

WK Series Programs for Mac

by
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The programs, WK24Mac and WK24CFGMac are Mac OS X Cocoa based programs to manage and operate the popular Winkey2 devices used in the K1EL Systems WKUSB keyer and the U.S. Interface Navigator interface. The Winkeyer2 chip device has two operating modes, host mode and stand-alone mode. WK2Mac is used to control the keyer in host mode. WK24CFGMac is a functional clone of the Windows based WKMGR supplied by K1EL Systems with their WKUSB keyer and provides the ability to program the keyer for stand-alone mode.

General Instructions, WK24CFGMac

Figure 1 is a screen shot of WK24CFGMac's user interface. The program is quite straight forward and very user friendly.

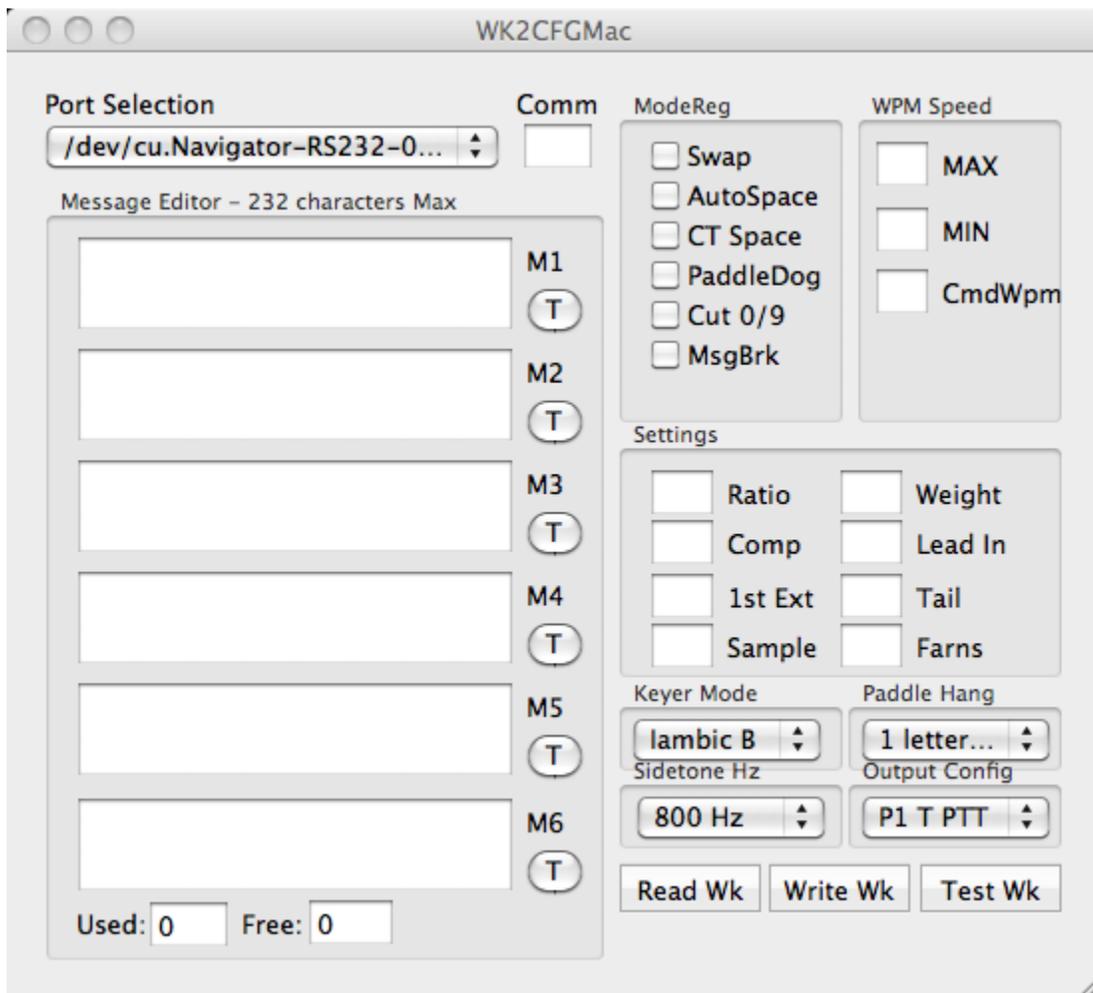


Figure 1

The appropriate drivers are required for the FTDI USB to Serial devices. Mac users are fortunate in that the FTDI drivers are already installed on the Mac. Navigator users may obtain the proper drivers from the Navigator support site. Once the appropriate drivers are installed, you are ready to move forward.

