How to Flash a SkyBridge MAX/Plus Micro SD Card

Things You Will Need

Here is a list of things you will need to be successful in reimaging your SkyBridge Max or SkyBridge Plus hotspot

1. 5V/3Amp Power Supply for the unit
2. SkyBridge Max, or SkyBridge Plus (2.4" Screen, Black Case)
3. Micro SD card
4. Micro SD Card reader
5. A Windows® or Apple® Computer.
6. Raspberry Pi Imager Software
7. Ethernet cable or your WiFi Settings if configuring to work with WiFi

Recommended Cards and Readers

You can use a computer's built-in micro SD card slot for this process. If your computer doesn't have an internal slot, or if you encounter problems using it, an external USB micro SD card reader is a suitable alternative. Below are links to micro SD cards and a reader that we have had success with. Note that the products linked are examples for your convenience; we do not sponsor or endorse them.

Uni Card Reader:
https://www.amazon.com/uni-Adapter-Supports-Compatible-MacBook/dp/B081VHSB2V/

This card reader contains both USB Type A and Type C connectors for compatibility with older and newer computers.

SanDisk Ultra Micro SD Cards:
https://www.amazon.com/SanDisk-2-Pack-microSDHC-Memory-2×32GB/dp/B08J4HJ98L/

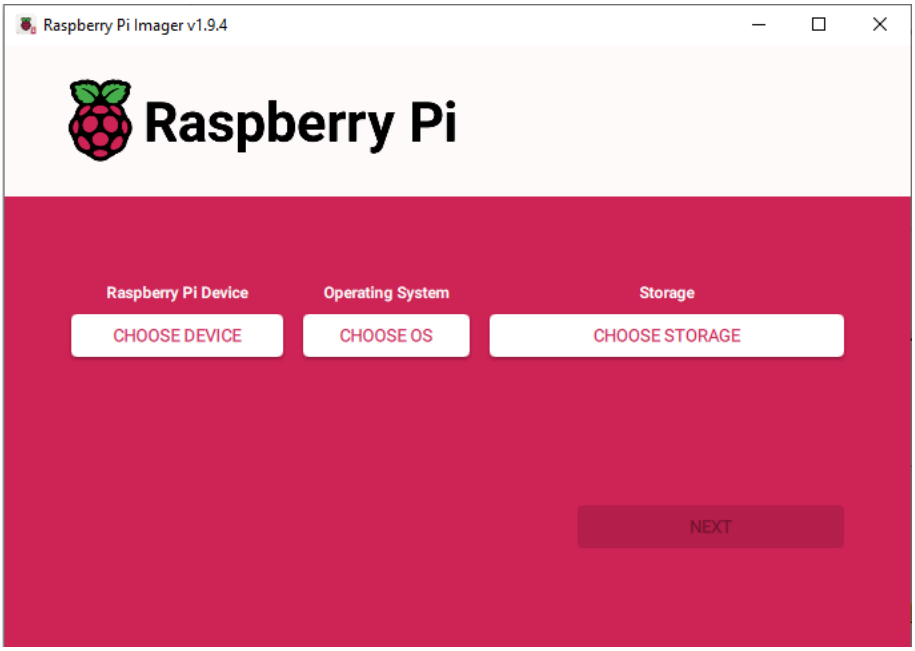
This is the same type of micro SD card that ships in new SkyBridge units.

Download Links

- Raspberry Pi Imager: https://www.raspberrypi.com/software/
- Image File for SkyBridge Max or Plus Model: https://w0chp.radio/WPSD_SkyBridge_Max-Trixie.img.xz
    - (Alternatively, you can find the latest SkyBridge Plus/Max image at the link below. Be sure to download the one marked "BridgeCom SkyBridge MAX/Plus") https://w0chp.radio/wpsd/#download-wpsd)

Preparing the Imaging software

1. Navigate to the folder where Raspberry Pi Imager was downloaded to
2. Double-click the file to run the installer. You will likely encounter a UAC prompt to allow running the installer.
3. Navigate through the prompts in the installer until complete.
4. Once installed, if Raspberry Pi Imager did not automatically start, launch it now. It should appear similar to the image below. Keep this window open.



