

# Modify the wake-up word and command word

- First, you need to open the link "[ChipInelli Voice AI Platform](#)" and enter the official firmware production website.
- Translate this page into English.



- Click "Function development" in the menu bar, and then click "**Offline speech recognition large model application**" under the Product Development column.

A screenshot of the 'Function development' section of the ChipInelli website. At the top, there's a navigation bar with 'FEATURE DEVELOPMENT' highlighted. Below it, there are three main columns: 'Development documentation', 'product development', and 'Component development'. The 'product development' column contains several options, with 'Offline speech recognition large model application' highlighted by a red box and a red arrow pointing to it. Other options in this column include 'Off-line voice dialogue large model application', 'AI voice deep noise reduction application', and 'AI sound event detection application'. The 'Component development' column includes 'Language model development' and 'Broadcast sound synthesis'. On the right side, there's a sidebar with an 'AI platform update announcement on May 29, 2025' and a 'Key takeaways from this upda...' section.

- At this time, you will be prompted to log in. Here you need to use your own information to register a platform account. The tutorial here has already been registered in advance.

If you don't have a Chinese mobile phone number, you can use the following account:

Account number: 15338857526

Password: Yahboom123

Note: Since multiple people may share one account, please be careful not to modify other people's firmware when using it.

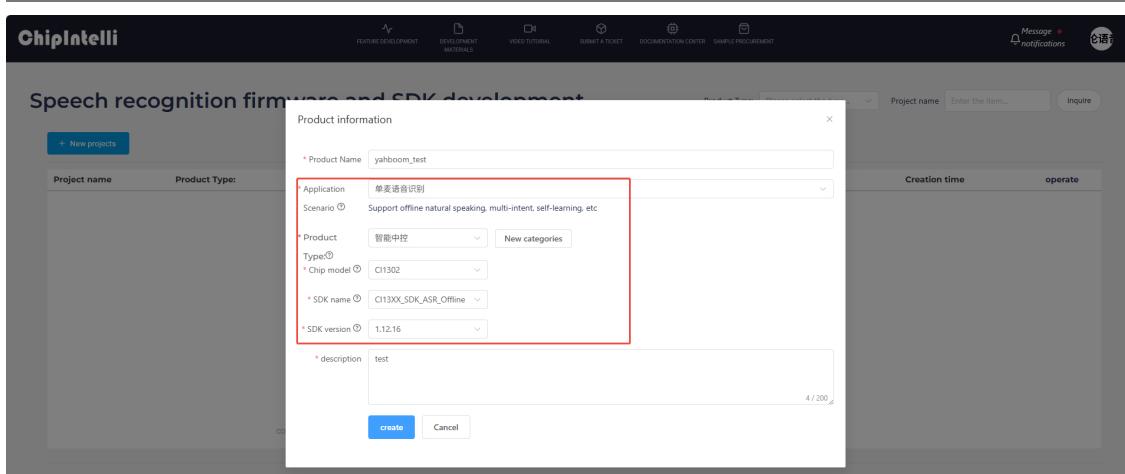
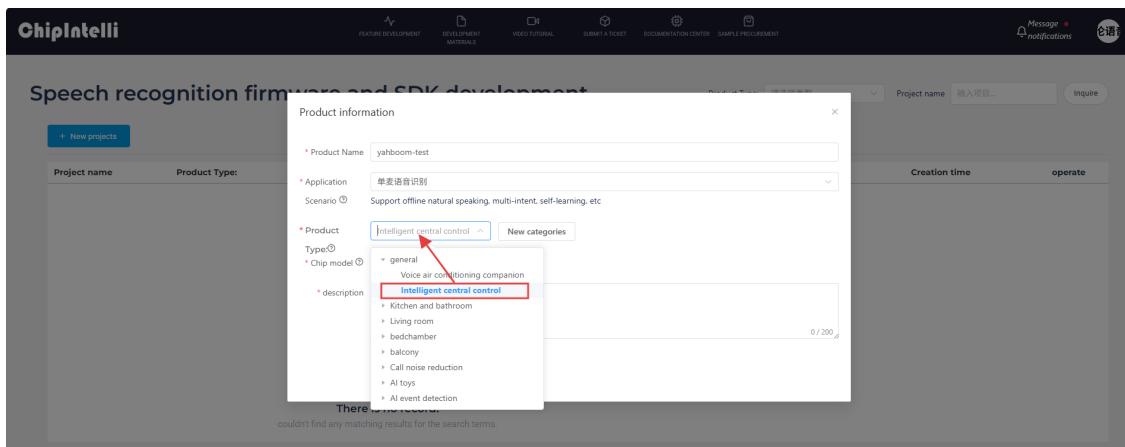
After logging in, click "**Speech recognition firmware and SDK development**" again.