The first step is to use the port selection drop down menu to select the proper port. This menu lists every Virtual Comm Port (VCP) on the host computer. Users of the Navigator will see the six Navigator VCPs, CAT, CW Key, Winkeyer, RTTY, Configuration, and Auxiliary RS232. Users of the WKUSB will see a less descriptive entry like "cu.usbserial-A4007UW3". Select the appropriate port from the menu. If the port is successfully opened you will see a green Comm indicator. This does not indicate a connection to the Winkeyer device, mere the port is open and ready.

To verify you are communicating with the Winkeyer device, click on "Test Wk". You will be presented with an alert window either saying "WK not found" for an incorrect port selection, or listing the firmware version of the keyer for a correct port selection. The firmware version will always be greater than 20.

The next step is to see what is in the EEPROM of the Winkeyer chip. If this is the first time for a brand new keyer, it will download the manufacturer's defaults from the device.

You are now ready to program the device for stand alone operation.

On the left side of the window, there are 6 entry fields labeled M1 through M6. These are the entry fields for the 6 stored messages that may be programmed into the EEPROM for stand-alone operation. The message store is limited to 232 bytes total and on the lower left you will note a "Used" field and a "Free" field indicating how much of the store you have used and how much is yet free in bytes or characters. If you exceed 232 characters, the overrun will be truncated when the new configuration is written to the EEPROM. Also you will note, next to the message entry fields a button labeled "T" for test. The test button allows you to test the message, but only after you have done a write to the winkeyer device via the "Write Wk" button.

The balance of the configuration is described below in the general instructions for the WK24Mac program with the exception of the "Cut 0/9" and "MsgBrk" functions. These two functions are unique to stand-alone mode and do not appear in host mode. Also note, that the messages stored by WK24CFGMac are not available in host mode and are not available at all with the Navigator as no provision to recall the messages is provided with the Navigator.

The "Cut 0/9" entry enables they use of "cut" characters for the numeric characters.

The "MsgBrk" entry when checked allows a simple press of the paddles to interrupt the transmission of a message.

GENERAL INSTRUCTIONS, WK24Mac

WK24Mac is an application for use on Apple's iMac and MacBook computers using the Intel chip sets. The application was compiled using the "Snow Leopard" OS X operating system. The compiled code is defined as "Universal", so hopefully it will be compatible with any of the Intel based iMac and MacBook computers.

When started the application will come up displaying the "Keyer" tab view. This will be the main view used when operating.

KEYER TAB (figure 1).

There are two text areas displayed. The larger is the input area and responds to your keyboard input. The second is a single line text area and this is the paddle and serial echo area.

