

# *MacK2*

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Disclaimer: I wrote MacK2 to enhance my enjoyment of the Elecraft K2 amateur radio transceiver. Hoping others might find it useful, I am freely distributing this software. No charge—ever! You use this software at your own risk. Although I'm a responsible guy, I can't be held liable for anything. I don't guarantee this software will work for you. If use of this software results in the destruction of your computer, your K2 or your marriage, don't blame me. And no, you can't blame cold solder joints on the performance of this software. Good luck.

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## **Introduction**

I wrote MacK2 to add features and enhance the use of my K2. I have never before used a remote control program for an amateur transceiver, so I didn't try to duplicate what others have done. I only briefly looked at some of the other K2 remote control software, and I didn't use them to control the K2. The bottom line is that MacK2 may or may not offer features and functions that are available in other programs. It works for me. I hope it works for you.

MacK2 was developed for use under MacOS X. Despite my best efforts, I could not get it to perform well under Mac OS 8/9, so I will not release a version for pre-MacOSX systems.

If you have suggestions that may enhance MacK2, please let me know and I will consider incorporating your suggestion.

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# Instructions

SPECIAL NOTE: The first time you start up MacK2, you will be presented with a preferences window since MacK2 won't be able to find your preferences. Update the preferences you want – you don't have to enter ALL prefs but you **MUST** designate the port you will be using to communicate with your K2. After your preferences are set, you must **QUIT** the program and start again in order to re-load the preferences. This only applies to the first time you use MacK2 **EXCEPT** that changing ports will require that you quit and restart the program.

## Preferences

MacK2 won't work until you set your preferences. Actually, all it really needs is for you to set the port preference—you may as well set your other prefs at the same time, but you can change them at any time.

Preferences are set in the Preferences Window that is accessed from the MacK2->PREFERENCES on the menu bar.

In the **Defaults** Preferences Tab, you have the option of setting defaults that are set on your K2 when the program starts. For example, if you normally operate CW at 18 wpm with a power setting of 0.9 watts and squelch set to 0, set these in your defaults and these levels will be set on the K2 when the program starts up regardless of the knob settings.

The 'Timing' preference requires a little explanation. MacK2 monitors for keyboard activity to adjust frequency. Monitoring is done through a timer, which is normally set to check every 200 milliseconds, but you can adjust this value if you feel MacK2 is sluggish to respond to commands. Timing can be adjusted from 100 milliseconds to 700 milliseconds.

You can set 'Default Frequencies' for each band and each VFO. The default frequency is selected by clicking the center of the VFO knob for VFO-A, and option-clicking the VFO knob for VFO-B.

The preferences allow you to assign descriptive text phrases to frequency memories and K2 msg memories. It's much easier to select "CQ/QRP" from a menu than it is to remember that is what is in Msg Memory 5!

In addition to descriptions for K2 Message Memories, you also have the option to set up Mac Message Memories that are saved to disk and do not alter the stored K2 message memories. Mac Message Memories contain a short descriptive field that identifies the memory in buttons on the bottom of the CW Window. Text to be stored and sent by CW is entered in the second text field. Theoretically there is no limit to the amount text you can enter, but generally you should limit your text in each memory to no more than sixty or seventy characters.

Two special items are included in “Your Info” in the preferences:

- (1) Daylight Savings Time in effect – be sure to check or uncheck the box to adjust for daylight savings time.
- (2) MaLog Book integration – if you use MacLogBook, and if the MacLogBook database is in the same directory (folder) as MacK2, you can log basic information from the Notes window directly into the MacLogBook database. Frequency, band, and QSO times are automatically added. MacLogBook need not be running to save log data from MacK2.

## **Buttons**

Since you are familiar with the K2's front panel buttons, you should be familiar with those in MacK2. They are much the same. However, there are two ways to access buttons:

- (1) To “tap” a button, click on the button itself – NOT on the upper button label. For example, to tap BAND+, click the button below it, not the words “BAND +”.
- (2) To “tap and hold” a button, you use the label **below** the button, not the button itself. For example to select “TUNE”, you will click the label “TUNE” below the button.

Basic operation for tap and tap-and-hold of buttons is the same as described in the K2 manual.

Some buttons will contain labels that provide information about the state of the button. For example, the ANT1/2 button will display whether antenna 1 or 2 is selected.

Some buttons have been created as popup menus, allowing you to select a mode when you click and hold. The small up/down arrows on the button distinguish these buttons. For example, clicking and holding the MODE button allows you to select sideband and CW modes.

