Helmet Smart HUD User Manual

Intelligent Cranium Helmets

R1

CONTENTS

I. Product introduction 1
1. Brief introduction 1
2. Features 2
3. APP download 15
II. Hardware Description 16
1. Install remote control 16
2. Definition of key 17
3. Definition of toggle switch 17
4. Definition of LEDs 18
III. R1 user manual 19
1. Power on/off 19
2. Charging 19
3. Volume control 19
4. Connection between iCRider APP and HUD host 19
5. WiFi Connection 21
6. Share mobile network through Bluetooth 22
7. Connect to the remote control 23
8. Connect to walkie-talkie 24
9. Setting of UI style 25
10. Navigation 28
12. Make and answer a call 30
13. Music 33
14. Take a photo 34
15. Driving Record 34
16. Streaming rearview mirror 35
17. Voice command 36
18. Photo and video download 39
19. Public network intercom 40
20. Mesh intercom 42
21. Apple CarPlay 44
22. Android Auto 47
23. Mobile screen mirroring 50
24. Light effect settings 53
25. HUD settings 54
26. Restore factory setting 54
27. TF card formatting and file management 55
28. Firmware upgrade 56
IV. Remote control usage 58
1. Install remote control 58
2. Replace the battery 59

3.Pairing and connection.....59
V.Safety tips.....61
VI.FAQ.....63

I. Product introduction

1. Brief introduction

Intelligent Cranium Helmets R1 is a smart helmet HUD (Head Up Display) for motorcycle riding. HUD is very common in the automotive industry, but HUD equipment on motorcycles is still in its infancy. R1 innovatively applies AR display technology to the field of motorcycle riding, with heads-up display, FHD camera, Bluetooth, navigation, voice command, Mesh intercom, network intercom, CarPlay, Android auto, etc. The function allows information to be displayed "before your eyes" and makes interaction simpler, aiming to use the power of technology to make cycling simpler, safer and more fun.

Features of Intelligent Cranium Helmets R1

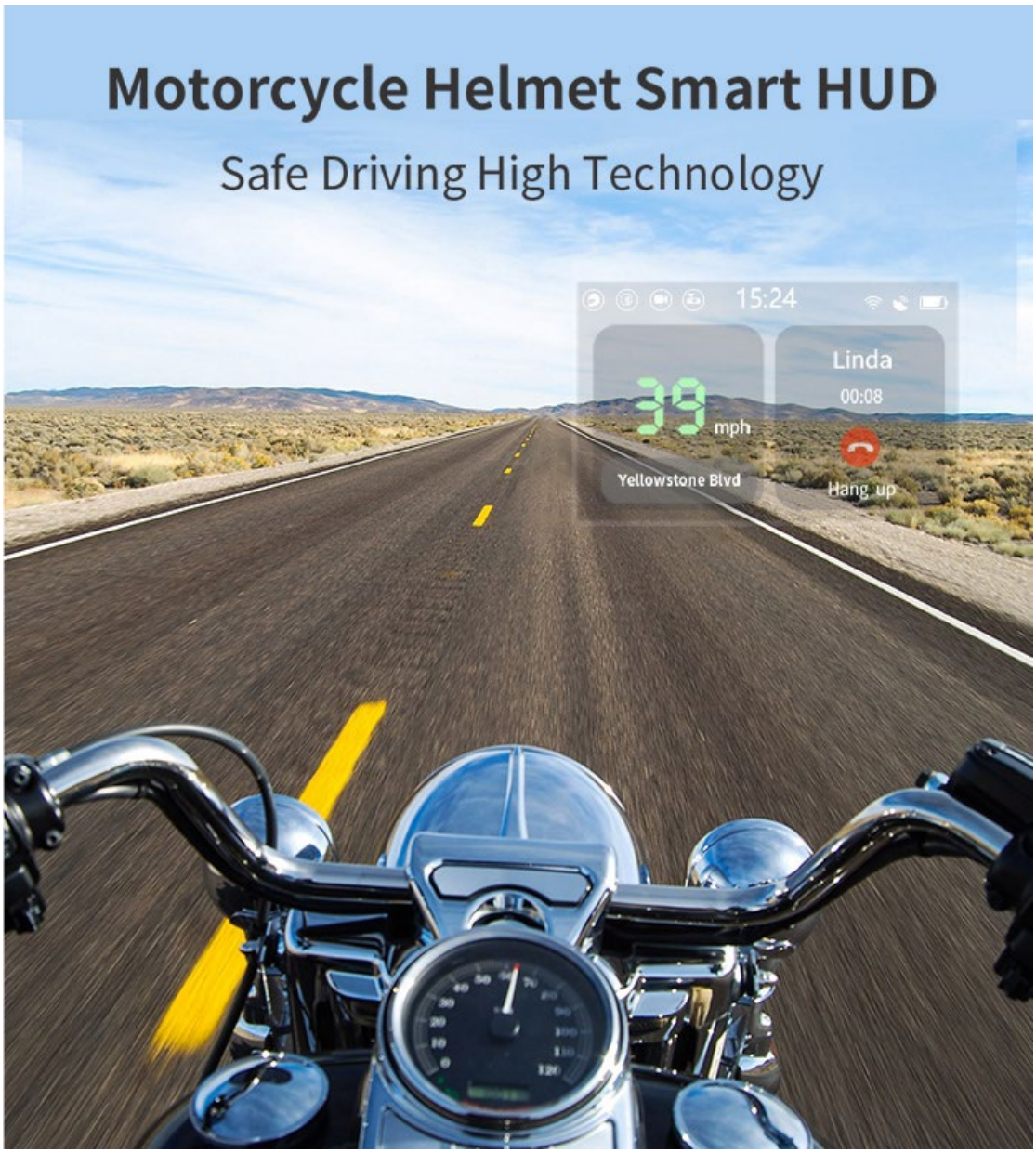
- 24° FOV & See-Through display
- CarPlay
- Android Auto
- Mobile screen mirroring
- FHD camera
- 1080p video
- Dual-mode Bluetooth
- Caller ID, voice noise reduction and echo cancellation algorithm
- 40mm large size headphones
- GPS navigation
- Voice command
- Local music
- Mesh intercom
- Bluetooth intercom
- Public network intercom

- Support wireless connection for intercom
- Android and iOS APP
- WIFI5
- Bluetooth sharing mobile network
- 1400mAh built-in battery
- Remote control
- safety tail light
- 5000mAh battery

2. Features

2.1 HUD Display

Intelligent Cranium Helmets R1 uses a 24° large field of view optical display module. The free-form surface optical technology makes the imaging clearer and more realistic. Its See-Through feature allows users to see the virtual image in the optical module while riding. You can also see the real scene of the outside world, and the display information is always presented in front of you, making riding safer. R1 uses Sony's leading Micro OLED display, with a contrast ratio of up to 10000:1 and a brightness of 3000nit, making the outdoor display clearer. The virtual dashboard mainly displays time, riding speed, speed limit, status, battery and other information.



2.2 FHD photos and driving record videos

The driving recording function supports uninterrupted loop coverage of recording, allowing R1 to escort the ride in the background. The supported driving recording resolution fps are 1080p 30fps and 720p 30fps. R1 supports up to 256GB TF card to meet users' large-capacity storage needs.

2.3 High-quality dual-mode Bluetooth

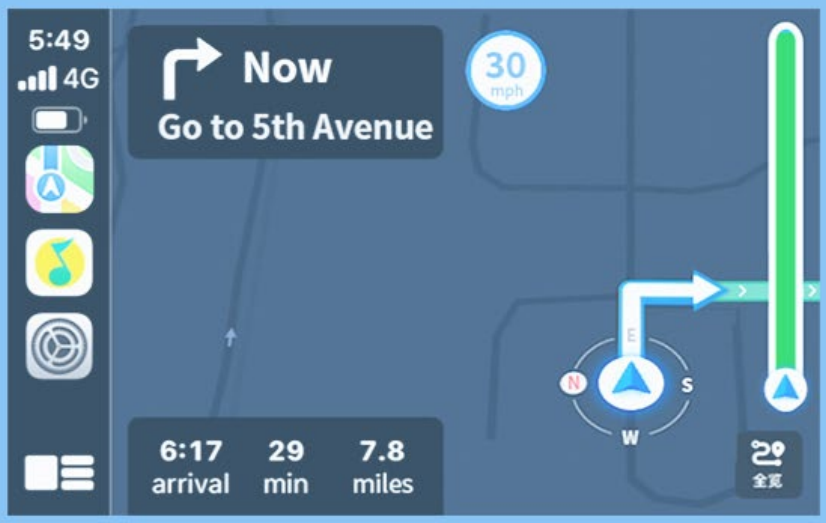
R1 uses Qualcomm dual-mode Bluetooth solution. After the mobile phone is connected to the HUD host via Bluetooth, the HUD can be managed through the APP, such as checking status, synchronizing photos and videos, etc. After Bluetooth connection, the mobile phone will automatically synchronize the contacts book to the HUD host. It has caller ID and voice command. It is very convenient to make calls or listen to Bluetooth music.

High-quality Bluetooth combined with 40mm large-size stereo headphones brings the ultimate audio experience to cycling. The microphone supports ADSP voice noise reduction and echo cancellation algorithms, making calls stable even while riding at high speeds.

2.4 Navigation

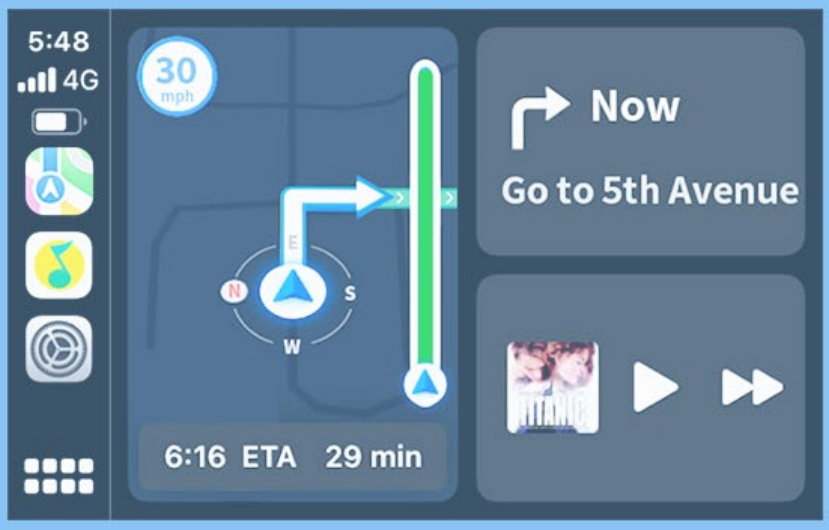
HUD can display navigation information in front of you at all times. R1 can be connected to CarPlay, HiCar, and Android Auto, use its navigation APP to map route planning and navigation, and project the navigation screen on HUD.

