

## **FJDynamics AT2 Max Auto Steer System User Manua**

## Security Summary

### Operator Requirements

- 1.The driver must obtain the driving license for agricultural vehicles required by relevant local regulations
- 2.Drunk driving and fatigue driving are prohibited.
- 3.When an accident occurs, please cut off the power first.

### Working Environment

- 1.Please test, calibrate, adjust or operate in an open field away from crowds, and ensure that there are no irrelevant personnel and vehicles in the operation area to prevent personnel injuries or property loss.
- 2.Please stay away from crowds, livestock, obstacles, wires, tall buildings, airports and signal towers, etc., so as not to suffer from signal interference and thus affecting the operation.
- 3.Do not work in extreme weather such as heavy rain, heavy fog, snow, thunder, lightning and strong wind.

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### Regulation of Practice

- 1.The driver must monitor the operation status in real-time throughout the driving process to ensure timely manual intervention.
- 2.When a vehicle equipped with this system is driving on public roads or public places, please be sure to drive manually.

### Examination

- 1.Make sure that the antennas and angle sensor are installed properly. If moved, please calibrate them again before use.
- 2.Make sure that all connecting cables are in good condition. If damaged, please stop using it and replace it with a new one.

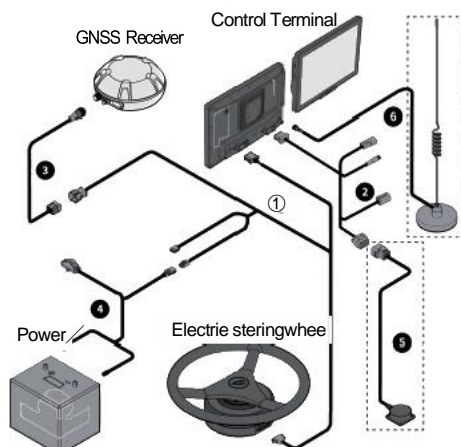
### Other

- 1.Please do not disassemble this product by yourself, so as not to affect the warranty service.
- 2.If the equipment is damaged due to force majeure (lightning strike, high voltage, collision, etc.), it is not within the scope of free maintenance.
- 3.The product supports 9-36V input. When supplying power to this product, pay attention to the power supply requirements.

## Hardware Wiring Harness Connection

- ① Main Wiring Harness
- ② spare Main Wiring Harness
- ③ GNSS Receiver Wiring Harness
- ④ Power Wiring Harness
- ⑤ Attitude Sensor Wiring Harness
- ⑥ Radio Antenna

|   |   |
|---|---|
| 4 | <ol style="list-style-type: none"> <li>1. Please pay attention to whether the back cover nut is in place when plugging and unplugging the GNSS receiver plug:</li> <li>2. The dustproof and waterproof performance is not permanently effective and may be weakened with the passage of time or changes in the working environment.</li> <li>3. Dashed box: the accessory is not available in some regions and countries</li> </ol> |
|---|---|



- 1.The copyright of all content in this manual belongs to FJDynamics, and any form of copying, extracting, reusing, reprinting, etc. is prohibited.
- 2.For detailed information on installation, use and function updates, please check FJDynamics AT2 Max Auto Steer system Software User Manual and FJDynamics AT2 Max Auto Steer system Hardware Installation Manual on the official website.
- 3.Official website address: [www.fjdynamics.com](http://www.fjdynamics.com)

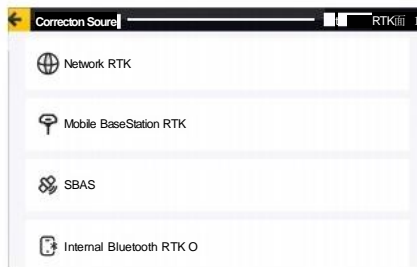
## Software Instructions

### Commissioning

The initial commissioning process of FJDynamics Autosteering kit is as follows:  
 Select the language→Register and log into the account→Fill in the installation information→Connect the signal source→Obtain the heading angle→Set the vehicle parameters  
 →Calibrate the angle sensor→Calibrate the vehicle→Calibrate the implement→Complete the installation and calibration

### Select Correction Signal Source

Go to **Menu** list and click on Correction Source in Device Settings to enter the correction signal source interface.



