

ORB (Online Remote Base) Control Device

Preliminary Owner's Manual

July 12, 2014



O.R.B. BY
REMOTEHAMS.COM

*Dell Venue Pro 8 (Windows 8.1) tablet shown in photo. Microphone and Paddle are by Elecraft.

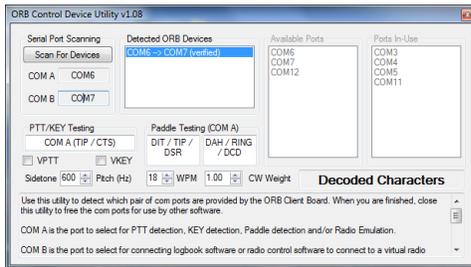
Portable Online Remote Base Solution
providing PTT/KEY, Paddle, MIC inputs and
Digital Mode or Logging software support for
RCForb Client v0.8 or newer.

USB Connection to Your PC

The very first time the ORB Control Device is connected to your PC; Windows will detect and install the required drivers. The following USB devices will be detected: Generic USB Hub, USB audio CODEC and FTDI*.

*Note, depending on your Windows settings the FTDI drivers may not automatically install. If this is the case, you may download the “[setup executable](#)” from FTDI’s website, <http://www.ftdichip.com/Drivers/VCP.htm>.

ORB Control Device Utility



Use this utility to detect which pair of com ports is provided by the ORB Control Device. When you are finished, close this utility to free the com ports for use by other software.

<http://www.remotehams.com/utility.html>

***Important,** note COM A and COM B. You will need this information for configuration details described later in this manual.

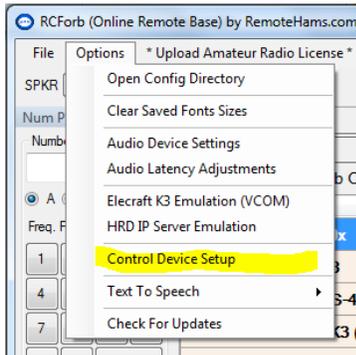
What is COM A and COM B?

COM A is the port to select for PTT/KEY detection, Paddle detection and/or Elecraft K3 Emulation (VCOM) in RCForb Client -> Control Device Setup.

COM B is the port to select for connecting 3rd party software for controlling the remote radio. COM B also has the RTS and DTR pin available for software that supports using the RTS/DTR pin for PTT/KEY use.

For example; in RCForb Client you can enable Elecraft K3 Emulation (VCOM). Select COM A for the emulation port. In your logging software, select COM B for the radio's com port and Elecraft K3 as the radio model. COM B also has the RTS and DTR pin available for PTT / KEY support with logging software.

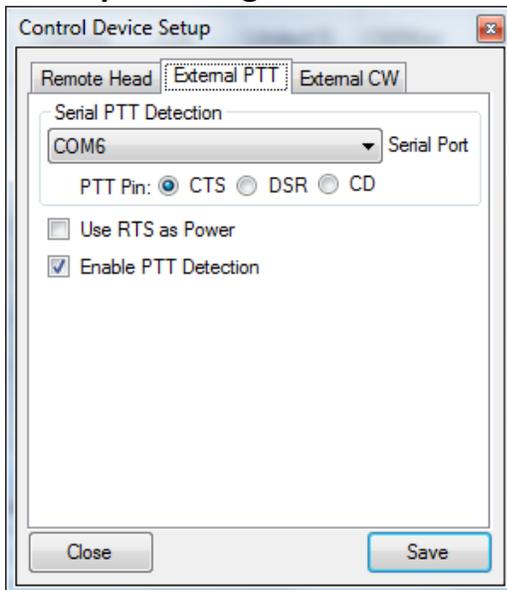
Configuring RCForb Client for PTT & CW Input



RCForb Client has built in PTT and CW detection logic and must be configured to take advantage of the ORB Control Device.

