

# QRPworks

## SideKar™ & SideKar Plus™

### User Manual



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## Overview

Thank you for your purchase of the QRPworks SideKar™ or SideKar Plus™.

In this manual, the reference to a SideKar applies to both the SideKar and SideKar Plus, as they share most features. Differences in the models will be noted as appropriate. It is primarily the display size (SideKar is 2 lines 40 characters while the SideKar Plus is double at 4 lines, 80 characters).

Its purpose is to enhance your operating experience with the Elecraft KX3 / KX2 / K3 / K3S.

In a nutshell,

- It is a message generator, allowing you to send up to 20 messages you have defined, with just a keystroke.
- It is a log, with the space for 1000 QSOs
- It is an ADIF export tool, allowing you to export your logged QSOs in an ADIF format.
- It is a Summits on the Air (SOTA) log.
- It is portable, with a sunlight readable display.
- It can operate with or without a USB wired or wireless keyboard
- The SideKar will display the scrolling rig-decoded PSK31, PSK63, RTTY, or CW text on a 40-character screen, while the SideKar Plus has an 80-character screen. Both have the ability to freeze the incoming data and scroll back.
- It will allow you to send up to 20 macros to the rig to control just about every aspect of it.
- The SideKar offers the Quick QSY™ feature, allowing you to change frequency and mode very easily.
- The log will automatically be populated with the current date, time, frequency and mode, so you don't have to enter it.

Data entry for logging, creating messages, capturing “their call” can all be done with or without a keyboard!

The SideKar provides many features for the portable operator, whether out on the trail, in a park, on vacation, or at home.

73,

Shel Radin, KF0UR

Steve Silverman, KB3SII

## SideKar & SideKar Plus Installation

The installation of the SideKar and SideKar Plus is essentially the same, with the SideKar Plus having a larger case.

**When the text refers to the SideKar, it includes the SideKar Plus as well.** This section will be updated shortly with more pictures.

The latest case design of the SideKar is designed to:

- Be mounted on the right side of the KX3
- Be mounted on top of the KX2
- Sit on a desktop

One SideKar can work with the KX2, KX3 or K3/K3S just by changing a few simple brackets.

Note that the original SideKar case, designed to mount on the right side of the KX3, can also mount on top of the KX2, with the appropriate brackets.

### KX3 Installation

For either the original SideKar case with a fixed “mounting wing” on the left side or the newer universal SideKar and SideKar Plus case, these first steps are the same.

The SideKar is designed to mount on the right side of the KX3, above the antenna BNC connector.

1. On the right side of the KX3, remove the black flat head Philips screw in the upper back position, closest to the A / B button.
2. Install the supplied shoulder screw and clear washer (already on the screw) in place of the screw removed. Do not overtighten.

Install supplied shoulder screw and washer

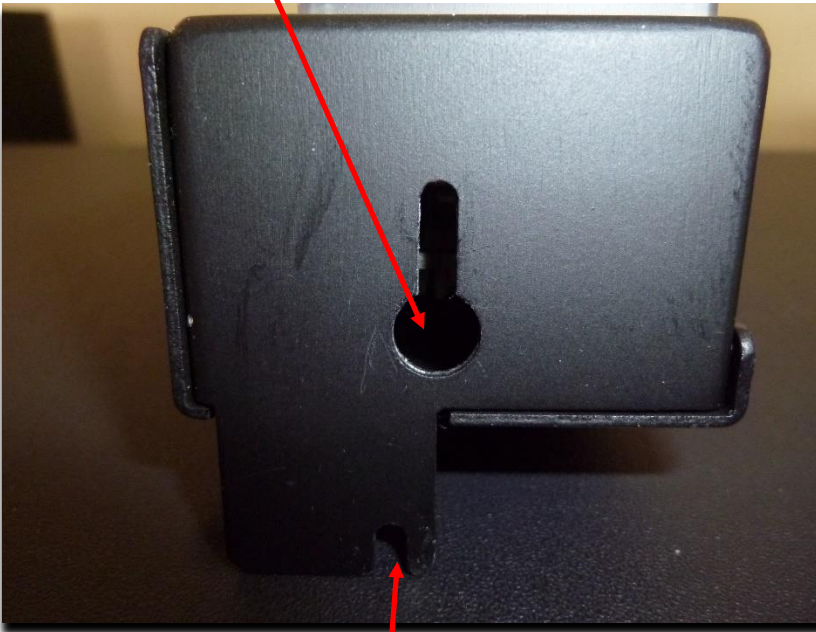


3. Loosen, but do not remove, the thumbscrew for the KX3 right foot. Fold the KX3 foot under the KX3 so it is not extended.

## Original SideKar Case (with the fixed mounting wing)

4. Position the SideKar so the shoulder screw is in the round portion of the keyed slot and flat against the KX3.

To start, align the Shoulder Screw in the round opening



SideKar mounting wing and notch



5. Slide the SideKar down until the notch at the bottom of the SideKar mounting wing is under the KX3's thumbscrew head.

SideKar mounting tab and notch under the foot thumbscrew



Extend the foot after lightly tightening the thumbscrew

6. Lightly tighten the KX3 thumbscrew, and then swing the KX3 foot out to further tighten the foot. The SideKar should now be snug against the side of the KX3.

## Universal SideKar Case

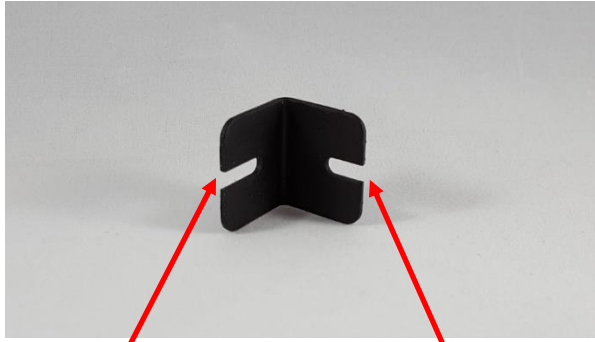
4. Install the supplied thumbscrew into the tapped hole on the back right side of the SideKar.

Thumbscrew installed for the KX3 mount



5. Install the KX3 mounting bracket under the thumbscrew as shown. Tighten the thumbscrew so the bracket is snug. The bracket edge should be even with the side of the SideKar.

Note the bracket is not symmetrical. The longer slot goes against the SideKar and the shorter slot goes against the KX3. If it is reversed, the SideKar can slide down too far and hit the antenna BNC connector.



Longer slot

Shorter slot

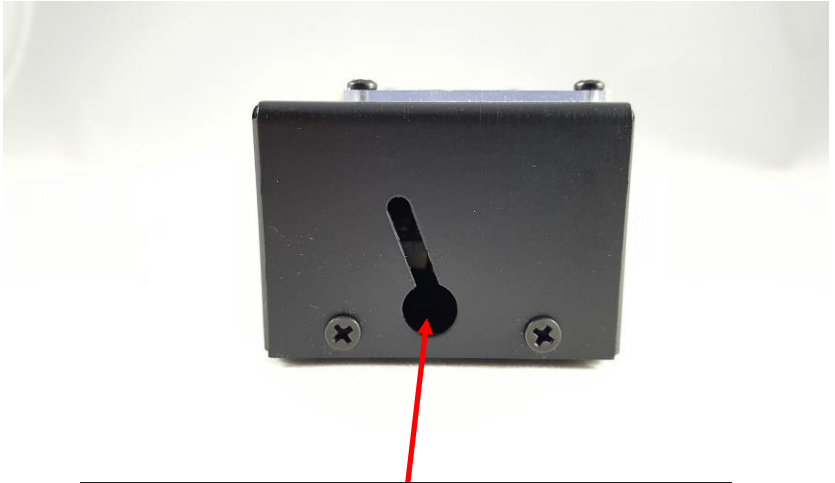


SideKar



SideKar Plus

6. Position the SideKar so the installed shoulder screw on the KX3 is in the round portion of the keyed slot and flat against the KX3.



Align the Shoulder Screw in the round opening

7. Slide / wiggle the SideKar down until the notch at the bottom of the SideKar bracket is under the KX3's thumbscrew head. If the SideKar hits the BNC connector, the bracket is installed backwards. Remove it and put the longer slot against the SideKar.



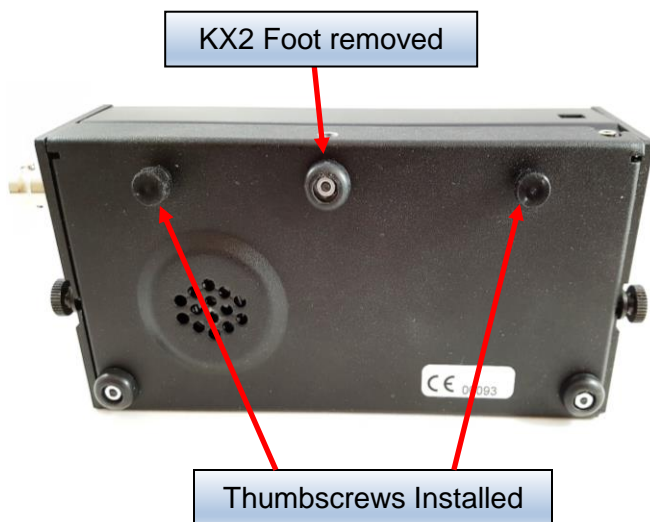
4. Lightly tighten the KX3 thumbscrew, and then swing the KX3 foot out to further tighten the foot. The SideKar should now be snug against the side of the KX3.



