

Table of Contents

Part 1: Getting Started

Say hi to HEXA	02
Introducing HEXA	02
HEXA profile	03
Activate HEXA	05
Download the HEXA App to activate HEXA	05
Activate more HEXAs	10
Troubleshooting for unsuccessful HEXA activation	13
Connect to HEXA with your mobile device	14
Using Wi-Fi mode to connect HEXA	14
Troubleshooting for unsuccessful Wi-Fi mode connection	21
Use Direct Link mode to connect to HEXA	22
Troubleshooting for unsuccessful Direct Link mode connection	25
Skill	26
HEXA pre-installed Skills	26
Use Skills in Launcher	27
Play around with pre-installed Skills	27
Download more Skills	33
If you want to transfer HEXA ownership	34
How to transfer HEXA ownership	34

Part 2: Becoming a HEXA Developer

HEXA is an open platform for robot developers	36
MIND SDK	36
Developer Bridge	37
Developer Forum	37

Part 3: HEXA's Features and Parameters

Signal light on HEXA's head	39
Visual system	40
Explore, take pictures and videos	41
Power and charge	42
Low battery display	42
Charge	43
Legs	44
Specs	45

Part 4: Services and System Updates

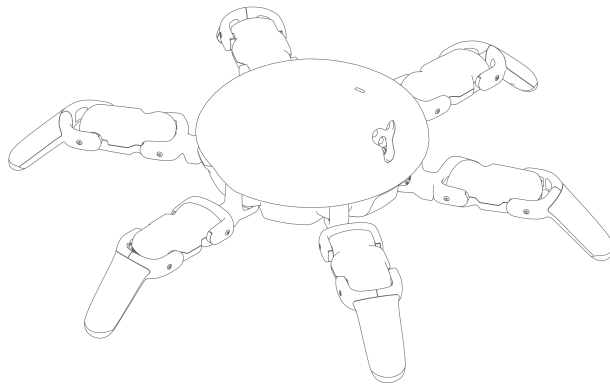
Services and support	50
System update	51
Update "HEXA User Guide"	52

Part 1
Getting Started

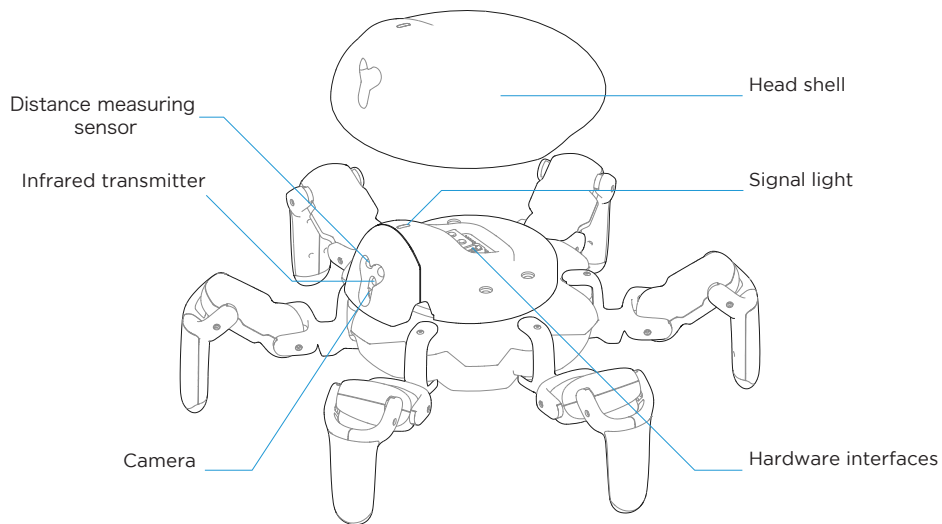
Say hi to HEXA

Introducing HEXA

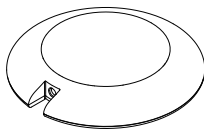
HEXA is an all-terrain hexapod robot designed and developed by Vincross Inc. It comes equipped with basic motion capacities such as walking, climbing, and passing through caves. It is also equipped with multiform interfaces such as a built-in camera, infrared transmitter, and a distance measuring sensor. Furthermore, HEXA is running Vincross MIND, a Linux-based OS, which allows developers to easily program their robot. Various hardware ports including USB, audio input and output, I²C, ADC, GPIO, and 5V/3.3V power output are standard.



