# CW Operation
## by W2HUV

**IC-7300 CW Input Signals**

The IC-7300 may receive CW input signals from a key, paddle or USB cable DTR line. This is simple locally. A key or paddle may be plugged into the CW jack and local PC software may manipulate the USB cable DTR line to send CW.

Operation of the IC-7300 as a remote station is nearly as simply thanks to the ingenuity of the RCForb Server/Client designers. It does not hurt that the IC-7300 designers made it possible for the Server to exchange all information needed via a single USB cable. That includes TX / RX audio!

Going forward, "Client" refers to "RCForb Client v0.9 Public Alpha". The primary reason that the Alpha version was selected over RCForb Client v0.8 is the superb performance of the sidetone monitor. An initial delay in output makes it impossible to send paddle CW with v0.8.

You may find it helpful to review the **"Getting Started"** and **"Using N1MM Logger+"** topics as you continue reading.
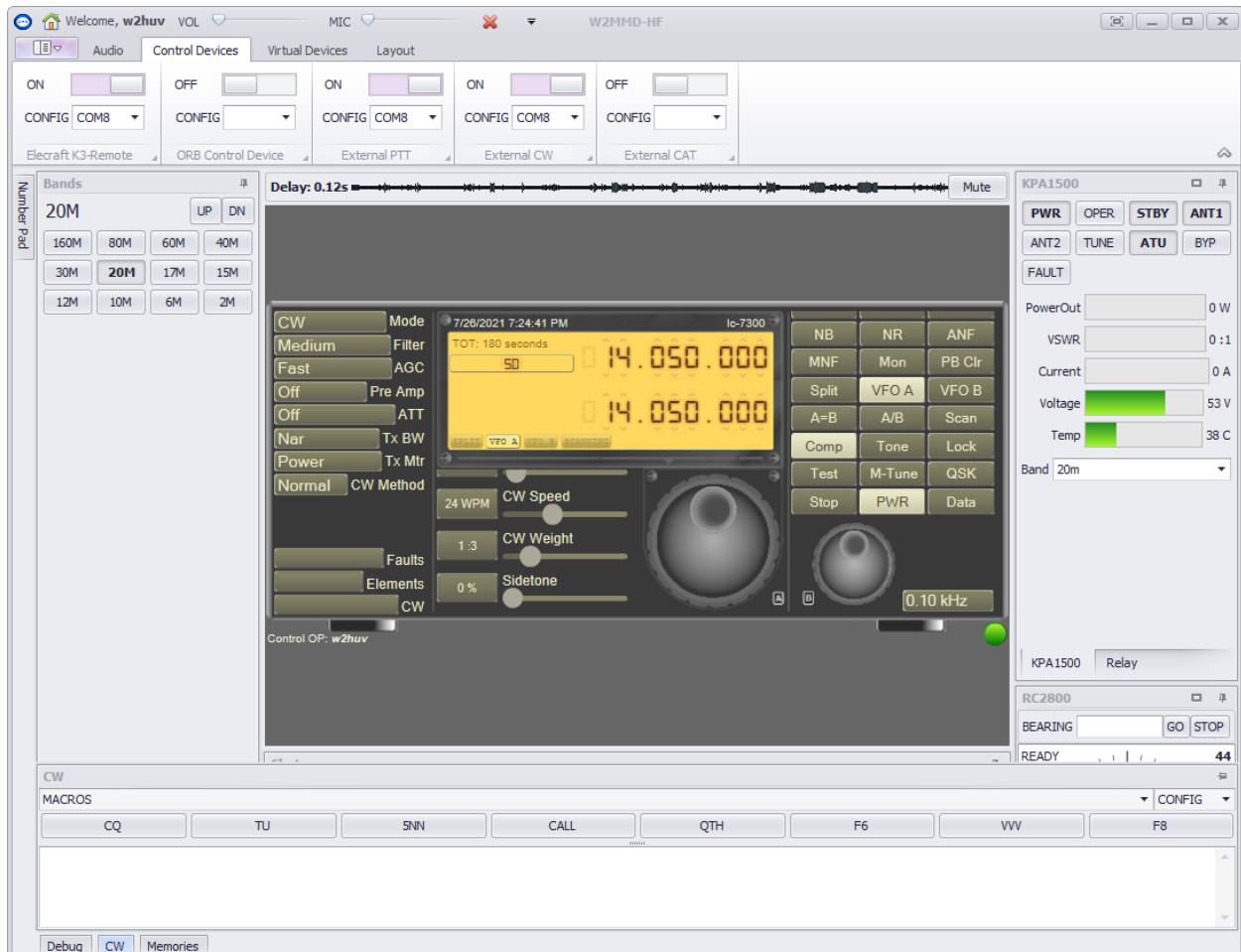
**Key and Paddle Connections**

It will be necessary to fabricate an "External PTT / Paddle inputs" dongle if you will not be using an "Elecraft K3 Remote" or "ORB Control Device". Refer to the "Dongles" topic for more information.

