the popup window, and tap **OK**.

Note:

- 1. You need to access the Internet when verifying your activation code.
- 2. Each activation code can only be used for one terminal.
- 3. The activation code is case insensitive.

MENU	🚊 Manually driving	×
DEVICE SE	Please enter the activation code	
FIELD	After verification, the corresponding advanced function will be enabled. If there is no activation code, contact the dealer to purchase one.	
UNIVERSA		
APPLICAT		
SYSTEM	0	ntrol
	X Cancel ✓ OK	
	Remote Data Transfer Debugging	

Figure 130. Enter the activation code

A popup appears. Check the activation information, and tap **OK** to complete the activation.

MENU	📠 Manually dri	ving			×
DEVICE SE		Please verify activ	vation information		
FIELD		You will activate the	e following function		
UNIVERSA	l ſ	Basic U-turn	Permanent		
		PS: an activation cod	le can only be used once	, 	
SYSTEM				_	
				_	
	×	Cancel	🗸 ок		
		Remote Dat Debugging	a Transfer		

Figure 131. Activate Basic U-turn

Access the Basic U-turn screen, and enable Basic U-turn in the upper left corner.

When Basic U-turn is activated, a green dot is shown on the Basic U-turn icon in the application list, and also the Basic U-turn icon is shown at the bottom of the home screen.

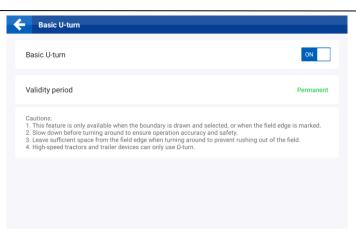


Figure 132. Enable Basic U-turn

5.2.2 Using Basic U-turn

Follow the procedure below to use Basic U-turn.

Set the vehicle parameters and the implement parameters as described in section 6.3.7 "Vehicle Library" and section 6.3.8 "Implement Library". Note that the **Turning Radius** (the radius measured by the outer wheels of the vehicle while making a complete turn), **Implement overall width** (width of the implement), and **Distance between hitch point to rear of implement** (length of the implement) must be accurate. If no space needs to be reserved for the implement to turn around, the **Implement overall width**, and **Distance between hitch point to rear of implement** can be omitted. Configure the field, boundary, guidance line, and task as described in section 3.2 "Checking the Task Configuration ". Note that a guidance line (except for a pivot circle) is required for Basic U-turn operation. If you have already applied the boundary, the system plans the turnaround paths automatically. If you have not applied a boundary, you need to mark the headlands as described in section 4.2.11 "Marking Headlands", and the system plans the turnaround paths accordingly. Drive the vehicle to any appropriate positon within the field. Tap the Basic U-turn button at the bottom of the home screen, and set the Basic U-turn parameters in the popup window. Select the turnaround mode, and the required distance for turning around is shown.

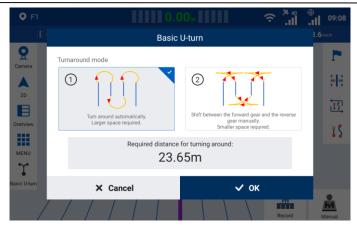


Figure 133. Set the turnaround mode

Basic U-turn Turnaround Mode

Turnaround Mode	Description	Illustration
Turnaround mode ①	The turnaround path is Ω - shaped. The turnaround is easy and simple, and applies to scenarios with sufficient space for turning around.	Default 0.02- 0.0
Turnaround mode ②	The turnaround path is fish tail shaped. It saves the turnaround space, and is applicable to scenarios with limited turnaround space. Manual switching of forward and reverse gears is required.	Default D.0.0 Default D.0.0 Default D.0.0 Default D.0.0 Default Default D.0.0 Default

Note:

- 1. When the working width is greater than twice of the turning radius, the final turnaround path is U shaped.
- 2. As reversing is required for turnaround mode ②, this mode is only applicable when mounted implements are used, or the implements might be damaged.
- 3. To adjust the safety distance for turning around, change the Reserved Safety Distance in

accordance with section	6.3.1 "Coefficient C	ommissioning ".
-------------------------	----------------------	-----------------

oproach Aggressiveness 🕜		Online Aggressiveness 🚱		
1.0	8	1.0		8
everse Approach Aggressiveness		Reverse Online Aggressiveness		
1.0	8	1.0		8
eserved Safety Distance @	⊘ m	Maximum Turning Angle @	8	0
	_			_

Figure 134. Reserved safety distance

In the autosteering mode, the left and right buttons are displayed at the bottom of the mapping guidance panel. Tap any button to activate the path planning. The different button status is shown below.

Basic U-turn Button Status

Status	Description	Illustration
Turnaround not available	The autosteering operation is not started, and the turnaround direction buttons are not displayed.	
Turnaround not available	Scenario 1: The vehicle is too close to the boundary or headland, leading to insufficient space for turning around. Scenario 2: The guidance line that the vehicle currently engages is too close to the boundary edge. Scenario 3: The vehicle is outside the boundary.	€
Turnaround direction not selected	The turnaround direction is to be selected.	f f

Status	Description	Illustration		
TurnaroundThe turnaround direction is selected, but the turnaround is not started. The turnaround direction can be changed at this time.		¢	P	
Turnaround in progress	The turnaround direction is selected, and the turnaround is in process. The turnaround direction cannot be changed at this time.	¢	Ģ	

Before the vehicle turns around, follow the instructions on the screen to reduce the speed and raise the implement. During the turnaround, follow the instructions on the screen to keep a constant speed and avoid other operations.

Note:

- 1. When you are using the turnaround mode ①, you only need to keep a low speed during the turnaround.
- 2. When you are using the turnaround mode (2), you need to engage the forward or reverse gear manually as instructed, and keep a low speed during the turnaround.
- To change distance for the system to instruct you to reduce the speed and raise the implement for turning around, ensure that Basic U-turn is enabled, choose MENU > SYSTEM > Alert, and change distance 1 and distance 2 for Turn Alarm.

÷	Alert		
	Offset Range Alert		10.0 cm ON
	Headland Alarm		10.0 m ON
	Turn Alarm	Distance 1	20.0 m ON
		Distance 2	10.0 m
	Alarm Volume		System volume
		🖬 Save	

Figure 135. Basic U-turn and Smart U-turn alarm

5.3 Manual Intervention

This feature is useful when you are unable to tap on the screen in time during the autosteering

operation due to limited space or environmental interferences. When the manual intervention is enabled, hold the steering wheel still, and the system disables the autosteering mode automatically. To enable **Manual Intervention**, tap **Manual Intervention** in the application list, and turn on the switch. The intervention value for manual intervention can be adjusted.

Hanual Intervention		
	Manual Intervention	ON
	Intervention force(N·m)	20
Note: The stronger the intervention force,	1 Actual torque value (N.m)0.00	25
the stronger it takes to pause the auto-pilot by holding the steering wheel; The larger the intervention time, the longer it takes to trigger the manual intervention.	Intervention time(s) @	
	1	10

Figure 136. Manual intervention in the Electronic Steering Wheel

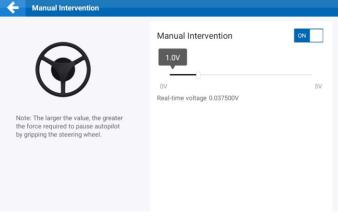


Figure 137. Manual intervention in the Hydraulic Steering Wheel

÷	Manual Intervention		
ang turr		Manual Intervention	00

Figure 138. Manual intervention in the Steer Ready (CAN)

5.4 NMEA (Optional cable required)

When **NMEA** is enabled, the GPS information, such as GST, HDT, GGA, RMC, VTG, ZDA, and GSA received by the system can be shared with an external device.