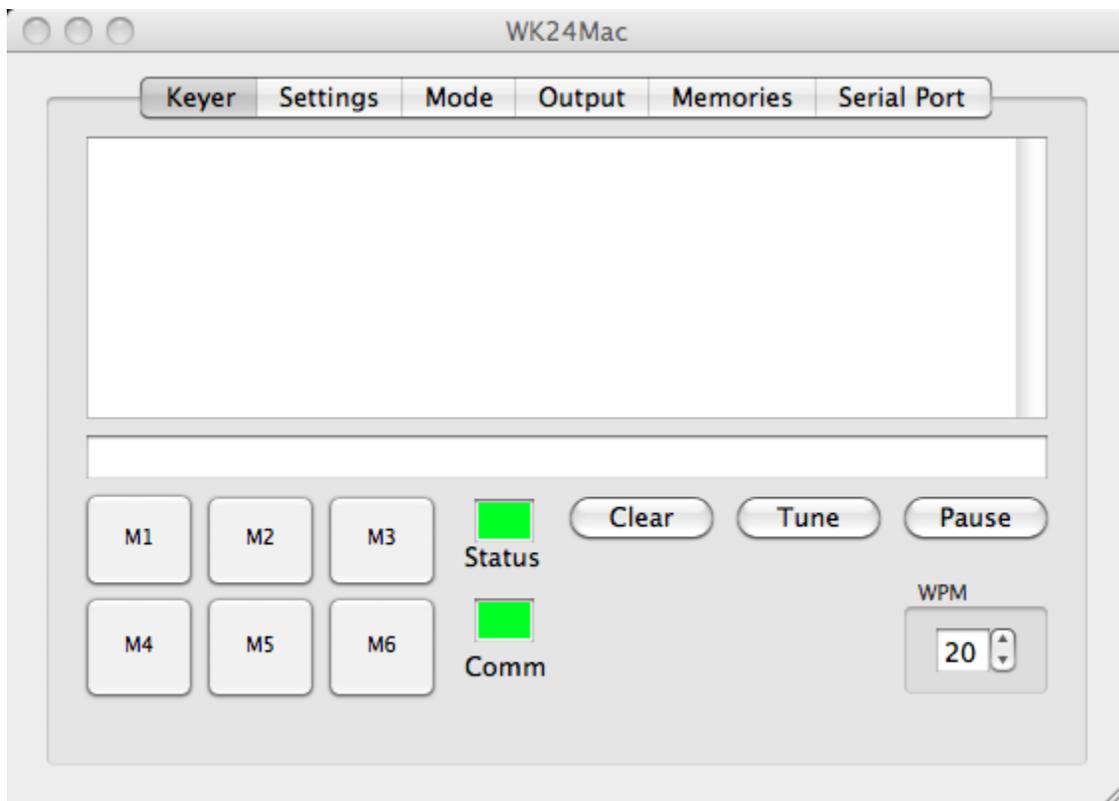


Figure 1

Below the two text areas there are six buttons labeled M1 through M6. These are the "memory" buttons and these contain the six available macro memories. Pressing one of these buttons will insert the macro text into the input text area for transmission.

Next there is the "Status" indicator. When "Green" the keyer chip is ready to receive input from the program and no data is being sent. When "Yellow" the keyer is "Busy" but is still capable of receiving keyboard entry (Its internal buffer is not 2/3 full.). Red indicates the proper port has not been selected and no communications has been established. If you are certain you have the right port selected type a <SPACE> and see if the indicator will go to "Green."

Next is the "Comm" indicator. This indicator shows you the application is connected to a serial

port the application thinks might be the Winkeyer2 chip port. We cannot know for sure because there is a one byte return to our query and it can be any one of several responses based on the version number of the Winkeyer2 chip device.

The “Clear” button is a sort of master clear. When clicked the Winkeyer2 chip will stop sending immediately, even in mid character. IMMEDIATELY. The “TUNE” and “PAUSE” buttons are also cleared to a start up state. And lastly, the input text display area is cleared of all text.

The “Tune” Button is a “momentary contact”. It will assert a key down condition until released.

The “Pause” button is a click ON, click OFF or toggle type button. The application by default is in “Break In” mode, that is when a key is pressed, the information is sent immediately to the keyer chip for transmission. When in this mode a “backspace” is not effective. When “Pause” is ON, you may type into the text area without transmitting, backspacing and correcting at will, responding to the questions of your contact, building a message you can release to be transmitted the moment you click “Pause” for the second time returning to “break-in” mode of operation

NOTE: Should you decide you wish to kill the transmission, tap the “Clear” button and tap the dit or dah side of the paddle. This will cancel transmission immediately or you can just tap the dot or dash side of the paddle until the sending stops. (The program sends blocks of code to the keyer chip so it make take a few taps if you choose not to use the “Clear – Tap” method.

The WPM setting is self explanatory. Use the stepper buttons besides the text field to adjust the sending speed.

SETTINGS TAB (Figure 2).

