Introduction

Welcome to the N3AEG terminal program for the KX3. After getting my KX3 radio in 2013, I started looking into logging/control programs for the KX3 but couldn't find one that did everything that I wanted. I ended up going with Ham Radio Deluxe as my primary logging software, but found it still wasn't what I truly wanted and I also didn't want to buy a SignaLink and use DM780 for doing data modes. I used Elecraft's KX3 utility's terminal tab for all of my data mode contacts. The downside was having to key everything into HRD and it was a pain when doing a contest that required an incremental serial numbers.

At some point I decided to write my own logging program which also included a terminal window for data modes. I figured other people might find the terminal feature useful, so I took a copy and made it a standalone application for other uses.

Key Features

Like Elecraft's utility, my terminal application will allow you see the decoded text on your computer's screen as well as type in text to be sent from the KX3. However, this application will give you some other nice features:

- Unlimited text macros. These macros allow for including "tags" that will automatically be replaced with the other person's call sign and an incremental serial number if desired. Up to 20 user defined tags for substitution into your macros.
- Ability to change the font size of the windows to make it easier to see.
- Double click the call sign in the decode window to automatically populate the call sign text box.
- Increment/decrement the serial number at a click of a button
- Scan up and down the band at the click of a button.
- Simple logging feature which writes an ADIF file

One note about how this application was developed. When polling the radio, there are two options. You can have the radio automatically send updates to the PC or only do so as requested. I decided to use the "only as requested" method. I will poll the radio once a second for the current frequency and any new decoded RTTY/CW/PSK text. It's possible as you're scrolling through the band that there is a slight delay in updating the frequency. This is just a result of the method of obtaining the data from the radio. It shouldn't have any effect on its operation.

Installation

Download the ZIP file from www.N3AEG.com/downloads. Your computer must already have .Net Framework 3.5 installed. If you're running Windows 7 or later, it should already be installed. There is no installation program for this application. I developed it using the Express version of VB.net which doesn't allow the creation of setup option.

Once you download the ZIP file, create a folder somewhere on your hard disk (or a thumb drive if you want) and copy the files from the ZIP folder into the one you just created. The ZIP file contains the executable and a sample macro file.

From the folder you created, right-mouse click on the EXE file and select "Send To / Desktop (create shortcut)". This will add a shortcut to your desktop. If you don't want the shortcut, you'll have to navigate to the folder every time you want to run the program.

Starting the Program

Either double click the shortcut on your desktop or the executable file to start the terminal program.

You'll see the "splash screen". It stays on your screen for three seconds or until you press a key on the keyboard.

You'll now be asked to select the port and baud rate of the radio. This would be the same information you use with your current control program or Elecraft's KX3 utility.
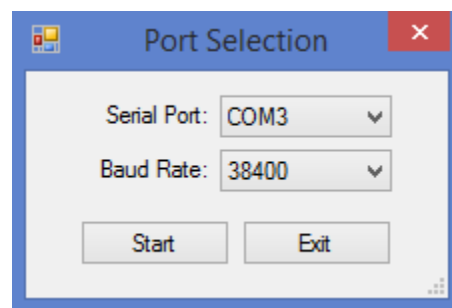

Serial Port: This should show all available serial ports on your computer. If you don't see the KX3's port, make sure the cable is plugged in. If only one serial port is found, it will automatically be selected.

Baud Rate: Depending on how you configured your KX3, you want to select the same value. 38,400 will be selected by default.

Start: Opens the connection to the radio and brings up the terminal window.