## KX2 Installation

The SideKar sits on the top back of the KX2.

1. On the KX2, remove the Elecraft swinging foot and set it aside for later installation on the SideKar™. Install 2 supplied thumbscrews into the holes in the back of the KX2, as shown.

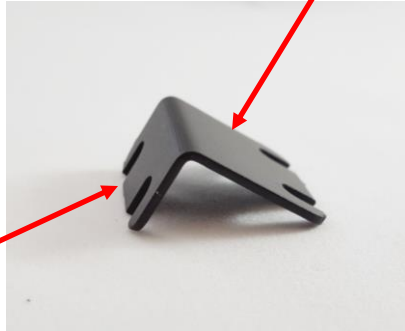


2. If not already installed, install 2 supplied thumbscrews in the bottom 2 holes in the SideKar. (lower right of the On-Off switch, and lower left of the Rig port.) Install the 2 KX2 brackets under the thumbscrews as shown.

Note that the brackets are not symmetrical. The longer side goes on the SideKar. The shorter side will be on the KX2.

Install the swinging foot on one of the SideKar™ brackets, then tighten the thumbscrews.

Long side against the SideKar



Short side  
against the  
KX2



Long Side against the SideKar

3. Slide the 2 brackets on the SideKar under the thumbscrews on the back of the KX2. Tighten the thumbscrews.





## Desktop Installation

To use the SideKar and SideKar Plus on a desk, without mounting it on a rig, 2 brackets are installed. The brackets are the same as the KX3 mounting bracket, except you will use 2 of them.

1. On the back of the SideKar and SideKar Plus, install 2 supplied thumbscrews. Slide a bracket under each thumbscrew and hand tighten, as shown. The brackets are symmetrical and can be installed using either slot. The SideKar will then rest on the brackets when leaned back.



Thumbscrews and Brackets Installed  
for sitting on a desktop / surface

## Setup

### Connections:

- **KX3/KX2:** connect the supplied 3.5 mm (1/8") stereo cable from the SideKar Rig port to the KX3 ACC1 or KX2 ACC connectors. The right angle connectors on both ends are important to reduce the strain on the printed circuit boards. **Do not connect the radio cable if the PC cable is in use.**
- **K3:** use a DB9-M to 3.5 mm cable (available from QRPworks) from the K3 RS232 port to the SideKar Rig port. **Do not connect the radio cable if the PC cable is in use.**
- **K3s:** plug the RJ45 to DE9 adapter cable that was supplied with the K3s into the K3s RS232 port. Use a DB9-M to 3.5 mm cable (available from QRPworks) from the DE9 adapter to the SideKar Rig port. **Do not connect the radio cable if the PC cable is in use.**
- Connect DC 8 V ~15 V power using a 2.1 mm DC connector or use a 9 volt battery in the optional SideKar battery holder. For the DC connector, connect the DC positive voltage to the center pin.
- (optional, but recommended) Connect a USB keyboard to the SideKar. This is used for transmitting and controlling the rig. A wired or wireless keyboard may be used. The wireless keyboard must be a 2.4 GHz wireless keyboard and **NOT** a Bluetooth keyboard. Repeat: NOT Bluetooth.
- The second 3.5 mm jack, labeled "PC" is used for transferring log files from the SideKar to the PC and for loading new software into the SideKar. The Elecraft KXUSB or KXSER cables should be used between this serial port and a PC. **This port must not be**

connected to a PC if the Radio serial port is connected to the radio.



Power switch (slide left to turn on)

#### KX3/KX2/K3/K3s Settings:

***For the SideKar to display transmitted text, the KX3 firmware must be at MCU version 2.19 or later.***

- Menu: RS232: set to 38400.
- Menu: CW Key1 or K3/K3s CW PADL: set at tip-dot or tip-dash, and not Hand. Plug your paddle directly into the Key jack on the rig. The rig will only decode transmitted text if the menu item CW Key 1/CW PADL is set to tip-dot or tip-dash, and not Hand.
- For RTTY or PSK31, set the mode to TX Data, by tapping the Data/Text button. Using VFO B, select:
  - PSK D for PSK31
  - FSK D for RTTY.“TX Data” will be the mode shown on the screen
- Text: DEC ON, by holding the Data/Text button.

*Refer to the Data Modes section in the rig's manual*

PX3, KXPA100, P3, KPA500, KPA1500 Connections:

The SideKar is always at the end of the serial connections. Basically, it takes the place of a PC. So it gets connected where the PC would be connected.

- If a PX3 is used and no KXPA100, connect the SideKar Rig port to the PX3's ACC1 PC port.
- If a KXPA100 amp is used, connect the SideKar Rig port to the KXPA100's RS232 (PC) port.
- If a K3 / K3S and P3 are used, connect the K3/K3S and P3 as usual and then connect the SideKar Rig port to the P3's PC port using a DB-9 to 3.5 mm adapter cable (available from QRPworks).
- If a KPA500 is used, connect the SideKar's rig port to the KPA500's RS232 (PC) port using a DB-9 to 3.5 mm adapter cable (available from QRPworks).

## Keyboard Choices

The SideKar can be used with a wired or wireless USB keyboard.

Please note that the wireless keyboard must be a 2.4 GHz wireless keyboard, and NOT a Bluetooth keyboard.

The SideKar can use a USA or UK keyboard. Pressing **Alt-K** will toggle between the two. In the SideKar, the difference is that the @ and " characters are reversed between the two types.



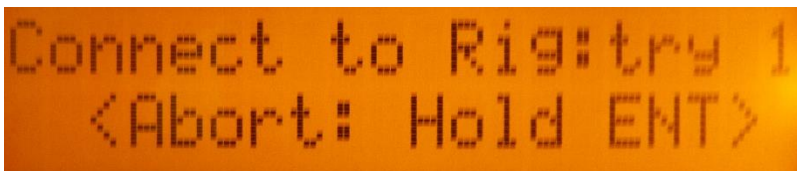
## Starting Up

When the SideKar is powered on, you will see a welcome screen briefly. For reference, the firmware version is displayed on this screen:



The SideKar will then automatically attempt to connect with the rig via its serial port. 38400 baud is the required speed.

*Note: turn the rig on first before turning the SideKar on.*



(**update!**: Hold **ESC** to Abort the connection)

When the SideKar establishes a connection to a rig, it will briefly let you know. A connection is established after the SideKar sends a command to the rig and the rig responds appropriately.



If the rig is in the text mode and is displaying characters in the lower right of the screen, the SideKar will automatically show

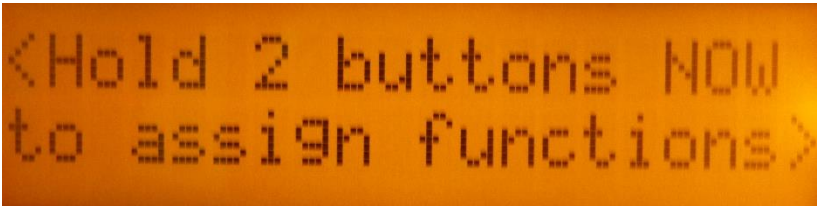
the characters. If the rig is not decoding and displaying characters, then the SideKar screen will be blank.

If the SideKar does not connect to the rig *and* you expect a connection, please see the [troubleshooting tips](#).

## Using the SideKar Buttons

The 2 buttons labeled **TAB/ENTER** and **BKSP/ESC** are multipurpose and can be configured to perform your 2 most favorite functions with a just the press of a button. This is useful to access functions more quickly or just to use a function without a keyboard.

The buttons are configured individually at startup. When you see the following screen, hold both buttons until the screen changes as follows:



<Hold 2 buttons NOW  
to assign functions>

The screen will then show:



Tap Button to Config

Then tap either button to scroll through the list of functions until you see the one you want. Now hold the button of your choice (**TAB/ENTER** or **BKSP/ESC**) until you see “Button 1 Set” or

“Button 2 Set”. The function is now assigned to the button you held, and will be remembered even when powered off.

To assign the second button, reset the SideKar (**Alt-R**) and repeat this process.

The default functions shipped are:

- Log a QSO
- Freeze the Display

Available functions to select are as follows:

<b>Function</b>	<b>Purpose</b>	<b>Notes</b>
1. Freeze Disp	Freeze the Display	Same as Alt-F
2. Send Msg 1*	Send message 1	Same as F1
3. Send Msg 2*	Send message 2	Same as F2
4. Help	Show the help screen	Same as F11 or Alt-H
5. Log QSO	Log a QSO	Same as Alt-L, then L
6. Log Find	Finds a QSO logged	Same as Alt-L, then F
7. Manage Refs	Enter/edit (SOTA) references	Same as Alt-P, then M
8. Quick QSY	Commands the rig to go a freq and mode specified.	Same as Alt-Q. Type or paddle the freq and mode
9. Enter Call	Enter a call to be used in messages and the log	Same as Alt-C
10. Serial Nbr	Enter contest serial number	Same as Alt-N
11. Rig Status	Shows rig's voltage, current, temp (KX2 / KX3 only)	Same as Alt-S
12. SideKar Voltage	Shows SideKar voltage and SideKar Serial Number	Same as Alt-V
13. Date/Time	Enters date/time (when no keyboard used)	Same as Alt-D



14. Exit	Exits this function list	
----------	--------------------------	--

\* available with version 2.1.1 and later

## One time button use

Even if you didn't assign a function to a button, you can still access most of the functions listed without a keyboard.

