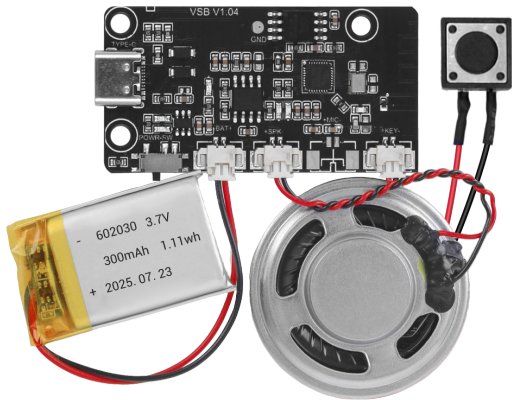# Ransanx

X20(Upgraded Recording Module + APP) Product Manual

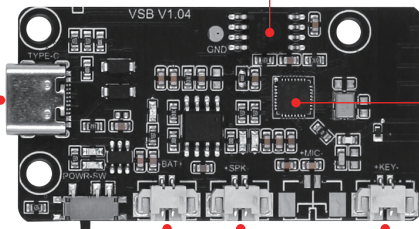## Bluetooth Voice Module
User Manual

X20

Product Features:

1、Adopts high-quality voice chip with built-in 32-bit processor, boasting a main frequency of up to 240MHz.

2、Equipped with a 300mAh battery, supporting 3.5 hours of continuous use and rechargeable via USB port.

3、Compatible with mobile APP via Bluetooth module for voice playback control.

4、Features TTS voice synthesis function, allowing selection of different voices, and synthesis of voice and effects.

5、Onboard 8MB SPI-Flash, enabling audio upload via USB or APP.

6、Speaker supports maximum power output of 2W (with 4Ω load).

7、Compatible with high-quality voice and audio formats, such as MP3 and WAV files with sampling rates ranging from 8kbps to 320kbps.

8、Delivers high-performance stereo sound; ADC with 90dB signal-to-noise ratio, and volume adjustable from 0 to 100.

Product Schematic Diagram:
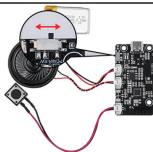
Charging download interface

Memory chip

Audio chip
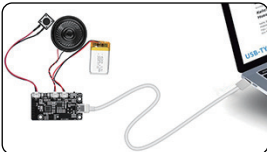
Battery Interface

Speaker interface

Button interface

Module Operation Guide:

1. Turn on the switch

2. Connect the USB data cable

G:

15.7 MB available, 15.8 MB total

3. Eject hard disk 15.8MB

Download file

REC_DIR   01-cut   config

Recording files   Configuration file

4. Open the hard drive

MP3

01-cut

5. Delete audio files

1 item being copied from 2023-03 to USB flash drive (G:)

Completed 28%

Name: Christmas Classics
Time remaining: being calculated...
Remaining Items: 1 (283 KB)

6. Move the audio to be downloaded

File(F) Editor (E) Format (O) View(V) Help (H)

Parsing of configuration files:

IO=01-06
Six playback modes:01-06:
01:Key press interruptible
02:Key presses are not interruptible
03:Push button hold cycle
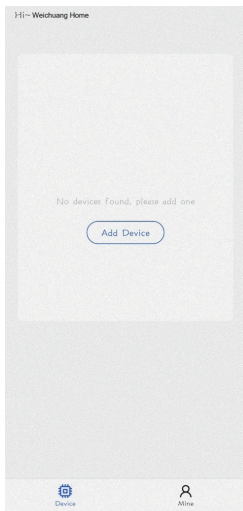04:Loop cannot be interrupted
05:Play/pause
06:Play/stop

7. Multiple playback modes can be modified

APP Operation Guide：

Note: Currently, Android devices (Xiaomi, OPPO, Honor) support code scanning for download. For iOS, search "Wei chuang Home" in the App Store. Huawei HarmonyOS (test version 4.0.0.198) supports code scanning for download.
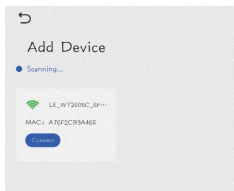
1.Adding Device