To enable **NMEA**, tap **NMEA** in the application list, and turn on the switch. Then, you can set the baud rate, the data type, and the transfer frequency.

÷	NMEA					
	NMEA					ÖN
	Baud				115200B/S	•
	GST	1/30Hz	OFF	HDT	1/30Hz	OFF
	GGA	1/30Hz	OFF	RMC	1/30Hz	OFF
	VTG	1/30Hz	OFF	ZDA	1/30Hz	OFF
	GSA	1/30Hz	OFF			

Figure 139. NMEA

Content of Different NMEA Data Types

Data Type	Content
GST (GPGST)	GPS pseudorange noise statistics, including the standard deviation information of three-dimensional coordinates.
HDT (GPHDT)	Heading angle, with true north as reference.

GGA (GPGGA)	Position information.
RMC (GPRMC)	Recommended positioning information.
VTG (GPVTG)	Ground speed information.
ZDA (GPZDA)	Time and date information.
GSA (GPGSA)	Current satellite information

Note:

- 1. To use the NMEA feature, you need to purchase the dedicated NMEA wires separately.
- 2. Ensure that the baud rate setting is consistent with the external device.
- 3. Check the data types needed by the external device and set the appropriate transfer frequency. During the operation, ensure that the data types are enabled.

5.5 Radar Output Module (Optional)

For implements that require radar speed input, the speed information of the control terminal can be converted into a square wave signal through the wiring harness and transmitted to the implements.

Tap the "Speed Output" button on the "APPLICATIONS " interface to enter the function setting interface and open the speed output button. After being connected to the implement, the system will automatically obtain the current speed of the vehicle and calculate the square wave frequency based on the standard square wave frequency/speed ratio of 130 by default, and transmit it to the implement. The ratio of square wave frequency/speed can be adjusted independently.

ourrent opeco ourrent opeco	rrent Speed	Current Square Wave Frequency	
m/s	-	m/s	ΗZ
			AZ
t Ratio of Square Wave Frequency to Speed	e value range is 20-950		
ent Ratio of Square Wave Frequency to Speed he value range is 20–950			

Figure 140. Speed output

5.6 Easy Control (Optional)

Easy Control is a wireless remote control that works with Sveaverken Auto Steer System. You can

use this remote control to enable or disable the autosteering operation, and control the common features, such as marking point A and point B for guidance line creation, turning on or off the operation data recording, and controlling the Basic U-turn.

5.6.1 Pairing

Install two AAA batteries, press and hold the two buttons at the bottom until the indicator in the upper left corner turns solid for 3 seconds and then blinks rapidly for 60 seconds, indicating that the remote control is ready for pairing. Go to the system settings on the control terminal to turn on Bluetooth connection and pair with the remote control. After the successful pairing, the system remembers the remote control and connects to it automatically in future operations.



Figure 141. Pair with Easy Control

You can check whether Easy Control is connected through the icons in the upper left corner. See the following for details.

Easy Control Connection Status

Status	Description	Illustration
Not connected	The Bluetooth is turned off, and the remote control is not connected.	Default
Not connected	The Bluetooth is turned on, and the remote control is not connected or disconnected. When the remote control is disconnected, a message appears on the mapping guidance panel. To connect again, press any button on the remote control.	Default Easy Control has been disconnected, please check Bluetooth connection.

Connected	The Bluetooth is turned on, and the remote control is connected.	오 Default 🔢
-----------	--	-------------

5.6.2 Function Settings

When the remote control is connected, tap **Easy Control** in the application list, check the Easy Control device information and function settings, and configure the optional function II as **Trim** or **Basic U-turn**.

÷	Easy Control	
	Current BLE Device	Easy Control
	Device Address	8C:19:2D:CB:6C:85
	Optional Function I	Import Guidance Line
	Optional Function II	Trim 🔻
	Auto Mode ON/OFF	Trim to the left

Figure 142. Function settings

5.6.3 Easy Control Buttons

Button	Description	Illustration
Auto Mode ON/OFF	Press the button to turn on or off the autosteering mode.	
Area Metering ON/OFF	Press the button to turn on or off the Record switch on the home screen.	
Confirm Point A/B	Press the button to mark a point when creating a guidance line.	
Withdraw Point A/B	Press the button to cancel a point when creating a guidance line.	5

Button	Description	Illustration
Import Guidance Line	Press the button to complete the guidance line creation.	
Trim to the left; Trim to the right	In the autosteering mode, tap the trim button on the home screen, set the trim distance, and then you can press the button to trim the vehicle to the left or right.	«
Turn left and right when the Basic U-turn switch is turned on	In the autosteering mode, turn on the Basic U-turn switch, and then you can press the button to turn left or right.	« >>>

Note: Wait for at least 1 second before you press the button again

5.7 Mini Control(Optional)

Mini control is a wireless remote control that works with Sveaverken Auto Steer System. You can use this remote control to enable or disable the autosteering operation.

The connection method is similar to the Easy Control. For details, please refer to the MINI control packaging box.



Figure 143. Mini Control

5.8 Easy Switch(Optional)

Easy Switch is a wired remote control for use with the Sveaverken Auto Steer System, which allows users to quickly activate/deactivate autopilot, providing a more convenient operating experience. 1. After confirming that the hardware is connected and the network is connected, click on the MENU - APPLICATIONS - Easy Switch, and a page for entering the activation code will pop up.

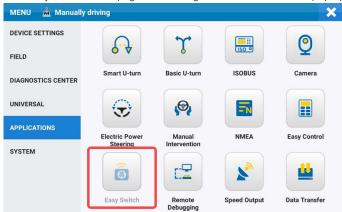


Figure 144. Easy Switch

2. Fill in the activation code and click confirm.

MENU 📠	Manually driving			×
DEVICE SE	Please enter	the activation	n code	2
FIELD	After verification, the corresponding there is no activation code, contact			2
DIAGNOST				iera
UNIVERSA				
APPLICAT				ontrol
SYSTEM				
	× Cancel		🗸 ок	
	Easy Switch	Remote Debugging	Speed Output	Data Transfer



3. Enter the Easy Switch interface and enable the function.

Easy Switch	
Easy Switch	00
Validity period	30 days Renewal

Figure 146. Enable the Function

4. Returning to the homepage, when the Easy Switch button is connected and the function is enabled, the button icon will be displayed in the upper left corner.

5. Press the hardware button or press the foot pedal to control the automatic/manual driving buttons on the interface.

Note:

1. Please do not plug or unplug the button while the control box is turned on.

2. If the button is pressed and lifted too quickly, it may not respond.

3. Continuous clicks will only respond once.

4. If the user is using the Hall angle sensor or hydraulic pressure sensor when the function is turned on, a prompt will be displayed indicating that Easy Switch cannot be used simultaneously with the current function. Do you want to go to the xx interface to disable the function? (See figure below)

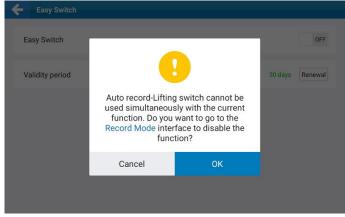


Figure 147. Functions cannot be enabled at the same time

5.9 Remote Debugging

Remote debugging, supported by the background control program, enables the service personnel to remotely control the screen to perform debugging.

Turn on the **Remote Debugging** switch, and the following popup appears when the service person initiates a debugging request remotely. Tap **Agree** before the countdown ends, and then tap **START NOW** to start remote debugging.