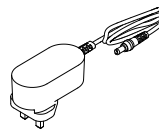
HEXA profile



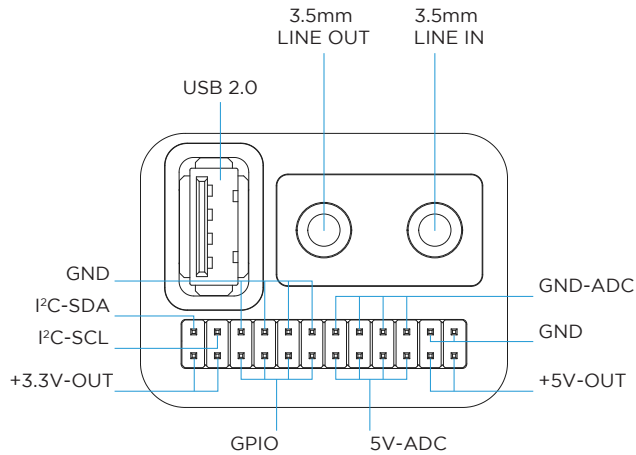
HEXA × 1



Wireless charging dock × 1



AC/DC adapter × 1



Hardware interfaces

The hardware interfaces are hidden under the head shell.
(Pull up from the back of the head to remove shell.)

- ⚠ Always use the original **AC/DC adapter** in order to prevent serious damage to HEXA and/or fire.

Activate HEXA

Download the HEXA App to activate HEXA

In order to activate your HEXA, you must first download the HEXA App. You will then be guided through setup. The activation requires a Wi-Fi network with internet connection for your HEXA and mobile device.

Instructions for activating HEXA

1. Download HEXA App.

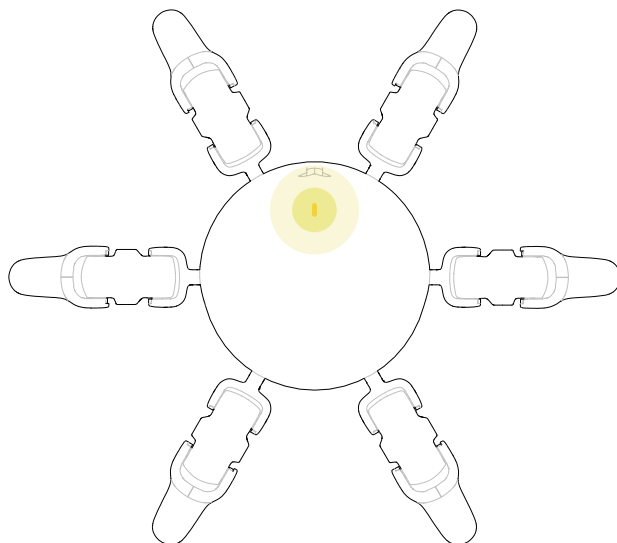
For iOS users: Search "**Vincross HEXA**" in the App Store and download.

For Android users: Search "**Vincross HEXA**" on Google Play or directly download the App APK at <https://www.vincross.com/download-hexa-app>

