

WinKeyer

We use an external WinKeyer box to handle our CW and PTT chores. The logging program off-loads CW messages in the form of ASCII characters to the WinKeyer, which takes care of converting them to perfect rig keying, as well as doing the PTT with the correct amount of lead and tail time for our amplifiers' slow relays. This relieves the Windows operating system in the computer from the overhead of having to try and produce quality CW. Using the WinKeyer to generate the PTT signal from N1MM+ allows close control over the timing of the amp TR relay closure versus RF generation from the exciter. This control is independent of mode and can be used with SSB and RTTY on any radio.

The latest WinKeyer firmware is Version 30.10. Four of our newest WinKeyers can be updated via the USB cable if need be. The others need a firmware chip replacement (Version 30.60).

Physical connections when using K3 radios:

The WinKeyer USB lead goes to a USB port on the computer. It helps to avoid creating extra virtual serial ports on the computer by always plugging the WinKeyer into the same USB port each time.

The WinKeyer KEY 1 lead goes to the K3's KEY socket. Male RCA plug to male 1/4" plug.

The WinKeyer PTT 1 lead goes to the K3's PTT in socket. Male RCA plug to male RCA plug.

The K3's KEY OUT lead goes to the amplifier's PTT in socket. Male RCA plug to male RCA plug.

On the K3 transceiver VOX and QSK should be turned off for full PTT control. See page 11 through 13 in the K3 Owner's Manual for the location and function of the appropriate controls.

N1MM+ Logger's WinKeyer tab in the configuration menu sets the appropriate lead/tail times. These settings **over-ride any settings native** to the WinKeyer. In N1MM+ Logger you can also tell the WinKeyer to run the paddle at a different speed (usually slower) than macro messages by using the speed knob on the front of the WinKeyer box.

Settings on the N1MM+ Logger WinKeyer tab to accomplish the previous objectives:

Check the box "pot wired with 2 leads" (all of our WinKeyers are wired this way)

Select "PTT" from the "Pin 5 Function" pull down menu under WinKey

Check the box "Use Winkey speed pot for paddle and keyboard only"

Lead Time = 3 (i.e. 30ms; lets slow amp relays latch and settle)

Tail Time = 7 (i.e. 70ms + three dit times; prevents hot switching at end of messages)

Hang time = 1 (holds relay in between characters/words to prevent chatter when sending with paddles)

First Char Ext = 0

Keying Comp = 0

If the function key message speed changes after manual keying don't panic! The programmed keying speed will be restored with the next message sent. This will happen at random whenever you use the paddles to QRS. The solution is to not use the paddles!

The following quote from the N1MM+ manual sheds some light on the interaction between the WinKeyer speed pot and the programmed sending speed if you do not use the settings given above.

If the option to ignore the speed pot has not been selected, setting the speed using the speed control pot changes BOTH the paddle speed and the N1MM sending speed. Setting the speed using the entry

window (Pg Up and Pg Dn) changes both the paddle sending speed and N1MM sending speed, but ONLY UNTIL the next time the speed pot is adjusted, i.e. the absolute position of the speed pot then overrides any changes made in the entry window.

To send with paddles without N1MM+ you will need to make sure the WinKeyer is programmed in stand alone mode with the same PTT lead, tail and hang time settings as in N1MM+. In addition be certain that the “Output Config” drop-down menu is set to “Port1, PTT”. These settings are good insurance that the correct PTT behavior will be followed if N1MM+ crashes and you want to complete a QSO manually. The following image illustrates the use of Winkey 3 Tools Utility to change the stand alone settings. Note the “Read WK” and “Write WK” buttons in the bottom left. Those are used to find out what parameters are loaded and to load new parameters respectively.

The screenshot shows the Winkeyer 3 Tools Utility 4.2 window. It is divided into several sections:

- Message Editor:** Contains six message slots labeled Msg 1 through Msg 6. Msg 1 contains "CQ CQ N7IR N7IR K" and Msg 2 contains "SNN DM43 DM43 DE N7IR K". Below the slots are radio buttons for "Message Bank 1" (selected) and "Message Bank 2", and a label "Msg Bytes Left: 196".
- Settings:** A list of parameters with checkboxes and numeric values:
 - ☐ Swap: 32
 - ☐ AutoSpace: 18
 - ☐ CTspace: 18
 - ☐ Cut 0: 22
 - ☐ Cut 9: 50
 - ☐ PdlToneOnly: 0
 - ☐ PdlWDoff: 50
 - ☐ PaddleMute: 50
 - ☐ FastCmd: 5
 - ☐ Tune50%: 12
 - ☐ SO2R: 0
 - ☐ [blank]: 0
- MaxWpm:** 32
- MinWpm:** 18
- CmdWpm:** 18
- CurWpm:** 22
- Ratio:** 50
- KeyComp:** 0
- PdlSample:** 50
- Weight:** 50
- Lead In:** 5
- Tail:** 12
- Farns:** 0
- LtrSpC:** 0

Below the settings are:

- Paddle Hang:** A dropdown menu set to "1.0 Word" and a "Reset to Defaults" button.
- Output Config:** A dropdown menu set to "Port1, PTT".
- SidetoneFreq:** A numeric field set to "600".
- User Callsign:** A text field containing "N7IR".
- Keyer Mode:** A dropdown menu set to "Ultimatic".
- Radio buttons for "User 1" (selected) and "User 2".

At the bottom of the window, there is a status bar with "WK F/W revision 30.09" and a row of buttons: "Read WK", "Write WK", "Test WK", "FW Update", "Set Com Port", "com:9", "Help", "Read Config File", "Write Config File", "WK IC:SMT", and "Exit".