## **Controls**

MacK2 contains a number of controls that also display control values.

The **Keyer Control** displays the present keyer setting in words-per-minute. To change this setting, click in the middle of the keyer control display and a “enter info” box will appear allowing you to change the setting.

The **Power Control** displays the present power setting in watts. To change this setting, click in the middle of the power control display and a “enter info” box will appear allowing you to change the setting.

The **Squelch Control** displays the present squelch setting. To change this setting, click in the middle of the squelch control display and a “enter info” box will appear allowing you to change the setting.

So where is the AF GAIN and RF GAIN controls? There aren't any. You cannot control AF Gain and RF Gain through software. You must reach across the table and actually turn the pots to adjust the setting. (Hint: you can use the preamp and attenuator settings to offer some control.)

## VFO Control

You can adjust frequency in several ways:

To manually enter the frequency, click the “SET” button in the corner of the VFO display and enter the desired frequency in the dialog box.

You can select frequencies stored in memory by selecting “Commands->Msg Memory” from the “commands” option on the menu bar. (See more info under preferences and Menu bar commands)

To select a frequency using the VFO control, click on either the up-frequency bar (>) or the down-frequency bar (<) located on the VFO knob. To continuously move up or down in frequency, click the appropriate frequency bar while holding down the OPTION key. When you release the option key, the frequency change will stop. Using this method to change frequency is much faster than using the arrow keys (see below), but the frequency display is not updated until you release the OPTION key.

You also have the option of using the left arrow (decrease) or right arrow (increase) on your keyboard to adjust VFO frequency. The rate of increase/decrease is the same as the rate displayed **if you do not use a modifier key**. However, you can use the keys below with the left and right arrows to modify the tuning rate on the fly:

Shift key + arrow key	- shift 1 KHz
Cntrl key + arrow key	- shift 50 HZ
Option key + arrow key	- shift 20 Hz
Command Key + arrow key	- shift 10 Hz

VFO rate is selected using the RATE popup menu. Choices are 10/20/50 hertz or 1 kilohertz.

(NOTE: The K2 will not update MacK2 until one second has elapsed after stopping your frequency change. When moving up/down one unit at a time, the VFO A/B settings are current, but when continuously changing frequency, they will not be updated until you have stopped scanning or released the OPTION key. This means that when scanning or rapidly changing frequencies, you will need to observe the K2 display to see the correct frequency.)

The A/B Button (to the right of the MODE button) controls the receive VFO, which is also the transmit VFO unless SPLIT is activated. You will note that the selected VFO is highlighted in yellow, and the XMIT VFO is highlighted in yellow. This helps to easily distinguish the transmit and receive VFOs.

Clicking the SPLIT label with the OPTION key selects SPLIT operation, and the VFO indicators will indicate which is the transmit and receive VFOs. Clicking the A/B button automatically deactivates SPLIT operation.

### **VFO Rate (read this carefully!)**

To the right of the VFO control knob you will see the word “RATE” and a popup menu.

There are TWO ways to set the rate for changing the VFO using MacK2.

By clicking the word “RATE” (which is a button), you emulate pressing the rate button on the K2. That is, you change the VFO rate and change the display on the MacK2.

You also set the VFO rate by selecting a rate from the popup menu – but while this allows you to adjust the rate using MacK2, it does not change the rate selected and displayed on the K2.

(I prefer to select the 10 Hz rate on the K2 so that I see detailed frequency information, but then use the popup to select the actual rate used to adjust frequency when using MacK2.)

## Filters

Filters are selected using the XFIL popup menu and the filter selection is displayed in the XFIL button. Filter bandwidth is displayed in the filter field in the lower right corner, and is displayed in kilohertz.

## RIT/XIT

Labeled buttons controls the RIT and XIT functions. The button will display the On/Off status of the RIT and XIT functions.

The RIT/XIT control is operated much like the VFO control – clicking the up-freq bar (>) and the down-freq bar (<) moves the RIT / XIT frequency up and down. In lieu of tapping the up/down frequency bars, you have the option of using the up arrow and down arrow keys to adjust frequency. The RIT/XIT offset is shown in the offset field to the right of the RIT/XIT control.

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## The Menu Bar

Preferences are located under EDIT->PREFERENCES.

The K2 Remote Window is accessed under WINDOWS->K2 REMOTE.

The CW Window is accessed under WINDOWS->KEYBOARD CW.

