EN_V24.103.3 FJ Auto-Driving navigation software manual

FJDynamics

FJDynamics Auto Steer System Software User Manual

June, 2024 | V24.103.3



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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. FJDynamics 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 *FJDynamics 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

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 of the section of the sec

- 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.
- 3. 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.
- 4. 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 FJDynamics Auto Steer System in concise, simple, and clear language, so that users can master each operation procedure easily, quickly, and accurately.

目录

Technical Support

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

Contact FJDynamics by any of the following methods:

- Tel: +1 833-330-6660 (US)
- Tel: +496 931 090 130 (Europe)
- Official website: https://www.fjdynamics.com

Applicable standard: Q/320411 AQR 004-2019

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Chapter 1 Software Operation Instructions

1. Workflow Overview

This chapter describes the main operation processes and related functions of FJDynamics 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

2.2

2.3 Selecting a Language

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

日本語

1. Select a language

2.4 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:

When internet and satellite positioning are available, 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. And the corresponding time zone will follow the change.

2. Sign-up or login screen

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



3. Sign-up or login screen

FJDynamics APP download method:

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



2.5 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 Please enter user information	
	User name 2000 AST Date of Birth 2000 AST Please input user name 1970-01-01	
	Colin Zhou 4517 Next	
4. Enter the user informatio	n Colin Zhou AS17	
Step 2: Enter the installation	information, and tap Confirm .	
	2/2 Installation Information Some Items cannot be filled in, you can fill in None	
	Installer's Name Installation Date 2023-07-31	
	Colin Zhou 2517	

5. Enter the installation information

2.6 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.



2.7 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**.



7. Select Correction Source

Step 2: Tap **Network RTK**, **Mobile Base Station RTK**, **SBAS**, **PPP**, **FDDS**, **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	ຈີລີຟສຟີລຟRTK 19:32 Collin.Zhou		
			Network RTK			
			Mobile Base Station RTK			
			SBAS			
			Bluetooth RTK			
8. Connect	to a signal se	ource				
2.7.1						
2.7.2						
2.7.3						
2.7.4						
2.7.5						
2.7.6						
Colum Zhour 4517 2.7.7						
2.7.	8 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.

		Correction Source		* 11 B - 11	RTK 19:03
		Corre	NTRIP		i i
	Colin.Zhou 451	Host	Please enterlin.Zhou Asi	•	
		Port	Please enter	Get Source	
		Source Node	Please enter	•	100 45
		Account	Please enter	•	
	abou 4517	C Password	Please enter	ø	
	Colin.Zhoa	🗙 Can	cel Collin Cite	🗸 ок	

9. Enter NTRIP information

NRTK

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

	Correction	ection Source	Colin. ^{zbou 4517}	ଙ୍କୁ ଲାଇଲା ଲା RTK 19:32	
		Network RTK		Logged in A517	
	0	NTRIP		RTCM	
	Ŷ	Mobile Base Station RTK			
	ര	Zhou 451			

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.

2.7.9 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: FJDynamics 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.

one	Pairing via Code		_
	Co/III.		
6	BS500001		1
S	at Public Frequencies		- 1
in the	you want to set public frequencies, please set the sam	ne value as the base	Zho
< st	ation		
	410-470	MHz	- 1
1	410-470 ² hou 4517	MHz	- 1
	419-470 ² hou 4517	MHz	

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



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: FJDynamics V1(T) mobile base stations.

C	Pairing via Channel	
		\$
2000 ASD Over-the-air Baud Rate		Colin.Zhou 45
4800bps	9600bps	19200bps
Radio Communication	Protocol	
TRIMMARK3	TRIMTALK	TT450S
Zhou 4517 × Cancel		✓ ок

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 TRIMMARK3 TRIMTALK TT450S X Cancel V OK			
410-470 MHz Over the air Baud Rate 4800bps 9600bps 19200bps Radio Communication Protocol TRIMMARK3 TRIMTALK TRISS X Cancel		Universal pairing	
Over-the-air Baud Rate 4800bps 9600bps 19200bps Radio Communication Protocol TRIMMARK3 TRIMTALK TT450S X Cancel V OK		419-470 4517	MHz *
4800bps 9600bps 19200bps Radio Communication Protocol TRIMMARK3 TRIMTALK TT450S X Cancel V OK	Over-the-air Bau	ud Rate	
Radio Communication Protocol TRIMMARK3 K Cancel Communication Protocol Communication Protocol Com	4800bps	9600bps	19200bps
TRIMMARK3 TRIMTALK TT450S	Radio Commun	ication Protocol	Colin.Zhou 45
X Cancel	TRIMMARK	3 TRIMTALK	TT450S
	∫ × Ca	ncel	✓ ок

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: TRIMMARK3/ TRIMTALK/ TT450S/ TRANSEOT/ SOUTH/ HUACE/ SATEL

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

Note:

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

2. When the radio communication protocol is set to SATEL, the FEC switch remains consistent with the base station settings.

2.7.10 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.

	a lin. Zhou 4517	÷	Correction Source	৵ ৾য়৾। 28 - ৸৾৾। RTK - 19:35		
			SBAS	connected		
			🥑 waas 🗸			
			MSAS			
			Colin.Zhou 4517			
			GAGAN			
			SDCM 4517			

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".

2.7.11 PPP

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

Phase	Correction Source		Status bar	Prompt
Configu ring	Collin Zhou 4517	-17	en e	Colin.Zhou 4517
Configu red	Colum Zhou Asu T	Collin Zhou And		Configuration completed
Converg ing	ррр ш	Configured		olin Zhou A ^{SI} e <u>second</u> o transfer o transfer o transfer e second ASIT
Converg ed	Colin.Zhou 4517		- ^P ill PPP	Convergence completed

PPP connection status

2.7.12 FDDS

FDDS is a network RTK connection method that connects FJ V1/V10 base stations via the internet. With FDDS, users can extend the connection distance to 15-25 km when using the V1/V10.

Before connecting to FDDS, make sure to check the base station SN on the base station app or Handbook.

	17:57 D 00 00 00 00 00 00 00 00 00 00 00 00 0		17:54 👻 🚨 🖬 • 💦 🕸 😤 HD 🖬 📼 K Network	
	网络1 Network: Controller Network Diff Data: RTCM3.2 Network Mode: FDDS		Name Network Mask Angle 10° V	
Colin.Znou	网络		Diff Data RTCM3.2 V	
	Internal Radio Send diff data by Internal Radio		Network Controller ~	
	External Radio External Radio Send diff data by External Radio		Network Mode FDDS ~	
Colin.Zhou	Wi-Fi Send diff data by Wi-Fi Network Send diff data by Network		Fixed position	
	Colum21100 4533			
Colin.Zhou	511 NEW		SAVE APPLY	

16. Check the base station number

Click on the FDDS option, enter the base station number, and click OK. Displaying 'connected' indicates that the connection has been completed.

Colin.Zhou 4511	FDDS			
	323456789098765432345678	Colin.Zhow 1517		
517	Colin.Zhou 4517	Colin.Zhou 4517		
Colin.Zhou 4517	★ Cancle	√ ОК		
	FDDS connected			
Colin.Zhou 4517				

17. FDDS Connection

2.7.13 Bluetooth RTK

Note: This mode is only available in Japan.

2.7.14 External Bluetooth RTK

Note: This mode is only available in Japan.

2.8 Setting Vehicle Parameters

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



18. Select Vehicle Library

2.8.1

2.8.2 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**.

