WKFlex V1.0 (Initial Release. The current release is V2.1)

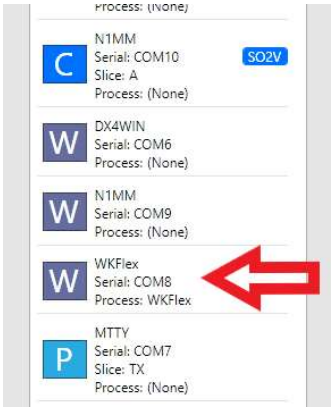
I am a CW guy and a SmartSDR remote user. I am very happy with the performances of SmartSDR but I was missing both the CW sidetone and sending code from my keyer.

I understand that can be achieved in different ways (using a Maestro is one of those. I also understand software applications can do that, but I was looking for a light, simple, and elegant solution. I spoke about my idea with Dave, N1BIT and we came out with a working prototype written in Python and, eventually, a graphical app written in C#.

The prerequisite for the system is to have a Winkeyer by K1EL, nothing else. Also, the app works ONLY with a Winkeyer or devices that emulate the Winkeyer, no other devices are supported.

WKFlex creates a tunnel between the local Winkeyer and SmartSDR, allowing to send CW without extra cables, interfaces, or difficult configurations.

The following steps should keep you up and running in minutes:

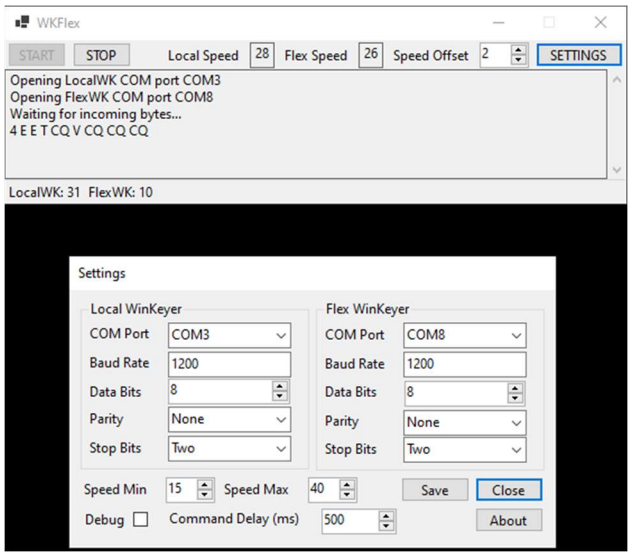


Step 1) Add a dedicated Winkeyer interface to SmartSDR

Step 2) Check your Winkeyer COM port. If you don't know it already, open Windows device manager.

Step 3) Download WKFlex from this link:
https://www.dropbox.com/s/i8v7k2neykxsdgq/WKFlex-v1.00.zip?dl=0
The software is not signed, so Windows will complain. If you trust me download it, if you trust Windows don't!

Step 4) Unzip WKFlex in a folder of your choice. It doesn't require to be installed, just unpack it. If you want to remove it just delete the folder.
Double click on WKFlex.exe to run the app.
Click on SETTINGS.
Enter the COM ports parameters, and the speed range for the Winkeyer pot, click on SAVE, and CLOSE.



Now click on START and enjoy!