To do so,

- In the normal mode, Hold **TAB/ENTER** until you see a function displayed.
- Then tap **TAB/ENTER** to cycle through the functions until you see the function you want to run
- Holding **TAB/ENTER** will run the function

Note: not all functions are appropriate for this one time use. Note that the functions start with "4. Help". This is normal.

## Displaying Decoded Text

For displaying rig decoded text, the SideKar takes advantage of the innovative rig feature whereby the rig decodes incoming data and displays the decoded text on a scrolling 8-character display at the bottom right of the rig's screen. The data could be PSK31, PSK63, RTTY, or CW. It doesn't matter.

The SideKar captures these characters as they are decoded and displays them on a 40-character screen for easier reading.

The SideKar Plus displays them on an 80-character screen.

By displaying 40 or 80 characters at a time, you can read words and sentences, and not worry about missing characters if you take your eyes off of the rig's screen for a short time. Plus you can freeze and scroll back the text, if you need to.

The SideKar will display the characters decoded and received from the rig. Once the 20-character line is filled, the next line is used.

Once both lines of the display are filled, the lines will scroll up and the bottom will show the next data received.

While receiving text, the Status LED above the display will be off, indicating the SideKar is in the normal, real-time receiving mode.

*Note: You may find it easier to tune in a specific signal by placing the rig in the FINE TUNE Mode rather than COARSE Mode.*

With firmware version 2.6.0 and later, you can disable receiving decoded text from the rig. This may be useful when using the PX3 panadapter and viewing the decoded text on it. Some users prefer to see the decoded text on the PX3, but use the messaging, macros and log on the SideKar. Press **Alt-T** to toggle between receiving decoded text or not. The default is to

receive text, and is set to receiving the text each time the SideKar is powered up.

***Also, the SideKar removes extra spaces between characters, so more useful text is seen on the screen.***

*Note: Pressing **Alt-T** to disable received text and again to re-enable it will clear the screen and scroll back memory.*

## Scrolling Back

Once the top line of the display is scrolled off of the screen, it is saved. Actually, 10 of the most recent lines are saved.

1. To be able to view this saved text, you must first enter the Freeze/Scroll mode. To do so, while in the real-time receiving mode (LED is off), press Alt-F (Freeze) or tap a button if it is set for the Freeze mode. When shipped the SideKar / SideKar Plus left button is set to Freeze when tapped. Two things will then happen:
  - a. The Orange LED will turn on, indicating the SideKar is in the Freeze/Scroll mode
  - b. The text on the screen is now frozen, not changing.

*Note: even though the screen is frozen, behind the scenes the SideKar is still collecting text from the rig. So when you go back to normal, real-time receiving, you'll see the most recent text received.*

To scroll back to view the previously saved lines (up to 10), while in the Freeze/Scroll mode (Orange LED is on), HOLD the button assigned to Freeze. The SideKar will scroll back line by line, at approximately 1 line per second, until you get to the end

of the scrolling (10 lines). Release the Hold button to stop scrolling. Hold it again to resume scrolling.

To use the keyboard instead to Scroll:

- Alt-F to enter the Freeze / Scroll mode
- Arrow Up or Down to scroll one line at a time
- Page Up or Down to scroll a page at a time (SideKar = 2 lines, SideKar Plus = 4 lines)

If less than 10 lines have been saved, you will see <END of DATA> at the end of the received text.



```
< END OF DATA >
```

When you scroll 10 lines back, you will see <END OF SCROLL>



```
< END OF SCROLL >
```

## Resuming Real-time Receiving

To resume real-time receiving, while in the Freeze/Scroll mode, TAP the Freeze button again. Or if using a keyboard, press **Alt-F** or **ESC**. You will briefly see the following message:



```
<Back to Real Time>
```

## Summary of Scrolling Operation:

Mode	Action	Result	LED
Real-time receiving			Off
Real-time receiving	Tap button or Alt-F	Freeze/Scroll mode.	On
Freeze/Scroll	Hold button	Scroll back, ~1 line per second	On
Freeze/Scroll	Release button	Scrolling stops where it is	On
Freeze/Scroll	Hold button again	Scrolling resumes from where it was stopped	On
Freeze/Scroll	Arrow up/down	Scroll up/down 1 line per press	On
Freeze/Scroll	Page up/down	Scroll up/down 1 page per press	On
Freeze/Scroll	Tap button or Alt-F or ESC	Back to real-time receiving	Off

## Transmitting Text

There are a few ways to send data to the rig:

1. Simply use the paddle connected to the rig. As you paddle, you will key the rig, and the SideKar display will show what characters have been sent. The **ALT-E** command toggles whether you see transmitted characters or not (KX2 / KX3 only).
2. Type on the keyboard. The SideKar will send the character you typed to the rig. As you type, you will key the rig, and the SideKar display will show what characters have been sent. The **ALT-E** command toggles whether you see transmitted characters or not (KX2 / KX3 only).

***Reminder: For the SideKar to display transmitted text by paddle or keyboard, the KX3 firmware must be at MCU version 2.19 or later. And the rig's Text Decode must be turned on.***

*Note: the Alt-E command has no effect of connected to a K3 or K3S. Transmitted characters are always displayed.*

3. Send a message. You can send one of 20 pre-defined (by you) messages by pressing F1 through F10 for the first bank of 10 messages, and Alt-F1 though Alt-F10 for the second bank of 10 messages. Each message can be up to 80 characters.

You can send text to the rig by either plugging a USB keyboard into the SideKar and simply typing on the keyboard or using the keyer in the rig. The rig will transmit the text in whatever mode it is set to. In other words,

- if the rig is set to PSK-D, it will send PSK31 or PSK63, depending on the VFO A setting on the rig.

- if it is set to FSK-D, it will send RTTY.
- If it is set to CW, it will send CW

You just type and the SideKar and the rig will take care of the rest.

There are 2 SideKar modes offered to send text using the keyboard.

- **Immediate Mode** – characters are sent to the rig as they are typed on the keyboard.
- **Buffered Mode** – characters appear on the bottom line of the SideKar display and are not sent to the rig unless the Enter key is pressed or the number of buffered characters set by the user is reached (via **ALT-O**). In this mode, you may Backspace to correct text. When characters are buffered (not sent to the rig yet), the Status LED will be flashing.

## Immediate Mode

To set the transmitting mode to Immediate:

- Press **Alt-O**
- Enter a 1 for the number of characters



To transmit text, simply type on the keyboard. Sending has priority, so any time a key is pressed on the keyboard, the rig will be put into the transmit mode and the character typed will be sent.



- New in version 2.3.0 and later: Pressing Enter on the keyboard will send a Carriage Return – Line Feed (CR-LF), which will cause the cursor to move down a line on the receiver’s screen.

## Buffered Mode

To set the transmitting mode to Buffered:

- Press **ALT-O**
- Enter a number between 2 and 20 for the number of buffered characters. Press Enter when done. Then, when the number of characters you type hits this number, the text will automatically be sent to the rig.

The benefit of this mode is the ability to backspace to correct text before it is sent to the rig. While this is standard using PSK31 and a computer, the SideKar offers this for RTTY, PSK31 and CW...without the need of a computer.

To transmit text, type on the keyboard. The characters will appear on the bottom line of the SideKar display, and be sent to the rig when:

1. The number of buffered characters typed reaches the number set using **ALT-O...or...**
2. Or the Enter key is pressed

If you see something on the bottom line to change, just Backspace to correct it.

When characters are buffered and not yet sent to the rig, the Status LED will be flashing, indicating so. So, if you are typing and finish your sentence and the LED is flashing, don't forget to press Enter so the last characters are sent to the rig.

In either mode, to stop transmitting, there are two options:

1. Simply stop typing. The rig will go back into the receive mode approximately 4 seconds after the last character

was received by the rig. This allows you to take a breath between words and still stay in the transmit mode on the rig. Note that this is an Elecraft feature built into the rig.

2. Hit the ESC key or hold the ESC pushbutton. By hitting the ESC key, the rig will go back into the receive mode right away. This is useful if you send by mistake or just want to go back to receive faster than the built-in 4 second wait in the rig. Especially useful when contesting.

*Note: When sending text from the rig directly, you send CW with paddles. The rig does the translation from CW to the mode you are in (PSK31, PSK63, RTTY, CW). As such, there is no way to differentiate upper and lower case letters. All letters are sent using lower case. The SideKar uses the same features in the rig, and the result, as you might have guessed, is the same. **All characters are sent lower case**, regardless of whether you type upper or lower case on the keyboard.*

## Viewing Characters Sent

You have the option of seeing characters you are sending on the SideKar screen or not. On the keyboard, press **ALT-E** to toggle between seeing the characters sent and not seeing them.

*Note: the Alt-E command has no effect if connected to a K3 or K3S. Transmitted characters are always displayed.*

## Entering Characters Without a Keyboard

One of the cool features of the SideKar is the ability operate without a keyboard. You can enter text by using the paddles to generate characters. We call this “**KEY-boarding**” (because you’re **KEY**ing in characters).