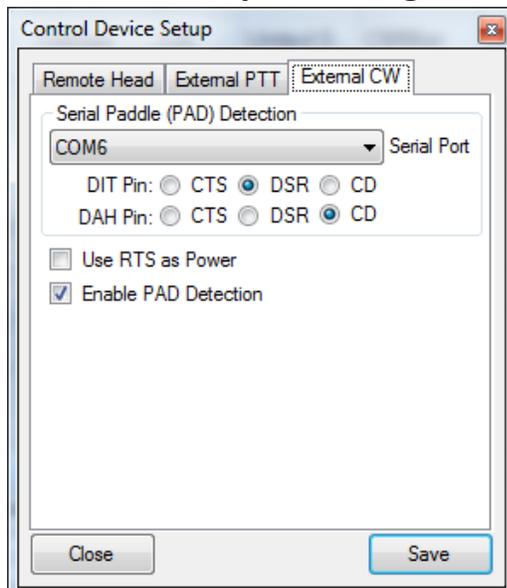
In the options menu go to Options -> Control Device Setup to open the device configuration dialog. (See screenshot to left.)

PTT Input Configuration



Once the “Control Device Setup” dialog is open, go to the External PTT tab. Select COM A for the serial port and select CTS as the PTT Pin. “Use RTS as Power” should not be checked as it can interfere with the ORB Control Device. Make sure to check “Enable PTT Detection”.

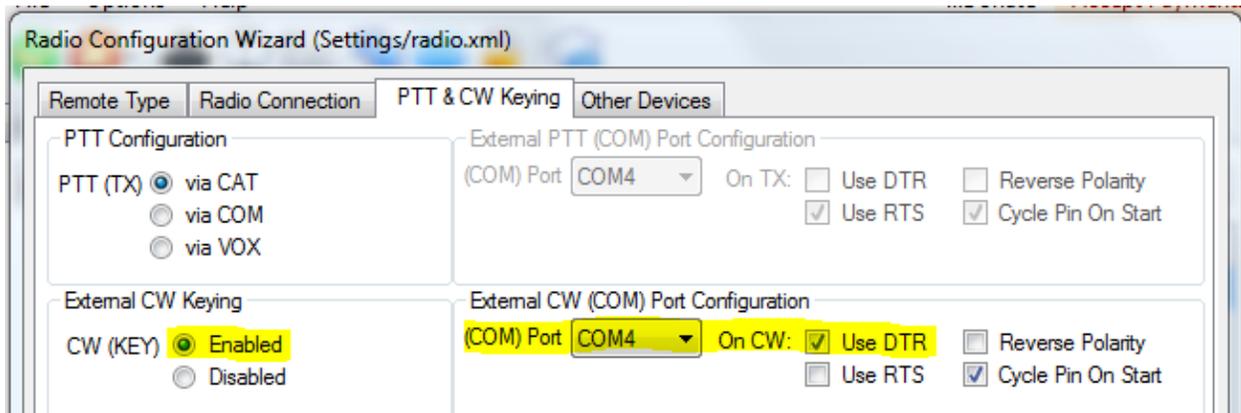
CW Paddle Input Configuration



Once the “Control Device Setup” dialog is open, go to the External CW tab. Select COM A for the serial port and select DSR as the DIT Pin (for TIP) and CD for the DAH Pin (ring). “Use RTS as Power” should not be checked as it can interfere with the ORB Control Device. Make sure to check “Enable PAD Detection”.

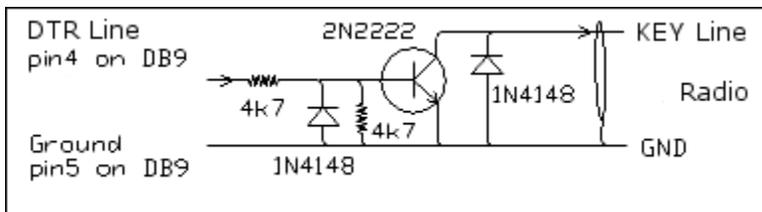
Configuring RCForb Server for CW Output (ORB Control Device Support)

RCForb Server must be configured properly for best CW Operation. The server has a built in Serial Port CW Keyer. RCForb Server must have serial port CW Keying enabled to utilize all the features of the ORB Control Device.



