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Preface:

Thank you for purchasing FJDynamics' product. This manual provides detailed hardware installation guide. If you have any questions, contact the local dealer.

Purpose and Intended Users:

This manual introduces the physical characteristics, installation procedures, and technical specifications of the product as well as the specifications and use of the wiring harnesses and connectors. Based on the assumption that the users are familiar with the terms and concepts related to this product, this manual is intended for users who have read the preceding content and have experience in hardware installation and maintenance.

Technical Support:

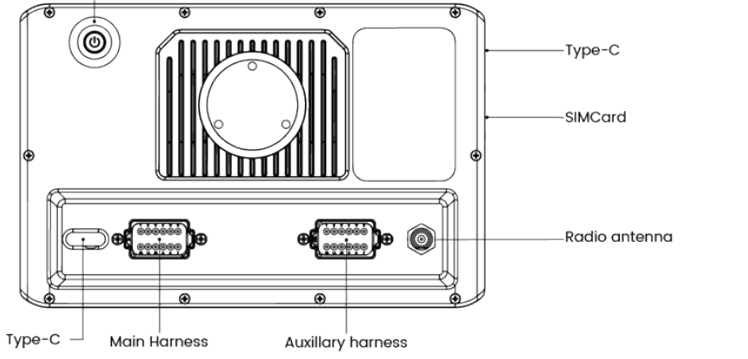
FJDynamics' official website: www.fjdynamics.com

1 Product introduction

1.1 Main Components

1	Control terminal	Serves as the human-machine interface, and vehicle control and communication terminal.
2	GNSS receiver	Receives satellite signals to obtain the vehicle location.

1.2 Control Terminal Parts



Power Switch
Type-C
Main harness
Auditory harness
Ballast
Radio antenna

FJDynamics Autosteering Kit Auto Steer System is a hydraulic autosteering system that is launched by FJDynamics for agricultural machinery and supports assisted straight-line driving. This system consists of the control terminal, GNSS receiver, hydraulic valve, angle sensor, pressure sensor and wiring harnesses. The control terminal runs the software developed by FJDynamics.

2. Installation and Operation Instructions

2.1 Workflow Overview

This chapter describes the main-operation processes and related functions of FJDynamics Autosteering Kit. Before using the system for the first time, you need to complete the installation, commissioning, and preparation to start the autosteering operation successfully.

2.2 Installation and Commissioning

For hardware installation, please refer to "FJDynamics Autosteering Kit Auto Steer System Hardware Installation Manual" and "FJDynamics Autosteering Kit Hydraulic Valve Installation Instruction" for details. For software using, please refer to "FJDynamics Autosteering Kit Auto Steer System Software Use Manual" for details. Use the following workflow to install and commission the system for the first time:
Select a language --> Sign up and login --> Enter installation information --> Connect to a signal source --> Obtain heading --> Set the vehicle parameters --> Calibrate the angle sensor --> Calibrate the vehicle --> Calibrate the implement --> Complete
* Drive the vehicle straight ahead for a while, and the heading is obtained automatically. If not, choose MENU --> SYSTEM --> Heading Calibration.

2.3 Selecting a language

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

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 next 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 forget your password, tap Forgot Password to reset the password. Enter your email address, verification code, and new password, and then tap Log in 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.

3. Setting Vehicle Parameters

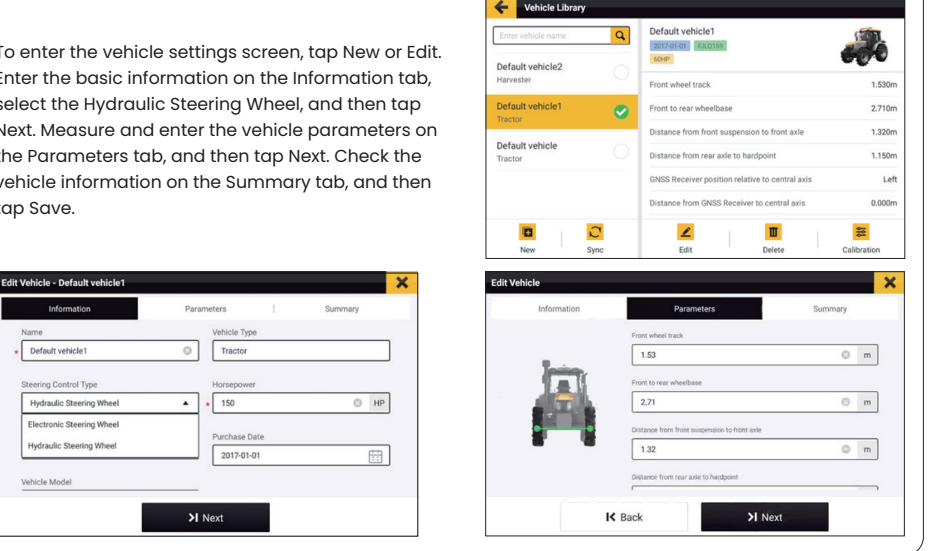
To add, delete, modify, check, upload, synchronize, and calibrate the vehicle information, choose MENU --> DEVICE SETTINGS --> Vehicle Library.