The paddle-created characters will appear on the SideKar screen and you can see what you are entering, as if you were using a keyboard.

You can Key-board to:

- Enter data in the log
- Create messages
- Create rig macros
- Enter the call of the station you are working
- Enter and edit references such as SOTA Summits.

To handle some typical keyboard functions which are not found in CW, the SideKar provides some options that can be used without a keyboard:

Function	What to Do	Used for...
Enter	hold TAB/ENTER	Editing
Tab	tap TAB/ENTER	Moving between log fields
Backspace	tap BKSP/ESC	Editing
Quit	hold BKSP/ESC	Editing

Add semi-colon (;)	paddle prosign BA or DU	Rig macros (every command ends with one)

The rig's internal keyer is used to generate the characters. So when you are entering data that is not to be transmitted, such as logging, the SideKar will automatically change the rig's power setting to 0 watts. The keying will still be functional, but no RF is generated. When the data entry function you are in is complete, the SideKar will automatically restore the power setting to the previous level.

To use this feature, Text Decode on the rig must be turned on, regardless of whether you are in CW, RTTY, PSK31, or PSK63.

When entering data via your paddle, the power output on the KX3 is automatically set to 0 watts, so the characters are not transmitted. It is restored when you exit the data collecting function.

In version 2.3.0 and later, a feature has been added to disable entering text with a paddle, which will maintain the current rig's power level. The primary reason for this is to be able to log using the keyboard while still transmitting, perhaps by sending a message.

The way to enable and disable entering data via the paddle is to press **ALT-M**. Each press will toggle the function (enable/disable).

- Enable will allow you to enter data via your paddle or keyboard and will turn the power to 0.
- Disable will allow you to enter data via the keyboard only, and will not change the power.

## Stored Text Messages

The SideKar has 20 memory locations for either text messages or rig macros. Any of the 20 can be used for either.

Each of the 20 text messages or rig macros can be 80 characters each. As a text message, they can be used for “canned” text, such as calling CQ, “my name is...”, contest exchanges (599 CO), etc.

The first 10 messages (1-10) are stored and sent using the function keys, **F1** to **F10**. The second 10 messages (11-20) are stored and sent using the function keys, **Alt-F1** to **Alt-F10**.

## Creating or Editing a Message:

From SideKar version 2.3.0 and later, the ability create and edit messages and rig macros from your PC or Mac has been added by using the QRPworks Message Management Utility program.

It is available free on the QRPworks.com website (click on Support). It allows you to define 200 messages/macros in 10 named sets, with each set containing 20 messages/macros. You can save the sets on your PC or Mac and download a selected set of 20 messages to the SideKar all at once. Using the Message Management Utility is the fastest way to create and save a number of messages.

Alternatively, you can use the SideKar keyboard as follows:

- In the normal mode (Status LED is off), press **F12** or **ALT-Z** (added version 2.6.5). The Status LED will now be flashing slowly indicating you are in the Edit mode. The screen will prompt you to press a key **F1** through **F10** or **Alt-F1** through **Alt-F10**.

- If no message has been stored previously, you will see <empty...just start typing>
- If a message has been previously stored, it will be displayed. Edit or add any additional text. See the [“Editing a Stored Text Message or Macro”](#) section in this manual for a list of editing options.
- New in version 2.3.0 and later: When in RTTY or PSK31, the rig will remain in transmit mode for approx.. 4 seconds after the last character has been sent. To have the rig go back to receive immediately after the last character has been sent, add a vertical bar “|” at the end of the message (without the quotes). It’s especially useful when contesting.

Example: 5NN CO |

When finished, press the **F12** or **ALT-Z** (added version 2.6.5) key again or Enter to save the changes and return to the normal mode. The Status LED will go out and you will see the following sample message briefly:



If you want to cancel the editing of a message, press the **ESC** key hold the **BKSP/ESC** button at any time. The SideKar will return to the normal mode. The LED will go out and you will see the following message briefly:

<Edit Cancelled>

## Naming Text Messages

The SideKar provides a way to name a message. The name will then be shown in the message summary screen as a handy reminder.

To name a message, simply enter the name as the first characters followed by a colon “:”. Everything to the left of the colon is the message name and is not sent to the rig. Everything to the right of the colon will be sent to the rig as text.

It’s recommended to keep the names short, as the space for the characters used are shared with the characters used for the message. The longer the name, the less room you will have for the message.

Example: Call CQ: CQ CQ CQ de KF0UR

*Note: If naming a Grab & Go message, the @ symbol to indicate it is a Grab & Go message, must be placed immediately after the colon (:).*

*Correct: GG Macro: @ 599 CO*

*Incorrect: GG Macro: @ 599 CO*

## Sending a Stored Text Message

To send a stored text message, just press the F or Alt-F key of the message to be sent. The sent message will appear on the SideKar screen as it is being sent by the rig.

If you press an F key more than once, or multiple F keys in sequence, the messages will be sent in sequence (chained). This is useful, for instance, if you want to send a longer CQ. If the message stored in F1 is:

*CQ CQ CQ CQ CQ DE KF0UR KF0UR KF0UR*

Pressing F1 twice will result in the following message:

*CQ CQ CQ CQ CQ DE KF0UR KF0UR KF0UR CQ CQ  
CQ CQ CQ DE KF0UR KF0UR KF0UR*



## Storing and Sending Rig Macros

Using the Elecraft “KX2 Programmers Reference”, or “K3 and KX3 Programmers Reference” (download-able from the Manuals and Downloads section of the Elecraft website), you can write and store one or more commands to the rig.

These sets of commands, or “rig macros” as they are called, can be used to command the rig to do just about anything and are very handy.

For instance, you could set up a macro to:

- Go to a frequency, mode, set the power level, turn off RIT and XIT, say for PSK31 or RTTY
- Put the rig into Split mode, with VFO B 1 KHz above VFO A

For the KX3, the macros can be written in the KX3 Utility, and two of the macros can be assigned to the PF1 or PF2 buttons on the KX3. The SideKar expands that by allowing you to create and store 20 macros, 80 characters each in the SideKar, and executing them with a simple keystroke.

Rig Macros are stored and sent using the function keys, **F1** to **F10** and **Alt-F1** to **Alt-F10**. Rig macros **MUST** start with a period (.) as the very first character. Note these 20 locations are shared with Text Messages.

*Rig Macros always start with a period (.) as the very first character. Messages do not.*

## Creating or Editing a Rig Macro:

From SideKar version 2.3.0 and later, the ability create and edit messages and rig macros from your PC or Mac has been added by using the QRPworks Message Management Utility program.

It is available free on the QRPworks.com website (click on Support). It allows you to define 200 messages/macros in 10 named sets, with each set containing 20 messages/macros. You can save the sets on your PC or Mac and download a selected set of 20 messages to the SideKar all at once.

Alternatively, you can use the SideKar keyboard as follows:

- In the normal mode (Status LED is off), press **F12** or **ALT-Z** (added version 2.6.5). The LED will now be flashing slowly indicating you are in the Edit mode. The screen will prompt you to press a key **F1** through **F10** or **Alt-F1** through **Alt-F10**.
  - o If no macro has been stored previously, you will see <empty....just start typing>
  - o If a message or macro has been previously stored, it will be displayed. Edit or add any additional text. See the "[Editing a Stored Text Message or Macro](#)" section in this manual for a list of editing options.

Macros must start with a period (.) as the very first character. This tells the SideKar it is a rig macro and not a text message.

Example:

```
.20M:FA00014012000;
```

Where:

- . - indicates it is a macro

20M - is the name of this macro. The colon separates the name from the macro.

FA00014012000; – is a rig command (go to 14.012 MHz in this example)

If you leave out the period, then the text FA00014012000 would be sent to the rig as a message to be transmitted.

To create a rig macro without a name, just preface the very first Elecraft command with a period:  
.FA00014012000;

*Note: The semi-colon (;) at the end of the Elecraft command is part of the command. All Elecraft macros commands end with a semi-colon(;).*

When finished, press the **F12** or **ALT-Z** (added version 2.6.5) key again to save the changes and return to the real-time mode. The Status LED will go out and you will see the following message briefly:



- If you want to cancel the editing of a macro, press the **ESC** key or hold the **BKSP/ESC** button at any time. The SideKar will return to the real-time receiving mode. The Status LED will go out and you will see the following message briefly:



<Edit Cancelled>

## Naming Rig Macros

The commands used in rig macros are cryptic, and when you look at a list of commands in a rig macro, it may not be obvious what the macro does. To help you remember, SideKar allows you to name each macro. The name will then be shown in the message summary screen, including the leading period, so you can differentiate messages from macros.

To name a macro, simply enter the name as the first characters followed by a colon ":". Everything to the left of the colon is the rig macro name and is not sent to the rig. Everything to the right of the colon will be sent to the rig as commands. This is the same as naming Text Messages.

It's advised to keep the names short, as the space for the characters used are shared with the characters used for commands. The longer the name, the less room you will have for commands.

For more information on macros and a complete list of commands, please see the Elecraft Programmers Reference manuals in the Manuals and Downloads section of the Elecraft website.

Macro Examples: Note the colon. The name is to the left, the commands are to the right. The period, name and the colon are not sent to the rig.