Colin.Zhou 4517	Colin.Zhou 4517		olin.Zhou 4517			
		Vehicle Library Enter vehicle name Opfault Default vehicle2 Harvester Default vehicle1 Trector Default vehicle Trector Collm 2000 4517 Distance	vehicle1	1.530m 2.710m 1.150m 1.150m Left		
		New Sync	Edit Delete	Calibration		
19. Vehicle library						
		New Information F Name Default vehicle1	Parameters 1 s Vehicle Type	Summary		
		Vehicle Brand Please enter	Horsepower * 150 Purchase Date 2017-01-01	9 (1) (1) (1) (1) (1) (1) (1) (1) (1) (1)		
		월 Quick Import	>I Next	ana shina 1-1-2-2001 Colin-ZPott Stear		
20. Information tab						

	solin Zhou 45 ¹¹ NE	ew vehicle	×		
	Colin Zhou AST	Steering Control Type weiki weiki Stree Stree Stree Stree Motor Steer ready (CAN) Steer ready (CAN) Steer ready (CAN) Steer ready (CAN)	e intervention Hydraulic ✓ OK		
	Colin.Zhou 45.	Colin.Zhou 45			
21. Information	n-setting Contro	ol Type	Colin Zhou 4517		
		Information Parameters Pront wheat track 1.53	Summary		
		Front to rear wheebase 2.71 Database from traugeneign to from a 1.32	colifi o m		
		Destance from year ade to hardpoint	Next		
22. Parameters	s tab	Colin Zhou 4517			
		Edit Vehicle Information ASI Parameters Information In	Summary (1999)		
		Name Default vehicle E Horsepower 90 Vehicle I Purchase Date 2017-01-01 1	Aodel		
		Front wheel track Front to rear wheelbase Distance from front suspension to front axle Distance from rear axle to hardpoint	1.53m 2.71m 1.32m 1.15m		
colin.Zhou 4517	Colin.Zhou 4517	K Back	3 Save		

23. 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.

	Quick Import		ψu.	×		
	Vehicle Type	Vehicle Brand	Vehicle Model	Vehicle Parameters		
	Tractor	CASEIH	220			
	Harvester	CAT	225	Vehicle Type: Tractor		
	Rice Transplanter	CHALLENGER	230	Vehicle Model: 220		
	Sprayer	CLAAS	235	GNSS Receiver height: 1.270m		
		DEUTZ_FAHR	240	Front to rear wheelbase: 3.005m		
		FENDT	245			
] Import			
		ou 4517	-11/- ⁻¹	Colin.Zhot 517		
24. Ouick Import						
colin. Zhou C						

2.8.3 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	51 ¹
Angle Sensor Calibration	>
Vehicle Calibration	Colin.Zho×4517

25. Calibration

2.8.4 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

Tap the **Sync** button to synchronize the cloud and local data with each other.

2.9 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.

Note: only Attitude Sensors can be used for Steer Ready (CAN) and Hydraulic Steering Wheel.



26. Select Angle Sensor Calibration

2.9.2 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 Type		
No Angle Sensor	Attitude Sensor	Hall Sensor
Set the vehicle steering speed ratio @	Maximum Turning Angle	
16.0	50	e
Compensation coefficient @	Motor scaling coefficient	Ne 7015
0	-0.05	
Motor Time Constant	Control Deadband	
No In Com		Xe 100 0 1

27. Calibration for no angle sensor installed

2.9.3 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	Colin. Zhou 4517			
	No Angle Sensor	Attitude Sensor	Hall Sensor		
	Installation Position				
	Left wheel	Middle	Right Wheel		
	Installation orientation				
	Downward	Net works	Upward		
	Maximum Turning Angle	Comm			
	50		⊗ Ok		

28. Calibrate the attitude sensor

2.9.4 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 Calibration		
	Angle Sensor Type		7hou 4517
	No Angle Sensor	Attitude Sensor	Hall Sensor
	Installation Position		
	Left wheel	Middle	Right Wheel
	Calibration of Angle Sensor		
	0.0∨ Median Voltage	0.0∨ Left Limit Voltage	0.0 v Right Limit Voltage
	Real-time parameters of angle sensor		
	0.1450 v Output Voltage		0.0° Output Angle

29. Calibrate the Hall sensor



30. Hall sensor calibration process

2.10 Calibrating the Vehicle

After calibrating the angle sensor, calibrate the vehicle for offset correction. Choose **MENU** > **DEVICE SETTINGS** > **Vehicle Calibration**, and then tap **Start Calibration**.

	Vehicle Calibration	n Zheit 4517	
	Pitch angle offset	Roll angle offset: 0.0 Image: Content value: 0.0 Image: Content value: 0.0 Image: Content value:	
	Pitch angle	Roll angle	
	Note: 1. Please make sure that the vehicle has enough oper 2. The vehicle should try to drive at a constant speed 3. Drive in straight line acleast 50m. Save	n area on the level ground Lof 5-6km/h Start Calibration	
	Coli	n.Zhou 4517	

31. Calibrate the vehicle

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

32. 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.

	Set and a set of the	0.00	হু সাঁ 💷 না RTK 14:45 Vehicle Calibration		
			Tips 2 After driving the vehicle manually in a straight line for 50m, confirm point B		
			Driving distance 48m		
			8 B		

33. Mark point B

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



34. 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.

		<mark>→</mark>	0.00	⇒ มีส∹มี	RTK 14:50		
				Vehicle Calibratio	n		
				Tips	4		
		Colum Zhou 4511		When the vehicle reaches poin autosteering mode, it will auto swich to manual mode, please prompts to continue.	t A in the matically follow the		
		<u></u>					
		Colin Zhou 4517		🚱 Autos	teering		
C EZhou 4517							

35. Return to point A

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

	<mark>→</mark> 🛛	0.00	হু ুঁয়া 💷 ুঁয়া RTK 14:50		
			Vehicle Calibration		
			Tips Colin Zhou 5		
			Manually turn the steering wheel again to bring the vehicle back to point A (towards point B). After the adjustment, click on Auto to drive the vehicle back to point B.		
	9				
	Colin. Zhou 4547				
		Collm.Zhou 45	Manual		

36. 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.



37. Return to point B

Step 7: The calibration result is displayed automatically after point B is reached. Tap



in the lower right corner to complete the calibration.

	<mark>. ⊖</mark> ₽	0.00	ু ক ∄ায়			
			Vehicle Calib	ration		
			Tips	7		
			Calibration Completed			
			Pitch angle offset	0.0		
			Roll angle offset	0.0		
			Install angle offset	0.0		
			Angle center value	0.0		
			Pitch angle	0.00		
			Roll angle	0.00		
	colin,Zhou 4517		0			

38. Confirm the calibration result

Note:

Complete the angle sensor calibration before the vehicle calibration.

2.11 Setting Implement Parameters

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



39. Select Implement Library

2.11.1

2.11.2

2.11.3 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**.



40. Implement library	Colin.Zhou 4517			
		New Implements X		
		Tilling Spraying Seeding Harvest		
		Plant Land leveling Ditching Ridging		
		>i Next		
41. Type tab				
		New Implements X		
		Name Way of connection Please enter		
		Please enter Please enter		
		Colin Zhou ASI K Back >I Next		
42. Information tab				
		New Implements X		
		0 m implement working width 30		
		CONTLANDING AND A SUT		
		K Back >1 Next Colin Zhou A		
43. Parameters tab		colin Zhou ASI7		
	colin.Zhou 4517	Type Information II Parameters Summary Basic Information Collin Zhou		
		Name FJD sprayer Way of connection. Three-point hitch Brand of the implement FJD Model of the implement D3WAS Type of implement Spraying Spraying Spraying		
		Skip/Overlap Om Implement working width S0m Implement overall width 32m Distance between hitch point lo working point of implement 1.5m		
		K Back E Save		

44. Summary tab

2.11.4 Calibration

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

2.11.5 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

Tap the **Sync** button to synchronize the cloud and local data with each other.

2.12 Calibrating the Implement

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



45. 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**.