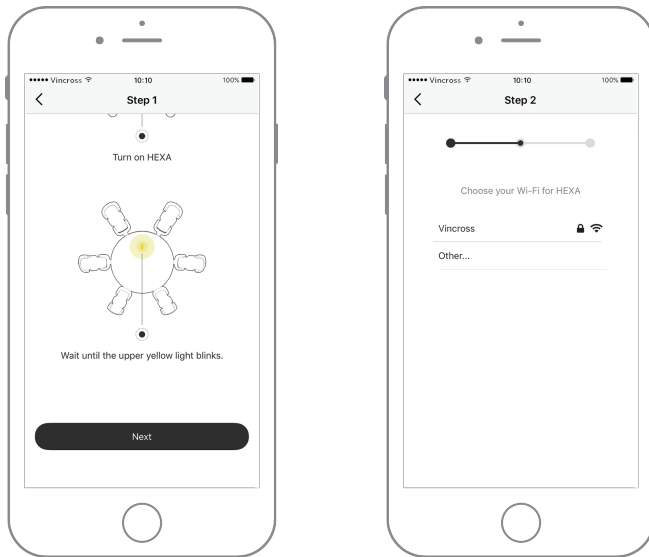




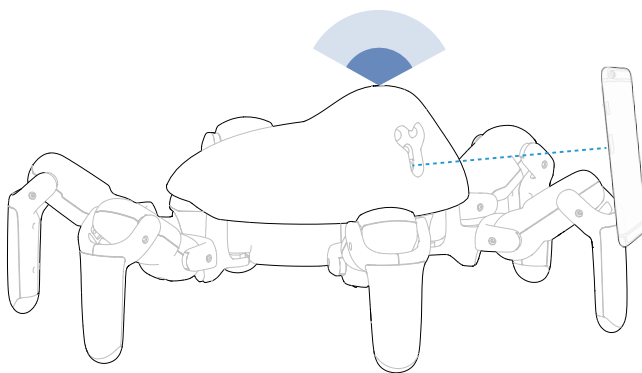
2. Open HEXA App while your mobile device is connected to a Wi-Fi network, and press **"Let's get started!"**



3. You will see the signal light on the top side is **blinking yellow.**



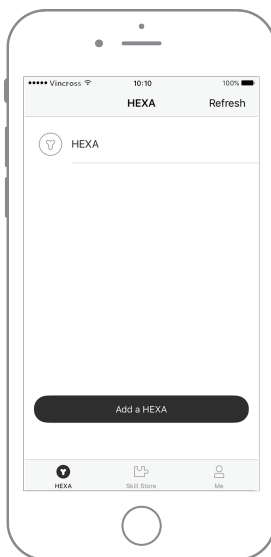
4. Click "Next" in HEXA App. Choose a Wi-Fi network for HEXA and enter the password.



5. Place the QR code in front of HEXA's camera. Wait 30-60 seconds until the signal light turns blue and stops blinking. When the activation process is complete, the HEXA App will automatically display the Launcher. (Please go to Page 27 to see how to use Skills in Launcher.)

Activate more HEXAs

The more HEXAs, the merrier. Follow these instructions for activating additional robots.



1. Open HEXA App and login to your Vincross account.
Press **"Add a HEXA"** .



2. Press "Activate a new HEXA".



3. Finish the activation process by following the activation instructions shown on Page 5.

Troubleshooting for unsuccessful HEXA activation

Possible reasons	Solutions
HEXA failed to scan QR code.	Place the screen of your mobile phone with a vertical angle to the camera of HEXA, then adjust the distance between your phone and the camera.
Connection time out.	Move to a location with a better Wi-Fi signal.
You've entered an incorrect password.	Return to Step 2 and connect to Wi-Fi again. Make sure you are entering the correct password.
The Wi-Fi you joined doesn't have access to the internet.	Join another Wi-Fi, which is able to connect to the internet.
HEXA has been activated before.	This situation only happens when there is no Wi-Fi available. Signal light turning purple means the connection mode has been converted to Direct Link mode. Please contact the owner and get authorization if you want to connect.

If the problem still cannot be solved, please contact **support@vincross.com**.

Connect to HEXA with your mobile device

There are two ways to connect HEXA to your mobile device.

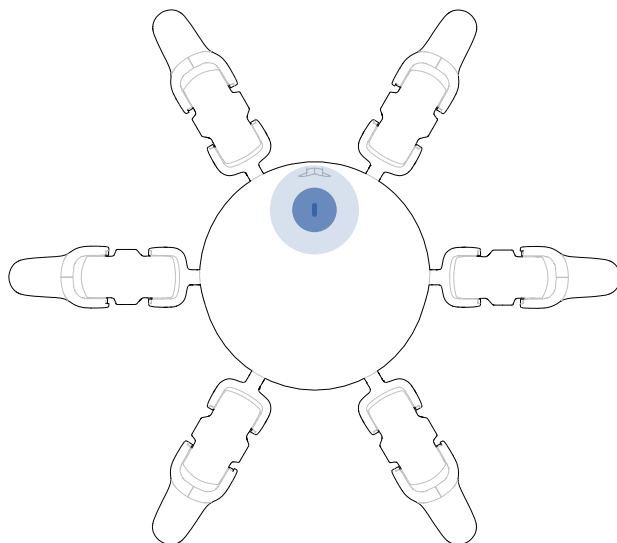
1.   Wi-Fi mode (connect through the internet or LAN)
2.  Direct Link mode

Using Wi-Fi mode to connect HEXA

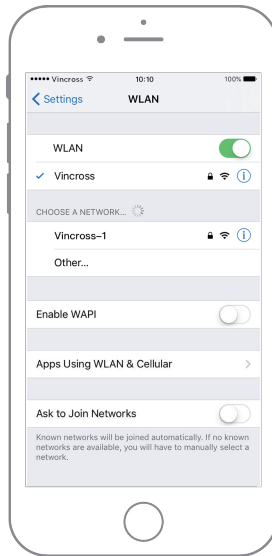
When your mobile device is connecting to HEXA using Wi-Fi, HEXA will automatically determine whether the current network environment is LAN or internet.