Two Navigation Modes



Full screen mode

Rich navigation information

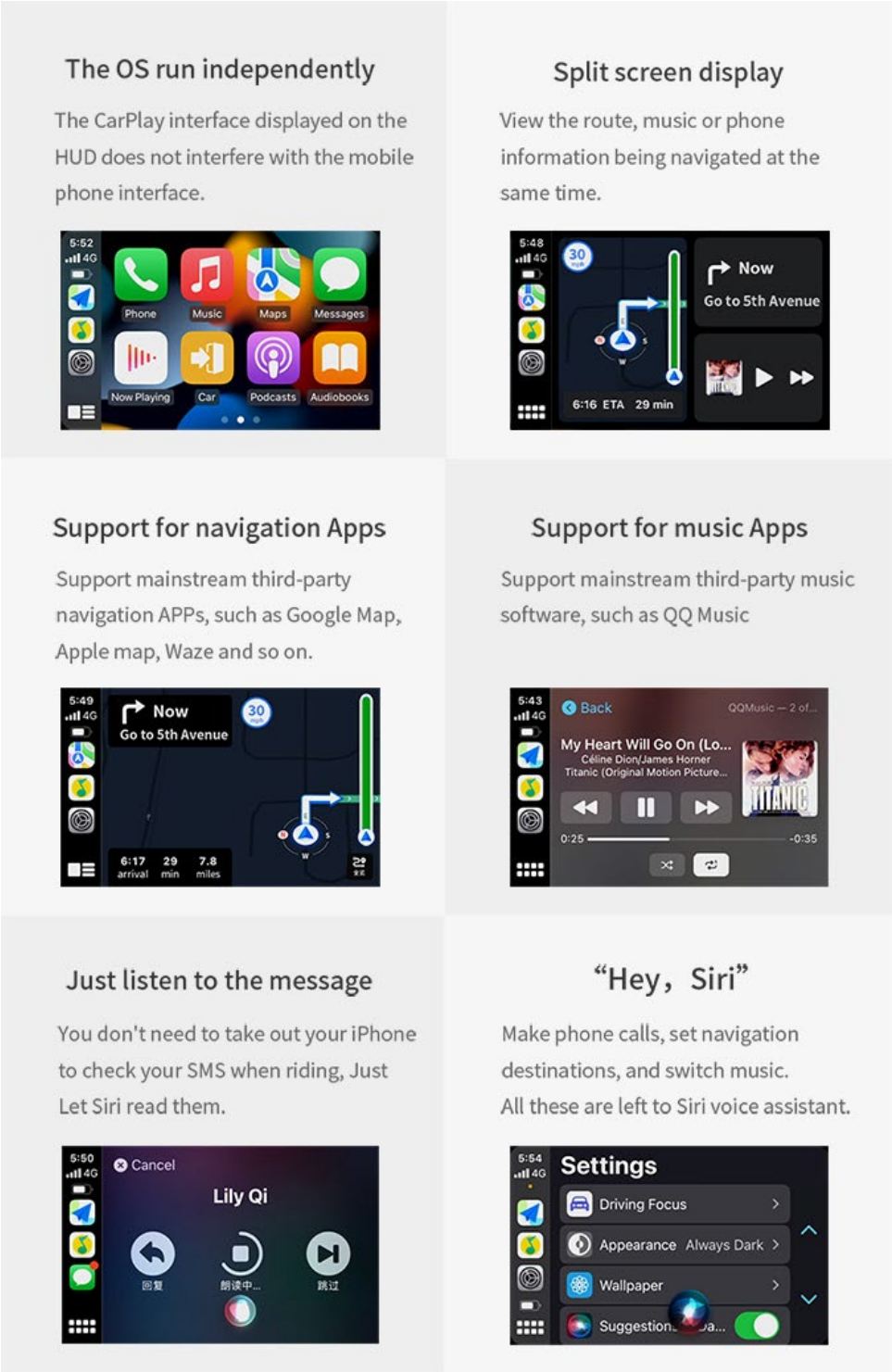


Thumbnail mode

Navigation and music display at the same time

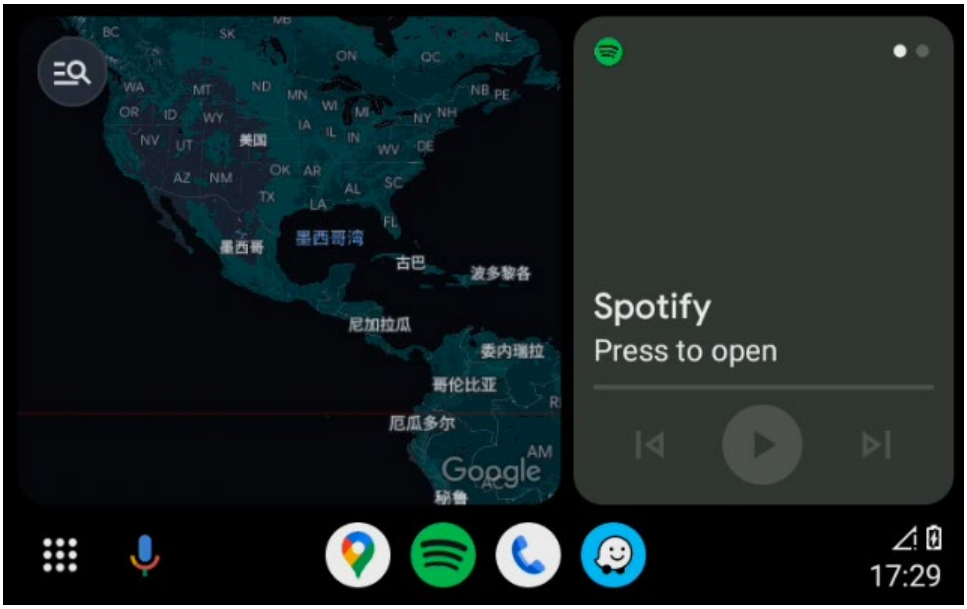
2.5 Apple CarPlay

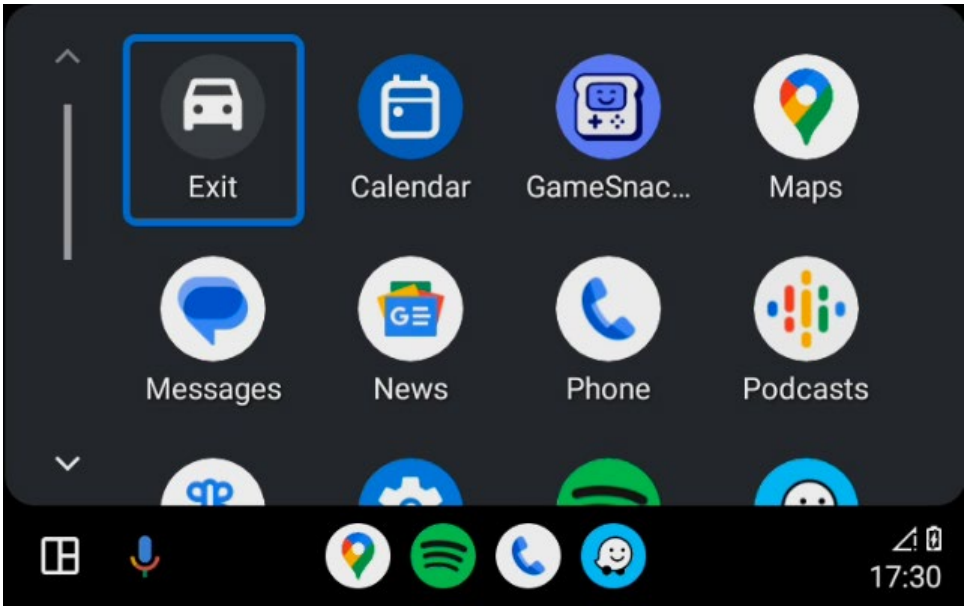
CarPlay is a smart car solution launched by Apple. This function is designed to connect the mobile phone's operating system and the HUD's virtual display, and extend the applications and services of iPhone to the HUD's virtual screen.



2.6 Android Auto

Android Auto is an interconnection system launched by Google. This function is designed to wirelessly interconnect Android phones and HUD screens, establish a pipeline between Android phones and HUD, and extend mobile applications and services to the HUD virtual screen.





2.7 Mobile screen mirroring

The mobile screen mirroring function can wirelessly project the mobile phone screen to the HUD virtual screen through WiFi, and simultaneously synchronize the mobile phone sound to the HUD headset. It can project all the applications on the mobile phone and cast whatever you want.

2.8 Music

R1 supports Bluetooth music and local TF card music playback.

2.9 Public network intercom

The intercom function of R1 is very rich. In urban areas with cellular networks, users can use network intercom with teammates. There is no limit to the intercom distance. Up to 15 people in the same team can talk together in full duplex at the same time.

2.10 Wireless connect to walkie-talkie

In mountainous areas where there is no cellular network, users can use Xiaomi walkie-talkie to wirelessly connect to R1. The walkie-talkie serves

as a mobile phone and R1 serves as a Bluetooth headset. By long pressing the PTT button on the Bluetooth controller (i.e.: camera button), you can intercom with teammates. This intercom method does not limit the number of people talking. The intercom distance depends on the transmitting power of the mobile phone, and generally supports 5 kilometers. R1 does not require wired connection to the intercom, and does not require additional PTT buttons, making it safer and more convenient to use.

2.11 Mesh intercom

R1 supports mesh self-organizing network technology, which enables convenient and efficient communication within teams without relying on the internet. Supports point-to-point communication within 800 meters, with a maximum communication distance of 4 kilometers for 9 people.

2.12 Bluetooth Intercom

R1 supports direct connection with third-party brand Helmet Bluetooth headset for one-on-one communication.

Its strong compatibility is based on the ability to connect with any

earphones on the market that support Bluetooth intercom function.

2.13 Voice command

R1 supports a variety of interaction methods, among which voice control can free up the user's hands to the greatest extent and improve riding safety. The voice control function of R1 is very convenient, and can control opening APP, adjusting volume, Adjust brightness, etc.

2.14 Bluetooth remote control

In order to facilitate the safe operation of the device during riding, R1 supports remote operation with the handlebar Bluetooth controller. The Bluetooth controller adopts a quick-release structure and waterproof design and can be used in the rain. It uses CR2032 button battery and has a battery life of more than 12 months with regular use.

2.15 Streaming rearview mirror

R1 is equipped with two FHD cameras, which are stitched together to create a 240 ° ultra wide angle image. It can capture the road conditions behind the vehicle from all angles and display them in real-time in the HUD, ensuring a seamless view.

2.16 Rear obstacle monitoring

The R1 helmet is equipped with two micro TOF sensors at the back of the helmet, which can monitor the road conditions behind the rider in real time. When a vehicle approaches, the HUD display module and headphones will issue alarm prompts to ensure the safety of the rider.

2.17 Light control

For the safety of night riding, the HUD is equipped with high-brightness tail lights, and can be set to a variety of lighting effects. Automatic opening can be set according to personal needs.

2.18 SOS assistant

After the mobile phone is connected to the HUD, if a collision accident occurs, the HUD will automatically trigger a distress event and make a call to the emergency contact person or 911 to ensure that the rider receives timely assistance.

3. APP download

When using the HUD for the first time, you need to download the iCRider APP on your mobile phone and connect it to the HUD. The HUD will automatically complete the language, time zone, time and other settings.

iCRider APP

Mobile device manager APP

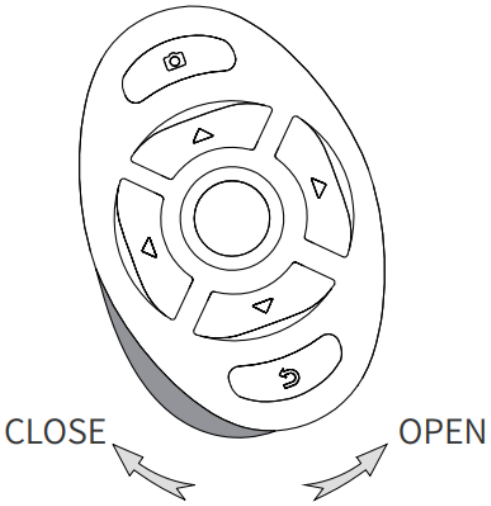
ZPlus APP

Android screen mirroring APP

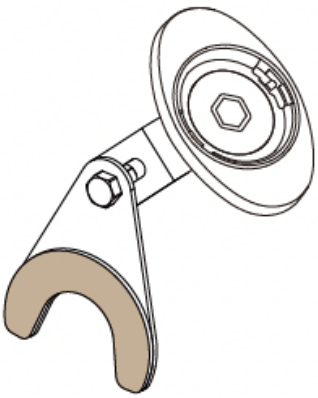
II. Hardware Description

1. Install remote control

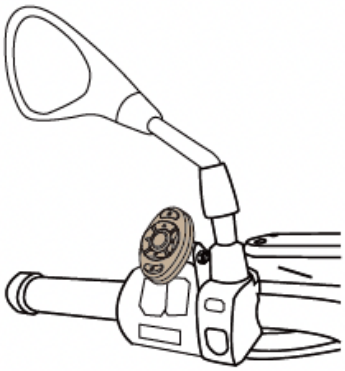
(1) Rotate the control counterclockwise to remove it from the base.



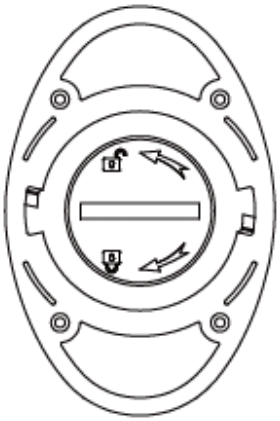
(2) Use a wrench to install the controller base onto the bracket and attach the back glue to the arc position of the bracket.



(3) Remove the release paper from the bracket, paste the assembled bracket onto the handlebar, and press to ensure reliable installation.



(4) If need to replace the battery, you can use a coin to open the battery cover and replace the battery.



2. Definition of key

key	Short press	Long press(2s)
Power key	On/Off screen	Power on/off

3. Definition of toggle switch

Position	Function
1	Type-C connect to the storage of the HUD and the rearview camera
2	Type-C connect to the storage of the front driving video recorder

4. Definition of LEDs

LEDs	On
Breathing lamp climbing up	Power on
Breathing lamp climbing down	Power off
One of the breathing light is flashing	Charging
All breathing lights stops flashing	Stop charging

III. R1 user manual

1. Power on/off

Press and hold the power key for 2s to power on/off. After the HUD host is power on, short press the power key to standby/wake up the Display module.

note:

If an abnormality occurs, pressing and holding the power button for 10s can forcibly restart the device.

2. Charging

Please use a 5V charger.

When charging: the LED indicator light stops flashing.

When fully charged: the charging indicator light goes off.

The charging time of the HUD is about 3 hours at a time.

3. Volume control

Long press the up key of the remote control to increase the volume.

Long press the down button of the remote control to decrease the volume.

4. Connection between iCRider APP and HUD host

(1) Power on the HUD.

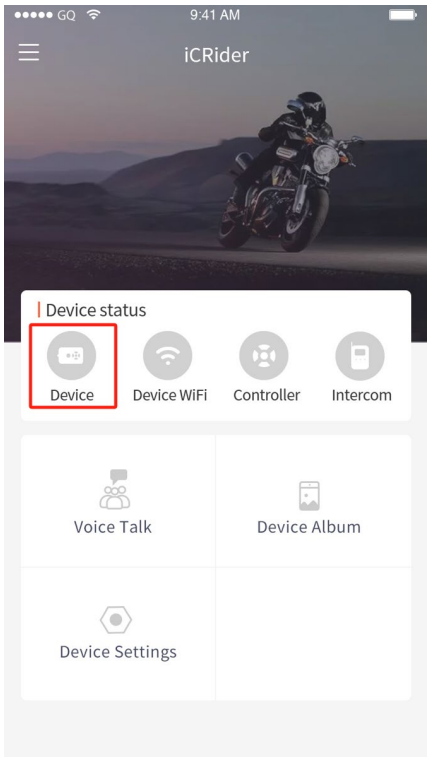
(2) Download iCRider mobile APP, register and log in.

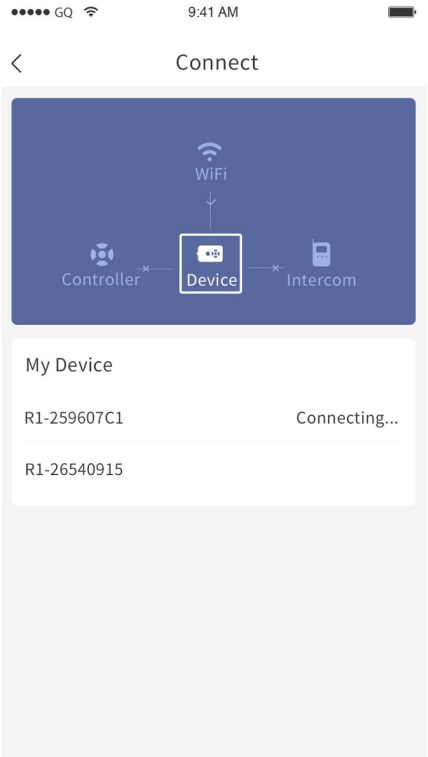
(3) Click on the "Device" on the APP homepage.

(4) Search for the HUD host and click on the name to connect, the name of HUD Bluetooth is :"Device model" - "SN number", such as R1-47C132C2.