PC Compliance Notice

This device complies with part (1) 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.
Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.
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 the 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 a different electrical outlet, that is, to which the receiver is connected.
Consult the dealer or an experienced radio/television technician for help.
FCC Radiation Exposure Statement
This equipment complies with FCC radiation exposure limits set forth for an unrestricted environment. The transmitter must not be co-located or operating in conjunction with any other antenna or transmitter. The equipment should be installed and operated with minimum distance of 20cm from your body.
FCC SAR Warning
This document complies with FCC radiation exposure limits set forth for an unrestricted environment. The transmitter must not be located or operating in conjunction with any other antenna or transmitter. The transmitter must not be located or operating in conjunction with any other antenna or transmitter. The transmitter should be installed and operated with minimum distance of 20cm from the transmitter's body.
Le présent appareil est conforme aux CNR d'Interdiction, Services et Développement d'équipement Canada applicables aux appareils radio sans fil.
(1) L'appareil ne doit pas produire de brouillage, et
(2) l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.
BASIC Radiation Exposure Statement
This equipment complies with FCC radiation exposure limits set forth for an unrestricted environment. The transmitter must not be located or operating in conjunction with any other antenna or transmitter. The transmitter should be installed and operated with minimum distance of 20cm from the transmitter's body.
Ce présent appareil est conforme aux CNR de Service et Développement d'équipement Canada pour un environnement non contrôlé.
Ce récepteur ne doit pas être installé en proximité ou en conjonction avec une autre antenne ou émetteur. Ce récepteur doit être installé et utilisé avec une distance minimale de 20 cm entre l'émission et votre corps.

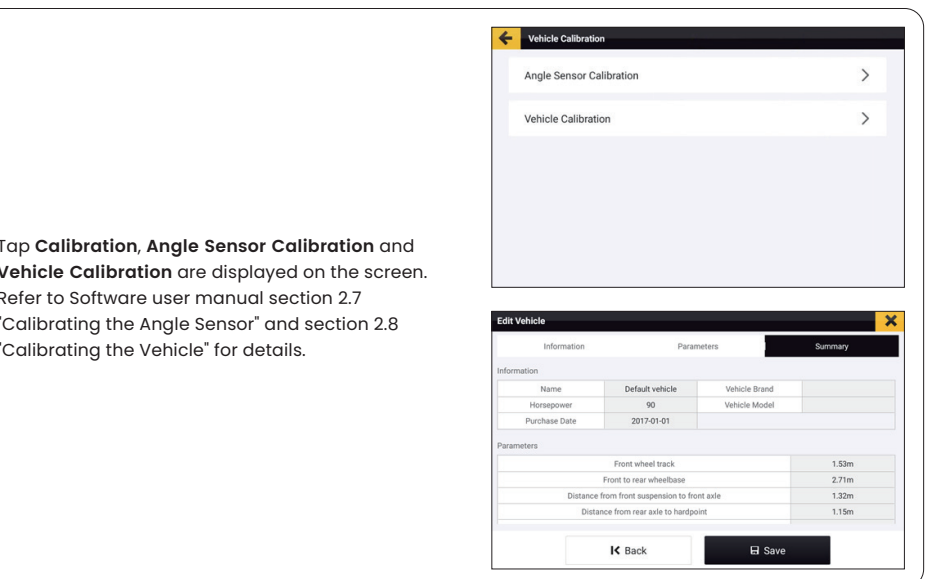
2.6 Parameter Settings

To enter the vehicle settings screen, tap New or Edit. Enter the basic information on the information tab, select the 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.