1. When HEXA and your mobile device are connected to the same Wi-Fi network, HEXA will appear as a  LAN connection.
2. When HEXA and your mobile device are connected to different Wi-Fi networks, HEXA will appear as an  internet connection.

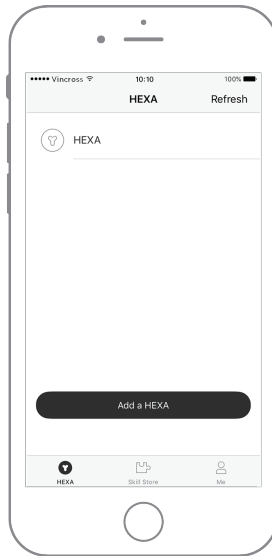
How to connect to HEXA using Wi-Fi mode



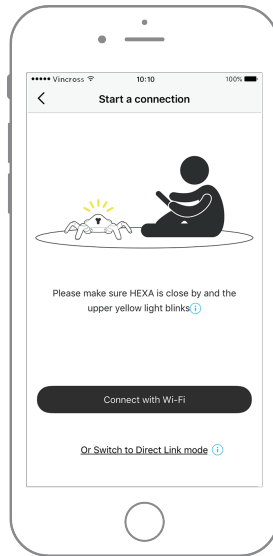
1. Turn on HEXA's power button. Its signal light will **blink blue**, which shows it is connecting to Wi-Fi.



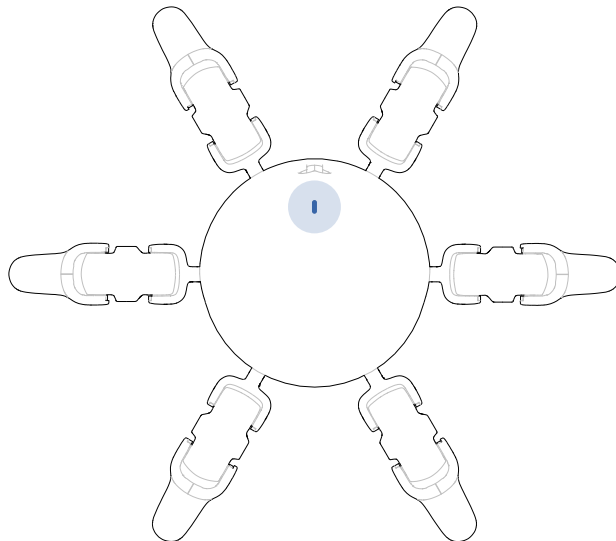
2. Connect mobile device to Wi-Fi network with internet access, and then open the HEXA App.



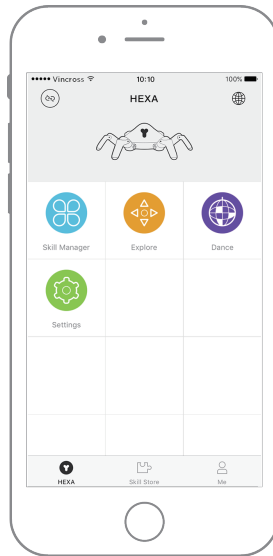
3. Find HEXA. If you do not see an icon, it means HEXA is not connected to a network. You might want to add a Wi-Fi for HEXA or switch to Direct Link mode.



4. Click HEXA to open the prompt view. Follow the prompt and click **"Connect with Wi-Fi"**. Then choose a Wi-Fi network for HEXA. Enter Wi-Fi password.



5. When the signal light of HEXA turns to **steady blue**, it means HEXA is successfully connected to Wi-Fi.



6. Wait until your mobile device automatically connects to HEXA. Once successfully connected, the HEXA App will automatically display the Launcher.

Troubleshooting for unsuccessful Wi-Fi mode connection

1. Please make sure the Wi-Fi password inputted for HEXA is correct.
2. Please reconfirm the Wi-Fi signal around HEXA is strong and steady.
3. Please make sure you are the owner or a trusted user of this HEXA.

If the problem still cannot be solved, please contact **support@vincross.com**.

