# 1. HaliKey, User's Guide

Thank you for purchasing the Halibut Electronics **HaliKey**!

HaliKey is an adapter that lets you have a physical morse code paddle and/or PTT (eg: a foot switch) connected to your computer. It is designed to work with Flex Radio Systems™ SmartSDR™ software, but will work with any software that uses a serial port's CTS and DCD (v1.3 adds DSR same as DCD) signals an inputs.
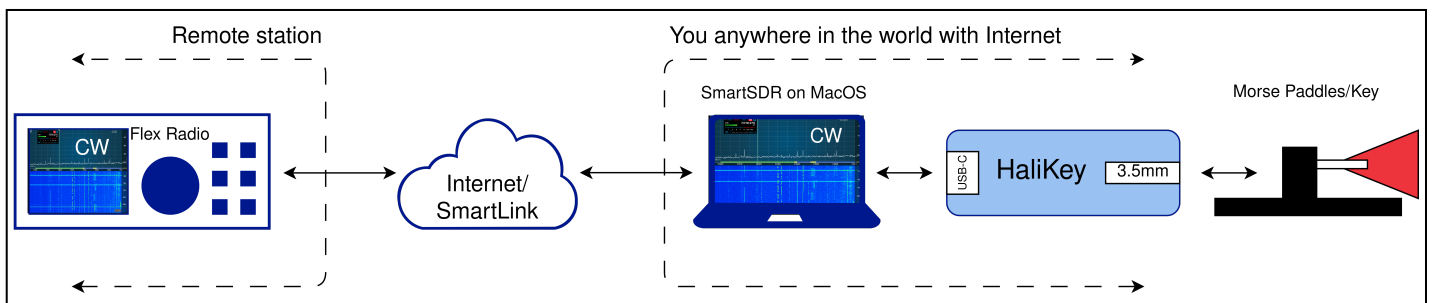
HaliKey allows you to operate morse code with your favorite paddles, or to have a physical PTT switch, while operating at a remote station.
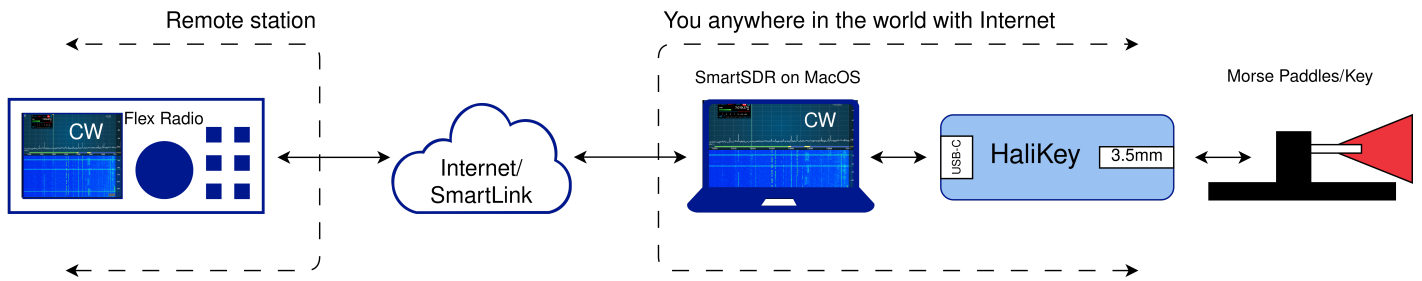
1.1. Document History

| Date	Version	Description
2024-02-20	v1	First public release.
2024-02-24	v1.3	DSR gets the same signal as DCD. Expanded SmartSDR for Windows Configs

2. Table of Contents

3. Introduction

HaliKey allows you to connect morse paddles, or a physical PTT switch, to the computer you're using for remote operation with your Flex™ radio.