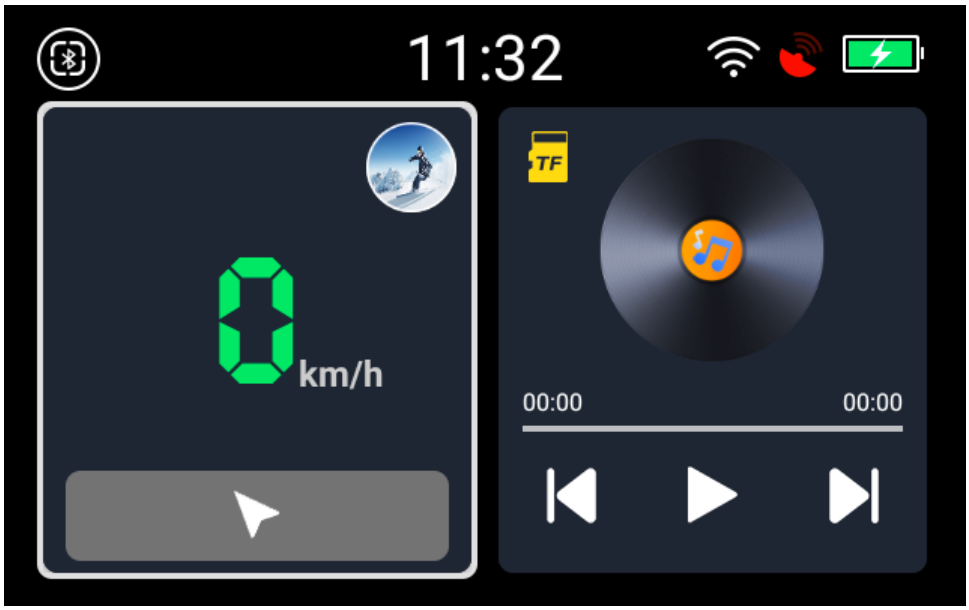
(5) After connected, the "Device" page will display the device

information.





After the connection is successful, the user's avatar changes from the unlogged state to the logged in state on the main interface of HUD. If the user has set an avatar on the mobile APP, the user's customized avatar will be displayed.



Notes:

Bluetooth connections are including BLE data connections and Bluetooth

audio connections. Data transmission between the iCRider APP and the mobile phone is transmitted through the BLE data connection, and the Bluetooth phone and Bluetooth music functions are transmitted through the Bluetooth audio connection.

Android phone: Android mobile APP can establish Bluetooth data and audio connection between HUD and phone simultaneously. (Some models need to manually connect Bluetooth audio in the system settings).

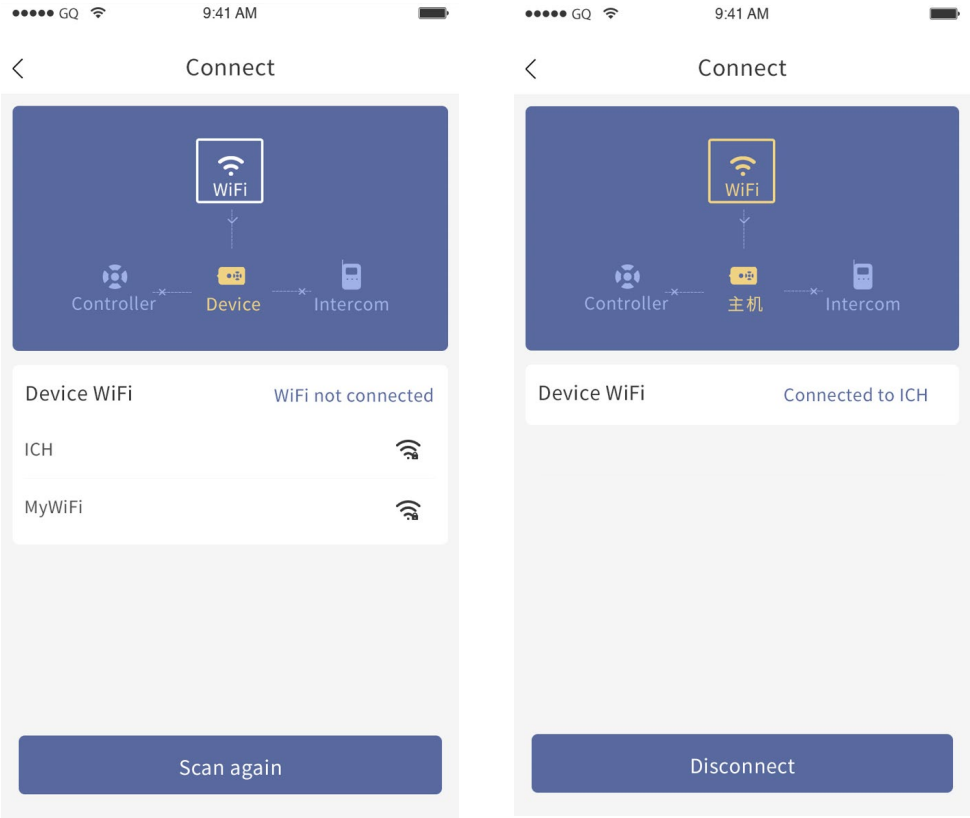
iPhone: The iOS APP can only establish a Bluetooth data connection between HUD and the phone, and the audio connection needs to be manually connected in System Settings - Bluetooth Connection.

5. WiFi Connection

Method 1: Connect to WiFi through iCRider APP

(1) After the iCRider APP establishes a connection with the HUD host, click the "WiFi" button on the "Device Connection" page or the main page.

(2) Select the WiFi you wanted and enter the password to connect.



Method 2: Connect to WiFi through HUD host

(1) Enter "Settings" and then select "WiFi Connection" on HUD,

(2) Select "WiFi Manual Connection", and then select the WiFi name you want to connect to.

(3) Enter password to start connecting.

6. Share mobile network through Bluetooth

➢ **Preparation before connection**

1. iPhone: Turn on the 'Personal Hotspot' switch.
2. Android phone: Turn on the "Bluetooth shared network" switch.

➢ **Manual connection**

1. Turn on Bluetooth on the mobile phone and ensure that it is in the "Discoverable" state.
2. Open "Settings" - "Bluetooth Network" - "Manual Connection" on the HUD device and search for nearby Bluetooth devices.
3. Select the Bluetooth name of the mobile phone and click the "OK" button to connect.

4. A Bluetooth connection dialog box will pop up on the mobile phone, click "Connect".
5. After the connection is successful, the icon of the Bluetooth network will be displayed in the status bar of the HUD home page.

➢ **Auto Connection**

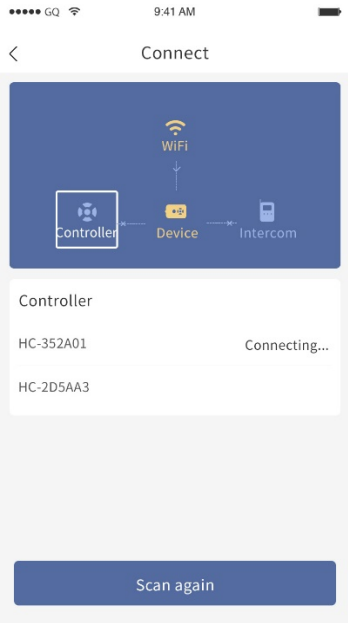
1. Open "Settings" - "Bluetooth Network" on the HUD device and turn on "Auto Connection",
2. The Bluetooth network will automatically connect when connecting to Bluetooth audio.

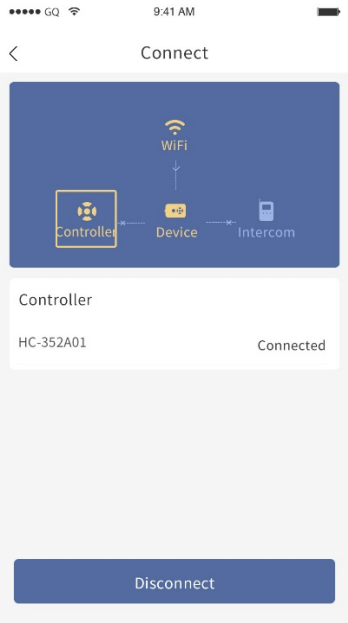
➢ **Disconnection**

1. For HUD devices that have been connected to the Bluetooth network, you can see the name of the connected device in "Settings" - "Bluetooth Network"
2. Click the name of the connected device to disconnect from the Bluetooth network.

7. Connect to the remote control

1. Press and hold the camera button and return button of the controller simultaneously for more than 3 seconds. At this time, the red and blue lights on the remote control flash alternately.
2. After establishing a Bluetooth connection between the phone and the HUD host, click the controller button on the APP homepage or "Device Connection" page.
3. Click on "Search Bluetooth Controller".
4. Select the Bluetooth controller to connect to.





Notes:

After the HUD is turned on, press any key on the remote control and wait for a few seconds. The controller can resume connection to the HUD. After the HUD shuts down, the remote controller will automatically enter low-power sleep mode.

8. Connect to walkie-talkie

The HUD host supports wireless connection to a walkie-talkie with Bluetooth communication function. After the connection, the walkie-talkie serves as a communication terminal, and the HUD serves as a Bluetooth headset and PTT button. The connection method is as follows:

(1) In the phone settings, disconnect the Bluetooth audio connection between the phone and the HUD,

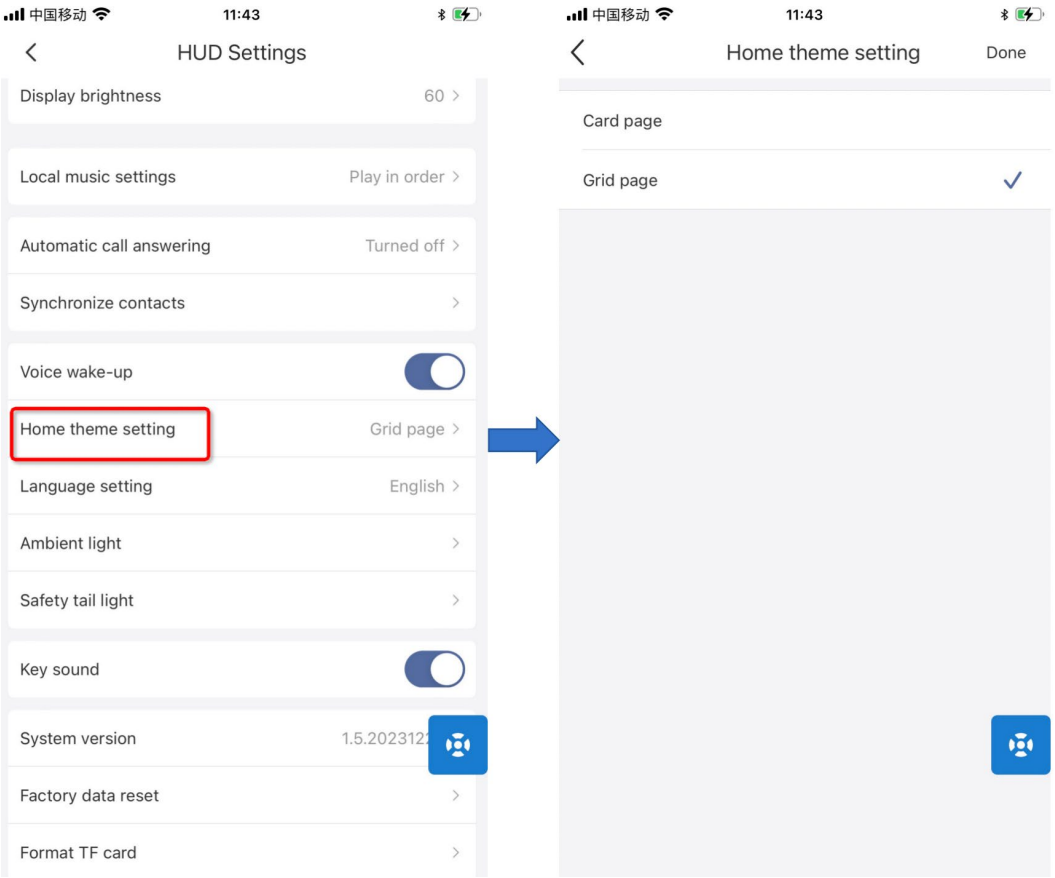
(2) Use a walkie-talkie with Bluetooth function to search for the Bluetooth headset named "R1-xxxxxx" and connect to it,

(3) After the connection is successful, you can press the intercom PTT button on the Bluetooth controller (i.e.: long press the camera button) to intercom with teammates in the same channel.

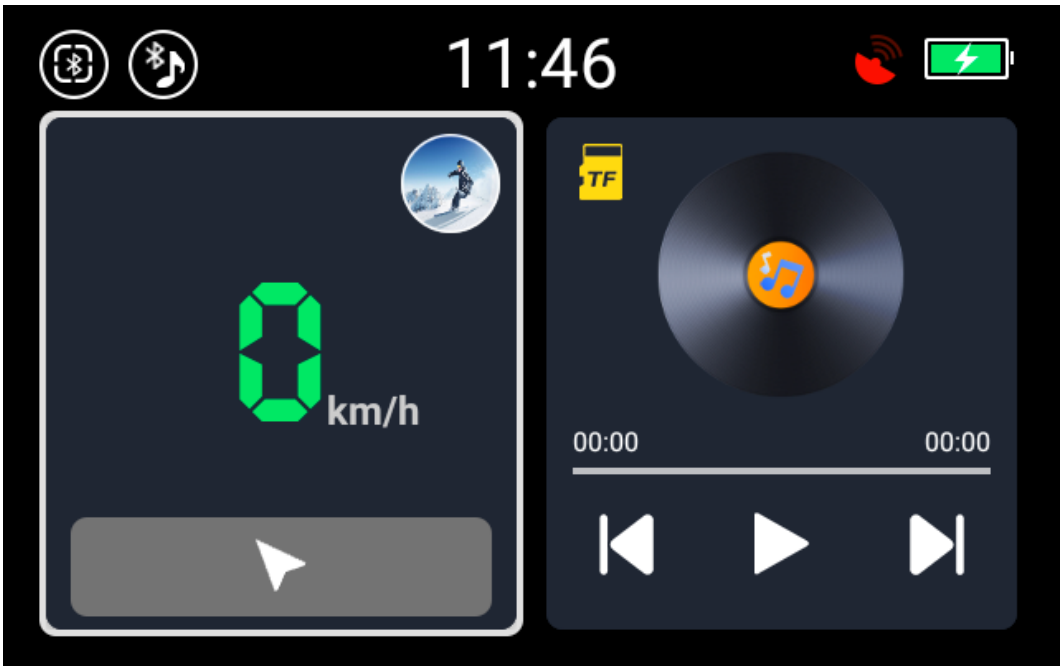
The walkie-talkie devices supported are as follows:

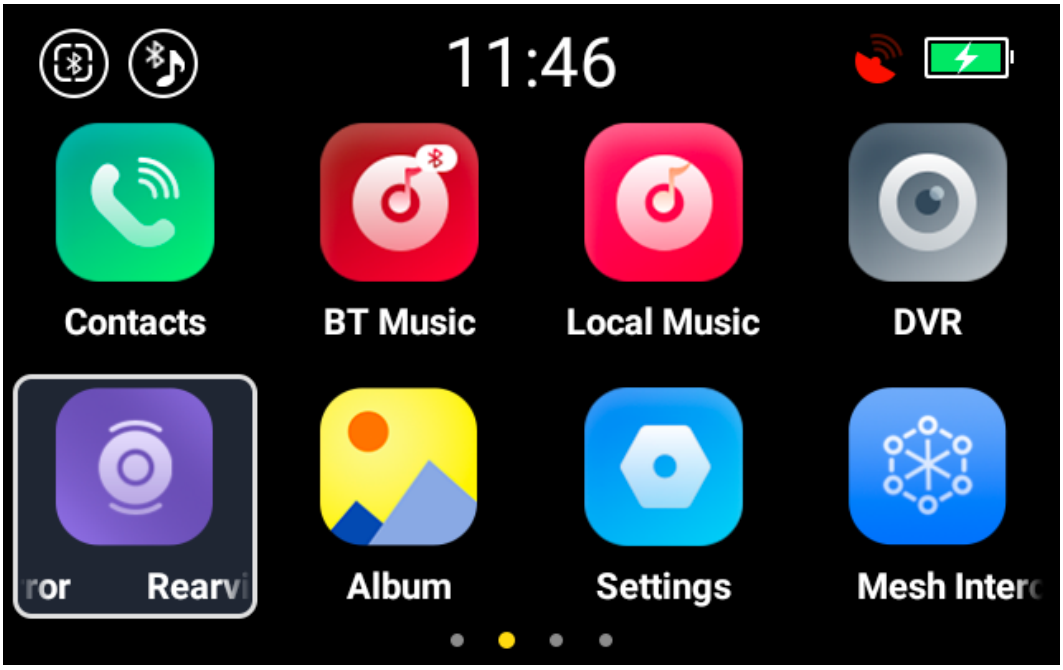
9. Setting of UI style

The HUD host has two UI styles: grid mode and card mode, which can be set in the iCRider APP or the HUD Settings.



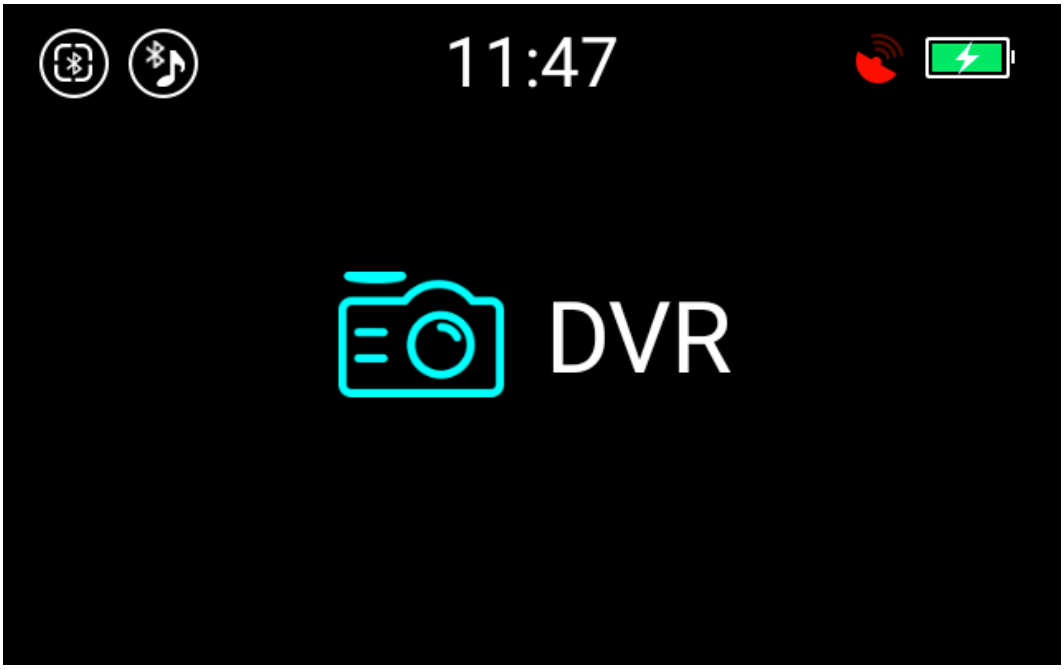
Grid mode is as follows:





The grid mode homepage displays the speed and music player side by side. It mainly displays the current speed and music player, speed limit, application status and other information. Press and hold the return key on any interface to directly return to the homepage. You can use the front, back, left, and right buttons of the Bluetooth controller to switch interfaces.

Card mode is as follows:



The main page of the card mode is a virtual dashboard, which mainly displays the current riding speed, speed limit, application status and other information. Long press the return key on any interface to directly return to the virtual dashboard interface. You can use the up and down buttons of the remote control to switch interfaces.

The status bar icon description is as follows:

Icon	Meaning
	Bluetooth controller is connected
	Bluetooth audio connected
	Driving Record
	Public network intercom
	Connect Bluetooth walkie-talkie
	WiFi
	Bluetooth network
	GPS has positioned
	GPS signal is weak
	Charging
	Low battery
	User is not logged in
	User default avatar
	Mesh intercom

10. Navigation

Method 1: Using CarPlay

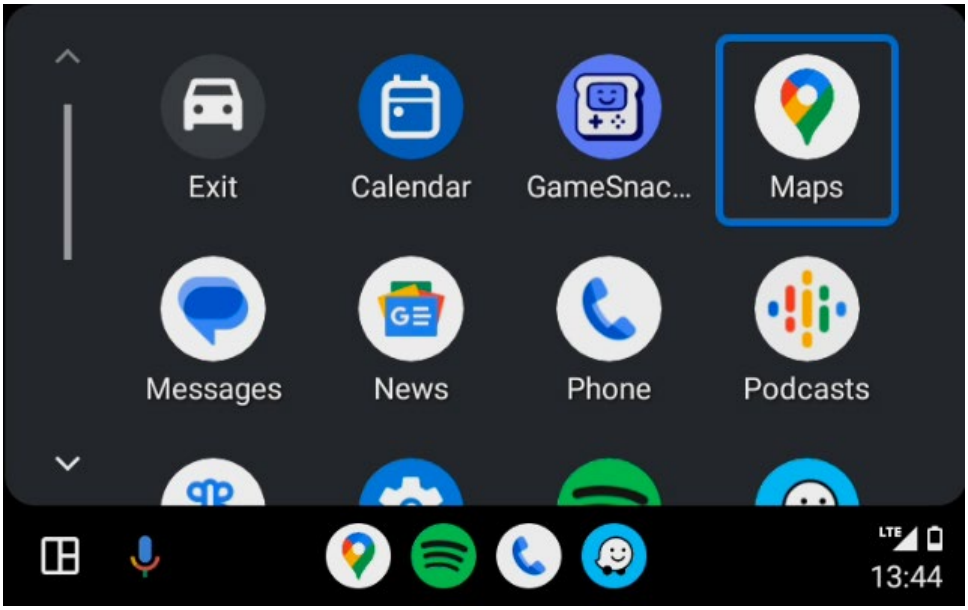
(1) Use HUD to connect iPhone CarPlay (see CarPlay function description for details)

(2) Select the navigation software supported by CarPlay on your mobile phone to navigate.

Method 2: Using Android Auto

(1) Use HUD to connect Android Auto (see Android Auto function description for details)

(2) Select the navigation software supported by Android Auto on your mobile phone to navigate.



12. Make and answer a call

Confirm that the HUD Bluetooth audio is connected to the mobile phone and the contacts is synchronized.

- **Answer the call**

When there is an incoming call on the mobile phone, the HUD displays the incoming call information. Press the OK key to answer the call, or press the Return key to reject the call. During the call, press the OK key to hang up the call.

You can also answer or hang up calls with voice commands. (see voice command description for details)

- **Make a call**

Method 1: Dial using mobile phone

Similar to using a traditional Bluetooth headset, dial the number on your mobile phone and use the HUD to talk.

Method 2: Dial using the HUD contacts function

Select the Contacts on the HUD --> Select the "Contacts" tab --> Select the contact with the up and down keys --> Call the selected contact with the OK key.

Method 3: Use the HUD dial pad to enter numbers to dial

Select the Contacts on the HUD --> Select the "Dial" tab --> Enter the phone number --> Select the green dial button on the right to dial

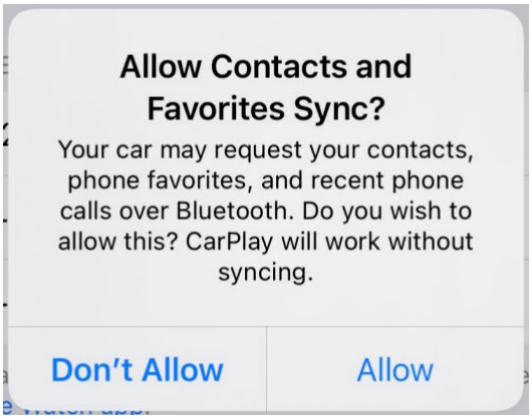
- **Switch the call to the background**

During a call, long press the return key to place the current call in the background.

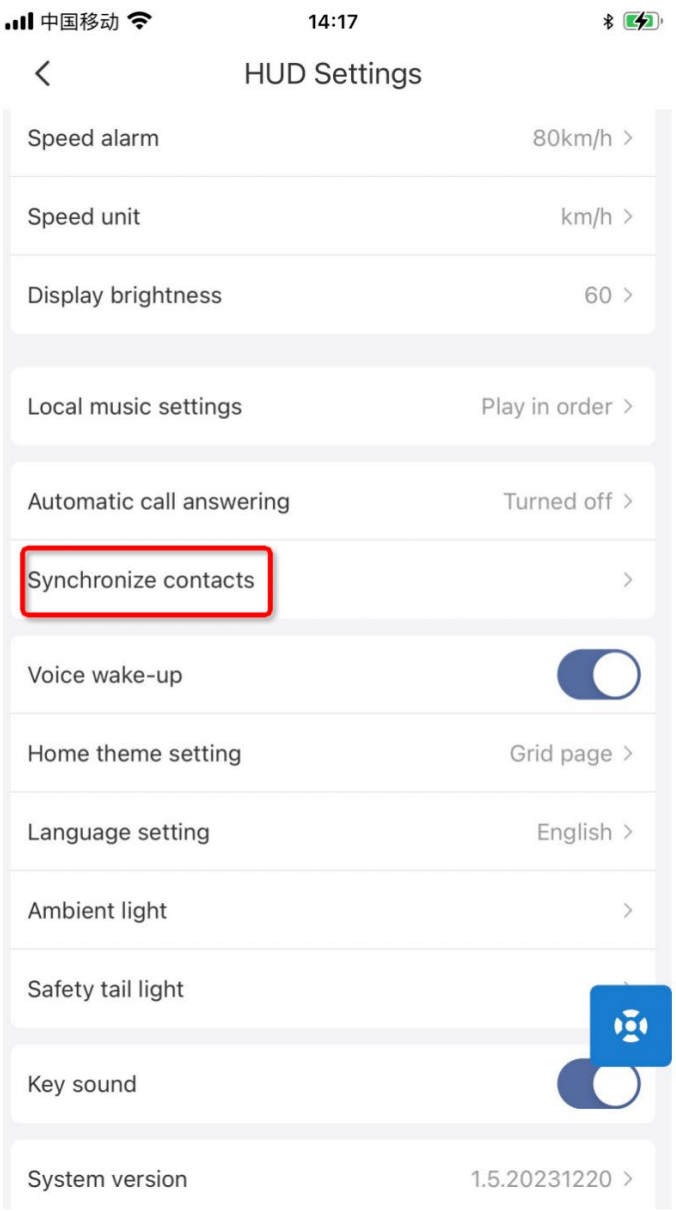
- **Synchronize mobile phone contacts**

When the mobile phone connects to the HUD using Bluetooth audio, the following permission dialog box will pop up on the mobile phone (the permission dialog boxes of different brands of mobile phones may be slightly different). Click "Agree and Continue" and the phone will

automatically synchronize the contacts to the HUD.



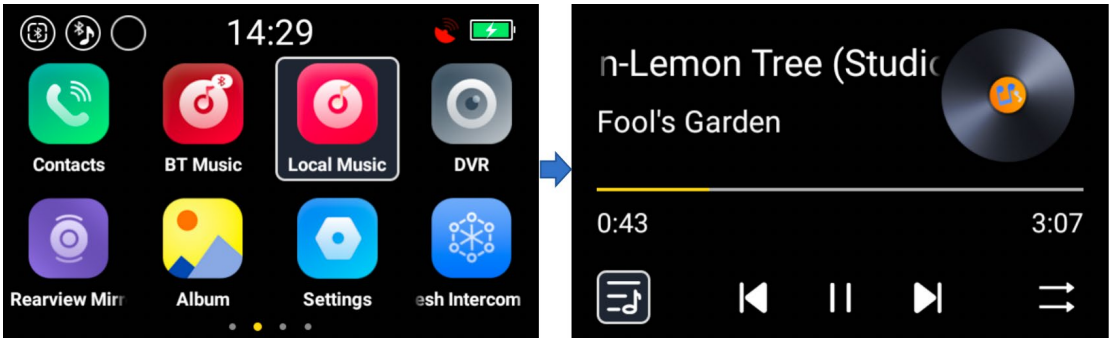
If you need to manually synchronize your address book, you can click "HUD Settings" --> "Synchronize contacts" after connecting the device in the iCRider APP.