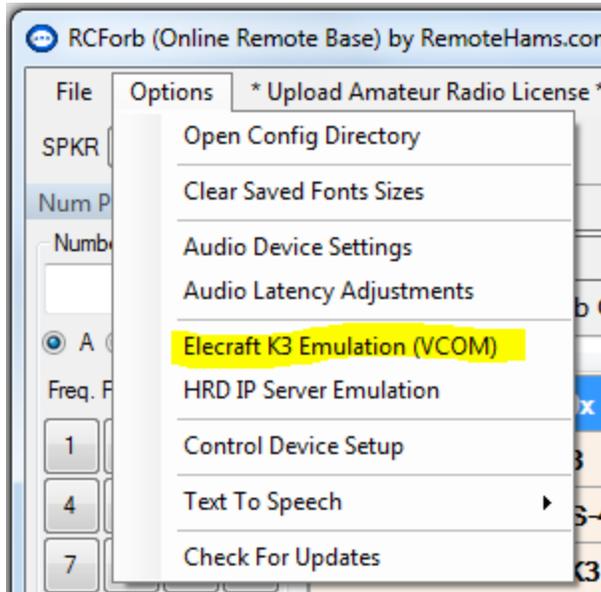
The Elecraft K3 has a built in serial port CW key input. To configure the Elecraft K3, hold the MENU button for about 2 seconds to enter the "CONFIG MENU". Using the sub VFO knob, scroll to the "PTT-KEY" menu item. Set PTT to "off" and KEY to "dtr"; the screen should read as follows "Off-dtr".

For legacy support (all radios), you can build a serial CW Keying circuit. The schematic below is an example of one method to interface the serial port "DTR" pin to your radio's KEY LINE.



For more information about configuration of CW Keying you may refer to the RCForb Server Manual. <http://www.remotehams.com/help.html>

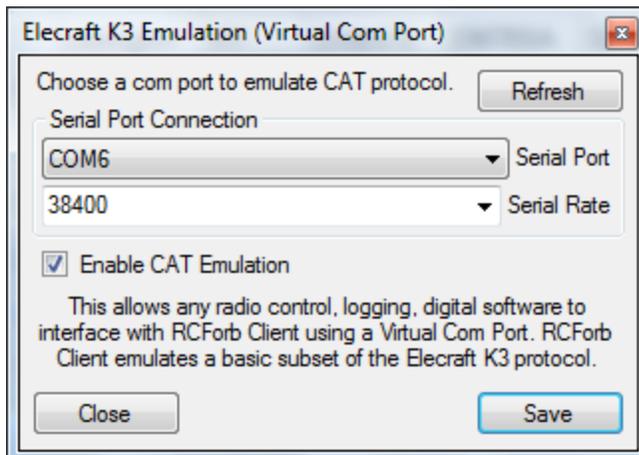
Configuring RCForb Client for Logging Software Support (Elecraft K3 Emulation)



The ORB Control Device provides the ability for RCForb Client to “share” the remote’s radio information to logging software with the provided FTDI Dual serial pair.

In options menu go to Options -> Elecraft K3 Emulation (VCOM).

Elecraft K3 Emulation (VCOM) Configuration



Once the “Elecraft K3 Emulation” dialog is open, select COM A for the serial port and the desired baud rate for your logging software to use. Make sure to check “Enable CAT Emulation”.

Configuring Digital Mode or Logging Software for Elecraft K3 Emulation (VCOM)

Depending on the software you use the configuration dialogs will vary. Below is screenshots from several programs to demonstrate how to configure your software for connection to COM B for Elecraft K3 Emulation (VCOM).

Concept of Integrating Digital Mode or Logging Software

Most digital mode or logging software is designed to connect to a radio or a com port for manipulating specific radio features or com port pins. With the ORB Control Device, RCForb Client software can pretend to be a radio or com port “emulating” a real Elecraft K3. This allows digital mode or logging software to integrate into RCForb Client to provide items such as radio control and data (frequency, mode, etc.), CW Keying and PTT support of a remote station.

