USING N1MM Logger+ and RCForb ON THE W7DXX
INTERNET REMOTE BASE STATION

WHEN SUCESSFULLY COMPLETED, YOU WILL BE ABLE TO:

- use N1MM Logger+ to control the frequency and mode of the IRB

- populate N1MM Logger+ Bandmaps by using various "clusters" as usual

- point and click on stations shown either in the N1MM Logger+ Telnet window, the Multiplier window or the Bandmaps and have the IRB go to that frequency and mode.

- use **MODIFIED** N1MM Logger+ Function keys for CW keying including ESM

- use the usual contest logging, duping and scoring features of N1MM Logger+

NOTE: NO HARDWARE other than your computer will be required!

SKILLS AND EXPERIENCE YOU SHOULD HAVE:

- some familiarity with the Elecraft K3

- be **VERY** familiar and experienced with configuring and using N1MM Logger+

- be **VERY** familiar and experienced with configuring and using the RCForb Client software

- know how to create a "text" file and save/copy it into a folder

- have a basic understanding of serial (COM) ports

- have some understanding of "virtual" cables and their use

- be willing to learn something new and to learn from mistakes

SUMMARY of HOW THIS WORKS

N1MM Logger+ and the RCForb Client software are connected through a "virtual null modem cable" which is built into the latest RCForb Client software. N1MM Logger+ is then configured to look for an Elecraft K3 on a COM port on one end of the virtual cable – the other end of the virtual cable is automatically connected to the IRB K3 by the RCForb Client Software.

NOTE: The W7DXX Internet Remote Base Station uses an Elecraft K3 Transceiver and certain portions of this document apply to the use of "KY" commands that are specific to the K3 and may not function with other transceivers.

STEP BY STEP INSTRUCTIONS

There are four (4) basic steps to making the integration work. Each step can be easily accomplished with the aide of imbedded screen shots.

In addition to these steps, I've included a few tips that you might want to consider in Part E and an Appendix to facilitate sending CW.

Part A: Configuring the RCForb Client Software

Part B: Configuring the N1MM Logger+ Software

Part C: Testing the integration

Part D: Making CW work with the N1MM Logger+ Function Keys

Part E: Some tips and resources

Appendix A – Sample "KY" CW Keying File

NOTE:

This document is **NOT a TUTORIAL** on how to USE either N1MM or RCForb software. If you are new to N1MM Logger, you might want to check out this link to learn more and get started:

https://n1mmwp.hamdocs.com/n1mm-logger-documentation/manual-at-a-glance/

Part A: Configuring the RCForb Client Software

Download and install the latest Version of RCForb software.

See: http://www.remotehams.com/ The latest 0.9 versions of RCForb software include a built in virtual port that is necessary in this integration process.

Part 1: RCForb Version 0.9 Configuring the Client

**1.** Start the RCForb Version 0.9 Remote Client.
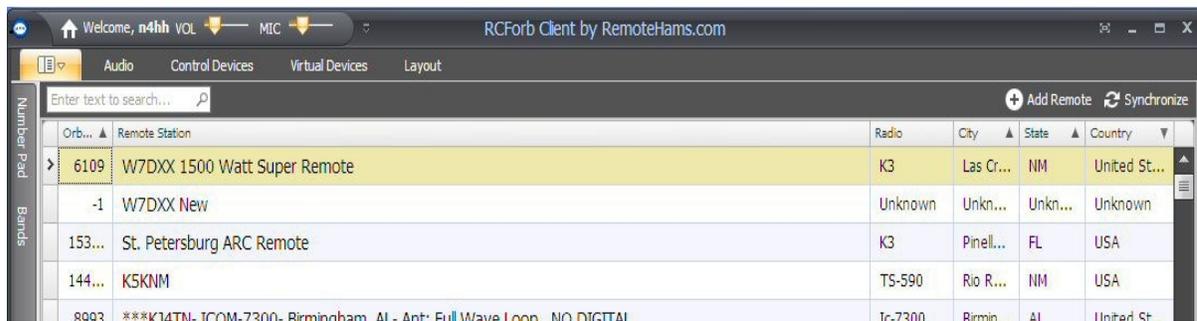
2. Select Virtual Devices

Use your cursor to select the Virtual Devices Tab.