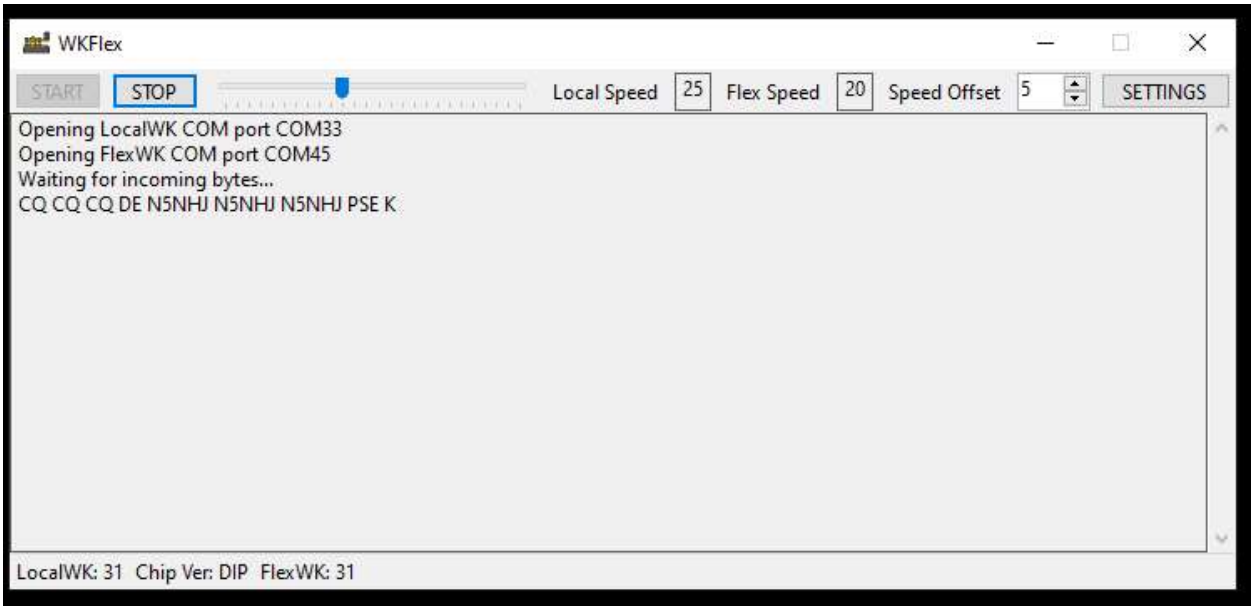
Does nothing happen? Check your Flex is in CW.

The speed offset control in the main window can be helpful for high latency, low-speed network connections. You are sending at a higher speed than the Flex radio, avoiding gaps between the letters.

WKFlex V1.1 (2021-11-09)

A cursor has been added to the main screen to control the speed for both the WKmini and the Winkeyer.

The WKmini is automatically recognized, and the appropriate initialization sequence is sent over the serial line. If your WKMini is not recognized, try to rise the Command Delay (It does not affect the sending speed, it is just a delay between commands sent during the initialization sequence).



I have noticed that sometimes a dirty Winkeyer POT can send undesired Speed Change commands overriding the speed set with the virtual cursor. Clean it up with a contact cleaner or just move it back and forth all the way a few times.

Playing with the speed offset, I found that going up 35/40 WPM requires at least 5 WPM of speed offset to achieve a good synchronization and remove the gap between some characters. Sending N5NHJ is a perfect example to calibrate the speed offset.

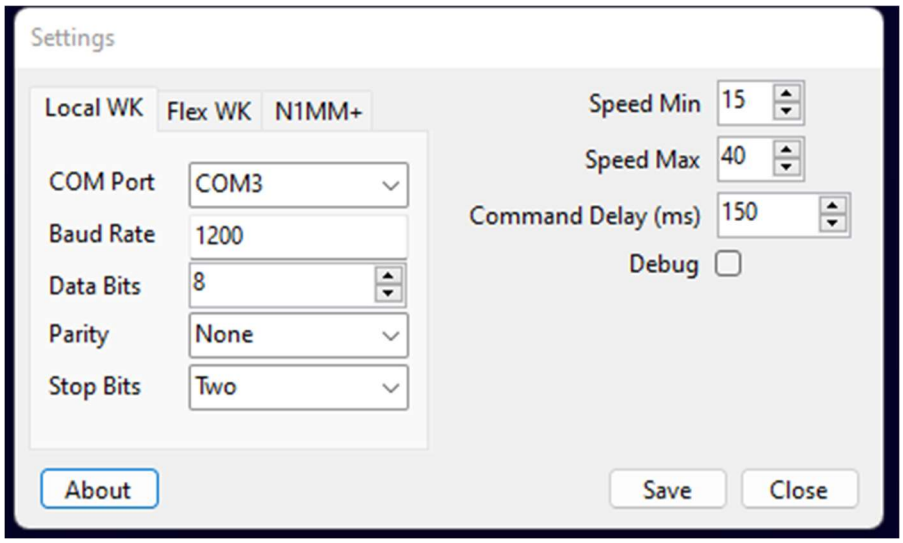
WKFlex has been designed with Flex SmartSDR in mind, but it can be used to synchronize and use remotely any device which emulates the Winkeyer protocol, let me know about your set-up!