3.1. In the bag

Please make sure you received all the parts:
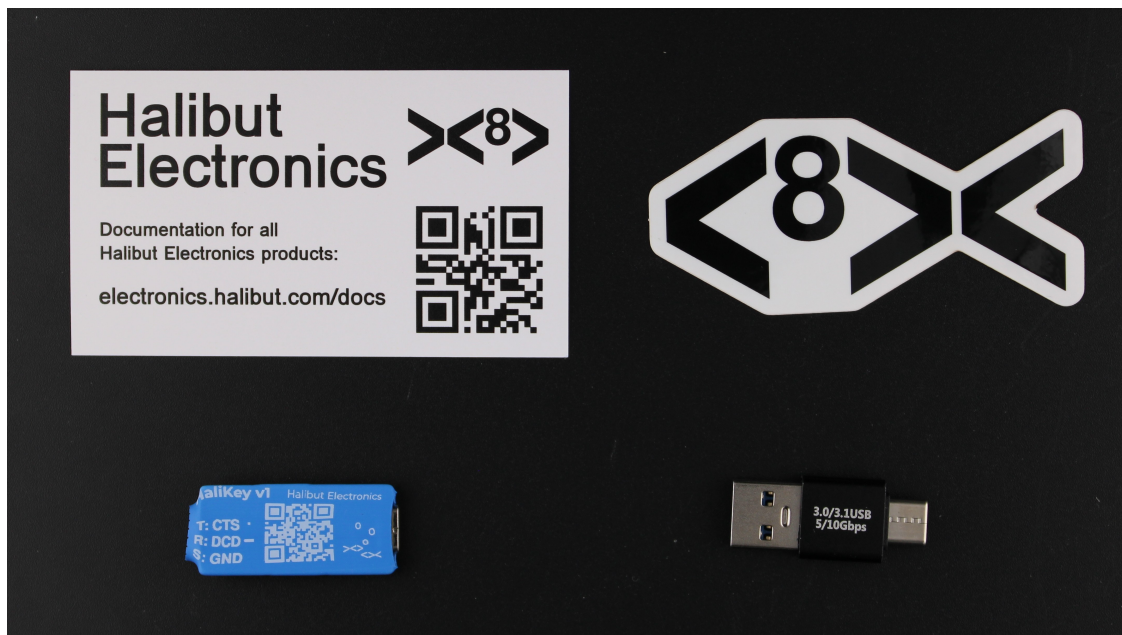
- HaliKey
- USB-C to USB-A adapter
- Business card with a link to documentation
- The most important part: The Halibut Electronics sticker. 😃

If anything is missing, please contact us and we'll get you what you need.

4. Connecting HaliKey...

4.1. ...to your Computer

HaliKey connects to your computer using USB. It has a USB-C socket on the board, and comes with a USB-C to USB-A adapter. When connected to your computer, it appears as a Serial port. It uses a standard FTDI™ USB to UART adapter chip that does not require drivers.

4.2. ...to physical switches

HaliKey has a 3.5mm socket for all connections to switches. It reads a simple contact closure between Tip and Sleeve, or Ring and Sleeve. (Connecting Tip to Ring won't break anything, but it doesn't accomplish anything either.)

Tip is connected to the serial port's CTS signal. Ring is connected to the serial port's DCD signal. As of v1.3, Ring also connected to DSR.