13. Music

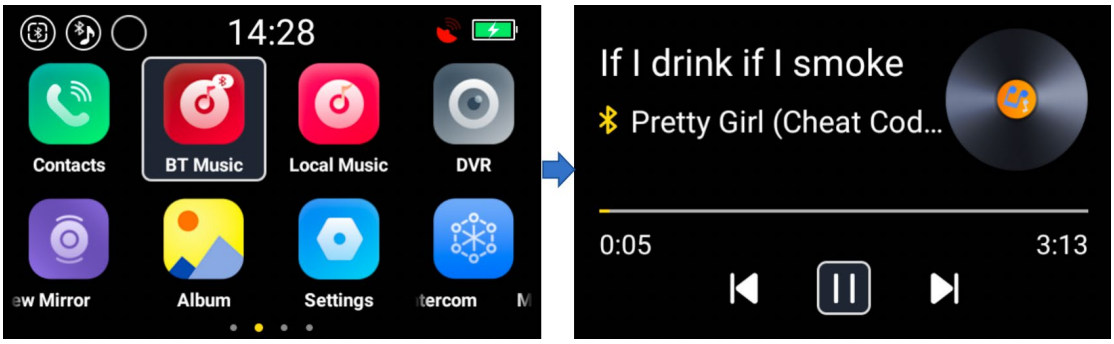
➢ Play local music

HUD can play music in the TF card.



➢ **Play Bluetooth music**

After the HUD is connected to the mobile phone via Bluetooth, open the music player on your mobile phone, and play the music.



14. Take a photo

Select Camera APP on the HUD --> Press OK to take a photo.

Notes:

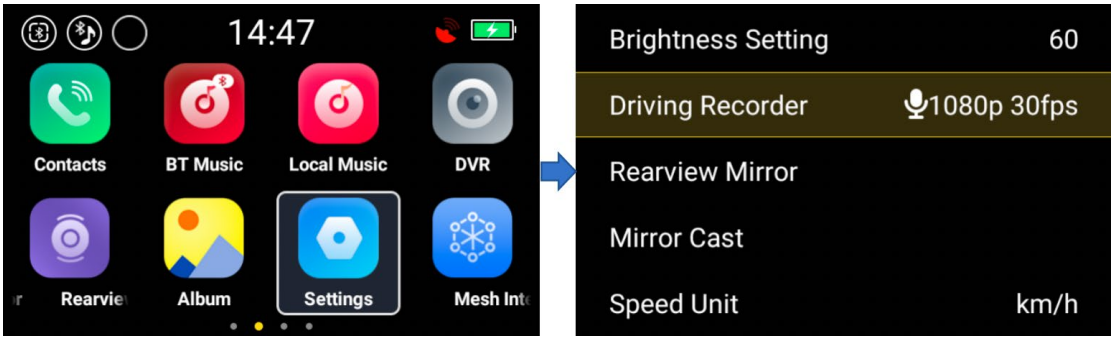
The camera function can only be used after the host is connected to the front camera.

15. Driving Record

Select the DVR APP on the HUD --> Press OK to start/stop recording.

After turning on video recording, press the return key to put the app in the background.

The resolution fps supported by the HUD driving recording function is: 1080p 30fps, 720p 30fps, which can be set in the settings function.



HUD driving records support three durations, 1 minute, 3 minutes, and 5

minutes.

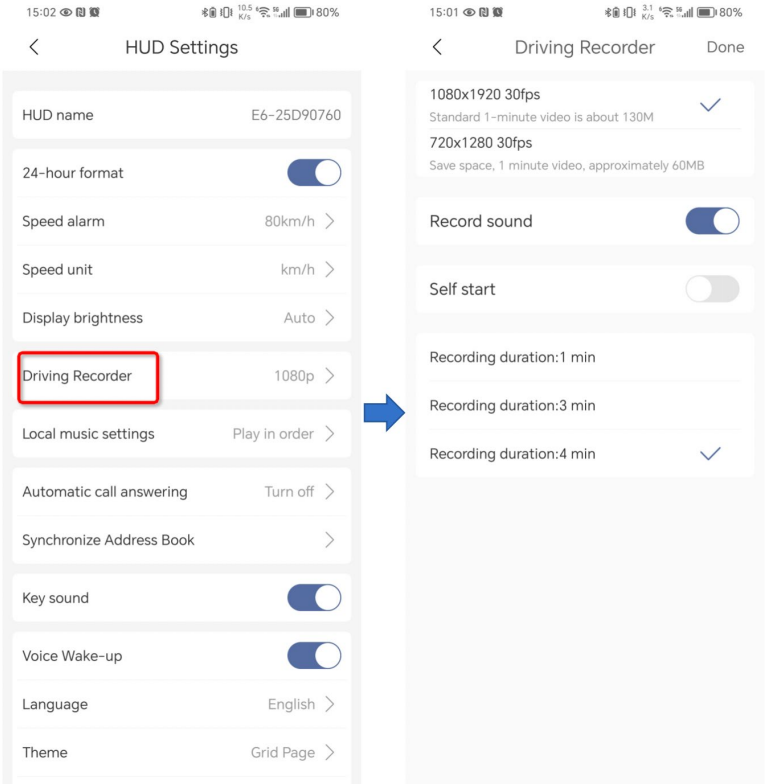
➢ **Setting record mode**

There are two recording modes for the driving recording:

Single camera recording: It will be the front camera video.

Front camera + backward camera: A front camera and a rear camera must be installed.

Set driving records in iCRider APP



16. Streaming rearview mirror

Method 1:

Select the Rearview Mirror APP on the HUD --> Press OK to view rearview camera.

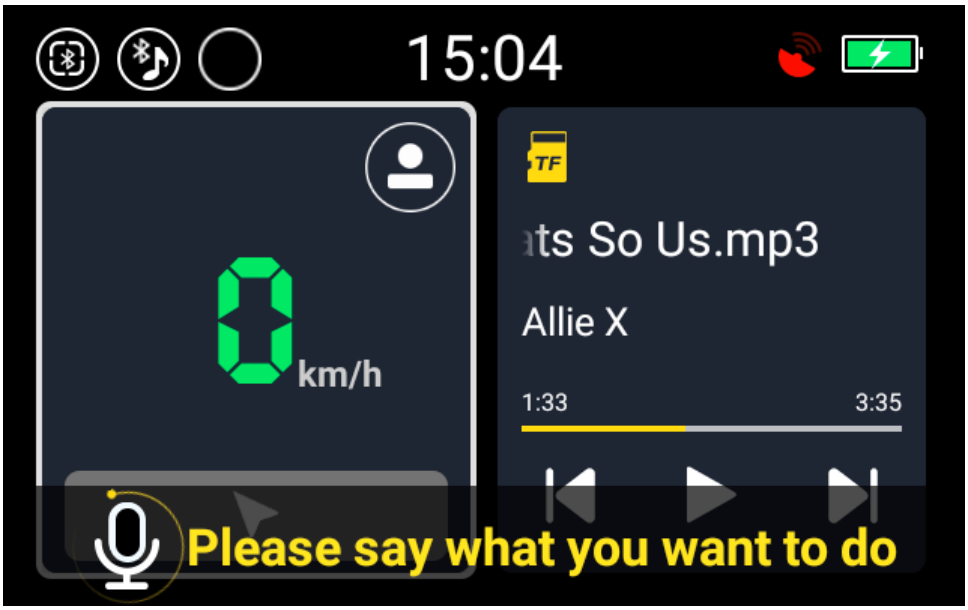
Method 2:

Press the camera key of the remote control.

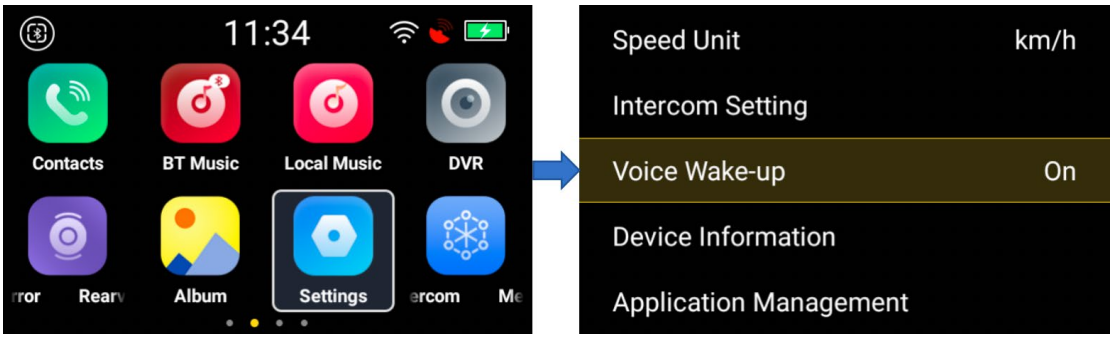
17. Voice command

Press and hold the OK button, or say "Hi, James" to activate the HUD voice assistant.

Say "Hi, Siri" or "Hi, Google", You can activate the built-in voice assistant on your phone.



The "Hi, James" voice wake-up function can be turned off in the HUD's "Settings" - "Voice Wake-up".



The voice commands are shown in the following table:

Functions	Voice command
Answer and reject	answer
	Ignore
	Reject
Play music	play music

	play Bluetooth music
	play local music
Pause music	Pause the music
Stop music	Stop the music
Previous track	Previous track
Next track	Next track
Increase brightness	increase brightness
brightness 10 percent,brightness 25 percent, brightness 50 percent,brightness 75 percent,brightness 100 percent	brightness ten percent brightness twenty five percent brightness fifty percent brightness seventy five percent brightness one hundred percent
Decrease brightness	decrease brightness
Increase volume	increase volume
Increase music volume	increase music volume
Increase call volume	increase call volume
Volume 10 percent, 25 percent, 50 percent, 75 percent, max volume	music volume ten percent music volume twenty five percent music volume fifty percent music volume seventy five percent music volume max volume call volume ten percent call volume twenty five percent call volume fifty percent call volume seventy five percent call volume max volume
Decrease volume	decrease volume
Decrease music volume	decrease music volume

Decrease call volume	decrease call volume
Open the camera	start camera
Take a photo	take a photo
	take a picture
start driving recording	Start recording
	Record my ride
Stop driving recording	Stop recording
Open and start intercom	start intercom、start public intercom
Open and start mesh intercom	start mesh public、start mesh private
Stop intercom	stop intercom、stop public intercom
stop mesh intercom	stop mesh public、stop mesh private
Go to homepage	"Go to the home"
	"Back to home"
Turn off screen	sleep, Display off
Move right	right
Move left	left
Move up	up
Move down	down
Confirm	OK
	confirm
Return	return

	back
Turn off voice command	cancel
Open Apple Carplay or Android Auto	open car play open android auto
Reboot System	Reboot Helmet
(Default Mode) Enable the following functions: HUD on and displaying, Rear cameras on and functioning, proximity sensors on and functioning, any other related safety features should be on and functioning	Safety Mode
Disable rear ToF sensors	Sport Mode

18. Photo and video download

Photos and videos taken by the HUD can be downloaded to the mobile phone through the iCRider APP. The download method is as follows:

Confirm that the iCRider APP is connected to the HUD.

On the iCRider APP homepage, select the HUD album --> Network settings --> select the WIFI with the network name "R1-xxxxxxxx" and enter the password 12345678 to connect to the network.

Notes:

If your phone prompts "The current network cannot connect to the Internet, do you want to switch networks?", please do not switch and choose to continue using it, after exiting the host album function, the phone will automatically disconnect from the hotspot connection with the HUD.

After the connection is successful, you can view, download, and delete photos and videos in the HUD in the mobile APP.

Notes:

In the "HUD Album" function of the mobile APP, deleting photos or videos will only delete the files in the HUD memory card. Files that have been downloaded to the mobile phone will not be deleted. If you want to delete the files that have been downloaded to the mobile phone, The files need to be deleted from the phone's file manager or photo album.

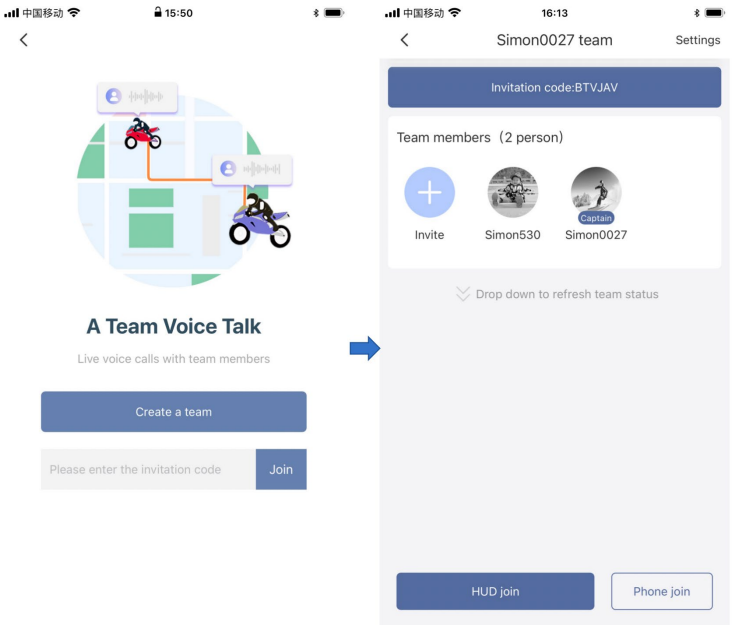
19. Public network intercom

The HUD and iCRider APP support the network intercom function, which is a full-duplex intercom mode. When using the HUD or mobile APP for intercom, you need to use the iCRider APP to create or join the intercom room first.

- **Create intercom room**

Select Team Intercom on the iCRider APP homepage --> Create a team.

The user who creates the team is the team leader by default, and can disband the team, modify the team’ s name, and delete team members on the intercom settings page.



- **Invite teammate**

On the iCRider APP my team page --> click on the invitation code --> select the third-party chat software to send the invitation code to teammates

- **Join a team**

Select Voice Talk on the iCRider APP homepage --> Enter the invitation code and click to join

Users who join the team are ordinary members by default. They can exit the team on the intercom settings page. They cannot modify the team’s name or delete team members.

- **Start intercom**

After creating or joining a team, users can see the information of the team they have joined on both the intercom page of the HUD and the intercom page of the mobile app. Users can use the HUD to intercom with teammates, or use the iCRider app to intercom with teammates.

Method 1: Using HUD for intercom

On the HUD, select public intercom ->press the OK key to turn on/off intercom.

Notes:

This feature requires online use.

On the intercom page, long press the return button to place the intercom application in the background.

