



HD408 Installation Manual

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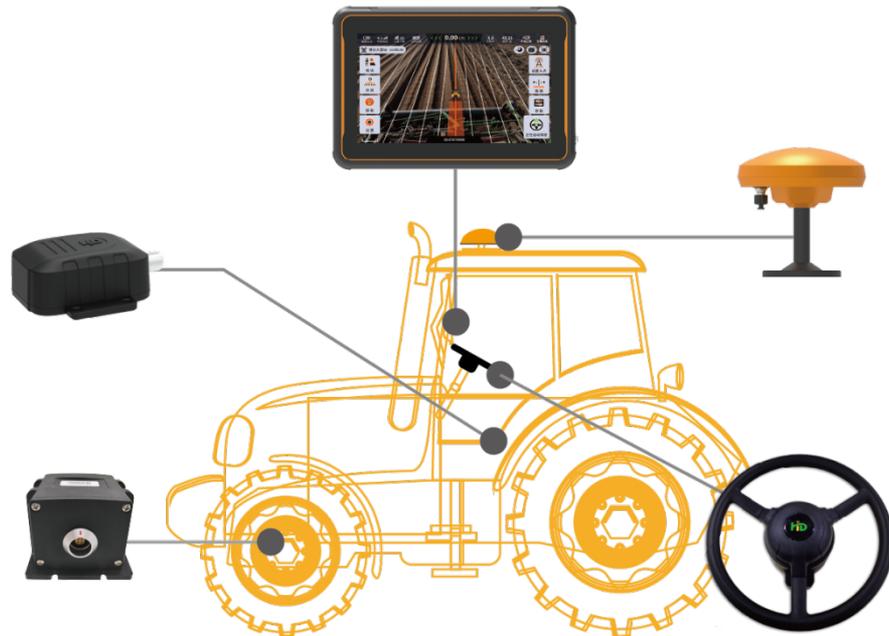
Part one

01

Auto Steering Introduction

Intro :

The autosteering system adopts high-precision GNSS board, a single-antenna solution integrating gyroscope and electronic compass, calibration-free gyroscope, high-torque torque motor, and 8-inch high-definition touch screen. It can be applied to precise operations such as trenching, ridge raising, deep plowing, sowing, rice transmethoding, film laying, spraying, and harvesting.





Part two

02

Installation

Tools list

1

Hand drill 1pc

2

19/24/27/30socket wrench

3

Allen key (3/4/6)

4

Screwdrivers (Flat and phillips)

5

Roll ruler (5m)

6

Hammer 1pc

7

Open end wrench (8/10/13)

8

Rag 1pc

9

Marker pen

Satellite Antenna



Function : Receive signals from the satellite

Components : Antenna , Transition pole, Antenna base

Install method : Adhesive + Drilling Screws/Nail-Free Glue Reinforcement

Pre-install : Relevant components realize factory pre-installation

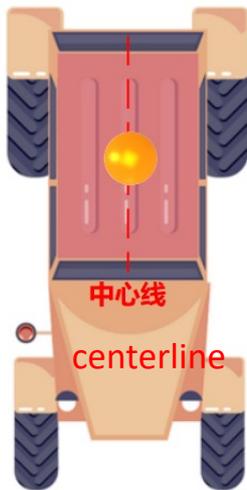
Select installation location

Rules :

1.The midpoint of the antenna needs to coincide with the longitudinal centerline of the vehicle ;

2.The core of the antenna needs to be kept perpendicular to the top reference plane of the vehicle, when the vehicle is stationary , the ground is level, the antenna is vertically upward.

During installation, the plane area suitable for antenna installation shall be selected in advance on the top of the cab and cleaned, and then the longitudinal centerline of the vehicle shall be marked in the plane area with the symmetrical reference on the top of the cab for preparation before installation.



Installation position of the dual-antenna solution

Select installation location

The dual-antenna scheme follows the same basic principles as the single-antenna scheme. The difference is that two GNSS antennas are arranged longitudinally on the vehicle centerline. The positioning antenna is connected to the GNSS-1 interface of the display terminal at the front, and the heading antenna is connected to the GNSS-2 interface of the display terminal at the rear. The linear distance between the installation positions of the dual-antenna should be kept at least 1m.



Positioning antenna



Installation position of vehicle without cab

Select installation location

The installation of satellite antenna for vehicles without cab follows the same basic principles. The installation position can be selected and installed on the front and rear cross members or roll cage according to the actual situation of the vehicle



Satellite Antenna Fixing Method

Fixing Method

The bottom of the satellite antenna is pre-installed with 3M glue. After tearing off the top protective film, the antenna can be directly glued to the pre-base to select the installation position. After confirming that the installation position is correct, press down slowly and hard to ensure that the glue is fastened to avoid displacement.

Then carry out the reinforcement of the antenna. Two reinforcement methods can be used, and the best one should be selected according to the site installation scene conditions:

- 1. Use the preset screw holes on the antenna base to reinforce by adding drill screws;**
- 2. Use the nail-free glue that comes with the product to apply around the contact surface between the antenna base and the roof for reinforcement.**



Drilling screw reinforcement



Nail-free glue reinforcement

Radio Antenna



Function: Receive signals from the radio

Components : Radio antenna, base+feeder

Install method : glue+Drilling screw/nail-free glue reinforcement

Radio Antenna Fixing Method

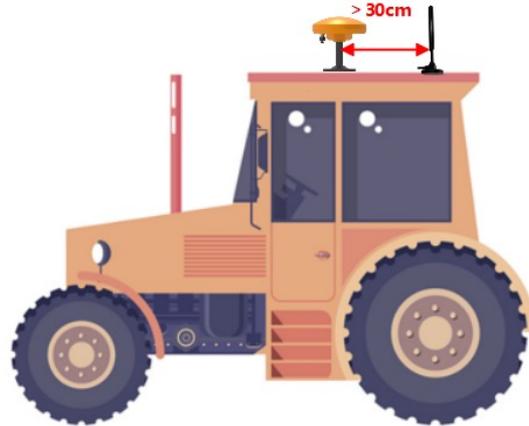
Select installation location

Rules :

- 1.The core of the antenna needs to be kept perpendicular to the top reference plane of the vehicle, that is, when the vehicle is stationary and the ground is level, the antenna is vertically upward ;**
- 2.The straight-line distance between the radio antenna and any satellite antenna installation position is at least 30cm**

Fixing method

Adopt the same fixing method as satellite antenna



Motor steering wheel



Function : Executive control unit

Components: Motor, Steering wheel, Steering wheel cover, Flange, Motor Bracket Assembly

Fixing method: Replace the original wheel

Pre-installation method: Relevant components have been pre installed

Disassembly and assembly of steering wheel

Disassemble the original

1. Use a flat-blade screwdriver to remove the steering wheel cover.
2. Use a suitable socket wrench to remove the lock nut and remove the steering wheel flange.

Precautions :

1. Most of the cover plates are snap-on type, which can be opened by screwdriver, others are screw-on type, which need to be rotated counterclockwise to remove.
2. Commonly used steering wheel spline nut socket wrench models are 24, 27, and a few models are 30 or others
3. When smashing the steering column spline, the spline nut shall be flattened on the spline to prevent the spline nut from being unable to mount on the spline in the later stage due to the deformation of the spline thread caused by smashing.



Install Motor



Install
flange



Install
motor



Install the steering
column nut



Install
bracket



Install steering wheel

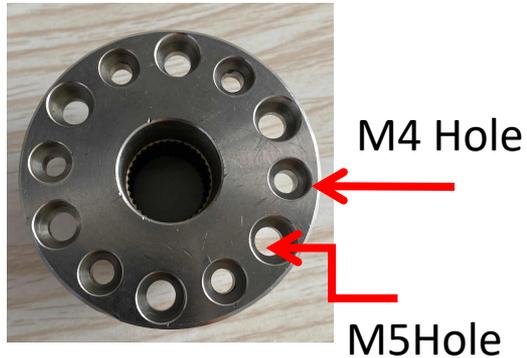
Install motor flange

Install flange

Attention :

1. In a few cases, when the flange is fitted, the situation on the right will appear. The upper plane of the steering column spline is higher than the upper plane of the flange, which will cause the subsequent installation of the spline nut to the bottom, even if the flange cannot be fixed. At this time, it is necessary to add gaskets to ensure that the flange is flat with the spline.

2. M5 mounting hole is preferred.



Install flange

Tips :

When tightening the flange bolts, you must **hold the steering wheel with your hands (connect the steering wheel and the motor with screws)**, otherwise it will be difficult to tighten and it will loosen in subsequent use.



Flanges types



0

Minimum radius:26
Keyway:5



1

Minimum radius:23.16
Keyway:5



2

Minimum radius:20.5
Keyway:5



3

Minimum radius:20
Keyway:4.76



13

Minimum radius:23
Keyway:4.8



4

Maximum spline diameter:20.77
Number of teeth:36



5

Maximum spline diameter:16.09
Number of teeth:36



6

Maximum spline diameter:22.07
Number of teeth:36



7

Maximum spline diameter:18.6
Number of teeth:36



8

Maximum spline diameter:18.02
Number of teeth:36



10

Maximum spline diameter:17.69
Number of teeth:40



11

Maximum spline diameter:22.07
Number of teeth:36

Flanges types



12

Maximum spline diameter:16.09
Number of teeth:36



13

Maximum spline diameter:25.2
Keyway:4.8



20

Maximum spline diameter:15.17
Number of teeth:18



21

Maximum spline diameter:14.86
Number of teeth:30



22

Maximum spline diameter:15.7
Number of teeth:30

Types of motor fixing brackets

- ① No. 1 bracket (package standard)
Note : Hoop inner diameter 45mm ,
long rod 100mm.
- No. 1 bracket (extended version)
Note : Hoop inner diameter 45mm ,
long rod 150mm
- ③ No. 2 bracket
Note : Options
- ④ No. 3 bracket (Rice transplanter
dedicated)
Note : Hoop inner diameter 30mm ,
long rod 100mm



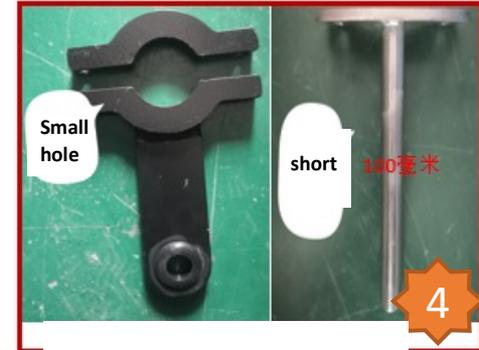
No. 1 bracket (package standard)



No. 1 bracket (extended version)



No. 2 bracket

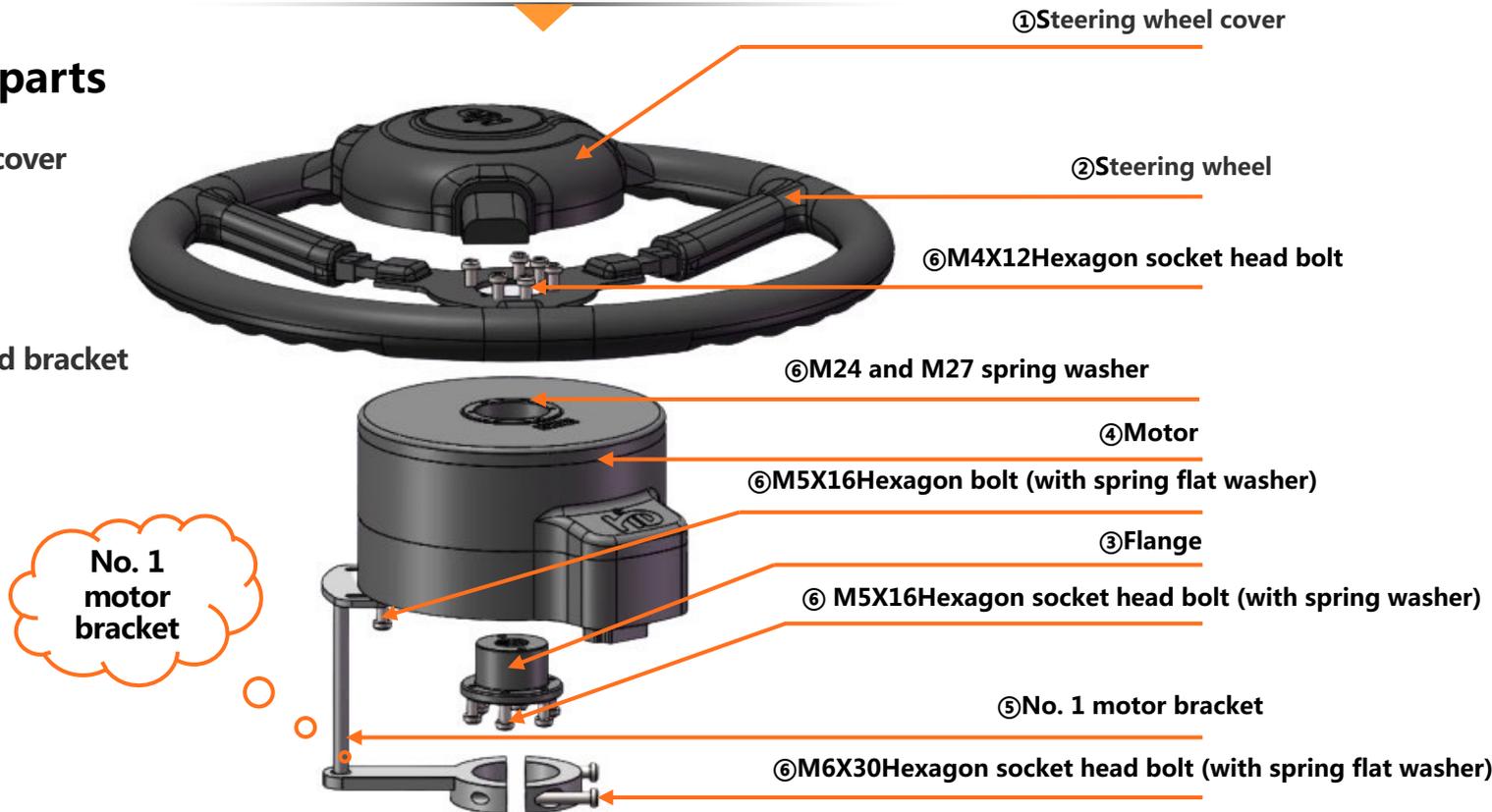


No. 3 bracket (Rice transplanter dedicated)

No. 1 motor bracket

No. 1 bracket parts

- ① Steering wheel cover
- ② Steering wheel
- ③ Flange
- ④ Motor
- ⑤ Motor connected bracket
- ⑥ Fastener



Precautions for No. 1 motor bracket Installation

Notice of motor No. 1 bracket installation :

