

# Initial Testing of the SO2R Mini and Configuring the Mini and N1MM Logger + for Normal Operation

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This document will:

- Guide you through obtaining and installing the software required for SO2R Mini operation,
- Describe how to configure that software,
- Walk you through a one-time stand-alone test of the Mini without N1MM Logger + (N1MM), and
- Show you how to configure N1MM to control the Mini.

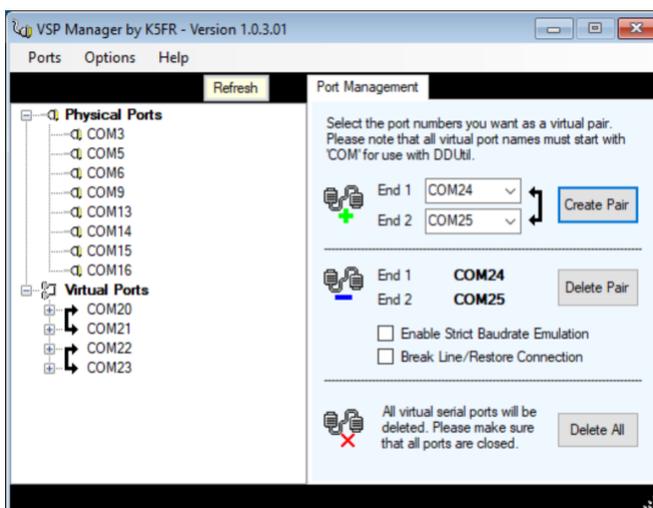
## Required Software

In addition to N1MM, the following two programs need to be downloaded and installed:

1. A virtual serial port manager. The SO2R Mini Team recommends VSPManager, which is free to amateurs for personal use. This program can be obtained [here](#). While many other such programs are available, these instructions assume the use of VSPManager and screen shots from VSPManager are shown. After using VSPM to create the necessary ports, it may be closed and is not required for the Mini to operate.
2. YCCC SO2R Mini Interface (also known as “The Connector”). This program can be downloaded [here](#). Connector must be running for the Mini to operate.

## VSPManager (VSPM)

After installing VSPM, run it to create the virtual serial port pairs that are required to allow Connector to communicate with N1MM. Two communication links are needed, the first to carry the Open Two Radio Switching Protocol (OTRSP) commands to the Mini, and the second for the two-way link between the WinKeyer in the Mini and N1MM.



The VSPM display shows the physical ports that exist on your computer, and lists the virtual

pairs that have been created.

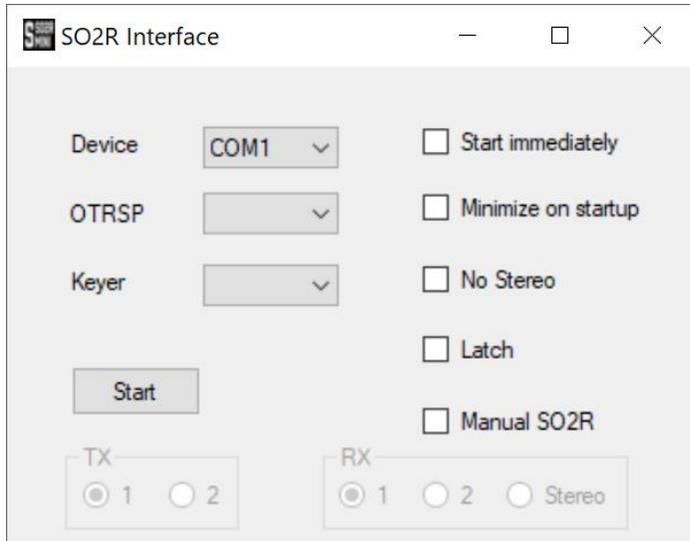
Make a note of the pairs for use in later steps.

**NOTE:** The number after “COM” in the created pairs is not critical. Pairs in “the 20s” were created simply to be easily rememberable.

**NOTE:** After creating your serial port pairs, VSPM is not required to be running for operation of the Mini. The created ports are permanent, until/unless you decide to change them later using VSPM.

