Launch and its branches will not bear any liability for the fees and expenses incurred by equipment damage or loss due to accidents caused by users or third parties, misuses and abuses, unauthorized modifications and repairs, or operations and services not following launch's instructions.

Launch assumes no responsibility for device damages or problems resulted from the usage of other parts or consumables, rather than original products of launch or products approved by the company.

Official statement: the mentioning of the names of other products in this manual is to illustrate how to use the device, with the ownership of the registered trademarks belonging to the owners.

The device is intended for the use of professional technicians or maintenance and repair personnel.

Registered Trademark

Launch has registered its trademark in china and several other countries, and the logo is **LAUNCH**. Other trademarks, service marks, dot names, icons, company names of launch mentioned in the user manual all belong to launch and its subsidiaries. In those countries where trademarks, service marks, dot names, icons, company names of launch have not been registered yet, launch declaims the right for its unregistered trademarks, service marks, dot names, icons, and company names. Trademarks of other products and company names mentioned in this manual are still owned by the original registered companies. Without written agreement from the owner, no person is allowed to use the trademarks, service marks, domain names, icons and company names of Launch or of other mentioned companies. You can visit https://www.cnlaunch.com, or write to Customer Service Center of Launch Tech Co., Ltd at Launch Industrial Park, North of Wuhe Road,Bantian Street,Longgang District,Shenzhen City, Guangdong Province, P.R.China, to get contact with Launch for the written agreement on the usage of the user manual.

Disclaimer of Warranties and Limitation of Liabilities

All information, illustrations, and specifications in this manual are based on the latest information available at the time of publication.

The right is reserved to make changes at any time without notice. We shall not be liable for any direct, special, incidental, indirect damages or any economic consequential damages (including the loss of profits) due to the use of the document.

Contents

1. Product Overview

Modularized Wireless Equalizer is a split equalization maintenance device developed by Launch, which is designed based on the charge and discharge characteristics of lithium batteries. It can effectively repair the problem of battery performance degradation, which caused by excessive pressure difference of single battery. The modularized wireless equalizer uses split design, EVB624 and EVB624-D are wirelessly networked, and can achieve simultaneous equalization of up to 24 channels (1pc EVB624 with 6pcs EVB624-D). The 10.1-inch touch screen is easy to operate and visualizes information of battery, such as voltage, current, status, capacity,etc. The wireless equaliser supports three modes: charge and discharge equalization, discharge equalization, and charge equalization, it can automatically save historical equilibrium data records and supports data USB disk export. Suitable for lithium iron phosphate, ternary lithium, Lithium manganate and other common lithium battery type.

2. Precautions for Safe Use

(1) Please follow the user manual to use this device.
(2) Please wear dry and clean insulating gloves when operating device.
(3) Please use the outlet and cable comply with 16A standard.
(4) Please disconnect the device power supply and test cables when happened emergency.

3. Packing list

The product includes EVB624, EVB624-D, AC power cord, DC high-voltage output cable, equalizer test cable, temperature acquisition cable, etc. Please refer to the actual packing list delivered with the package.

4. Technical Features

EVB624 parameter	
Model	EVB624
Power input	AC 90~264V 50/60Hz
Voltage range	DC 0~112V
Voltage accuracy	≤±1% @48~112V DC; ≤±0.5V @10~48V DC
Current range	1~40A
Current accuracy	≤±1% @Output≥4A
Single device supports number of EVB624-D	Support up to 6pcs EVB624-D (24 channels)
Power	3200W
Display	10.1-inch touch screen

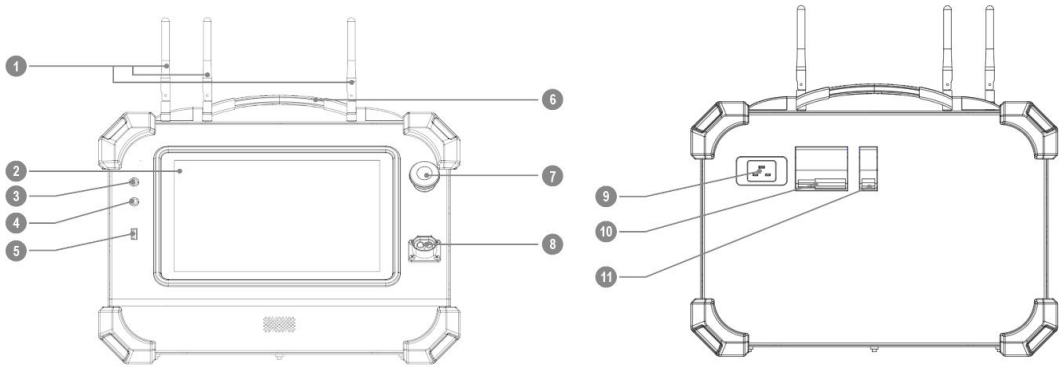
Data communication	Wi-Fi; Bluetooth
Data Storage	32G
Data dump	U disk
Main unit protection	Over voltage, Under voltage, Over current, Power-down, Over temperature, Reverse connection protection
Cooling	Fan
Temperature	Operating temperature range: -10-50 ℃; storage temperature: -20~70℃
Environment Humidity	Related humidity 5%-90% RH
Dimension	381.0*270.0*275.0mm

EVB624-D parameter	
Model	EVB624-D
Power input	5V 2A
Discharging voltage range	DC 2.8~4.2V
Discharging voltage accuracy	±(0.1%FS+5mV)(Max.range 5V)
Discharging Current range	0~10A(single channel)
Discharging Current accuracy	±1%FS(Max.range 10A)
Single discharge module supports number of cell	4
Power	Maximum 42W for single channel; 168W for four channels
Data Export	Wi-Fi; Bluetooth
Main unit protection	Over current, Over temperature, Reverse connection protection
Cooling	Fan
Temperature	Operating temperature range: -10-50 ℃; Storage temperature: -20~70℃
Environment Humidity	Related humidity 5%-90% RH
Dimension	215.0*100.0*130.0mm

5. Operating Instructions

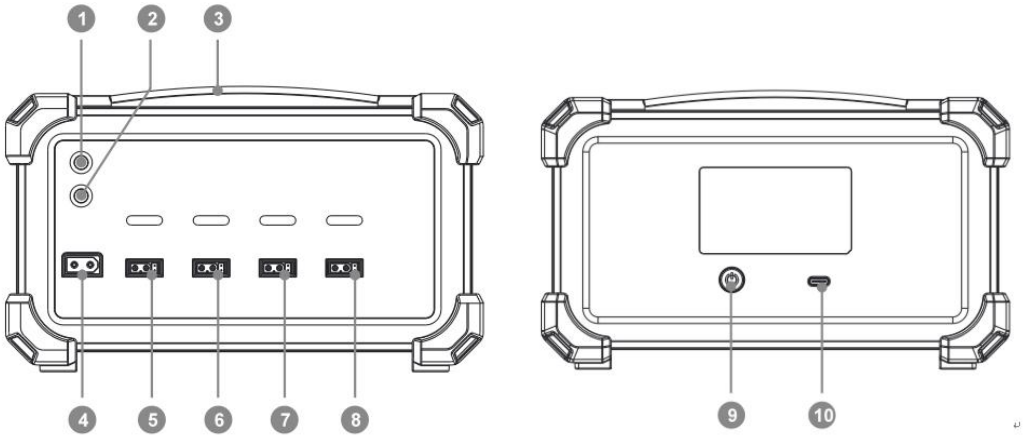
5.1 Panel Description

EVB624:



No.	Name	Description
1	**Antenna**	Used to communication and networking.
2	**Screen**	10.1-inch touch screen.
3	**POWER**	Power indicator: ①In the charge and discharge equalization mode---the cell discharging , the red light always on. ②In the charge and discharge equalization mode---the cell charging, the red light flashes. ③In discharge equalization mode, the red light always on. ④In charge equalization mode, the red light flashes.
4	**COMM**	Communication indicator: ①After the device turned on, the blue light always on. ②When the device is communicating, the blue flashes.
5	**I/O Port**	Export to USB.
6	**Handle**	Easy to carry device.
7	**Emergency Stop Switch**	Device stop working when emergency stop switch is pressed; reset switch to start device after troubleshooting. Device startup needs to close AC switch again.
8	**DC High-Voltage Output Port**	Control EVB624 output DC current .
9	**Power socket**	Power input.
10	**AC Input Circuit breaker**	Control EVB624 input AC current.
11	**DC Output Circuit breaker**	Control EVB624 output DC current.