46. 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.

3.1

3.2 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.

3.3 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.



3.3.4 Creating or Selecting a Field

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



to switch to another field or create a field.

the left of the Overvie	Win Zhou 4517					
screen. Tap		Colin.Zhou 4517		Colin.Zhou 4517		
	Colin.Zhou 4517	Test Field 12/04/2023/11:49:22 Default 10/04/2023/09:36:41	Field Switch	colin.2h - %		
	Colin Zhou ⁴⁵¹⁷	Client na X Cancel	Colin Zhou ASIT + Create field 3.0	✓ ок 		
48. Switch the field						
	750114517	Client name	Create field	Collin Zhou 45.5		
		Field Name	Converses	▼ 517		
		× Cancel	Colin Zhou 4517	🗸 ок		
49. Create a field						

Default
Deep plough 0.00 h

× Cancel

+ New task

V OF

3.3.5 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





51. Create a task

3.3.6 Selcting a Boundary

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.

52. Switch the boundary

3.3.7 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



♥ B2 18/10/2024/ 08:42:5 ♥ B1

× Cancel

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.



53. Switch the guidance line

3.3.8 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



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to switch to another implement. Refer to section 2.9 "Setting Implement Parameters" for details on implement creation.

54. Switch the implement

3.4 Creating a Boundary and Guidance Line

To record the boundary or create four types of guidance lines, tap **Line Creation** on the home screen. Tap



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in the lower left corner to record the operation while the boundary and guidance line are created.

55. Create a guidance line



56. Select the boundary recording reference

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



57. Record the boundary

When recording the boundary, you can tap



in the upper right corner of the **Boundary** section to edit the boundary name, headland distance and offset direction.



58. Set the boundary

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

Bou	ndary	System Processing	Illustration		
Distance x from the start point to the end point	x ≤10 m thou AST Colin Zhou AST	Connect the start point and the end point with a straight line.			
Colin. Colin.Zhou 4517 Colin.Zhou 4517	nou asti colin zhou ast	Resume the recording or connect the start point and the end point with a straight line.	AST Conversion of the second s		
Special boundary	Boundary length < 80 m	Resume the recording.			
Colin Zhou AST	Boundary too narrow	Record the boundary again.	Colling you dold		
Colin.Zhou 4517 colin.Zhou 4517 colin	Multiple sub- areas within the boundary	colin.2hou colin.2hou 4517			

3.4.3 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.



3.4.3.1				
3.4.3.2 Colin Zhou 4517				
3.4.3.3				
3.4.3.4 com 2000 4517				
3.4.3.5				
3.4.3.6 Collin Zhiou ASIT				
Colin 21101 4617 3.4.3.7				
3.4.3.8				

3.4.3.9 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



to set the current position as point A.



60. Set point A

Stay in the manual mode, and drive the vehicle for at least 10 m. Tap

to cancel point A.



to set the current position as point B, or tap



	♥ fjd 및	Colinathow 451	হ জী ফ্ল জী মাদ Guidance Line and Bound	k 22:38 - dary Colin Zhou 4517	
			Guidance Line	▲	
	<u>i</u>		Driving distance 7.03m		
	Tizza man		Boundary	2997	
			E → Quit		

61. Set point B

Tap colin

colin.Zhou 4517

colin.Zhou 4517

Comre-

Collection Collection

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



to change point B to the new position, or tap



to cancel the guidance line creation.

♦ fpl ♥

 Image: Shift in 22:38

 Suidance Line and Boundary

 Guidance Line

 Image: Shift in 20:38

 <

62. Import the guidance line

When creating a guidance line, you can tap

in zhou ⁴⁵¹⁷ colin i

Colin Zhou ASIT



in the upper right corner of the **Guidance Line** section to set the guidance line name.

	Colin.Zhou 4517	fjd 📮	Buidance Line Setting	ক রাঁ। 📧 ী। RTK 22:38 ndary		
		Guidance Line Name		Com Zh		
	Colin Zhou 4517			2		
		Cancel	•	CH Quit		

63. 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.



64. Create a guidance line while recording the boundary

After a guidance line is created 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.



65. Record boundary edges as the guidance lines

3.4.3.10 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 4

to select the A+ line mode. Drive the vehicle to the start point, and tap



to set the current position as point A.



66. Set point A

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

а. Тар



on the map to set the current heading as the heading of the A+ line.



67. Use the current heading

b. To enter a heading manually, tap



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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.

68. Enter the heading manually

to change point A to the new

When creating a guidance

position, or tap

line, you can tap



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



to cancel the line creation.

in the upper right corner to change the guidance line name.

3.4.3.11 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



to select the curve mode. Drive the vehicle to the start point, and tap



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to set the current position as point A.



to cancel the line creation. Coint Zhou AST Coint Zhou AST

71. 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.

3.4.3.12 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.



72. Set point A

Stay in the manual mode, drive along the circular field edge for at least 20 m, and then tap



to set the current positon as point B.



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

	♥ Test field IR → State ARTIC 21:46 Guidance Line Setting ndary	
	Guidance Line Name Source Lin	
	Colin Zhou 4517 ► Quit	

75. 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.

3.4.3.13 Combination Line

You can create a combination of straight and curved lines.



76. 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.

		4517	Hig Zhou 4517		
		♥ Default 🖳	중 개≝ ╣ 08:27		
			Guidance Line and Boundary		
			Guidance Line		
			I V V ©		
		1517			
		Colinear			
		6517 C	E → Quit		
77. Selec	ting Combination	Lines			
	1611				

	Default Default Click Pause to draw a straight line	হ রাঁা নাঁা 08:28 Guidance Line and Boundary		
	11.84m	Guidance Line ∠ 1 · · · · · · · · · · · · · · · · · · ·		
		€ Quit		

78. 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 wil be a curve again.



79. Pause Recording

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



80. Import the Combination Line

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

3.4.3.14 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.



81. Confirm a boundary

2.Select the Generate Headland method.

82. 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.



83. Select a partial edge of 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 🖳	Colin.2001 451	रू ॉ्रा छ ्रँ।। 19:42 Headland Configuration		
			Type ①		
	昌		1.0 © m Please enter values in the range 0 - 10m Headland Number		
			1 Image: Second seco		
			1		

84. Confirmation parameters

4.Confirm the settings to generate Headland.



85. 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	Boundary	Guidance Line	Task
			Edit the guida	ance line	ne
	Guidance	Guidance Line Name	Colin.4		
	▼ AZ A	L2			0
	▲ (H)+	Headland Number			
		5		C	@jn.Zh4
	(5Line)	Input range 1~6			
					:01
			Colin.4	110	
		× Cance	el	🗸 ок	W001
			<u>/</u>		⊡

86. Edit Headland

3.4.3.15 Diagonal line

Diagonal line are 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.



87. Confirm a boundary

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.



88. 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.

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	•	/	A.			
		7				colin,Zhou
	(•	
					:0 D	

89. Diagonal line operation interface

Note: Diagonal line are 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

4.2 Home Screen Elements



- 90. Home screen elements
- 1. **Offset value:** Displays the offset of the current path relative to the guidance line.
- 2. **Signal strength icons:** Shows the strength of the satellite signal (satellite tracking), RTK correction signal, or other correction source signals.
- 3. Message center: Shows the device error and notification message.
- 4. **Real-time task operation data:** Shows the current task operation data, including, from left to right, the guidance line number, the total field area, the operated area, the completion ratio, the operation efficiency, and the current speed.
- 5. **Camera button:** Tap to turn on the camera. Refer to section 4.2.14 "Turning on the Camera" for details.
- View switch button: Tap to switch between the 2D view and the 3D view. Refer to section
 4.2.13 "Switching Views" for details.
- 7. **Headland marking button:** Marks the headlands at both ends of a field when the boundary is not set. The two headlands must be at least 50 m away. The system warns you when you are approaching the headland. Refer to section 4.2.11 "Marking Headlands" for details.
- 8. **Trim button:** Tap to move the vehicle slightly to the left or right. This feature is only available in the autosteering mode. Refer to section 4.2.10 "Trim" for details.