.PSK:FA00014070000;MD6;DT3;SWH17;PC005;

.RTTY:FA00014080000;MD6;DT2;SWH17;PC005;

*Note: If naming a macro, do not put a space between the colon(:) and the first character. Or a space in front of any command, for that matter.*

*Correct: .RTTY:FA00014080000;MD6;DT2;SWH17;PC005;*

*Incorrect: .RTTY: FA00014080000;MD6;DT2;SWH17;PC005;*

## Sending a Rig Macro

To send a stored rig macro, just press the Fx or Alt-Fx key of the macro to be sent, where x is from 1-10 (i.e. Alt-F5). The sequence of commands will then be sent to the rig.

## Call Sign Entered

The SideKar gives you the ability to capture another station's call sign and have it sent out automatically in messages and automatically populate the log. You may be familiar with this feature in most contest loggers and PSK31 or RTTY programs.

To use it,

- Enter the call by pressing **Alt-C**. Enter up to 10 characters with the keyboard or paddle. Backspace to make changes.
- In any of the 20 SideKar messages, use the exclamation point (!) where you want the other station's call to appear.
- To Save it, press **Enter** on the keyboard or hold the TAB/ENTER button.



Example:

- Press Alt-C and enter KB3SII.
- In message 1, enter: ! de KF0UR. The SideKar will then send "KB3SII de KF0UR".

Press Alt-C again to see the call entered, and backspace as needed to edit it.

The entered call will be there until the QSO is logged.

## Grab & Go™

The SideKar has a unique feature call Grab & Go™ which helps you to maintain the flow in contests or regular QSOs.

Grab & Go allows you capture (grab) a station's call at the same time you are responding on the air. This is instead of typing the other stations call in the Enter Call screen (**Alt-C**) *and then* sending it subsequently.

Here's how it works. Shown is an example for a contest where someone answers your CQ and you want to respond with the contest exchange stored in message F2:

- To define any message as a Grab & Go message, place a "@" as the first character of the message.

Example: @ TU 599 CO

- If you name you message, put the @ after the colon, as the first character of the message to be sent.

Example: Exchange:@ TU 599 CO  
(where Exchange is the name of the message and is not sent)

- Then when you press F2, you will be prompted to enter a call (that's the 'grab' part):
  - Use the keyboard to type it in or use the paddle to Key-board it in.
  - The call you are typing or keying **is** sent to the rig and **will** go out on the air.
  - When you are finished sending the call, press F2 again. The rest of the message in F2 will then follow (that's the 'Go' part).

In summary, the Grab & Go™ flow is:

- Press the message F key to be sent
- Type or Key-board the call (it gets sent as you enter it)
- Press the message F key again for the rest of the message to be sent

## Summary of Message Editing Operation:

Mode	Action	Result	LED
Normal			Off
Normal	Press F12 or ALT-Z (added version 2.6.5)	Enter Edit Message Mode	Flashing Slowly
Edit Message Mode	Press F1 thru F10, or Alt-F1 thru Alt-F10	Enter new or Edit existing message	Flashing Slowly
Edit Message Mode	Press F12 or Enter	Message saved, then back to normal mode	Off
Edit Message Mode	Press ESC	Cancel Edit message. Back to normal mode	Off

## Stored Text Message/Macro Summary

If you don't recall which text message or macro is stored where, the SideKar can help.



While in the normal mode (Status LED off), press **Page Down** or **Page Up** on the keyboard, and the first 16 characters of messages or macros 1 & 2 will be shown. Press **Page Down** to see the next page of 2. Macros will be indicated with a period (.) as the first character.

If a macro has been named (first characters preceding a colon (":"), then the macro name will be displayed instead of the macro commands.

Press **Page Up** to go in the opposite direction.

Press **ESC** to go back to the normal mode.

*Note: in version 2.6.7 and higher, the Up and Down arrow keys can be used for the Page Up and Page Down functions here, respectively. This is to accommodate small keyboards without Page Up / Down keys.*

## Reserved Message / Macro Characters

The following characters are reserved for special purposes, and cannot be used as normal characters in text messages or rig macros:

! - (exclamation point) used to substitute the other station's call

# - (pound sign) used to substitute a contest serial number

@ - (at symbol) used to indicate it's a Grab & Go™ message.

. - (period as the first character) used to indicate the stored data is a rig macro, not a text message. It's OK to use a period elsewhere in a message.

| - (vertical bar) used at the end of a RTTY or PSK31 message to immediately stop transmitting after the last character is sent.

: - (colon) used to separate the name of the message or macro from the actual message text or macro command.

## Summary of Message Summary Operation:

Mode	Action	Result	LED
Normal			Off
Normal	Press Page Down or Arrow Down (v2.6.7)	First 16 characters of messages/macros 1-2 shown	Off
Message Summary Mode	Press Page Down or Arrow Down (v2.6.7) again	First 16 characters of the next 2 messages/macros are shown	Off
Message Summary Mode	Press Page Up or Arrow up (v2.6.7)	First 16 characters of the previous 2 messages/macros are shown	Off
Message Summary Mode	Press ESC	Back to normal mode	Off

## Editing Stored Text Messages/Macros

The editing features apply to editing text messages and rig macros. Here are the commands available:

- *Backspace*: moves the cursor one character to the left and erases the character
- *Home*: moves the cursor to the first character.

- *End*: moves the cursor to the right of the last character
  - *If at maximum characters, the cursor will move to the last character*
- *Arrow Left*: moves the cursor one character to the left.
- *Arrow Right*: moves the cursor one character to the right
  - *If at maximum characters, the cursor will not move past the last character*
- *Arrow Up*: moves the cursor one line up
- *Arrow Down*: moves the cursor one line down, but not past the last character.

Editing has two modes of operation, which are typical of many editors. The Insert key is used to toggle between these two modes:

- **Insert**, where a new character is *inserted* to the left of the cursor. The cursor will be a blinking box.
- **Replace**, where a new character *replaces* the character at the cursor. The cursor will be an underline.

In the Insert mode, if there are more characters than allowed for the message or macro, the character at the end will be truncated as new characters are added.

Messages and macros can be 80 characters.

In the SideKar, if your message / macro is over 40 characters (one screen), the SideKar will display them in pages of 40 characters each.

In the SideKar Plus, all 80 characters will be seen on one screen.

*Note: in version 2.6.7 and higher, the Win key can be used instead of the Ins key. This is to accommodate small keyboards without Ins key..*

## Sending a Stored Text Message without a Keyboard

From version 2.1.1 on, you can assign functions “Send Msg 1” and “Send Msg 2” to the buttons to immediately send message 1 or 2.

See [Using the SideKar Buttons](#) to learn how to configure the buttons to do this.

## Contesting

While the SideKar is not a substitute for a full contest logging program, it can help with sending your contest exchange and the general flow of many contests.

And now in version 2.2.0 and later, we have added more contest specific features. The target contests are those that are typically used with the KX3 and KX2 in the field, starting with the ARRL Field Day.

There are many aspects to contest logging. The new features focus on Duplicate (Dupe) Checking. Here’s why: When operating QRP, a contester is more likely to be in the Search & Pounce (S&P) mode, looking for QSOs, as opposed to the Run mode on one frequency, waiting for others to call.

In the S&P mode, when you hear a call, you want to know if you’ve worked the station already. The new feature will tell you that. If a station has already been worked and counts as a duplicate for the contest selected, the SideKar will alert you. You can still work and log the station again, if you like.

Here are the features in detail:

1. In the normal screen mode, **Alt-A** .selects the contest. Each press of **Alt-A** will go to the next contest in a round robin fashion. Stop at the contest you want. The initial values you'll see are:
  - a. Log: Field Day
  - b. Log: Normal (not in a contest)
  - c. Dxpediton (for running stations)
2. In the Log screen, when you enter a call and press TAB, the SideKar will check for duplicates in the log. Remember a dupe is defined differently for each contest. For example, for Field Day, it is the same call on the same band and same mode. A different contest may allow you to work a call only once per band, regardless of the mode. SideKar knows the rules per contest.

*Note: It's a good idea to clear the log before starting a contest, as all entries in the log are checked for Dupes.*

3. If a duplicate is found, "DUPE" will be displayed for a few seconds.
4. You can still log the duplicate QSO if you like.
5. Once you enter a call and hit TAB, the call is saved internally (not logged yet) and can be used in messages (same as using Alt-C or Grab & Go). Remember to hit TAB and not ENTER. ENTER will save the QSO in the log, as always.
6. You can press an F key to send a message right from the log.
7. You can clear the call and exchange by hitting Alt-W (Wipe). Alt-W also clears the call stored using Alt-C or Grab & Go at the same time.

A typical sequence might be:

Setup:

- Hit **Alt-A** to select Field Day
- Set up a message to send your call
- Set up a second message to send the other person's call and an exchange (i.e. ! 599 CO)
- 

Operating:

- Go to the log screen and enter the call.
- Hit TAB to perform dupe checking.
- Hit the F key message you set up to send your call.
- If the station comes back to you, hit the second F key to send the exchange.
- Go to the log again, enter the exchange received and hit ENTER to log the QSO.

Here are the original contest features:

Use the exclamation point (!) in a message to substitute the other stations call.