#### Network RTK

Ntrip connection: Enter "Host" and "Port", and click "Get Source". The port with the strongest signal is automatically displayed in the "Source Node". After obtaining the node, enter your account information in "Account" and "Password". Click "Connect" to connect to the corresponding network RTK.

## Base Station RTK

1. Pairing via code: Please turn on the mobile base station, click on the screen "Pairing via Code" and enter the code to connect to the base station. (Please refer to the user manual of the base station to get more instructions on inputting the code).

2. Pairing via frequency: After powering on the mobile base station, click "Pairing via Frequency" on the screen, and enter the frequency to connect to the base station. (Please refer to the user manual of the high-power base station to get more instructions on inputting the frequency)

3. Pairing with other base stations: After turning on and setting up the base station, click "Other Base Station" on the screen, and enter the corresponding frequency, baud rate and radio transmission protocol. (Please refer to the instruction manual of the corresponding base station to get more instruction on relevant parameters)

### SBAS

SBAS connection: Click the channel to connect in SBAS. Only when "Connected" is displayed next to SBAS, does it mean that the connection is successful. Otherwise, you can not start the operation. If you need to switch to another SBAS source, click the target signal source, and click OK in the pop-up window.

After successful connection, the signal source icon in the upper right corner turns to SO0-S20.

## Preparatory Operations

1. Confirm the Correction Source Connection: Before preparing the operation, please confirm the current source connection.

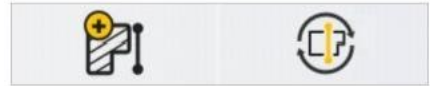
25 RTK 15:58

2. Obtain Current Heading: After confirming the connection status of correction signal source, please drive forward until heading direction is confirmed (you only need to operate it once every time you turn it on). Make the current heading of the vehicle model on the screen consistent with the vehicle's real driving direction.



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3. Create or select a boundary or guidance line: You may go to "Line Creation" on the bottom of the main interface to create new boundaries and guidance lines, or go to "Switch" to select existing ones.



4. Start Operation: After importing the guidance line, you can start operation right away.



5. You may go to "Overview" on the bottom of the main interface to switch field, boundary, guidance line, task, or implement.



## Guidance Line Modes

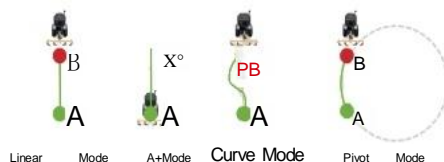
After entering the process of creating a guidance line, select the guidance line type first. Currently, you can choose AB Linear Mode, A+Mode, Curve Mode, and Pivot Mode.

**AB Linear Mode:** Form a straight guidance line by determining the position of point A and B, which is applicable to fields with regular shape.

**A+Mode:** Form a straight guidance line by determining the position of point A and the heading direction, which is applicable to huge fields with regular shape and collaborative operation.

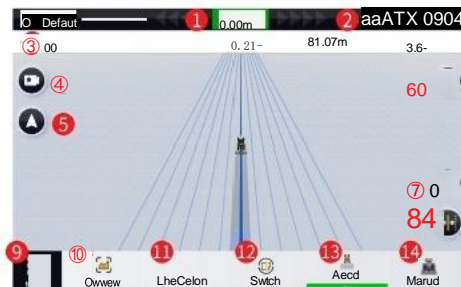
**Curve Mode:** Form a curved guidance line by determining the position of point A and B, which is applicable to irregular fields or special terrain.

**Pivot Mode:** Form a round guidance line with the center point and radius determined by an AB arc, which is applicable to fields with a center pivot irrigation system.