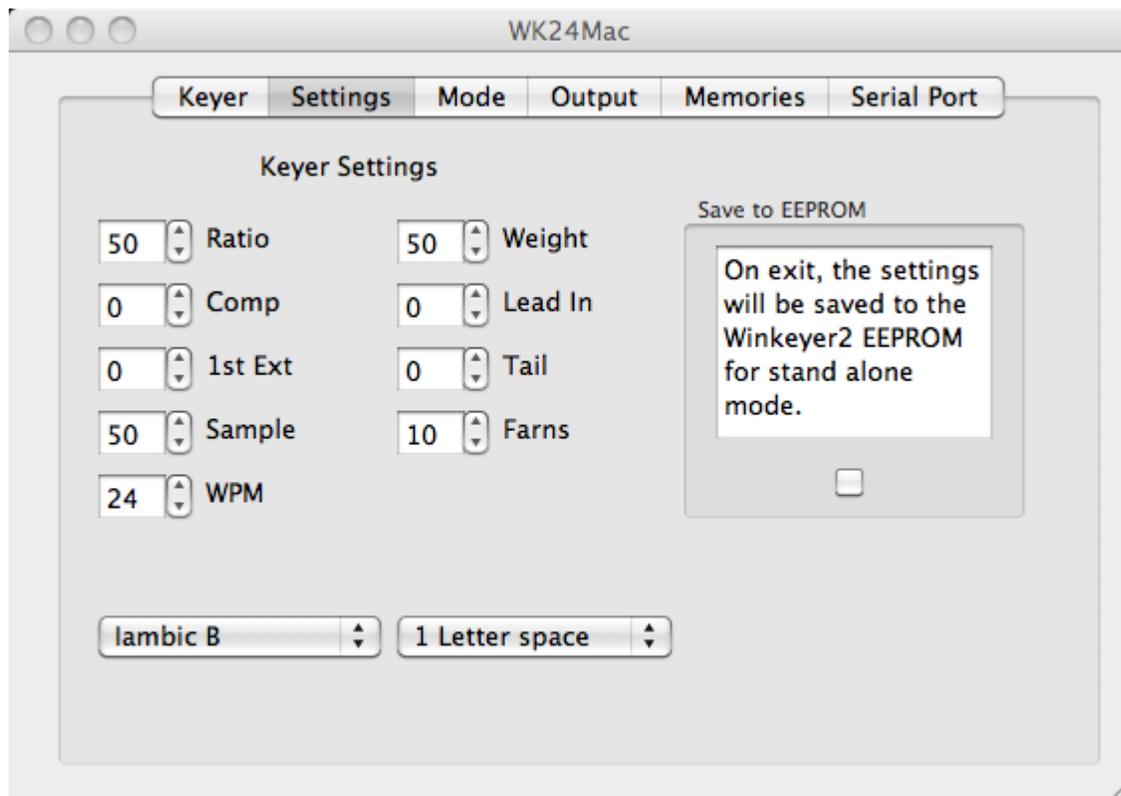


Figure 2.

The settings of the various parameters may be incremented or decremented for the defaults above using the stepper buttons beside the text display area.

Ratio is the dah/dit ratio. Normally this will be set to 50% which is the standard 1:3 ratio. A value of 33 would be 1:2 and a value of 66 would be 1:4. ($\text{Dah/Dit} = 3 * (\text{nn}/50)$).

The “Weight” button allows a proportional amount to be added or subtracted from the length of all dits and dahs sent. A value of 50 indicates no weighting applied.

The “Comp” adds a fixed amount to all dits and dahs. QSK keying on some transceivers can cause shortening of the dit and dah elements especially noticeable at higher speeds. Each step is 1ms (0.001 seconds).

The “Lead In” inserts a fixed delay between when PTT is asserted and actual CW keying begins. Each increment is 10ms (0.01 seconds).

The “1st Extension” is primarily for use with older transceivers with a slow break-in reponse. This can result in the first dit or dah being shortened. Each increment adds 1ms (0.1 seconds) to the first dit or dah.

The “Tail” is the complement of “Lead In”. Tail will hold the PTT for a period of time after the CW keying ceases. Each increment is again 10ms (0.010 seconds).