Method 2: Using the iCRider APP for intercom

Select Voice Talk on the iCRider APP homepage ->click on mobile intercom ->join intercom

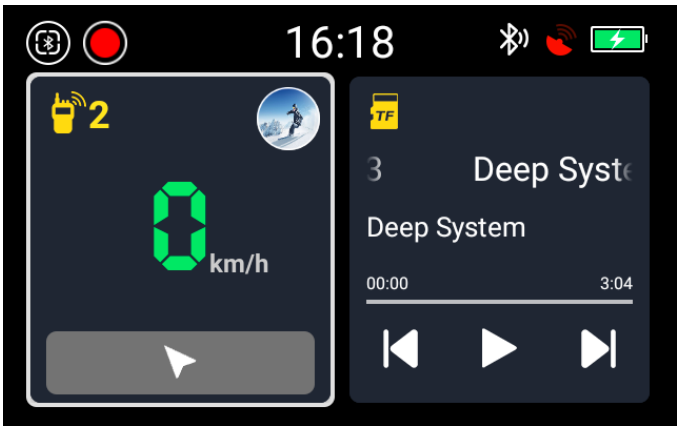
During the intercom process, click the "Mute" button to turn off/on your microphone, and click "Exit intercom" to turn off the intercom.

Notes:

For the first time joining the intercom, some phones need to follow the APP prompts to open the corresponding permissions.

During the intercom process, the homepage will display the number of

people in the intercom room.

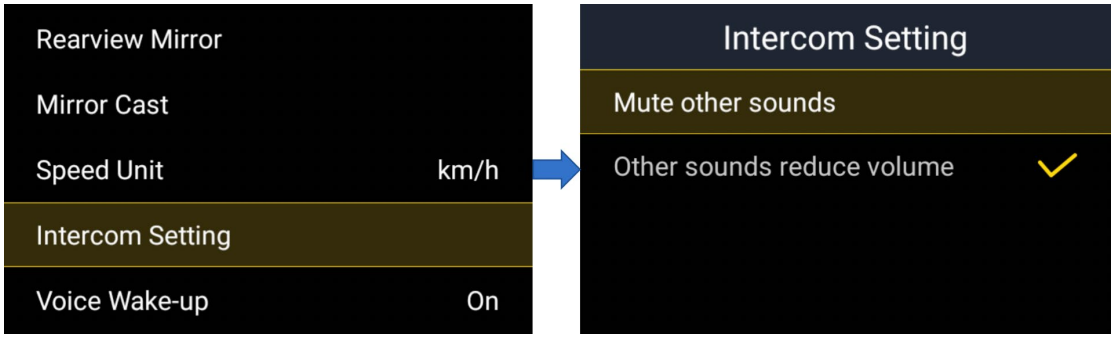


➢ Intercom settings

On the iCRider APP homepage, select Voice Talk ->Settings ->Modify Team Name, Delete Team Members, and Dissolve Team

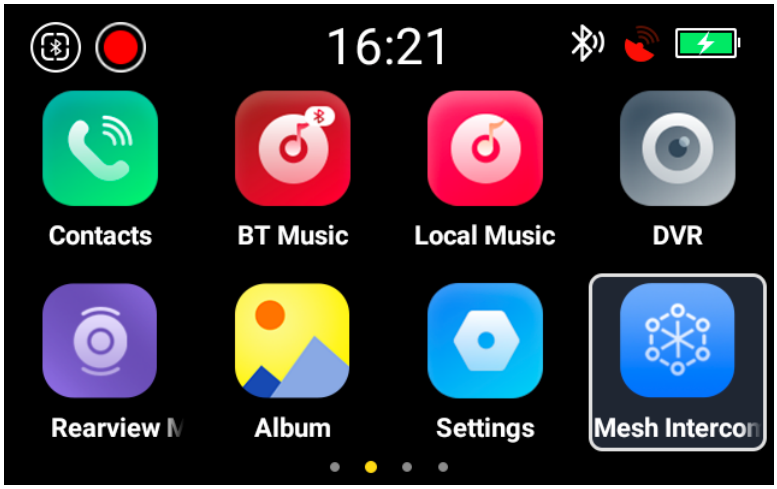
➢ Intercom Audio settings

During the intercom process, if you want to lower or mute other sounds, you can set them in the "Settings" - "intercom settings" section of the HUD to facilitate navigation or listening to music during the intercom process.

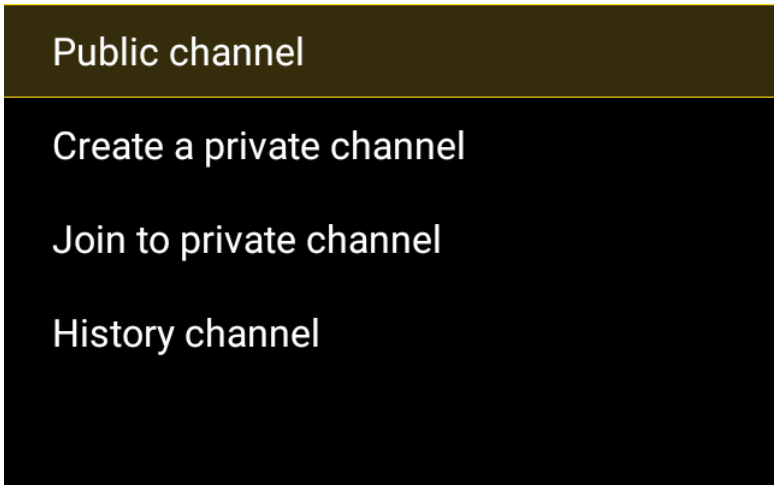


20. Mesh intercom

The HUD supports 9-person Mesh full duplex network intercom, using Mesh self-organizing network communication technology and dynamic network topology adjustment. It can communicate point-to-point at a distance of 800 meters, with a maximum communication distance of 5 kilometers for 9 people.



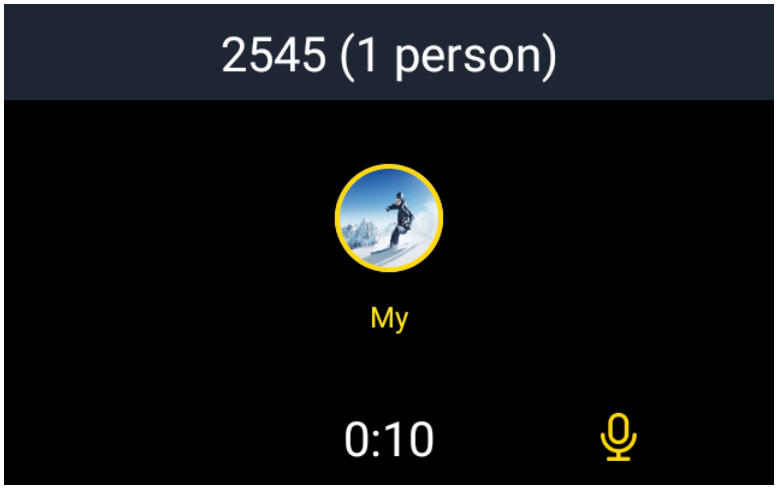
➢ Intercom channel



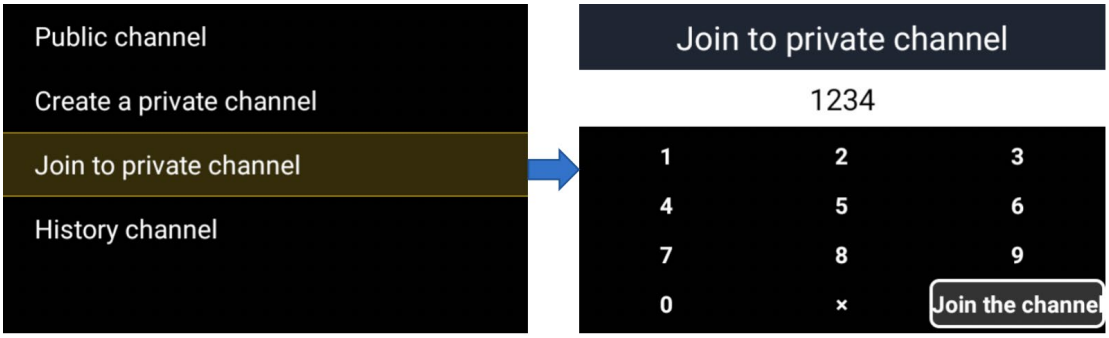
Mesh intercom can choose to use both public or private channels for networking.

➢ Private channel

"Creating a private channel" will generate a channel ID, which other members of the team can use to join the private channel.

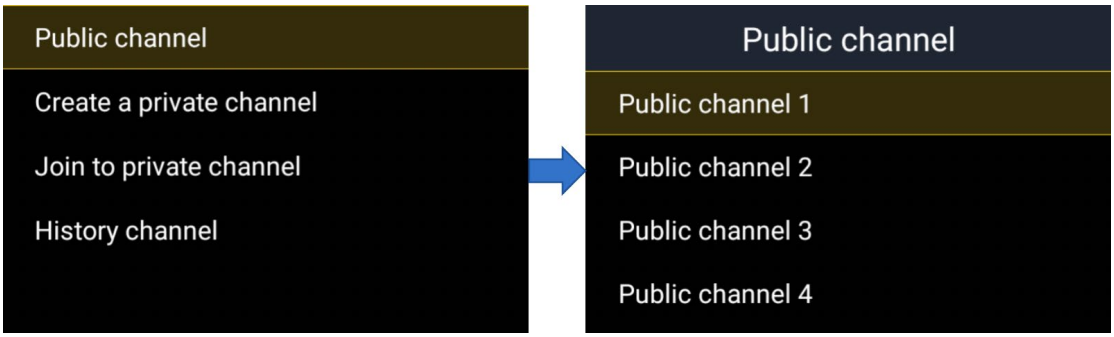


To join a private channel, you need to enter the channel ID and then click the "Join" button in the bottom right corner.



➢ Public channel

The system provides 10 public channels available by default, and users can join without password, making networking more convenient.

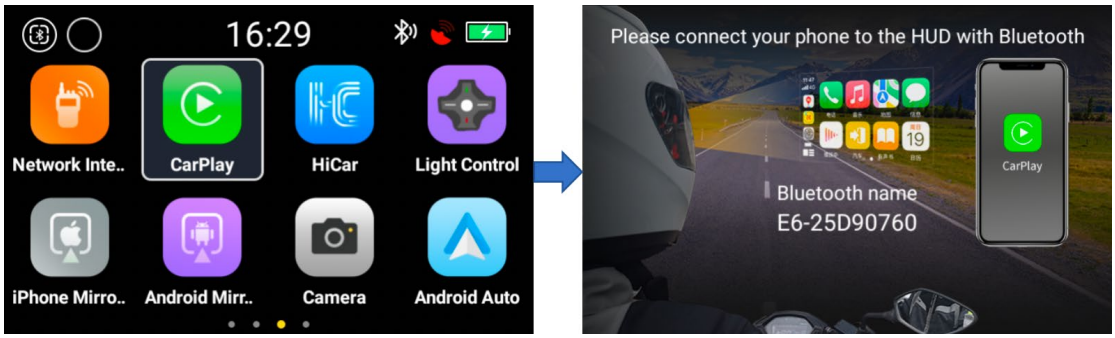


21. Apple CarPlay

➢ Manual connection

(1) Open the "CarPlay" function on the HUD device, and the interface

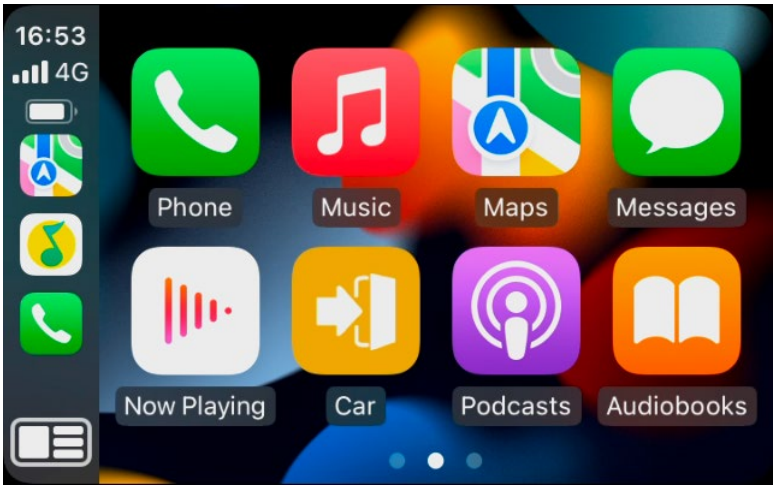
will pop up the Bluetooth name of the host "R1-xxxxxxxx" (without the suffix "LE"), stay on this interface.



(2) After turning on WiFi on the iPhone, search for Bluetooth audio devices with the above names in "Settings" - "Bluetooth" (without the suffix "LE"), then click on connect.

(3) At this point, an animation of "Connecting, please wait...." will appear on the HUD end, and a few seconds later, a dialog box of "Using CarPlay?" will appear on the mobile phone.

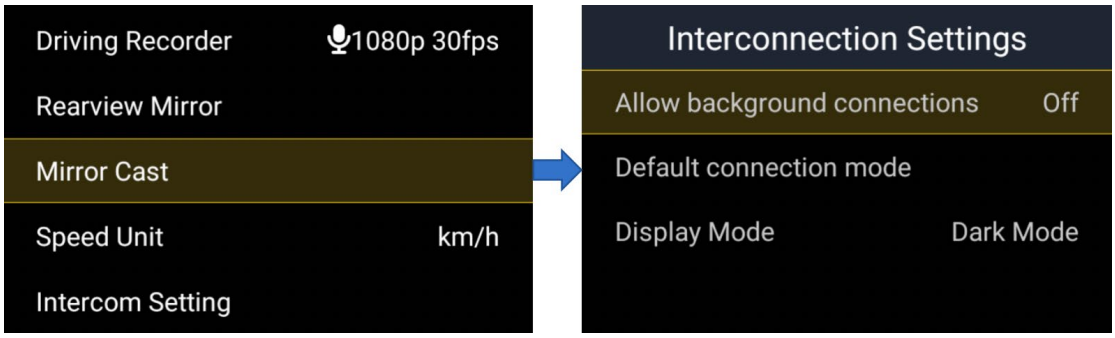
(4) Click "Using CarPlay" on the mobile phone, and CarPlay will complete the connection in about 10 seconds. The HUD screen will display the CarPlay interface.