- Guidance line translation button: Tap to move the guidance line to the vehicle position or to the left or right by the set distance. This feature is only available in the manual mode. Refer to section 4.2.6 "Translating a Guidance Line" for details.
- 10. **MENU**: Tap to access the device settings, the field management, the general settings, the applications, and the system settings.
- 11. **Overview**: Tap to access or change the task configuration, such as the field, boundary, guidance line, task, or implement.
- 12. Boundary/guidance line creation button: Tap to create a boundary or guidance line.
- 13. Boundary/guidance line switch button: Tap to switch the boundary or guidance line. Refer to section 4.2.4 "Switching Boundaries or Guidance Lines " for details.
- 14. **Task status switch button:** Tap to switch the task status. Refer to section 4.2.2 "Task Status Switch" for details.

Pause ON		The task is ongoing, and operation is being recorded.	
Work	Colin Zho.	The task is paused and operation is not being recorded.	

15. Driving mode button: Tap to switch to the autosteering or manual mode. Refer to section4.2.1 "Switching the Driving Mode" for details.

Collin Tanan work	You are driving in the	autosteering mode.	ou 4517
Teo uoo			Colin.Zhou
Colin Zhou ASIT	You are driving in the	manual mode.	04517
	Colin.Zhou 453		Colin.Zhou
1424 (1045	-thou 1517		ou 4517

4.3 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.

4.3.2

4.3.3

4.3.4 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 camera. To perform other operations, switch to the manual mode first.

4.3.5 Task Status Switch

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

elin Zhou ISt ⁷ Work	Task paused: 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.
Pause ON Color-Zhou 4517	Task ongoing: 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 yellow in the manual mode.
olin Zuou 4517 Colin Zuou 4517	colin 2hou ast T colin 2hou ast T

4.3.6 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.



91. Guiding line for resuming a task operation

4.3.7 Switching Boundaries 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.



4.3.8 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.



94. Access an advanced feature from the home screen

4.3.9 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.



95. Translate a guidance line

Translating an AB line or A+ line

When you are using a straight guidance line, tap



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.



96. Translate to the current position



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97. 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



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.





99. Translate a pivot circle

4.3.10 Shifting the Boundary

To shift the boundary during a task operation, choose MENU > FIELD > Field > Boundary, tap



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at the bottom, and the system goes to the home screen and displays the boundary shift panel automatically.

100. 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.

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101. Shift the boundary

4.3.11 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



in the lower right corner of the mapping guidance panel, and select **Scale to current position** or **Scale by specified distance** as required.



102. 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.



103. Scale to current position



104. Scale by specified distance

4.3.12 Scaling Up or Down the Boundary

During a task operation, to scale up or down the boundary according to the actual headland positions, choose **MENU** > **FIELD** > **Field** > **Boundary**, tap



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.

		l.	Field Boundary	Guidance Line		
		Colin.Zhou 4517	Test Field	Boundary Name B1 Headland Position Outside		
			2023-04-12 11:54 Colin. Zhou 451	Headland Distance		
			Collector	0.55 ha		
	colin.Zhou 4517		Colin.Zhou AS 17	Colin.Zhou AS VI		
105. Bou	ndary					
		Colin.Zhou 451 (Field Boundary	Guidance Line Task		
			Edit the bound B2 2023-04 B1	lary Colley 2010		
		Colin.Zhou 4517	Offset Outside Headland Distance	Inside m		
			3 onutrou 4511 × Cancel			
		. 1517				

106. 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.

	Comm				
	Field Bou Test Field 2023-04-12 16:08 Image: Control of the second	Guidance Line	Boundary Name B1 Headland Position Inside		
	2023-04-12 11:54 COMPLEX		Headland Distance 3.00 m Area 0.47 ha		
colin Zhou 4517	Colin-Zhou 4517	<u> </u>	Collinzhou 4517		
107. New boundary					
4.3.13 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.



109. Trim

4.3.14 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.



110. Headland marking button

When a guidance line is imported, drive the vehicle to the headland position, tap



in the upper 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.



112. Mark the next headland

Drive the vehicle along the current guidance line for at least 5 m, and tap



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2

to mark the current position as headland 2.

113. 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

P1

0.02

\$ 1.07 ha

(-) 3.6

 \odot

disappear. The alarm distance can be adjusted in **SYSTEM > Alert**.

Note:

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

4.3.15 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.



117. 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.



118. Setting the Tramline Start Line

3. Use Tramline to work.

오 Default 🖳		0.00m	ę	้ามี 25 นิป 14:58
0 💷	=	0.0 ho	🛠 1.07 hath	(-) 3.6 km/h
•				0
				•
Collin-Zh Menu	Overview Line Cre	ation Swite	th Record	Manual

119. Tramline operations

Note:

1) When the Save As New Guidance Line switch is turned on (see 6.1.4 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.



4.3.16 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.



121. View switch button

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



122. 2D view

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



123. 3D view

4.3.17 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.



124. Camera button

When no cameras are connected, tap **Add a camera** on the camera panel, and follow the instructions in section 5.9 "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.



125. Screen splitting

Тар



at the bottom to expand the camera image to full screen. Tap



to restore the screen splitting.



in the upper left corner of the mapping guidance screen to close the camera image.

4.3.18 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.





127. Trajectory Clearing

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

		Operation A 0.00	rea ha				\$ \$	
))))	Effective Op	eration Area				本部内部-CL-23000 FJ-NJ-CL-23000	
		0.00	ha			0 ha	0%	
	Ш		ß					
128.	清隆	余按钮						

5. Applications

Choose **MENU** > **APPLICATIONS** to access all the application features.

	MENU 🏦 Manually d	Iriving	7hou 451	1	×	
	DEVICE SETTINGS		· • •		0	
	FIELD	9 A	6	ISO O	Ŷ	
	DIAGNOSTICS CENTER	Smart U-turn	Basic U-turn	ISOBUS	Camera	
	UNIVERSAL	, The second sec				
	APPLICATIONS	Manual	NMEA	Easy Control	Tractor Status	
	SYSTEM	Intervention				
		i		× .		
		Easy Switch	Remote Debugging	Speed Output	Data Transfer	

129. Applications

5.1

5.2 Smart U-turn (Activation Needed)

Smart U-turn 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.



130. Smart U-turn

Note: As an advanced feature, Smart U-turn must be activated with an activation code. You can contact the local dealer to obtain the activation code.

5.2.1

5.2.2

5.2.3 Activating Smart U-turn

Tap **Smart 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.

	7hou 4517	MENU	240U 1517	×		
	Collura	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.	rain		
	Colin.Zhou 4517	SYSTEM				
			Remote Wi-Fi Camera Super Low Speed Data	Transfer		

131. Enter the activation code

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



132. Activate 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 bottom of the home screen.

	🗲 Utum		Colin.Zhou 454	
	Uturn	ON Time remaining	Renewal	
	 When enabled, the working path will be plan utum settings in the Task Settings interface fit 	aned automatically to realize automatic u-turn and headland. When inst.	n initiating a task, please finish	
	Colin Zhqu er		colin.Zhou 4517	
	Sketch Map			
	Tips: 1. Boundary and a straigh 2. Please examine whether lift up and down the imple	t guidance line must be selected before entering the er the implement parameter and the radius of turning ement during the stage of Uturn	task g are correct, remeber to	

133. Enable Smart U-turn

5.2.4 Renewing Smart U-turn

All paid advanced features have a period of validity. When Smart U-turn will expire in 15 days, each time you turn on it, a popup appears on the home screen, showing the time remaining until the expiration date.



