

Readme File for: RCM App 1 – C Code interface

This directory contains all of the sample C source code necessary to demonstrate how to interface to a P4xx using the RCM API. When compiled, this program will connect to a P4xx via Ethernet, USB or Serial. It will then read the units configuration and issue a range request to the responder of the user's choice. It will then print the results to the screen.

Before executing this program, the user should confirm the pair or radios intended for test have the same operational parameters. The best way to confirm this is to use RCM-RET to take a range measurement. If connected to the P4xx via USB, the user should also make a note of the COM port number. This will be used later.

Operating the Sample Apps in General.

These Apps do not have a friendly GUI. They run from the command line. To run, use Windows Explorer to navigate to the directory which contains the App, then hold the shift key down and right click the mouse. A drop down window will appear and you should click on "Open command window here". The command window shown in **Figure 1** should appear.

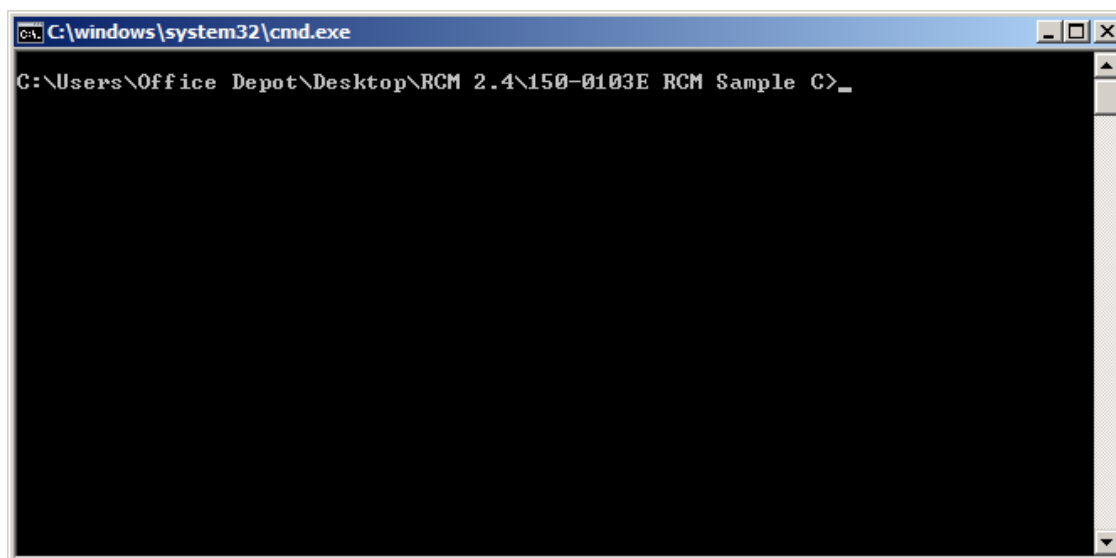
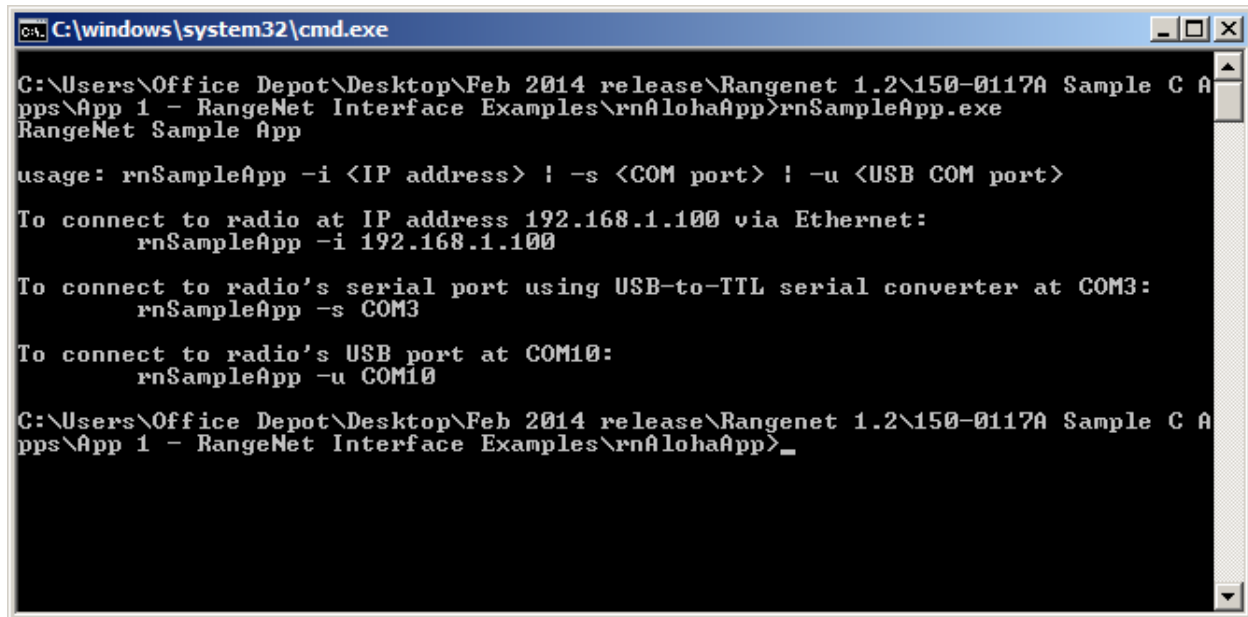