Exit: Closes the application

Once you click "Start", you'll get to the main terminal window which will look like this:
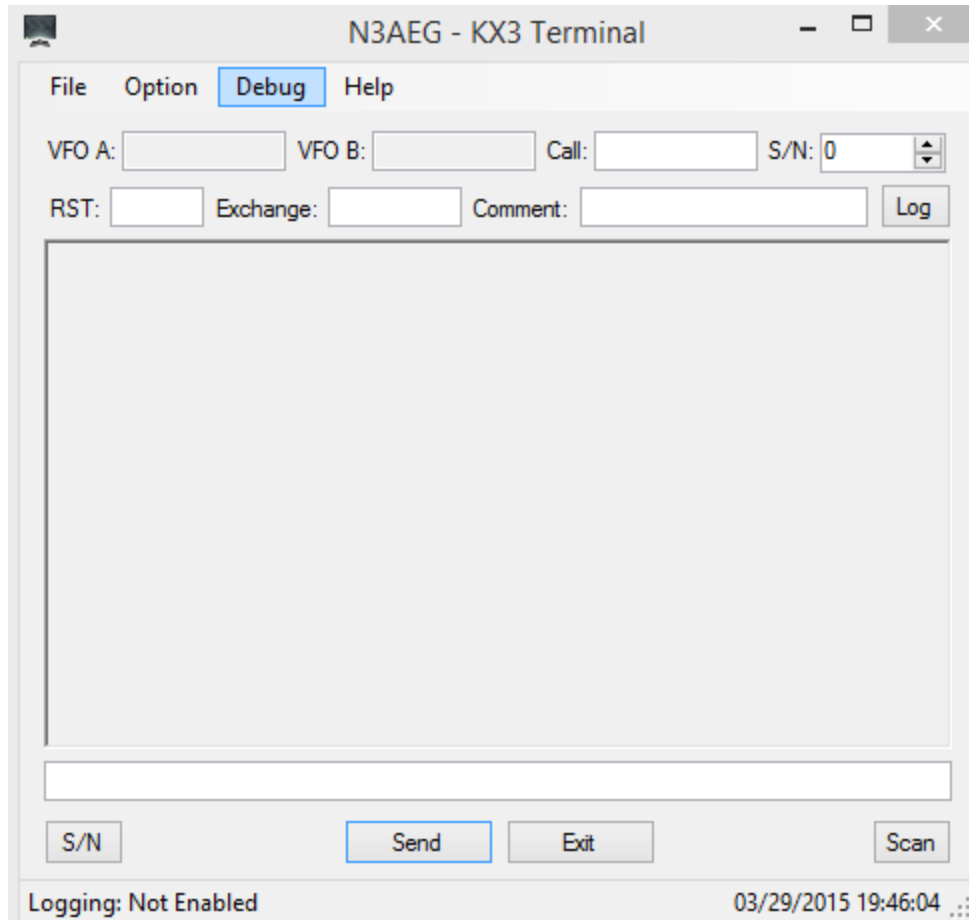
VFO A: This displays the VFO A frequency from the radio. It will automatically update as you change it on the radio.

VFO B: This displays the VFO B frequency from the radio. Like VFO A, it updates automatically. NOTE: VFO B won't be visible unless the KX3 is operating in SPLIT mode.

Call: This is the call sign for the other station. This will be used if you're using a macro that will send the call sign. You can either type it into the top of the screen, or you can double click on it in the decode window.

Serial Number: This is used for contests that require an incremental serial number be provided to the other party. When you're ready to increase it, you can click the "S/N" button on the lower left, use the arrows next to the serial number in the upper right.   You can also type in the next serial number directly into the box. This is helpful if you exit the program in the middle of a contest and need to pick up where you left off. If you have to increase it by accident, you can right-click the "S/N" button and it will go down by 1.

RST: Enter the other stations RST in this field. This field is only visible if logging is enabled.

Exchange: Enter any other pertinent information about the QSO. You can store a serial number, CQ zone, name or anything else. This field is only visible if logging is enabled.

Comment: This is a free-form comment are for anything you might any to capture for the QSO. This field is only visible if logging is enabled.

Log: Press this button to write the QSO information to the log file.   This button is only visible if logging is enabled.

Decode Window: This window shows you the decoded text from the radio. It will continue to add to the window until you decide to clear it (File -> Clear Decode Window).

Message Window: Type in the message you want to transmit and hit the "Send" button. You can also set up predefined messages (macros) to automatically populate in this window. Please see the "Macro" section for more information. If you want to clear this window, you can double-click inside it and everything will be deleted.

S/N: This will allow you to increase or decrease the serial number in the box on the top of the screen. Left-clicking on the button makes the number go up and a right-click makes it go down.

Send: This will take the text in the message box and send it to the radio. Once it's sent, the message box will automatically be cleared.

Exit: This closes the connection to the radio and then closes the application.

Scan: This is truly one of the neatest features of the program. If you're scanning up and down the band trying to find a signal, this will save you the trouble. Just click "Scan" and it will start going up or down the band in 100Hz increments.   Clicking the button with the mouse's left button will scan up and the right button scans down. To stop the scan just click on the button again (doesn't matter which button you use). By default, it will change the frequency every 1 second. You can change the speed by going to the menu under "Options – Scan Speed" and selecting a different rate. The "Scan" button will flash when it's scanning the band. Note: I haven't programmed any limits to the scan. If you want away, it will scan outside of the band.