The crescent buckle is parallel to the bottom surface of the motor

The crescent buckle is as close to the motor as possible

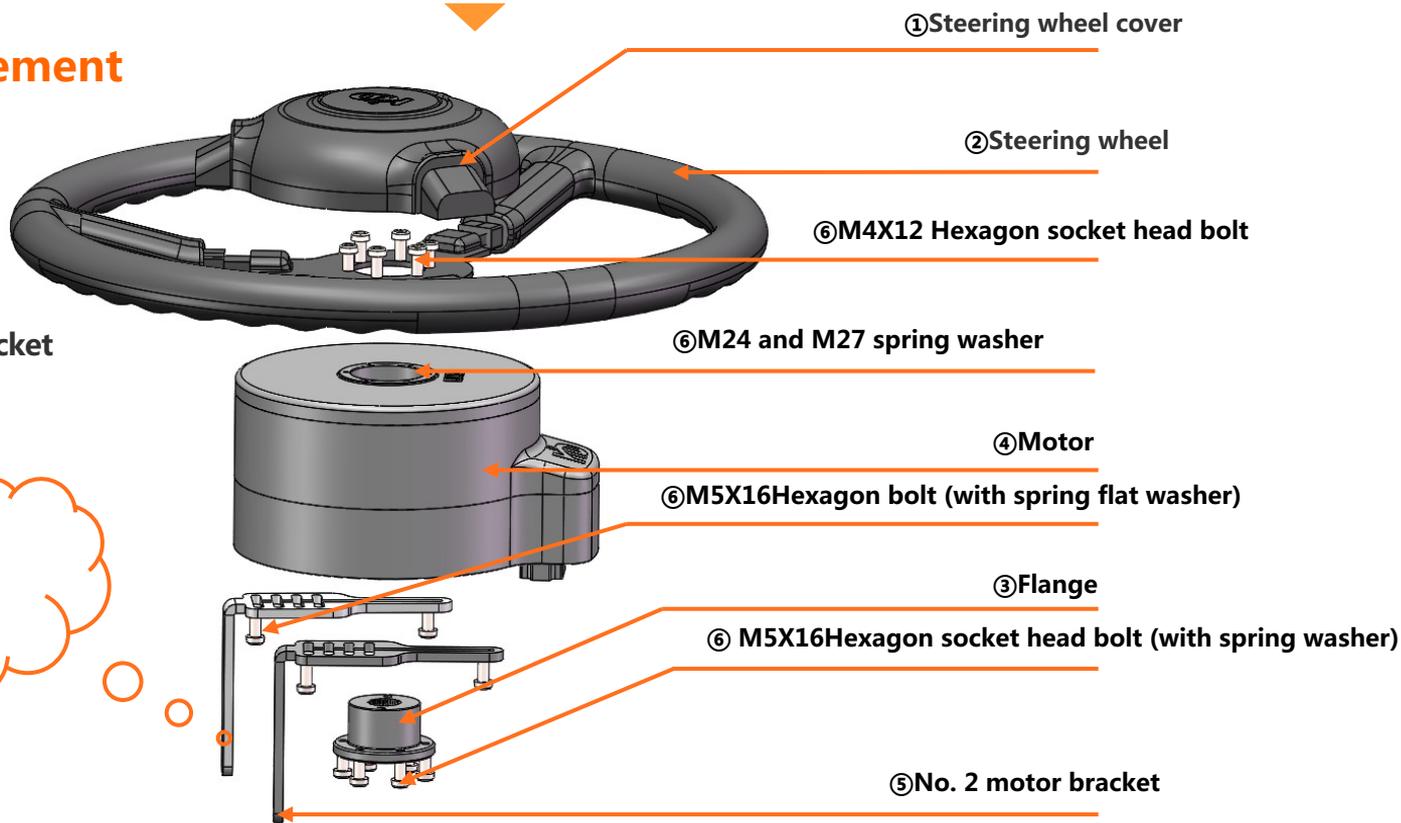
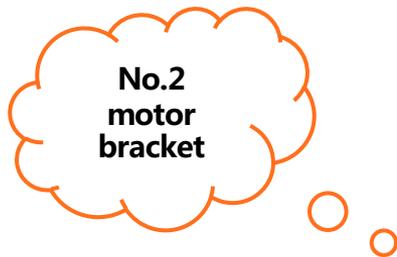
Tighten the crescent buckle first, and then lock the bracket and motor connecting bolts.



No. 2 motor bracket

No. 2 bracket element

- ① Steering wheel cover
- ② Steering wheel
- ③ Flange
- ④ Motor
- ⑤ Motor connected bracket
- ⑥ Fastener



No.2 bracket installation notice

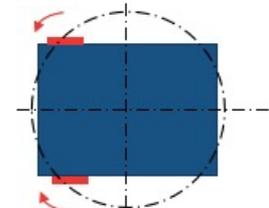
There must be an over-tight fit between the bracket and the housing.

Follow the same-side fixation principle.

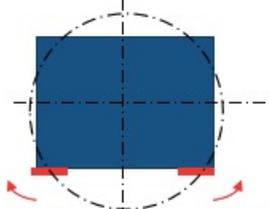
The larger the distance between the two brackets, the better, within the range not exceeding the side width of the casing.



Counterclockwise

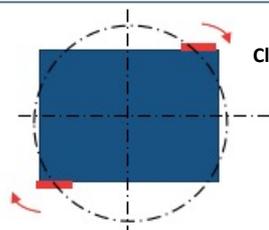


Clockwise



Clockwise

Counterclockwise



Clockwise



Terminal



Function : Core unit, Interactive unit

Component : Terminal、 RAM bracket

Internal Intergration : 10 inch HD touch screen、

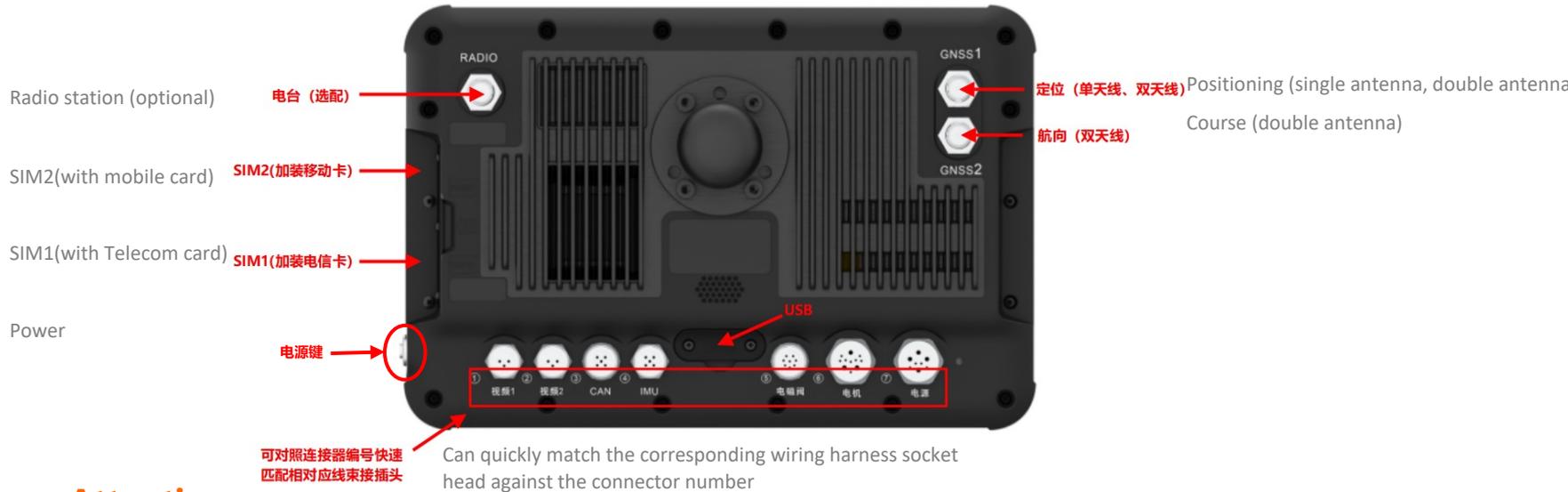
Driving Controller、 high precision、

positioning board、 4Gmodule、 Radio station

Install Method : Installed inside the cab through the bracket

Pre-installed :

Precautions for the Terminal



Attention :

- 1.The interface at the rear of the display terminal is shown in the diagram above. The single-antenna scheme is fixedly connected to GNSS1, the dual-antenna scheme is fixedly connected to GNSS1, and the heading antenna is connected to GNSS2 ;
- 2.When the terminal is connected to the relevant harness, it can be quickly connected through the corresponding number corner marker ;

The Position of Terminal Installation

Select the installation location

The selection of the installation position of the navigation terminal in the cab should follow the principle of being easy for the driver to operate and view, and not blocking the driver's driving line of sight. Generally, it is fixed at the beam or vertical beam at the front end of the right side of the cab.

Attention :

There will be wire harnesses in the beam of agricultural machinery, and the installation and drilling should avoid the wire harness in the beam



Terminal Fixing Mode

Fixing Mode:

The terminal bracket has been pre-installed on the navigation terminal before leaving the factory. The fixing of the display terminal body end is carried out by using the drill tail screw. **Generally, the cab beam of the vehicle contains the body harness. When installing, pay attention to prevent the drill tail screw from damaging the harness in the beam.**



Attitude Sensor



Function : Acquire vehicle attitude

Component : Terminal、RAM Bracket

Install method : Fixed to the horizontal floor surface inside the cab by drilling screws

Attitude sensor installation position

Select installation position

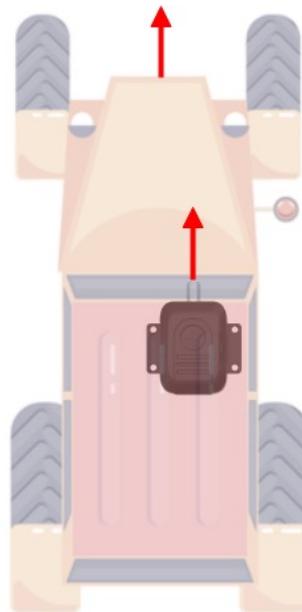
The installation position of the attitude sensor should be selected on the horizontal floor surface inside the driver to ensure that the attitude sensor is parallel to the main body frame and no relative displacement. When the vehicle is horizontally stationary on the ground, the body attitude is also horizontal to the ground. Usually, it can be installed on the right front floor of the cab or the area under the right side of the seat. While meeting the above requirements, the installation location should follow the location near the side, which is convenient for wiring and not easy to be stepped on or piled up by debris.



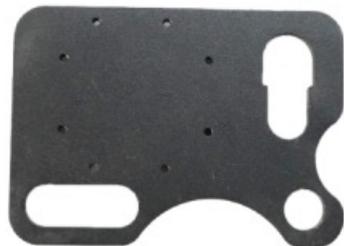
Attitude sensor installation method

Fixing mode

The installation of the attitude sensor follows the principle of "horizontal and vertical". The orientation of the connector must be consistent with the orientation of the front of the vehicle. The end screw is fixed.



Gyroscope



Function : Get the front wheel steering angle of the vehicle

Component : Gyroscope, Gyroscope Mounting Plate, Gyroscope Thread

Fixing Method : Installed at the steering bearing of the front wheel of the vehicle

Pre-installed :



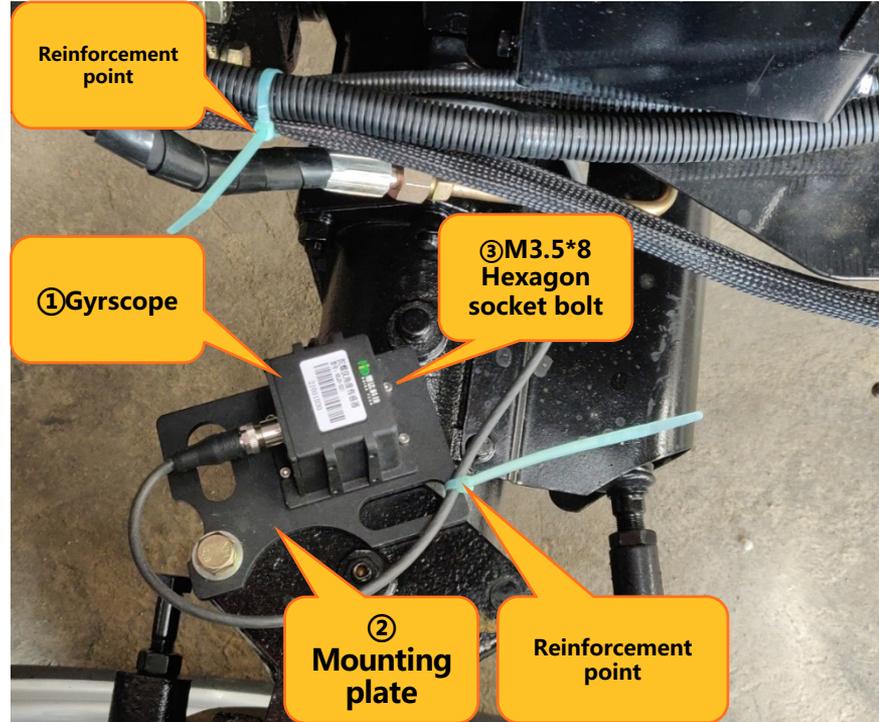
Gyroscope installation method

Fixing method

Fix the bracket on the bolt that moves with the vehicle's rotating wheels, orient the label and confirm the direction of the wiring harness interface.

Attention:

The wire harness must be reinforced and protected, and the wire harness should be reserved with a suitable length to ensure that the wire harness plug-in will not be overly tight when the tire rotates



Precautions for Gyroscope Installation



Attention :

- 1、 The gyroscope must be installed horizontally ;
- 2、 The gyroscope must be mounted close to the rotating part of the tire
- 3、 The wiring harness must be well routed with allowance.

Install Camera

Component :

- ① HD camera
- ② Fastener (M3.5*8 Hexagon socket bolt)

Select & Fix

The installation position of the camera shall be fixed at the rear of the roof where the overall operation can be photographed. First, fix the installation position with the drilling screws, then adjust the camera shooting angle and tighten the screws.

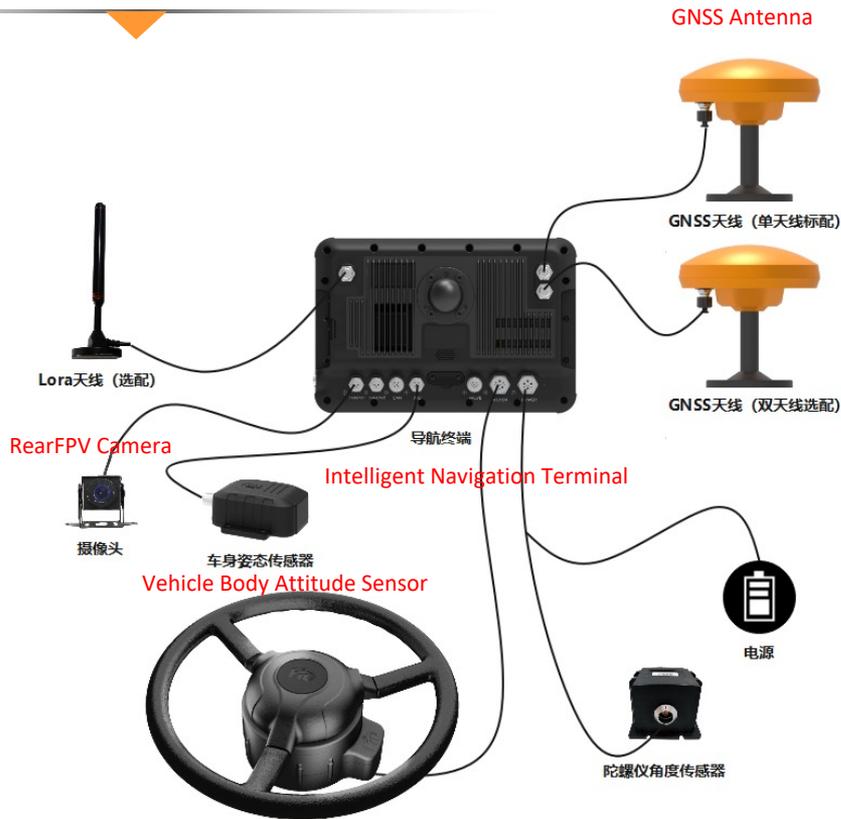
camera
installation
location



Wiring harness connection

Harness composition

In addition to antenna related feeder lines, the harness composition also includes a power supply+gyroscope one-to-two harness, a motor harness, and a vehicle attitude sensor harness.





Part three

03

RTK Setup Manual

Station Setup (Radio)



1. On the main screen, click the “base station configuration” in the upper left corner to go to the differential setup page.