The “Sample” adjusts paddle sensitivity, that is when the when the chip will start looking for the next paddle action. This is a sort of de-bounce for the paddles. Too low and you will get extra dits/dahs. Too high and the keyer will bog down.

The “Farnsworth” setting adjusts the speed at which the keyer will begin sending characters regardless of the speed setting. Spacing between the characters will be increased and the characters generated at the fixed “Farnsworth” speed.

The “WPM” stepper will again adjust the sending speed. Both the Keyer tab adjustment and this one are linked, adjusting one adjusts the other.

The “Keyer Mode” selection allows you to select the various modes the keyer chip is capable of implementing. They are IAMBIC A, IAMBIC B, ULTIMATIC and BUG. There are two sub modes available with the ULTIMATIC mode and they are all dits, ULTI-DITS and all dahs, ULTI-DAHS. The two sub modes if selected are enabled by squeezing the two paddles together.

The “Word Space” selector is to the right and enables the settings of 1 wordspace, 1.3 wordspaces, 1.6 wordspaces or, 2 wordspaces. These settings are similar in action to “Tail” in that PTT is held 'ON' between paddle presses but the delay is proportional to sending speed. **“Tail” must be set to zero to enable HANG time operation.**

Clicking the Save to EEPROM click box will store the current setup to the Winkeyer2 chip EEPROM. The current settings then become the default for the Navigator Winkeyer2 chip in stand alone mode. Note the WK24Mac messages are not transferred as there is no 232 byte restriction on message configured in host mode.

MODE TAB (Figure 3.)

This tab has to do with the internal registers of the keyer chip and the speed range at which CW will be sent.

The minimum speed and range as shown in figure 3, will accommodate a minimum speed of 5WPM and a maximum of 30WPM.

“Swap” swaps the sides of the paddles. Dits become dahs and vice versa.