The Notes Window is access under WINDOWS->NOTES

COMMANDS on the menu bar contains:

**FORCE UPDATE** (COMMAND-U) forces an update from the K2. This is sometimes necessary if the values displayed in MacK2 don't match the values on the K2 because you fiddled with the physical buttons on the K2 and an update signal was not sent to MacK2. This happens, but not often.

**MSG MEMORIES** 0 through 8 sends CW text stored in the K2 message memories. The CW Window does not need to be open for the text to be sent. You can specify descriptive text in preferences that will be listed in the menu rather than "Memory 0." For example, you can specify "CQ/QRP" as the description for Msg Memory 0; "QTH/Name" as the

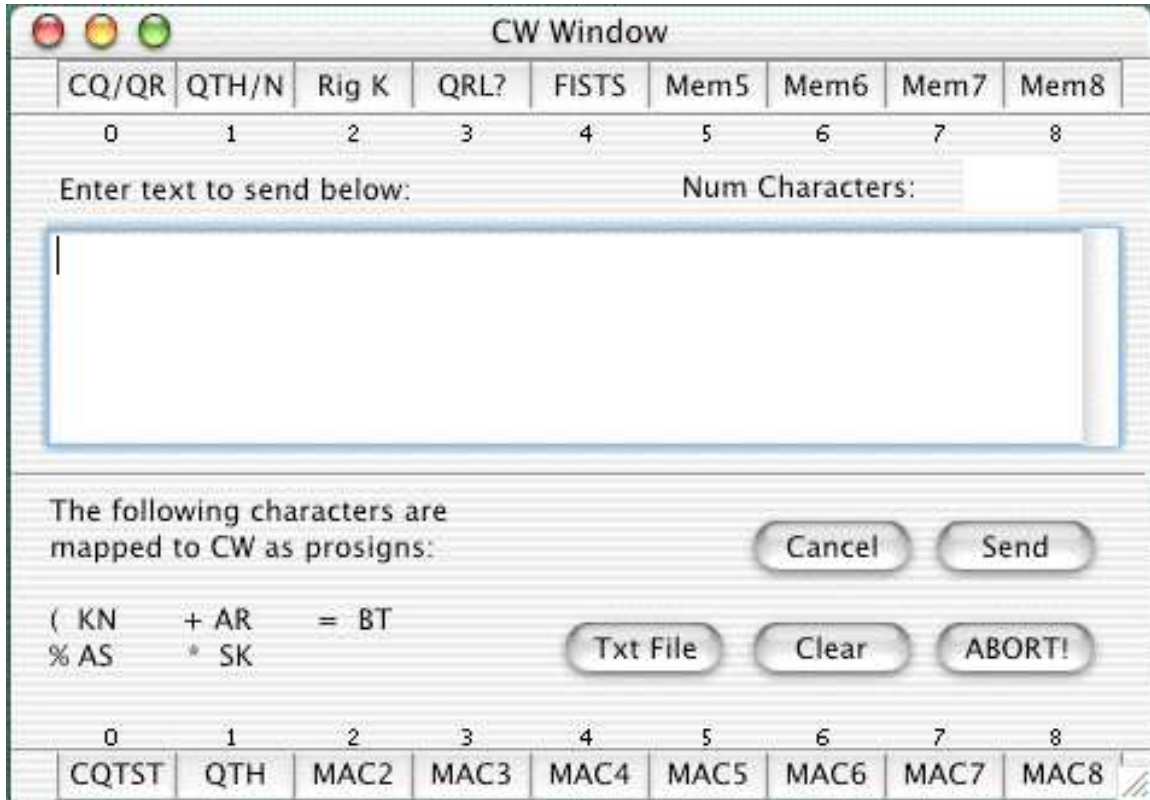
description for Msg Memory 1, etc. (This greatly aids those of us geezers who have trouble remembering what's in each memory slot!)

**FREQ MEMORIES** 0 through 9 immediately move to the frequencies stored in frequency memory slots 0 through 9. As with Msg Memories, you can store descriptive text in preferences to aid in identifying each memory slot. For example, Freq Memory 0 may be described as "7060", Freq Memory 1 as "14060, and Freq Memory 2 as "14300." To initiate **SCANNING hold down the option key as you select the frequency memory.**

**ABORT CW SEND** (COMMAND-PERIOD) aborts sending of CW text.

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## The CW Window



The CW Window is accessed through the Windows menu on the menu bar, or by using the COMMAND-M sequence. (Hint: I remember this as ‘M’ for “Morse.”)