EVB624-D:



No.	Name	Description
1	**POWER**	Power indicator: ①After the device is turned on, the red light always on. ② The red light flashes when power supply is below 30%.
2	**COMM**	Communication indicator: ①After the device turned on, the blue light not on. ②Double-click power switch to enter blue tooth communication mode, the blue light flashes quickly. ③After communicated with EVB624, the blue light flashes slowly.
3	**Handle**	Easy to move device.
4	**Temperature test Terminal**	Connect temperature test cable.
5	**Equalizing test terminals #1**	Connect equalizing cable.
6	**Equalizing test terminals #2**	Connect equalizing cable.
7	**Equalizing test terminals #3**	Connect equalizing cable.
8	**Equalizing test terminals #4**	Connect equalizing cable.
9	**Power Switch**	Device turn on/off: ①Long press power switch to turn on/off. ②Double-click power switch to enter network communication mode with EVB624.
10	**USB Type-C Port**	Connect supply adapter to charge for EVB624-D.

5.2 Device Connection

Step1: First, connect the plug of DC high-voltage output cable into the high-voltage output port of the EVB624, and then connect the positive and negative output cable of DC high-voltage cable to the positive and negative terminals of the battery pack respectively (the red cable is the positive, the black cable is the negative).

Step2: Connecting one end of the AC power cord to the power supply port of the EVB624 and the other end to AC power.

Step3: The device turns on when closed the AC breaker.

Step4: Long press the power button on the back of the EVB624-D to turn it on, double press the power button and enter the networking mode when the blue light blinks to pair with the EVB624.

Step5:

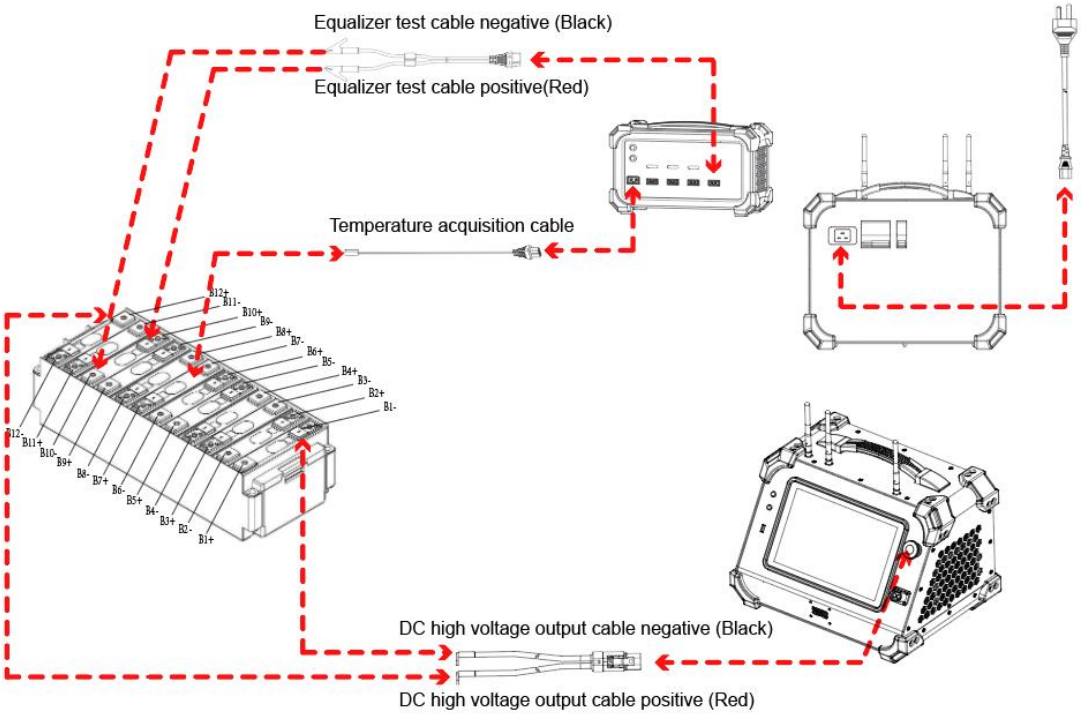
1) Connect the connector end of equalizer test cable to the channel #1 of the EVB624-D, the other end of equalizer test cable are connected to the positive and negative of the battery cell respectively (the red clip is the positive cable, the black clip is the negative cable).The light indicator above the channel #1 is on, it means that the positive and negative poles are connected correctly. If the light is not on, it means that the positive and negative poles are connected incorrectly. Check whether the battery cell is normal on the EVB624 screen after correctly connected. If the voltage is normal, then connecting the channel #2/3/4 in turn.

2) Then connect the connector end of temperature acquisition cable to the temperature port, and the probe end of temperature acquisition cable is connected to the corresponding battery packs.

3) And follow steps 1 and 2 to connect the other EVB624-D until all battery cells are connected.

4) If the cell voltage is unnormal during connection, you need to troubleshoot whether the cell or connecting wire is normal firstly.

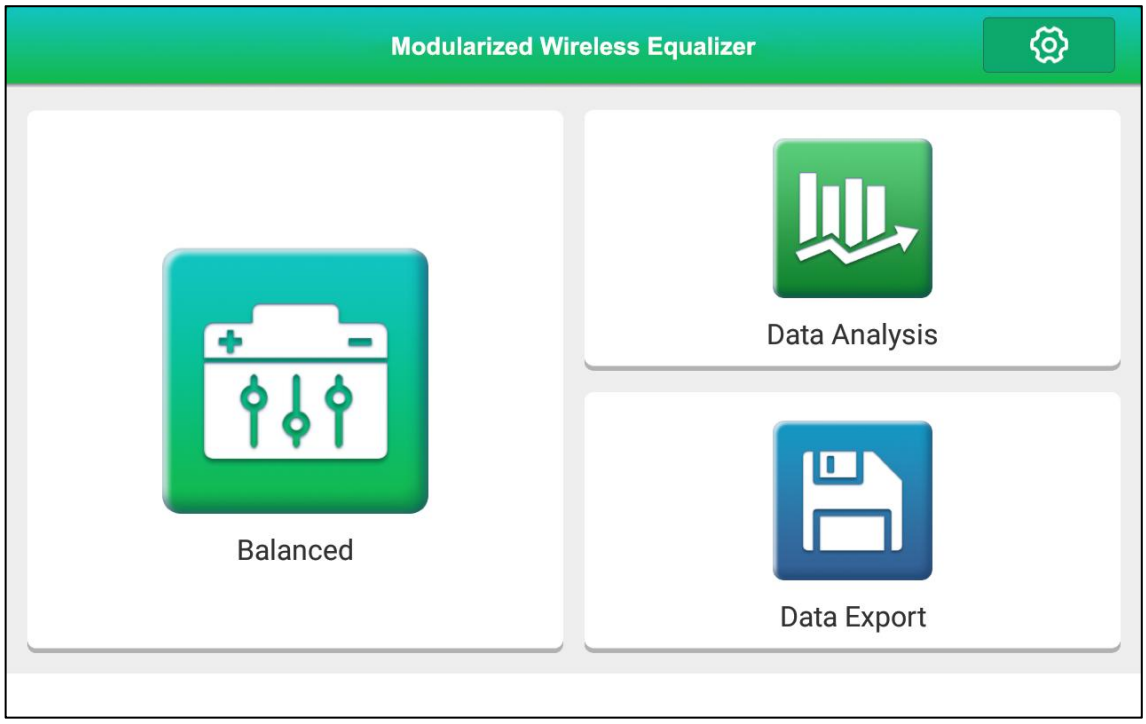
Step6: Setting the charge and discharge equalization, discharge equalization, and charge equalization parameters to start the charge and discharge equalization, discharge equalization, and charge equalization test.