Basic Configuration Values Generally Used Configuration

Radio COM Port: **COM B (COM 7)**

Radio Baud: **38400**

Data Bits: **8**

Stop Bits: **1**

Handshaking: **None**

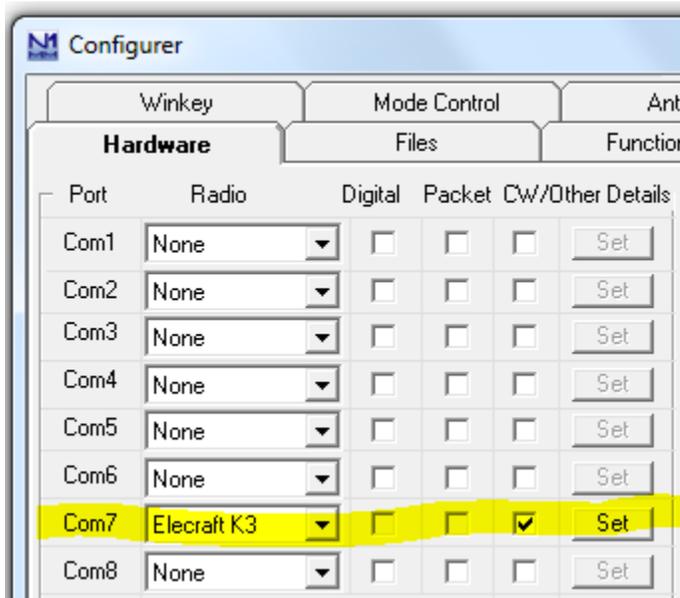
Parity: **None**

DTR pin: **CW or off**

RTS pin: **PTT or off**

These values are applied differently depending on the digital mode or logging software you will be using. For this reason, we have included screenshots of a couple applications to help determine how to apply the settings for your digital mode or logging software.

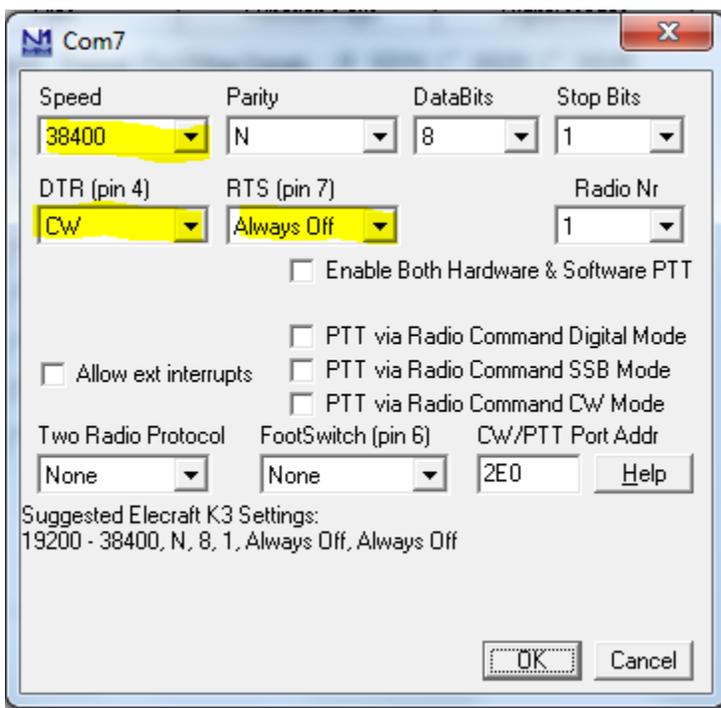
N1MM Logger Example



N1MM supports many features for logging contacts and is used by many hams around the world.

Open the Configure dialog and set COM 7 for Elecraft K3 radio model. Check the CW check box to enable CW Keying support.

Next Click on the "Set" button to open the COM 7 properties dialog.



Set speed to 38400.

Set DTR (pin 4) to "CW" to enabled CW Keying support.

Set the RTS pin to "PTT" or "Always Off" to prevent any conflicts with CW Keying.