The screenshot shows the 'Development documentation' section of the ChipIntelli website. It features several cards with icons and titles. One card, 'Speech recognition firmware and SDK development', is highlighted with a red border and a red arrow points to it from the left.

- After the page jumps, click New Project on the left and create a new product as shown below. The product name and description can be customized. The rest of the information needs to be selected according to the content in the red box. The product model needs to be selected as "General->Intelligent central control". After completion, click Create

The screenshot shows the 'Speech recognition firmware and SDK development' project creation page. A modal window titled 'Product information' is open. The 'Application' field is highlighted with a red border, containing the text '单麦语音识别'.

The screenshot shows the same project creation page again, with the modal window for 'Product information' still open. The 'Application' field is highlighted with a red border, containing the text '单麦语音识别'.



- Next, you need to fill in the basic information of the project. We need to recognize English, so select "English" as the language type. If you need to recognize Chinese, you can also make corresponding changes. For other information, select as shown below. Click Continue when you are done.

<p>Version Name <input type="text" value="V1.0.0"/></p> <p>plan: <b>Single microphone voice recognition</b></p> <p>product: <b>Intelligent central control</b></p> <p>chip: <b>CI1302</b></p> <p> sdk: <b>CI13XX_SDK_ASR_Offline_V1_12_16</b></p> <p>Language type <input type="text" value="英文"/></p> <p>Select acoustic model② <input type="text" value="Chinese"/></p> <p>Module board selection② <input type="text" value="English"/></p>	<p><b>continue</b></p>
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Version Name V1.0.0

plan: Single microphone voice recognition

product: Intelligent central control

chip: CI1302

sdk: CI13XX\_SDK\_ASR\_Offline\_V1\_12\_16

Language type 英文

Select acoustic V00627\_英文\_ASR\_通用\_1.1M

model②	V00488_English_ASR_General_1M
Module board	V00570_English_ASR_General_1.3M
selection②	V00614_English_ASR_General_1.6M
	V00618_English_ASR_General_1.6M
	<b>✓ V00627_English_ASR_General_1.1M</b>
	V00916_English_ASR_General_1.1M

continue

Version Name V1.0.0

plan: Single microphone voice recognition

product: Intelligent central control

chip: CI1302

sdk: CI13XX\_SDK\_ASR\_Offline\_V1\_12\_16

Language type 英文

Select acoustic V00627\_英文\_ASR\_通用\_1.1M

model②	V00488_English_ASR_General_1M
Module board	CI-D02GS02S
selection②	

continue

- Then you need to configure the firmware. Here we only explain the parts that need to be modified and turn on the echo cancellation algorithm parameters.

Algorithm parameters	parameter	illustrate	Options
	Echo cancellation	This is suitable for scenarios that require voice interruption (such as music playback), and you need to confirm that the module hardware supports this function before you can enable it.	close <input checked="" type="button"/> open

- In the hardware parameters, you need to select the crystal source as "**internal RC**".