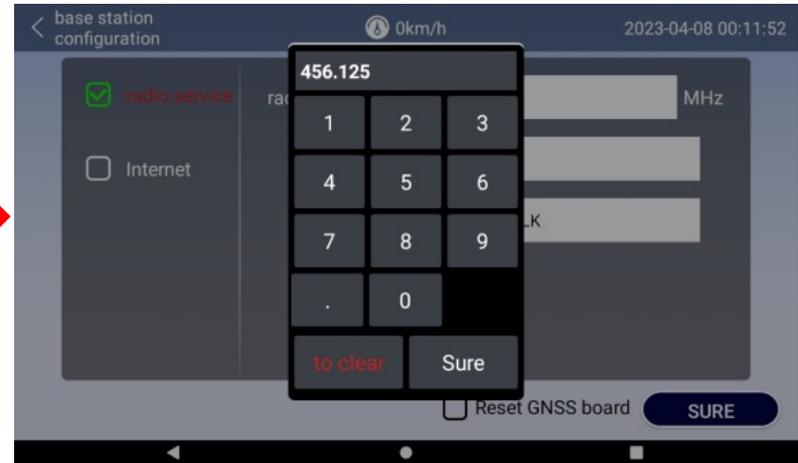
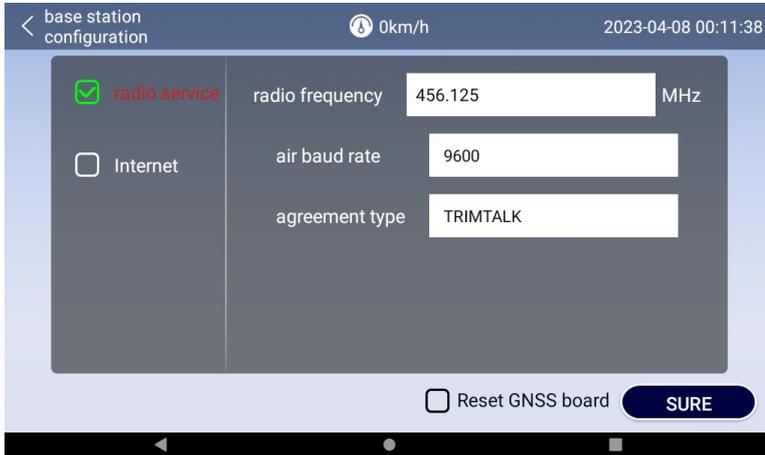
Station Setup (Radio)

2.Select "base station configuration"



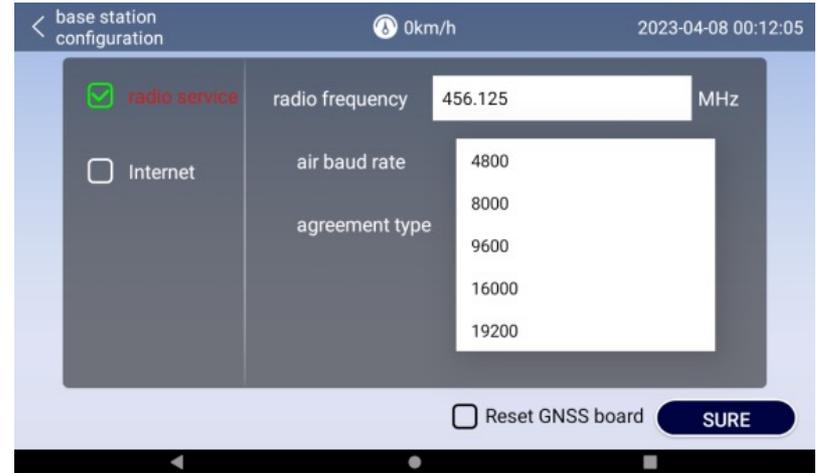
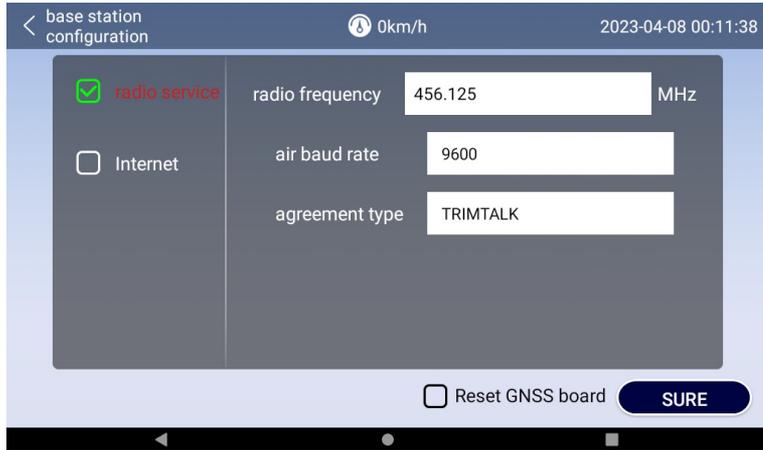
Station Setup (Radio)

3.Set "radio frequency" and enter the "radio frequency" consistent with the target base station. When the "radio frequency" of the target base station is changed, the same change should be made to the terminal.



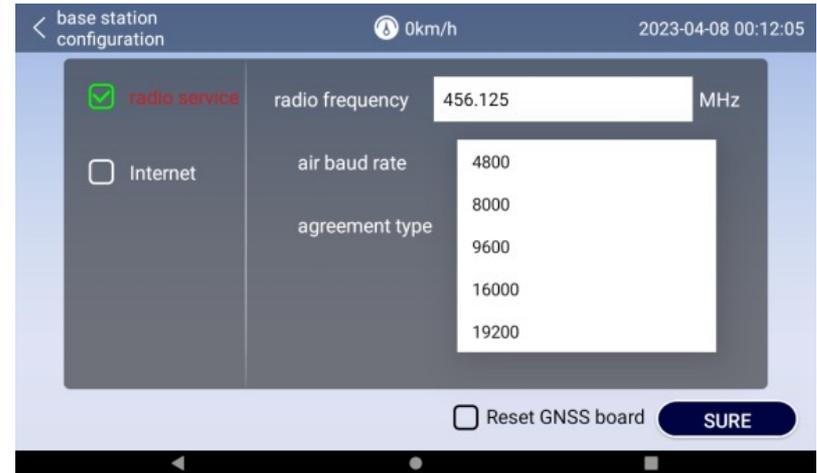
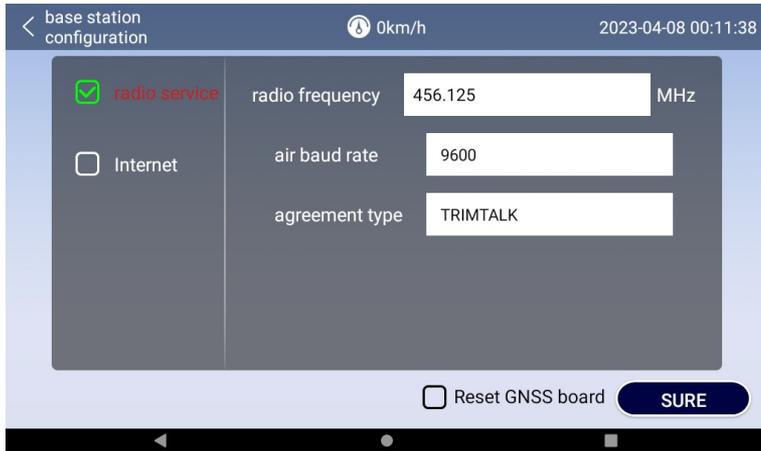
Station Setup (Radio)

4. Set the "air baud rate" and select the "air baud rate" consistent with the target base station. It is recommended to set the "9600" at both RTK base station and terminal .



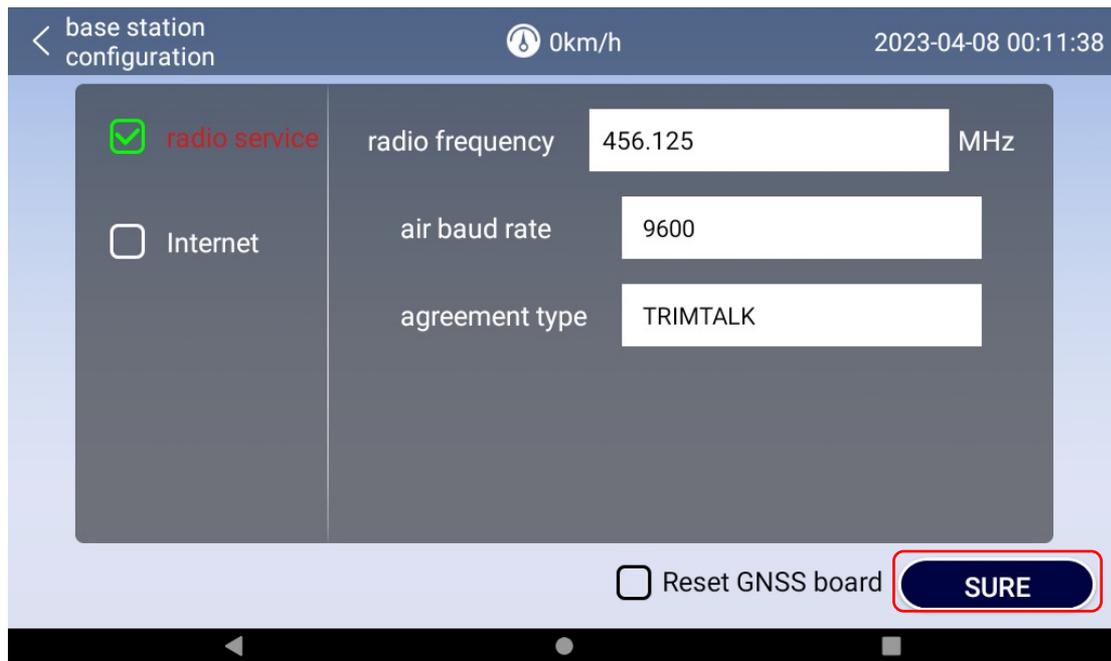
Station Setup (Radio)

5. Select "agreement type" based on target base stations' agreement type. Usually "TRANSEOT" is selected.



Station Setup (Radio)

6.Click "SURE" in the lower right corner to complete the setup..



base station configuration 0km/h 2023-04-08 00:11:38

radio service

radio frequency 456.125 MHz

Internet

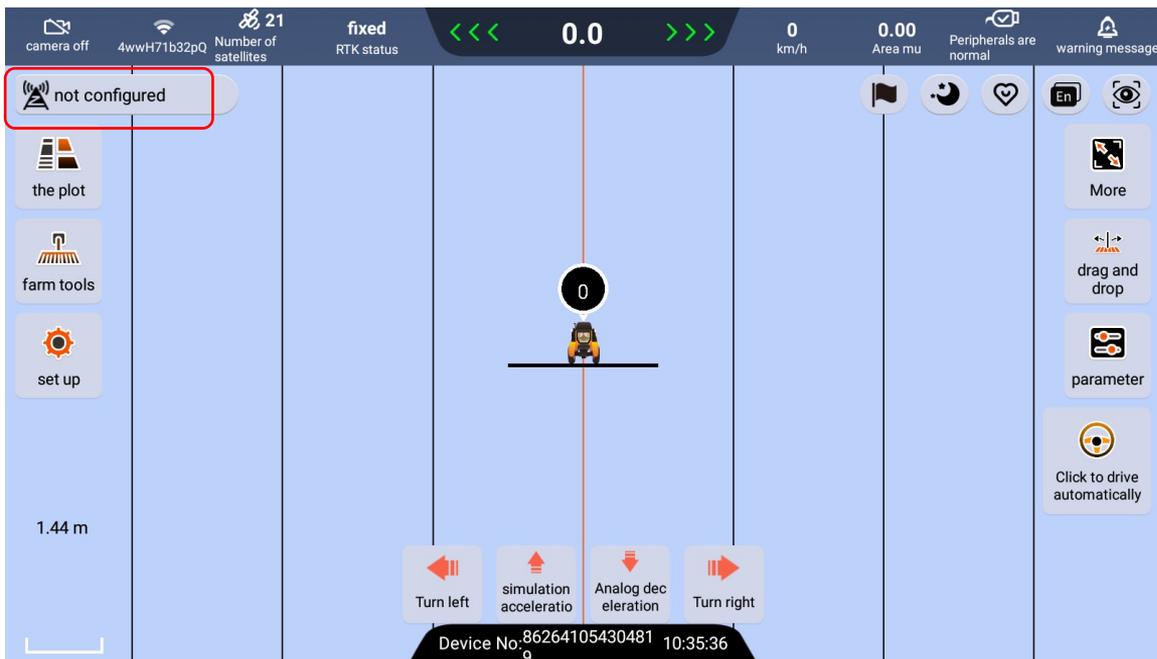
air baud rate 9600

agreement type TRIMTALK

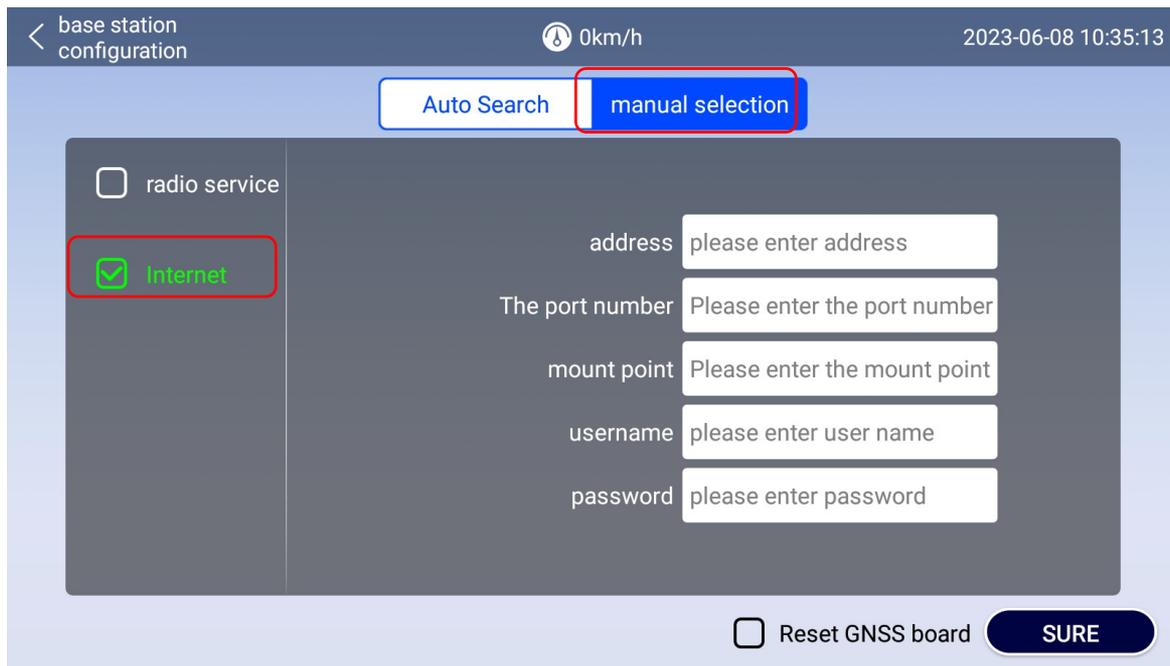
Reset GNSS board **SURE**

Network CORS Setup

1. On the homepage, click “” Icon.



2. Select "manual selection" then "internet" .



base station configuration 0km/h 2023-06-08 10:35:13

Auto Search manual selection

radio service

internet

address please enter address

The port number Please enter the port number

mount point Please enter the mount point

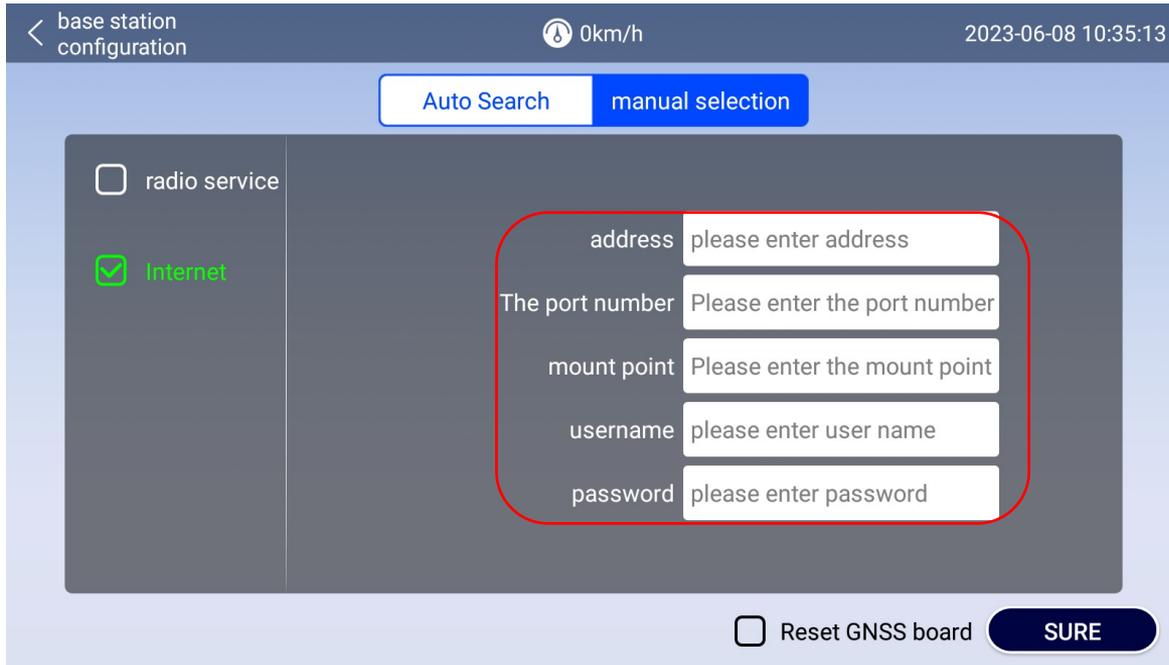
username please enter user name

password please enter password

Reset GNSS board SURE

Network CORS Setup

3.Fill in the corresponding CORS account information, and click "SURE" to complete the setup.