## Operation Interface

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- Offset distance:** The offset distance of the current operation relative to the guidance line is displayed in a real time manner.
- Source connection status:** You may check the current connection status of satellites and correction signals.
- Real-time operation information:** From left to right is the serial number of the current guidance line, total area within field boundary, operated area & coverage, operation efficiency and real-time speed.
- Wi-Fi Camera button:** Click to open WiFi camera.
- Perspective switch button:** Click to switch between 2D and 3D perspectives.
- Mark headland button:** When there is no boundary, two lines of field end can be marked at a distance of more than 50m. An early warning will pop out when it is about to arrive at the field end.
- Trim button:** Click to translate the position of the vehicle to the left or right with small steps. Only available under auto driving mode.
- Guidance line translation button:** Click to translate the guidance line to be center aligned to the vehicle or to translate it to the left or right by a certain distance. Only available under manual driving mode.
- Menu button:** Click to enter device settings, field management, universal settings, application center and system settings.
- Overview button:** Click to view or switch task configuration.
- Line creation button:** Click to start drawing a new boundary or a new guidance line.
- Switch button:** Click to switch to another boundary or guidance line.
- Task record button:** Click to switch the recording status.



means that the current task data is being recorded.



means that the current task data is not recorded.

- Autopilot button:** Click to switch the driving mode between manual and auto mode.



means it is in the state of auto mode.



means it is not in the state of auto mode.

## Product main specification parameter table

| No. | Component               |                | Specifications  |
|-----|-------------------------|----------------|---|
| 1   | Control terminal        |                | Size:290×196×25 mm;<br>Basic configuration:12.1-inch capacitive touch screen,LED backlight,1280×800 pixels,500 nit LCD,speaker,4G RAM,16G ROM;<br>Various communication interfaces;<br>Power supply:9V-36V;<br>Signalsreceived:radio,satellite,and 4G;<br>Relative humidity:0%-95%,at 40℃ (non-condensing);<br><br>Operating temperature:-20℃ to 70℃;<br>Storage temperature:-40℃ to 85℃;                 |
| 2   | GNSS receiver           |                | Size:162 mm×64.5 mm;<br>Frequency band AT2 Max: GPS L1 C/A, GPS L1C, BDS B1I, BDS B1C, Galileo E1, GLONASS G1, GPS L2C, GLONASS G2, GPS L5, Galileo E5a, Galileo E5b,<br>Operating voltage:9V-36V DC;<br>Operating current:<300 mA;<br>IMU accelerometer accuracy:0.5 mg;<br>IMU gyroscope accuracy:0.1°/s;<br>Roll/pitch:0.2°;<br>Operating temperature:-20℃ to 70℃;<br>Storage temperature:-40℃ to 85℃; |
| 3   | Electric steering wheel | Steering motor | Supply voltage:12V or 24V;<br>Peak torque:15 Nm(12V):20 Nm(24V);  |
| 4   |                         | Splined sleeve | Multiple sizes  |
| 5   | Radio antenna           |                | Frequencyrange: 902-928MHz(RX);<br>Voltage standing wave ratio:≤2.0;<br>Gain:≥1±0.5 dBi;<br>Impedance:50Ω;<br>Polarization:vertical;<br>Size:082 mm×490 mm or 082 mm×301 mm;<br>Operating temperature:-20℃ to 60℃。  |
| 6   | Attitude sensor         |                | Supply voltage:5V;<br>Output frequency:max.200 Hz;<br>Resolution:<0.1°;<br>Operating temperature:-20℃ to 85℃;   |

## Disclaimer

The products, services, or functions you purchase are governed by commercial contracts and terms. We've listed all products, services, or functions in this manual while some of them may not be necessary. Unless other conditions are stipulated in the contract, FJDynamics does not make any express or implied statement on the contents of this manual.

This manual may be updated due to product upgrades or other reasons. FJDynamics reserves the right to modify this manual without prior notice.

This manual is only used as a guidebook. FJDynamics has made every effort to ensure the accuracy and reliability of the information in this manual, but cannot guarantee that there are no errors or omissions. All information in this specification does not constitute any express or implied guarantee.

## 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.

Any 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, and

(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.

Manufacturer: FJ Dynamics Technology Academy (Changzhou)Co., Ltd. Shenzhen Branch

Add: Room 401, Building 2, Nangang Second Industrial Park, Nanshan District, Shenzhen, China