WKFlex V1.1 can be downloaded from:
https://www.dropbox.com/s/s07x2489nrsup6f/WKFlex-V11.zip?dl=0
To update, just copy the new files over the existing installation.
To install, follow the steps described in the V1.0 installation

WKFlex V1.2 (2022-06-10)

This maintenance release supports the new Winkeyer WKUSB-AF, the perfect companion to Flex SmartSDR and WKFlex.

[K1EL Systems - CW Contest Keyers for Amateur Radio (hamcrafters2.com)]



The Settings window has been reorganized with tabs to create room for more features; interfacing with N1MM (or any other software that can talk to a Winkeyer) is one of those. The N1MM+ tab is only a placeholder for now.

Download WKFlex V1.2 from:
https://www.dropbox.com/s/i7zqofzn41q6wc6/WKFlex-V12.zip?dl=0
To update, just copy the new files over the existing installation.
To install, follow the steps described in the V1.0 installation

WKFlex V2.0 (2022-08-10)

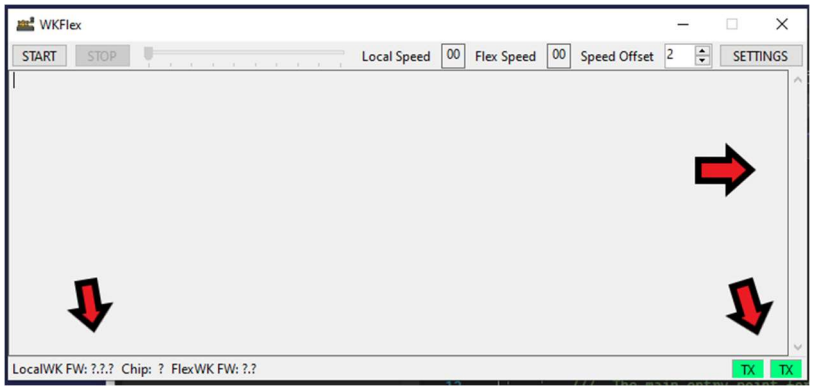
This is a major update release carrying enhanced performances, cosmetic updates, and new features.

ENHANCEMENTS:

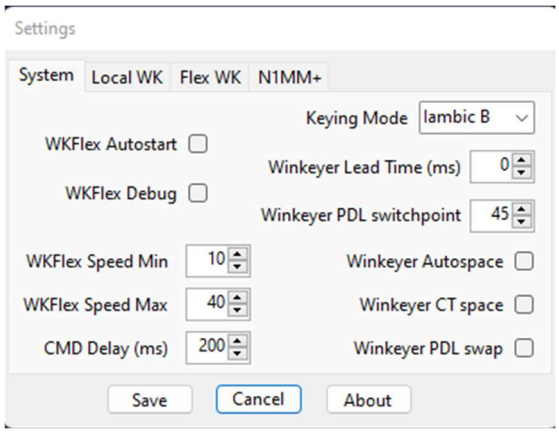
- The target .NET framework is now 6.0.
- Several internal improvements to the code.

COSMETICS:

- The SETTINGS page has been completely redesigned to accommodate the new features.
- The left side scroll bar is only visible when in Debug mode.
- The Firmware version label shows Major and Minor Winkeyer version numbers.
- Two indicators on the bottom right side of the MAIN windows show the Local Winkeyer and Flex Winkeyer status: green=idle, yellow=paddle engaged, red=transmitting, blue=memory button pressed. Note that the memory button press is sensed and works locally, but the memory content is not transmitted to the Flex.



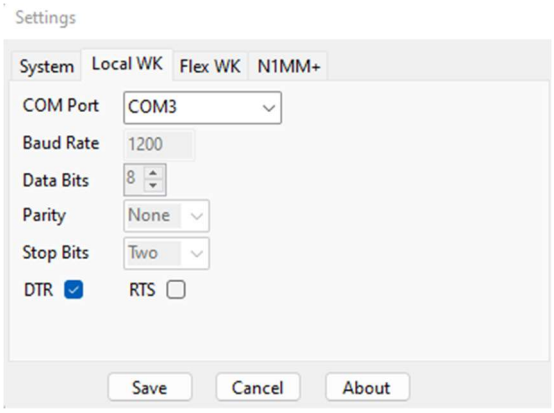
NEW FEATURES - SETTINGS/System



- WKFlex Autostart.
  If checked, WKFlex will go directly to the “Started” status without clicking on “START”.