The screenshot shows a mobile application interface for "base station configuration". At the top, there is a back arrow, the text "base station configuration", a signal strength icon with "0km/h", and the date/time "2023-06-08 10:35:13". Below this, there are two buttons: "Auto Search" and "manual selection". The main area is a dark grey panel with a left sidebar containing "radio service" (unchecked) and "Internet" (checked). The right side of the panel contains five input fields, each with a label and a placeholder: "address" (placeholder: "please enter address"), "The port number" (placeholder: "Please enter the port number"), "mount point" (placeholder: "Please enter the mount point"), "username" (placeholder: "please enter user name"), and "password" (placeholder: "please enter password"). A red rounded rectangle highlights these five input fields. At the bottom right, there is a "Reset GNSS board" checkbox and a dark blue "SURE" button.



Part four

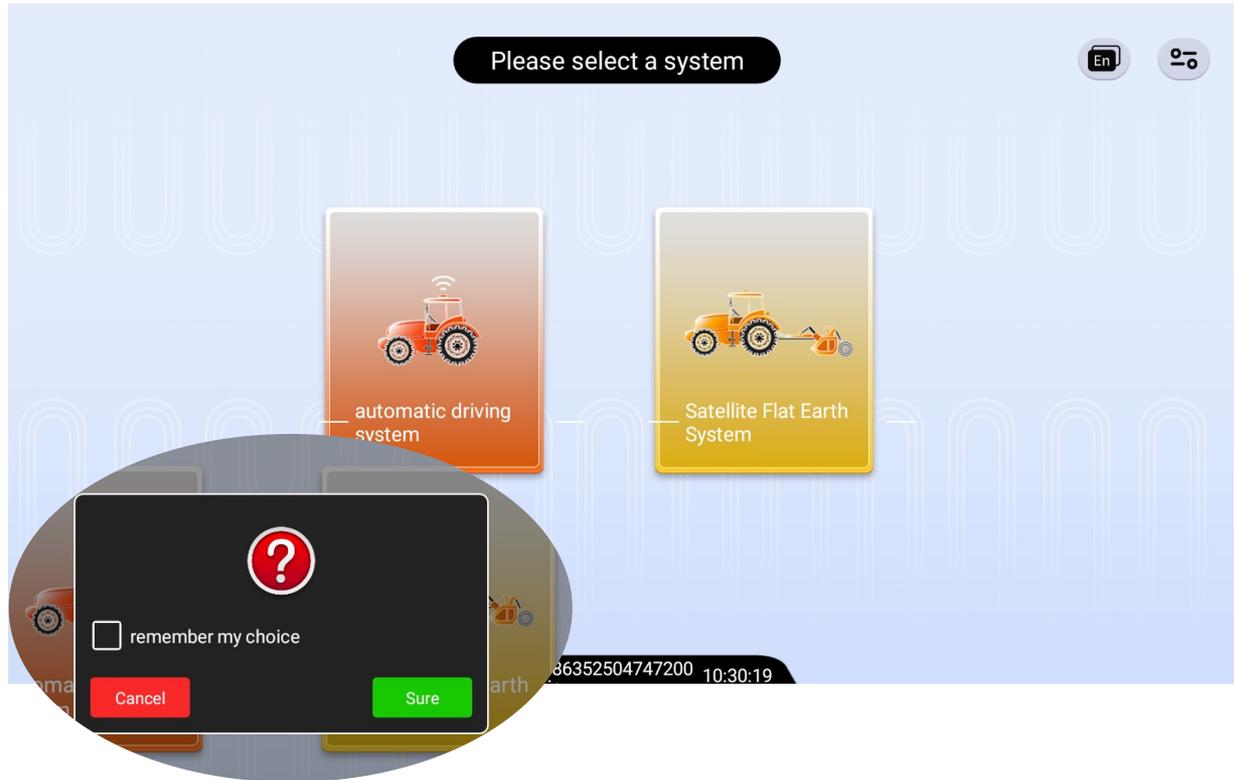
04

Calibration



System Choice

When entering the system interface for the first time, you need to select the system, and select the system module corresponding to the installed product to enter the system operation interface. Check "Remember this choice" and it will directly jump to the operation interface of the corresponding system module next time it is turned on, without repeatedly selecting the system.

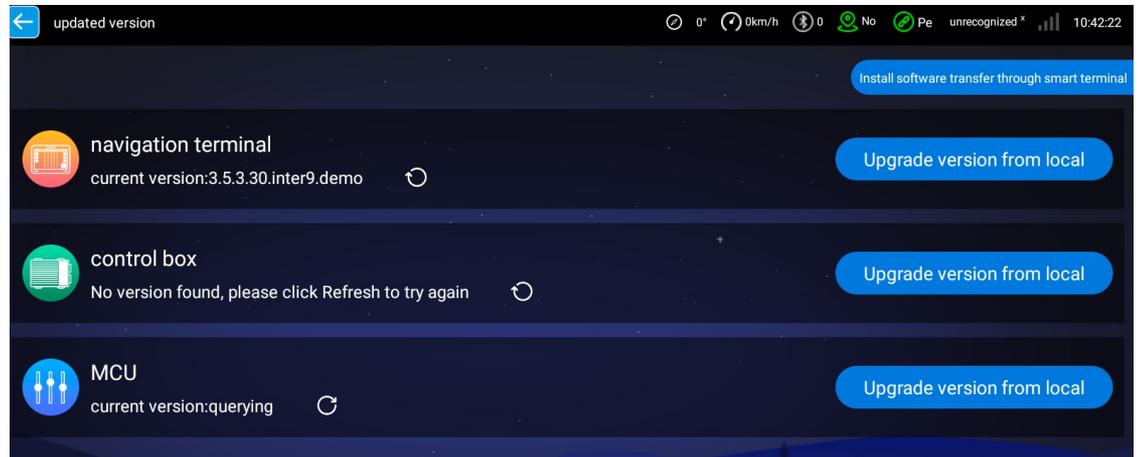


Version Upgrade

On the main interface, click "Settings" - "System" - "Version Upgrade" to enter the version upgrade interface

The system supports multiple version upgrade methods:

- Insert the U disk containing the version file into the navigation terminal to upgrade directly (applicable to the situation where the network environment in the area where the device is located is poor)
- Use the mobile phone to install the APP to remotely push the version to the designated device (applicable to technical support and dealers to upgrade the version remotely)
- Contact the customer service background to push the version to the designated device (applicable to internal assistance processes with insufficient other conditions, it is not recommended that dealers contact customer service directly for upgrades)
- Use the mobile phone to install the APP to scan the code to push the version (applicable to the on-site LAN version push when the 308v3 device has no USB port and the network environment in the area where the device is located is poor)



Quick Calibration

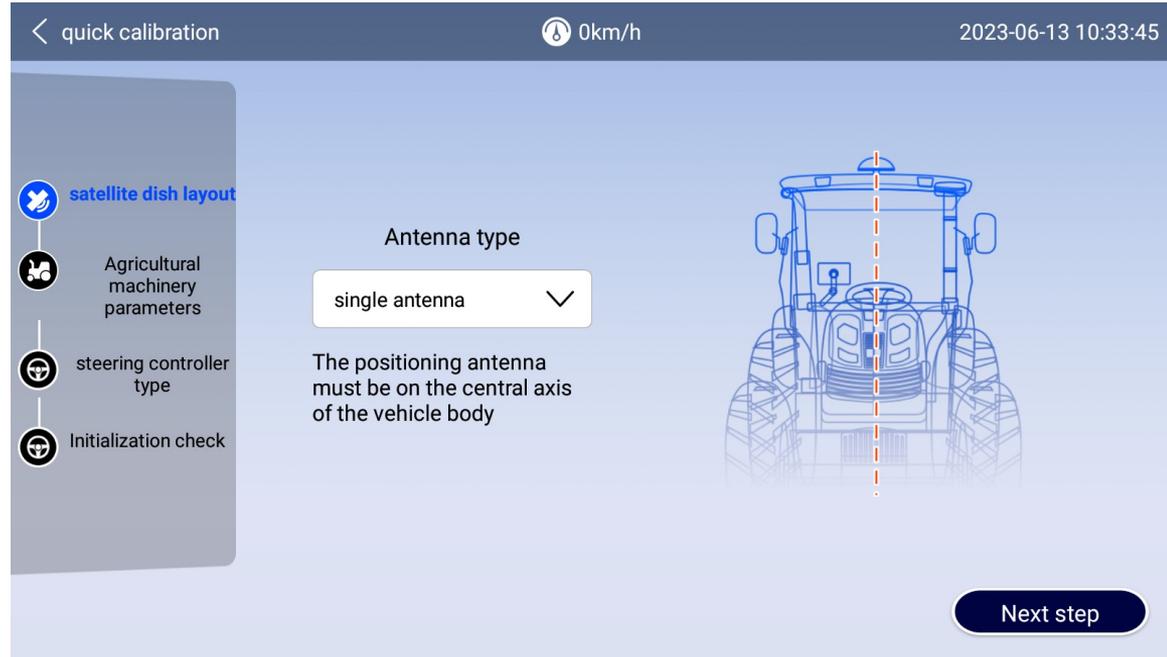


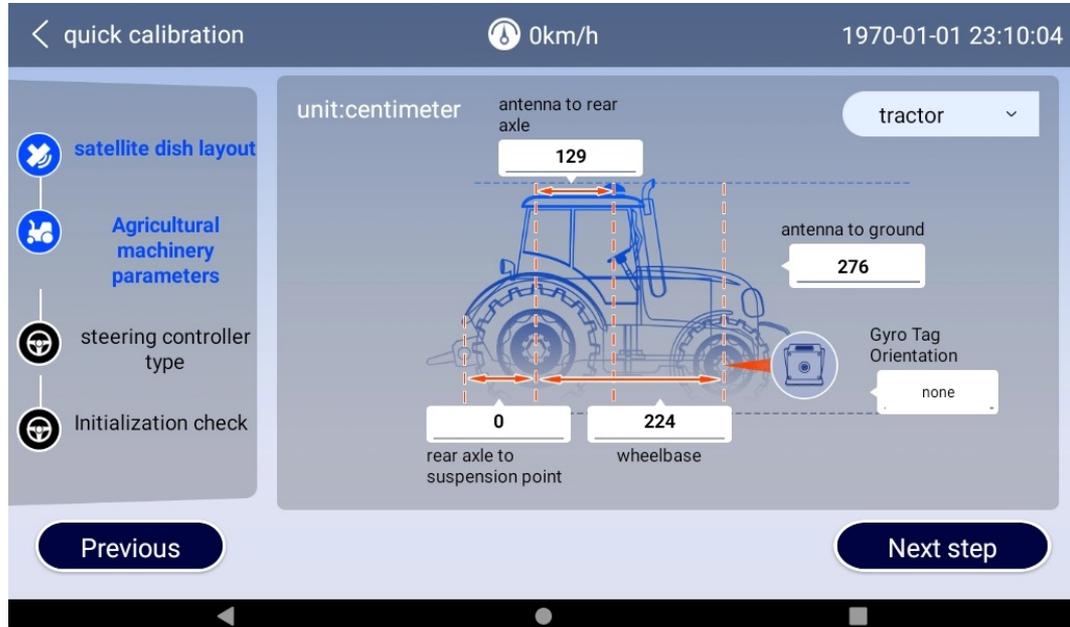
Satellite Dish Layout

Select the corresponding antenna type according to the actual antenna installation scheme. Currently, there are three types of antennas: single antenna, horizontal dual antenna, and vertical dual antenna. At present, 408 supports single antenna and vertical dual antenna, and it may be added to adapt to horizontal dual antenna in the future.

Precautions:

- 1. The vertical dual antenna mode is mainly used in ultra-low-speed operation scenarios (operation speed is lower than 1km/h);**
- 2. The horizontal dual-antenna mode is currently only applicable to the dual-antenna solution of 208 devices.**





Measurement

Fill in the measured value with the "weight hammer method", the error of the measured value is not more than 3cm

Measurement conditions: Park the agricultural machine on a level ground. Make sure the machine is parked upright with the wheels parallel to the centerline of the machine.

Antenna to rear axle distance

Distance from tractor rear axle to front axle (wheelbase)

Distance from the suspension point to the rear axle of the vehicle

The distance from the highest point of the antenna installation position to the ground

Gyroscope Label Orientation (Select Up/Down if you have a gyroscope solution, select None if you don't have a gyroscope solution)

If the receiver is mounted behind the center point of the rear axle, enter a negative value.

Control type

Select the corresponding controller type according to the actual configuration of the system and proceed to the next step.

Precautions:

1. The internal scheme of the 408 equipment motor in the early stage is the same as that of the 308v3 except for the connector

The same, so also choose "smart motor 3" when choosing;

2. Follow-up plans to add 408 linear Hall motors, with "408+" at the bottom

The word silk screen is used as an identification mark, and new controller type options will be added at that time.