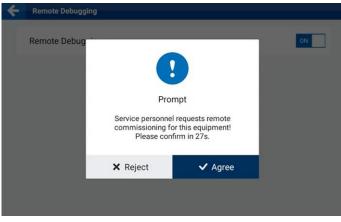


Figure 148. Remote debugging request

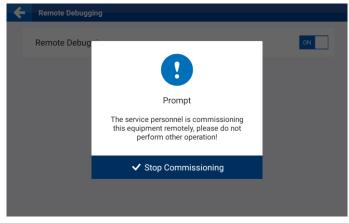


Figure 149. Remote debugging in progress

5.10 Camera (Optional)

Complete the hardware connection of the wired or Wi-Fi camera and power it on. Tap **Camera** on the **APPLICATIONS** screen to turn on the camera. Wi-Fi camera connection requires tap **New** to enter the Wi-Fi camera screen, and the hotspot is turned on automatically. Use the Wi-Fi camera to

scan the QR code to identify and bind the camera (refer to the instructions on the screen for details). The bound camera is displayed on the right side of the screen. You can tap the delete icon to unbind the camera.

Camera	
No camera detected, please manually add before use	
New Refresh	Figure 150. Camera
WiFi Camera	
Hotspot mode	ON
A Before scanning OR code by camera, please or model is recognized successfully. If the scanning, please re-open the hot spot and try tag and the spot and try tag.	er three beeps, one beep e is no reaction after No camera

Figure 151. Bind Wi-Fi cameras

After the camera is bound, tap the back arrow to return to the home screen to turn on the camera. Refer to section 4.2.14 "Turning on the Camera" for details.

Note:

- 1. The wired or Wi-Fi camera is an optional accessory and must be purchased separately.
- 2. A maximum of two Wi-Fi cameras and one wired camera can be bound.

Only Hardware ID above 8+6+-- supports wired camera.

5.11 Electric Power Steering

When the driving mode is set to electric steering wheel, the function can be toggled in the

application list under **Electric Power Steering** (default is off). When manually driving and turning the steering wheel, electric power assistance is triggered.

Application scenario: Manual driving when turning the steering wheel feels strenuous.

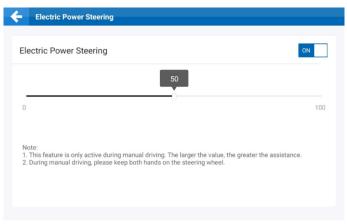


Figure 152. Electric Power Steering

5.12 Data Transfer

Through the Internet or USB, the task files can be exported and shared with other control terminals, and the task files from other control terminals can be imported into the system. The current version supports the sharing of boundary files and guidance line files.

5.12.1 Via the Internet

You can transfer data to other users of Sveaverken Auto Steer System via the Internet.

Tap Data Transfer on the APPLICATIONS screen, and then select the files to be transferred.

÷	Data Tran	sfer			
			Loca	l File	
	F2	FI	ppp	Default	
			<	Share	

Figure 153. Select the files

Note:

- 1. Each field folder represents a field and contains all the task information of the field. Tap the circle below the folder to select all the boundary files and guidance line files in the folder.
- 2. Tap the field folder to open it, and then tap the circle below either the boundary folder or the guidance line folder to select all the files in the folder.
- 3. Tap the boundary folder or the guidance line folder to open it, and then select one or multiple files in the folder.
- 4. Task data cannot be shared online.

Tap **Share**, and a popup appears. Enter the user account of the recipient, select the SN of the target device, and tap **OK**.

← 1	ata Transfer		
-	Sł	hare	
_	User Account		
F	13456338936	۹.	
	Serial Number(SN)		
	NSTR01VMCZX01909220100003	FJLQ10221302664ZC	
	SC1904JPN02	FJLQ17222A02353ZC	
	× Cancel	✓ ок	
	<	Share	

Figure 154. Enter the user account and select the SN

A confirmation popup appears on the screen of the target device.

🗲 🛛 Data Trans	fer	
Ser	r Account 13456 Receive Boundary/Gu ial Nu U is sharing b "re with you.	boundary/guidance
	× Cancel	✓ ок
	× Cancel	✓ ОК
	Share	

Figure 155. Confirmation popup

The recipient may tap **OK** to receive the files, and after the files are received successfully, choose **MENU** > **FIELD** > **Field** > **Boundary** or **Guidance Line** to check the boundaries or guidance lines received. Boundaries and guidance lines shared via the Internet are marked with in front of the name.

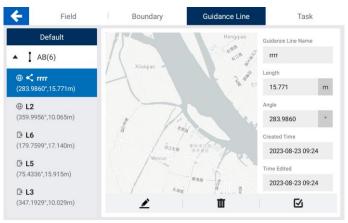


Figure 156. Check received boundaries and guidance lines

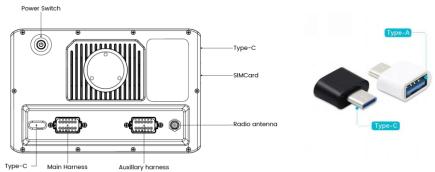
5.12.2 Via USB

You can import and export task files via USB. The current version only supports the transfer of SHPFILE, ISOXML, KML and KMZ files.

Transmittable content includes guidance lines (AB straight lines, curves and line groups; ISOXML format can also transmit A+ straight lines, pivots), boundaries and task data.

Connect the USB flash drive to the Type-C port of the control terminal. An adapter is required if the USB flash drive uses a Type-A connector.

*Please check whether the hardware supports data transfer via USB.





Export files

Select the local files to be exported on the left, tap **Export**, select the format, and tap **OK**. Then, the selected files are exported to the folder named "Output_DATA" on the right.

Local			USB	
 Guidance Line	Boundary	Output_DATA		
	内 E	xport		

Figure 158. Export files

🔶 🛛 Data T	ransfer			
		storage forma	it	
		SHPFILE		
		ISOXML		
		KML		
	M. Garach		1.01	
	× Cancle	ங் Export	✓ ОК	
		L-J Export		

Figure 159. Select the format

Import files

Select the external files to be imported on the right, tap **Import**, and tap **OK**. Then, the selected files are imported into the local field folder with the same name as that of the original field folder. If such local field folder cannot be found, the system automatically creates one.

Note:

- 1. After the USB flash drive is connected to the control terminal, you can only transfer files via USB.
- 2. When Shapefile imports a line group, you need to make sure that the line group objects have been synthesized into one object.

5.13 Get Tractor Data (Connect OBD)

1. Confirming the hardware connection and ensuring your device is successfully bound to the FMS platform FMS OBD GUIDE



Figure 160. Hardware Connection

- Break the yellow(CAN_H) and green(CAN_L) wires and connect them to pin6 and pin14 of the tractor OBD port.
- Break the red(positive) and black(ground) and connect them to 9-36V battery to power on the WiFiCAN module.

