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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:

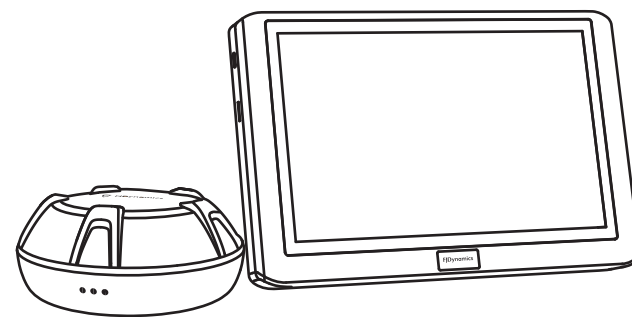
This manual introduces the physical characteristics, installation procedures, and technical specifications of the product as well as the specifications and use of the wiring harnesses and connectors. Based on the assumption that the users are familiar with the terms and concepts related to this product, 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

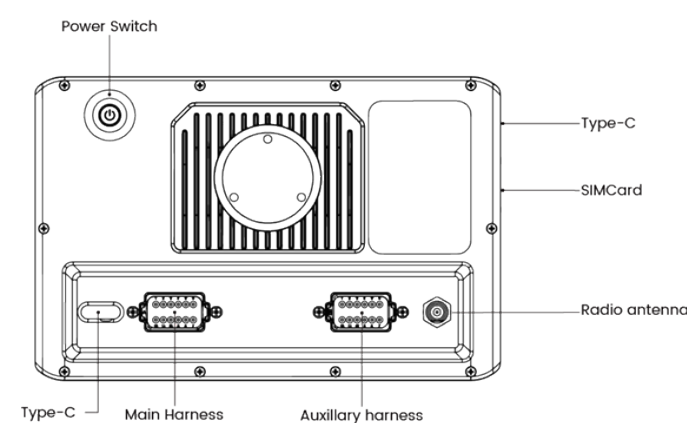
1 Product Introduction

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 Ports



FJDynamics AH2 Auto Steer System is a hydraulic autosteering system that is launched by FJDynamics for agricultural machinery and supports assisted straight line driving. The 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

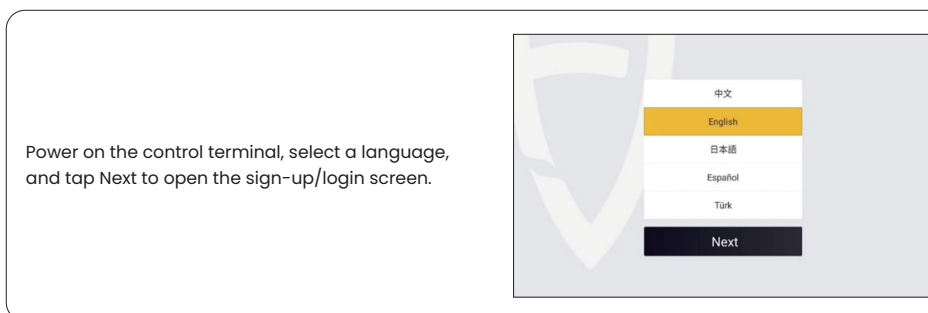
2.1 Workflow Overview

This chapter describes the main operation processes and related functions of FJDynamics AH2 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.

2.2 Installation and Commissioning

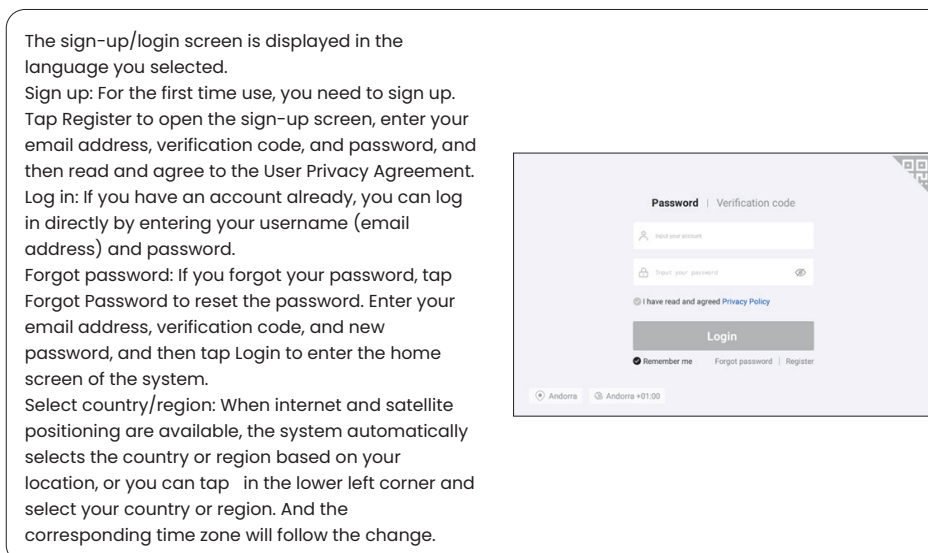
For hardware installation, please refer to < FJDynamics AH2 Auto Steer System Hardware Installation Manual > and < FJDynamics AH2 Hydraulic Valve Installation Instruction > for details. For software using, please refer to < FJDynamics AH2 Auto Steer System Software User Manual > for details. Use the following workflow to install and commission the system for the first time: Select a language → Sign up and log in → 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