134. Reminder for renewing Smart U-turn

To renew Smart U-turn, tap **Renewal** on the **Smart U-turn** screen, and repeat the activation process described in section 5.1.1.

		← Uturn				
		Liture	Please enter the	activation code	Inward	
		- When en the	ter verification, the corresponding adv ere is no activation code, contact the c	ranced function will be enabled dealer to purchase one.	If Olin.Zhorewar	
	colin.Zhou 4517		Colin	211011 4517		
		colin.Z	hou 4517		Colin.Zhreese	
		A Ske Tips:	× Cancel	✓ OK		
	Colin.Zhou 4517	2. Pleas lift up ar	e examine whether the implement par nd down the implement during the star	rameter and the radius of turnir ge of Uturn	g are correct, remeber to	

135. Renew Smart U-turn with an activation code

5.2.5 Applicable Fields

Field ^{im Zhou ASUT}	Planning	Colin.Zhou 4517	Illustration		
Rectangular fields or close-to-rectangular fields	Whole area planning	Colin.Zhou 4517	Colin Zhou AS17	Colin Zhou 4511	
Quadrilateral fields with the four angles close to the right angle	Whole area planning	Colin.Zhou 4517			
Close-to-rectangular fields with small gaps	Whole area planning	Colin.Zhou 4517	Colut Ellow 4517	Colin.Zhou 4517	
Quadrilateral fields with large gaps; or fields with large triangular spaces,	Partial planning	Colin.Zhou 4517 Colin.Zhou 4517	Coline 2thou 4517	Colin Zhou 4517	
such as the polygonal fields,					

triangular fields, and droplet-shaped				
fields				
Too narrow fields or	Planning	co\ <u>74777777</u>		
too small fields	not available	Colin.zhou 451.T		
colin.Zhou 4517	Colin.Zhou 4517	Colin Zhou 4517	Colin.Zhou 4517	

5.2.6 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 6.3.6 "Vehicle Library" and section 6.3.7 "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.



136. Set the Smart U-turn parameters

Smart U-turn Headland Operation Modes

Headland Operation			Colin.Zhou 4517	
Auto Colin Zhou ASL?	The system generates the headland operation paths automatically according to the boundary, and the vehicle follows the paths automatically to complete the headland operation.	Colin Zhou 4517 Colin Zhou 4517	colin.zhou 4517	
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	colin Zhou A	n Zhou A517 Colin Zhou A517	
	in thou ash	Tice von		

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.



137. Smart U-turn confirmation popup

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



138. 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.

5.3 Basic U-turn (Activation Needed)

This feature 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.



139. 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.

5.3.1 5.3.2 5.3.3

5.3.4

5.3.5

5.3.6

5.3.7 Activating and Renewing Basic U-turn

Refer to section 5.1.1 "Activating Smart U-turn" and section 5.1.2 "Renewing Smart U-turn" for activating and renewing 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.

	Basic U-turn		
	Basic U-turn		ON
	Validity period		Permanent
	Planning Method		
			Ì
	Uninterrupted U-turns	Single U	-turn
	Selecting the U-turn direction will plan t entire U-turn path; only available when ther boundaries or field ends.	the No boundaries and U-tr re are U-turn instantly upon decelerate and avoid e ends when	im distance limits, clicking. Please xceeding the field using.

140. Enable Basic U-turn

5.3.8 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 6.3.6 "Vehicle Library" and section 6.3.7 "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.

Once the function is turned on, select the desired planning method. Currently there are two planning methods:

1. Uninterrupted U-turns: available after importing boundary (Reference 3.3.1 Creating a Boundary) or marking field headlands(Reference 4.2.11 Marking Headlands), after selecting the operation direction, subsequent turnaround will be made left or right to the next line of neighboring rows in that direction automatically.

2. Single U-turn: No need for boundaries and field headlands, tap left or right turnaround and immediately turnaround to the next line of the neighboring row.



141. Planning options

Note that a guidance line (AB straight line, A+ straight line or curve) is required for Basic U-turn operation. Then 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.



142. Set the turnaround mode

Basic U-turn Turnaround Mode

Turnaround Mode	Description	Colin Zhou ASL ⁷ 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.	Colin Zhou 4517 Colin Zhou 4517 Colin Zhou 4517 Colin Zhou 4517 Colin Zhou 4517
Turnaround mode ②	The turnaround path is fish tail shaped. It saves the turnaround space, and is applicable to scenarios with limited turnaround	Columna Column
	space. commence curranound	

- 143. When the working width is greater than twice of the turning radius, the final turnaround path is U shaped.
- 144. As reversing is required for turnaround mode ②, this mode is only applicable when mounted implements are used, or the implements might be damaged.
- 145. To adjust the safety distance for turning around, change the **Reserved Safety Distance** in accordance with section 6.3.1 "Coefficient Commissioning ".

Online Aggressiveness		Approach Aggressiver	ess
1.0 Thou 4517	0	1.0	Thou
COMPAGE Aggressiveness		Reverse Approach Age	ressiveness
1.0	0	1.0	(
Reserved Safety Distance		Maximum Turning Ang	gle
0.0	⊗ m	50	۲

146. 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.

Status	Description		Illustratio	n
Turnaround not available	The autosteering operation is not started, and the turnaround direction buttons are not displayed.	n.Zhou 4517	Colin.Zhou 4517	Colin Zhou 4517
Turnaround not available	When the planning method is Automatic continuous U-turn:		00	
	Scenario 1: The vehicle is too close to the boundary or headland, leading to insufficient space for turning	n.Zhou 4517	Colin Zhou 4517	Comp. Zhou 4517
	around. ²⁰¹	n.Zhou 4517		
	Scenario 2: The guidance line that the vehicle currently engages is too close to the boundary edge.	n.Zhou 4517		
	Scenario 3: The vehicle is outside the boundary.	n.Zhou 4517		

Basic U-turn Button Status

Turnaround direction not selected	The turnaround direction is to be selected.		Colin.Zhou 4517	
Turnaround direction selected	The turnaround direction is selected, but the turnaround is not started. The turnaround direction can be changed at this time.	AST AST AST Colin.zhou AST	Colin.Zhou 4517 Colin.Zhou 4517 Colin.Zt	
Turnaround in progress	The turnaround direction is selected, and the turnaround is in process. The turnaround direction cannot be changed at this time.	ast Colin Zhou ASLT	Colin-Zhou 4517 Colin-Zhou 4517	

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				
		Speed Alert		8	km/h	ON
		Offset Range Alert		517 10.0	cm	ON
		Headland Alarm		10.0	m	ON
		Turn Alarm	Distance 1	20.0	m	on 00 4517
			Distance 2	10.0	m	
		Alarm Volume	Colin.Zhou A	System volu	me 🔵	Custom

147. Basic U-turn and Smart U-turn alarm

5.4 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.



148. Manual intervention in the Electronic Steering Wheel

		Collin.Zhou 4314	
		Manual Intervention	ON
		Intervention force	
		0 Real-time Angle: 90 *	100
	Note: The larger the value, the greater the force required to pause autopilot by gripping the steering wheel.		

149. Manual intervention in the Hydraulic Steering Wheel



150. Manual intervention in the Steer Ready (CAN)

5.5 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			7holl 45	517		
		NMEA					ON	
		Baud				115200B/S	▼ 0 4517	
		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				

151. 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.

5.6 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.

	 Speed Output		
	Speed Output	in.Zhou 4517	
	Current Speed	Current Square Wave Frequency	
	Current Ratio of Square Wave Frequency to Sp The value range is 20–950	Colin.Zhou 4517	

152. Speed output

5.7 Easy Control (Optional)

Easy Control is a wireless remote control that works with FJDynamics 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.