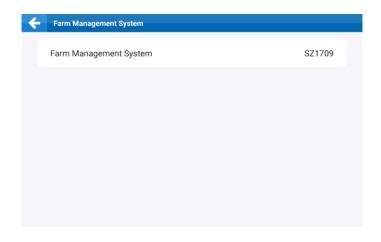


Figure 161. Successfully Bound to the FMS Platform

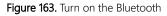
2、Click 'MENU'-'DEVICE SETTING'-'OBD Connection'

MENU 🚊 Manually	driving			×
DEVICE SETTINGS	tļţ			0
FIELD		· * 0	W.O	
DIAGNOSTICS CENTER	Coefficient Commissioning	Driver Debugging	Implement Calibration	Automatically Driving Settings
UNIVERSAL				
APPLICATIONS	Correction	OBD Connection	Material library	
SYSTEM	Source		-	6
	Vehicle Library	Implement Library	Angle Sensor Calibration	Vehicle Calibration

Figure 162. OBD Connection

3. Turn on the 'Bluetooth' and you will see the nearby devices

CBD Connection		COBD Connection	
Bluetooth	OFF	Bluetooth	ON
		Paired Devices	None
		Nearby Devices	



4、 Click the device you want to connect

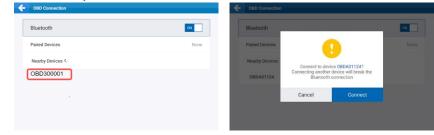


Figure 164. Connect Device

5. Waiting for the connection to complete(all four icons turn green)

	None
Nearby Devices	
OBDA01124 > 🚯 🗞 🛜 🕲	

Figure 165. Waiting for the connection

6、Click 'MENU'-'APPLICATIONS'-'Tractor Status'

MENU 🚊 Manually	driving			×
DEVICE SETTINGS	\square	(O)		
FIELD	W	54		
DIAGNOSTICS CENTER	Electric Power Steering	Manual Intervention	NMEA	Easy Control
UNIVERSAL		23	S	<u></u>
APPLICATIONS	Easy Switch	Remote	Speed Output	Data Transfer
SYSTEM		Debugging	ר	
	-			
	Lifting Sensor	Tractor Status		

Figure 166. Tractor Status

7. Turn on the 'Tractor Status', and you will see the data of Tractor, you can set alarm intervals for these data. When the data exceeds the interval, it will report to the FMS system.

F Tractor Status	
Tractor Status @	
Battery Potential / Power Input 0.0 V - 3212.75 V	Engine Turbocharger Boost Pressure 0.0 kPa - 8031.875 kPa
Engine Coolant Temperature	Engine Coolant Level 0.0 % 100.0
Aftertreatment Diesel Exhaust Fluid Tank Volume 0.0 %	Charging System Potential 0.0 V - 3212.75 V
~	ок

Figure 167. Tractor Status switch

8. You can see the tractor data in the 'MENU'-'DIAGNOSTICS CENTER'-'Diagnostics Center' (different tractors do not provide exactly the same data)

← Diagnostics Center		4 ⁶ № 25 ♀ 1 1 1 2024.12 .	23 21:1
Version Scenario	Hard	ware Parameters Running S	tatus
Battery Potential / Power Input		Engine Turbocharger Boost Pressure	
Engine Coolant Temperature	22	Engine Coolant Level	
Aftertreatment Diesel Exhaust Fluid Tank Volume		Charging System Potential	
Engine Total Hours of Operation		Actual Engine - Percent Torque	
Engine Oil Level	-	Engine Oil Pressure	
Engine Oil Temperature		Engine Speed	
Fuel Level		Engine Fuel Rate	
Hydraulic Pressure		Hydraulic Oil Level	
Hydraulic Oil Filter Restriction Switch		Hydraulic Temperature	-
Engine Intake Manifold Temperature			
Upload Logs		Upload observation data Logs	

Figure 168. Tractor running data

6 Others

6.1 Device Status

6.1.1 Error Messages

On the home screen, tap the red square with a number in the upper right corner to view the error messages.

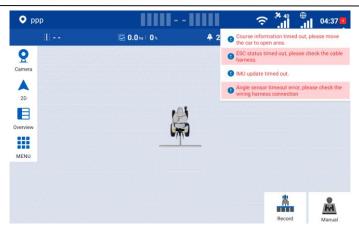


Figure 169. Error messages

6.1.2 Diagnostics Center

MENU 📠 Manual	ly driving			×
DEVICE SETTINGS		.2.		
FIELD		(Land		
DIAGNOSTICS CENTER	Diagnostics Center	GNSS	Troubleshooting Manual	Board Card Settings
UNIVERSAL				
APPLICATIONS				
SYSTEM				
UNIVERSAL	Center	UN55	Iroubleshooting Manual	

Figure 170. Diagnostics Center

Choose MENU > DIAGNOSTICS CENTER > Diagnostics Center to check the version information,

scenario information, hardware status, and parameter information.

Version information

Version	Scenario	Hardware	Parameters
SN	C'annese a	SIM Card Number	main in contractor i ferrar o
APP version	23.102.2.2(G00)	IMEI	-
ECU version	3.1.4.2	Radio	BS Normal
IMU version	N/A	Board	Refresh
Motor version	1.1.11.0	Mainboard	
Board Version	-	GNSS Receiver	1.22
System Version	202401311649(1)	Hardware ID	6 + 3 + -
Radio version	C017.02.00.0		
Up	load Logs	Upload observation	on data Logs

Figure 171. Version tab

Scenario information

Diagnostics Cent	er	중	2024.02.27 21:4
Version	Scenario	Hardware	Parameters
Current Heading	-50.5*	Mode	Manual
Guidance Line Heading	0.0*	GNSS Status	4
Pitch angle	0.0*	Correction Signal Source	Network RTK
Rolling Angle	0.0°	Baseline Distance	0km
Latitude	31.938849	Age of Differential	
Longitude	119.95579	Total RTCM Received by App	0B Normal
Elevation	0.0000m	Total RTCM Transmitted by App	0B Normal
Wi-Fi Signal Strength	4 253ms	Super Low Speed	Off
4G Signal Strength	-	Accuracy compensation (beta)	Off
Data Usage Today	35.89MB		
U	bload Logs	Upload observation da	ta Logs

Figure 172. Scenario tab

Hardware status

E Diagnostics Center		َنَّةُ جَ	₅ ⊕ 2024.02.27 21:
Version	Scenario	Hardware	Parameters
Motor	Available	IMU	Norma
ESC status	Null	Main antenna status	
Speed loop proportional coefficient (P)	25	IMU Type	
Control Mode	Speed	Maximum Steering	50.
Actual speed value (r / min)	0	Attitude Sensor	Norma
Actual torque value (N.m)	0	Installation Position	Le
Motor temperature	24		
Tuning Parameters	200 0		
Uploa	d Logs	Upload observation	on data Logs

Figure 173. Hardware tab

Parameter information

Version Scer	nario	Hardware Pa	arameters
Pitch angle offset	0.0	Approach Aggressiveness	1.0
Roll angle offset	0.0	Online Aggressiveness	1.0
Install angle offset	0.0	Reverse Approach Aggressiveness	1.0
Angle center value	0.0	Reverse Online Aggressiveness	1.0
Total Implement Offset	0.0cm	Control damping coefficient	0.05
Front wheel track	1.530m	Distance from GNSS Receiver to central axis	s 0.000m
Front to rear wheelbase	2.710m	Distance from GNSS Receiver to rear axle	1.130m
Distance from front suspension to front axle	1.320m	GNSS Receiver height	3.400m
Distance from rear axle to hardpoint	1.150m	Turning Radius	8.000m
GNSS Receiver position relative to central axis Left		Steering wheel	front wheel
		Implement working width Skip/Overlap	3.000m(0.000m

Figure 174. Parameters tab

Upload logs

When a software or system fault occurs, upload the logs immediately to facilitate the troubleshooting of the service personnel.

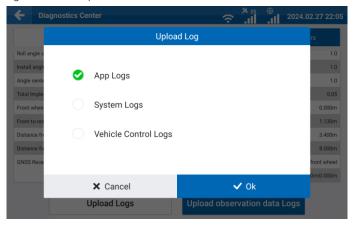


Figure 175. Upload logs

Upload observation data logs

At the request of the service personnel, upload observation data logs to facilitate the analysis of technical problems regarding satellite positioning.