Hi~ Weichuang Home

No devices found, please add one

Add Device

Device

Mine

1.1 Power on the device normally (indicator lights up), then tap "Add Device" in the APP. Note: Keep within 5m of the device when adding.
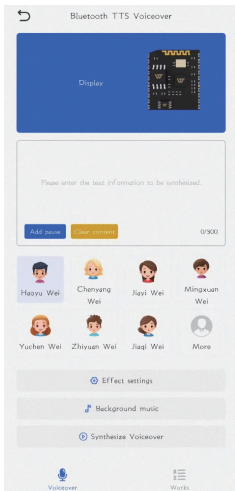
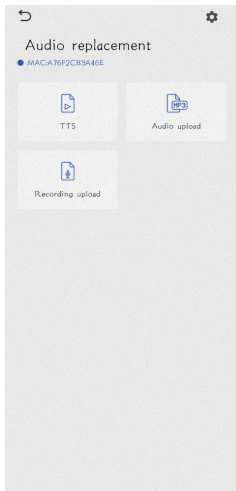**1.2** Offline TTS synthesis & audio upload: 1) Enable phone Bluetooth and open the "Weichuang Home" APP; 2) Wait for the board to enter network configuration mode (green indicator flashes slowly).
3) Bluetooth update function: No need for network configuration. Enable phone Bluetooth, open the "Weichuang Home" APP, directly select to add the device (named starting with "LE_xxx"), and transmit data via Bluetooth.

2.Choose Device

Click "Add" to add the Bluetooth device to the APP's device list for subsequent operations.
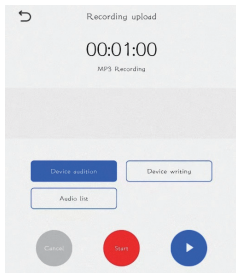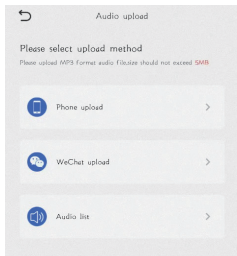
3.Functional Operation

3.1 TTS

1.Click the text box to input text, with a maximum limit of 300 characters.

2.Different anchor voices are selectable, including Chinese, English, Cantonese, Sichuan dialect, hyper-realistic anchors, Japanese female voice, Korean female voice, Russian female voice, and Spanish female voice.

3.In the effect settings, you can adjust the volume (0-100), pitch (-500 to +500), speaking rate (-500 to +500), and the volume of background music (0-100).

4.Audio audition on phone and device: Use "Audio Audition (phone side)" to verify whether the text in the current text box plays normally and whether the settings are synchronized. You can select the device to audition the MP3 file and click send.

5.Save MP3 audio to works: Save the current audio to the work list. You can write to or delete the corresponding audio in the list. Audio list: The voice texts "written to the device" are stored in the external SPI Flash memory of the voice chip, which can be used for address index playback, filename playback, pause playback, volume control, etc.

3.2 Recording Upload

↰   Recording upload

00:01:00

MP3 Recording

Device audition   Device writing

Audio list

Cancel   Start   ▶

1.The maximum recording duration is 1 minute. Press and hold the start button to begin recording, and release it to stop.

2.The recorded audio source can be written to the device by clicking, and you can audition it on the device. The audio list allows you to view the audio written to the device, and you can click to play or delete the delivered audio.

3.3 Audio Upload

1. Supports uploads from mobile phone local storage and WeChat. The uploaded audio must be in MP3 format, and the file size cannot exceed 5 MByte.
2. After a successful upload, you can audition or delete it in the audio list.

Notes:

1. The APP supports uploading audio from mobile phones to local devices for playback in three ways: TTS synthesis upload, APP audio upload, and APP recording upload.
2. For the online TTS version, the delivered audio will be stored in the external SPI Flash via BLE Bluetooth, and can be controlled for playback through the APP or buttons.
3. Network configuration failure usually occurs when the mobile phone's Bluetooth is not turned on.
4. Bluetooth update only requires an audio chip + SPI Flash, and can be performed by directly plugging a USB cable into a computer.
5. The USB charging voltage is 5V. Do not use a fast-charging charger, otherwise it may cause the module to not work, failure to charge, etc.
6. To use the Bluetooth function of the Android APP, location permission needs to be enabled; otherwise, the Bluetooth function may malfunction.

FCC Warning:

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:
(1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

NOTE 1: 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.

NOTE 2: Any changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

The device has been evaluated to meet general RF exposure requirement. The device can be used in portable exposure condition without restriction.