5.7.1

5.7.2

5.7.3 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.

touin Zhou 43-	10:51 P Colin Thou 435	
	← Connected devices Q	-
colin.Zhou 451	Available media devices	colin.Zhou 4511
	Currently connected	
5/	Easy Control	
TOU ASSI	US8 Charging this device Column 2 hours 451	
	+ Pair new device	
ThOU 45	Co Previously connected devices	1 - 7hou 4517
Colinian	Connection perietences COUNTER	Colin.
	4 0 11	

153. 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.
Status	Description	Company to 1 Illustration		
Not connected	The Bluetooth is turned off, and the remote control is not connected.	Default	Colin.Zhou 4553	
Not connected	The Bluetooth is turned on, and the remote control is not connected or disconnected.	Default A Easy Control has been disconnected Bluetooth connection	ed, please check	
	When the remote control is disconnected, a message appears on the mapping	Colin-Zhou ASL ⁷	colin.Zhou 4517	
	guidance panel. To connect again, press any button on the remote control.			
Connected	The Bluetooth is turned on, and the remote control is connected.	O Default	Colin.Znou Astill	

5.7.4 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**.

Button	Desc	cription	ा Illustrati	on	
5.7.5 Easy Control E	Buttons				
154. Function settings					
	Colin.Zhou 4517	Colin.Zhou A			
		Confirm Point A/B	Import Guidance Line		
	Colin.Zhou 4517	Auto Mode ON/OFF Area Metering ON/OFF	Trim to the left		
		Optional Function I Optional Function II	Import Guidance Line		
	Colin.Zhou 4517 D	Device Address	5\1 8C:19:2D:CB:6C:59		
	с	Current BLE Device	Easy Control		

Auto Mode ON/OFF	Press the button to turn on or off the autosteering mode.		Colin Zhou 4517	
Area Metering ON/OFF	Press the button to turn on or off the Record switch on the home screen.	Collinational M	Colin.Zhou 4517	
Confirm Point A/B	Press the button to mark a point when creating a guidance line.		colin.Zhou 4517	
Withdraw Point A/B	Press the button to cancel a point when creating a guidance line.	5	Colin.Zhou 4517	
Import Guidance Line	Press the button to complete the guidance line creation.		Colin Zhou 4517	
Trim to the left; Trim to the right	In the autosteering mode, tap the trim button on the home screen, set the trim			
Colin Zhou 4517	distance, and then you can press the button to trim the vehicle to the left or right.			
Colin.Zhou 4517	Note: When the homepage Trim window does not appear, pressing it once will first pop up theTrim window			
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	Colin.Zhou 4517	Colin-Zhou 4517	
Colin.Zhou **	or right.	Colin.Zhou 44	760U 4527	

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

5.8 Easy Switch(Optional)

Easy Switch is a wired remote control for use with the FJDynamics 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.

	MENU 🏦 Manually	driving	45	7	×		
	DEVICE SETTINGS		5 ×				
	FIELD	♦	•		Q		
	UNIVERSAL	45 Smart U-turn	Basic U-turn	ISOBUS	Wi-Fi Camera		
	APPLICATIONS	, O	EN				
	SYSTEM	Manual Intervention	NMEA	Easy Control			
		õ	:2				
		Easy Switch	Remote	Data Transfer			

155. Easy Switch

2. Fill in the activation code and click confirm.

	MENU 📩	Manually driving	1517	×
	DEVICE SE	Please enter the	activation code	
	FIELD UNIVERSA	After verification, the corresponding adv there is no activation code, contact the o	anced function will be enabled. If dealer to purchase one.	amera
	SYSTEM			
		Cancel Easy Switch R De	✓ Ok temote Data Transfer bugging	

156. Entering Activation Code

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

	Easy Switch		
	Easy Switch	ON	
	Validity period	Permanent	

157. 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.



158. Connection successful

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

- 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)



159. 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.





162. 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 WiFi 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.



164. 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.
- 3. Only Hardware ID above 8+6+-- supports wired camera.

5.11 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.

5.11.1 Collin.Zhou 45 4				
5.11.2				
5.11.3 Colim Zhou 4517				
5.11.4				
5.11.5 Collin Zhou 4517				

5.11.6 Via the Internet

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

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

 the Thou 431		the Thou ASI
	Local File	
Default		
Colin-Zhou	517	

165. 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**.



166. Enter the user account and select the SN

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



167. 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.

Task Line20230407101 AB(1) < Line20...10100 2023-04-13 11:30 ∧ r Curve(0) 11.052 m A+(0) 180.0191 ° pivot(0) ₹ ⊠

168. Check received boundaries and guidance lines

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

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

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.



169. Connect the USB flash drive to the control terminal

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.



170. Export files

171. 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: After the USB flash drive is connected to the control terminal, you can only transfer files via USB.

5.12 Get Tractor Data (Connect OBD)

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



172. 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.

173. Successfully Bound to the FMS Platform

- 2、Click 'MENU'-'DEVICE SETTING'- 'OBD Connection'
- 174. OBD Connection
- 3、 Turn on the 'Bluetooth' and you will see the nearby devices

175. Turn on the Bluetooth

4、Click the device you want to connect

176. Connect Device

- 5、Waitting for the connection to complete(all four icons turn green)
- **177**. Waitting for the connection
- 5、Click 'MENU' 'APPLICATIONS' 'Tractor Status'

178. Tractor Status

6、turn on the 'Tractor Status switch', 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

т	ractor Status 🛛	OFF
		Colin.Zhou 451
	ь	

-273.0	°C —	1000.0	°C	0.0	rpm —	8031.875	rpm
Fuel Level				Engine Fuel Ra	te		
0.0	* -	100.0	2	0.0	Uh —	3212.75	1/h
Hydraulic Pres	isure			Hydraulic Oil L	evel		
0	kPa —	128510	kPa	0.0	s –	100.0	3
Hydraulic Oil I	Alter Restriction	Switch		Hydraulic Tem	perature		
0	7 -	3	1	-40	'C -	210	°C

179. Tractor Status switch

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

180. tractor running data



6.1

6.2 Device Settings

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



181. DEVICE SETTINGS screen

6.2.1

6.2.2

6.2.3 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.

	Control Model			
	Model 1 - Accuracy Compensation Off			
	Approach Aggressiveness 🚱		Online Aggressiveness 🔞	
	1.0 Zhghhasi	0	1.0	un Zhou
	Reverse Approach Aggressiveness		Reverse Online Aggressiveness	
	1.0	8	1.0	0
	Reserved Safety Distance 🕑	coli	Maximum Turning Angle @	
	1.00	🛛 m	50	• •
	Single U-turn delay time			
	Auto-debug		V OK	7hou 45

182. Coefficient commissioning

6.2.4 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.

		0.0		
	Criver Debugging			
	Speed loop proportional coe	fficient (P):		
	25 7hou 451	Т		🛛 🗸 ок
	Motor Status			
	0 Speed loop proportional coefficient (P)	Or/min Actual speed value (r./ min)	O.v.m Actual torque value (N.m)	0 ℃ Controller Temperature(°C)
	Last calibration value			
		400	0	
		Parameter 1	Parameter 2	
	Please enter values in the ran	ge 0 - 999 Please enter va	wes in the range 0 - 999	end parameter

183. Driver debugging

6.2.5 Implement Calibration

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

6.2.6 Automatically Driving Settings

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

	I	Automatically Driving Settings			
		Ultra Low Speed	COMPACTOR		
		Accuracy Compensation Model 1 - Accuracy Compensition Cft 2000 Model 2 - Accu	aracy Compensation On		
		Smart Approaching	OFF		
		Single Straight Line Mode	Colin Zhou OFF		
		Save As New Guidance Line	OFF		
		Rename Guidance Line After Creation	ON		
		Guidance Line Type	Collin.Zhou 4517		
		Pivot	ON		
		Combination Line	ON #10		
		Headland Headland	ON		
		Diagonal Harrowing	Coline		

184. 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 Ultra Low Speed mode to ensure the operation accuracy and stability. Tap Ultra Low Speed on the APPLICATIONS screen, and turn on the Ultra Low Speed switch.