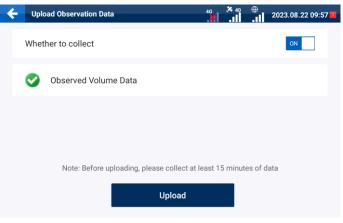


Figure 176. Upload observation data logs

6.1.3 GNSS

Tap the GNSS or the GNSS icon at the top of the home page to view GNSS key status.



Figure 177. GNSS key status

6.1.4 Troubleshooting Manual

When there is a usage issue, you can search for solutions.

O Default	10000000	1 × 1	9	ffected Driving in Manual Mode	6.07		\$ 160% 3.6.J	a la ta ta ma
		4 0.00 w	(10.0		- 1			0
9	Contraction of the second		15	Nes .		0	0	
A			33	and the second second	-	Bater	Develation	
20				Tesk	0		0	
etion	8				Advector		Matrix data	
ADAL)				<u>lle</u>	No agrees	••	1 .	
				Location History	- p +			
				0		Part		
		and the second		Settings	4			

1.1 No SIM Card



6.2 Task Data

6.2.1 Real-time Task Data

During operation, check the status bar above the mapping guidance panel to view the real-time task data, including the current guidance line number, field area, operated area, operation efficiency, and current speed.

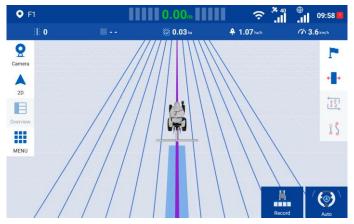


Figure 179. Real-time task data

6.2.2 Historical Task Data

Choose **MENU** > **FIELD** > **Field** > **Task** to view the historical task data and operation trajectories. Select a task in the left column, and its cumulative operation data is displayed on the right, including the cumulative operation time, total area (the area enclosed by the applied boundary), operation area, effective operation area (the operation area inside the applied boundary), creation

time, start time, and end time. To view the historical operation data under the task, tap 🔋 in the lower right corner of the map.

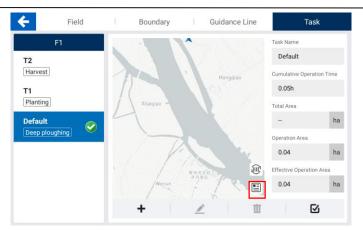


Figure 180. Historical task data

The historical operation data includes the task number, total driving distance, total operation time, autosteering operation area, manual operation area, and total operation area.

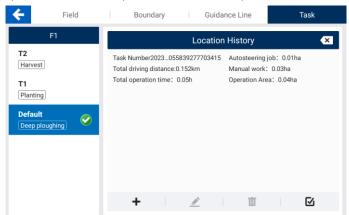


Figure 181. Historical operation data

Note:

- 1. The cumulative operation time and operation area of a task are calculated based on all the historical operations under the task.
- 2. Historical operations are sorted by time in descending order.

6.3 Device Settings

Choose **MENU** > **DEVICE SETTINGS** to access features regarding parameter adjustment, calibration, and diagnosis, as shown below.



Figure 182. DEVICE SETTINGS screen

6.3.1 Coefficient Commissioning

Tap **Coefficient Commissioning** on the **DEVICE SETTINGS** screen to adjust the online aggressiveness, reverse online aggressiveness, approach aggressiveness, reverse approach aggressiveness, reversed safety distance, and maximum turning angle.

Note: The greater the approach aggressiveness (reverse approach aggressiveness), the faster the vehicle will approach the target guidance line, but the stability may be impaired. The greater the online aggressiveness (reverse online aggressiveness), the slower the direction adjustment along the guidance line, but the more stable the driving is.

Auto-debug: After confirming that the vehicle parameters are correct, you can click Auto-debug to automatically adjust the parameters.

ontrol Model			
Model 2 - Accuracy Compensatio	on On		
pproach Aggressiveness 🕘		Online Aggressiveness	0
1.0	\otimes	1.0	٢
everse Approach Aggressiveness		Reverse Online Aggressi	iveness
1.0	\otimes	1.0	0
eserved Safety Distance 🙆		Maximum Turning Angle	0
1.00	🛛 m	28	. •

Figure 183. Coefficient commissioning

6.3.2 Driver Debugging

Tap **Driver Debugging** on the **DEVICE SETTINGS** screen to adjust the P value, check the motor status, and adjust the steering gain parameters. The P value must be in the range of 4–125, and is 25 by default.

Adjust the steering gain parameters:

In the autosteering mode, if the steering wheel turns left and right continuously, decrease the value of parameter 1, and if the steering wheel turns too slow, increase the value of parameter 1. For the versions V1.1.8 and below motor, set parameter 1 to 400 and parameter 2 to 0. For small tractors of 70 horsepower or below, set parameter 1 to 200 and parameter 2 to 0.

For the version V1.1.9 motor, set parameter 1 to 200 and parameter 2 to 0.

eering Control Type			
Electronic Steering Whee	I.		
peed loop proportional co	efficient (P)		
25			Ok
Notor Status			
25	0 r/min	O N.m	19°c
Speed loop proportional coefficient (P)	Actual speed value (r / min)	Actual torque value (N.m)	Motor temperature
Tuning Parameters 🔞			
	200	0	
	Parameter 1	Parameter 2	

Figure 184. Driver debugging

6.3.3 Implement Calibration

Tap **Implement Calibration** on the **DEVICE SETTINGS** screen to calibrate the implement. Refer to section 2.10 "Calibrating the Implement" for details.

6.3.4 Automatically Driving Settings

Click the **Automatically Driving Settings** button on the **DEVICE SETTINGS** screen to set the autopilot mode.

Automatically Driving Settin	ngs	
Ultra Low Speed		OFF
Accuracy Compensation		
Control Model1	Control Model2	Control Model3
Smart Approaching		OFF
Single Straight Line Mod	e	OFF
Save as new guidance lin	e Ø	OFF
Guidance Line Type		
pivot		ON
Headland 1		ON
Diagonal Harrowing 🕕		ON

Figure 185. Automatically Driving Settings

Ultra Low Speed: If the vehicle needs to drive at a speed below 1 km/h for a long time, enable the Super Low Speed mode to ensure the operation accuracy and stability. Tap Super Low Speed on the APPLICATIONS screen, and turn on the Super Low Speed switch.

Accuracy compensation:

- Control Model 1: Original off accuracy compensation, or off slope model. Suitable for all models, steering modes and angle sensors. Maximum traveling speed up to 15km/h.

- Control model 2: Original opening accuracy compensation. More suitable for front wheel, articulated and differential steering tractors. Better performance without angle sensor. High precision traveling speed up to 26km/h. Supports ultra-low speed.

- Control Model 3: New control algorithm for front wheel steering tractors. Performs well in sand and with small horsepower tractors. All angle sensors perform well. Supports ultra-low speed.

Smart Approaching: Enable the Smart Approaching function , that the vehicle can travel to the guidance line even when the vehicle's heading is at 90° to the direction of the guidance line.

Single Straight Line Mode: Enable the Single Straight Line Mode, the straight line will be moved under the vehicle immediately when autopilot is clicked.

Save As New Guidance Line: Enable this function, the guidance line will be saved as a new guidance line when you translate the guidance line and when you set the Tramline on the first page. Guidance Line Type: Allows you to turn on or off the display and use of Pivot, Headland, and Diagonal Line. After turn off, the corresponding guidance line types will no longer be displayed when creating.

6.3.5 Correction Source

Tap **Correction Source** on the **DEVICE SETTINGS** screen to configure the correction source. Refer to section 2.5 "Connecting to a Signal Source" for details.

6.3.6 Diagnostics Center

Tap **Diagnostics Center** on the **DEVICE SETTINGS** screen to view the device information. Refer to section 6.1.2 "Diagnostics Center" for details.