Micro SD Card Reimaging Steps

1. Unplug the power cable and Ethernet cable (if attached) from the unit
2. Unscrew the antenna
3. Flip the unit so the bottom is facing up, and very carefully remove the micro SD card by sliding it straight out towards the adjacent side of the unit.
    a. ⚠ Do not pull up on the micro SD card or apply excessive force. It is possible to damage the connector and render the device inoperable if too much force is applied.

4. Insert the micro SD card into your micro SD card reader. If using an external USB micro SD card reader, plug it into an available USB port on your computer.
    a. If a dialog window appears mentioning that the disk needs to be formatted, click the **Cancel** button in the window.
5. In Raspberry Pi Imager, click **Choose Device**. Scroll to the bottom of the list and select **No Filtering**.
6. Click **Choose OS**. Scroll to the bottom of the list and select **Use custom**. This will open a File Explorer window. Navigate to the folder where the SkyBridge Plus/Max image file was downloaded to, and select the file.
7. Click **Choose Storage**. Click the device labeled **SDHC Card** or similar. If using a USB SD card reader, it may appear as a USB device with a similar storage size as the micro SD card in it.
    a. If you are unsure of which device is correct, remove the micro SD card or reader from the computer, insert it again, and note the device that populates in the list.
8. A window may appear asking to apply OS customisation settings. If so, click **No**.
9. Click **Yes** in the window confirming that all data on the selected device will be erased. The software will now flash the micro SD card with the image.
    a. When complete, the software will automatically eject the micro SD card.
10. Remove the micro SD card from the reader.

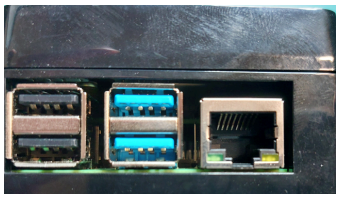
WiFi Setup

You can optionally pre-configure a wireless internet connection when reimaging the micro SD card. This is only required if an Ethernet network connection is unavailable and you only have WiFi access. However, even if an Ethernet connection is available, pre-configuring WiFi eliminates the need to manually set it up later.

*** Note: Some of the earlier SkyBridge Plus units only support 2.4GHz WiFi due to hardware limitations. A simple way to tell which WiFi bands the device supports is to check the color of the USB ports on the side of the unit:

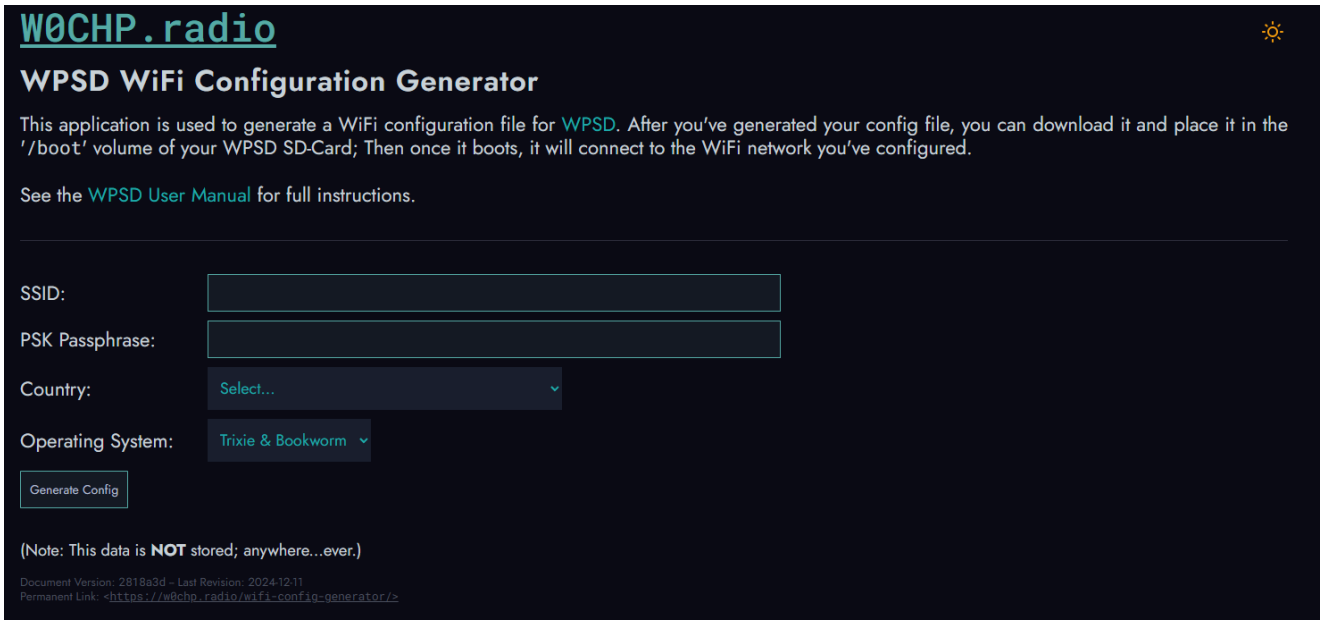
- **All Black USB Ports:** The unit is powered by a Raspberry Pi 3B, and only supports the 2.4GHz WiFi band. It will not connect to a 5GHz WiFi network, even if it is configured to.