Accuracy compensation: Turn on the Accuracy compensation switch to enable this feature.

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.

Rename Guidance line After Creation: When enabled, a naming pop-up window will appear when saving a new guidance line.

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.

6.2.7 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.

6.2.8 Vehicle Library

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



Colin.Zhou 4517		Colin.Zhou 4517	Information Recorders	Surmay			
			1.13 DIST kolori trige 24 Treny habo 80	0 n			
colin.Zhou 4517		colin.Zhou 4517	K Back	Next		Colin.Zhou 4517	
	Turning radius		Edit Webicle Information Parameters 133 133 133 135 135 135 135 135	Burmay O n			
colin.Zhou 4517		Colin ^{, Zhou 4517}	Surregoladus Ba Inserray Martin Tot Wheel K Back	e n zhou Courter Vi Nex			
	Steering wheel		New CONTRACT	Remay 0 n	Colin.Zhou 4517		
Colin.Zhou 4517		Colin.Zhou 4517	fore wheel rear wheel For whomes Articulated Differential	Colin.Zhou 4517			
			foot wheel	A Next			

6.2.9 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	Colum Zhou AS LT Illustration	
Skip/Overlap	The spacing between two adjacent rows.	New implements X Type Information Parameters Summary Stap-Overlap 0 m 4517 Implement working width EQUIPMENT Summary 4517 Implement working width 0 m 1417	
Colin		10 10	
Golin.Zhou 4517	Colin.Zhou A517	Colin Zhou 4517	
Implement working width	The actual working width of the implement. It is used to plan the guidance line spacing.	No relation To a many from the second secon	
Implement overall width	The total width of the implement. It is used to reserve the safety distance during automatic path planning.	Memory Memory Image: State	
Distance between hitch point	The vertical distance between the working point of the implement and the hitch point	Column The statement Column 2W The statement and The statement and	
to working	of the tractor. It is used to	Colin.Zhou 4517 Colin.Zhou 4517 Colin.Zhou 4517	

Implement Parameters

point of implement	determine the accurate position of the working point.	Colin Zhou 4517	Colin.Zhou 4517	
Distance between hitch point to rear of	The total length of the implement. It is used to reserve the safety distance during automatic path	termination of the second seco	Colin-Zhou ^{A517}	
	plaining.	Celin.Zhou 4517	colin.Zhou 4517	
Implement offset	Offset from the implement centerline to the tractor centerline. It is used to determine the accurate	K to a construction of the	Colin.Zhou AS17	
Colin	position of the working point.	Colin Zhou 4517		

6.2.10 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.

6.2.11 Vehicle Calibration

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

6.3 Field

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

	MENU 🏦 Manually	driving		×	
	DEVICE SETTINGS		*		
	FIELD	Field	Record Mode		
	DIAGNOSTICS CENTER		Collinizione		
	SYSTEM				

185. Select Field

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



🔶 Fiel	d	Boundary	Guidance Line	Task
Field Name	Q			Field Name
1234	-			1234
2024-01-10 11:41				Client name
ABCD				FJD
2024-01-10 11:41			0	Farm Name
Field1 2024-01-10 11:40			4	Farm1
			Zhou	Created Time
Default				2024-01-10 11:41
2024-01-10 11:31				Time Edited
_	151	7		2024-01-10 11:41
5 C' Sync	6115	+	2 8 t	ol <mark>9</mark> 🖸

186. 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. The data in the demo mode cannot be synchronized.
- 6. Create a field: Tap



7. Modify field information: Tap



, and enter the field name, client name, and farm name.

to modify the field name, client name, and farm name.

8. Delete a field: Tap



to delete the field and all the associated boundaries, guidance lines, and task data, and they **cannot be restored**. ;You can multiselect fields other than Default and currently used fields for batch deletion.

to apply the field to the operation.

9. Apply a field: Tap

6.3.3 Boundary



- 187. 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.
- Modify boundary information: Tap



7. Delete a boundary: Tap

8. Apply a boundary: 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

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. You can multi-select fields other than Default and currently used fields for batch deletion.

to apply the boundary to the operation.

$\mathbf{\nabla}$

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

6.3.4 Guidance Line



188. 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.⁽¹⁾
- 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



 Delete a guidance line: Tap



to modify the guidance line name.

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. You can multi-select fields other than Default and currently used fields for batch deletion.

to apply the guidance line to the operation.

7. Apply a guidance line:

Тар



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

6.3.5 Task



189. Task tab

- 1. Task Search: Search for existing tasks.
- 2. Task list: Shows all the tasks, including the name ,type and task completion status.
- 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.

 Modify task information: Tap







to modify the task name ,type and task completion status.

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. You can multi-select fields other than Default and

currently used fields for batch deletion.

8. Apply a task: Tap



to apply the task to the operation. You can multiselect fields other than Default and currently used fields for batch deletion.

- 9. **Task progress:** Shows the percentage of operated area to the total area enclosed by the applied boundary.
- 10. Operation data: Tap

	1000	. 1	
		1	
		21	
	_		
	_		
_	_		

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.

6.3.6 Record Mode

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

	Record Mode	
	Manual record Colling Auto record-Autosteering Colling Autorecord	
	Auto Mode	
	Manual record of worked area. Automatic record of worked area under auto steering mode.	
	Auto record-Section	
	Auto Mode Column	
	Automatic record according to the ON/OFF status of implement sections.	
	*Only available with some advanced implements.	
100 Decerd Mede		

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

colin.zhou ⁴⁵¹⁷ coli	starts when in autopilot mode.
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.
Colin Zhou AS17	*Only available with ISOBUS implements

6.4 Diagnostics Center



191. Diagnostics Center

6.4.1

6.4.2 Diagnostics Center

Tap **Diagnostics Center** to check the version information, scenario information, hardware status, and parameter information.

Version information

colin.Zhou 434				
			হিনি আলি মারি হিনি হিনি হৈ বিজ্ঞান হৈ ব	
		Version Scenario	Hardware Parameters	
		SN COllin-Live	SIM Card Number	
		APP version 4.1.2.29(G00)	IMEI	
		ECU version 103.0.2.28	Radio BS Normal	
		IMU version N/A	Board	
		Motor version 1.1.7.0	Mainboard 10111	
		Board Version N/A	GNSS Receiver	
		System Version 202303262249(1)	Hardware ID 7+4+	
			Colin Zhou A XEK	
		Upload Logs	Upload observation data Logs	
192. Version tab				
Sconario information				
Scenario information	4517			
		DiagnosticsCenter	÷ ,ill 28 - ,ill RTK 18:19	
		Version Scenario	Hardware Parameters	
		Current Heading 178.8*	Mode Manual	
		Guidance Line Heading -150.7*	RTK Status 4	
		Pitch angle 0.0°	Correction Source Mobile Base Station	
		Rolling Angle 0.0"	Baseline Distance Okm	
		Latitude 31.9991376	'Agè of Differential –	
		Longitude 119.9644671	Total RTCM Received by App 0B Normal	
		Wi-Fi Signal Strength .4	Total RTCM Transmitted by App 0B Normal	
		4G Signal Strength -		
		Data Usage Today DB		
		Upload Logs	Upload observation data Logs	
			U 1	