Hardware parameters	parameter	illustrate	Options
	Core 1.1V power supply	External DC-DC or internal LDO power supply	内部
	Crystal oscillator	Internal RC or external crystal source is optional	内部RC Internal RC
	parameter	illustrate	
	baud rate calibration function	Use baud rate calibration function when using internal RC.	External crystal oscillator

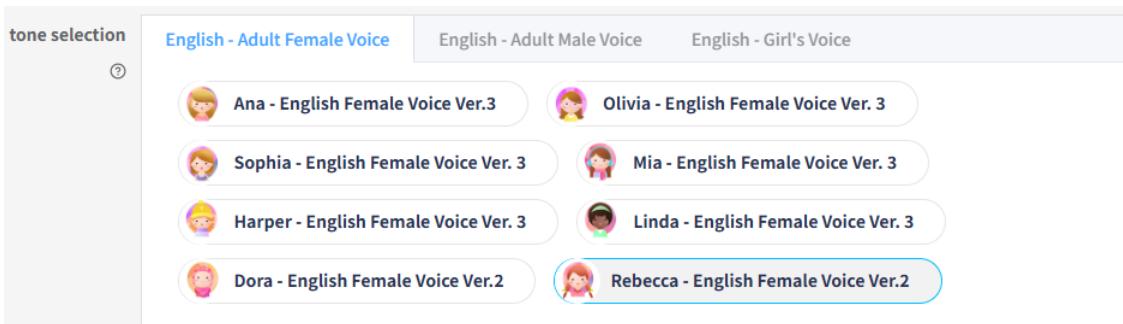
- In the print serial port configuration, configure the UART1 level as open drain function, supporting external pull-up 5V.

Print serial port configuration	parameter	illustrate	Options
	Debugging information printing serial port	During debugging, the serial port (baud rate 921600) that prints debugging information must not be the same as the communication serial port; if not needed, simply turn it off.	UART1
	parameter	illustrate	Options
	UART1 level	Configured with open-drain pins, supporting external 5V pull-up.	close <input type="button"/> open

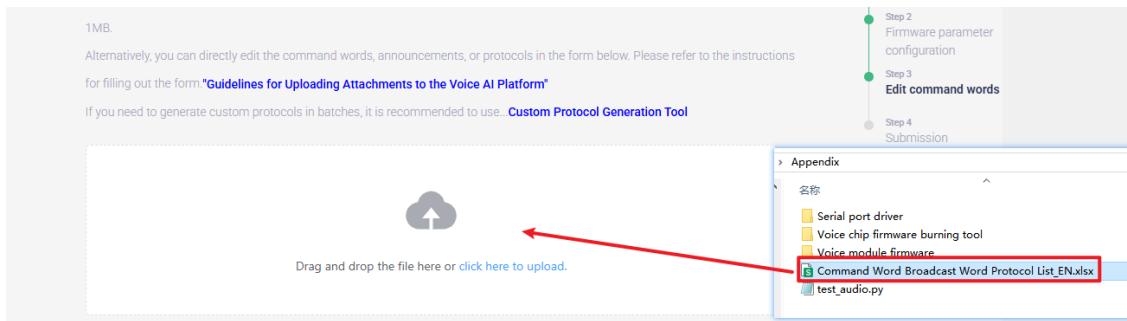
- Modify the communication serial port configuration, set the baud rate to 115200, and configure the UART0 level to open drain function, support external pull-up 5V, and click "Continue" to enter the next step after the configuration is completed.

Communication serial port configuration	parameter	illustrate	Options
	Serial communication	When enabled, the voice chip (module) communicates with the host computer via a designated serial port; when disabled, it cannot communicate with the host computer.	close <input checked="" type="button"/> open
	Communication serial port	Serial port name for communication	UART0
	Communication serial port baud rate	baud rate of serial communication	115200
	Serial port protocol version	Custom serial communication protocols consist of up to 20 hexadecimal digits, such as: AF BF D1 01 12 FB. When the voice chip receives protocol packets, it determines that the packet has been received by measuring the reception timeout duration (0.34ms). Therefore, when the main controller sends protocol packets, it needs to ensure that the time interval between packets is greater than 0.34ms to ensure normal communication.	自定义协议
	parameter	illustrate	Options
	UART0 level	Configured with open-drain pins, supporting external 5V pull-up.	close <input type="button"/> open

- Next, enter the edit command word function. First, you need to select the sound to be played.