5.3 Main Unit Operation

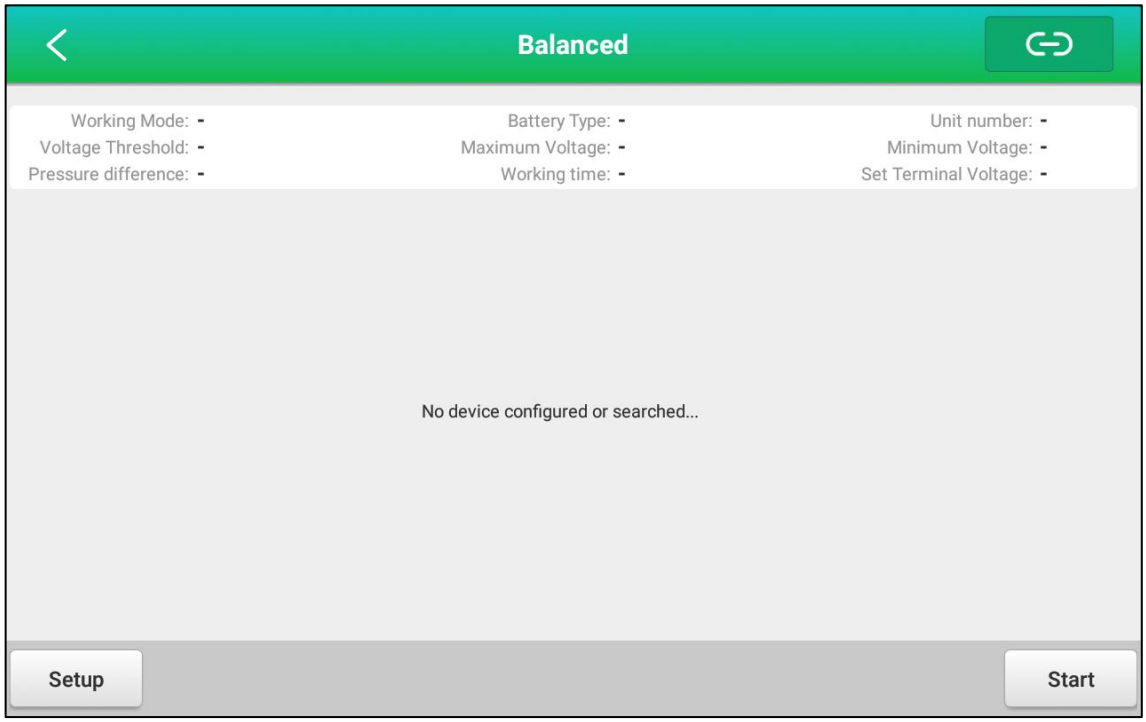
5.3.1 Main Menu

After EVB624 is turned on, enter to the main interface. The main interface functions include Balanced, Data Analysis and Export Data.

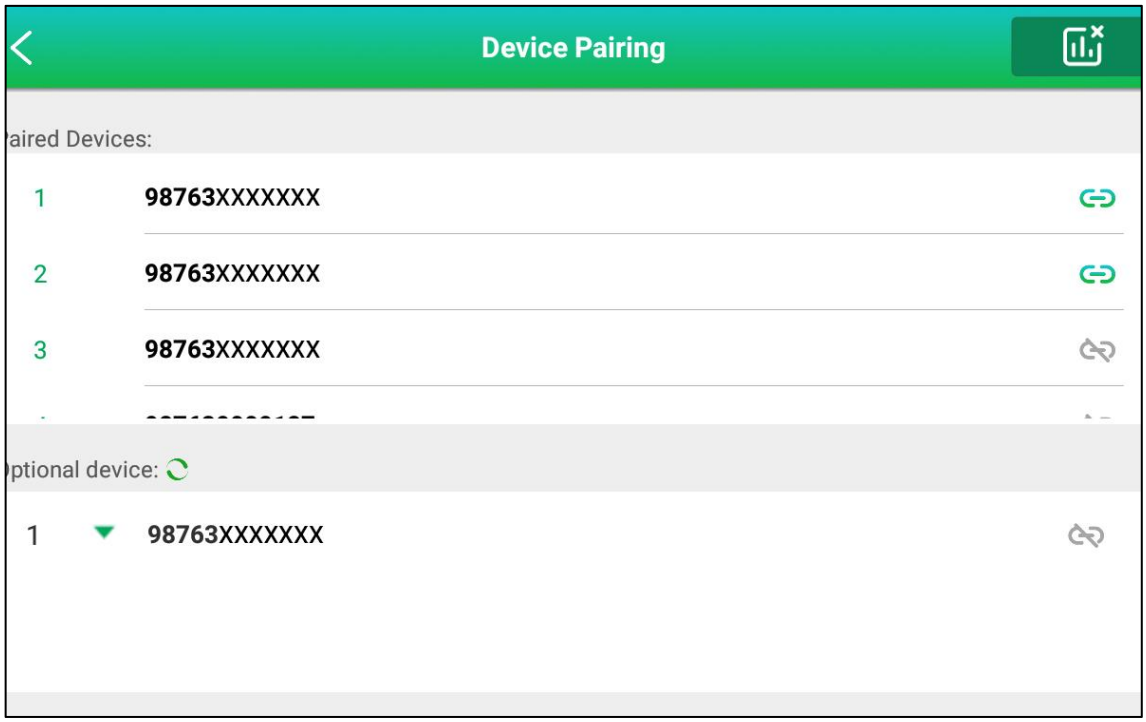


5.3.2 Balanced Maintenance

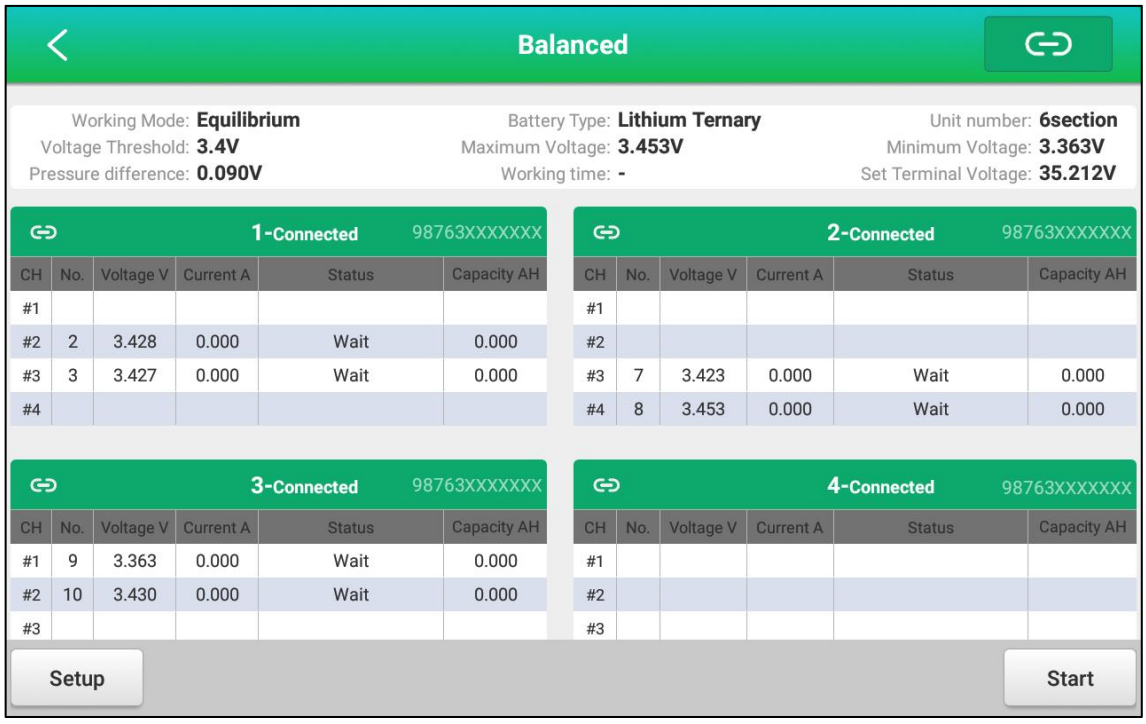
Click **"Balanced"** on main interface to enter Balanced interface.