Example:

- Let's say F2 is used to send an exchange
  - First enter "! 599 CO" without the quotes in message F2
- W1ABC calls you. Use **ALT-C** to enter the other station's call W1ABC, and press Enter. Then, pressing F2 will send "W1ABC 599 CO"

OR...by using Grab & Go,

- W1ABC calls you. Press F2 and type or Key-board W1ABC. W1ABC **is** sent on the air as you type or Key-board it.

- Press Enter, F2 again.
- “599 CO” is then sent to complete the message.

If the contest exchange is static text, like RST and section (“599 SFL”) or name and state (“Steve NY”), the exchange can simply be put in one of the 20 text message locations (F1:F10, Alt-F1:Alt-F10) and sent with a single keystroke.

If the contest exchange contains a QSO serial number, the SideKar has a feature to help. To use the serial number feature,

- Use the “#” (without the quotes) in a text message where you want to send the serial number. For the following examples, assume the next serial number is 234.
  - Example: KFOUR 599 # # will send KFOUR 599 234 234
- To set the serial number, press **Alt-N** (number). You can then see the next serial number that will be sent, or can change it by backspacing and typing a new numbers. Press **Enter** to save the change or **ESC** to exit without saving. This should be used at the beginning of a contest or if you need to set the number at any time. The maximum QSO number is 32000. If you get close to that number in a contest, you’re doing very well!



- The SideKar will increment the serial number when you log the contact. If you are not using the SideKar log, then Press **Alt-I** (increment) to increment the number by one. If you’ve incremented by mistake, press **Alt-N** to

change it to the desired number. This might happen if you thought you worked someone, but really didn't (busted QSO).

In addition to the # for the serial number you may also enter the other station's call and have it sent out automatically as part of a message. See [Call Sign Entered](#) or Grab & Go in an earlier section for details.

The other station's call will be erased when the QSO is logged.

## Dxpediton mode

When running an event such as a SOTA activation, activating a national park, or any other time where you are calling CQ and having stations answer you, it is sometimes desirable to keep things moving along quickly and maximize the QSO rate.

SideKar version 2.6.0 and later offers the DXpediton mode of operating, which reduces 2 specific time delays:

1. When entering the call of another station using **Alt-C**, the "Back to Real Time" message on the screen is eliminated. This allows you to enter the call and immediately press a function key to send a message, such as "KF0UR TU ur 599 CO", to respond to someone quickly.
2. When saving a log entry, there is a screen to inform you the save was successful. The time "Saving QSO xx" is reduced, so after logging you can very quickly send the next message, such as "TU de KF0UR QRZ".

To access the Dxpediton mode, press **Alt-A** until you see "Log: Dxpediton".

## Logging



SK Logging allows you to have some basic logging features when using the SideKar. While it does not try to replicate a full blown log or contest logging program, it does allow you to capture the basic QSO information easily and export it to an ADIF file.

## Main Logging Functions

To access the SideKar log, press **Alt-L**. You will then see the following logging functions screen:



**L:** to log a new QSO. There is room for 1000 QSOs.

**F:** to find an existing QSO in the log. Enter all or part of a call. The most recent QSO with the text string entered will be displayed. Press **Arrow Down** to find the next earlier QSO.

A wildcard character (\*) can be used as well.

Example:

Finding "W1AB" will find all log entries for W1AB

Finding "W1AB\*" will find W1AB, and also W1ABC



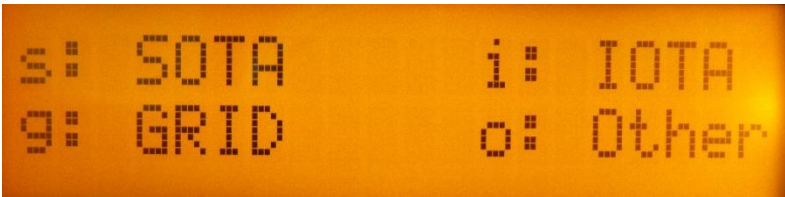
Once a QSO is found, it can be edited and saved by Pressing Enter.

The QSO may be deleted by pressing **Alt-X**. Note that deleting the QSO does not remove it from the log. Instead, the call is changed to \*Deleted\* and will not be output when creating the ADIF export. As a result, deleting a QSO should not be used to make more room in the log. Clearing the log will do that.

**A:** to create an ADIF file for export to a PC, so it can be imported to your main log. All QSOs (not deleted) will be exported.

**R:** to create an ADIF file for export to a PC, but only include QSOs tagged with the currently active Reference (SOTA, IOTA, Lighthouse, etc.)

If you select this option, then you will be asked to select what type of reference it is on this following screen:



The purpose of this selection screen is to output the data with the proper ADIF field name. For example:

- SOTA Refs need to use the ADIF tag "MY\_SOTA\_REF"
- IOTA needs to use the ADIF tag "MY\_IOTA"

Selecting the reference type selects the proper ADIF tag for output.

*See the QRPworks ADIF Utility manual on the QRPworks website (under Support, Utilities) for more information on creating an ADIF file.*

**C:** to erase the entire log. You will be prompted with a Y/N to be sure.

**S**: to show QSOs in the log. The most recent QSO will be shown. Press **Page Down** to go down the log QSO-by-QSO. Press **Page Up** to go in reverse order.

**ESC**: press **ESC** any time to go back to real time receiving.

*Note: in version 2.6.7 and higher, the Up and Down arrow keys can be used for the Page Up and Page Down functions here, respectively. This is to accommodate small keyboards without Page Up / Down keys.*

### Logging a New QSO

To log a new QSO, enter the SideKar Log by pressing **Alt-L**, and then **L** to Log a QSO. The QSO log screen will then be shown



```
Call: KF0UR
Exch: Shel CO
```

To navigate from field-to-field, press **TAB**.

Tab through the fields to get to page 2 of the log which shows the date / time / freq / mode:



```
When: 20150520 00011
Freq: 14085 MD:RTTY
```

To navigate within a field, use the left right arrows, home or end, or backspace. Press **Insert** to toggle between the insert (flashing cursor) or overwrite modes (same as editing messages and macros).

Press Enter to save the QSO.

**Call:** Enter the call worked. Maximum: 10 characters. Enter either upper or lower case. The SideKar will convert it to upper case. This is a required field.

**Exch:** Enter the exchange. Maximum 10 characters. Any characters can be entered, so this can be used for regular QSOs (“599”) or contest exchanges (“2A CO”, “Steve NY”). This is not a required field.

If you use the QRPworks ADIF Utility v1.9 or later, a new feature is available.

In ADIF Utility v1.7 and previous, the Exchange field is always interpreted as RST\_RCVD in the ADIF file.

With ADIF Utility v1.9, you have the opportunity to populate the RST RCVD and RST SENT fields.

In version 1.9 of the Utility,

- RST RCVD is now added as an ADIF field. The format of the 10 character **Exch** field in the QRPworks log is now Rcvd / Sent
- If a / character is found, the characters to the left of the / is the RECEIVED and the characters after the / is the SENT
- If no / character is found, the Exchange is RST\_RCVD.
- As shown in the table of examples, the Exchange does not have to be a traditional “599” signal report.

*Examples*

<b>“Exchange” data in the log</b>	<b>ADIF RST_RCVD</b>	<b>ADIF RST_SENT</b>
579	579	(blank)
579/59	579	459
/589	(blank)	589
001 NY/022 CO	001 NY	022 CO

Also new in ADIF Utility v1.9 are 2 new ADIF fields:

- Call Sign, if entered in the Utility
- Band

**When:** enter the date in yyyyymmdd format. Tab to the time field after the “@” sign and enter the time in hhmm format.

*Note: if using the internal real time clock, the date and time will be filled in with the date and time the screen was accessed. The SideKar is supplied with a CR2032 button battery for this purpose. If necessary, set the date and time (**Alt-D**)*

**Freq:** enter the frequency in MHz. This will be automatically filled in with the frequency at the time you accessed this screen.

**MD:** enter the mode. This could be 2 characters for CW or up to 4 characters for RTTY. This will be automatically filled in with the mode selected at the time you accessed this screen.

## Logging Activities using References

The SideKar provides features for operators in a number of activities to manage various references, such as:

- Summits on the Air (SOTA)
- Worldwide Flora and Fauna (WWFF)
- Islands on the Air (IOTA)
- Lighthouses
- Grids
- And any other activity that uses any kind of reference or you simply want to designate as a separate activity.

By reference, we mean a published identifier used within the activity to report activations, collect points, etc. Example: SOTA uses Summit References (i.e. “W0/FR-001”), IOTA uses island

reference numbers (i.e. “AF-041”), plus there are Grids, Lighthouses, and other special outings. But it doesn’t have to be an official reference. It could be something simple as “vacation” or “Field Day”.

This feature of the SideKar allows you to

- Store up to 12 References (maximum 16 characters each)
- Select which Reference is currently active
- Automatically include the Reference as part of the log entry
- Export an ADIF log file of QSOs for the active reference only.

To use the Reference feature, press **Alt-P** . On the next screen, press **M** to Manage Refs.



The next screen displayed will show references 1-2. Page Up and Down, or Arrow Up and Down to navigate to references 3-12. Tab can also be used to move to the next field.

### Storing and Selecting a Reference

Enter up to 16 characters per line (1 line = 1 Reference). Since most references are less than 16 characters, there’s usually room to enter an optional short note for each reference. Use a colon (“:”) to separate the reference from your note. This can be used as a handy reminder when looking at a list of references and trying to recall what they are.