Figure 1: Command window

Running the App

Entering “rcmSampleApp.exe” and a carriage return will produce the menu of options shown in **Figure 2**.



```
C:\windows\system32\cmd.exe
C:\Users\Office Depot\Desktop\Feb 2014 release\Rangenet 1.2\150-0117A Sample C A
pps\App 1 - RangeNet Interface Examples\rnAlohaApp>rcmSampleApp.exe
RangeNet Sample App

usage: rcmSampleApp -i <IP address> ! -s <COM port> ! -u <USB COM port>

To connect to radio at IP address 192.168.1.100 via Ethernet:
    rcmSampleApp -i 192.168.1.100

To connect to radio's serial port using USB-to-TTL serial converter at COM3:
    rcmSampleApp -s COM3

To connect to radio's USB port at COM10:
    rcmSampleApp -u COM10

C:\Users\Office Depot\Desktop\Feb 2014 release\Rangenet 1.2\150-0117A Sample C A
pps\App 1 - RangeNet Interface Examples\rnAlohaApp>_
```

Figure 2: Menu of options

This construct allows users to interface with their P4xx with Ethernet, Serial or USB. For example, entering the following:

```
rcmSampleApp.exe -u COM3<CR>
```

will cause the App to connect to the P4xx through USB Com Port 3.

When executed, the App will

- read and print the initial settings from the connected P4xx
- and give the user two choices,
 - enter the node id of the radio to range to or
 - or quit.

Entering a node ID and <CR> will then cause the radio to request a range. When the range measurement has been computed, the results will be displayed. See example in **Figure 3** below.

```
C:\windows\system32\cmd.exe - rcmSampleApp -u COM11
C:\Users\Office Depot\Desktop\RCM 2.4\150-0103E RCM Sample C>rcmSampleApp -u COM11
RCM Sample App

Radio passes built-in test.

Configuration:
    nodeId: 100
    integrationIndex: 7
    antennaMode: 0
    codeChannel: 2
    electricalDelayPsA: 0
    electricalDelayPsB: 0
    flags: 0x80
    txGain: 0
Enter node ID of radio to range to or q to quit [101]: 102
RANGE_INFO: responder 102, msg ID 4, range status 0, stopwatch 20 ms, channelRisetime 137, vPeak 15142, measurement type 7
Precision range: 1142 mm, error estimate 55 mm
Coarse range: 1142 mm, error estimate 55 mm
Filtered range: 1142 mm, error estimate 55 mm
Filtered velocity: 0 mm/s, error estimate 281 mm/s
Enter node ID of radio to range to or q to quit [102]:
```

Figure 3: Menu of options and response from unit 102.