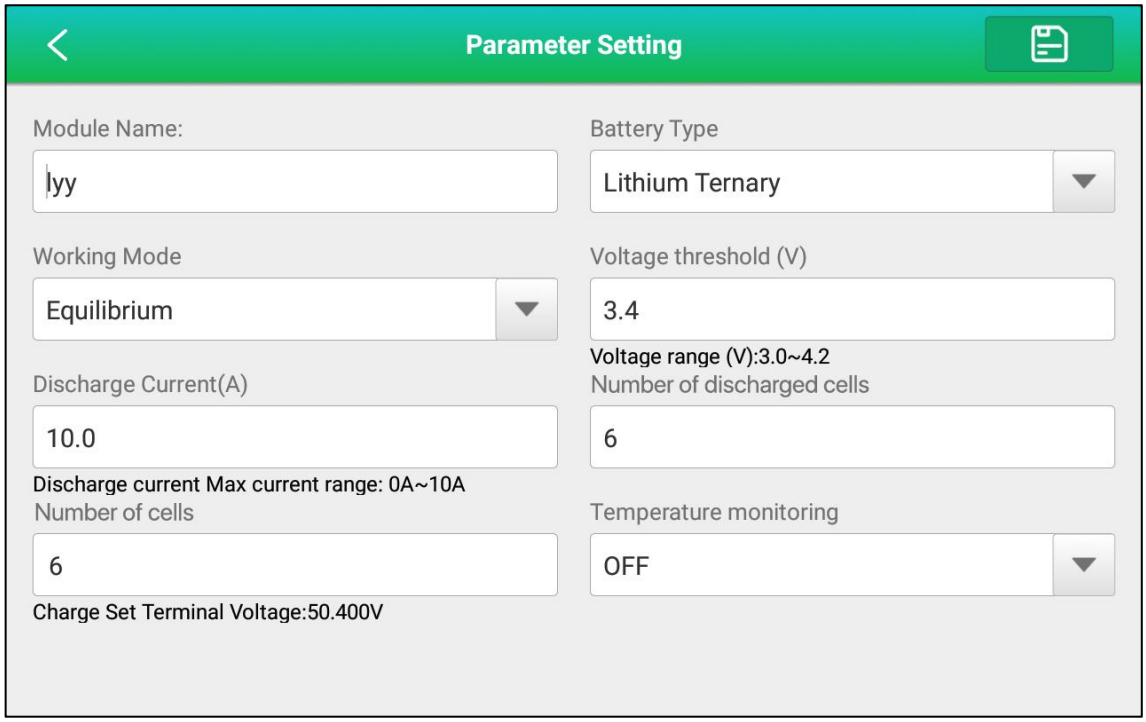
Click “ ” button in the upper right corner of balanced interface to enter the device pairing interface, which can connect with optional devices. “ ” button in the upper right corner of device pairing interface is the clear device pairing button, which deletes all current devices when clicked. If you need to delete a single paired device, long press on the device serial number to delete the device.



Click “ ” **Reback button** to enter the balanced interface after completing the device pairing, which displays the each channel of single battery’s information such as voltage, current, status, capacity and temperature at currently.



Click **"Setup"** to set parameter and tap "" to save the current parameter.

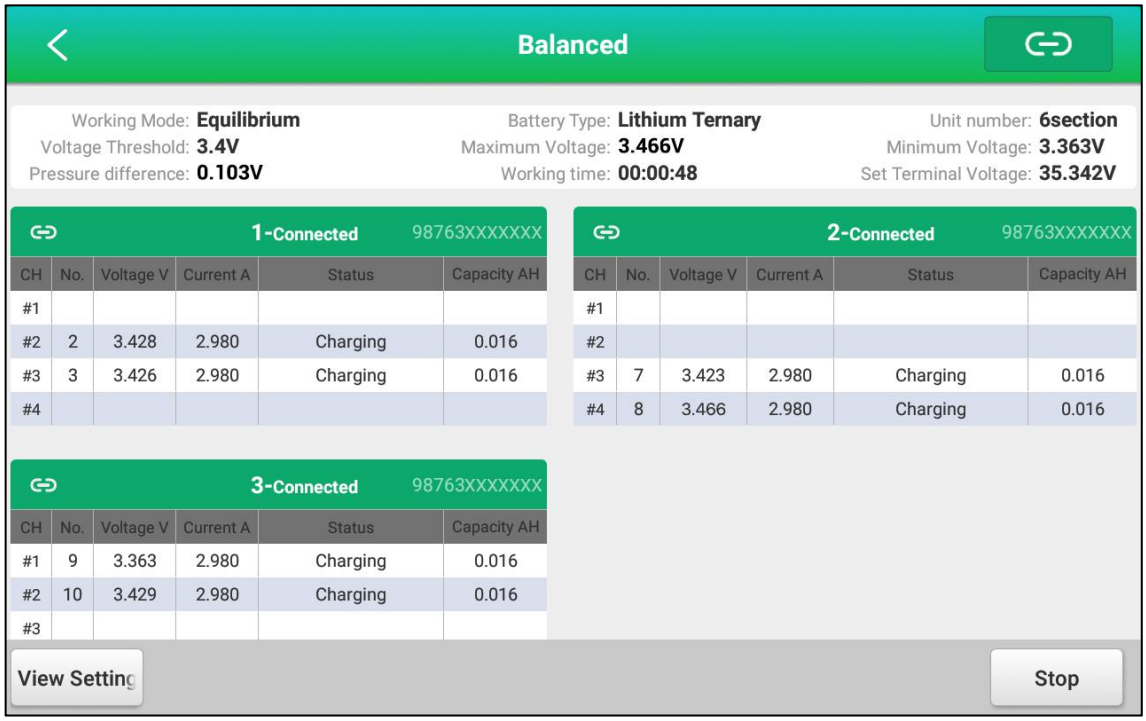


In addition, due to the pack terminal of EVB624 does not participate in the discharge test process in discharge equalization mode, number of cells does not need to be set.

Parameter Description：

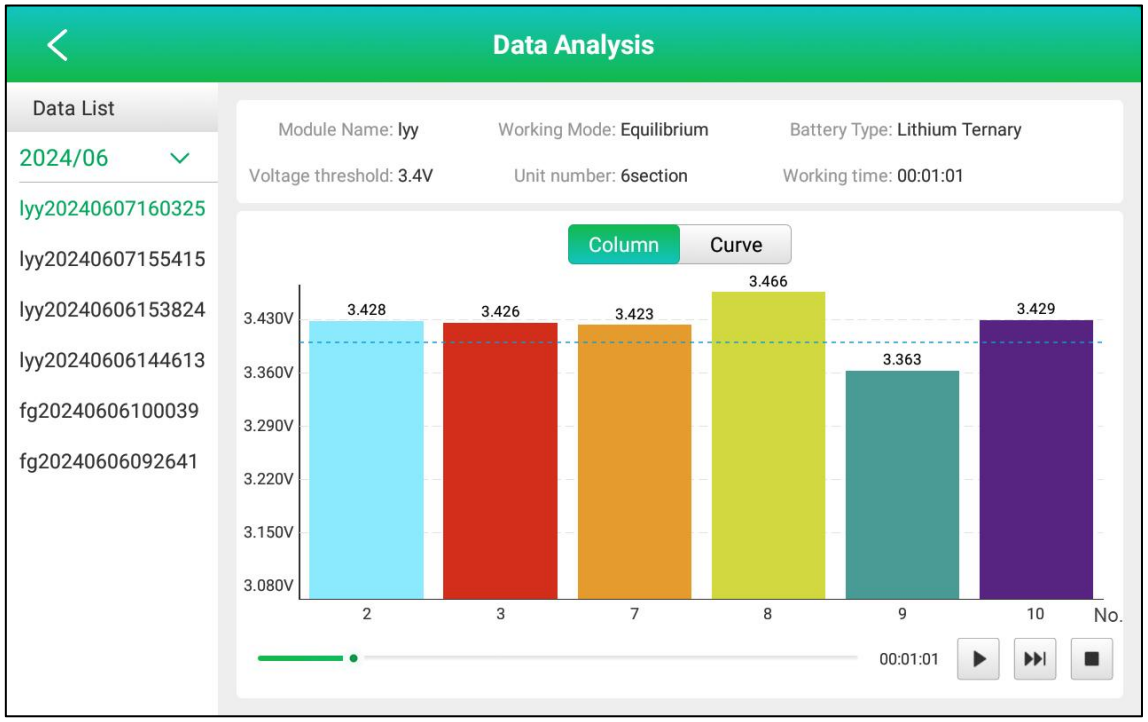
No.	Name	Description
1	**Module Name**	Name the battery pack
2	**Battery Type**	Select actual battery type
3	**Working Mode**	Optional charge and discharge equalization, discharge equalization, and charge equalization modes
4	**Voltage threshold**	Set target voltage value of equilibrium
5	**Discharge Current**	Set discharge current value
6	**Number of discharged cells**	Actual equilibrium channel number
7	**Number of cells**	Total number of cell s in battery modules
8	**Temperature monitoring**	Monitor real-time cell temperature after turned on