Use Direct Link mode to connect to HEXA

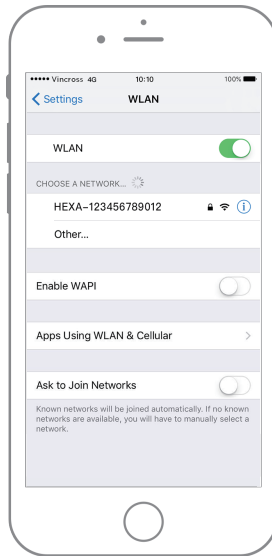
Direct Link mode is designed for outdoor use or for environments where no Wi-Fi network exists. Under Direct Link mode, HEXA becomes a Wi-Fi hotspot. Once your mobile device connects to this hotspot, it can connect to HEXA through the HEXA App.

How to connect to HEXA using Direct Link mode

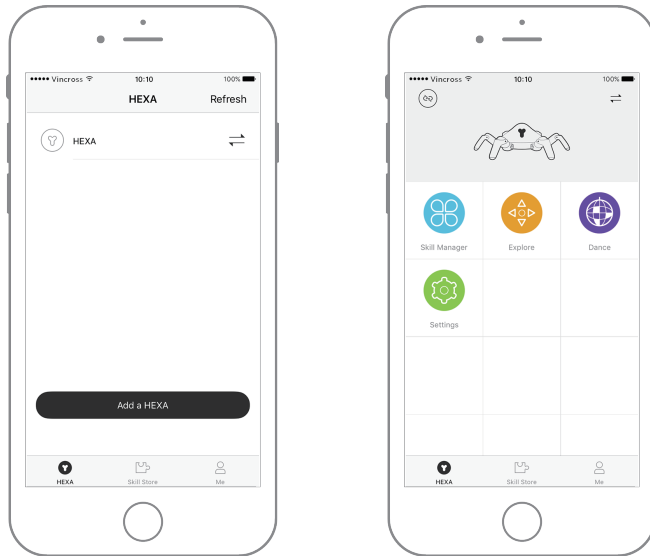


- 1.** When you turn on HEXA's power button and there is no available Wi-Fi network, the signal light will blink for 1 minute and then turn steady purple. This indicates that HEXA has entered Direct Link mode.

Note: Even when HEXA is connected to Wi-Fi, you can switch to Direct Link mode by visiting "Settings" in the HEXA App.



2. Open mobile device network settings. Among available networks, find a network named "HEXA-xxxxxxxxxxx", click "Connect", and enter the password, which is the last 8 digits of the network name.



3. Open HEXA App. The icon  indicates HEXA is under Direct Link mode. Click the HEXA's name and connect to it. You will then be able to enter HEXA Launcher.

Troubleshooting for unsuccessful Direct Link mode connection

1. HEXA must be activated. Otherwise, it cannot enter Direct Link mode.
2. If HEXA's signal light turns blue, it means it is already auto-connected to a Wi-Fi network. Under this situation, HEXA cannot automatically enter Direct Link mode. You will need to manually switch to Direct Link mode in HEXA App "Settings".
3. Please check the network settings of your mobile device. Make sure it is connected to HEXA's network.
4. Please confirm that you are the owner or trusted user of this HEXA.
5. Under room temperature environments, please make sure that the distance between the mobile device and HEXA is within 160 feet (50 meters). Direct Link mode won't work beyond this distance.

If the problem still cannot be solved, please contact **support@vincross.com**.

Skill

A “Skill” is an application of HEXA. It is the equivalent to a software of an app on a mobile device.

HEXA pre-installed Skills

We pre-installed two skills for every HEXA: Explore Skill and Dance Skill. You will find them in the HEXA Launcher.

“Explore” Skill enables HEXA to remotely explore its surroundings, as well as transmit the images it sees.

“Dance” Skill enables HEXA to dance. You can let your creative ideas flow by utilizing a variety of motions.

Use Skills in Launcher

In Launcher, You can find all of HEXA's Skills, both pre-installed and the ones downloaded from the Skill Store.