When you are ready to install the dongle:

1) Open Windows "Device Manager" and select "Ports (COM and LPT)". Note the ports already in use. Plug in the dongle and note the number of the new "USB Serial Port" added.

2) Open the Client, select the "Audio" tab and select the desired Audio Devices.

3) Select the "Control Devices" tab.

4) Turn on "External PTT", click the down arrow, select the dongle's USB port, set PTT Pin to CTS and check "Use RTS as Power".

5) Turn on "External CW", click the down arrow, select the dongle's USB port, set DIT to DCD, DAH to DSR, KEY to CTS and check "Use RTS as Power". Note that the PTT input is used for the KEY input. The Server/Client determine what to do with the input based on the mode.

6) Restart the Client to apply the settings, connect to the radio and turn it on. The screen on the next page shows typical CW settings with the "Control Devices" tab selected at the top and the "CW" tab selected at the bottom.

7) Click the "CW" tab at the bottom of the Client and click the CONFIG pulldown all the way to the right.  Check all "Sidetone" and "Paddle" checkboxes.  Set the remaining settings as desired.  The IC-7300 "CW Speed" and CONFIG speed sliders now control both paddle and keyboard speed.
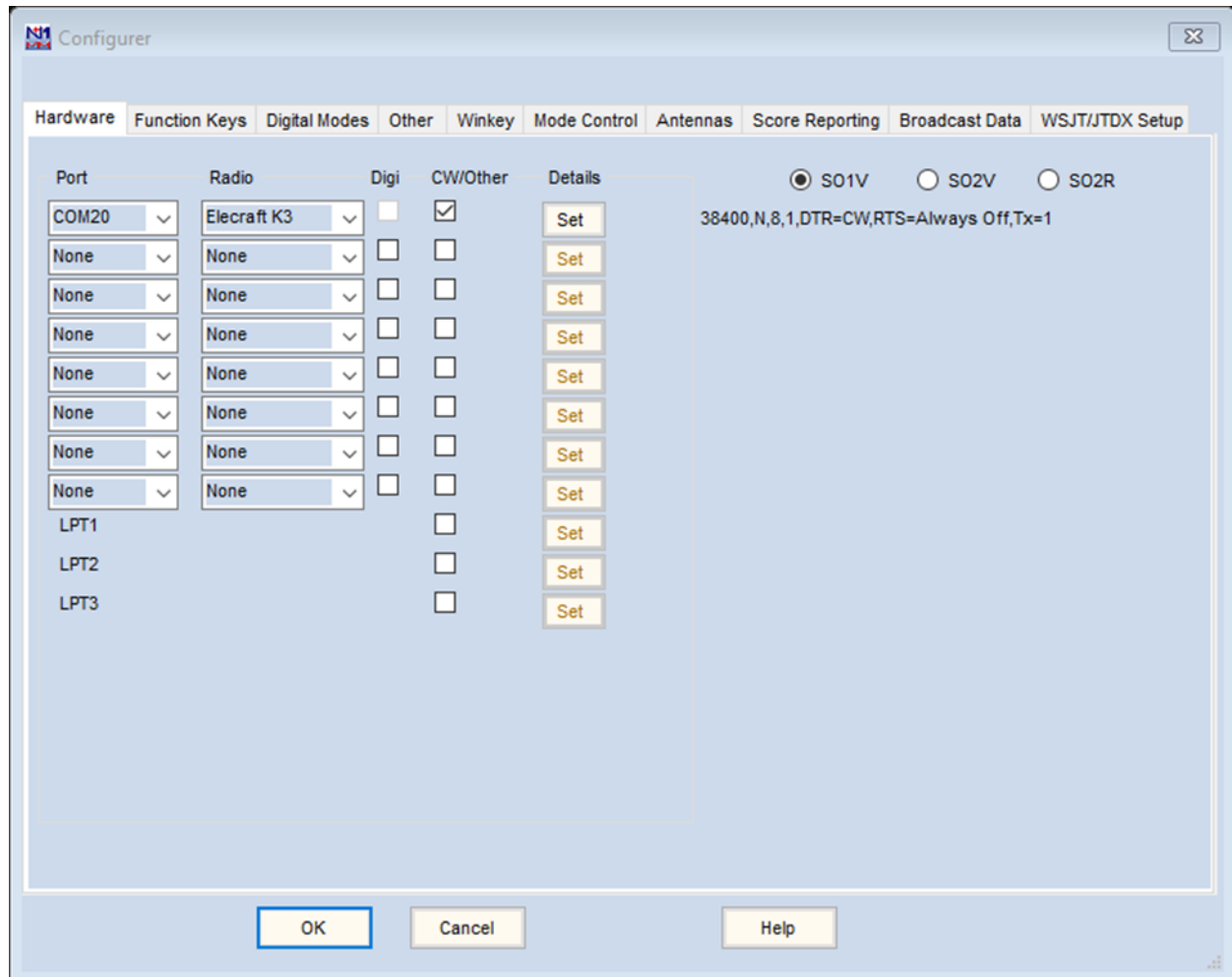
**Note:** The IC-7300 "Sidetone" slider is not used and is set at 0.  Only the CONFIG sidetone is used.
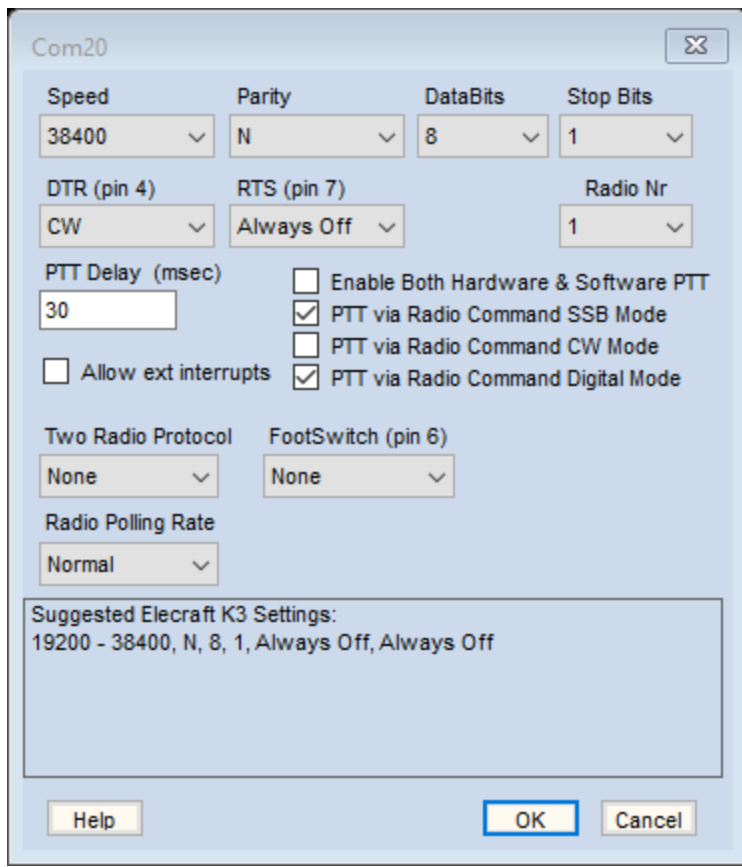