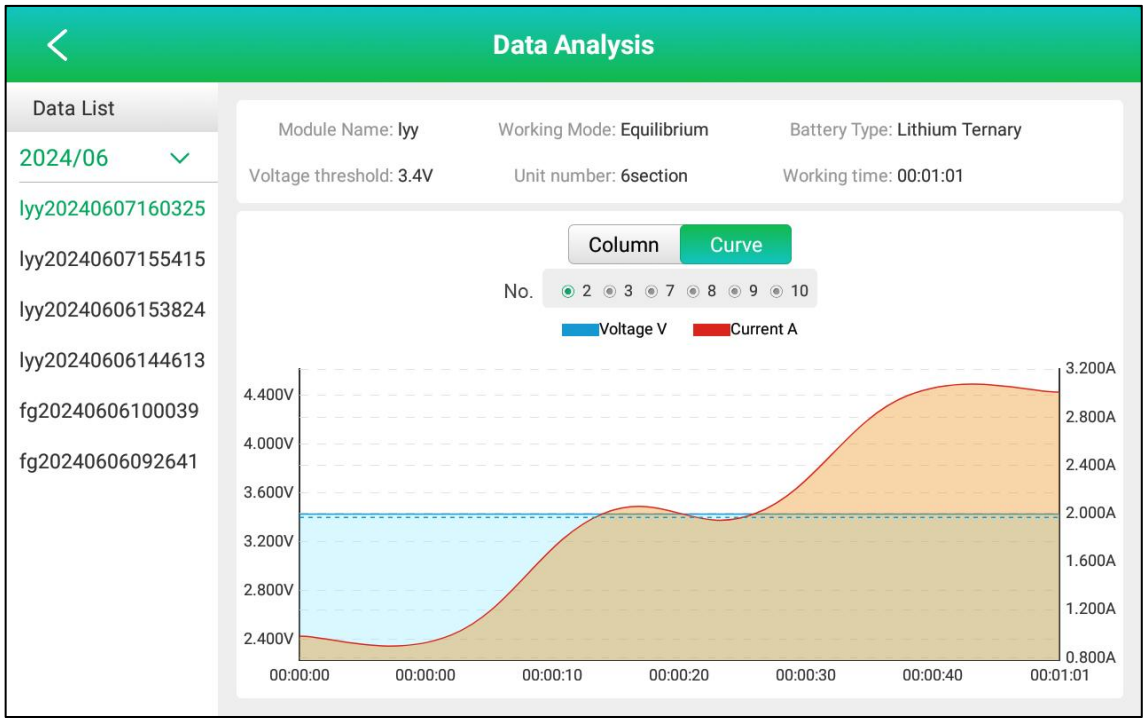
Click **“Start”** button to enter balanced interface which displays real-time information of each channel such as voltage, current, status, discharge capacity, etc. Then wait for working mode to complete.During working mode, tap “Stop” to end working mode.



5.3.3 Data Analysis

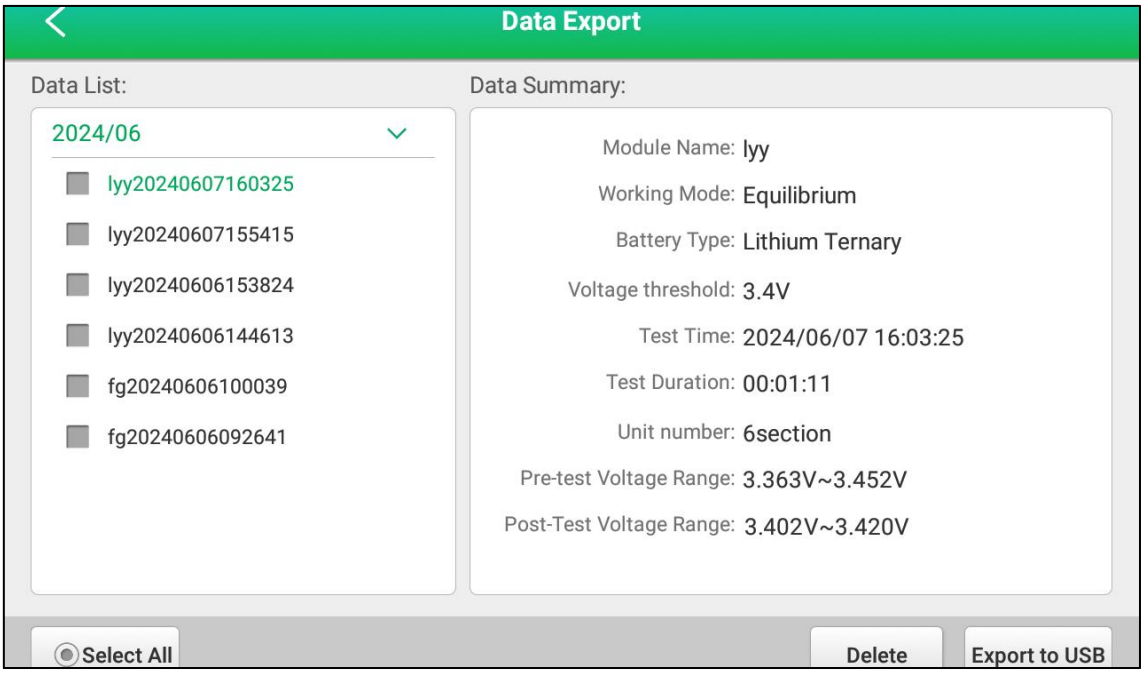
Click **"Data Analysis"** on the main interface to enter the data analysis interface, which supports Column Chart and Curve Chart. Click " ▶ " button to review the data during the test.





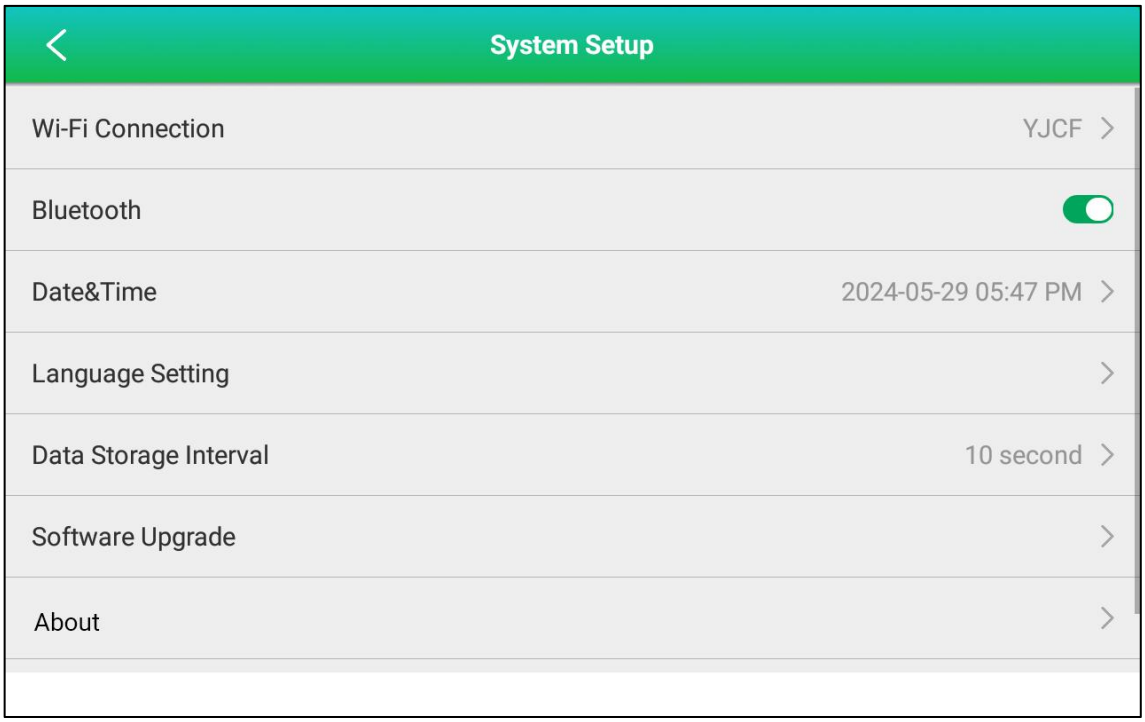
5.3.4 Data Export

Click **"Data Export"** on the main interface to enter the data export interface, select a battery pack in the data list, insert the U disk into the I/O port on the EVB624 panel, and click **"Export to USB"** to transfer the historical data of discharge and charge to the U disk.