6.3.7 Vehicle Library

Tap **Vehicle Library** on the **DEVICE SETTINGS** screen to configure vehicle parameters. Refer to section 2.6 "Setting Vehicle Parameters" for details.

	Vehicle Parameters
Parameter	Illustration
Front wheel track	Edit Vehicle - Default vehicle Information Parameters Summary Front wheel track 1:3<
Front to rear wheelbase	Edit Vehicle - Default vehicle X Information Parameters Summary Front veheel track 1.3 m Front to rear veheelbase 2.7 m Distance from front suspension to front aute 1.3 m Distance from rear asks to hardgoint M M
Distance from front suspension to front axle	Edit Vehicle - Default vehicle Information Practice and task Trent wheel task 1:3 Prot for arr wheelbase 2:7 Distance from front suspension to front axle 1:3 Distance from rear axle to handpoint
Distance from rear axle to hardpoint	Edit Vehicle - Default vehicle Information Parameters Summary Front to rear wheelbase 2:7 Distance from front augension to front aue 1:2 Distance from rear aule to hardpoint 1:5 CNSS Receiver position relative to central auis

Vehicle Parameters

Parameter	Illustration
GNSS receiver position relative to central axis; Distance from GNSS receiver to central axis	Edit Vehicle - Default vehicle Parameters Summary Information Parameters Summary Distance from rear acide to hardpoint Information Information OKSS Receiver position relative to central axis Information Information Distance from GNSS Receiver to rear axis Information Information Distance from GNSS Receiver to rear axis Information Information Distance from GNSS Receiver to rear axis Information Information Distance from GNSS Receiver to rear axis Information Information Distance from GNSS Receiver to rear axis Information Information
Distance from GNSS receiver to rear axle	Edit Vehicle - Default vehicle Information Information Usance from GNSS Receiver to central axis 0 Distance from GNSS Receiver to rear axie 1.13 ONSS Receiver height 3.4 Transition Building
GNSS receiver height	Edit Vehicle - Default vehicle Information Parameters Summary Distance from ONSS Receiver to rear asle 1.3 ONSS Receiver to rear asle 1.3 ONSS Receiver to rear asle 1.3 Training Badius 8 10 Straining Badius 10 10 Straining Badius 10 11
Turning radius	Edit Vehicle - Default vehicle Parameters Summary Information Parameters Summary 1.3 m OKS Receiver height a 2.4 m Turning Radius m Staering wheel m Staering wheel m Staering wheel m

Parameter	Illustration			
	New			
	Information Parameters Summary			
	1.13 💿 m			
	front wheel			
Steering wheel	rear wheel			
	Four wheels			
	Articulated			
	Differential			
	front wheel			
	K Back >I Next			

6.3.8 Implement Library

Tap **Implement Library** on the **DEVICE SETTINGS** screen to configure implement parameters. Refer to section 2.9 "Setting Implement Parameters" for details.

_		
Parameter	Description	Illustration
Skip/Overlap	The spacing between two adjacent rows.	Bit the supposed Direction Vor Vorantia Summary Bit default Bit default Vorantia Vorantia Summary Bit default O Implementation Vorantia Vorantia Implementation
Implement working width	The actual working width of the implement. It is used to plan the guidance line spacing.	Edit Bits emplorement: X Tore information: Preventor: Support approved information: Preventor conting and 0 information: Variantic conting and mathematic conting and mathmatematic conting and m
Implement overall width	The total width of the implement. It is used to reserve the safety distance during automatic path planning.	Edit Bids Implement X Tors Information Parameters Summary Bigs Information Information Parameter conting cont 1 Information Parameter conting cont 1 Information Bits before 1 Information Bits before 1 Information Bits before 1 Information
Distance between hitch point to working point of implement	The vertical distance between the working point of the implement and the hitch point of the tractor. It is used to determine the accurate position of the working point.	Set the implement of Schuldt Humanita Maximum Yam Maximum Termination Yam Maximum Termination Yam Particular State Termination
Distance between hitch point to rear of implement	The total length of the implement. It is used to reserve the safety distance during automatic path planning.	Kati this implement: Parameter Torr information Torr information Information information

Implement Parameters

Parameter	Description	Illustration
Implement offset	Offset from the implement centerline to the tractor centerline. It is used to determine the accurate position of the working point.	Kat Has implement : Solidad implament : Paramos Unitary Tar information Paramos Unitary Implement : Solidad implants Implement : Solidad implement : Implement : Implement : Solidad implement : Implement : Implement : Implement : Implement : Implement :

6.3.9 Angle Sensor Calibration

Tap **Angle Sensor Calibration** on the **DEVICE SETTINGS** screen to calibrate the angle sensor. Refer to section 2.7 "Calibrating the Angle Sensor" for details.

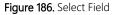
6.3.10 Vehicle Calibration

Tap **Vehicle Calibration** on the **DEVICE SETTINGS** screen to calibrate the vehicle. Refer to section 2.8 "Calibrating the Vehicle" for details.

6.4 Field

Choose MENU > FIELD > Field to view the entrance of Field and Record Mode.

MENU 📠 Manually	Iriving		×
DEVICE SETTINGS			
FIELD		1	
DIAGNOSTICS CENTER	Field	Record Mode	
UNIVERSAL			
APPLICATIONS			
SYSTEM			



Tap Field on the FIELD screen to view and manage fields, boundaries, guidance lines, and tasks.

6.4.1 Activating Advanced Mode

Tap **Activate Advanced Mode** and refer to "5.2.1 Basic U-turn Function Activation" to activate the advanced mode.

After successful activation, the app will be restarted automatically, and the functions of Field, Boundary, Basic U-turn and Smart U-turn in Advanced Mode will be available after restarting. Basic U-turn and Smart U-turn need to be switched on to be used.

MENU 📥 Manual	lly driving	×
DEVICE SETTINGS		
FIELD		
UNIVERSAL	Field Activate Advanced Mode	
APPLICATIONS		
SYSTEM		

Figure 187. Activate Advanced Mode

6.4.2 Field

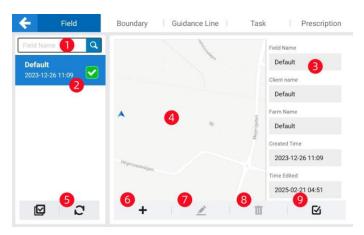


Figure 188. Field tab

Boundaries, guidance lines, and tasks are bound with fields. On the **Field** tab, you can view, create, modify, delete, and apply a field, and synchronize field information.

- 1. Field Search: Search for existing fields.
- 2. Field list: Shows all the fields, including the name and the creation time.
- 3. Basic information of field: Shows the field name, client name, and farm name.
- 4. Field map: Shows the locations of the vehicle and the applied boundary and guidance line.
- 5. Synchronize field information: Tap Sync to synchronize field information in the cloud to the control terminal.
- 6. Create a field: Tap +, and enter the field name, client name, and farm name.

- 7. Modify field information: Tap 🚄 to modify the field name, client name, and farm name.
- 8. Delete a field: Tap ut to delete the field and all the associated boundaries, guidance lines, and task data, and they cannot be restored.
- 9. Apply a field: Tap 🗹 to apply the field to the operation.

÷	Field	Boundary		uidance Line		Task
F2		Create	e field			
2023-08- F1 2023-08-	Field Name					
ppp 2023-08-	Client name				•	
Default 2023-08-	Farm Name				•	
						:31
	× c	ancel		🗸 ок		:31
2	Sync	+				

Figure 189. Create a field

6.4.3 Boundary



Figure 190. Boundary tab

- 1. Boundary Search: Search for existing Boundaries.
- 2. Boundary list: Shows all the boundaries, including the name and the creation time.
- 3. **Basic information of boundary:** Shows the boundary name, headland position, headland distance, and area.
- 4. Boundary map: Shows the boundary location.