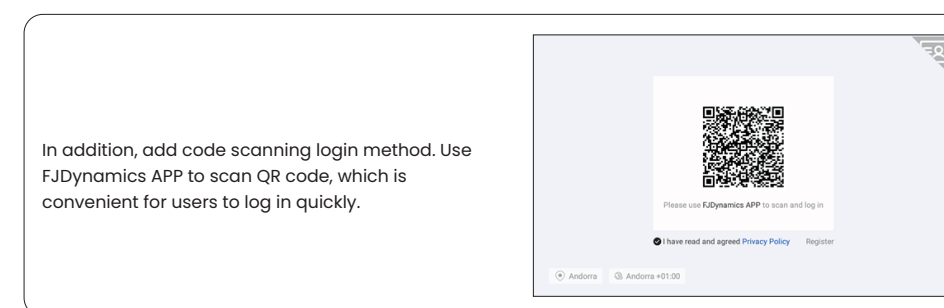


Power on the control terminal, select a language, and tap Next to open the sign-up/login screen.

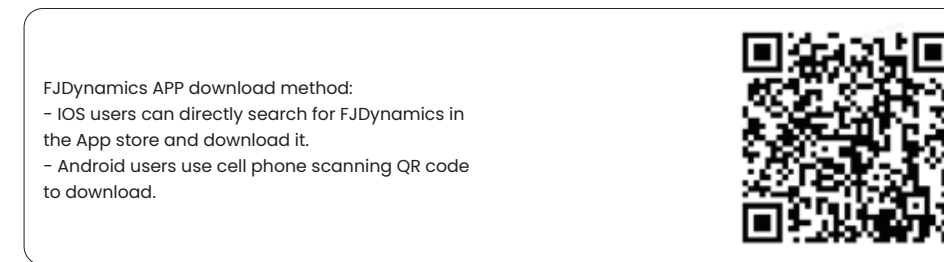
2.4 Sign-up/Login



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 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.

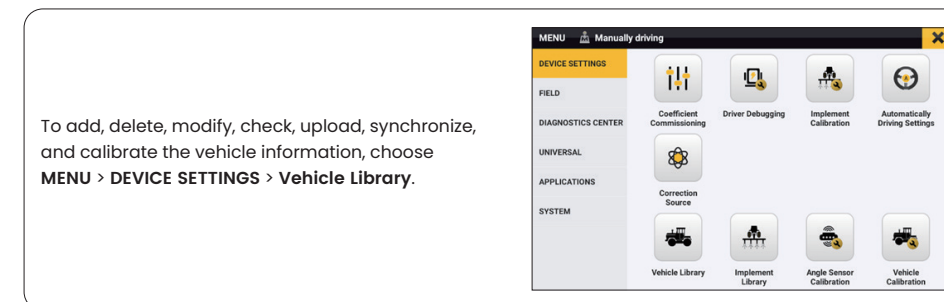


In addition, add code scanning login method. Use FJDynamics APP to scan QR code, which is convenient for users to log in quickly.



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.