Menu Items:

File

Clear Decode Window – Erases everything in the decode window. Pressing the F1 key will also clear the contents of the decode window.

Create ADIF – This will bring up a dialog for you to select a file to write your QSO information to.   The file created will be in the ADIF 2.2 format which can be easily imported into just about another logging program.   If you select a file that already exists, it will ask if you want to append to the file. This allows you to come and go from

the terminal application without needing to create multiple files. See the appendix for the mapping of fields in the ADIF file.

Font – Change the font used for the decode window.   If you only want to change the font size, you can use the F2 (Increase) or F3 (Decease) the size.

Macros – Opens a file that contains information for macros. More will be explained in the Macro section of this manual

Exit – Closes the application.

Tags – Allows you to create up to 20 user defined tags that can be substituted into macros.

Option

CW – When a message is sent to the KX3, it automatically appends a "^D" to the string. This will force the KX3 to stop transmitting at the end of a message. If you check this, it will not send the "^D". Since I don't do CW, it may be needed.

Scan Rate – This will allow you to change the rate in which the band is scanned. The default is 1 second.   For contests, I tend to have it change slower since there will be more signals. Normally I'll use either ¼ or ½ of a second. When I hear a signal, I'll stop the scan and manually tune to find it.

Change Frequency – Allow you to change the radio to a desired frequency. You can also use the F4 function key to change frequency.

Debug

Use Test File – This is only used for testing the application when I work on it. I don't always have the radio handy, so this will read the contents of the test file and slowly write it to the decode window.

Create Debug File – This creates a file in the directory where the application was placed of all commands to the radio and all responses from the radio. This is useful to see how the radio responds and debugging.
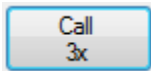
Macros

When you open a macro file, another window will open which will contains buttons. When you click the button, an associated message will be populated on the terminal window. This makes it easier to send "canned" messages to the radio. You can use your favorite text editor to create your own files. I would suggest using the file extension of ".txt".

A macro file is simply a text file than contains information that will be used to create the buttons. Here's is an example of a record from the macro file:

Call^3x|N3AEG N3AEG N3AEG

The information to the left of the "|" (pipe) character will be used to label the button. The "^" (carat) in the field will put the "3x" below the word "Call". Information to the right of the "|" is what will be sent to the terminal window when you click the button.

In the above example, the button will look like:

Notice the "3x" is below "Call". Had we not used the "^", it would look like this:
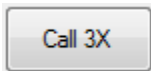
One of the neat features of this application is the ability to use tags in a macro. Let's say you're calling CQ and AA1AAA responds. If you type in the call sign (or double-click it in the decode window), you can create a macro like:

Send^RST|{call} 599 – 599 {call}

This will create a button like:

When you click it, the message will be displayed as:

AA1AAA 599 – 599 AA1AAA

If you're participating in a contest that requires an incremental serial number, you can use the {sn} tag to insert it into the message.
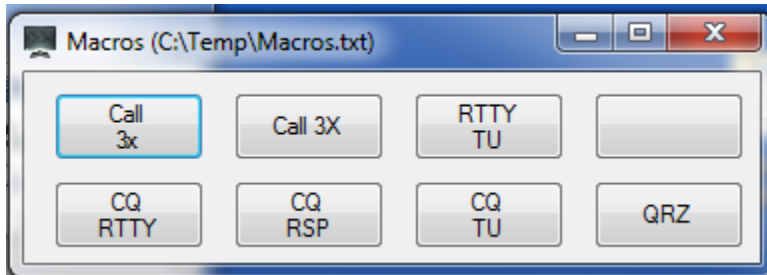
If you open the sample macro file I provided, you'll see this:

Call^3x|N3AEG N3AEG N3AEG
Call 3X|N3AEG N3AEG N3AEG

RTTY^TU|TU YOU ARE 5NN IN MARYLAND DE N3AEG 73
|
CQ^RTTY|CQ CQ N3AEG N3AEG CQ CQ
CQ^RSP|{call} 599 - #{sn} - #{sn} {call}
CQ^TU|{call} TU DE NEAEG QRZ
QRZ|QRZ

This will create the following buttons:

You'll notice the blank button on the upper left. This was accomplished by having a row in the file with just the "|". If you simply had a blank row, it would have been ignored.