- Set CarPlay to automatically connect

(1) Open the "Settings" - "Mirror Cast" function on the HUD device and select the "Allow background connections" option.

(2) After setting, if HUD detects the Bluetooth audio connection of the iPhone, it will automatically establish a CarPlay connection.



- Disconnect CarPlay

(1) Turn on or off the WiFi switch once on the mobile(recommended).

(2) Ignoring the Bluetooth device in the "System" - "Bluetooth" section on the mobile phone (not recommended).

- CarPlay operation:

(1) On the CarPlay interface, you can operate the function menu through the Bluetooth controller. Long press the up and down buttons to adjust the volume.

(2) On the CarPlay interface, you can wake up Siri of your iPhone by long pressing the "OK" button or saying "Hi, Siri" via voice. (Siri function needs to be enabled on the mobile phone).

(3) In the CarPlay interface, by clicking on the "Car" icon on the main interface, you can return to the HUD's native system, or long press the return button to return to the HUD's "dashboard interface". If you need to return to CarPlay again, you can click on the "CarPlay" APP in the HUD's local system to enter.

(4) To set the background of CarPlay, you can do so in the "Settings" - "Wallpaper" section of CarPlay. Setting the background to pure black provides a better experience.

- CarPlay navigation

(1) CarPlay supports mainstream navigation software such as Google

Maps.

(2) Set the destination on the mobile phone and depart, and the corresponding navigation interface will be automatically displayed on the HUD.

- **CarPlay music**

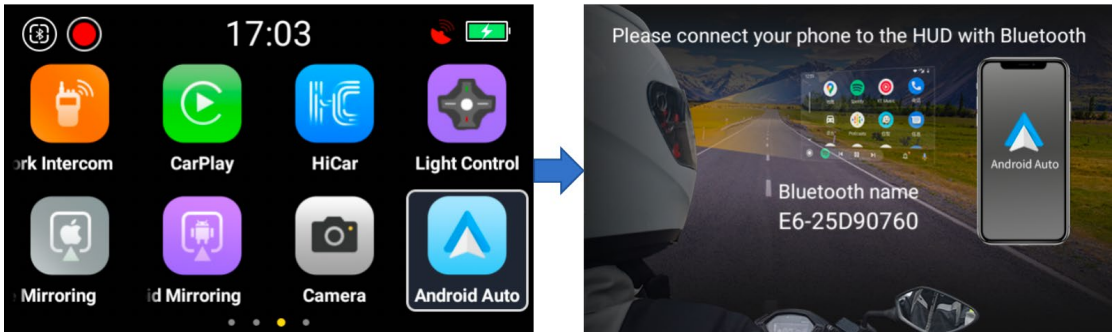
(1) CarPlay Support mainstream music software such as Apple Music.

(2) You can open the corresponding music software on your phone or HUD to play music.

22. Android Auto

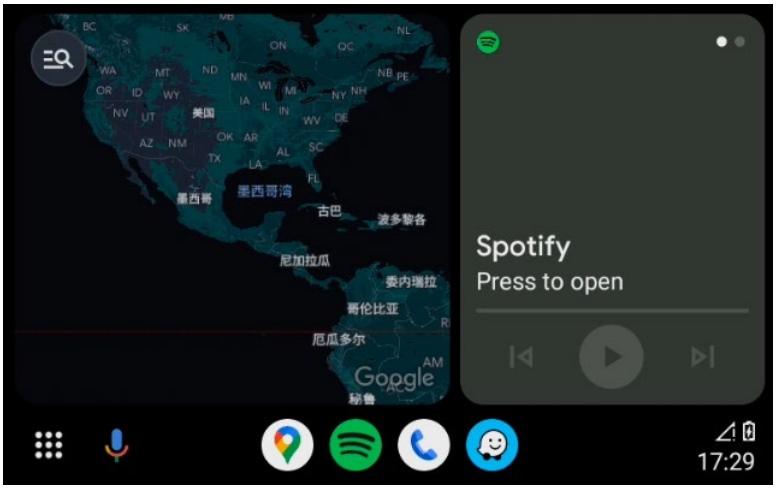
- **Connect Android Auto**

(1) Open the "Android Auto" function on the HUD device, and the interface will pop up the Bluetooth name of the host "R1-xxxxxxxx" (without the suffix "LE"), stay on this interface.



(2) After turning on WiFi on the Android phone, search for the Bluetooth audio device with the above name in "Settings" - "Bluetooth" (the suffix does not include "LE"), And click on connect.

(3) Wait for about 3 seconds, Android Auto will complete the connection, and the HUD screen will display the interface of Android Auto.



➢ **Disconnect Android Auto**

Turn off both WiFi and Bluetooth switches on the mobile to disconnect Android Auto.

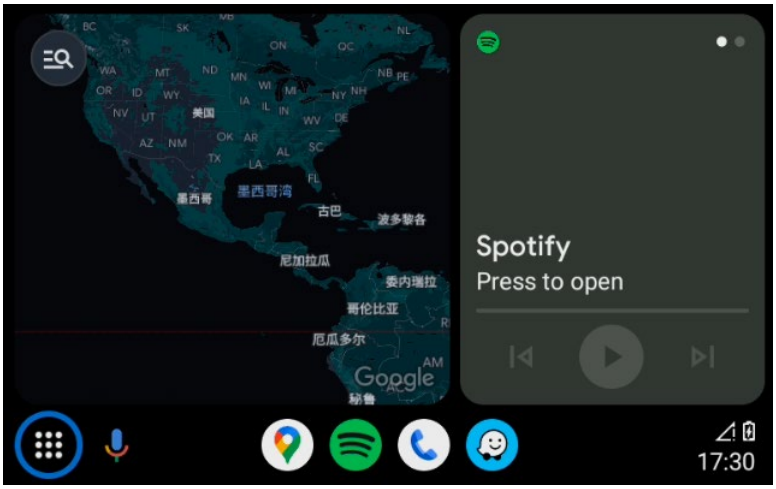
➢ **Android Auto operation**

(1) In the Android Auto interface, you can operate the function menu through the remote control. Long press the up and down buttons to adjust the volume.

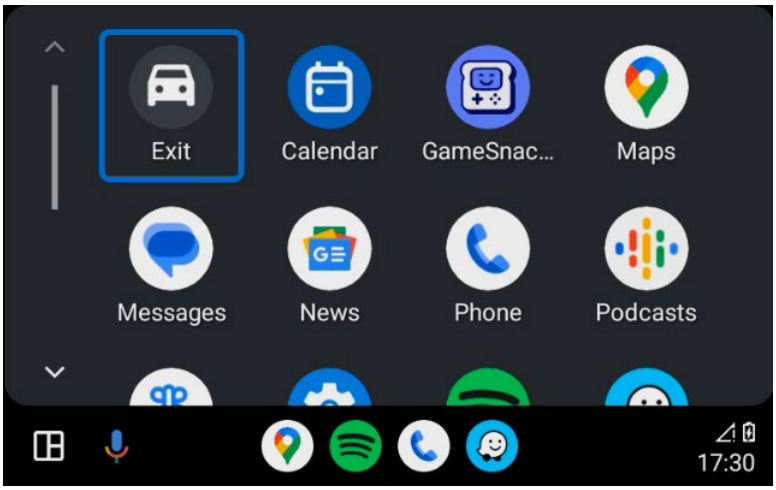
(2) You can switch between the Launcher card and the bottom application icon by pressing the up and down keys. Pressing the left and right keys can switch the focus inside the Launcher card, and long pressing the left and right keys can switch between different Launcher cards.

(3) On the Android Auto interface, long press the "OK" button to wake up the voice assistant on the Android phone. (Need to activate the voice assistant function of the phone in advance).

(4) In the Android Auto interface, click the "Layout" icon in the bottom left corner to switch between the split screen panel and the application list.



(5) In the Android Auto interface, you can return to the HUD's native system by clicking on the "Car" icon on the main interface, or long press the return button to return to the HUD's "Instrument Panel Interface". If you need to return to Android Auto again, you can click on the "Android Auto" on the HUD's local system to enter.



- **Android Auto navigation**

(1) Android Auto supports software such as Google Maps.

(2) Open the navigation software on the mobile and set the destination on the mobile end.

(3) Open the corresponding navigation software on the HUD, and the navigation interface will automatically switch from the phone screen to the HUD.

- **Android Auto music**

(1) Android Auto supports music software such as Spotify.

(2) You can open the corresponding music software on your phone or HUD to play music.

23. Mobile screen mirroring

<1> iOS screen mirroring

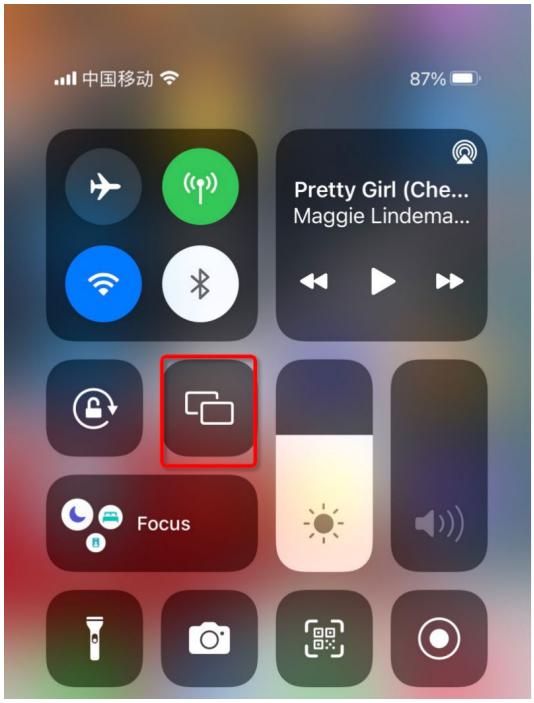
➢ Connection

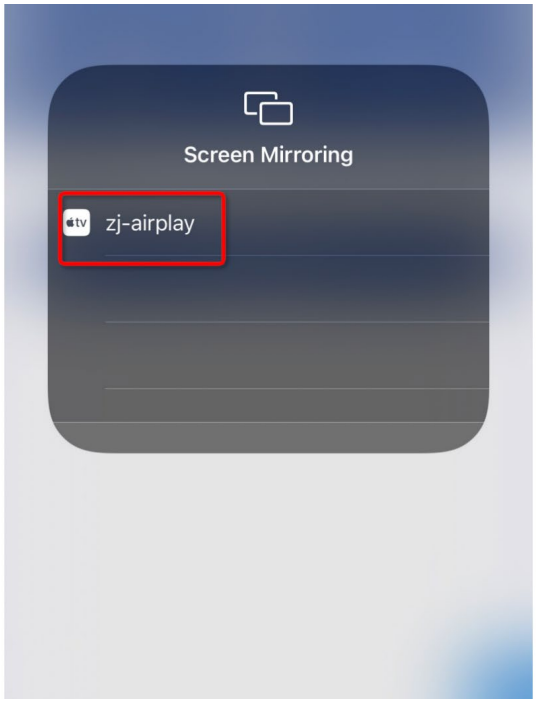
(1) Open the "iOS screen mirroring" function on the HUD device and stay on this interface.

(2) Open hotspots on your iPhone.

(3) HUD connect to the hotspot of the iPhone.

(4) In the mobile control center, first select "screen mirroring", then select "zj-airplay" to connect.





➢ Notes

(1) When using the mobile screen mirroring function, the phone must be in a bright screen state.

(2) The horizontal and vertical screen status displayed on the HUD is consistent with the status of the mobile application.

(3) When encountering problems such as slow screen mirroring connection speed or insufficient smooth screen mirroring, the following actions can be attempted:

1. Open "Settings" on your phone ->enter the "Personal Hotspot" page.
2. Find the "Maximum Compatibility" option and ensure that it is turned off.

<2> Android screen mirroring

- Connection

(1) Open the "Android screen mirroring" function on the HUD device and stay on this interface.

(2) Open hotspots on your android phone.

(3) HUD connect to the hotspot of the phone.

(4) Open the "ZhiJia" app on your phone and click "Start mirroring".

- Notes

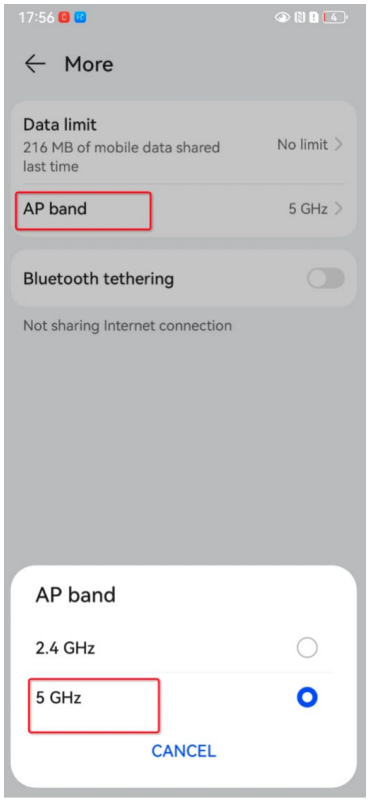
(1) When using the mobile screen mirroring function, the phone must be in a bright screen state.

(2) The horizontal and vertical screen status displayed on the HUD is consistent with the status of the mobile application.

(3) When encountering problems such as slow screen mirroring connection speed or insufficient smooth screen mirroring, the following actions can be attempted:

1. Open "Settings" on your phone ->enter the "Personal Hotspot" page.

2. Set the hotspot to 5GHz.



24. Light effect settings

The "Light Control" in the HUD can be used to set the ambient lights.

Switch: The ambient lights can be turned on or off.

Lamp effect setting: includes 4 modes: "Low brightness", "Middle brightness", "High brightesss", "Blink mode".

Auto start setting: There are two modes for automatic start: "Automatic opening at the darkness" and Timed on and off.