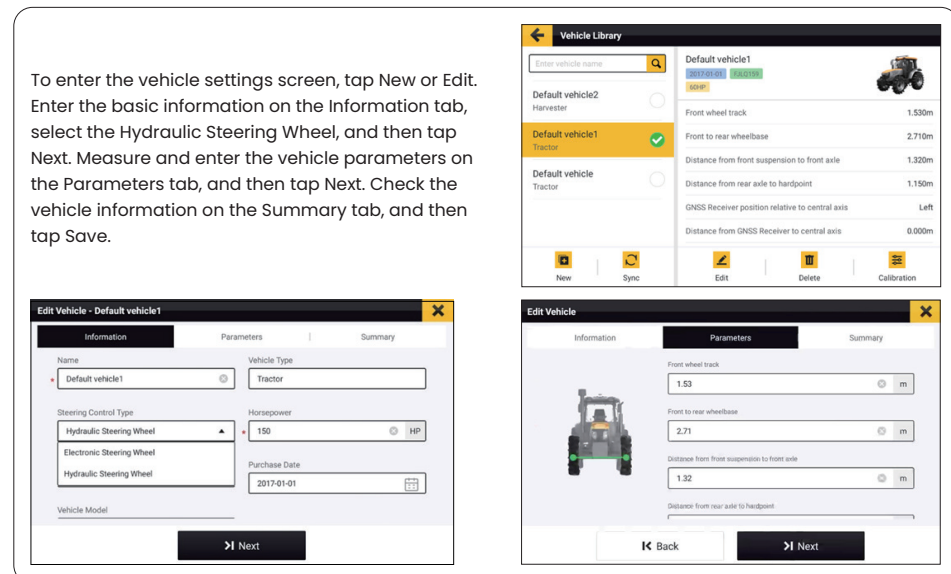
2.5 Setting Vehicle Parameters



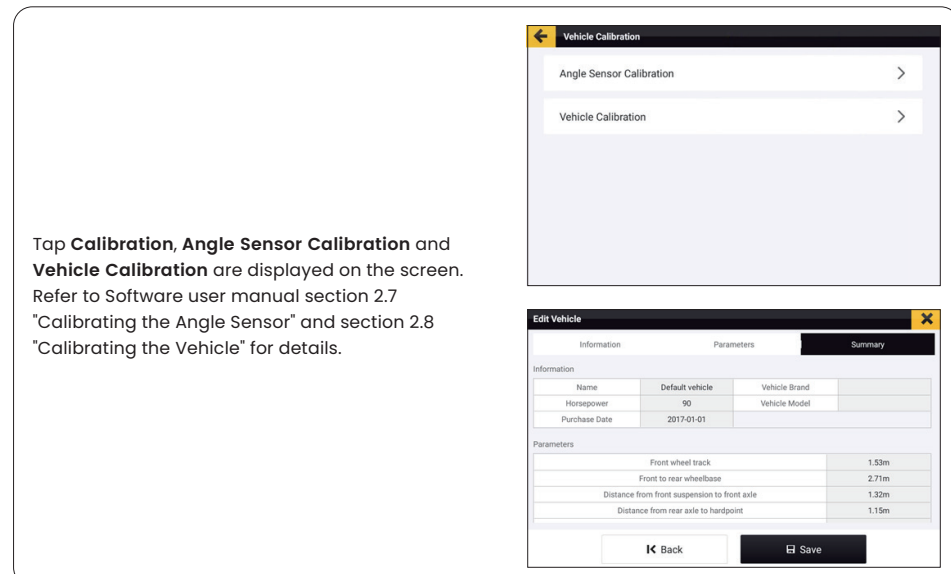
To add, delete, modify, check, upload, synchronize, and calibrate the vehicle information, choose MENU > DEVICE SETTINGS > Vehicle Library.

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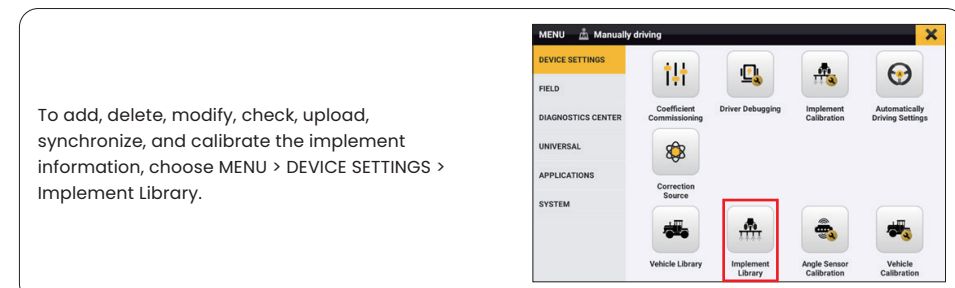
2.6 Parameter Settings