- 5. Shift the boundary: Refer to section 4.2.7 "Shifting the Boundary" for details.
- 6. **Modify boundary information:** Tap
 to modify the boundary name, and move the boundary inside or outside by the set distance to mark the position to turn around or the real position of the headland. Refer to section 4.2.9 "Scaling Up or Down the Boundary" for details
- 7. Delete a boundary: Tap it to delete the boundary. Deleted boundaries can be restored in the recycle bin within 30 days. Refer to section 6.6 "System" for details about the recycle bin.
- 8. Apply a boundary: Tap 4 to apply the boundary to the operation.

Note: To create a boundary, tap Line Creation on the home screen.

6.4.4 Guidance Line

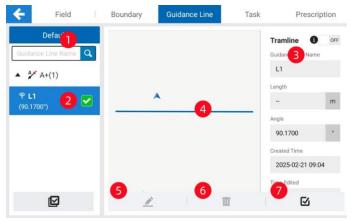


Figure 191. Guidance Line tab

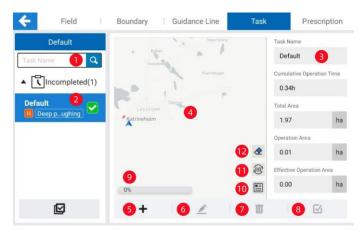
- 1. Guidance line Search: Search for existing Guidance lines.
- 2. Guidance line list: Shows all the guidance lines of different types, including the name, angle, and length.
- 3. **Basic information of guidance line:** Shows the guidance line name, creation time, length, and angle.
- 4. Guidance line map: Shows the guidance line location.
- 5. Modify guidance line information: Tap 🔟 to modify the guidance line name.
- 6. Delete a guidance line: Tap ^{III} to delete the guidance line. Deleted guidance lines can be restored in the recycle bin within 30 days. Refer to section 6.6 "System" for details about the recycle bin.
- 7. Apply a guidance line: Tap 🤷 to apply the guidance line to the operation.

Note: To create a guidance line, tap Line Creation on the home screen.

÷	Field		Boundary	Guidance Line		Task
			Edit the guid	ance line		ne
I A ∿c	Guidance Li	ne Name			0	
• • • • •						m
⊕ L1 (0.0000*)						5:41
▼ (((L	×	Cancel		✔ ОК		9:57
				Π		⊡

Figure 192. Modify the guidance line name

6.4.5 Task





- 1. Task Search: Search for existing tasks.
- 2. Task list: Shows all the tasks, including the name and type.
- 3. **Basic information of task:** Shows the task name, cumulative operation time, total area, operation area, effective operation area, creation time, start time, and end time.
- 4. Task map: Shows the operation trajectories.
- 5. Create a task: Tap +, and then enter the task name and select a task type.
- 6. Modify task information: Tap 🗹 to modify the task name and type.
- Delete a task: Tap to delete the task. Deleted tasks can be restored in the recycle bin within 30 days. Refer to section 6.6 "System" for details about the recycle bin.

- 8. Apply a task: Tap 🗹 to apply the task to the operation.
- 9. Task progress: Shows the percentage of operated area to the total area enclosed by the applied boundary.
- 10. **Operation data:** Tap 🔳 to view the historical data of each operation. Refer to section 6.2.2 "Historical Task Data" for details.
- 11. **Tasks into Line Groups:** Tap to convert a task track into a line group for use. After successful conversion, it can be found in the list of line groups of guidance lines.
- 12. Trajectory Clearing: Clears the job trajectory and data of the current task.

÷	Field	Boundary Gu	idance Line	Task	
		New task			
T2 Harvest T1 Planting	Task Name ⊤3 Task Type	ТЗ			
Default	qqqq	Harvest	Harvest Planting		
Deep plo	Seeding	Spraying (pesticide)	Spray (fertilizer,	etc	
	Underdrainage	Surface leveling	Bundling	n Area	
	× Cancel		🗸 ок	ha	
		+ 🖉			

Figure 194. Create a task

6.4.6 Record Mode

Tap Record Mode to switch task record strategy according to task scenario and user habits.

Manual record	Auto record-Autosteering
Auto Mode Work	Auto Mode
Manual record of worked area:	Automatic record of worked area under auto steering mode.
Auto record-Lifting switch	Auto record-Lifting sensor
Implement up ===	Implement up 🧬
Implement down 🖌	Implement down 🄧
Automatic record according to the ON/OFF status of the implement lifting switch.	Automatic record according to the position of the implement lifting sensor.
*Only available with a lifting switch installed.	*Only available with a lifting sensor installed.
Auto record-Section	Auto record-Rate
Auto Mode	
Manual Mode Work	Applied rate Work
Automatic record according to the ON/OFF status of	Automatic record according to the ON/OFF status of
implement sections. *Only available with some advanced implements.	implement sections and applied rate. *Only available with some advanced implements.

Figure 195. Record Mode

Record Mode	Record Strategy
Manual record	The record status is consistent with the task status. The record starts when the task status is switched to "ongoing".
Auto record-Autosteering	When the task is in ongoing, the record status is consistent with the status of driving mode. The record starts when in autopilot mode.
Auto record-Lifting switch	When the task is in ongoing, the record starts based on the lift/lower status of the machine (ON/OFF of the record-Lifting switch). *The record-Lifting switch must be installed.
Auto record-Lifting sensor	When the task is ongoing, the record starts based on the lift/lower status of the machine. *The record-Lifting sensor must be installed.
Auto record-Section	When the task is in ongoing, the record status is consistent with the status of implement sections. The record starts when the implement sections are on. *Only available with ISOBUS implements

Auto record-Rate	When the task is in ongoing, the record status is consistent with the status of implement sections and speed status. The record starts when the implement sections are on, with different speeds displayed in different colors.
	*Only available with ISOBUS implements

6.5 Universal

Choose MENU > UNIVERSAL to access the User Information, System Upgrade, Board Upgrade, and Add to Farm Management System features.

MENU 📠 Manual	ly driving			×	
DEVICE SETTINGS				1	
FIELD	-				
DIAGNOSTICS CENTER	User Information	System Upgrade	Board Upgrade	Add to Farm Management S	
UNIVERSAL					
APPLICATIONS					
SYSTEM					

Figure 196. UNIVERSAL screen

6.5.1 User Information

Tap **User Information** on the **UNIVERSAL** screen to view and edit account and device information, and view privacy agreements. Tap **LOGOUT** to log out.

+ MENU		
Account security		>
Privacy policy		>
My device		>
	LOGOUT	

Figure 197. User Information

Tap My device to view and add Device user and Guest.

← Му	device			
Serial N	umber(SN)			>
Device	owner account			2
Install	nformation			>
Device	user		[+
Guest			[+
		Unbind device		

Figure 198. My device

Device user: Can use other registered accounts for this device. The generated information will be synchronized to the user account when it is synchronized.

Sveaverken Auto Steer System Software User Manual

← Device user	Add device user
Uker yunned 2020-601-264 to 3202-662-23	Account 123@163.com End Time Start Time End Time 2024/01/24 Time
Add	Add

Figure 199. Device user

Guest : Can use non-registered accounts for this device. The information generated will be synchronized directly to the owner's account.

🗲 Add guest
Account Password Bob 1231
Start Time End Time 2024-01-24 TTT 2024-02-23 TTT
Add

Figure 200. Guest

6.5.2 System Upgrade

Tap **System Upgrade** on the **UNIVERSAL** screen. When a new version is available and the control terminal is connected to the Internet, the system automatically displays a popup for upgrade. If no popup is displayed, tap **Check** behind **Upgrade via Network** to check whether a new version is available. You can also upgrade the system via USB.