- Next, we will upload the command word attachment. Locate the protocol table file "Command Word Broadcast Word Protocol List\_EN.xlsx" in the download section and drag and drop it directly into the webpage to upload it.



- After uploading the file, you can see our command word data in the table below.

	<input type="checkbox"/> *  Semantic tags	<input type="checkbox"/> *  comm and words	<input type="checkbox"/> *  Functional type	<input type="checkbox"/> *  Broadcast Statement	<input type="checkbox"/> *  Broadcast mode	<input type="checkbox"/> *  Sending Protocol	<input type="checkbox"/> *  Reception Protocol	<input type="checkbox"/> Confidence threshold
<input type="checkbox"/>	1	Hello	wake word	here	host	AA 55 04 0 0 FB	AA 55 04 0 0 FB	35
<input type="checkbox"/>	2	hello-yahbooom	wake word	here	host	AA 55 05 0 0 FB	AA 55 05 0 0 FB	35
<input type="checkbox"/>	3	hi-yahboom	wake word	here	host	AA 55 06 0 0 FB	AA 55 06 0 0 FB	35
<input type="checkbox"/>	4	ROBOT-STOP	command words	ok I am stop	host	AA 55 00 0 1 FB	AA 55 00 0 1 FB	35
<input type="checkbox"/>	5	STOP	command words	ok I am stop	host	AA 55 00 0 2 FB	AA 55 00 0 2 FB	39
<input type="checkbox"/>	6	ROBOT-SLEP	command words	ok dormant	host	AA 55 00 0 3 FB	AA 55 00 0 3 FB	35
<input type="checkbox"/>	7	GO-AHEAD	command	ok let's go	host	AA 55 00 0	AA 55 00 0	35

If we want to add a wake word, we click **Add a row**. If we need to add a new wake word "yahboom", then add the following content to the new line:

<input type="checkbox"/>	93	yahboom	wake word	I'm here	host	AA 55 07 0 0 FB	AA 55 07 0 0 FB	35
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The sequence **AA 55 07 00 FB** is incremented from the previous command word "hi-yahboom" **AA 55 06 00 FB**. Subsequent commands follow the same pattern; therefore, the next wake word's send/receive protocol would be AA 55 08 00 FB. A maximum of 10 wake words can be set.

- Click to submit now

\*The sending protocol, receiving protocol, and confidence level can be modified according to the actual application.

	<input type="checkbox"/> * <input checked="" type="checkbox"/> Semantic tags	<input type="checkbox"/> * <input checked="" type="checkbox"/> comm and words	<input type="checkbox"/> * <input checked="" type="checkbox"/> Functional type	<input type="checkbox"/> * <input checked="" type="checkbox"/> Broadcast Statement	<input type="checkbox"/> * <input checked="" type="checkbox"/> Broadcast mode	<input type="checkbox"/> * <input checked="" type="checkbox"/> Sending Protocol	<input type="checkbox"/> * <input checked="" type="checkbox"/> Reception Protocol	<input type="checkbox"/> Confidence threshold
		OLOR-BLOCK	words			6 FB	6 FB	
58		FACE-FOLLOWING	command words	ok	host	AA 55 00 47 FB	AA 55 00 47 FB	35
59		YELLOW-FOLLOWING	command words	ok	host	AA 55 00 48 FB	AA 55 00 48 FB	35
60		RED-FOLLOWING	command words	ok	host	AA 55 00 49 FB	AA 55 00 49 FB	35
61		GREEN-FOLLOWING	command words	ok	host	AA 55 00 4A FB	AA 55 00 4A FB	35
62		BULE-FOLLOWING	command words	ok	host	AA 55 00 4B FB	AA 55 00 4B FB	35
63		STOP-FOLLOWING	command	ok	host	AA 55 00 4	AA 55 00 4	35

SDK Download  SDK Options

Wake word [close](#) [open](#)

switching [?](#)  
Self-learning [close](#) [open](#)

function [?](#)

[Previous step](#) [continue](#) [Submit now](#)

- Wait for firmware generation, which takes about 3 minutes. When the **Download File** display turns blue, you can download the firmware.