193. Scenario tab					
Hardware status					
		Diagnostics Center Version Scenario Motor Availa ESC status N	 ألاهه ألام العند ألام المحالي الم محالي محالي المحالي المحالي المحالي محالي المحالي المحالي المحالي المحالي المحالي المحالي المحالي المحالي المحالي محالي محال		
		Speed loop proportional coefficient (P) Actual speed value (r / min) Actual forque value (km) Controller Temperature(°C)	Temp Comp IMU O Maximum Steering Colline Sol Attitude Sensor Normal Installation Position Right ArtiDude Site		
		Contract Upload Logs	Upload observation data Logs		
194. Hardware tab					
Parameter informat	ion				
		Version Scenario Chita Scenario Scenari	Altra Artx 18:19 Hardware Parameters Approach Aggressiveness 1.0 Online Aggressiveness 1.0		
		Install angle offset Angle center value Total implement Offset Containing track Front there track Front to rear wheebase 2.7 Distance from front suspension to front axle 1.33	00 Reverse Approach Appressiveness 1.0 00 Reverse Online Appressiveness 1.0 00 Distance from GNSS Receiver to central asis 0.00m 01 Distance from GNSS Receiver to rear ade 1.13m 11 GNSS Receiver height 3.40m 2m Turning Radius 8.00m		
		Distance from rear axie to hardpoint 1.11 GNSS Receiver position relative to central axis L	Sm Steering wheel front wheel eft Implement working width/Skip/Overlap 3m/Dm		

195. Parameters tab

Upload logs

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



196. 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.

	Colin.Zhou 4517 🗲	Upload Observation Data	হু গ্রান্ড গ্রান্সম 2009.01.01 03:43 ০০০		
		Observed Volume Data			
		Note: Before uploading, please coll Collin-Zhou 4511 Uplo:	ad Colin Zhou 4517		
197. Upload obser	rvation data log	gs colin.Z			
6.4.3 collin.zhou 45 17					
6.4.4					
6.4.5 Colin.zhou 4537					
6.4.6					

6.4.7 GNSS

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





198. GNSS key status

6.4.8 Troubleshooting Manual

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



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

	MENU 📩 Manuali	y driving		×
	DEVICE SETTINGS		-u 517 (A)	
	FIELD			
	DIAGNOSTICS CENTER	User Information System	n Upgrade Board Upgrade	Add to Farm Management S
	UNIVERSAL			
	APPLICATIONS			
	SYSTEM			

200. 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..

	← MENU	Colin.Zhou 4517
	.	
	Account security	>
	Privacy policy 2000 4511 My device	> Colin.Zhou 4517
	LOGOUT	

201. User Information

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

	 My device Serial Number(SN)		Colm.Zhou 4517		
	Device owner account		Ĺ		
	Install Information		>		
	Device user 1000 4511		Colin.Zhd+		
	Guest		+		
		Unbind device			

202. 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.

Colin.Zhc	Concerner Concerner	∎ _{CO} ∠.7 ^{NOU 4517}		Add device user		Colin.Zhou
				Start Time 282401:24	End Time 20244223	
	NA517 Add			olin.Zhou 4517	Add	

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

Colin.Zhou 45 C	Colin.Zhou 4511		Add guest		Collin.Zhou
Collin-Zhou ASTL	1 2		Account Bob Start Time 2024 01:24	Pessword 1 2 3 1 End Time 20246223	
ColinZhou A517			Colin.Zhou 4517	Add	
204. 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 UPG	RADE	7.7hou 4517			
	Upgrade vir	Upgra New version detected. Name APP version	de tips Do you want to upgrade? Version Number 4.1.2.33	Ungrade		
		Content	✔ Upgrade			

205. Popup for upgrade

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



206. Upgrade in progress

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



207. Upgrade completed

Note:

- 1. Ensure stable network connection throughout the upgrade process.
- 2. 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 the system automatically checks whether a new version is available for the GNSS receiver board.



208. 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.



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



210. Upgrade in progress

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



211. Upgrade completed

Note:

- 1. Ensure stable network connection throughout the upgrade process.
- 2. 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.



212. Enter the check code

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



213. Bind the control terminal

6.6 System

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

	MENU Annually driving DEVICE SETTINGS FIELD DIAGNOSTICS CENTER Volume & Brightness	Unit Setting Alert	Language		
	UNIVERSAL APPLICATIONS SYSTEM Demo mode	RTK One Tuck Optimize Heading Calibration	Recycle Bin		
214. SYSTEM screen					
	Colim Propulator System	m Settings			

Feature	Description	Screen	
Volume & Brightness	Adjust the system volume and brightness.	ASU	Colin-Zhou 4517
Unit Setting	Select Metric Unit or British Unit , or customize according to your	The form of the fo	Colin Zhou 4517
olin.Zhou 4517	preferences.	Colin.Zhou 4517	Colin.Zhou 4517

Alert

- Speed Alert: In the autosteering mode, if the driving speed exceeds the set value, the system issues an alert.
- 2. Offset Range Alert: In the autosteering mode, if the vehicle offset exceeds the set value, the system issues an alert.
- 3. **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.
- 4. **Turn Alarm:** The system will warn when ues the Smart U-turn and Basic U-turn when the distance from the turnaround position is equal to this value.
- 5. Driver monitoring: When the vehicle is in autonomous driving mode for 14 minutes without any operation, a warning pop-up window and warning sound will appear. After that, if the user does not perform any navigation operations within 1 minute, they will exit the autonomous driving.
- Alarm Volume: Select System volume or customize according to your preferences.

Collin Zhou AGUT	Change the system language. Over twenty languages are available, such as Chinese, English, and Japanese.	Collin Zhou 4317	Colin.2hou 4517		
Technical and 200 Support	Use this feature under the guidance of the service personnel.	Colin Zhou 4517	Colin.Zhou 4517	Colin.Zhou 4517	
RTK One Touch Optimize	Use this feature if the RTK signal is poor during the operation.	The Charlo Market Springer (1999) (19990) (19990) (1999) (1999) (1999) (1999) (blin Zhou 4517		
Night Mode ^{w256}	Use this feature when working at night.		Co ⊕ ▲		
Recycle Bin ^{or 200}	Deleted boundaries, guidance lines, and task data can be restored in the recycle bin within 30 days.	CONTRACTOR NAME OF THE OTHER OF			
Demo Mode	This mode is used for demonstration without the	Colin Zhou A ⁵¹ Beno mode		Colin Zhou 4517	
Colin Zha Colin Zha Colin Zha	electric steering wheel and the GNSS receiver. Turn on the switch, and the demo mode icon appears in the upper left corner of the bome screen	Colin Zhou asuT	efault 💽	olin.Zbou 4517	
colin-Zhou ASL ^T	Notes:				
Colin.Zhou 4517	1) Data in demo mode and non-demo mode are displayed separately.				
Colin Zhou 4517	2) Demo mode does not allow you to use related functions that require networking.				
Heading calibration	Tap Start , and then drive forward at a relatively high speed until it prompts that the heading is calibrated.	Colin Zhou 4371	Collin Co	And the contraction and the c	

Chapter 2 Common Faults and Solutions

No.	Fault	Solution
1	S turn in autosteering operations	Check whether the roll angle and pitch angle change in real time.
		Calibrate the angle sensor if it is installed.
		Check whether the GNSS receiver is installed and connected properly.
2	Steering wheel malfunction	Check the brake.
	operations	Test the motor.
		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.
4 ⁻¹⁴⁵¹	No RTK signal	When the mobile base station is connected, check whether the base station is powered on and operating normally.
		When the Network RTK is enabled, check whether the 4G signals are normal.
		When the Network RTK is enabled, check whether the Ntrip account is valid.
5 _{Zhou 451}	Inconsistent working width in multi-line mode	Check whether the vehicle parameters entered are correct.
		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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