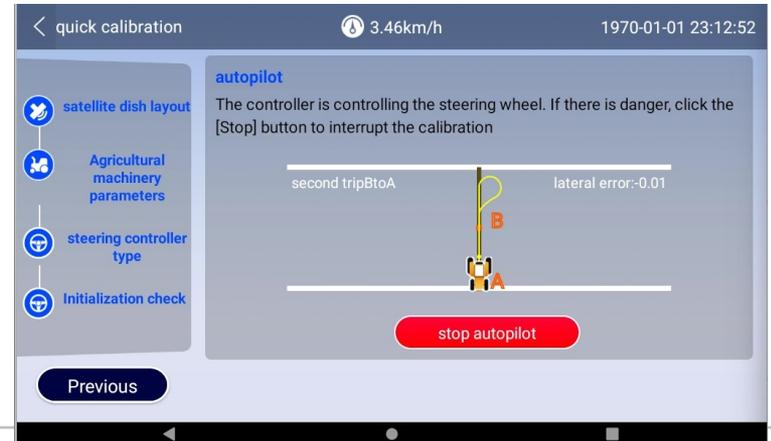
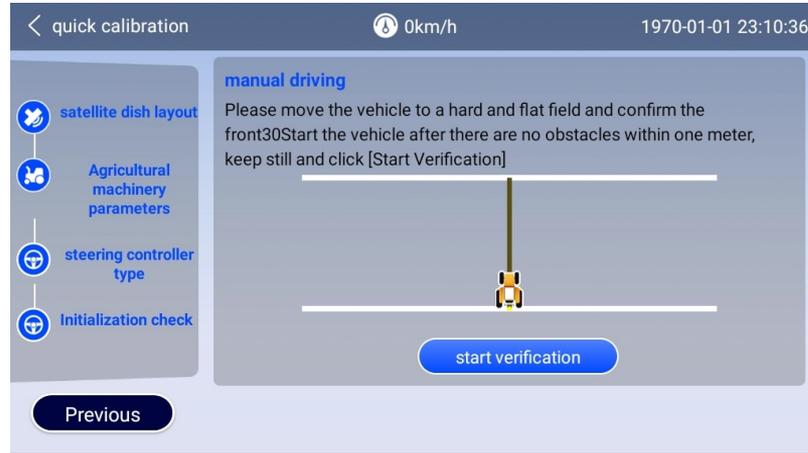
System initialization check

Features:

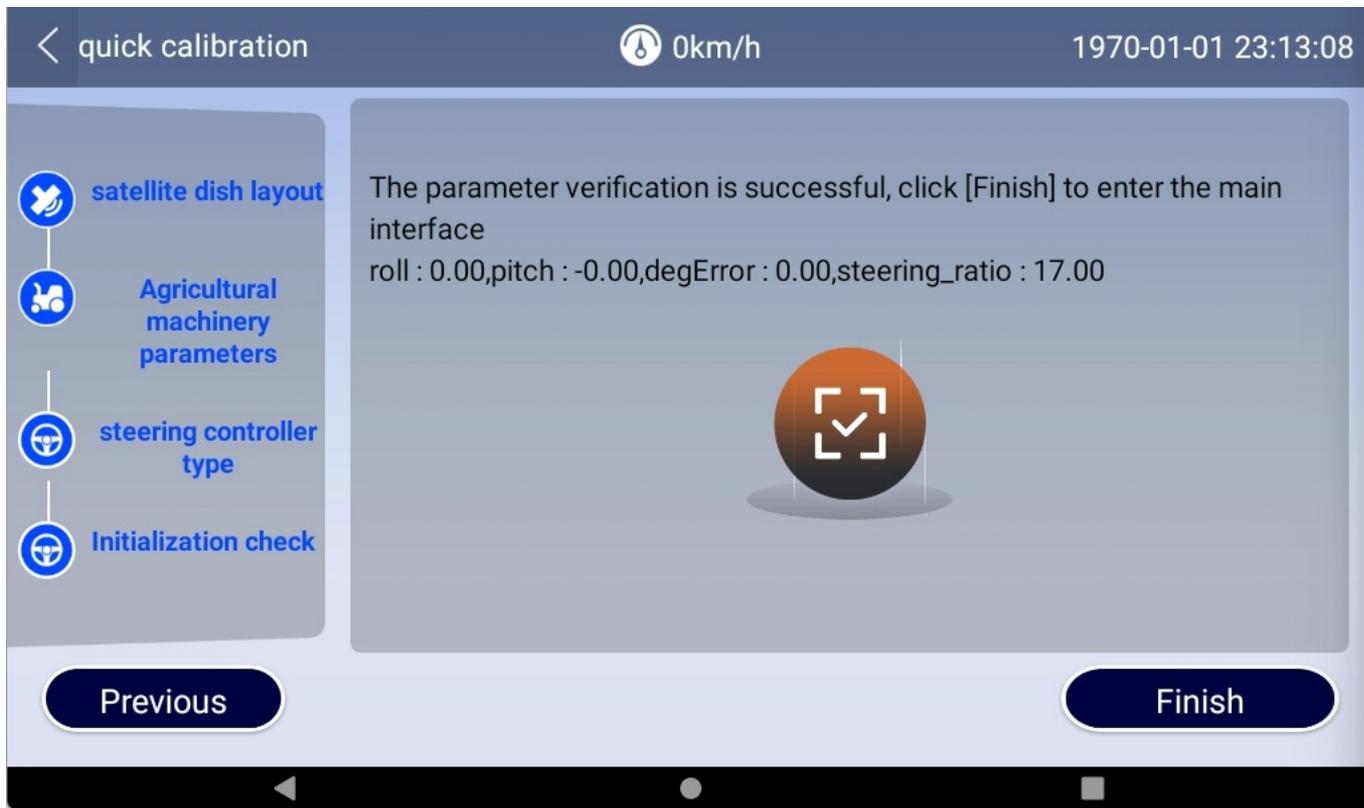
1. One-step calibration, optimize calibration time;
2. Reduce the space requirements of the calibration site;
3. Guided operation throughout the whole process, no parameter display and selection, and training-free operation can be realized.

Precautions:

In special cases, if necessary, individual calibration can be performed in "Advanced Calibration", and the relevant calibration items are the same as before.



System initialization check





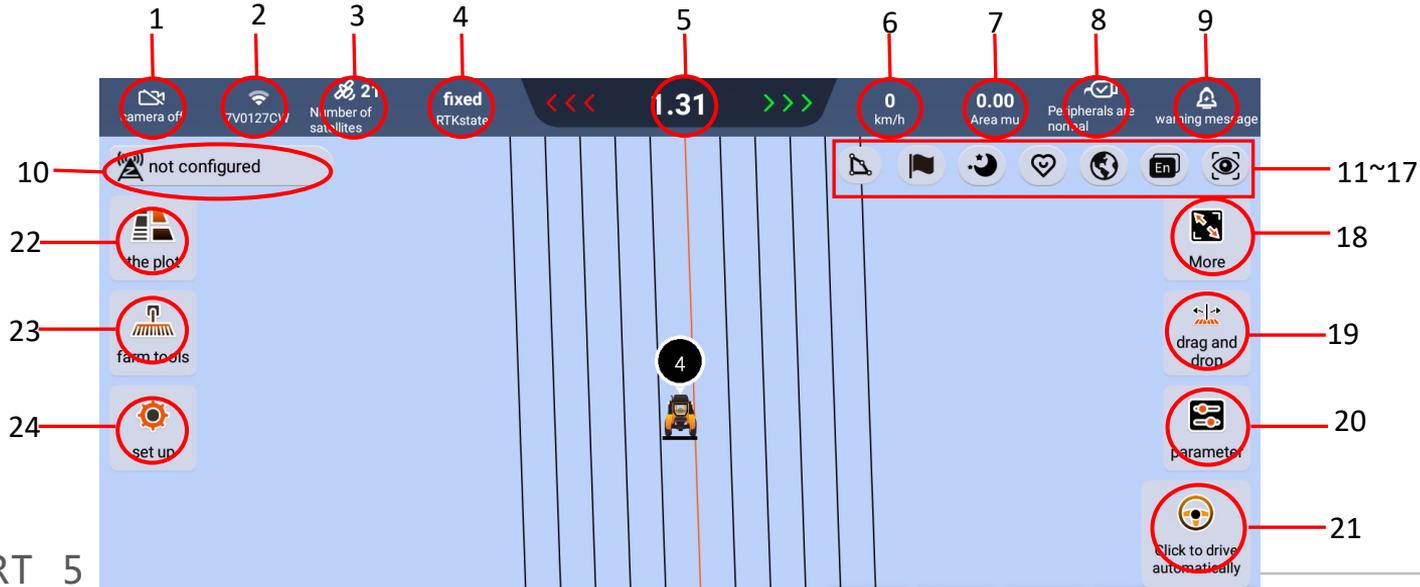
Part five

05

Operation

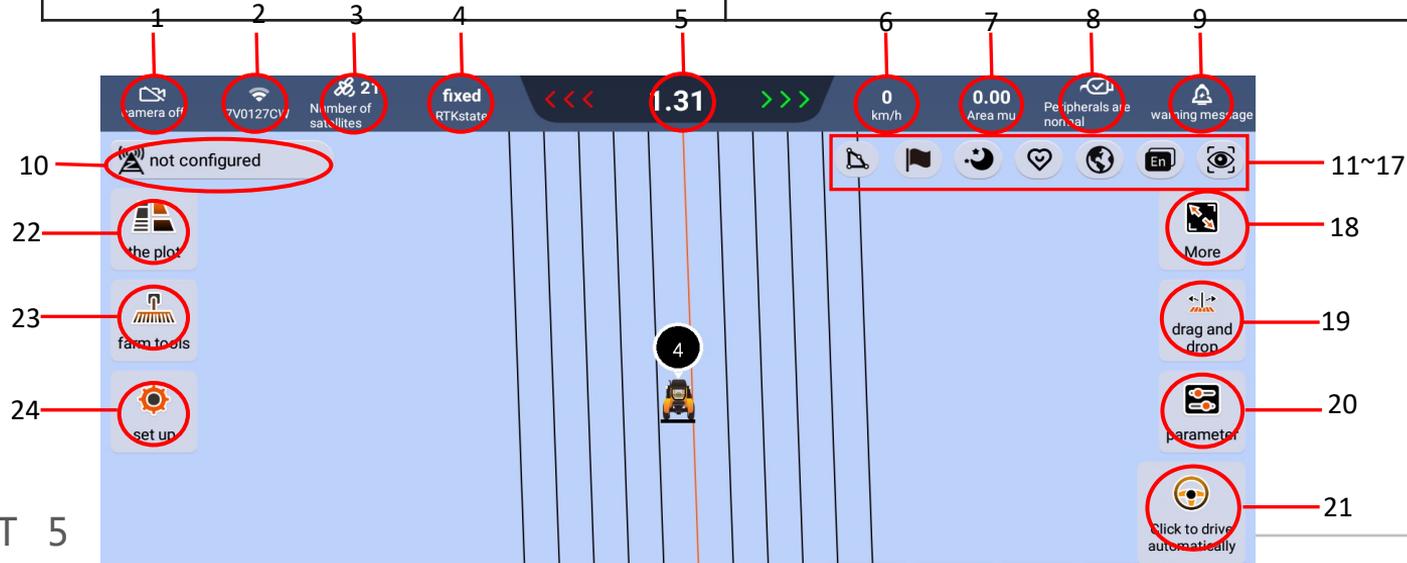
Main interface

1、camera switch	2、SIM card status: SIM status and switching, WiFi connection	3、The number of satellites: the number of satellite search satellites
4、RTK differential status: fixed/floating/pseudorange/single point	5、Lateral deviation: Negative value for vehicle on the left side of the guidance line, positive value for vehicle on the right side of the guidance line	6、real time speed
7、Operating area:	8、Device Peripheral Connection Status	9、Alarm information: Prompt for the cause of equipment failure
10、Base station information: Indicates the form of the currently used base station (Huida temporary station, mobile towers, Huida large base station, portable station)	11、boundary	12、mark: mark position



Main interface

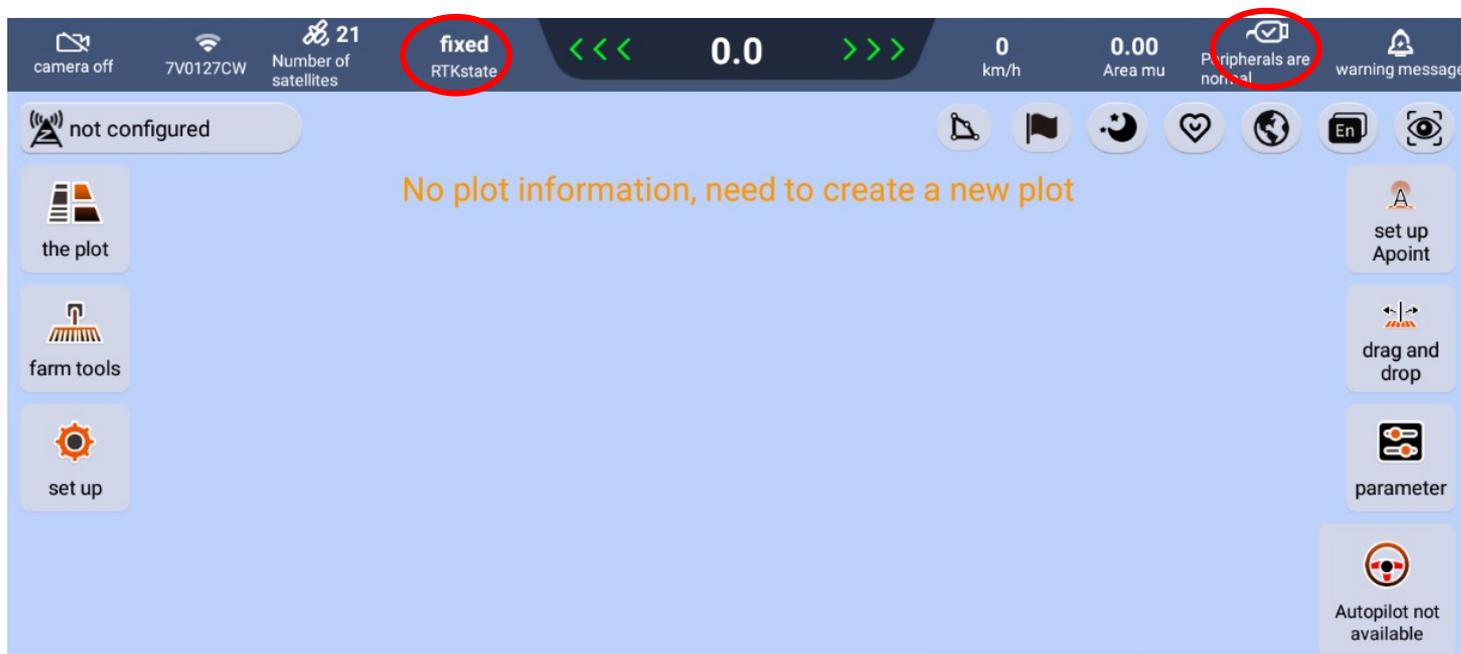
13、Brightness display: day/night mode switching;	14、Care mode: minimalist operation, super large font interface
15、Realistic Map	16、Language switching: Chinese/Uyghur/English
17、best scale	18、AB line setting: including setting the headland, clearing the interface, resetting the data, reset point B
19、Drag and drop: including left and right drag, restore AB line, drag to here	17、Farm tool setting; including farm tool width setting, quick setting of transfer line
19、Drag and drop: including left and right drag, restore AB line, drag to here	20、Quickly adjust parameters
21、Manual/automatic driving state switching	22、Plot information: including local plots and nearby plots (downloadable)
23、Farm tool setting; including farm tool width setting, quick setting of transfer line	24、Sets



Status View

Before automatic driving, check the positioning and whether the peripherals are normal.

After normal, proceed to the next step.