A new window will open revealing a number of "switches" one of which will be for a "Virtual K3". Slide the switch to "ON" and select a COM port from the list available. This will be the Virtual Com Port that you will use to allow N1MM+ to access and control the remote K3. In this illustration, COM 2 is selected.
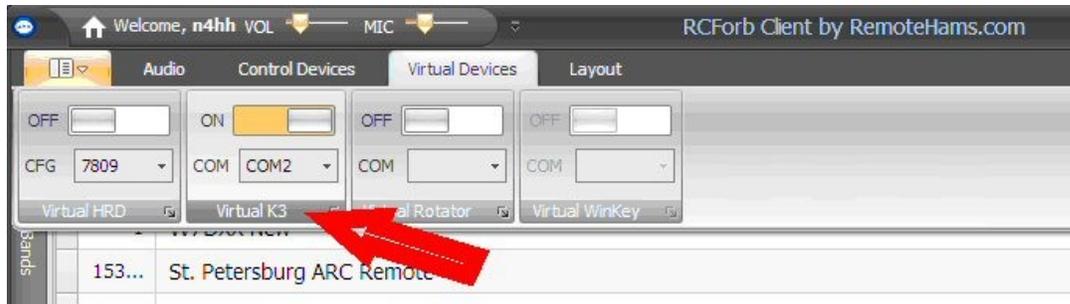
This completes setting up RCForb Version 0.9 for use with N1MM+.

Part B: Configuring N1MM Logger+ Software

1. Make sure you are using the latest version of N1MM Logger+ by starting the program and clicking on the "Tools" menu and then click on the "Check for New Program Version and Install" selection as indicated.
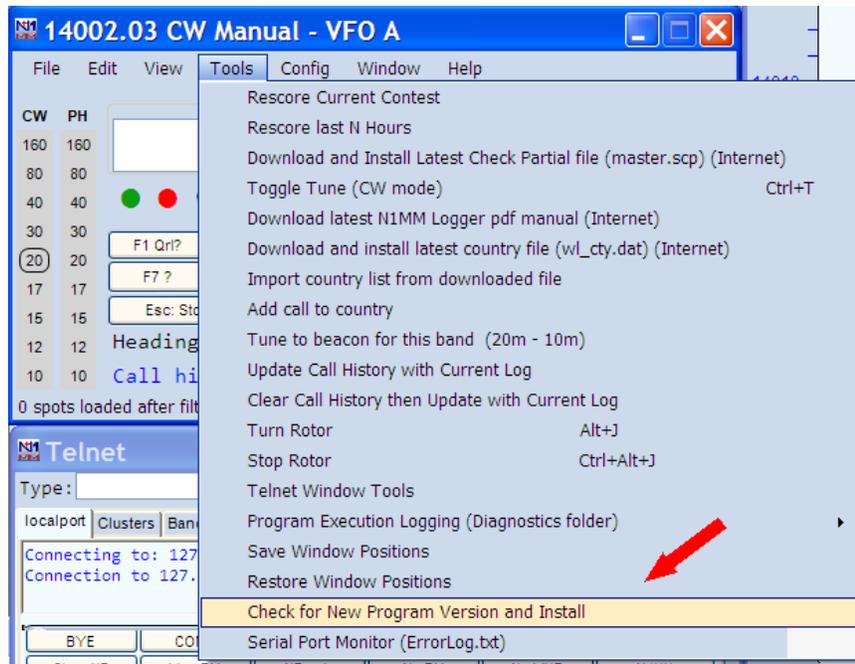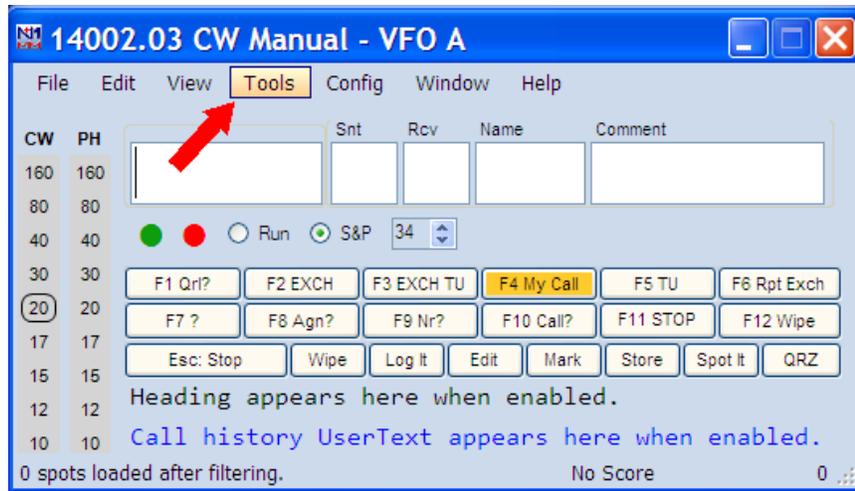

If a newer version is found, please download and install it.