4.2.1. ...to Morse paddles

- Tip to left paddle, Dit
- Ring to right paddle, Dah
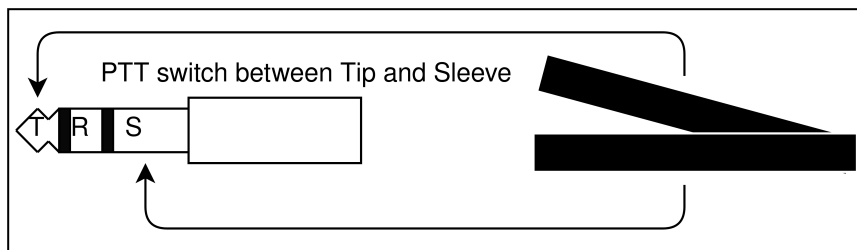- Sleeve to common, Ground.
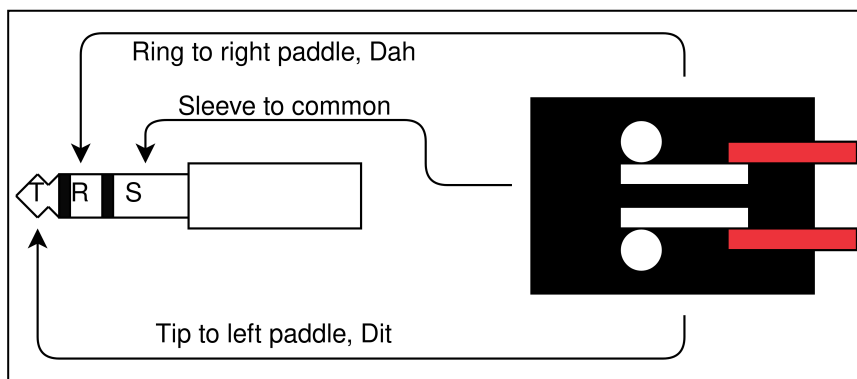
4.2.2. ...to a Straight Key

- Connect the straight key between Tip and Sleeve.

4.2.3. ...to a PTT

- Connect your PTT switch between Tip and Sleeve.
- If your software triggers on DCD or DSR instead of CTS, then connect PTT to the Ring and Sleeve instead. It's also most likely safe to connect it to both.

5. Configuring Software

HaliKey was designed to work with Flex Radio Systems'™ SmartSDR™ software.

> **Note:** HaliKey will actually work with any software capable of reading the CTS and/or DCD (v1.3 adds DSR) from a serial port. If you have a software package you'd like to see added to this documentation, please contact us with details.

5.1. SmartSDR for Windows

1. Connect HaliKey to your Windows computer, and note what serial port it enumerates as.
   - Open Device Manager, and expand the "Ports" section to see it come and go as you connect and disconnect the USB. It will be labeled "USB Serial Port," but it may not be the ONLY thing labeled "USB Serial Port" so confirm you have the correct one.
2. Start SmartSDR.
   - If it doesn't automatically start SmartSDR CAT also, start SmartSDR CAT and connect it to your SmartSDR station.
3. In SmartSDR CAT, click "Add..."
   1. **Name:** "HaliKey PTT" or whatever you want.
   2. **Port Protocol:** PTT
   3. **Port Type:** Serial
   4. **Serial Port:** Existing
   5. **CAT COM:** Select the COM port that showed up when you connected HaliKey to the computer.
   6. **VFO A Slice:** Your choice. If unsure, select "A"
   7. Make sure **RTS** is selected (blue) and **DTR** is not (dark grey).
   8. **Polarity:** Active Low
   9. **Auto Switch TX Slice:** Enabled selected (blue).
4. Click Save.
5. Make sure your Mic input selector is set to PC, and that DAX is NOT enabled.