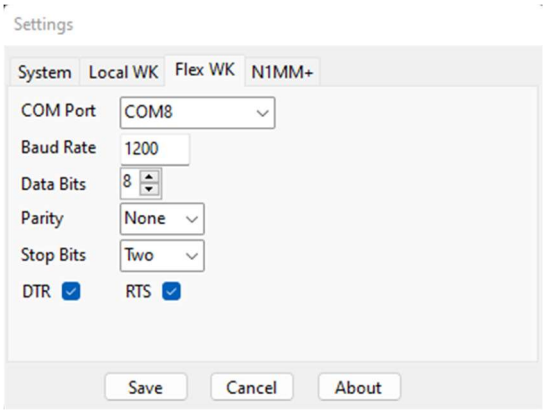
- Winkeyer configuration parameters.
  The local Winkeyer parameters which impact the CW code sending are now part of the configuration. Please refer to the Winkeyer manual for the meaning of those parameters.

NEW FEATURES - SETTINGS/Local WK



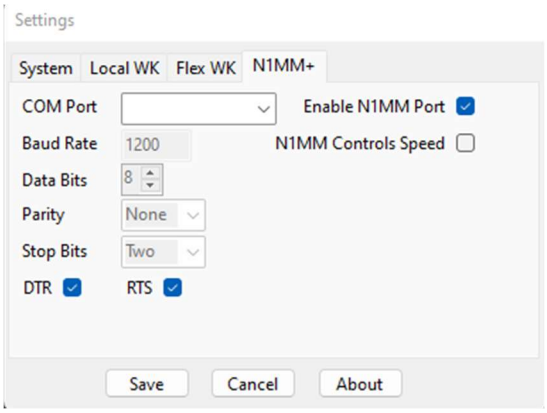
- Serial Port parameters cannot be modified anymore.
  The speed, data bits, parity, and stop bits of any Winkeyer are fixed, therefore is no need to modify them here.
- DTR/RTS Checkboxes.
  This is about improving compatibility with all the different Winkeyer models. If your Winkeyer is not responding, try enabling those signals.

NEW FEATURES - SETTINGS/Flex WK



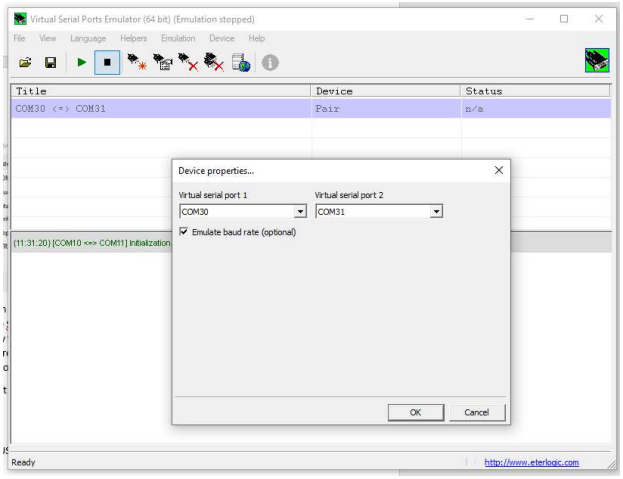
- DTR/RTS Checkboxes.
  For compatibility, DTR and RTS signal controls have been added for any serial port configuration.

NEW FEATURES - SETTINGS/N1MM+



One of the remaining issues with the CW remote was no sidetone when using N1MM (or any other logging software) directly controlling the SmartSDR internal Winkeyer emulator. This new feature makes WKFlex work like a hub. WKFlex is seen by the logging software as a Winkeyer Version 1 and reroutes the messages received by the logging software to the local Winkeyer (which generates the sidetone) and to the SmartSDR emulator, which controls the radio.

A pair of virtual serial ports must be created to use this feature. Any virtual serial port software can be used for this. My choice is VSPE.