Creat new parcel

< create new parcel 0km/h 2023-06-13 11:23:00

plot

Please enter the parcel name

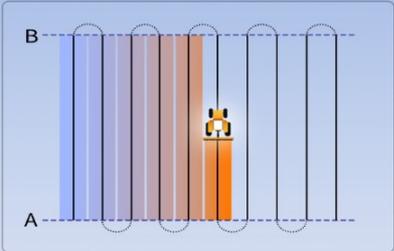
work

AB straight line

Diagonal Rake

parallel curve

circular job



Minimum turning rice

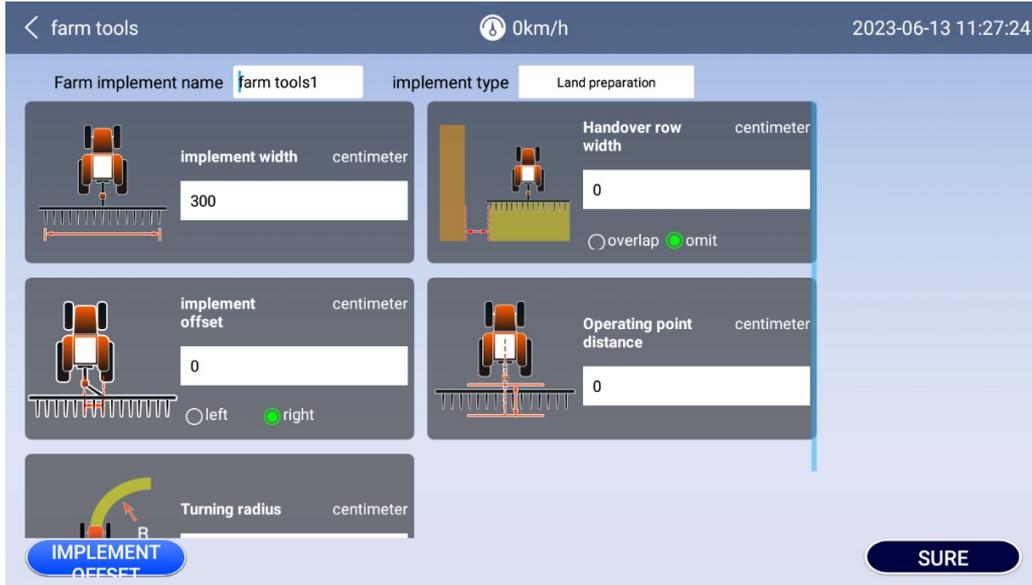
SURE

Creat

Click **【Creat new parcel】** button. Fill in the name of the plot, select the type of operation mode

Working mode: AB straight line, diagonal harrowing, parallel curve

Plan to add new operation modes: circular operation, return operation



The screenshot shows the 'farm tools' configuration screen. At the top, it displays a back arrow, the text 'farm tools', a speed indicator '0km/h', and a timestamp '2023-06-13 11:27:24'. Below this, there are two dropdown menus: 'Farm implement name' set to 'farm tools1' and 'implement type' set to 'Land preparation'. The main area contains four configuration panels, each with a diagram and a text input field:

- implement width:** A diagram of a tractor with a implement. The input field contains '300' and is labeled 'centimeter'.
- Handover row width:** A diagram showing a tractor moving between rows. The input field contains '0' and is labeled 'centimeter'. Below the field are radio buttons for 'overlap' (unselected) and 'omit' (selected).
- implement offset:** A diagram of a tractor with a implement. The input field contains '0' and is labeled 'centimeter'. Below the field are radio buttons for 'left' (unselected) and 'right' (selected).
- Turning radius:** A diagram of a tractor turning. The input field is empty and is labeled 'centimeter'. Below the field is a blue button labeled 'IMPLEMENT OFFSET'.

At the bottom right of the screen is a dark blue button labeled 'SURE'.

Set implement width

Measure the actual working width of the farm tool before operation (measure the actual distance from the middle point of the track to the middle point of the track after the farm tool is dragged).

Set line width

Omission: Actual working interval between ridges and ridges

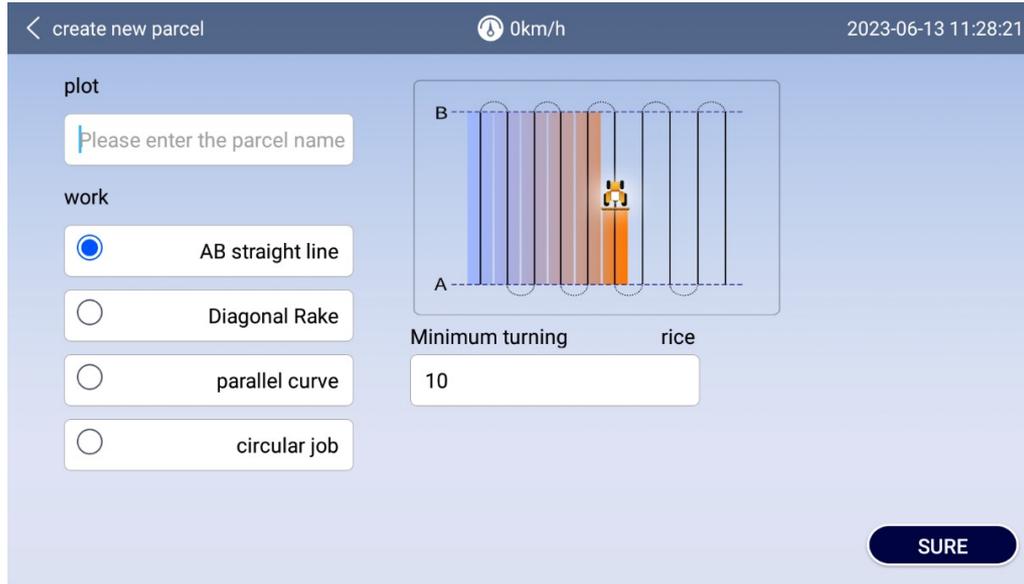
If the distance between the ridges is 66CM, choose to omit and fill in 66CM;

Overlap: the actual operation overlaps between ridges and ridges;

Implement width and ridge spacing must be filled in separately.

Set the distance from the working point of the implement to the hanging point

Set AB Straight Line



Set AB straight line

The working mode selects AB straight line.

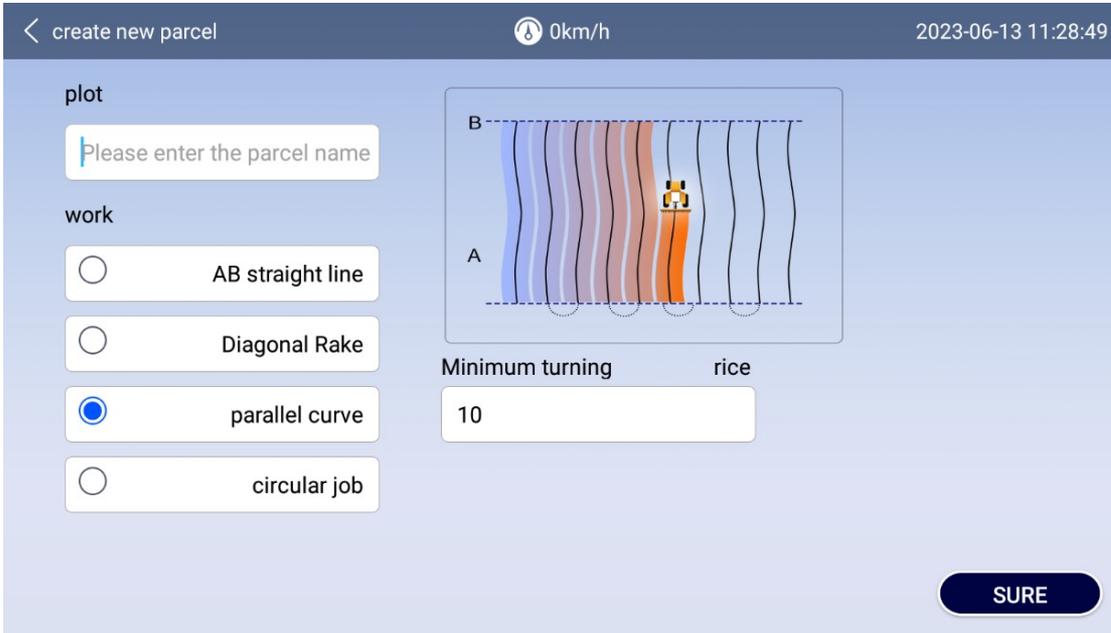
Drive the vehicle to the ground, point the front of the vehicle in the direction of the work, click the "A" button on the screen, and set point A.

Manually drive the vehicle to the end of the land, click the "B" button on the screen, and set point B. Complete the drawing of the AB line.

Precautions:

When setting up the AB line, the vehicle should try not to work, and must run empty. Whenever the vehicle changes plots, it is necessary to reset the AB line. If the work is not completed on the same day, the same AB line as before can be called to continue the work the next day.

Set Parallel Curve



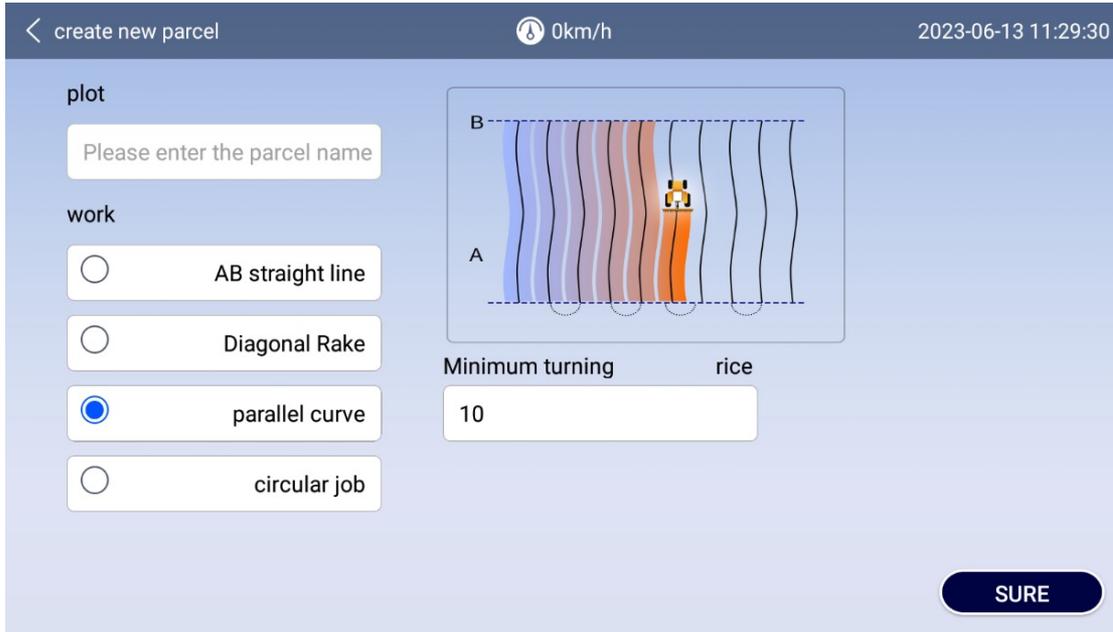
set parallel curve

Select Parallel Curve as the working mode type. Click point A at the top of the ground, drive the vehicle along the boundary of the ground to the other side, click point B, and the generated AB line is a parallel curve.

Precautions:

When setting up the AB line, the vehicle should try not to work, and must run empty. Whenever the vehicle changes plots, it is necessary to reset the AB line. If the work is not completed on the same day, the same AB line as before can be called to continue the work the next day.

Set Diagonal Harrow



Set Diagonal Harrow

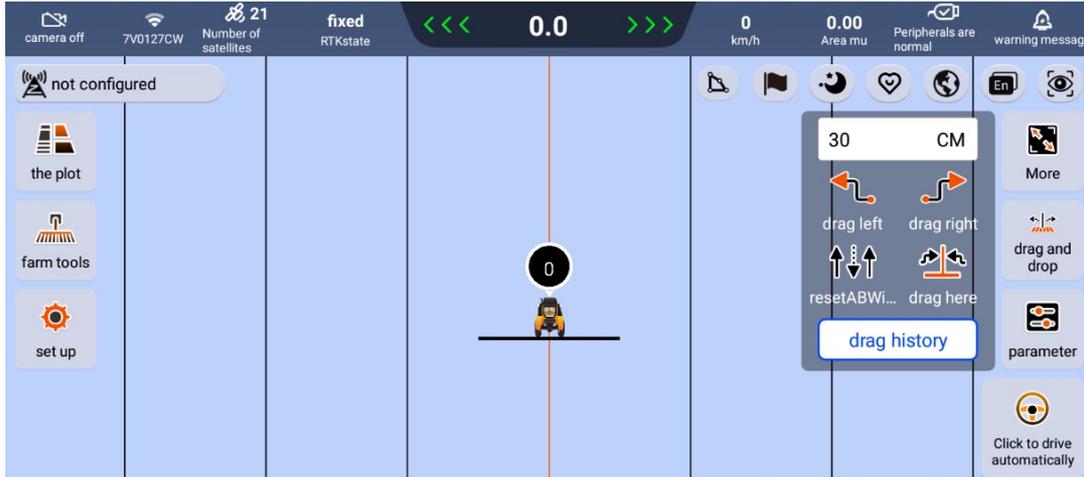
For the operation mode type, select diagonal harrowing.

Click the record boundary button on the ground, click point A, drive the tractor to the other end of the ground and click point B, return the tractor from point B to point A along the other three sides, click the "stop recording" button, the generated trajectory is Diagonal rake track.

Precautions:

1. When setting up the AB line, the vehicle should try not to work, and must run empty. Whenever the vehicle changes plots, it is necessary to reset the AB line. If the work is not completed on the same day, the same AB line as before can be called to continue the work the next day.
2. Can turn automatically.

Drag & Drop



Drag & Drop

The drag function can drag the navigation line, and use the left drag and right drag to make the navigation line reach the ideal position.

Specify dragging: the unit distance of a single dragging can be set in the input box above the tool

Click to the left, the navigation line moves to the left, click to the right, and the navigation line moves to the right

Drag to here: drag the navigation line to the current location of the vehicle

Push and pull history: the record of pushing and pulling the navigation line

Change: cancel the original "drag in the same direction" function, add the "reset AB line" function (reset AB line: clear all drag records, and restore the route to the initial position state)

Control parameters



control configuration 0km/h 2023-06-13 11:38:20

common pattern(recommend) full adaptation mode

Incoming sensitivity	-	121	0-150	+	Recommended value:120
Lateral Sensitivity	-	120	0-150	+	Recommended value:70
heading sensitivity	-	120	0-150	+	Recommended value:30
Terrain Compensation Coefficient	-	0	0-150	+	Recommended value:50
steering gain adjustment	-	0	0-20	+	Recommended value:4

SURE

Common pattern

Lateral sensitivity and heading sensitivity both refer to the ratio between the adjustment ranges of the corresponding steering wheels when there is a unit deviation in the equipment, lateral refers to the lateral error deviation, and heading refers to the heading angle deviation. Theoretically, when the vehicle steering does not respond positively to the deviation that has occurred, the sensitivity should be increased, and when the vehicle steering has an excessive response to the deviation that has occurred, the sensitivity should be reduced.