÷	SYSTEM UP	GRADE				
Upgrade via Upgrade via			Upgrade tips Version: V10.0.1.4 w version detected. Do you want to upgrade?		.6 Check Upgrade	
	opgiude m		Name	Version	7	opgrade
			APP	3.1.6.99		
			ECU	103.0.2.48		
			Motor	1.1.9.1		
					_	
		;	K Cancel	🗸 Upgr	ade	

Figure 201. Popup for upgrade

The upgrade progress is displayed on the screen, and no operation can be done during the upgrade.

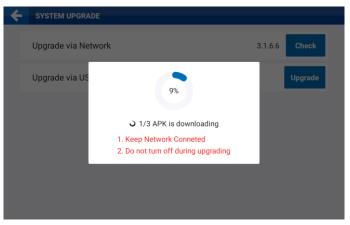


Figure 202. Upgrade in progress

If the upgrade is successful, the system displays an upgrade success message, and automatically runs the new version.

12:15	ρ		▼ 0
Nonation .	SVEA Система за автоматично управление		
	\checkmark		
	App installed.		
		DONE	OPEN
	< ● ■		

Figure 203. Upgrade completed

Note:

- 1. Ensure stable network connection throughout the upgrade process.
- Before the upgrade, ensure that all the components are connected properly and there is stabilized voltage supply throughout the upgrade process.
- 3. If any problem occurs during the upgrade process, contact us as described in section "Technical Support", or contact the local dealer.

6.5.3 Board Upgrade

Tap **Board Upgrade** on the **UNIVERSAL** screen, and tap **Check**, the system will check whether a new version is available for the GNSS receiver board.

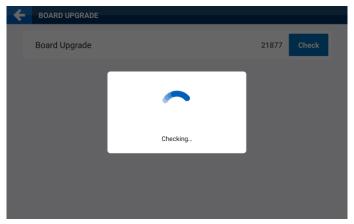


Figure 204. Check for new versions

When a new version is available and the control terminal is connected to the Internet, the system automatically displays a popup for upgrade. If no popup is displayed, tap Check to check whether a new version is available.

÷	BOARD UPO	GRADE	
	Board Upgr	Upgrade tips Version: V10.0.1.2 New version detected. Do you want to upgrade?	7 Upgrade
		Name Version Number	
		Board Version 21878	
		X Cancel ✓ Upgrade	

Figure 205. Popup for upgrade

The upgrade progress is displayed on the screen, and no operation can be done during the upgrade.

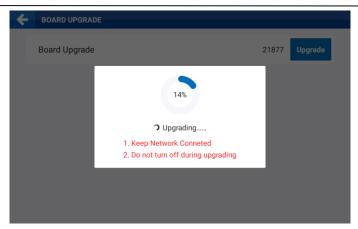


Figure 206. Upgrade in progress

If the upgrade is successful, the system displays an upgrade success message.

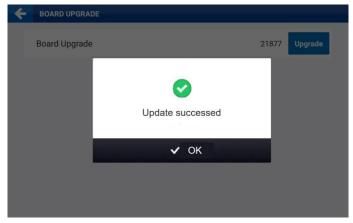


Figure 207. Upgrade completed

Note:

- 1. Ensure stable network connection throughout the upgrade process.
- Before the upgrade, ensure that all the components (especially the GNSS receiver) are connected properly and there is stabilized voltage supply throughout the upgrade process.
- 3. If any problem occurs during the upgrade process, contact us as described in section "Technical Support", or contact the local dealer.

6.5.4 Add to Farm Management System

Tap Add to Farm Management System on the UNIVERSAL screen, tap Farm Management System,

enter the check code generated on the Farm Management System, and tap OK.

+	arm Management System		
	Please enter t	he check code	
		d on Farm Management System.	
	× Cancel	✓ ОК	

Figure 208. Enter the check code

Tap **YES** on the popup to bind the control terminal with the designated farm on the Farm Management System.

+	Farm Manageme	nt System		
	Farm Managem	ent System		
		Not Your control box wi the institution" [Big F Management System sure	II be bound with arm]" of the Farm platform, are you	
		NO	YES	

Figure 209. Bind the control terminal

6.6 System

Choose **MENU** > **SYSTEM** to access features regarding system settings, as shown below.

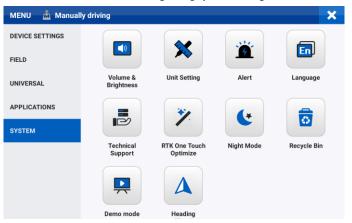


Figure 210. SYSTEM screen

System Settings

Feature	Description	Screen
Volume & Brightness	Adjust the system volume and brightness.	Volume & Brightness Volume
Unit Setting	Select Metric Unit or British Unit , or customize according to your preferences.	Unit Setting Metalc Unit British Unit Customized Unit mm km km/th m/s ha Length unit Spend unit Area unit

Feature	Description	Screen
Alert	 Speed Alert: In the autosteering mode, if the driving speed exceeds the set value, the system issues an alert. Offset Range Alert: In the autosteering mode, if the vehicle offset exceeds the set value, the system issues an alert. Headland Alarm: In the autosteering mode, if the distance between the vehicle and the headland is below the set value, the system issues an alert. Turn Alarm: The system will warn when use the Smart U-turn and Basic U-turn when the distance from the turnaround position is equal to this value. Alarm Volume: Select System volume or customize according to 	Airt Image of the second s
Language	your preferences. Change the system language. Over thirty languages are available, such as Chinese, English, and Japanese.	
Technical	Use this feature under the	

Feature	Description	Screen
Support	guidance of the service personnel.	
RTK One Touch Optimize	Use this feature if the RTK signal is poor during the operation.	RTK One Touch Optimize > RTK One Touch Optimize > Cptimization completed V OK
Night Mode	Use this feature when working at night.	Image: Control of the contro
Recycle Bin	Deleted boundaries, guidance lines, and task data can be restored in the recycle bin within 30 days.	Boundary Guidance Line Taik BB 2023-06-22-08-35-38 Image: Comparison of the state of t
Demo Mode	This mode is used for demonstration without the electric steering wheel and the GNSS receiver. Turn on the switch, and the demo mode icon appears in the upper left corner of the home screen.	Demo mode Contraction for the second

Feature	Description	Screen
Heading calibration	Tap Start Optimization , and then drive forward at a relatively high speed until it prompts that the heading is calibrated.	MUXI Mexadly driving Device sectionals FRLB Image: Compare the section of the section

Chapter 2 Common Faults and Solutions

No.	Fault	Solution
		Check whether the roll angle and pitch angle change in real
	S turn in autosteering operations	time.
1		Calibrate the angle sensor if it is installed.
		Check whether the GNSS receiver is installed and connected
		properly.
	Steering wheel malfunction during autosteering operations	Check the brake.
		Test the motor.
2		Power off and restart the vehicle.
		Check whether the GNSS receiver is installed and connected
		properly.
3	No 4G signal	Check whether the SIM card is inserted.
		When the mobile base station is connected, check whether
	No RTK signal	the base station is powered on and operating normally.
4		When the Network RTK is enabled, check whether the 4G
4		signals are normal.
		When the Network RTK is enabled, check whether the Ntrip
		account is valid.
5	Inconsistant working width in	Check whether the vehicle parameters entered are correct.
	Inconsistent working width in multi-line mode	Check whether the vehicle calibration is completed.
		Calibrate the implement again.
6	Slight offset in straight line mode	Check whether the roll angle changes in real time.

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