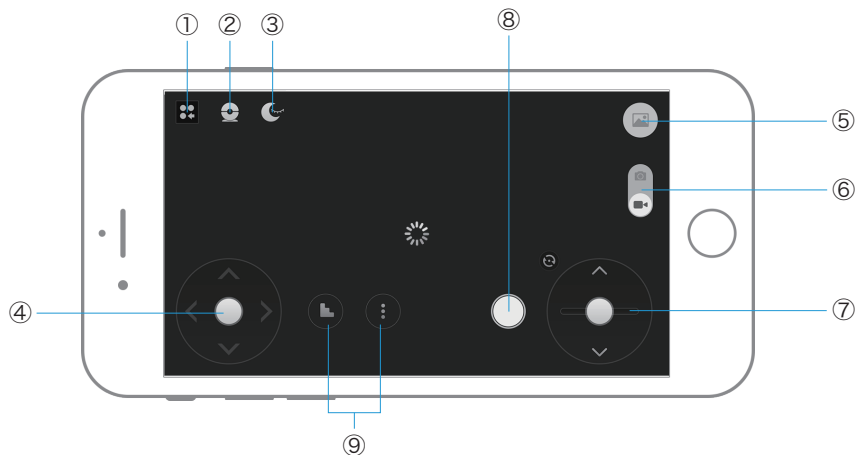
Play around with pre-installed Skills

Explore Skill

With Explore Skill, HEXA becomes an extension of your eyes—enabling it to see, experience, and witness things you didn't even know existed. Remotely control HEXA and guide it through various terrains and locations, while it transmits what it sees back to you.



Open Explore Skill by clicking the icon in Launcher.



- ① Back to Launcher
- ② Turn on/off camera
- ③ Turn on/off night vision mode
- ④ Control moving direction
- ⑤ Album

- ⑥ Take photos/Record videos
- ⑦ Control head spinning direction
- ⑧ Shutter
- ⑨ Motions: Climb the staircase, caving and poke.

 NOTE:

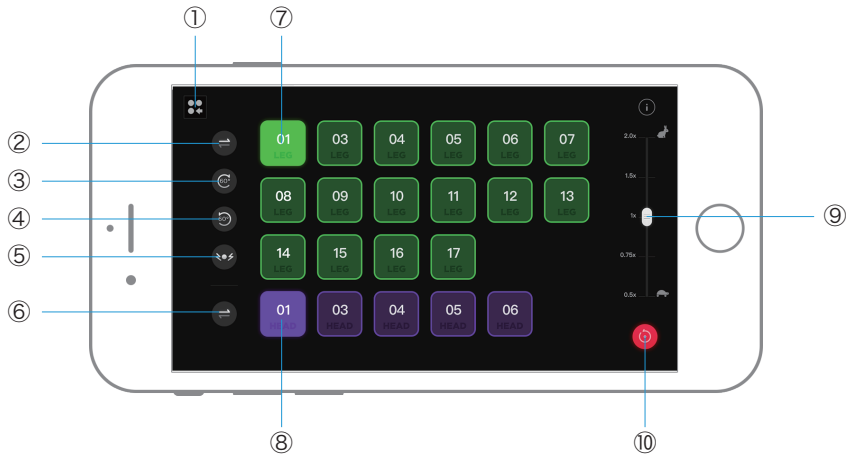
1. Explore is designed in landscape mode. We highly recommend you to play with both hands.
2. After opening the Explore Skill, it could take 10 seconds before it is fully started.
3. To ensure video/photo quality, we recommend you to turn on night vision mode in low-light environments.
4. You can control HEXA by using the movement direction controller and head spinning controller. Also real time video will be transmitted.
5. Motion buttons enable you to explore different terrains and more possibilities.

Dance Skill

Look out Beyoncé, HEXA is about to take the dance floor. And this dancer has the benefit of not two, but six legs.



Open Dance Skill by clicking the icon in Launcher.



- ① Back to Launcher
- ② Reverse leg moves
- ③ Switch legs clockwise
- ④ Switch legs anti-clockwise
- ⑤ Mad mode (repeating the previous move)
- ⑥ Reverse head moves
- ⑦ Leg moves
- ⑧ Head moves
- ⑨ Speed controller
- ⑩ Reset

 NOTE:

1. Dance is designed in landscape mode. We highly recommend you play with both hands.
2. Adjusting the speed controller up or down will speed up or slow down the dance.
3. If you press  Mad button, HEXA will repeat the previous move quickly, entering a madly dancing mode. Press this button again, and HEXA will return to normal.

Download more Skills

HEXA is an open platform. We welcome you to share your inspirations and publish your own Skills.

You can also enter the Skill Store inside the HEXA App to browse and download additional Skills to give HEXA more capabilities and possibilities.