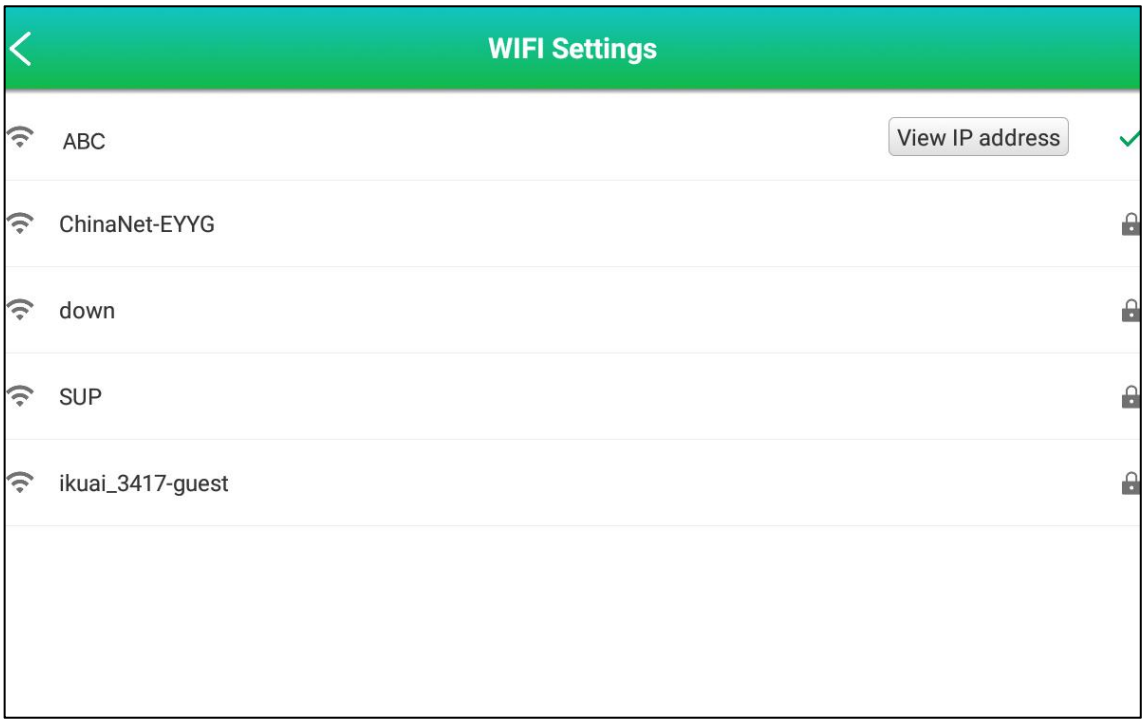


5.3.5 System Setting

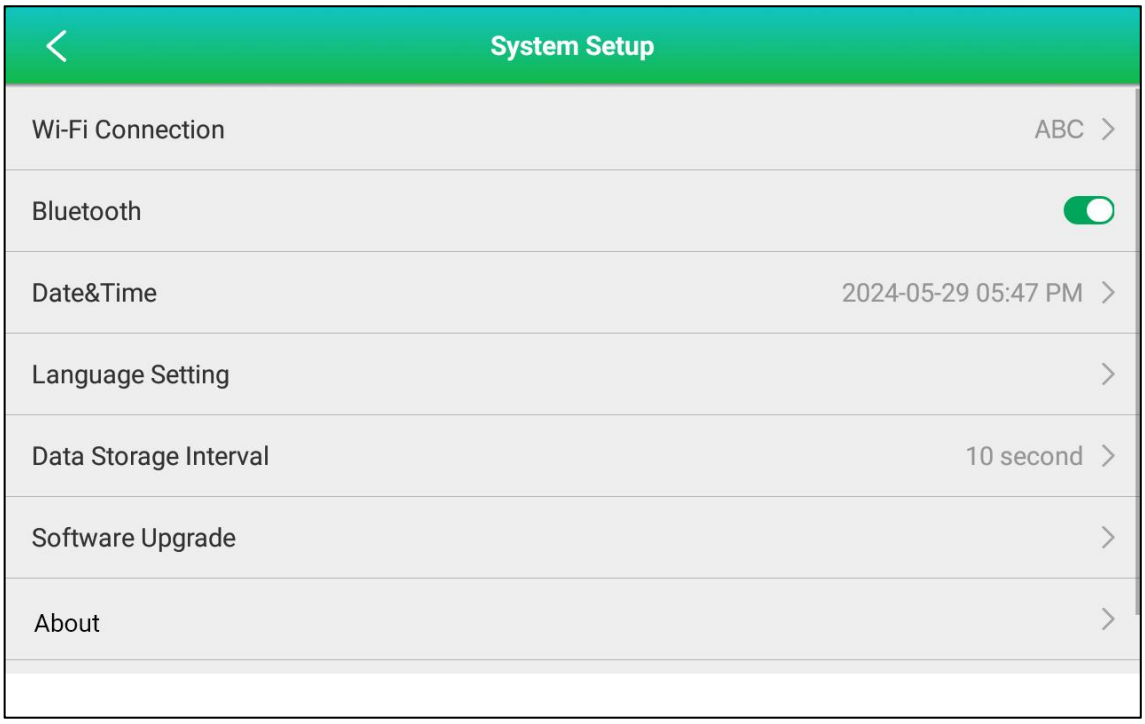
Click "  " button on the main interface to enter the system setup interface, which includes Wi-Fi connection, Bluetooth, Data&Time, Language Setting, Data Storage Interval, Software Upgrade and About.



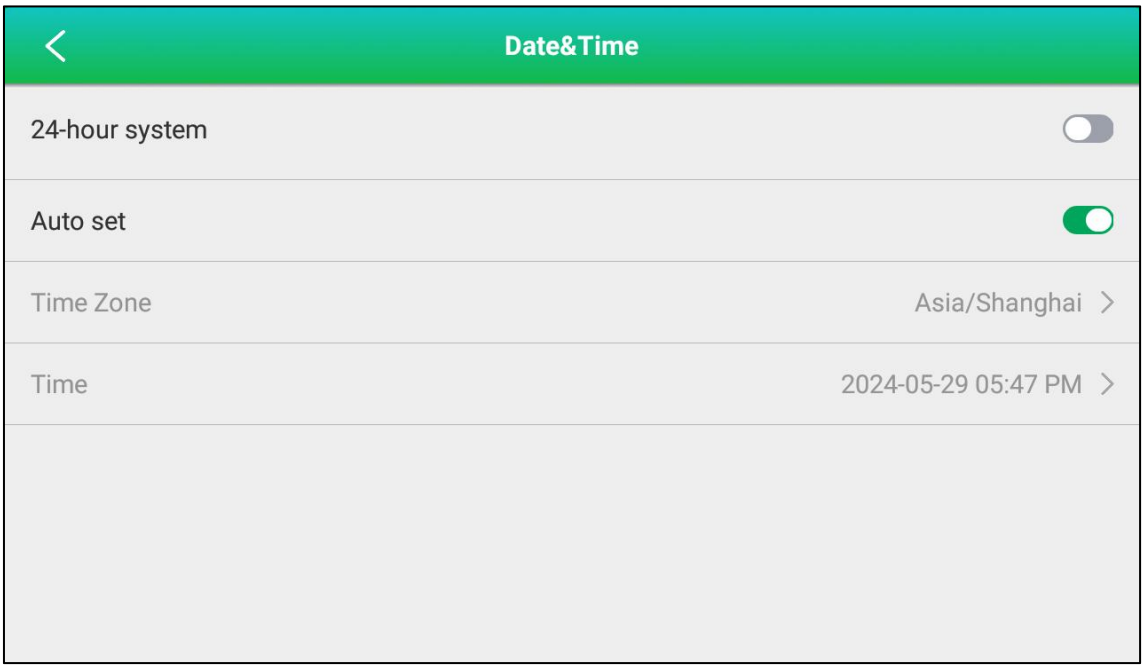
Wi-Fi: Used to connect to Wi-Fi and check the IP address.



