K1EL Systems WKUSB-AF Product Brief – 5/1/22

Thank you for purchasing a WKUSB-AF keyer. Please download product documentation from the URL listed below. The most important document is the WKUSB Rev C User Guide. We highly recommend that you read the USB Driver section starting on page 3 of the user guide ***before*** connecting WKUSB to your PC. ***Rev C uses a CH340 USB interface, drivers for this device are listed on the WKUSB webpage***.

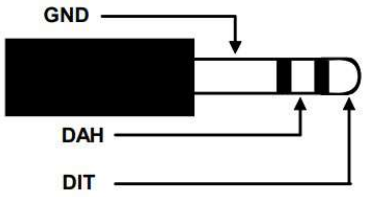
Product Website

https://www.k1elsystems.com/WKUSB-AF.html

WKUSB-AF Features

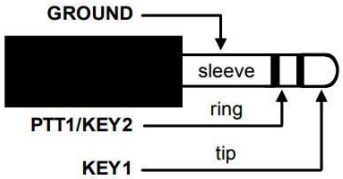
- USB Interface with USB Mini type B connector
- CW Paddle Interface, iambic or single lever support
- Iambic A, B, Ultimatic & "Bug" paddle modes
- True Sinewave Sidetone Audio with wave shaping
- Two separate keying outputs or one with PTT
- Standalone keyer operation with external supply
- Solid state relay keying: +/- 300V max at 200 mA
- Outputs are optically isolated (5000V)
- Internal Sidetone Speaker or external audio jack
- Firmware can be updated over USB
- Three front mounted message pushbuttons
- Utilizes K1EL's latest WK3.1 IC
- CH340 USB Interface IC
- Custom high quality metal enclosure
- ESD protection on USB and Paddle inputs
- Adjustable Speed 5-99 WPM
- Adjustable Weighting and dit/dah ratio
- Adjustable Keying Compensation
- Adjustable PTT lead in and tail delays
- Inexpensive cabling options
- No internal battery, Wkmini runs off USB power
- Enclosure Size: 4.0" W by 3.0" D by 1.4" H

The left control adjusts the Morse transmit speed, the right control adjusts the audio volume. Three pushbuttons are used to trigger messages and also program the keyer in standalone mode. Press and hold: CMD to enter command mode, M2 to adjust sidetone pitch. and M3 for tune mode. Cancel by pressing the CMD button.



There are four connectors on the rear panel. Paddle In, USB, Key Out and Audio Out. The Paddle connector is an 1/8" stereo jack which accepts a paddleset input as shown on the left. The paddle type can either be an iambic or single lever, a bug is not acceptable. The paddle inputs are activated when switched to ground (GND). A straight key can be used but it's best to wire it directly across a key output and operate in parallel with WKUSB-AF keying.

The USB connector is designed to mate with a USB Mini-B cable, these are the type most commonly used with Arduino boards. The interface is directly compatible with USB 1.0 and USB 2.0, and USB 3.0. **As already stated, do not plug WKUSB-AF into your PC until you have referred to page 3 in the WKUSB-AF User Guide:**
https://www.k1elsystems.com/files/WKUSB_Manual_v1.3.pdf



The OUT connector uses the same type connector as the paddle input. It provides two switched outputs. These outputs are isolated from WKmini ground and all other signals by an optically coupled solid state relay. The outputs can switch voltages up to +/- 300 V at up to 200 mA. Note that the ring connection is dual purpose, it can be a PTT tied to KEY1 or it can be an independent second key output KEY2. These options are controlled by software configuration.

Warranty Information

WKUSB-AF is fully warranted to the original purchaser against defects in materials and workmanship for one year after purchase. This warranty does not cover damage caused by accident, improper care, or lightning damage. Please contact us before returning your WKmini for repair and we will issue an RMA. Please submit questions by e-mail: k1el.kitsinfo@gmail.com.

Product Liability

While every effort has been made to insure that WKUSB-AF is safe and documentation is clear and accurate, it is still possible to cause equipment damage or incur personal injury if WKUSB-AF is not used as intended, is connected incorrectly, safety guidelines outlined in the User Guide are not followed, or WKUSB-AF is modified in any way. K1EL cannot be held responsible for damages in these or other similar events.