Save and restart N1MM. You should now see frequency information and have control have the remote through N1MM.



Specifications

Connect to your PC with a single USB cable. Functions as a general purpose device geared for remote amateur radio operation; all in one small portable box.

Dimensions: (4.72" x 3.07" x 1.1") inches



(Front View)



(Rear View)

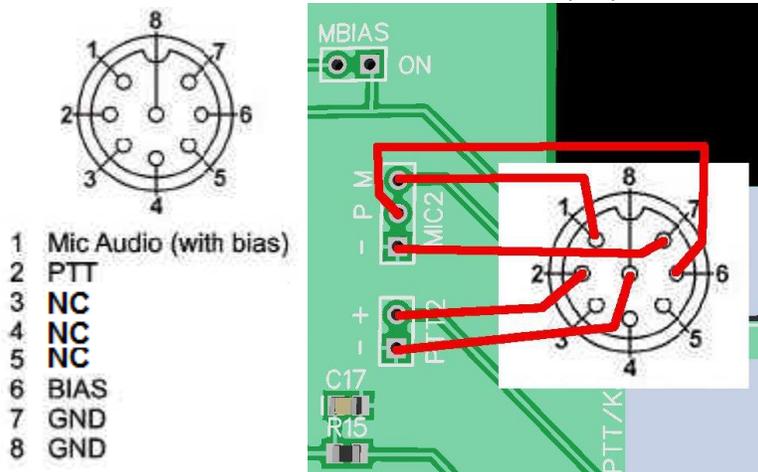
Connections (IO)

- **Headphone Output** -> 3.5mm (1/8 in) Stereo (TIP = L, RING = R)
- **Mic Input** -> 8 Pin Round (Elecraft/Kenwood Pin configuration)
- **2nd Mic Input** -> 3.5mm (1/8 in) Stereo (TIP=MIC, RING=NC)
- **Paddle Input** -> 3.5mm (1/8 in) Stereo (TIP=DIT, RING=DAH)
- **PTT/KEY Input** -> 3.5mm (1/8 in) Stereo (TIP=KEY, RING=NC)

8-Pin Connector Pin-Out Information

The 8-PIN MIC connector is wired just like an Elecraft K3.

Pin 1 = MIC, Pin 2 = PTT, Pin 6 = PWR (5v), Pin 7 = GND, Pin 8 = GND



Customer Service and Support

You can use our community forums for assistance (<http://www.remotehams.com/forums/>). One of our admins or support techs will respond quickly, usually within one day.

Please use our community forums rather than email when possible since this creates a public record of your problem and allows the community to handle a larger number of requests each day.

You can send e-mail to kg6ypi@remotehams.com if you are unable to reach customer support.

Warranty Repair Service

If necessary, you may return your product to RemoteHams.com for repair.

IMPORTANT: You must contact RemoteHams.com before mailing your product to obtain authorization for the return, what address to ship it to and current information on repair fees and turnaround times. (By using the community forums, you may be able to determine the cause of your problem and save you the trouble of shipping it back to us.)

RemoteHams.com 1-Year Limited Warranty

This warranty is effective as of the date the product is shipped to the customer.

Who is covered: This warranty covers the original owner of the product at the time of order.

What is covered: During the first year after date of purchase, RemoteHams.com will replace defective or missing parts free of charge. We will also correct any malfunction to assembled units caused by defective parts and materials. Product owner pays return shipping to RemoteHams.com for warranty repair; RemoteHams.com will pay shipping to return the repaired equipment to product owner to the continental USA and Canada. For Alaska, Hawaii, and other destinations outside the U.S. and Canada, actual return shipping cost is paid by the product owner.

What is not covered: This warranty does not cover repair of damage caused by misuse, negligence, liquid leakage or corrosion, product modifications; or any performance malfunctions involving accessory equipment. Also not covered is reimbursement for loss of use, inconvenience, or cost of unauthorized service.

Limitation of incidental or consequential damages: RemoteHams.com will not be liable for any special, indirect, incidental or consequential damages, including but not limited to any loss of business or profits.