25. HUD settings

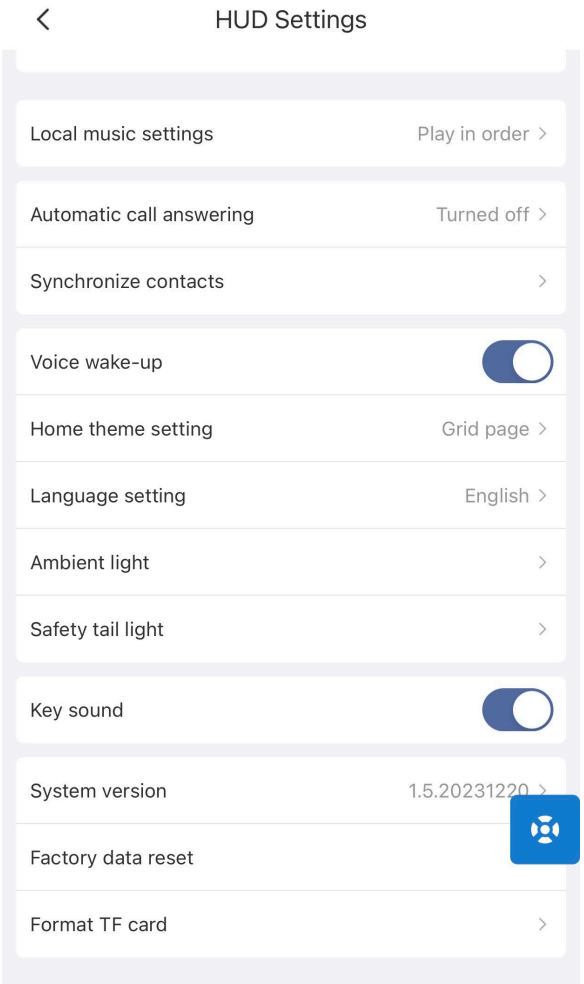
✓ Method 1: Use HUD settings

Enter settings on the HUD -->Select the desired settings to set.

✓ Method 2: Use iCRider APP settings

Confirm that the iCRider APP is connected to the HUD

On the iCRider APP homepage, select HUD Settings ->Select the desired settings to set.



26. Restore factory setting

Method 1: Use iCRider APP

First connect the iCRider APP to the HUD. Click on "Restore Factory Setting" in the "HUD Settings" on the App, and click "Confirm" in the pop-up

confirmation box. At this time, the display module of the HUD will display a prompt box for reconfirmation. Click the confirm button on the host, and the system will automatically restore the factory setting. Restoring factory setting will take about 1 minute.

Method 2: Use HUD host

Open the "Settings" function of the HUD host and select "Restore Factory Setting".

27. TF card formatting and file management

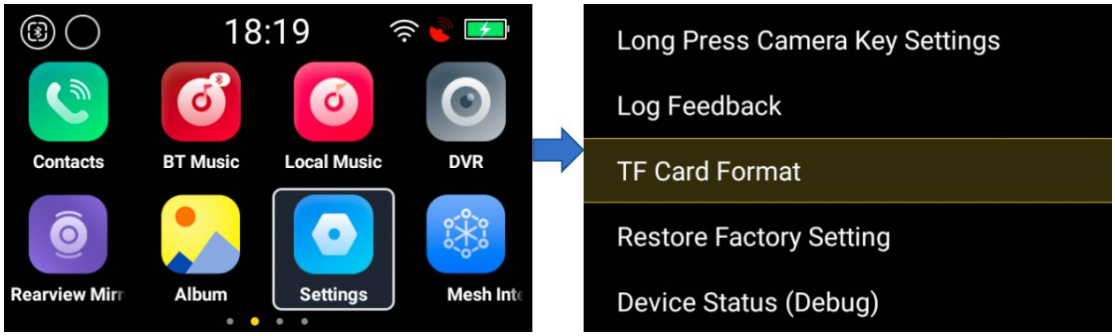
➢ **TF card formatting:**

Method 1: Use iCRider APP

Open the iCRider APP and enter "HUD Settings", select "Format TF Card".

Method 2: Use HUD host

Open the "Settings" of the HUD host and select "Format Storage Card".



➢ **TF card file management method:**

✓ Method 1: Using the ICRider APP to connect to the HUD, you can download photos, videos from the HUD to your phone. For detailed instructions on how to use them, please refer to the "Download Photos and Videos" section.

✓ Method 2: After the host is turned on, connect it to the computer using a TypeC data cable, and a storage disk will appear on the computer.

Opening this disk allows you to operate the files in the TF card.

✓ Method 3: Remove the TF card from the HUD and use a universal TF card reader for operation.

The HUD supports a maximum of 256GB TF card. To ensure high frame rate recording quality, please use a UHS Speed Class TF card with U1 specification. We recommend using the following brands of TF cards:

28. Firmware upgrade

➢ **OTA online upgrade**

Before upgrading, ensure that the HUD is connected to the network. It is recommended to perform a firmware upgrade in a WIFI environment.

In the "Settings" - "Version Detection" section of the HUD or in the "HUD Settings" - "System Version" section of the ICRider APP, if prompted with the latest firmware version, users can click the OK button to download and upgrade the firmware.

During the firmware upgrade process, the host may restart several times. Please do not intervene manually. The firmware download and upgrade process may take about 5 minutes.

➢ **Offline upgrade**

Click on "System Version" in the "Settings" menu of the HUD or in the "HUD Settings" section of the ICRider APP. If prompted with the latest firmware version, users can upgrade the firmware of the HUD using the following methods.

(1) Download the latest version of firmware from the official website.

(2) After downloading, copy the firmware (in the format of update_xxxxxxx.zip) file to the root directory of the host TF card.

(3) Disconnect the USB connection between the computer and the host,

restart the host, and the system will automatically upgrade the firmware. During the firmware upgrade process, the host may restart several times. Please do not intervene manually, the firmware upgrade may take about 1-2 minutes.

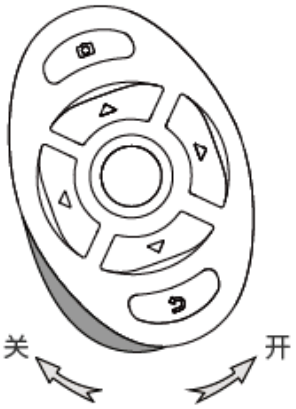
Notes:

Please ensure that the battery level of the HUD is above 50% during firmware upgrade.

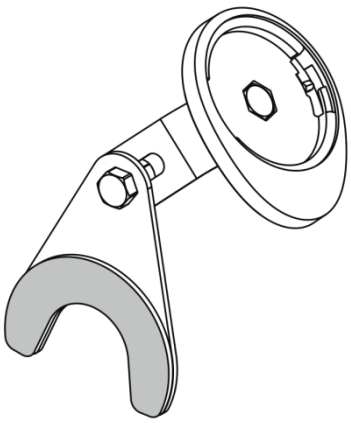
IV. Remote control usage

1. Install remote control

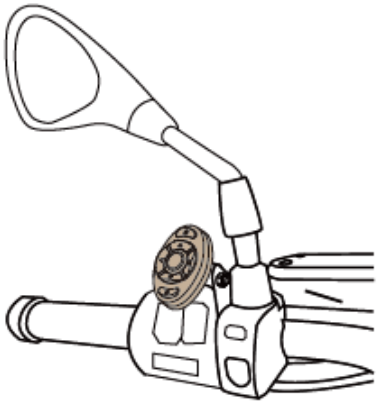
(1) Rotate the controller counter-clockwise to remove it from the base.



(2) Use a wrench to install the controller base onto the bracket and attach the back glue to the arc position of the bracket.

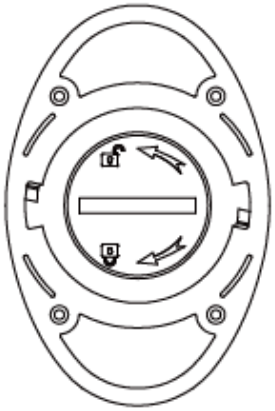


(3) Remove the release paper from the bracket, paste the assembled bracket onto the handlebar, and press to ensure reliable installation.



2. Replace the battery

If need to replace the battery, you can use a coin to open the battery cover and replace the battery. The battery model is CR2032.



3. Pairing and connection

After the HUD is turned on, press any key on the remote controller and wait for a few seconds. The controller can resume connection to the HUD. After the HUD shuts down, the remote controller will automatically enter low-power sleep mode.

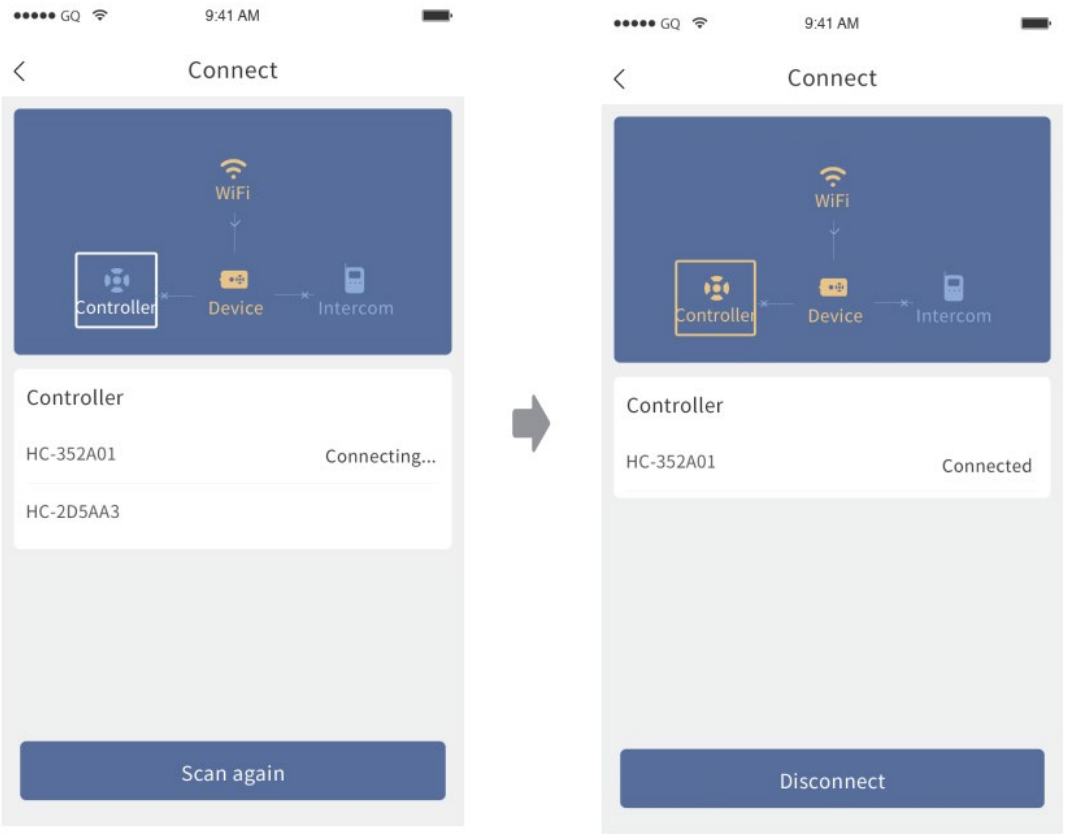
If you need to pair the Bluetooth remote controller again, you can proceed as follows:

(1) Press and hold the camera button and return button of the controller simultaneously for more than 3 seconds. At this time, the red and blue lights on the remote control flash alternately.

(2) After establishing a Bluetooth connection between the iCRider APP and the HUD host, click the controller button on the APP homepage or "Device Connection" page.

(3) Click on "Search Bluetooth Controller".

(4) Select the Bluetooth controller to connect to.



V. Safety tips

1. When using, the display module should be adjusted to a position that is above the human eye. The correct installation standard is that when the human eye looks ahead, the display module does not obstruct the field of view. Slightly lifting the eye and using residual light can easily see the complete image of the display module.

2. HUD is used to display driving assistance information. Long term viewing is prohibited while cycling. Please avoid watching HUD for long periods of time or watching videos while cycling to avoid personal danger.

3. The information provided by HUD navigation and rearview camera is for your reference only. Please do not use it as the sole basis for your travel. Please refer to the actual traffic and road conditions and comply with traffic laws and regulations.

4. During installation, please keep the display module inside the silicone sleeve. The prism of the display module is made of resin material, and collision may cause damage, which is not covered by the warranty.

5. The position of the display module can be adjusted through the connected hose, which can only be adjusted slightly and the rotation adjustment cannot exceed 30 degrees, otherwise it may cause irreversible damage to the hose.

6. The display module is not waterproof. The display module is a precision optical device that can affect its imaging effect and lifespan when exposed to water. Please close the helmet mask for use on rainy days

7. After touching the display module by hand, leaving sweat stains may cause image ghosting. You can use an alcohol cotton pad or cotton cloth dipped in

eyeglass cleaning agent for a slight wipe.

VI.FAQ

1.HUD or iCRider APP cannot find Bluetooth controller

Solution:

(1) Please unbind the Bluetooth controller first. The unbinding method is to simultaneously press the camera button and return button on the controller for more than 3 seconds, and then search for the connection again.

(2) Please replace the controller battery. Please refer to the "Remote Controller Usage" for the replacement method.

2.The display module does not display the screen

Solution:

(1) Please first confirm whether the LED of the HUD remains on. If it does not light up, it indicates that the device has not been turned on.

(2) Confirm whether the host is sleep, short press the power button to let the system standby/wake up.

(3) Ensure reliable installation of the host and the display cable, and restart the HUD host.

3.The iCRider APP shows that the HUD has been connected, but the HUD device cannot hear the Bluetooth audio of the phone.

Solution:

Bluetooth includes Bluetooth BLE connection and Bluetooth audio connection. The iCRider APP only displays the BLE data connection between the phone and the host. Please search for and connect a Bluetooth audio device named "R1-xxx" in the "System Settings" - "Bluetooth Settings" of the phone.

4.After updating the contact list on the phone, the updated contacts cannot be seen on the HUD

Solution:

After the Bluetooth audio connection between the phone and the host, if the contacts on the phone are manually updated, the host will update the contact list the next time when it connects to the phone. If you need to manually update the contact list, you can manually synchronize the phone's contact list in the iCRider mobile APP - "Host Settings" - "Sync Contact List".

FCC Warnning:

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 againstharmful interference in a residential installation. This equipment generates, uses and can radiateradio frequency energy and, if not installed and used in accordance with the instructions, maycause harmful interference to radio communications. However, there is no guarantee thatinterference will not occur in a particular installation. If this equipment does cause harmfulinterference to radio or television reception, which can be determined by turning the equipmentoff and on, the user is encouraged to try to correct the interference by one or more of thefollowing 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.

Caution: Any changes or modifications to this device not explicitly approved by manufacturer could void your authority to operate this 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 should be installed and operated with minimum distance 0cm between the radiator and your body.