Recommended value

Terrain Comp: 50 Steering Gain: 4

General mode (incoming line 120-transverse 70-heading 30)

Control Parameters

< control configuration 0km/h 2023-06-13 11:41:48

common full adaptation mode
pattern/recommend

Incoming sensitivity	—	100	0-150	+	Recommended value:100
Lateral Sensitivity	—	100	0-150	+	Recommended value:100
heading sensitivity	—	100	0-150	+	Recommended value:100
strategy weight	—	80	10-200	+	Recommended value:80
steering gain adjustment	—	0	0-20	+	Recommended value:4

SURE

Full adaptation mode

Recommended value

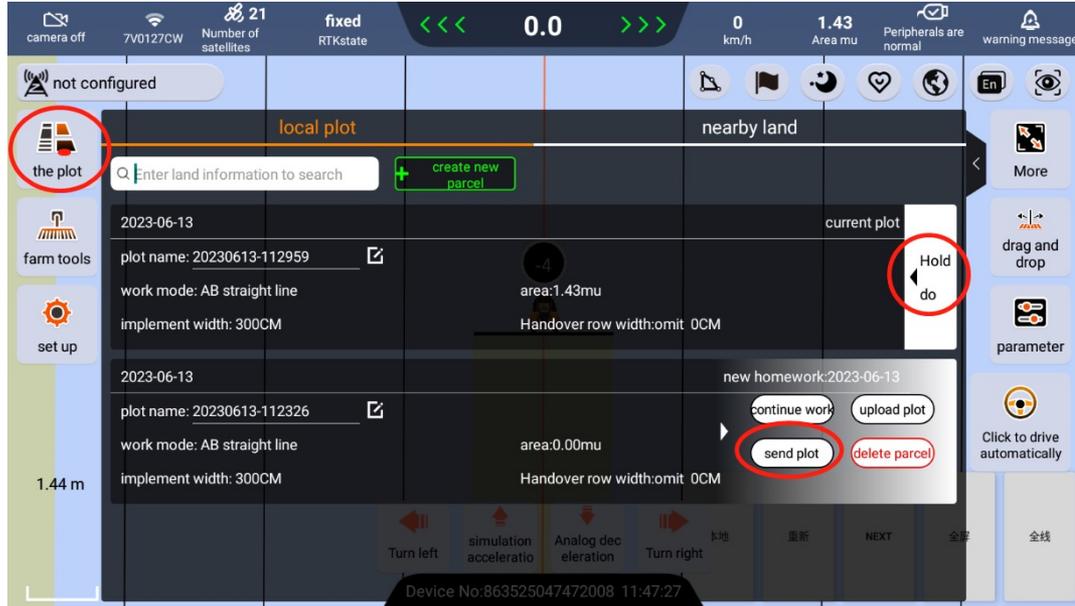
Incoming sensitivity: 100

Lateral Sensitivity: 100

Heading sensitivity: 100

Strategy weight: 80

Steering gain adjustment: 4

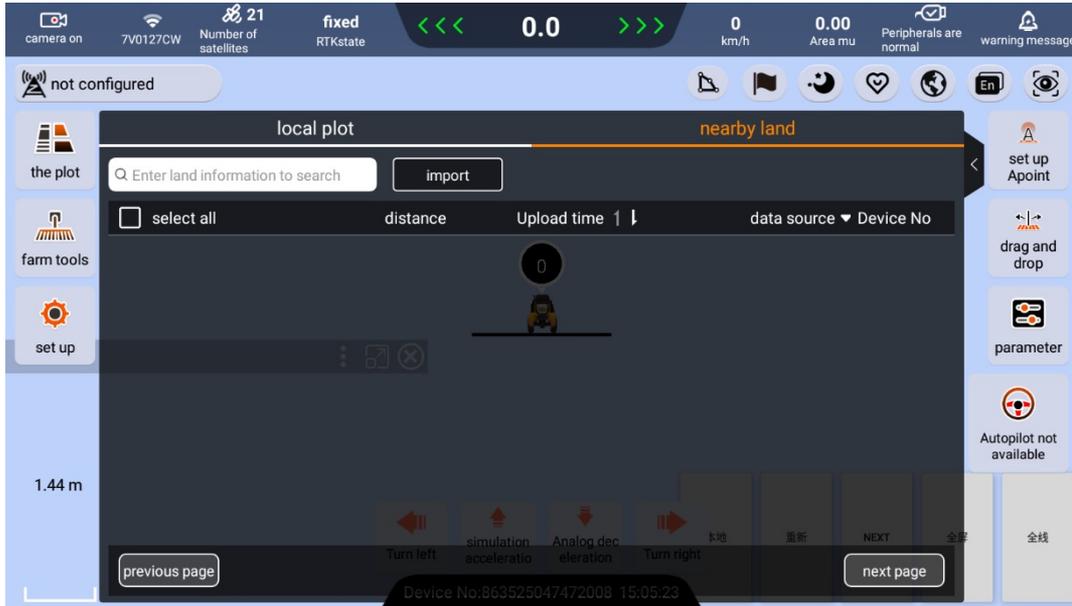


Sharing

User 1 creates a new plot, and after completing the AB line, he can click [Send Plot] in the [Plot] button to share the AB line with User 2. You can also click [Upload Lot] to upload the AB line to the cloud.

Precautions:

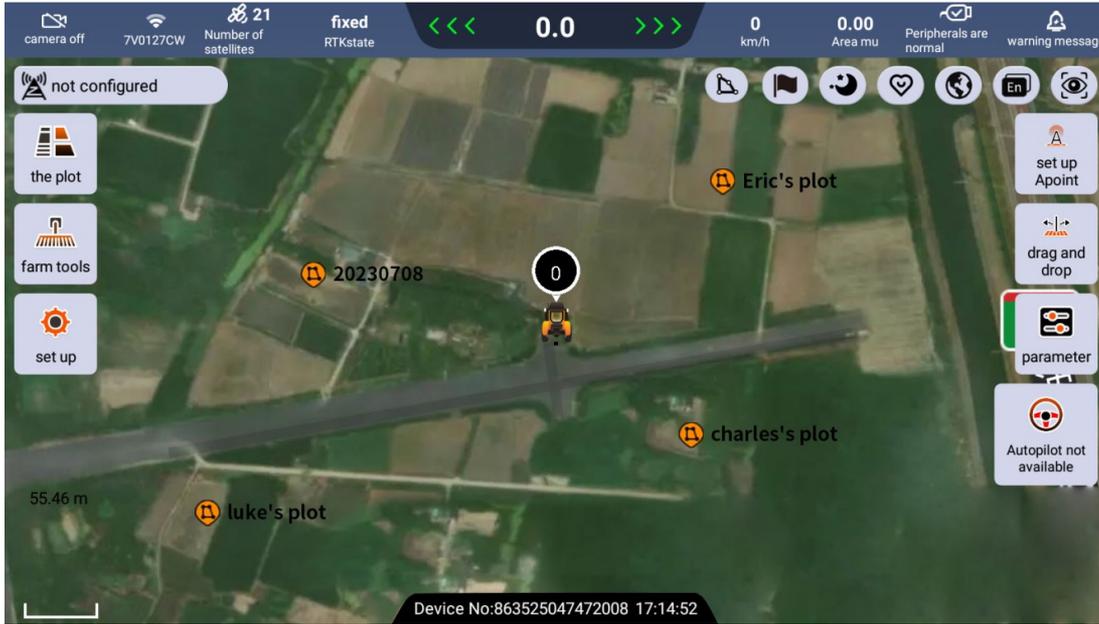
User 1 needs to enter User 2's device ID
User 2 needs to wait for the shared information on the main interface, and click Accept to share the AB line with User 1



Nearby

1. Nearby plots include list and map modes
2. Users can import the required AB line through the list and map mode in the nearby plots for operation.

Land Sharing



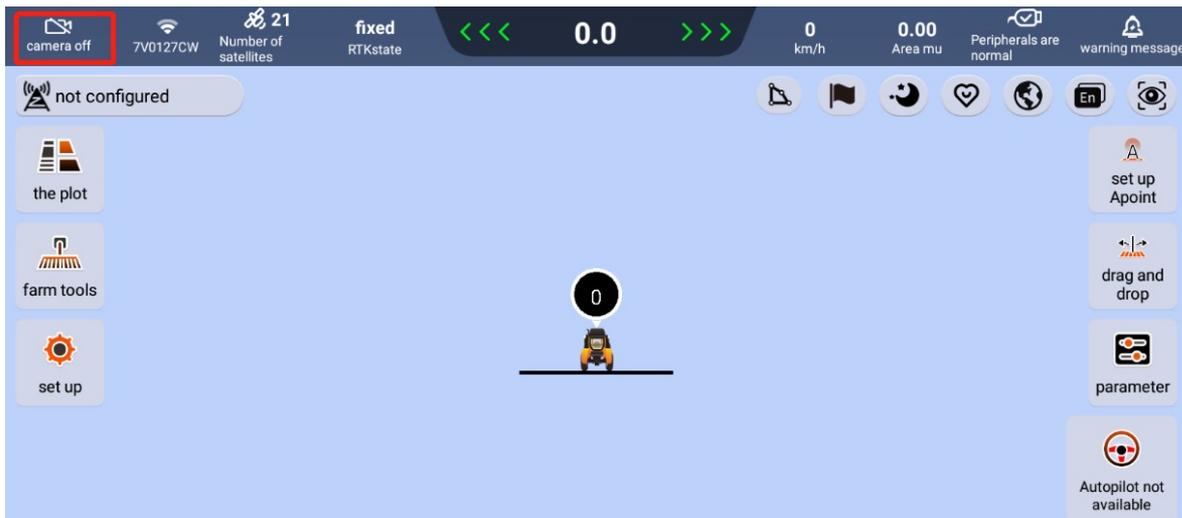
Nearby

1. Nearby plots include list and map modes
2. Users can import the required AB line through the list and map mode in the nearby plots for operation.

Camera Functions

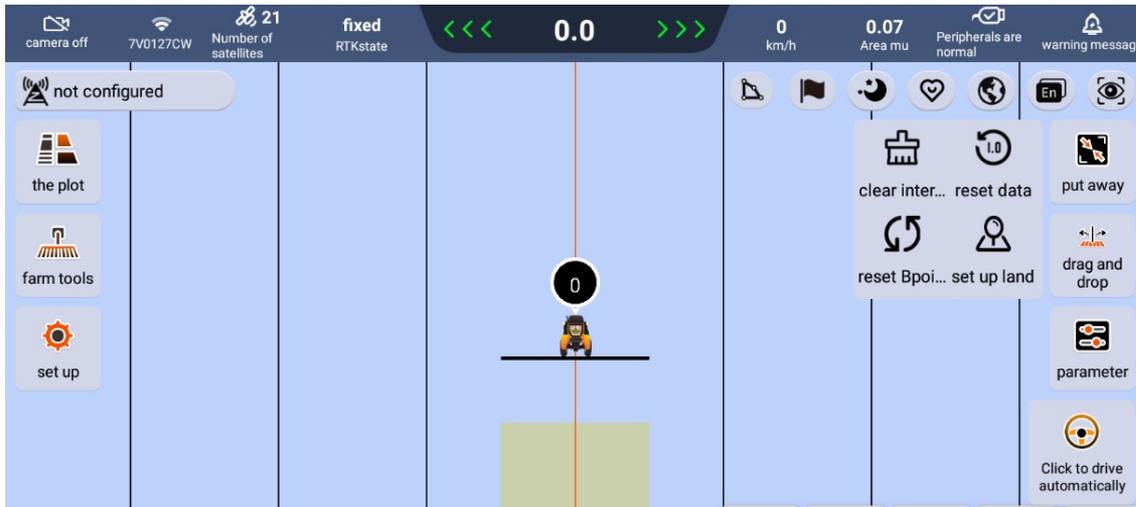
Camera Functions

The camera function of the system can monitor the operation of farm tools in real time



Clear interface, reset data, reset point B

Clear interface, reset data, reset point B



Clear interface: Click the [Clear Interface] button to clear the current plot driving track (yellow operation track)

Reset data: Click the reset data button to reset the AB line of the current plot and its driving track information.

Reset point B: In the case of incorrectly typing point B, you can click the [Reset Point B] button on the screen to reset point B.

System Configuration



Click Settings->System->System Configuration to enter the system settings interface

System options

screen brightness

Dark mode

Voice broadcast

One-key U-turn display

auto and assisted button

unit of area

Ground alarm switch

SIMcard configuration

Bluetooth button

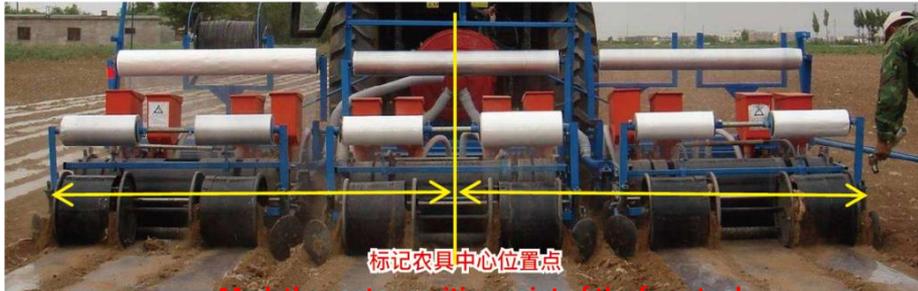
Autopilot icon

Icon	Presentation State	Function
	The system is ready for autonomous driving	Click to start autonomous driving
	The system is undergoing autonomous driving	Click to stop autonomous driving
	The system cannot start autonomous driving	Unable to start autonomous driving, check for faults

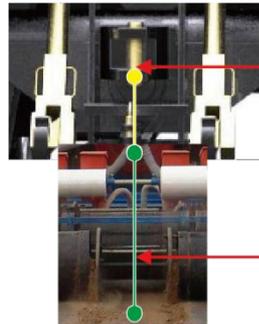
Icon

Click the autopilot icon to switch the driving state, see the table for details.

Pick up line debugging



Mark the center position point of the farm tool



动力输出轴中心位置

Power output shaft
center position

农具中心位置

Central location of farm tools

Preparations:

Site: Hard and flat land is the best, and the terrain is not good.

Straight line preparation: Run the straight line with the agricultural tools, and the lateral error is stable at 0-3 before the handover row debugging can be carried out. If the lateral error cannot be stabilized at 0-3cm, re-align the line in the ground.

Farm tools are prepared, the farm tools are fixed and cannot be moved, and the distance between the center of the vehicle and the ends of the farm tools is the same

Precautions: Mark the center of the implement to make sure the center of the tractor is in line with the center of the implement

Pick up line debugging

Method ①-Adjust the pull-down rod



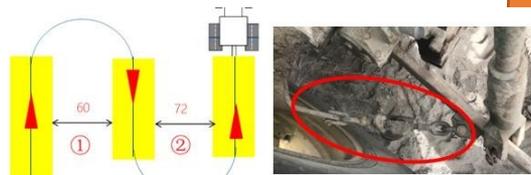
左/右下拉杆调节杆

Method 3: Do not do any value input at the terminal, directly adjust the tractor pull rod

4. 方法3：不在终端做任何值输入，直接调节拖拉机下拉杆。

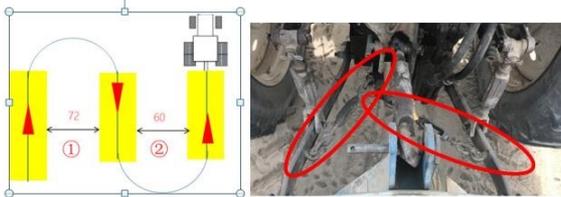
Note: Farmers are advised to use this method

注解：建议农户使用此方法



注解：如图若离拖拉机最近的行距实际测量值72大于设定值66，则松右下拉杆，紧左下拉杆，使犁具象左偏移3CM

Note: If the actual measured value of 72 nearest to the tractor is greater than the set value of 66, the right lower pull rod is loosened, the left lower pull rod is tightened, and the model image is offset by 3CM to the left



注解：如图若离拖拉机最近的行距实际测量值60小于设定值66，则松左下拉杆，紧右下拉杆，使犁具象右偏移3CM

Note: As shown in the figure, if the actual measured value of 60 is less than the set value of 66, the left lower pull rod is loosened, the right lower pull rod is tightened, and the model image is offset to the right by 3CM

1

Debugging steps

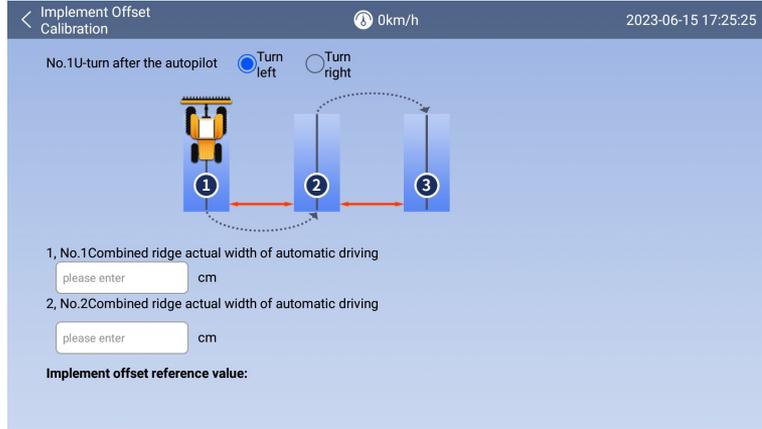
Precautions:

After the agricultural machine is hung, the center of the agricultural machine and the center of the tractor should be adjusted to coincide.