Your HaliKey PTT is now active.
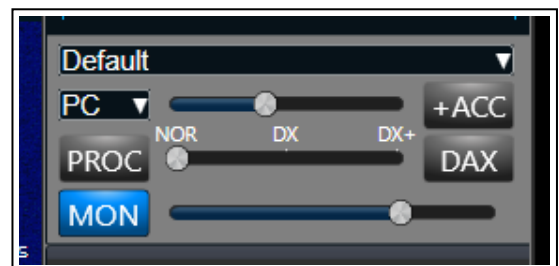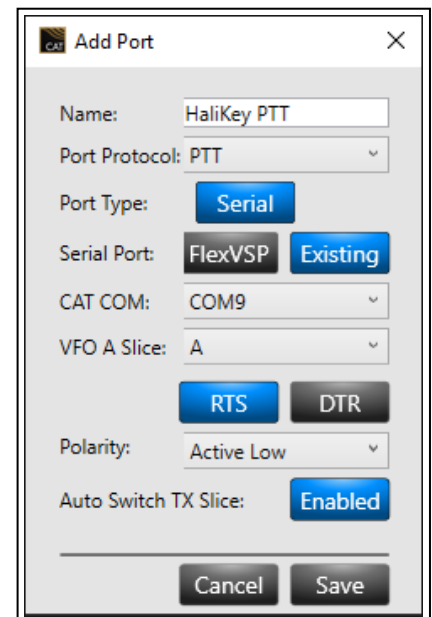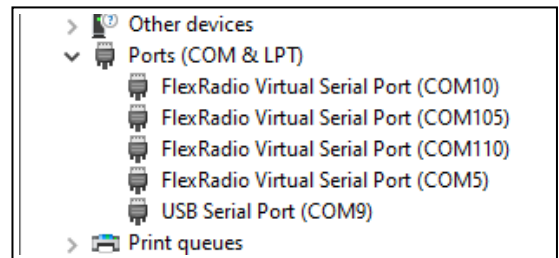
5.2. SmartSDR for MacOS

1. Connect HaliKey to your Mac, then start SmartSDR.
2. Go to "Tools -> CW Keyer".
3. Configure as:
    1. **Enable local side tone:** Checked
    2. **Keyer:** Your preference
    3. **Swap Paddles:** Unless you prefer a left handed paddle, or if you crossed Tip and Ring above, leave this unchecked.
    4. **Display Keyer Characters in CWX window:** Your preference.
    5. **Cable:** Select the "usbserial-[some random characters]"
    6. Click **Enable**.
        - This must be done after selecting the "usbserial" above. All other settings can be changed while this is enabled.
    7. **For CW** Your preference, but probably checked.
    8. **For PTT** Your preference, but probably checked.
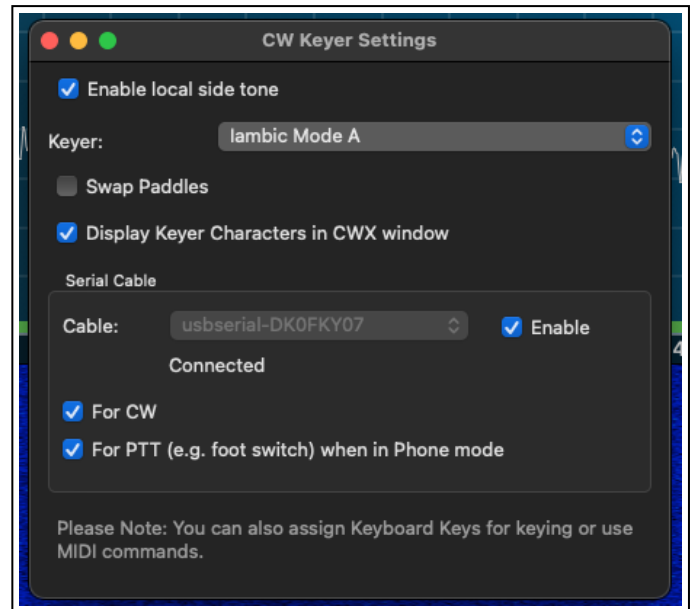
Your HaliKey is now active. When in CW mode, it will act as a paddle input. When in a Phone mode (eg: USB or LSB), either input will act as a PTT.

> **Note:** The CW Keyer configuration will persist across application (and computer) restarts. However, if you start SmartSDR without HaliKey plugged in, it will not be enabled. To enable it, you can either open "Tools -> CW Keyer" and click Enable (as you did during configuration), or restart SmartSDR with HaliKey plugged in.

6. Thank you!

Thank you again for your purchase and support, it really means the world to us.

Current versions of this document, and all Halibut Electronics documentation, can be found at
https://electronics.halibut.com/docs/

If you have any questions or problems, please contact us and we'll do what we can:
https://electronics.halibut.com/contact

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Cheers, 73 de N6MTS
-Mark, Head Cheese, Halibut Electronics.