2.7 Calibration



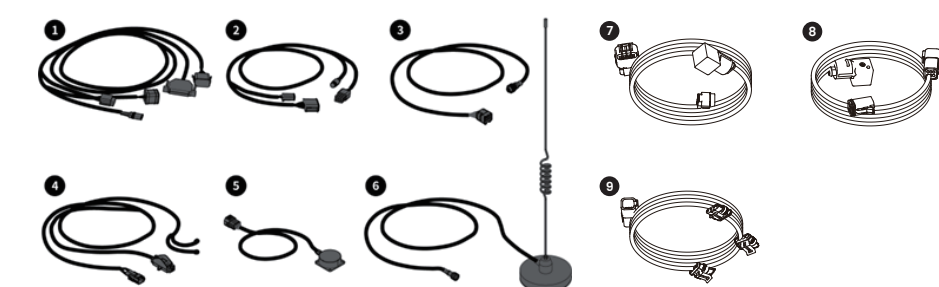
2.8 Setting Implement Parameters



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

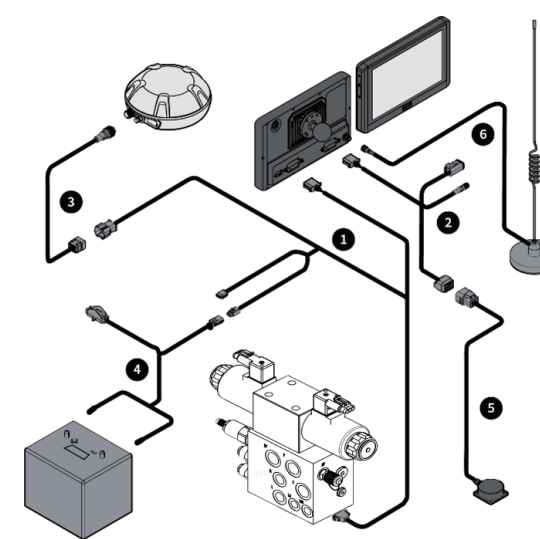
3 Wiring Harness

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	6 way/ 2 position valve wire harness	1	
9	Proportional valve wire harness	1	

3.2 Installation



4 Project Management

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 150 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.

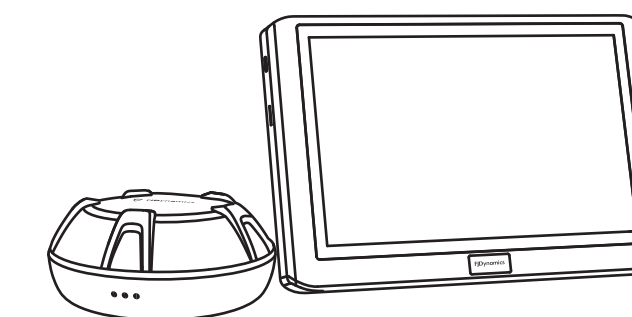
4.2 Power-on

- #### 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: 10.1-inch capacitive touch screen, LED backlight, 1280×800 pixels, 700 nit LCD, speaker, 2G RAM, 8G ROM; Various communication interfaces; Power supply: 9 V – 36 V Signals received: radio, satellite, and 4G Relative humidity: 0% – 95% at 40°C (non-condensing) Wi-Fi: 2.4 GHz frequency band, frequency range: 2412 MHz – 2484 MHz, output power: 2.4 GHz II n 14±2 dBm Operating temperature: -20°C to 70°C Storage temperature: -40°C to 85°C IP rating: IP65
2	GNSS receiver	Size: 162 mm×64.5 mm Frequency band: GPS L1C/A, L1C, L2P(W), L2C, L5; GLONASS L1, L2; BDS B1I, B2I, B3I, B1C, B2a; Galileo E1, E5a, E5b, SBAS Operating voltage: 9 V – 36 V Operating current: < 300 mA IMU accelerometer accuracy: 0.5 mg IMU gyroscope accuracy: 0.1°/s Roll/pitch: 0.2° Operating temperature: -20°C to 70°C Storage temperature: -40°C to 85°C IP rating: IP66
3	Pressure sensor	Pressure range: 3000 psi; Output: 0–5V DC; Interface grade: G 1/4 external thread
4	Proportional Valve	1) 30l/min open center valve 2) 60l/min open center valve 3) 50l/min closed center valve 4) 30l/min compatible valve Power supply: 12V DC
5	Radio antenna	Frequency range: 410 MHz – 470 MHz or 902 MHz – 928 MHz Voltage standing wave ratio: <2.0 Gain: >1±0.5 dBi Impedance: 50 Ω Polarization: vertical Size: ø82 mm×490 mm or ø 82 mm×301 mm Operating temperature: -20°C to 60°C
6	Attitude sensor	Supply voltage: 5 V Output frequency: max. 200 Hz Resolution: <0.1° Operating temperature: -20°C to 85°C IP rating: IP67



FJDynamics AH2 Auto Steer System
User Manual