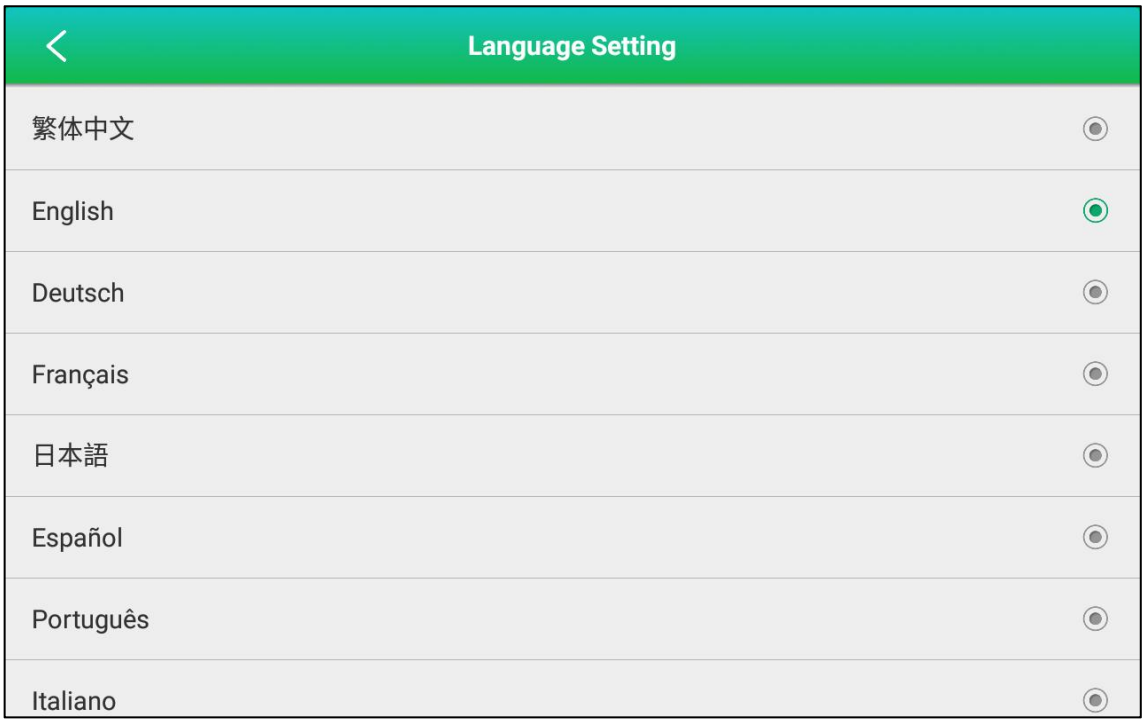
Bluetooth：Open or close the Bluetooth.



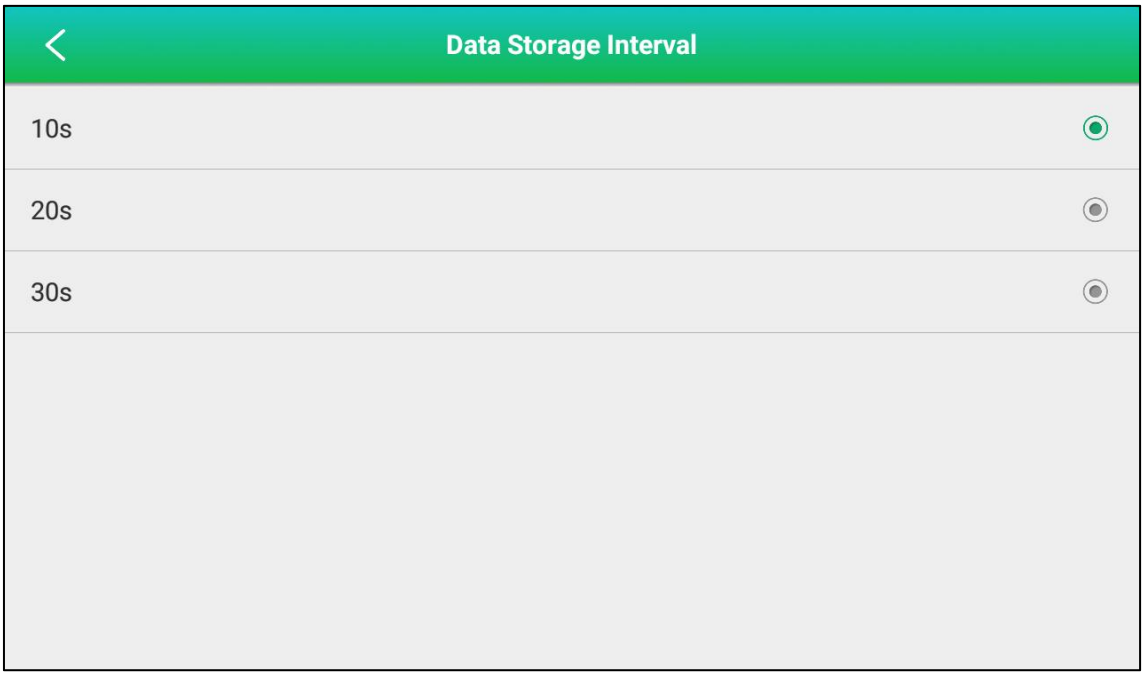
Data & Time: Used to set data and time.



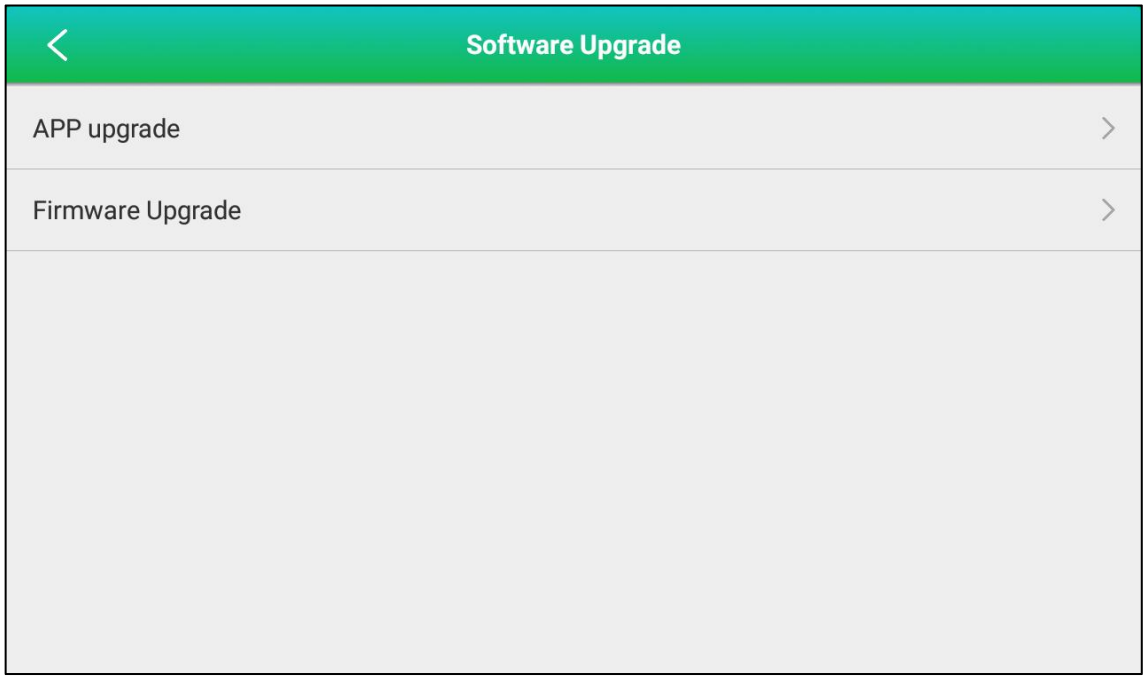
Language Setting：Used to select language.



Data Storage Interval：Used to set the data storage interval.