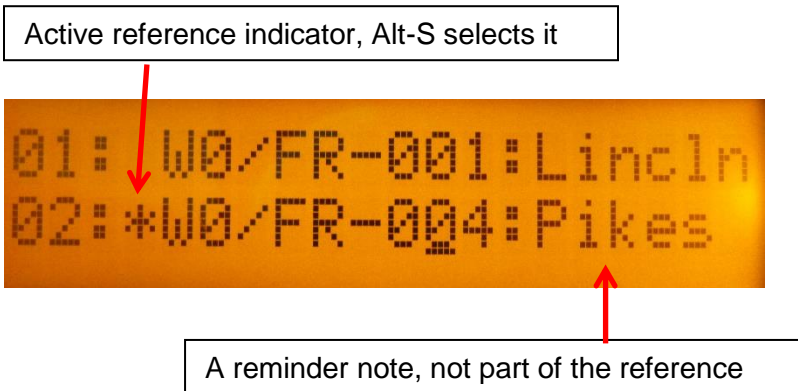
Example for Pikes Peak: W0/FR-004:Pikes

Where W0/FR-004 is the official SOTA reference and will be stored in the log, and Pikes (after the colon) is just a reminder for you and will not be stored in the log.

To select which reference is active, Arrow or Page Up/Down to the reference desired and press **ALT-S**. An asterisk (“\*”) will be displayed on the line of the active reference.

In the following screenshot example:

- 2 SOTA Summit Refs are entered, both with a short note
- Number 02, Pikes Peak, is selected as the active reference. Note the asterisk indicating so.



Now when you log a contact, the reference (a Summit Ref in this example) will be saved with the QSO. The optional short note you might have entered after the colon and the colon itself will not be saved in the log.

### Exporting an ADIF File

To export an ADIF file with only the QSOs of the reference activated.

- Go to the Logging Screen (**Alt-L**)

- Press R for Reference

Note that the difference between pressing **R** (reference) vs. **A** (ADIF File) is that **A** will export *all* QSOs, while **R** will export only those QSOs for the active reference.

If a QSO was logged with the wrong reference selected, the correction is easy. Just:

- selected the proper reference (**Alt-P**, then **M**, then arrow up/down or tab to the proper reference)
- Now go to the log, find the QSO, and hit Enter to re-save it. The currently active reference will now be saved with that QSO.

As mentioned in the Logging section, if you select this option, then you will be asked to select what type of reference it is on this following screen:



The purpose of this selection screen is to output the data with the proper ADIF field name. For example:

- SOTA Refs need to use the ADIF tag “MY\_SOTA\_REF”
- IOTA needs to use the ADIF tag “MY\_IOTA”

Selecting the reference type selects the proper ADIF tag for output.

*Note: Once an ADIF export is done, you'll need to reset the rig and SideKar to resume normal operations. The easiest way to do this is to power both off, then power on the rig first.*



## LCD Backlight Brightness

The SideKar LCD backlight brightness is adjustable in 5 levels, while the SideKar Plus has 7 levels. When operating using a battery, it is wise to minimize the current usage (but you already knew that), and this feature helps you do so. The display is transfective, so backlighting is probably not needed at all when outdoors, even on a cloudy day.

In the SideKar Plus, the first 4 levels are a group that are lower brightness levels, and more appropriate for running on a battery. The remaining 3 higher levels are more suitable when not running on a battery.

There are 2 ways to adjust the brightness:

- On the keyboard, press **Alt-B**. Each press of **Alt-B** will go to the next level of brightness, from off to bright.
- Hold the BKSP/ESC button. The brightness will cycle through levels from off to bright. Release the button when the desired brightness is reached.

The brightness selected is remembered in EEPROM, so the next time you turn on the SideKar, it will start at the last brightness selected.

## Quick QSY™

The SideKar provides a Quick QSY feature to change frequency and mode very quickly.

To use it, press **Alt-Q**. The screen will then prompt you for the frequency, and the format required is also displayed.

Optionally, you can change modes as well by adding a single letter on the end of the frequency. The modes available are as follows:

<u>Mode</u>	<u>Letter to add</u>
CW	C
USB	U
LSB	L
PSK31	P
RTTY	R
AM	A
FM	F
CW REV	W
Data Rev	V

Examples:

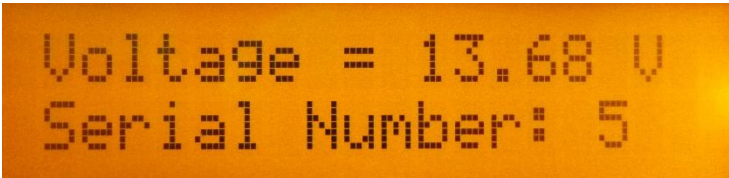
- 14070 - sets freq to 14.070 MHz. Mode does not change.
- 14070P - sets freq to 14.070 MHz AND mode to PSK for PSK31
- 21080R - sets freq to 21.080 MHz AND mode to FSK-D or Data for RTTY
- 7023C - sets freq to 7.023 MHz AND mode to CW
- 28425U - sets freq to 28.425 MHz AND mode to USB



## Voltage Check

To display the power supply voltage of the SideKar, press **Alt-V**. The current voltage and the SideKar serial number will display. Press Esc on the keyboard or hold the BKSP/ESC button to quit and return to the real-time receiving mode.

The SideKar will automatically check the voltage periodically, and if at or below the low voltage threshold (~7 volts), will display a low voltage warning screen.



## Setting the Date and Time

With the SideKar on in the normal receiving mode, press **Alt-D**.

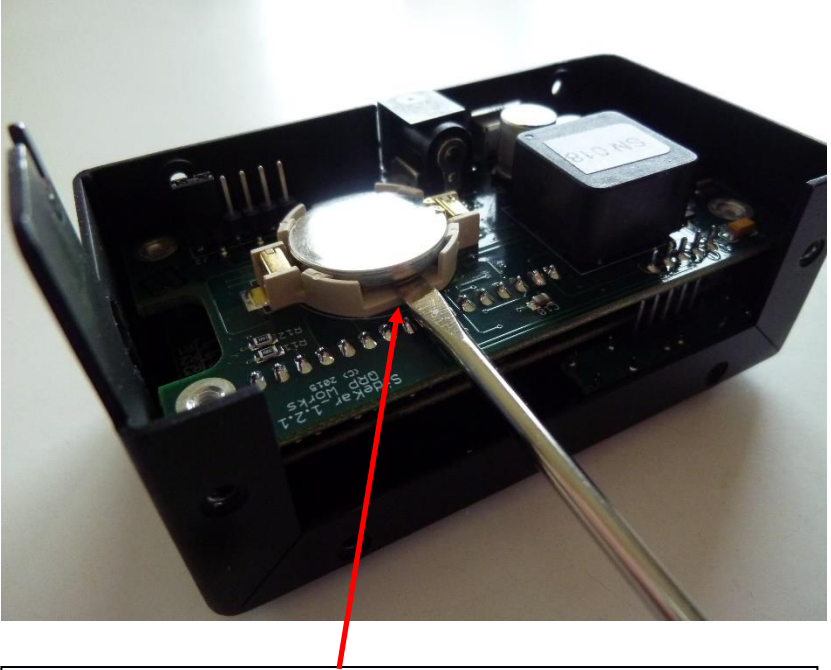
- Enter the Date in yyyyymmdd format
- Enter the 24 hour time in hhmm format
- Switch between date and time using the Tab key.

## Battery Replacement

The CR2032 button battery is used to maintain the time and date when power is removed from the SideKar. It typically lasts for 5 years.

To replace it:

- **IMPORTANT:** DO NOT REMOVE THE BATTERY OUT OF THE HOLDER BY LIFTING OR PRYING THE BATTERY UP. THIS CAN PULL THE BATTERY HOLDER UP FROM THE PRINTED CIRCUIT BOARD. ALWAYS SUPPORT THE BATTERY HOLDER BY HOLDING IT DOWN AND PRYING THE BATTERY UP BY USING A SMALL SCREWDRIVER **BETWEEN** THE BATTERY AND THE BATTERY HOLDER.
- Turn off the SideKar
- Remove the 6 cover screws
- Carefully pry out the battery, being careful not to put any upward force on the battery holder.
- Replace the battery...positive side up
- Replace the cover and 6 screws.

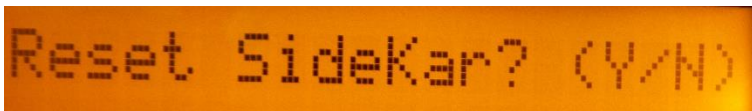


Remove the battery by inserting a small flat blade screwdriver between the bottom of the battery and the battery holder as shown. Twist the screwdriver between the battery and the holder to pop the battery out. Do **NOT** lift or pull the battery up. It might pull the battery holder off of the PC board. Hold the battery holder down while twisting the screwdriver to be sure.

## System Reset

If you want to reset the SideKar, press **Alt-R**. Then press “**Y**” to confirm the reset or “**N**” or **ESC** to cancel the reset. The reset is similar to turning the unit off and then on again.

One reason for doing a reset is to re-initiate the communications to the rig, in case it is not connected.



## Help

For help in remembering SideKar commands, press **F11** or **ALT-H**. A summary of the features and commands will be shown. Press **Page Up** or **Page Down** to scroll through the list.