If you want to transfer HEXA ownership

You are able to transfer the ownership of your HEXA to another user.

How to transfer HEXA ownership

1. Open the HEXA App, enter “Settings”-“Transfer HEXA ownership.”
2. Click the Transfer button and enter the password of the owner’s Vincross account.

 You are not able to undo this action once the ownership transfer is complete.

 After transferring HEXA ownership, the previous owner will become a trusted user of that HEXA. The current owner can remove the predecessor from the trusted users’ list.

Part 2

Becoming a HEXA Developer

HEXA is an open platform for robot developers

HEXA is not only a ready-to-use all-terrain robot, but also a platform designed for robot developers. We encourage developers to create their own Skills, mobile applications, and internet applications for HEXA.

To make the development experience smooth and easy, we have prepared a well-documented SDK and tutorials. All developers are welcome to publish their own Skills to the community via Developer Bridge and have online technical discussions with the Vincross developer community.

MIND SDK

HEXA's operating system is called MIND. With MIND SDK, developers will be able to develop Skills for HEXA and empower it to do almost anything you can imagine. Visit Vincross Developer Center

<https://www.vincross.com/developer/introduction/>

for more information about MIND SDK, its documentation, and tutorials.

Developer Bridge

With Developer Bridge, developers are able to distribute their Skills via the Skill Store. Visit <https://www.vincross.com/developer/bridge/> and become a Vincross developer now.

Developer Forum

In the Vincross Forum Development Discussion section, you can find peers to discuss, to inspire, and to create with. Visit <https://forum.vincross.com/developer> and join the community.

Part 3

HEXA's Features and Parameters

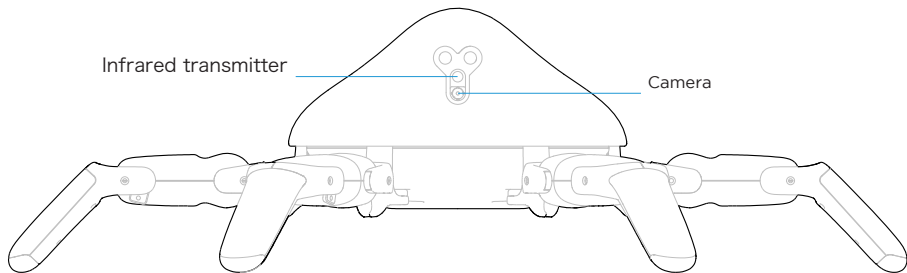
Signal light on HEXA's head

The signal light on HEXA's head shows the current status of your robot. You can quickly determine the current status by referring to the following table.

Light Status	Blinking	Steady
 Yellow light	Waiting to scan QR code	-----
 Blue light	Attempting to connect to Wi-Fi	In Wi-Fi mode
 Purple light	-----	In Direct Link mode
 Red light	-----	Low power
 White light	-----	Starting up

Visual system

HEXA's vision system consists of a camera and an infrared transmitter, which are located at the head of your HEXA. You can use HEXA to explore different environments by watching the video its camera transmits to your mobile device. The infrared transmitter can provide night vision in low-light environments.



Explore, take pictures and videos

The built-in “Explore” Skill will allow you to explore HEXA’s surroundings, as well as to take pictures and videos.

Infrared night vision

In low-light environment, you can turn on the infrared transmitter  (night vision mode) to fill light for the camera.

Visual system parameters

Highest resolution: 1280 × 720

Electronic shutter: Auto

White balance: Auto

Field of view: 70°

Range of lens motion: unbounded 360° endless spin

Lens: f/2.8

Distortion: <1%

Power and charge

HEXA has a two-cell lithium-ion battery (6900mAh) that can be recharged via an AC/DC adapter or the wireless charging dock.

Low battery display

When the power is low, HEXA's signal light will remain red for a long time, while the HEXA App's Launcher will give you a heads-up. In lowest power situations, the HEXA App will pop up to tell you it will be shutting down soon.

Charge

You can charge HEXA using an AC/DC adapter or the wireless charging dock that connects to an AC/DC adapter.

Cable charging time: 2.5 hours

Wireless charging time: 4.5 hours

While charging with the wireless charging dock, the white light on the bottom will light up.