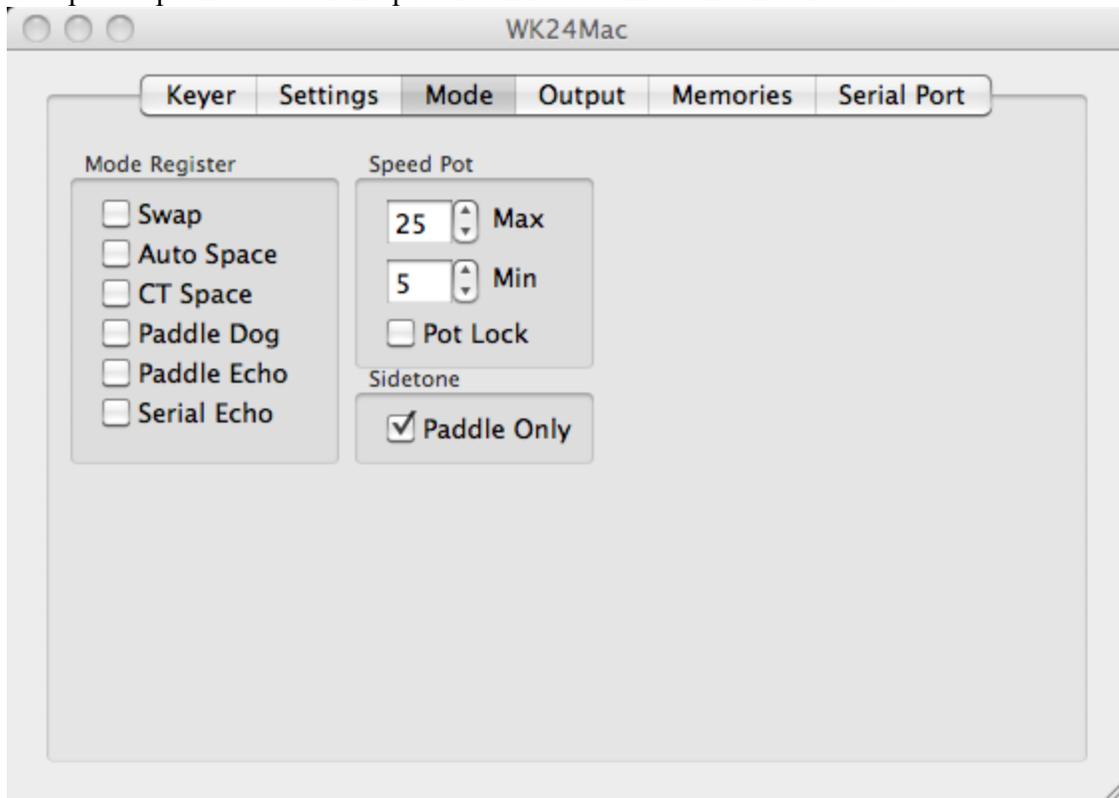


Figure 3.

“Auto Space” sort of cleans up your code. If you pause more than 1 dit time between a dit or a dah, the chip will interpret that as a letter space and will not send the next dit or dah until the letter space time has been met, normally 3 dit times.

“CT Space” refers to contest spacing. This reduces the word space time by 1 dit. Normal word space time is seven (7) dits. (See word space timing on the previous tab).

“Paddle Dog” is an inhibit on the paddle watchdog function. The paddle watchdog will automatically stop keying if a continuous stream of more than 128 dits or dahs is generated. If this check box is checked, the watchdog is inhibited.

“Paddle Echo” when checked enables the echoing of paddle sent CW to the paddle echo text field on the Keyer tab.

“Serial Echo” will do the same for text entered via the keyboard.

“Pot Lock” is always on regardless of the checkbox, clicked or not in WK24Mac. Its adjustment only has bearing when the a K1ELS keyer is in stand alone mode. If this application is running it has control of the keyer speed. This may be deprecated unless it is found to be necessary.

“Paddle Only” when checked prevents sidetone generation from CW being generated from the keyboard.

OUTPUT TAB (Figure 4.)