NOTE: If you are using Windows 10, the N1MM+ program should automatically check for a newer N1MM+ version when you start it and, if there is one, ask you if you want to install it. If it does not ask, please check as shown above to make sure you are using the latest version.

2. Open N1MM Logger+ and select "Config" and then select "Configure Ports, Mode Control, Audio, Other . . ." as indicated on the following screen shots.
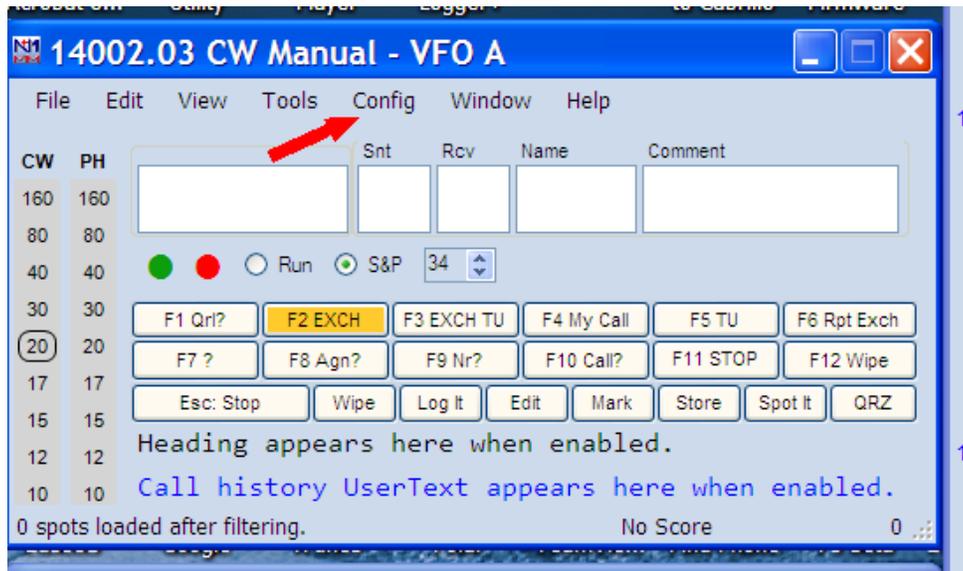
Select "Configure Ports, Mode Control, Audio, Other . . . as shown.
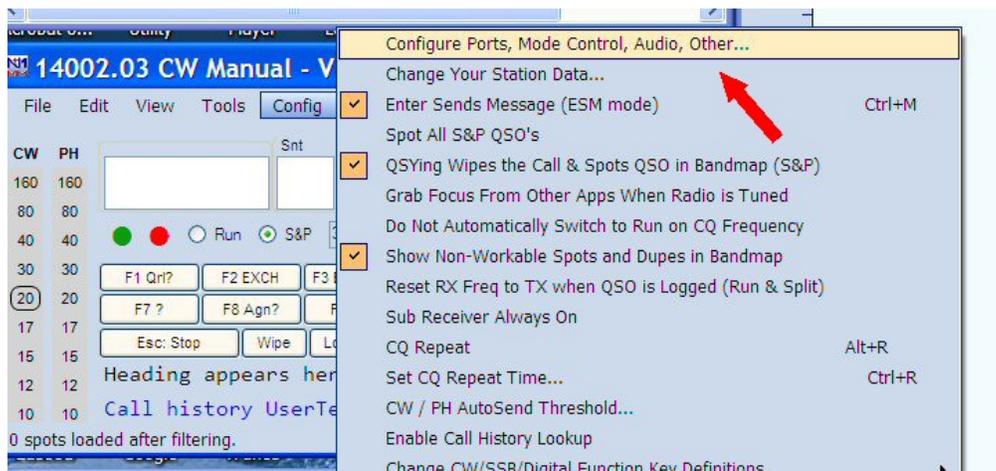
3. As indicated on the two (2) screen shots below, click the "Hardware" tab and configure N1MM Logger+ to look for an Elecraft K3 on the COM port that you selected (created) and configured in the RCForb Client. In this example, I selected COM2.

