

SGW8100 +30dBm LoRa USB Modem

PC Software User Manual

June 2022 V1.1

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1. Introduction

The SGW8100 +30dBm LoRa USB Modem (Figure 1) is a plug-and-play antenna based on the SGW2828-01A LoRa Module. With its accompanying PC app *Instaspeak*, users are able to transmit voice and data over LoRa at over 22km line-of-sight (over 6km in urban areas) and through at least 10 concrete walls. The flexible rotary USB design enables connection to various devices.

2. Required Tools

The SGW8100 LoRa capabilities are best demonstrated when testing is conducted with at least two individual users.

Each user should be equipped with the following:

- a. SGW8100 +30dBm LoRa USB Modem
- b. PC with Windows 10 or above
- c. SGW8100 PC App *Instaspeak*



Figure 1: SGW8100 +30dBm LoRa USB Modem

3. Instaspeak PC App Functions

The screenshot shows the Instaspeak PC app window titled "Instaspeak | SG Wireless". The interface includes a status indicator (blue dot) in the top left, an LED control button (orange hand icon) in the top right, and a "Testing" button in the upper right of the main area. The main area contains the text "Record transmitted and received data". At the bottom, there is an input text field containing "Testing 1 2 3", a "Text to speech" toggle switch, a "User Button" (microphone icon), and a "Voice Toggle" (PA) switch.

- 1. Voice Toggle (text-to-speech)
- 2. Input Text
- 3. LED Control

4. Operation Guide

a. Preparation

1. Connect the SGW8100 Modem to the PC (Figure 2).
2. Download the SGW8100 PC software file. Extract *Instaspeak* (SGWireless_Instaspeak (LoRa PC App).exe) and run the program.



Figure 2: SGW8100 Connection to PC

b. PC App Operation

1. Launch *Instaspeak*. Enter your name and press Login (Figure 3). Please allow a few seconds for the connection to go through.
2. When successfully connected, the Status Indicator will light up and your name will appear next to it. The app can now be used per Table 1.

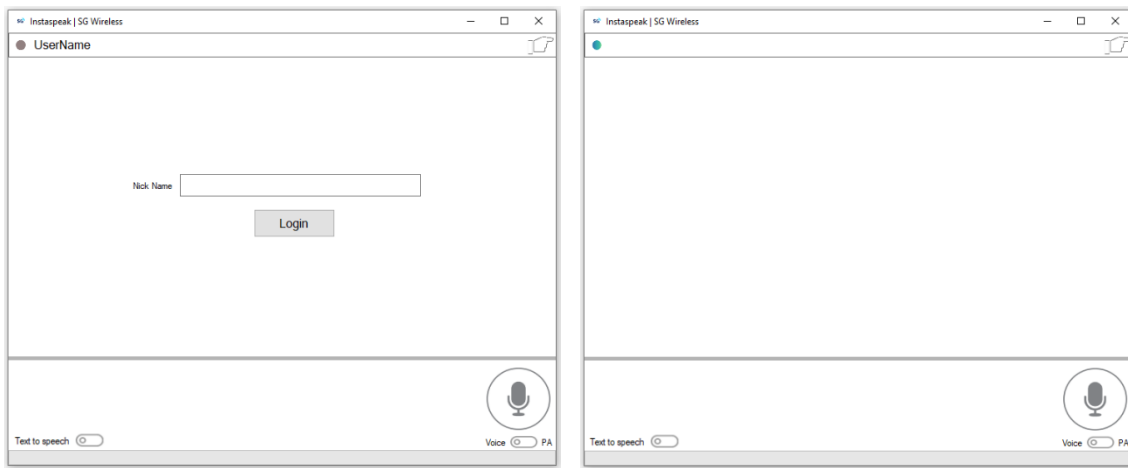


Figure 3: SGW8100 Login and Successful Connection

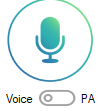
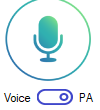
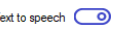

	Function	Action	Indicator
1	<u>Voice Transmission</u>		
A	Real-time push-to-talk	Slide the Voice Toggle to the left (default). Push the User Button using the mouse or the Enter key (the Button will light up) and speak into your microphone. Push the User Button again to stop the transmission.	
B	Canned voice messages	Slide the Voice Toggle to the right and similarly push the User Button to send the canned message. Push the User Button again to stop the transmission. <i>Notes: Please only send text or voice message when canned voice message is disabled.</i>	
C	Text-to-speech	Slide the Voice Toggle (text to speech) to the right to hear the transmitted speech from the remote user. Slide it back to the left to disable the speech.	
2	<u>Text</u>	Input messages in the message box and hit the Enter key to transmit them. Messages will show up in the message boxes of both local and remote users' PC Apps.	
3	<u>LED Control</u>	Push the 'Poke' symbol to switch on the red LED on the remote user's SGW8100 Modem.	

Table 1: SGW8100 PC App Functions

5. Related Documents and Useful Links

1. SG Wireless SGW8100 +30dBm LoRa USB Modem: <https://sgwireless.com/product/SGW8100>.

Revision History

Revised	Version	Description
30-Nov-2020	1.0	Initial document release
14-Jun-2022	1.1	Updated on voice transmission function, added text-to-speech feature

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