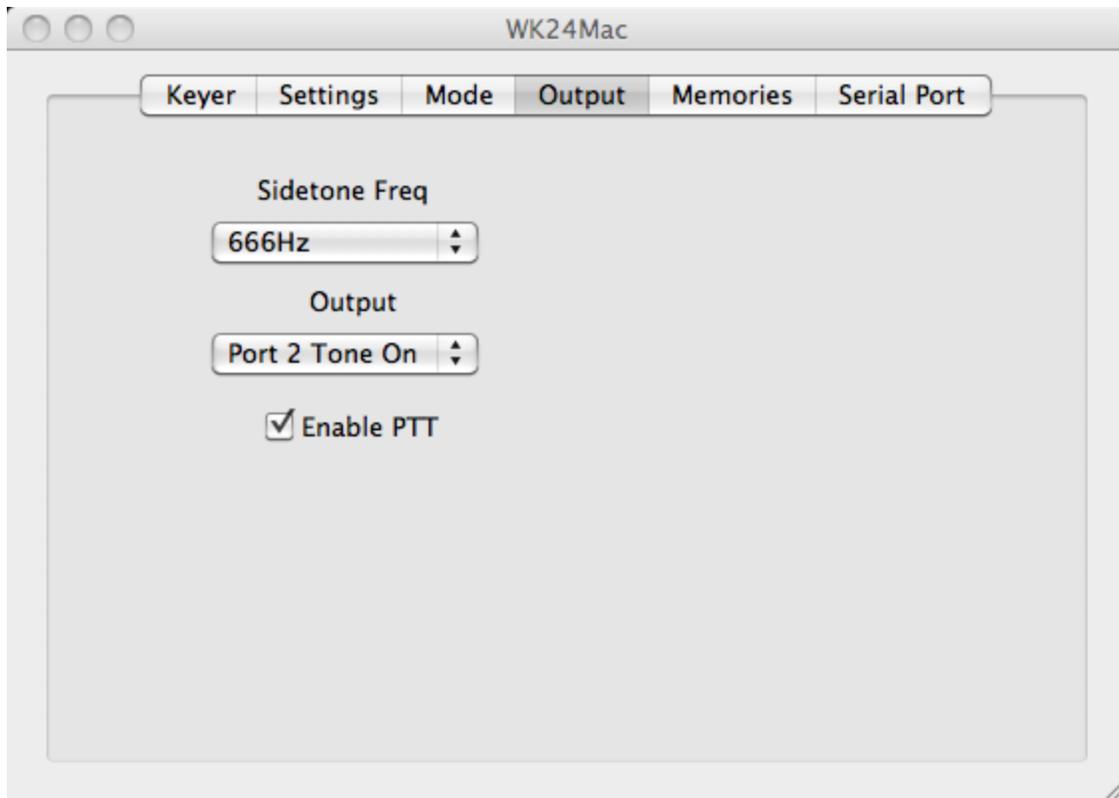


Figure 4.

This tab allows you to select the sidetone frequency and the output port of the Winkeyer chip. With the Navigator it will be Port2 Tone Off or On to suit your choice.

“Enable PTT” has been deprecated and should no longer appear on current version UIs. The choices on the Output menu have been increased to accommodate PTT.

MEMORIES TAB (Figure 5.)

Enter text into any of the six field and when that particular key is clicked on the Keyer tab, the stored message will be sent. The are some special characters and we will list these below.

“	=	prosign “RR”	+	=	“AR”
#	=	“EE” (null)	-	=	“DU”
\$	=	“SX”	/	=	“DN”

%	=	“EE” (null)	:	=	“KN”
&	=	“EE” (null)	;	=	“AA”
"	=	“WG”	<	=	“AR”
(=	“KN”	=	=	“BT”
)	=	“KK”	>	=	“SK”
'*'	=	“EE” (null)	@	=	“AC”

(items labeled null do not produce any CW keying).

Insertion of any of the above into the text will cause the equivalent prosign to be sent.