### The Controller

Launch the Controller. The initial display will look like this:



Enter the appropriate COM numbers for:

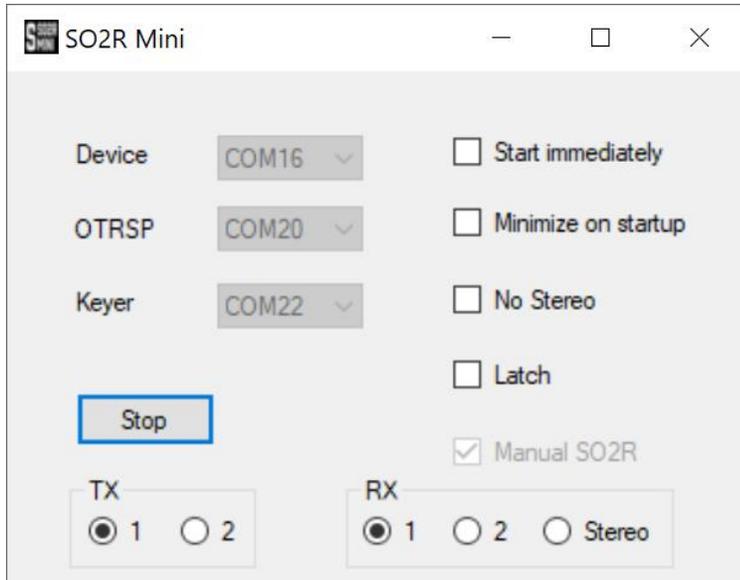
- Device (the port that appears in Device Manager when you plug the Mini into your computer)
- OTRSP and Keyer (from the VSPM session).

The Controller is now configured for communications with your computer. At this point, you may decide to first verify that it is working correctly with the SO2R Mini Connector as a stand-alone controller.

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## **Initial Testing (Optional but easy and recommended)**

Select “Manual SO2R” and then click Start. The display will appear as:



Notice that the TX and RX radio buttons are now active. Clicking on an unselected button should result in relay operation (“clicks”) of the Mini, indicating that the Mini is healthy. Connecting the audio cables and headphones should verify proper audio switching. If desired, the MIC, PTT and paddle-sent CW switching functions could also be tested.

### Final Connector Settings

Once satisfied with the initial testing, the Connector must be configured for operation with N1MM. Stop the Mini, deselect Manual SO2R, and select Start Immediately and Minimize on Startup. Then click Start. For most SO2R installations, no further configuration is required in the Connector.

You’ll notice a few check boxes on the right side of the connector app. Each box enables a given feature of the software. “Start immediately” automatically presses the “Start” button when the app is launched, connecting the SO2R Mini. This is good to enable once your Mini is setup and working. “Minimize on startup” immediately minimizes the app when it is launched. This is a helpful feature for those who run the app when they start their logging software, but don’t have a reason to edit any settings in the tool.

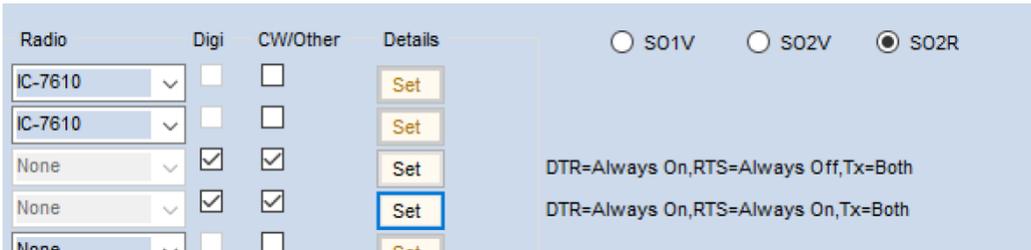
The “No Stereo” box disables the box from switching the stereo receive state, where one radio is in each ear. This is helpful for people who are hard of hearing, or deaf in one ear, and never want to get into that state.

Finally, the “Latch” option is an advanced mode for receive audio switching. When the box is checked, the SO2R Box automatically switches the receive focus from whatever the box is set to, to whatever radio is not transmitting when either radio transmits, and then reverts at the end of the transmission. This is helpful for 2BSIQ, and other advanced SO2R techniques.