To send text, simply enter the text in the edit field and click the “SEND” button. There is no known limit to the amount of text in the edit field and I’ve successfully sent up to 2,000 characters as a test. You can paste text in this field if you choose to do so.

The SEND button starts sending CW. Characters are sent to the K2 in 20 character chunks and the “Num Characters” field is decremented by the number of characters sent to the K2. Characters sent to the K2 are deleted from the edit field as they are sent to the K2—NOT as they are sent by the K2. In other words, the K2 buffer will contain characters being sent although those characters have already been deleted from the edit field. (This is important to keep in mind when issuing the ABORT command below.) **YOU CANNOT CONTINUE TO TYPE IN THE TEXT AREA AFTER CLICKING ‘SEND.’** You must wait until all text has been sent before entering more text.



The “ABORT!” key (or the COMMAND-PERIOD sequence) will stop sending CW immediately and clear the buffer in the K2. Unsent characters in the K2 buffer are not sent. Text remaining in the edit field that was not sent to the K2 is not cleared and you can pick up where you left off by clicking the ‘SEND’ button again.

K2 Message Memories 0 through 8 can be accessed directly from the MSGx buttons on the top of the CW Window. Clicking MSG0 will send the text in message K2 memory 0, etc.

An additional bank of memories for storing text is located at the bottom of the CW Window. I refer to these as Mac Memories to distinguish them from the K2 memories stored in the Elecraft K2. Mac Memories are set up through the preferences window. Mac Memories are stored as text and are loaded into memory when the program is launched. You can change the text in Mac Memories easily without altering what is stored in your K2 Memories.

The ‘CANCEL’ button closes the CW Window with sending text.

The ‘CLEAR’ button clears all text from the edit field.

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## The Log Notes Window

The Log Notes Window provides a convenient place to type notes during your QSO, or to create text to be pasted into the CW Window send field.

I use it to copy info and reminders that I use during the QSO and to log after the QSO.

Separate fields exist for a call sign, date and time. The date and time are set automatically on opening the window. Click the “Set” button adjacent to the time field sets the current GMT time in the time field.

Information in the text fields is NOT saved after you close the window. Note, however, that if you have selected the “MacLogBook integration” box in preference, you can add the information in the Log Notes window to the MacLogBook database with a single click of the “Log it” button. Frequencies, band info, QSO times and antenna info (if selected) is added to the MacLogBook database. (MacLogBook does not need to be running.)

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## Using the Griffin PowerMate

If you have configured your PowerMate preferences correctly, you can use the Griffin PowerMate knob to select frequency and select the VFO rate. Clicking (pressing) the PowerMate will cycle through the VFO rate settings: 10 Hz – 20 Hz – 50 Hz – 1 KHz.

Turn the PowerMate knob to the right to increase frequency. Turn the PowerMate knob to the left to decrease frequency.

To configure PowerMate preferences, do the following.

Select 'PowerMate' in System Preferences.

Under 'Settings', add a new setting for MacK2.

Check the 'Game Mode' box.

In the ACTION section,

-- select 'rotate right', selecting 'send key' as the user action and set the right arrow as the key.

-- select 'rotate left', selecting 'send key' as the user action and set the left arrow as the key.

-- select 'click', selecting 'send key' as the user action and set the key as 'command-/' (that is, you will send command-/ to increment the rate)

-- click 'apply now' and close the preferences.

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## Special Notes

The MacK2 Remote Window need not be open at all times. You can close the window and the program keeps running in the background. You can also open and close the CW Window and Notes Window at will, although the contents of the Notes window will be lost when you close it.

CLICKING VOX will toggle through the VOX/PTT settings, but there is no visual indication on the buttons since no response signal is sent from the K2.

The REV (tap-hold A/B button) is not active in MacK2 since this cannot be emulated in software.

The CW-RV button toggles CW and Reverse and underline is used to indicate REV mode. However, the K2 does not have a signal to indicate this so it is emulated in software. Pushing the button on the K2 and doing the same on MacK2 will get MacK2 out of sequence and it may show the incorrect setting.

SCANNING – OPTION-FreqMemory in the commands menu starts scanning. To resume scanning, use a PF1 OR PF2 setting you have set up for that purpose.

Where's the bargraph? I didn't add one. It is difficult to incorporate a bargraph in real time that means much. I might try adding it later, but it is not currently a high priority.

When using the arrow keys to change frequency, you may hear a slight clicking sound in the K2. This is the result of frequency information being written to the K2 and is normal.