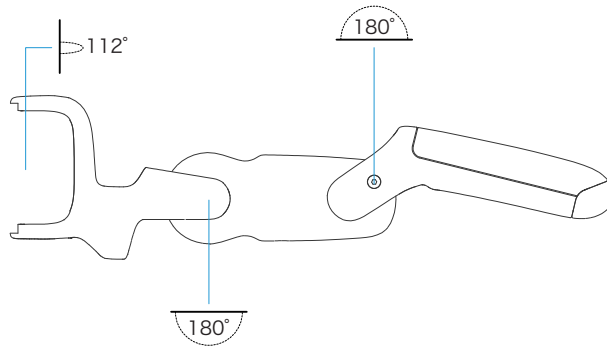
All battery claims depend on usage, environment and many other factors. Actual results may vary.

 Please use the original AC/DC adapter. Charging HEXA with a third-party AC/DC adapter may cause serious damage to the HEXA and may result in fire.

 It is not recommended to operate HEXA while charging. Otherwise, charging efficiency will be reduced significantly.

Legs

HEXA has six legs which are distributed in a symmetrical manner. Each leg has three joints and a non-slip pad on the toe.



- ⊖ The leg joints are driven by high-performance motors. Do not rotate them by hand. This may cause serious damage regardless of whether HEXA is powered on or off.

Specs

Size

Diameter: 20 inches (508mm)
Height: 4.7 inches (120mm)

Weight

Net weight (including battery): 1550g

Operating environment

Operating ambient temperature:
50°-95°F (10°-35°C)

Operating altitude: tested up to
6562 feet (2000m)

Battery

Battery type: Lithium-ion battery
Capacity: 6900mAh
Battery life: 45-180min
Depending on the actual use of the case

Charging

Charging method: Use the AC/DC adapter to charge directly. Or use the wireless charging dock to charge.

AC/DC adapter input voltage: 100-240V

Rated frequency: 50/60Hz

AC/DC adapter output voltage: 9V

Wired charging time: 2.5 hours

Wireless charging time: 4.5 hours

All battery claims depend on signal strength, feature configuration, usage, and other factors. Actual results may vary.



Please use original AC/DC adapter to charge. Using third party AC/DC adapter to charge may severely damage HEXA and cause fire.



It is not recommended to operate HEXA while charging, otherwise the charging efficiency will be significantly reduced.

Visual system

Sensor: 2.5" CMOS

Effective pixels: 5 million

Field of view: 70°

Range of lens motion:

unbounded 360° endless spin

Aperture: f/2.8

Distortion: <1%

Maximum resolution: 1280 × 720

Shooting mode:

taking photos / recording videos

Recording resolution: 720p

Infrared night vision: Yes

Wireless communication

Support Wi-Fi

Wireless Standards: IEEE 802.11b/g/n

Distance measuring sensor

Sensor: infrared emitting diode

Range: 4-59 inches (10cm-150cm)

Hardware interfaces

USB 2.0

3.5mm audio line in

3.5mm audio line out

GPIO x 4

I²C x 1

ADC x 4

5V power output

3.3V power output

Part 4

Services and System Updates

Services and support

We will always pay close attention to any problems you may encounter while using HEXA. Please check the after-sale service policies and repair service policies at the Vincross official website:

<https://www.vincross.com/support/after-sale-service-policies>

You can also get service and support in the following ways:

- 1.** You can click “Customer service” on the order detail page to enter the after-sales system. In addition, the after-sales system can be found at the Services and Support page on the Vincross website (**<https://www.vincross.com/support>**).
- 2.** At Vincross community (**<https://forum.vincross.com>**), click “Looking for support”. We will provide online service and support as soon as possible.
- 3.** You can directly email to **support@vincross.com**. Our staff will contact you as soon as possible.
- 4.** you can post development questions to the Vincross Forum’s Development Discussion section (**<https://forum.vincross.com/developer>**) in order to discuss issues with other community developers.

System update

HEXA's operating system MIND and HEXA App will update regularly. When you open the HEXA App and receive an update prompt, please update while connected to a Wi-Fi network. Using lower versions of MIND or HEXA App may affect your HEXA experience.

MIND SDK will also be constantly updated. Please stay tuned for the Developer Center and Developer Forum.

Update “HEXA User Guide”

Vincross will update the HEXA User Guide from time to time to help you keep up with HEXA newest instructions. Please see latest version from the Vincross website at: **<https://www.vincross.com/support/downloads>**

FCC Statement:

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 has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Caution: 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 complies with FCC radiation exposure limits set forth for an uncontrolled environment.

This equipment should be installed and operated with minimum distance 20cm between the radiator&your body.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.