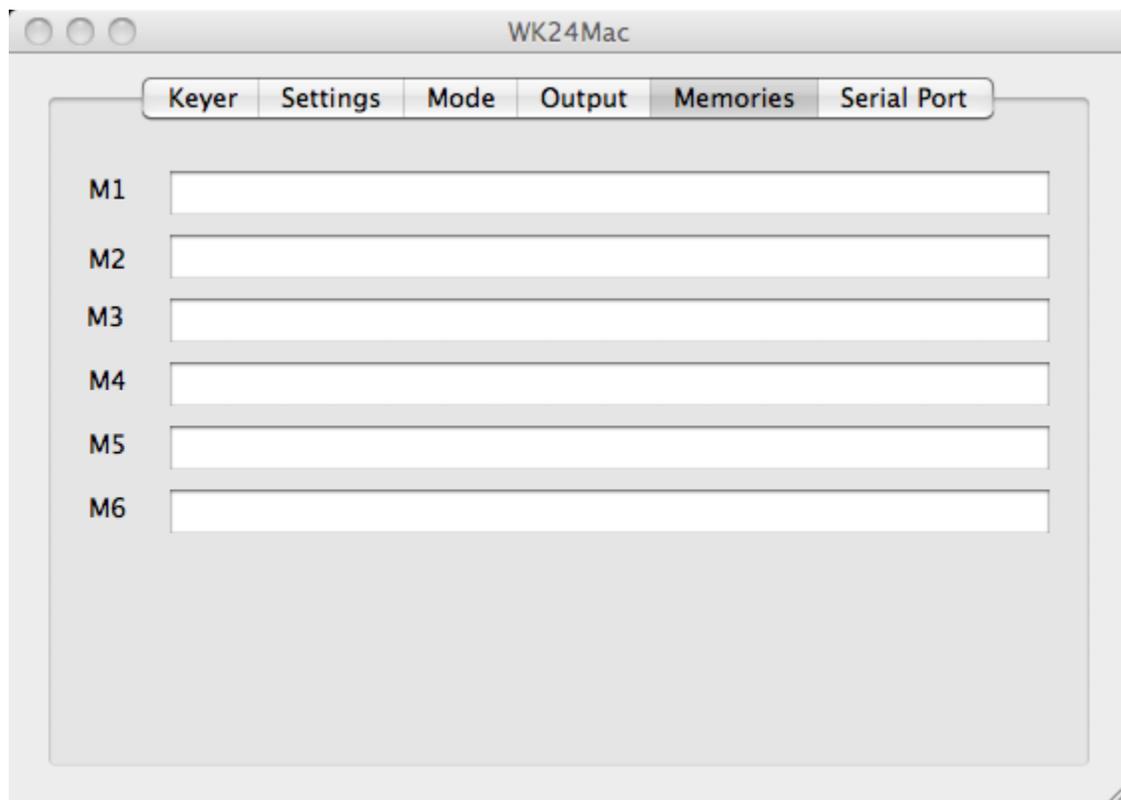
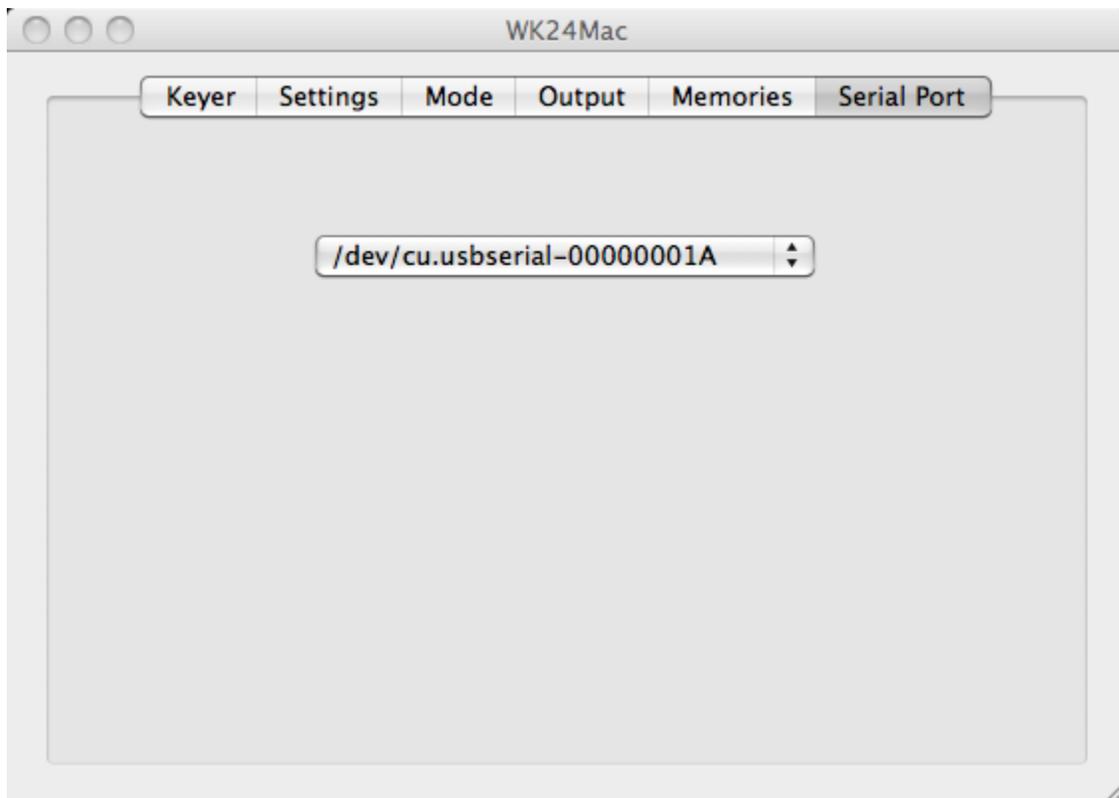


Figure 5.

SERIAL PORT (Figure 6.)

The serial tab is where you make the connection via a serial port to the Winkeyer2 chip. When the application is started it will look for all the serial devices on your Mac and list them in the pop up menu item below. A simple click on the button will bring up the list. (See WK24CFGMac information above.)



NOTE: If you get a clean app that has never been started on a Navigator or any other device, it will start with the first port in the list being selected. The Comm indicator on the keyer tab may be either RED or GREEN. Obviously if it is the incorrect port, the program will not work.