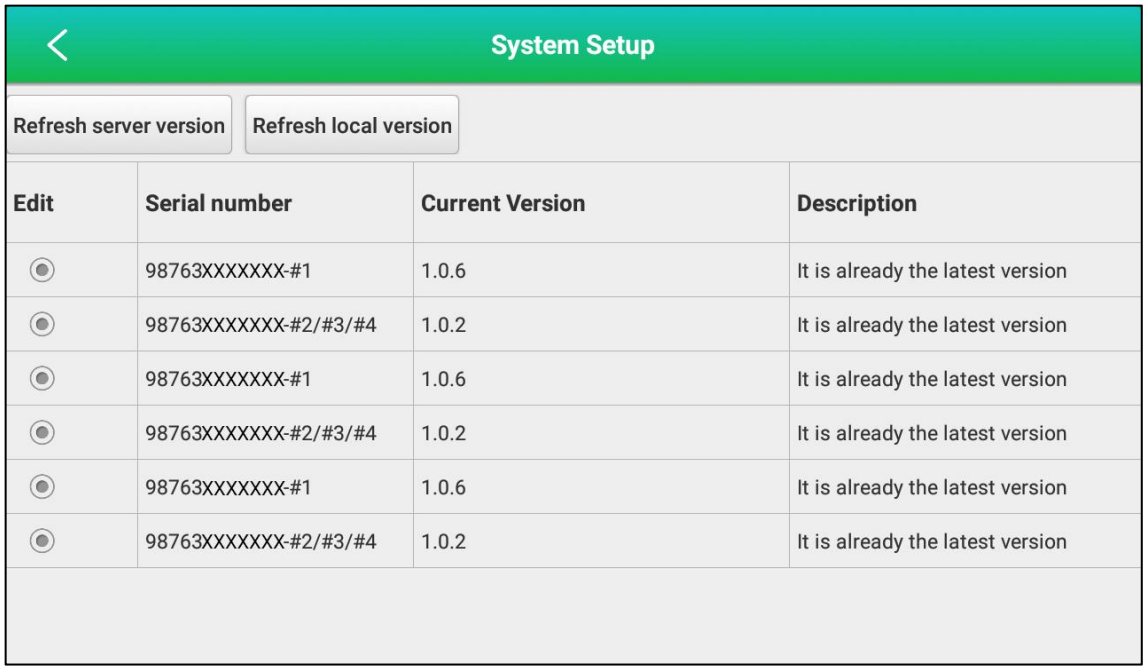
Software Upgrade: Used for software upgrade, including App upgrade and Firmware upgrade.



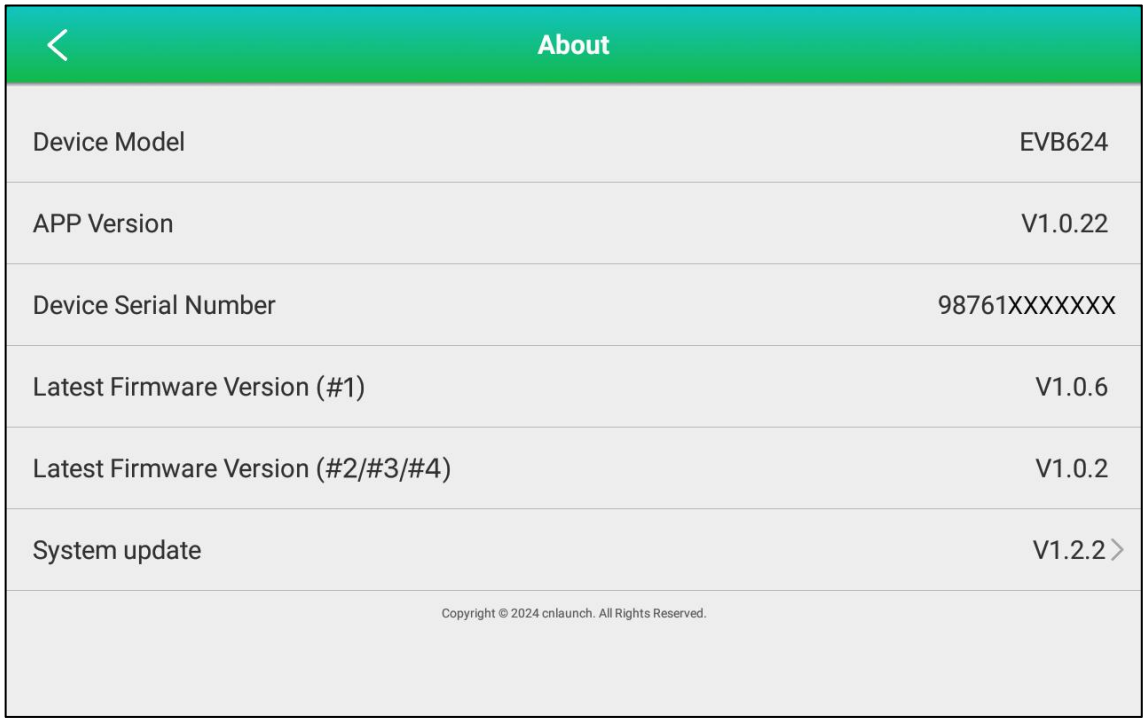
1. Tap **"APP Upgrade",** you can can be upgraded online by connecting to Wi-Fi or locally by inserting a USB stick.

2. Tap **"Firmware Upgrade",** you can can be upgraded online by connecting to Wi-Fi or locally by inserting a USB stick.

1) Enter to "Firmware Upgrade" interface that displays the serial number of EVB624-D and the current firmware version of balanced channel. Equalizer channel #1 and equalizer channels #2, #3 and #4 of each EVB624-D may be different and their firmware versions may be different.



About: Used to view device model,APP version, system update, etc.



Compliance Information

Model: EVB624

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.
The device for operation in the band 5150-5250MHz is only for indoor use.

Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

The device has been evaluated to meet general RF exposure requirement.
To maintain compliance with FCC's RF exposure guidelines, the distance must be at least 20 cm between the radiator and your body, and fully supported by the operating and installation.

This device is in compliance with the essential requirements and other relevant provisions of Radio Equipment Directive 2014/53/EU. The RF frequencies can be used in Europe without restriction.

Model: EVB624-D

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.

Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

The device has been evaluated to meet general RF exposure requirement.
To maintain compliance with FCC's RF exposure guidelines, the distance must be at least 20 cm

between the radiator and your body, and fully supported by the operating and installation.

This device is in compliance with the essential requirements and other relevant provisions of Radio Equipment Directive 2014/53/EU. The RF frequencies can be used in Europe without restriction.

Warranty
This warranty applies only to users and distributors who have purchased Launch's products through regular procedures.

Launch shall provide a warranty against material or craftsmanship defects for 15 months from the date of delivery on its electronic products. Damages to the device or its components caused by abuses, unauthorized modifications, uses for a purpose other than for which it is intended, or operations not following the manner specified in the manual, etc. are not covered by this warranty. Compensation for the damage to instrument of the automobile due to the defect of the device is limited to repair or replacement, Launch is not responsible for any indirect or accidental loss. Launch will judge the attributes of the equipment damage according to its specified test method. None of Launch's dealers, employees and business representatives has the authority to make any confirmations, reminders or promises related to the company's products.

Disclaimer Statement
The above warranty can substitute warranties in any other forms.

Order Notice
Replaceable and optional parts can be ordered directly from LAUNCH authorized distributors. Your order should include the following information:
Order quantity
Part number
Part name

Customer Service Center
For any problem met during the operation, please call +86-0755-84528767, or send email to overseas.service@cnlaunch.com.
If the device needs to be repaired, please send it back to Launch, and attach the Warranty Card, Product Qualification Certificate, Purchase Invoice and problem description. Launch will maintain and repair the device for free when it is within warranty period. If it is out of warranty, Launch will charge the repair cost and return freight.

Launch Address:
Launch Tech Co., Ltd, Launch Industrial Park, North of Wuhe Road,Bantian Street, Longgang District, Shenzhen City, Guangdong Province, P.R.China,
Zip Code: 518129
Launch Website: https://www.cnlaunch.com

Statement:
LAUNCH reserves the rights to make any change to product designs and specifications without notice. The actual object may differ a little from the descriptions in the manual in physical appearance, color and configuration. We have tried our best to make the descriptions and illustrations in the manual as accurate as possible, and defects are inevitable, if you have any question, please contact local dealer or after-sale service center of LAUNCH, LAUNCH does not bear any responsibility arising from misunderstandings.