Click the "Set" box adjacent to the Com port that you selected and set the parameters to: 38,400; N, 8, 1 and DTR=Always Off and RTS=Always Off.

Don't put check marks in either the Digi or the CW/Other boxes.

At this point, leave all the other TABs alone – they will be at their default settings and will work for our purpose.

Set all the other COM ports in the Configurer to "None" so you only have the one port active – the one for the K3. Click "OK" – this will save your selections and close the window.
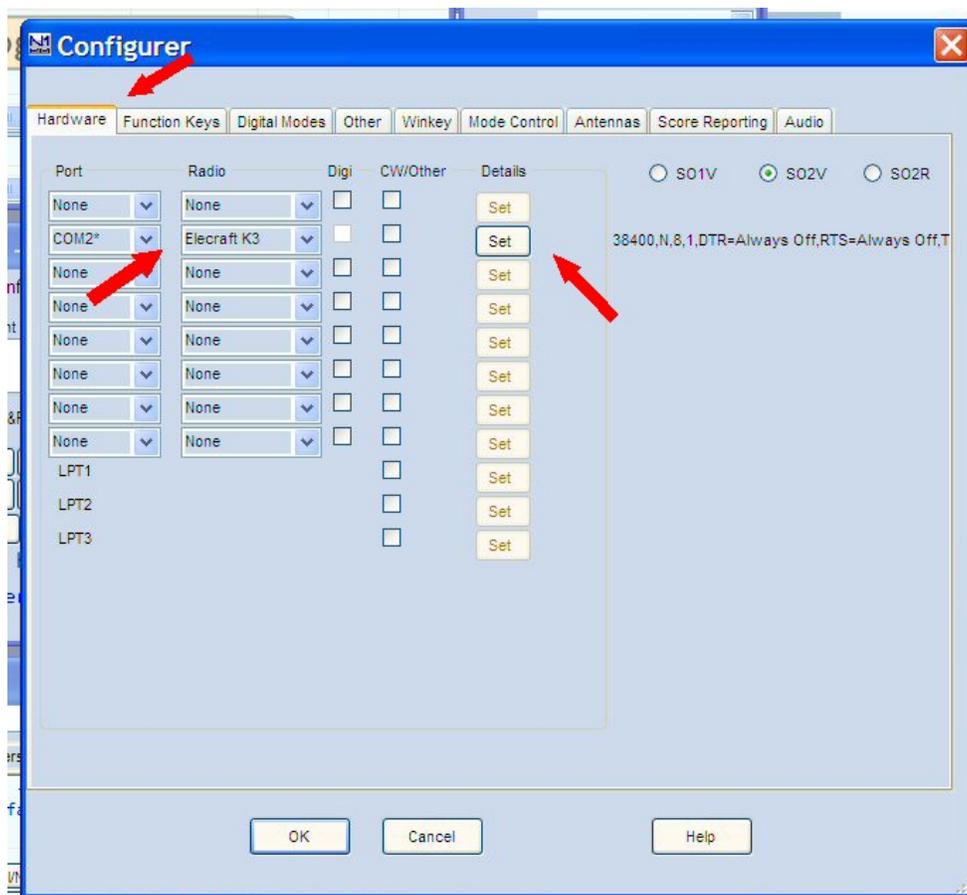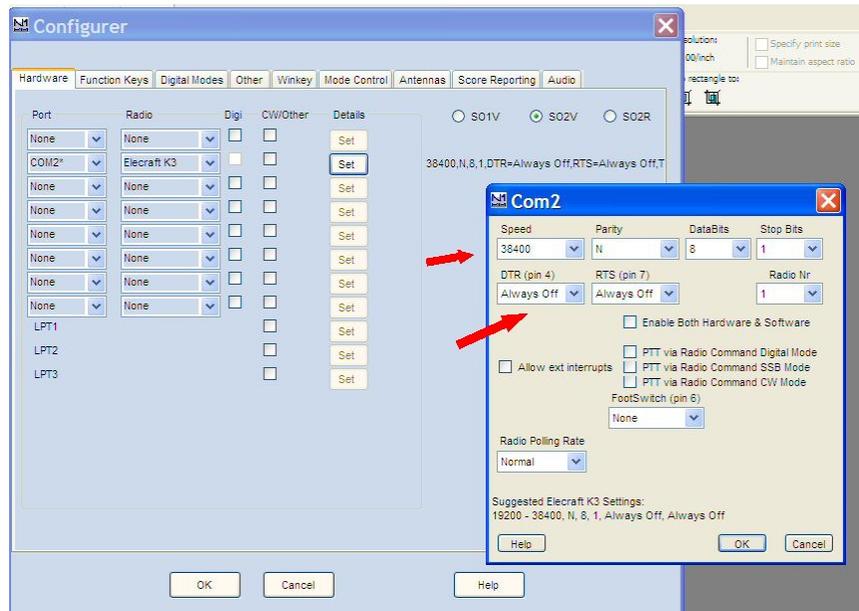
NOTE: When you have finished Parts A and B, you have:

- set the RCForb client to create and make a "virtual" port available

- set N1MM Logger+ to look for a K3 on the virtual COM port that you created and selected in the RCForb Client software

Part C: TESTING: DOES IT WORK?

- Log on to the IRB using the RCForb Client in the usual way

- Start N1MM Logger+

You "should" now be able to populate the Bandmap, etc in N1MM as you usually do (I use VE7CC as a "front end"), click a station of interest in any of the usual N1MM Logger+ windows and the IRB should change to that frequency and mode.

There are occasions when the remote will go to the correct frequency but the mode will not change. If that happens, just click the spot again. This "failure" has to do with the timing and sequence of instructions sent to the K3 and is well documented.

NOTE: Failure to change to the appropriate Mode **may** also be a function of how you have N1MM Logger+ configured for "Mode Control" and the contest that you have selected.

If at this point, N1MM does not appear to have control of the IRB, "right click" on one of the N1MM Bandmaps – slide your cursor down the menu that opens and click "Reset Radios" (near the bottom of the menu that opens). N1MM should now display the IRB Frequency as indicated on the Client.

If the IRB's K3 frequency (as indicated on the RCForb Client) does not appear in N1MM Logger+, **check that you have the same Virtual COM port** settings selected in both the Client and in the N1MM Logger+ Configure menu. You've likely got something set incorrectly!

NOTE 1: If you want N1MM Logger+ to immediately connect to the IRB without having to resort to "Reset Radios" you must **start** the RCForb Client **FIRST** and **then start** N1MM Logger+. The reason for this is that the virtual serial port that you selected in the RCForb Client is not created until the Client is running. Therefore, *if the client is not running when N1MM Logger+ starts, N1MM Logger+ will report that the specified COM port does not exist* and you will have to "Reset Radios" to connect.

Frankly, this can be handy if you don't want N1MM Logger+ to immediately connect to the remote but would like to have it running so you can look at available multipliers, bandmaps, etc. without the risk of "hijacking" the remote. I do this frequently.

NOTE 2: You **CAN'T use the DEFAULT N1MM Logger+ Function keys for CW keying** as this requires additional hardware and enabling a function in the RCForb Server software. In order to accomplish N1MM Logger+ Function Key CW keying of the K3 based remote, see the following section on CW OPERATIONS.

Part D: CW OPERATIONS

The current version of the RCForb software **DOES NOT** provide for using the **Default** N1MM Logger+ programmable Function Keys for keying the IRB **without some additional hardware** such as the "ORB" Control Device as seen at the RemoteHams web site (http://www.remotehams.com/products.html) **AND/OR** having certain functions enabled by the remote owner in the RCForb Server software.

However, by using CAT "KY" macros in the N1MM Logger+ function key definitions, function keys in N1MM Logger+ **CAN** be made to key the IRB for CW in "Run" and "Search and Pounce" as well as allowing ESM CW capability.

Here is an example of such a definition for one of the N1MM Logger+ function key macros:

F4 N4HH, {cata1asc KY N4HH;}

What this does is label F4 on the N1MM Logger+ Function Keys as "N4HH" -- this label reminds me what F4 does – it sends my call. The rest of the syntax basically sends instructions to the K3 that: this is a CAT function, sends my call and then returns to receiving.

In order to make this definition "generic," it would read:

F4 My Call, {cata1asc KY * ;}

As you can see, "N4HH" is replaced with the words "My Call" as the label on the F4 Function Key and my actual call would be replaced as indicated by the "*" following the KY command. In N1MM Macros, the "*" is used to designate the call listed in the Station Data portion of the Configuration Menu. I usually put my actual call on the Function Key as well as in the Macro itself just because I like to! It's really a matter of personal preference – as long as you keep the syntax correct and it works the way you want it to!