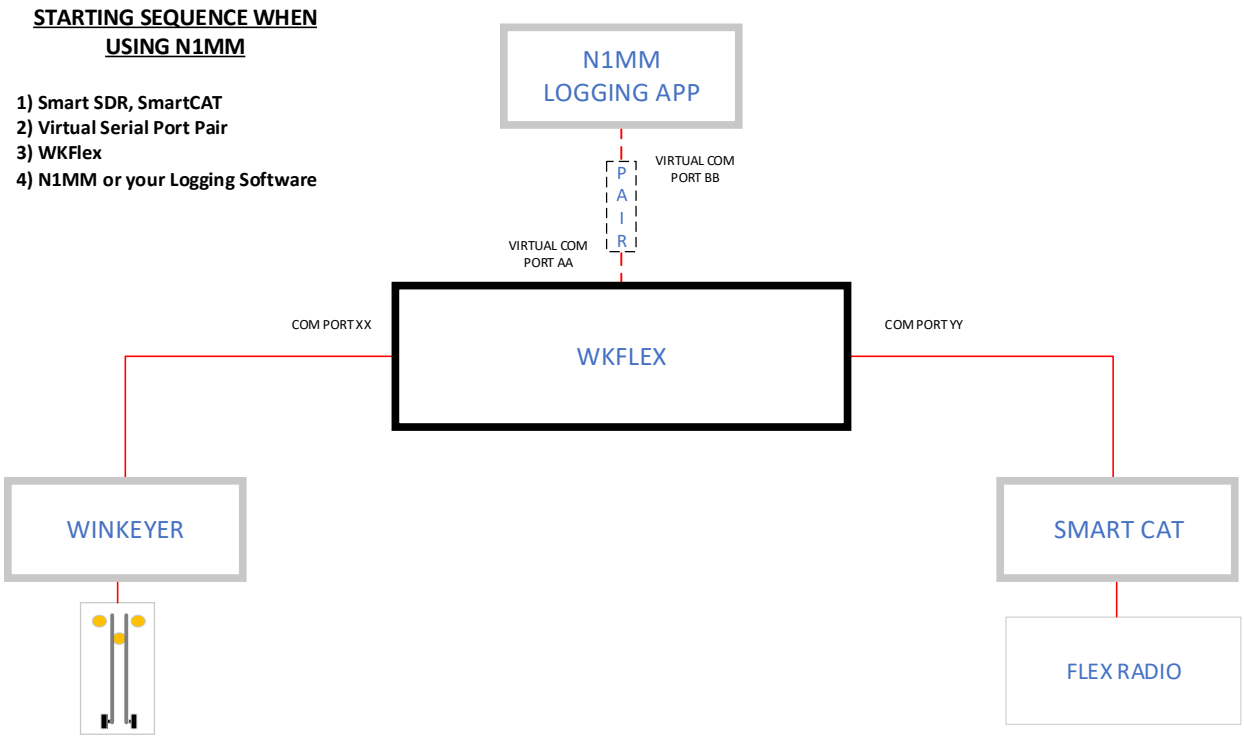


- COM Port.
  One side of the Virtual Serial port tunnel. The other side must be configured in N1MM or your logging software.
- Serial port parameters.
  Fixed at the Winkeyer standard configuration.
- DTR/RTS Checkboxes.
  For compatibility, DTR and RTS signal controls have been added for any serial port configuration.
- Enable N1MM Port.
  If checked, the feature is enabled.
- N1MM Controls Speed.

If checked, both N1MM, the Winkeyer Pot, and the WKFlex slide control the SmartSDR speed. Please note that N1MM sends speed control messages every time it transmits.

A known issue: After sending several N1MM messages it can happen that using the paddle some letters are sent to the Winkeyer but not to the radio. After a few letters are sent everything synchronizes again and works as it should. I know why this is happening, I do not know how to fix it yet, but I'm working on it!

The following logic schema describes the connections between the different components and the correct running sequence. The software has been tested with N1MM and DX4WIN.



WKFlex V2.1 (2022-08-24)

This maintenance release fixes the known issue inherited from Ver 2.0 about the paddle missing some letters after sending several N1MM messages.

As an extra feature, N1MM buffered speed change (to send, say 5NN faster) is now reflected into the radio and local winkeyer.

Download WKFlex V2.1 from:
https://www.dropbox.com/s/e4skwz1pl63ff55/WKFlex-V21.zip?dl=0

To update:
Copy the new files over the existing installation. Start the application and go to the SETTINGS page to modify the configuration to match your installation/preferences.
To install:
Follow the steps described in the V1.0 installation

As always, enjoy CWing

73 de Max, N5NHJ and David, N1BIT