*Note: in version 2.6.7 and higher, the Up and Down arrow keys can be used for the Page Up and Page Down functions here, respectively. This is to accommodate small keyboards without Page Up / Down keys.*

A [summary of commands](#) can be found at the end of this manual. But since help is built in, you may not need to take any paper with you.



Page Down to see the next page(s):



## Compatibility with Other Products

Here's how to use the SideKar with other products.

For the Elecraft products, in general, it is connected as the last device in the serial (ACC1) connection chain.

- PX3 – connect the SideKar to the ACC1 (PC) port on the PX3. For the SideKar to display decoded text from the KX3, the text decode function on the PX3 must be turned off.
- SideKX End Panels – SideKar is compatible with SideKX end panels. There is no need to remove them.
- KXPA100

The KXPA100 works a little differently than the PX3 with regards to other devices in the serial port (ACC) chain. Here's how to use the SideKar / SideKar Plus with a KXPA100. Tnx to Tim KD8KYK.

- **For the KX3 with KXPA100 amplifier**, start with the KX3 connected to the amplifier as described in the Elecraft manual.
  - Then, unplug the KX3-to-KXPA100 adapter's 3.5mm serial data plug from the KX3's ACC1 port.

- Plug in the 3.5mm cable supplied with one end going into the Rig port on the SideKar Plus and the other end going to the ACC1 port on the KX3.
  - **Note:** You must leave the ACC2 port plugged in with the KX3-to-KXPA100 adapter's keying cable (the smaller 2.5mm TRS plug).
  - Turn on KX3
  - Turn on SideKar / SideKar Plus and let it connect
  - Turn on KXPA100 amplifier manually using the "On/Off" switch on the front of the KXPA100. You will no longer be controlling the amplifier using the PA mode On/Off from the KX3 menu.
  - **Note:** Pressing the ATU button on the KX3 will still tune the KXPA100 amplifier as before.
- **For the KX2 with KXPA100 amplifier,** start with the KX2 connected to the amplifier as described in the Elecraft manual using the additional KX2ACBL adapter connected to the same KX3-to-KXPA100 adapter cable setup used as described in the aforementioned KX3 amplifier set up section. The KX2ACBL adapter is needed because the KX2 has only one ACC port.
- Start with the KX2 connected to the KXPA100 amplifier using the KX2ACBL adapter connected to the KX3-to-KXPA100 adapter at one end and the other end plugged into the ACC port of the KX2.
  - Unplug the 3.5mm serial data from the KX2ACBL adapter. Then, plug one end of the cable for the SideKar Plus into the Rig port of the SideKar Plus and the other end into the KX2ACBL adapter port you had just disconnected.
  - Be sure to leave the keying cable from the KX3-to-KXPA100 adapter plugged into the 2nd port (the 2.5mm TRS) of the KX2ACBL adapter.
  - Turn on the KX2



- Turn on the SideKar / SideKar Plus and let it connect.
- Turn on the KXPA100 amplifier by manually using the “On/Off” switch on the front of the KXPA100. You will no longer be controlling the amplifier using the PA mode On/Off from the KX2 menu.
- **Note:** Pressing the ATU button on the KX2 will still tune the KXPA100 amplifier as before.

## Updating the Firmware

The SideKar firmware is able to be upgraded via the “PC” serial port connector. Please contact us via the [www.QRPworks.com](http://www.QRPworks.com) Contact page if an update is needed.

## Technology

The SideKar is not just a larger screen. Inside is a PIC microcontroller. It is a computer on a chip, complete with CPU, memory, and EEPROM. Firmware running on the microcontroller controls the presentation and all functions of the SideKar. There’s a lot of stuff going on!

## Support

If for any reason you have questions or issues regarding the SideKar, please contact us via the [www.QRPworks.com](http://www.QRPworks.com) Contact page.

## Acknowledgements

We would like to acknowledge and thank Sierra Radio Systems for the use and support of their Hamstack C library.

## Troubleshooting Tips

### 1. Issues connecting with the rig

If you experience issues connecting to the rig, the following procedure is recommended. Verify the rig baud rate is set to 38400.

- a. Turn off the rig
- b. Turn off the SideKar via the on/off switch
- c. Turn the rig on first.
- d. Wait a few seconds
- e. Turn on the SideKar

### 2. The SideKar is connected, but no received text is appearing

Ensure that the rig's Text Decoding feature is turned on and you see characters scrolling on the rig's display (in the lower right hand corner).

See the rig's Owner's Manual for more details on setting up the rigs.

In a nutshell,

For the KX3, the setup is as follows:

- For PSK:
  - Mode: TX Data (tap Data/Text button)
  - Data MD: PSK D (select with VFO B)
  - Text Decode: ON (hold Data/Text button)
  - 31 bPS or 63 bPS (select with VFO A)
- For RTTY:
  - Mode: TX Data (tap Data/Text button)
  - Data MD: FSK D (select with VFO B)
  - Text Decode: ON (hold Data/Text button)
- For CW:

- Mode: CW (tap Mode 1 button)
- Data MD: not applicable
- Text Decode: ON (hold Data/Text button)

3. I'm using a USB wireless keyboard, but it does not work.

Make sure it is a 2.4 GHz wireless keyboard and not a Bluetooth keyboard.

4. When I send using a keyboard or a paddle, the rig is sending the characters, but I don't see the sent characters on the SideKar screen, regardless of the Alt-E (echo characters) setting.

Make sure the KX3 firmware is at MCU version 2.19 or later.

## Summary of Keyboard Commands

Keyboard	Function
Alt-A	Select logging mode (normal, a contest or DXpedition (v2.6.0 & later))
Alt-B	Change LCD background <b>B</b> rightness
Alt-C	Enter other station's <b>C</b> all
Alt-D	Set <b>D</b> ate and Time
Alt-E	Toggle between <b>E</b> choing sent characters or not
Alt-F	<b>F</b> reeze display
Alt-I	<b>I</b> ncrement the contest serial number
Alt-K	Toggle between US and UK <b>K</b> eyboards
Alt-L	Go to <b>L</b> og functions
Alt-M	Enable/Disable data enter via the paddle
Alt-N	Display / Set the contest serial <b>N</b> umber
Alt-O	Set transmit buffer <b>O</b> ption
Alt-P	References (ex. SOTA <b>P</b> eaks)
Alt-Q	Quick <b>Q</b> SY
Alt-R	<b>R</b> eset the SideKar
Alt-S	Show the KX3 or KX2 <b>S</b> tatus (voltage, current, temp)
Alt-T	Toggle between receiving decoded text from the rig or not (v2.6.0 and later)
Alt-V	Display <b>V</b> oltage
Alt-W	Wipe the call entered for Enter Call, Grab & Go or Logging
Alt-Z	Same as F12 edit message or macro(added version 2.6.5)

F12, then F1 to F10	Edit text messages/macros 1-10
F12, then Alt- F1 to AltF10	Edit text messages/macros 11-20
F1 to F10	Send text messages/macros 1-10
Alt-F1 to Alt- F10	Send text messages/macros 11-20
F11 or Alt-H	Help
F12 or Alt-Z	Enter Edit Mode. While in Edit mode, save message or macro (Alt-Z added version 2.6.5)
Page Up / Down	Display text message/macro summary

## Summary of Pushbutton Edit Functions

	<u>Tap</u>	<u>Hold</u>
Left Button	Tab	Save / Enter
Right Button	Backspace	Escape / Quit

## Summary of Keyboard Editor Commands

Home	Go to first character
End	Go to last character
Up Arrow	Go up one row
Down Arrow	Go down one row
Left Arrow	Go left one character
Right Arrow	Go right one character
Insert	Toggle mode (insert or replace)

## Summary of Logging Commands

TAB or up/down arrows	Move from field to field
Enter	Save the QSO
Alt-Arrow Down	Find Next QSO (after first is found)
Alt-X	Delete the QSO displayed

## Firmware Revision History

Version	Changes
2.6.8	Minor bug fix when using the buttons and logging
2.6.7	Alternate keys added for small keyboards that might not have Page Up/Down or Ins keys
2.6.6	Fix to low battery warning and a lower battery threshold used
2.6.5	- added Alt-Z as an alternate to F12 for keyboards without an F12 key
2.6.4	- Minor text changes on Help screens
2.6.3	- Minor fix to allow clearing the log by pressing Enter on the keyboard
2.6.2	- Minor screen fix for the Log Find function
2.6.1	- ADIF Export improved
2.6.0	- added Alt-T to toggle receiving text from rig - connect to rig at 38400 only - added Log mode: DXPedition - pre-populate log find call with hisCall
2.5.0	- add KX2
2.3.1	- fixed changing LCD backlighting using the right button (was 4 levels, now 5)
2.3.0	- allow   at the end of a message to terminate RTTY or PSK immediately. - ENTER sends a CR-LF when not text buffering - bug fix when editing a message - add "disable text entry by paddle" feature (Alt-M)
2.2.0	- add Field Day Logging - fixed the cursor position when editing a log entry - fixed keyboard type (Alt-K). It was reversed. - fix to rigPower if it starts out zero
2.1.3	- minor fix to ADIF header



	- don't read rig data when exporting ADIF
2.1.1	- add sending message 1 & 2 via the pushbuttons

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