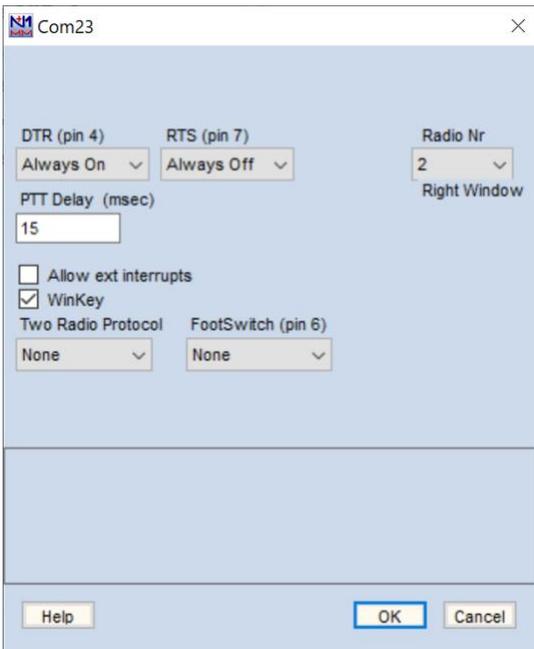
**Since the Connector must run with N1MM, be sure to launch it alongside N1MM.**

### Configuring N1MM

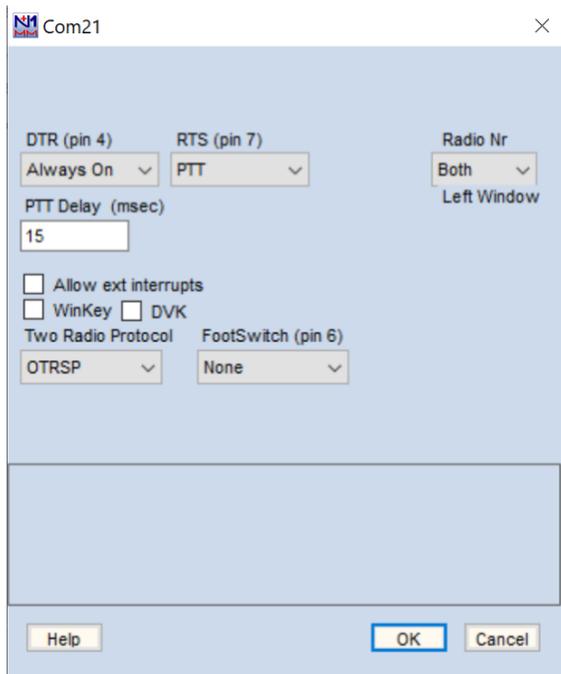
1. Open the N1MM Config and choose “Configure Ports, Telnet Address, Other.” Select the “Hardware” tab.
2. Make sure the “SO2R” radio button is selected in the upper right-hand corner.



3. Find and turn off the ports that are currently in use to:
  - Generate CW
  - Generate PTT (if any)
  - Control an existing SO2R controller (if any)
4. In the Port drop down of an unconfigured port, find and select the COM port that is in the pair that you set up for the Mini's Keyer (in my case, COM 23). Click on the "CW/Other" box. Then click on "Set" for that COM port and put a check mark for "WinKey." Make sure the "Radio Nr" is "BOTH," and that the "Two Radio Protocol" is "None." DTR, RTS, and FootSwitch are all irrelevant.



5. In the Port drop down of an unconfigured port, find and select the COM port that is in the pair that you have set up for the SO2R OTRSP Control (in my case, COM 21). Then click on "Set." The "Two Radio Protocol" should be changed to "OTSRP," the "Radio Nr" should be "BOTH," and RTS should be set to PTT. None of the other values are relevant.



6. Click on Okay to exit the Configurer. This completes the setup. The SO2R Mini is now configured to respond to the normal N1MM SO2R commands and WinKey commands. You can test them by following these steps:
  - Open the 2<sup>nd</sup> Entry Window (use backslash “\”).
  - Press the Pause key. N1MM Rx and Tx focus should change from one Entry Window to the other.
  - Press the ~ key. The audio in the headphones should change from mono (Rx focus radio in both ears) to stereo (Radio 1 audio left ear, Radio 2 audio right ear).
  - Now select “Latch” on the SO2R Mini Connector. Send a message on Radio 1, and the audio in both headphones should be that of Radio 2.
  - To test WinKey functionality, put your desired radio into CW mode. Make sure that the SO2R Mini is connected to the radio’s CW port, and is configured to use a “straight key” or non-paddle (external keyer) input. Pressing F1 in N1MM+ should generate CW on whatever radio has transmit focus (Indicated by the red dot in N1MM+ at the entry window), pressing the pause key after the message is done sending following by F1 again should generate CW on the other radio.

**Questions? Shoot me an email! Marty, NN1C, [nn1c@nn1c.org](mailto:nn1c@nn1c.org)**

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