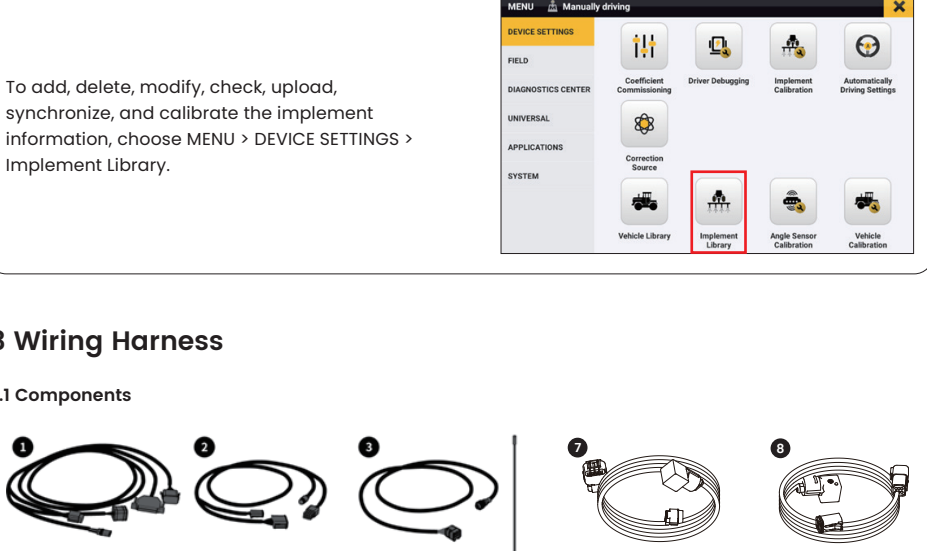
2.7 Calibration

Top Calibration: Angle Sensor Calibration and Vehicle Calibration are displayed on the screen. Refer to software user manual section 2.7 "Calibrating the angle sensor" and section 2.8 "Calibrating the vehicle" for details.



2.8 Setting Implement Parameters

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



3 Wiring Harness

3.1 Components

No.	Name	Qty.	Remarks
1	Main wiring harness	1	
2	Spare main wiring harness	1	
3	GNSS receiver wiring harness	1	
4	Power wiring harness	1	
5	Attitude sensor wiring harness	1	
6	Radio antenna	1	
7	Pressure sensor wire harness	1	
8	5-way/2 position valve wire harness	1	
9	Proportional valve wire harness	1	

4.1 Site Requirements

- Ensure that the vehicle is in good condition and all parts work properly.
- Ensure that there are no tall trees, buildings, or other obstacles around the site to protect the operation from signal interference.
- Ensure that there are no high-voltage power lines within 100 m around the site.
- The site ground should be level and no smaller than 50 m*10 m.
- The site should have flat concrete pavement or asphalt pavement.
- Commissioning should be carried out on non-public roads. Ensure that no irrelevant personnel stay around the vehicle during commissioning to prevent accidents.

4.2 Power-on

4.2.1 Inspection Before Power-on

- Check whether the power supply is connected correctly.
- Check whether the supply voltage is satisfactory.

4.2.2 Inspection After Power-on

- Check whether the power indicator of the control terminal is lit.
- Turn on the control terminal, and check whether the system program starts normally.

5 Appendix

5.1 Specifications

No.	Component	Specifications
1	Control terminal	Size: 275*180*40 mm Basic configuration (1): 11-inch capacitive touch screen, 1020 brightness, 1920*1080 pixels, 700 nits LCD, IPS panel, 20 RAM, 90 ROM Various communication interfaces: Power supply: 11 V ~ 30 V Signal: received radio, satellite, and 4G Relative humidity: 0% ~ 95%, at 40°C (non-condensing) Operating temperature: -20°C to 70°C Storage temperature: -40°C to 85°C
2	GNSS receiver	Size: 162 mm*48 mm Operating voltage: 11 V ~ 30 V Operating current: <300 mA RMU accelerometer accuracy: 0.5 mg RMU gyroscope accuracy: 0.75°/s Roll pitch: 0.2° Operating temperature: -20°C to 70°C Storage temperature: -40°C to 85°C
3	Pressure sensor	Pressure range: 3000 psi Output: 0-5V DC Interface grade: 0 (4 extended thread)
4	Proportional Valve	1) 300 mm open center valve 2) 600 mm open center valve 3) 600 mm closed center valve 4) 300 mm compatible valve Power supply: 12V DC
5	Radio antenna	Voltage standing wave ratio: 1.2:1 Gain: -14.5 dBi Impedance: 50 Ω Polarization: vertical Size: 482 mm*60 mm or a 62 mm*50 mm Operating temperature: -20°C to 80°C
6	Attitude sensor	Supply voltage: 5 V Output frequency: max. 200 Hz Resolution: 0.1° Operating temperature: -20°C to 85°C

FJDynamics Autosteering Kit
User Manual
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