If you want to play around with this syntax, see the Elecraft Programmers Reference for more info.

https://elecraft.com/pages/programmers-reference-manuals

And, see the N1MM document section on Macros found at:

https://n1mmwp.hamdocs.com/setup/function-keys/?hilite=%27macros%27

CONSTRUCTING AND SAVING THE "KY" MACRO FILE

To get you started, I've included a "generic" CW Macro file that you can modify as needed. APPENDIX A shows the contents of my "generic" contest macro file. It uses Elecraft K3 CAT "KY" commands in the Function Key definitions for use on CW in N1MM Logger+ . I've called the file: "CW K3 CAT KY Generic Macro Files.mc."

To use this file, simply copy the text, create a new "text" file (using the Windows Notepad or WordPad utility); give it a name that will remind you of what it does, and save it to a known location so you can copy it to the appropriate folder later. I'd suggest saving it to your Desktop so you don't have to go looking for it.

This file MUST be placed in the N1MM Logger+ FunctionKeyMessages folder with the ".mc" suffix instead of the ".txt" suffix. If it is saved with the ".txt" suffix, simply rename it using the ".mc" suffix. For example:

"CW K3 CAT KY Generic Macro Files.txt" is renamed to:

"CW K3 CAT KY Generic Macro Files.mc"

This file MUST be put it in the N1MM Logger+ FunctionKeyMessages Folder in order to be available for selection.

The "FunctionKeyMessages Folder" is a little hard to find as it is NOT located in the N1MM Logger+ program folder but lives in the "My Documents" folder. It's found as follows:

Open "My Documents" => N1MM Logger+ => find "FunctionKeyMessages" folder and paste the new macro file into that folder. Once pasted, open that folder to make sure it is there and make sure that the ".mc" has not been mysteriously changed to ".txt" or something else by Win!

In order for this file to work, you MUST select it using the Associated Files Tab (CW Function Key Filename) when you set up a contest in N1MM!
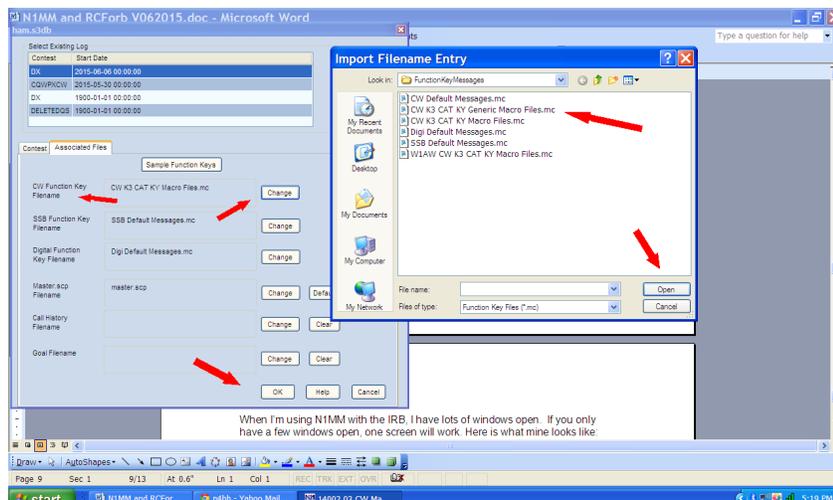
Part E: TIPS AND RESOURCES

When I'm using N1MM with the IRB, I have lots of windows open. If you only have a few windows open, one screen will work. Here is what mine looks like:

Since N1MM Logger+ "grabs" focus any time the remote frequency is changed, depending on which windows you have open in both the RCForb Client and N1MM Logger+, you have to keep tabbing back and forth between the two programs when they both run on the same single screen.

To get around this, I use two (2) monitors so I just have to move the cursor from one screen to the other. As you can see, I put N1MM Logger+ on one screen and the IRB on the other. You **don't have to do this but it does make actual operation much, much easier.**

EXTENDING YOUR DESKTOP

If you don't know how to extend your desktop over two monitors, check the following link for Win 7 and other new versions including Win 10:

https://www.wikihow.com/Connect-Two-Monitors-in-Windows-7

If you are going the "extended desktop - two monitor" route, play around with it for a while to get the feel of the extended desktop. I'm right-handed and this arrangement works for me – you might want to reverse it according to your needs.