Version Name	Version number	Chip Model	Language Model	Creation time	Current process	Feedback Description	operate
V1.0.0	sfw2026010811181467272344	C1302	V00916	January 8, 2026, 11:18:14	<span style="background-color: green; color: white;">Complete</span>	OK	<a href="#">delete</a> <a href="#">inherit</a> <a href="#">Check</a> <a href="#" style="border: 2px solid red; background-color: blue; color: white;">Download file</a>

- Next, flash the firmware. Refer to section 4.3 in [8. AI Large Model Voice Module] - [2. Flash the firmware (Must read)]. After flashing is complete, follow the tutorial to start [9. 2D Voice Control Course] - [1.Simple Voice Control]. After the program starts, use the wake word "yahboom" to wake up the device. If it responds "I'm here", the addition was successful.
- If adding a command word, change the function type to command word, then modify the send protocol and receive protocol. For example, if we want to add a command word **arm-dancing**, we can add the following content to the **new row**:

			ment		I	col	old
<input type="checkbox"/>	89	Tracking-and-picking-up-objects	command words	ok	host	AA 55 00 6B FB	AA 55 00 6B FB
<input type="checkbox"/>	90	Start-garba ge-sorting	command words	ok	host	AA 55 00 6C FB	AA 55 00 6C FB
<input type="checkbox"/>	91	Reorder	command words	ok	host	AA 55 00 6D FB	AA 55 00 6D FB
<input type="checkbox"/>	92	arm-centering	command words	ok	host	AA 55 00 6E FB	AA 55 00 6E FB
<input type="checkbox"/>	93	yahboom	wake word	I'm here	host	AA 55 07 00 FB	AA 55 07 00 FB
<input type="checkbox"/>	94	arm-dancing	command words	ok	host	AA 55 00 6F FB	AA 55 00 6F FB

The subsequent send/receive protocol is incremented from the command word "arm-centering" on line 92, whose protocol is AA 55 00 6E FB. We incremented 6E to 6F. By analogy, the following ones are 7A, 7B, etc.

- Similarly, after submission, wait for the firmware production to complete and download it. Then flash it to the voice board, connect the board to the main board, copy test\_audio.py from the program source code folder to the ~ directory, and enter the following command to test the added command:

```
python ~/test_audio.py
```

Say "Hello Xiaoya" to wake up the voice module. The module will respond "I'm here", indicating successful wake-up. Then say "Arm dancing" to the voice module. If the terminal prints 111, it means recognition was successful. Here, 111 corresponds to the decimal value of 6F.

```
jetson@yahboom: $ python3 test_audio.py
Speech Serial Opened! Baudrate=115200
111
111
□
```

- Whether updating command words or wake words, it is recommended to select "inherit" the previous configuration each time.

Version Management							Operate			
Version Name	Version number	Chip Model	Language Model	Creation time	Current process	Feedback Description	delete	inherit	Check	Download file
V1.0.0	sfw2026010816031567276592	C11302	V00627	January 8, 2026, 16:03:15	Complete	OK	<a href="#">Delete</a>	<a href="#">Inherit</a>	<a href="#">Check</a>	<a href="#">Download file</a>
V1.0.0	sfw2026010815521367273178	C11302	V00627	January 8, 2026, 15:52:13	Complete	OK	<a href="#">Delete</a>	<a href="#">Inherit</a>	<a href="#">Check</a>	<a href="#">Download file</a>
2 items in total							<a href="#">1</a>	<a href="#">2</a>	<a href="#">3</a>	<a href="#">Page</a>