## Sending CW with N1MM+

1)  Select the "Virtual Devices" tab and look at the "Virtual K3" option.  If the option is greyed out, it will be necessary to reinstall the client, this time, checking the "Virtual Serial Port Support" option.

2)  Turn on the "Virtual K3" option and select a COM port.  COM20 is suggested because it is easy to remember and out of the way.

3)  Restart the Client, connect to the radio and turn it on.

4)  Start N1MM+.

5)  Select "Config", "Configure Ports, Mode Control, Winkey, etc…".  The screen below will appear after the changes that follow.



6)  Select the port selected in Step 2) for "Port" in the first line, select "Elecraft K3" for "Radio" and check the "CW/Other" box.
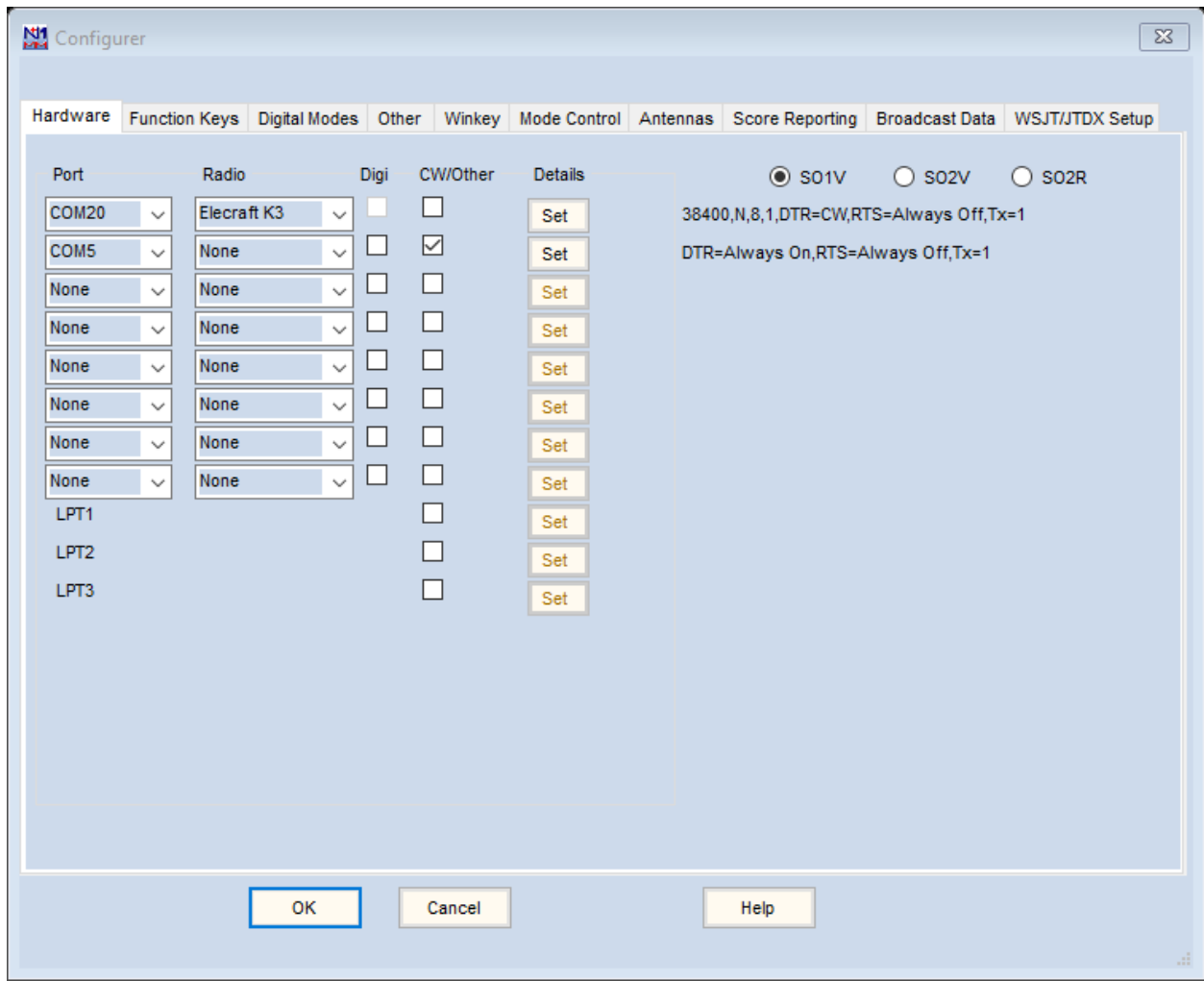
7)  Click the "Set" button under "Details".  The screen that follows will appear after the changes.  Set the speed at 38400.   Click the "DTR (pin 4) down arrow and select CW. Check the second and fourth PTT options. Click "OK" to save these changes and again to save the above changes.

**Com20**

| Speed | Parity | DataBits | Stop Bits |
|---|---|---|---|
| 38400 | N | 8 | 1 |

| DTR (pin 4) | RTS (pin 7) | | Radio Nr |
|---|---|---|---|
| CW | Always Off | | 1 |

PTT Delay (msec)

30

☐ Enable Both Hardware & Software PTT
☑ PTT via Radio Command SSB Mode
☐ PTT via Radio Command CW Mode
☐ Allow ext interrupts ☑ PTT via Radio Command Digital Mode

| Two Radio Protocol | FootSwitch (pin 6) |
|---|---|
| None | None |

Radio Polling Rate

Normal

Suggested Elecraft K3 Settings:
19200 – 38400, N, 8, 1, Always Off, Always Off

Help        OK        Cancel

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<u>With WinKeyer USB</u>:

8) Select "Config", "Configure Ports, Mode Control, Winkey, etc…".  Refer to the screen below.

9) Uncheck "CW/Other" on the first line and add a new line.  Set the "Port" to the WinKeyer USB port and check the "CW/Other" box.

10) Click the "Set" button on the new line.  Check "WinKey" on the screen that appears.  Click "OK" to save the change.  It should appear as shown on the next page when you are done.

11)  Select the "Configurer" "Winkey" tab.  Select "Use Winkey Speed Pot".  Click "OK" to save the changes and exit the "Configurer".

You should be all set to operate CW now.

**Please address all questions, comments and issues to w2huv@arrl.net.**

## Com5

DTR (pin 4)
Always On

RTS (pin 7)
Always Off

VFO Nr
1

PTT Delay (msec)
30

☐ Allow ext interrupts
☑ WinKey

Two Radio Protocol
None

FootSwitch (pin 6)
None

Help          OK     Cancel