According to Figure 1, according to this direction, "the left two trips are narrow", just tighten the left tie rod of the tractor, and loosen the right tie rod.

According to Figure 2, according to this direction, "two trips on the right are narrow", tighten the right tie rod of the tractor, and loosen the left tie rod.

Method ② - Mini Program Adjustment



Precautions Do not use the small program debugging unless necessary. After using the small program to debug for many times to no avail, it is recommended to reset the data and re-perform the receiver alignment verification and small program debugging.

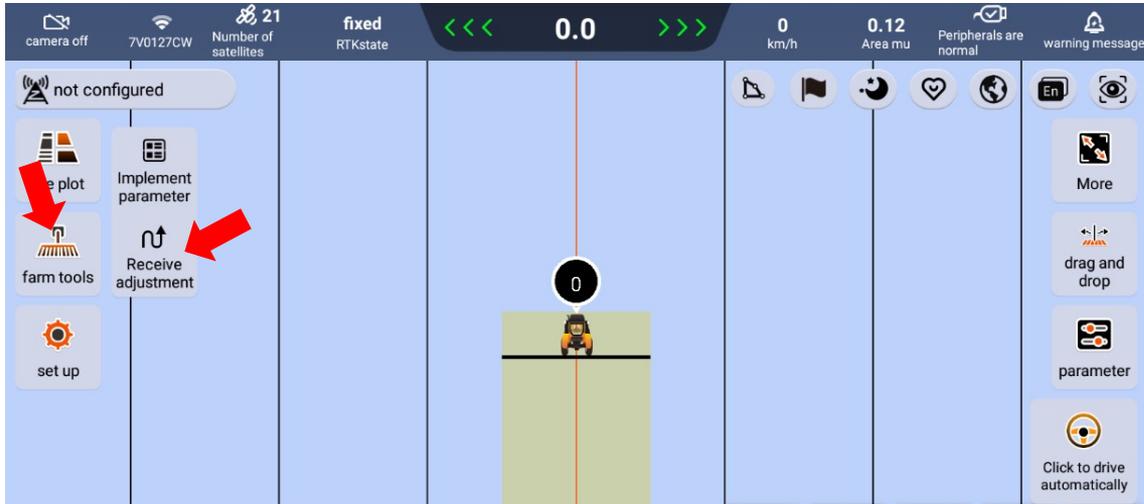
Procedures:

Setting parameters: omission such as (66cm); input width such as (390cm), and then run the operation three times at a constant speed to measure the width of the two combined ridges. Note that the measurement of the working width is taken as the width of the outermost two sowing openings.

Data measurement: For each combination ridge, find the position with a straight line accuracy of 0-1cm, measure the width of the combination ridge three times at an interval, and calculate the average value.

Enter data: Click Implement Offset Calibration and enter the two averages into the calculator. **Pay attention to the direction of travel of the first vehicle (turn left or right)**, This step is to adjust the data of the transfer ridges on both sides to be consistent. If the error of the transfer ridges on both sides is between 2cm, there is no need to adjust

Quick Debugging of pick up line



Tools:

Quick adjustment tool is a newly added tool in the system that is suitable for use in the middle of the operation. The user can input the direction and distance parameters of the expected transfer adjustment according to the actual transfer distance, and the system can calculate the deviation of the farm tool by itself. Move and drag distance and configure automatically. Continuing the operation forward can realize the adjustment of the current operation track.

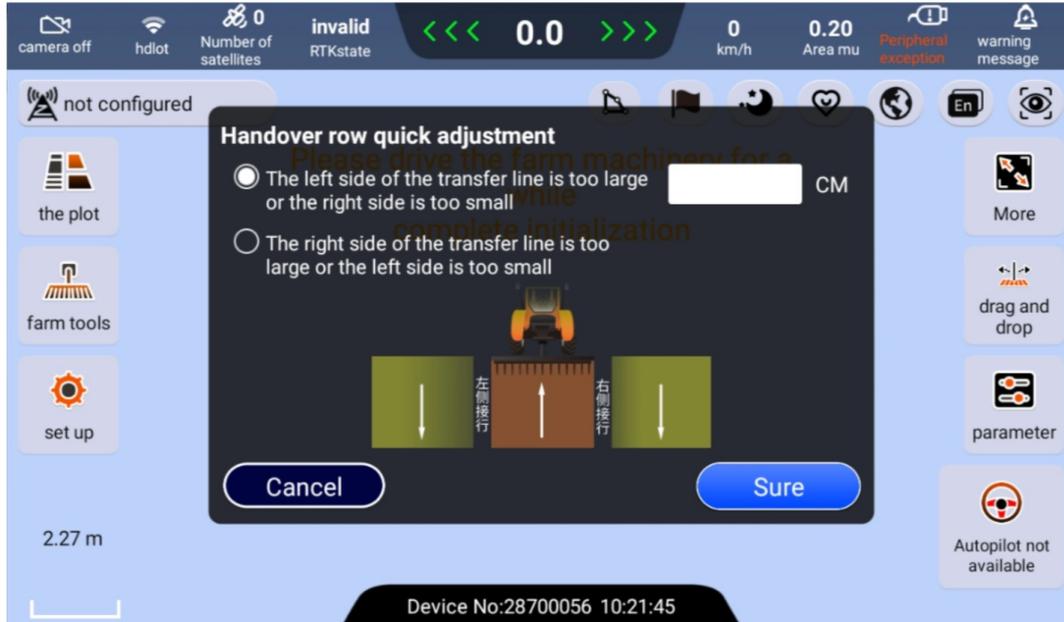
Precautions: This tool is only applicable when the width of the agricultural implements input by the system is exactly the same as the actual operating width. The tool does not support the modification of the width of the agricultural implements.

Example: The two side joints are too large/small at the same time and cannot be adjusted with this tool.

Activation process

On the main interface, click "Farm Tools" → "Pick up line" to activate the pop-up window of the quick adjustment tool for the transfer row.

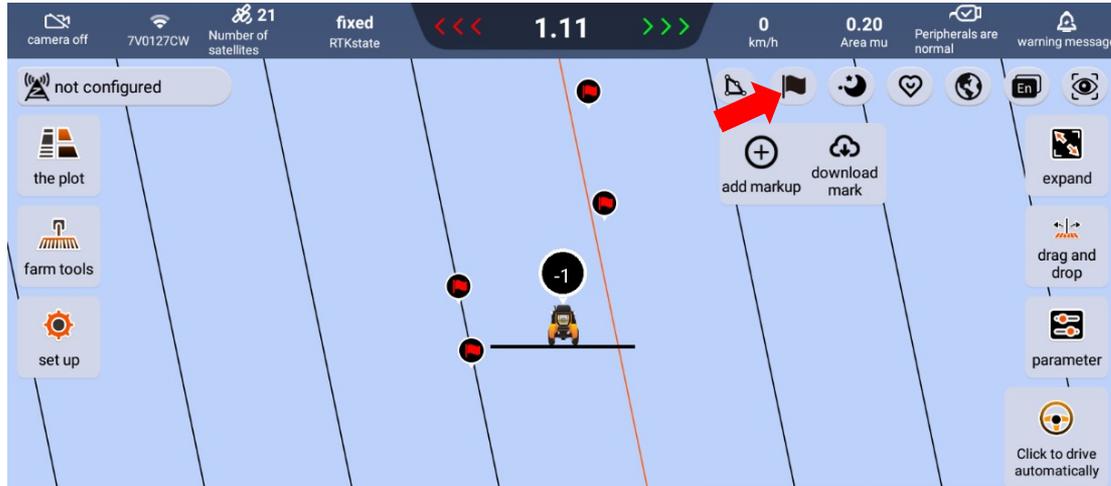
Quick Debugging of pick up line



Operating procedures

1. According to the measured distance of the actual pick-up at the current automatic driving parking position, select which side the pick-up is expected to increase/decrease;
2. Enter the specific distance value (unit: cm) that you expect to increase/decrease the number of lines;
3. Click "Confirm" in the lower right corner to perform this operation;
4. Continue forward autopilot operation.

Location Mark



location marker function

The user can click on the small flag icon in the upper right corner at any position during the automatic driving operation, select one of the colors, and the system will mark the current position of the vehicle once. The user will be prompted accordingly when the follow-up operation is near this location.

Reality map work



Reality map work

The system has newly added support for real map operations, which is convenient for users to intuitively and visually see the operation progress of the current operation plot.

Precautions:

Due to the whitelist problem, this function only supports users to enable this function under the premise of connecting to WIFI, and a certain amount of traffic is required to enable this function.

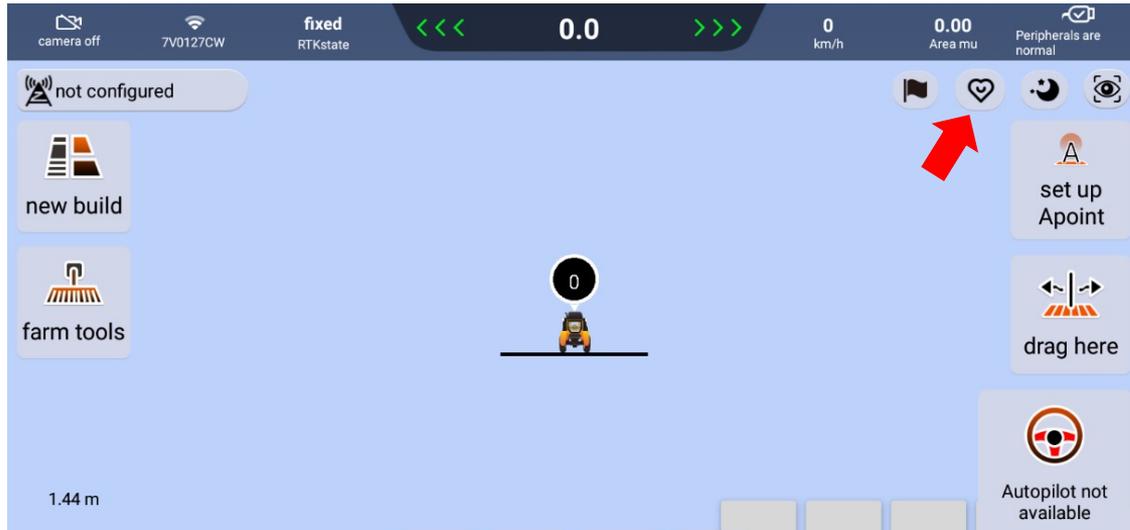
Connect Hotspot



One-click switch card & connect hotspot
Click the "Current Network Status Display" icon in the upper left corner of the main interface to activate the drop-down menu to quickly switch SIM cards and connect to hotspots.

1. Support SIM card signal quality visual display
2. Support one-key switch SIM card on the interface
3. Support the interface to quickly connect to hotspots

Easy Mode

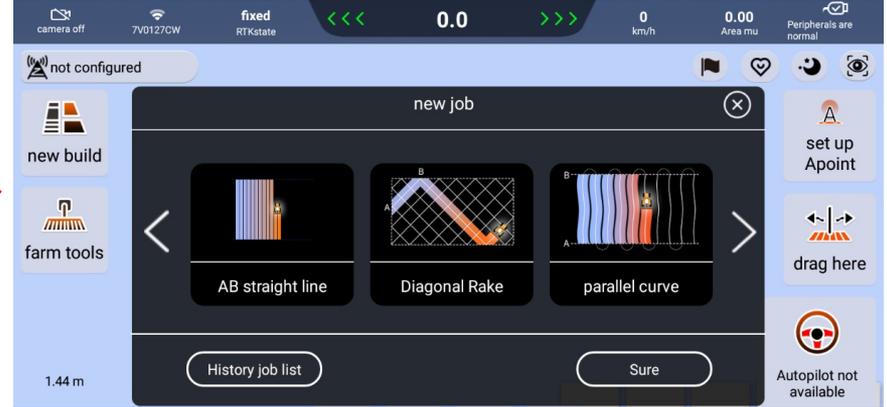
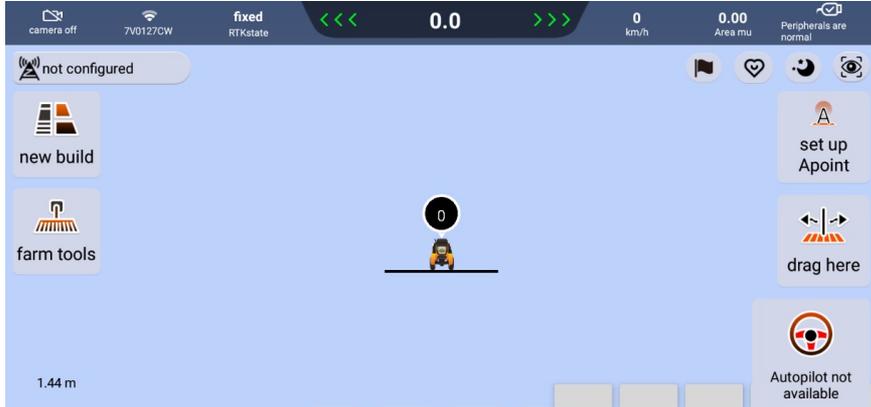


Easy mode

Click the heart-shaped icon in the upper right corner of the main interface to switch between normal mode and simple mode. In simple mode, very common complex functions (such as: plot sharing, specified drag and drop) are hidden and the process of creating a new job plot is simplified.

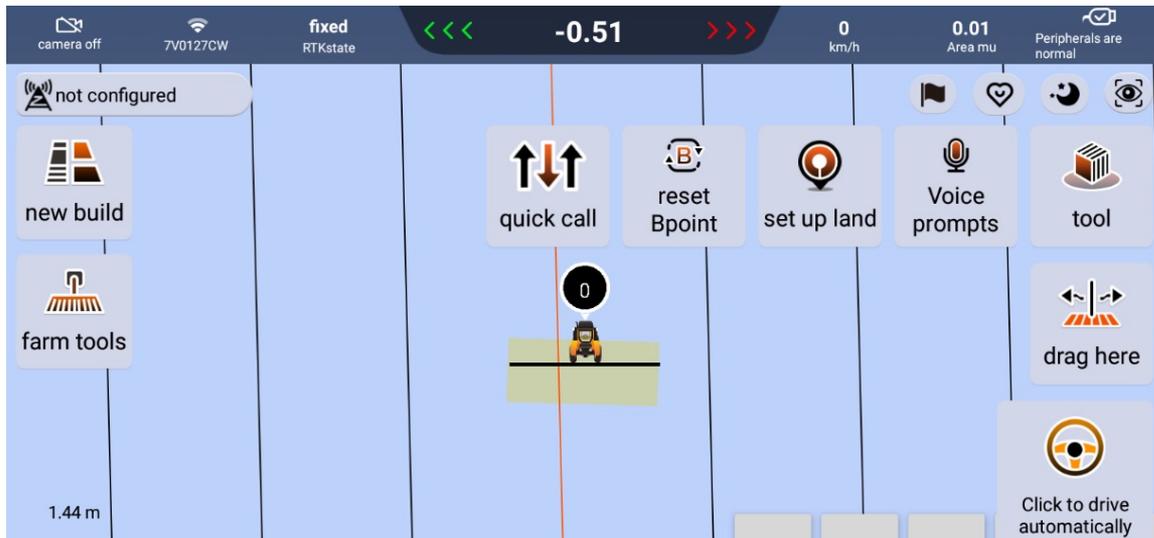
Features: Large font icons, minimalist interaction

Easy Mode



Create a new job in easy mode

1. No need to create plots, after selecting the operation mode, jump directly to the operation interface to set the route
2. Simple mode does not support job list query. Jobs created in simple mode can be queried in the plot list after switching back to normal mode



Tool adjustment

Select the most simple and practical items among all classification tools and place them in the main interface "Tools", which is convenient for users to find and operate.



惠达科技
HUIDA TECH

THANK YOU