N1MM LOGGER PLUS RESOURCES:

Everything that you need and more is located on the N1MM Logger web site.

https://n1mmwp.hamdocs.com/

Most of the features of the original N1MM Contest Logger program (Classic) have been carried over to the new N1MM Logger Plus program. If you are a beginning user of N1MM, you should spend some time watching the instructional videos including those for the "Classic" version. The N1MM+ instructional videos are located here:

https://n1mmwp.hamdocs.com/support/how-to-videos/

HIJACKING THE REMOTE:

Once you've been successful in integrating N1MM Logger+ into the RCForb Client, you can inadvertently "hijack" the remote just by clicking on a spot showing in N1MM or by fiddling with Function Keys, etc. In order to eliminate this possibility you can simply go to the N1MM Configuration Menu and set the COM port that you selected back to "None" and then click "OK." This will disengage N1MM from the remote. You can always re-engage by selecting the COM port once again.

I've been very successful including either my local K3 or my K3Mini in the N1MM mix as a "Control Head" for the IRB. If you do this you MUST be very careful – any change made on your "Control Head" including the use of a CW Paddle when using the ORB, will instantly "hijack" control of the IRB.

This tends to make the current "Control Op" quite cranky – try not to do that!

SOME DISCLAIMERS, CAVEATS, AND A FEW WORDS OF CAUTION

This method of integration permits the use of the basic functions of the N1MM Logger+ Contest Logging Software in conjunction with the RCForb software as written by Brandon Hansen, KG6YPI. I am NOT WORKING with either Tom (N1MM) and his amazing volunteer team ,or Brandon (KG6YPI) on programming, etc. This integration is NOT supported by either Brandon at Remote Hams or the N1MM Logger+ software group. Therefore, please DO NOT ask for their help and only **attempt this at your own risk!**

Brandon has built a couple of "hooks" into the RCForb software that allow for the integration of the two programs and I have simply explored the use of these "hooks."

CONTACT ME

If you give this a try, please let me know of your successes as well as your failures and changes that you feel would be appropriate to this document.

Have fun. '73 es gud dxing – Don N4HH (n4hh@yahoo.com)

APPENDIX A

"KY" Function Key Macros for use with Elecraft K3

Don Nesbitt, N4HH
n4hh@yahoo.com

#RUN ----------, Run Messages begin here -----------------------------
F1 CQ, {CATA1ASC KY CQ CQ de * * ;}
F2 EXCH, {CATA1ASC KY {SENTRSTCUT} {EXCH};}
F3 Tu, {CATA1ASC KY ! tu * qrz;}
F4 My Call, {CATA1ASC KY * ;}
F5 His Call, {CATA1ASC KY ! ;}
F6 Dupe, {CATA1ASC KY ! qso B4;}
F7 QRZ?, {CATA1ASC KY QRZ de *;}
F8 Agn?, {CATA1ASC KY agn? ;}
F9 Nr?, {CATA1ASC KY nr? ;}
F10 Call?, {CATA1ASC KY cl? ;}
F11 STOP CW, {CATA1ASC rx;}
F12 Wipe, {WIPE}
#S&P ----------, Search and Pounce Messages begin here -----------------------
F1 Qrl?, {CATA1ASC KY QRL de * ;}
F2 EXCH, {CATA1ASC KY {SENTRSTCUT} {EXCH};}
F3 EXCH TU, {cata1asc KY {SENTRSTCUT} {EXCH} TU;}
F4 My Call, {cata1asc KY * ;}
F5 TU, {cata1asc KY TU e e;}
F6 Rpt Exch 2x, {CATA1ASC KY {SENTRSTCUT} {EXCH} {SENTRSTCUT} {EXCH};}
F7 ?, {cata1asc KY ?;}
F8 Agn?, {CATA1ASC KY agn? ;}
F9 Nr?, {CATA1ASC KY nr? ;}
F10 Call?, {CATA1ASC KY cl? ;}
F11 STOP CW, {CATA1ASC rx;}
F12 Wipe, {WIPE}
#REM, Function Key KY definitions coded by Don Nesbitt n4hh@yahoo.com
#REM, The {EXCH} macro uses the contents of the Sent Exchange box in the contest setup
#REM, F5 uses "!" macro for his call sign
#REM, In F2 & F7 {SENTRSTCUT} macro defaults to 5NN or allows manual entry of signal report
#REM, S&P F1 calls QRL? before placing the program in RUN mode for calling CQ
#REM, F11 is "supposed" to stop CW sending in it's tracks but it doesn't