- **Two Black and Two Blue USB Ports:** The unit is powered by a Raspberry Pi 4B, and supports both the 2.4GHz and 5GHz WiFi bands.

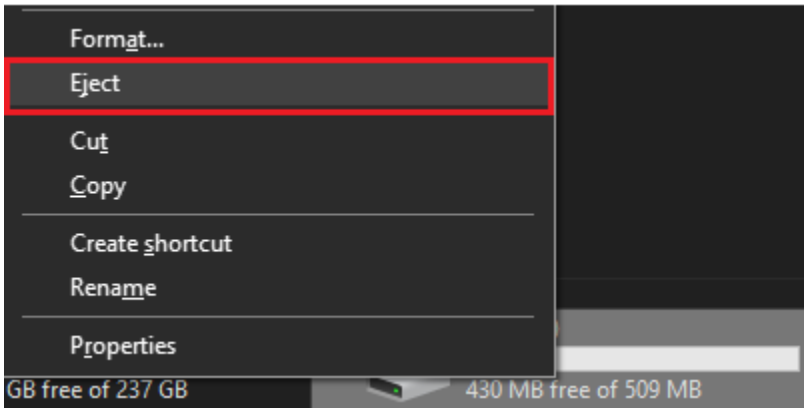


WiFi Configuration Steps:

1. Visit the WPSD WiFi Configuration page at the following link: https://w0chp.radio/wifi-config-generator/. The page should appear like the image below.



2. Enter your **SSID** (network name), **PSK** (network password), and **Country**. Do not change the **Operating System** parameter - the default is correct for the latest image.
3. Click **Generate Config**. This will generate the proper configuration file for the network.
4. Click **Download This Config File**. This will download the generated configuration file to your computer. Open the File Explorer and navigate to the folder where the file was downloaded to. Usually this is the **Downloads** folder.
5. Right-click the downloaded file and copy it.
6. Plug the micro SD card back into the reader. A drive labeled **boot** should be populated in the File Explorer.
    a. If a dialog window appears mentioning that the disk needs to be formatted, click the **Cancel** button in the window.
7. Navigate to **This PC→boot**, and paste the file that was copied in step 5.
8. Navigate out of the **boot** drive, right click the **boot** drive, and click **Eject**. This ensures that all file reads/writes are complete before removing it.



9. Remove the micro SD card from the reader

Booting the New Image

1. Very carefully insert the micro SD card back into the SkyBridge unit
    a. Looking at the bottom of the SkyBridge, ensure the label side of the micro SD card is facing up
    b. Ensure the micro SD card is properly aligned with the internal connector. If not properly aligned, it can fall inside the unit
    c. ⚠ Do not use excessive force when inserting the micro SD card or damage to the internal connector may result, rendering the device inoperable.

2. Flip the unit so the top is facing up, and screw the antenna on
3. Plug in the Ethernet cable
4. Plug in the power cable and wait for the unit to boot
    a. The display text will show “Initializing...” while it boots
    b. When the new image boots for the first time, it will run some background tasks and reboot before fully booting. Do not interrupt power during this process.
    c. When fully booted, the display data will fully populate

Basic Configuration

Your SkyBridge is now operational and ready for configuration. For detailed configuration steps, please refer to the latest SkyBridge QuickStart Guide, which can be downloaded at the following link: https://support.bridgecomsystems.com/skybridgemax-resources