The way the macro screen is created is each row will have 4 buttons, and the number of rows will be dependent on how many records are in the text file. In my example above, if I'm doing a search and pounce, I use the top row of buttons. If I'm calling CQ, I use the bottom. You can do it however you like. You can create multiple files of macros, but you can only use one at a time.

To load a macro file, select "File -> Macros" from the terminal menu. Navigate to the location of the macro file and open it. The window will automatically be created. If you want to switch files, you'll need to close the macro window first (you don't need to close out of the terminal). As an FYI, when you go to open a macro file, it should always default to the location where the EXE is located.

If you have the macro window open, but don't remember what the actual message was, you can simply hover over the button to see the message.

There are several predefined tags available for your macros. Please note that they are case-sensitive. In addition to these, you can specify up to 20 user defined tags {tag1} to {tag20}.
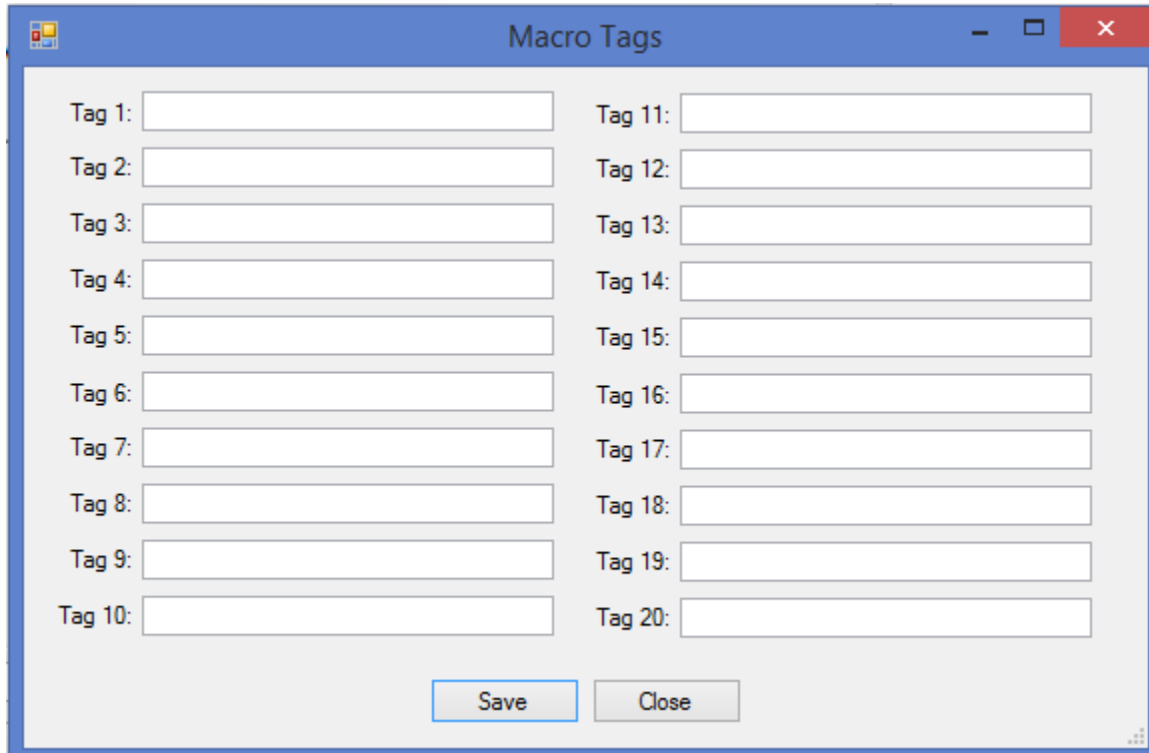
{call} – This will insert the user's call sign from the field on the screen.

{sn} – Insert the serial number based on the value on the screen. It will insert leading zeros so it will be at least 3 digits

{time} – Inserts the current UTC time in the format hh:mm.   This is required for some contests.

TAGS

You can define up to 20 tags for use in your macros by going to File -> Tags

Enter whatever information you want assigned to the tag. Once done, click "Save" and then "Close".

One possible use for these tags would be if you operate portable. You can set up a macro that has:

CQ CQ N3AEG{tag1} N3AEG{tag1} CQ CQ

If you populate Tag 1 with "/4", it will send:

CQ CQ N3AEG/4 N3AEG/4 CQ CQ

If the Tag 1 field is blank, you'll see:

CQ CQ N3AEG N3AEG CQ CQ

This way you don't need to update all of your macros that have your call sign for portable operation.