

Dranetz HDPQ[®] Cellular Wireless Applications

INTRODUCTION

Dranetz HDPQ family products have state-of-the-art communications capabilities that allow for full remote control and data downloading from any location with connectivity to the instrument. The Dranetz HDPQ family includes standard VNC communications for remote control using a PC, smartphone or tablet. These remote capabilities greatly enhance the user's safety and productivity.

Dranetz HDPQ instruments can easily connect to any Ethernet and Wi-Fi (model dependent) network, but what can you do if there isn't a network available?

Cellular wireless data networks are a great way to overcome this situation. This application note describes how to use the Dranetz HDPQ family with a typical cellular wireless gateway.

CELLULAR GATEWAY APPLICATION

Cellular gateways use the same data networks as smartphones, but are dedicated to data communications. Cellular gateways can be purchased from a cellular carrier or 3rd party sellers, and like any smartphone, they require a contract or data plan. Note that the cellular gateway and data plan/contract is the responsibility of the end user and is not included in the purchase of the Dranetz HDPQ instrument.

The cellular gateway bridges the Dranetz HDPQ instrument to the Internet, making it available for remote control and data downloading from any Internet connected device.

Most cellular gateways connect to the Dranetz HDPQ using Ethernet communications, although some models can connect to the instrument using a Wi-Fi connection (model dependent). Regardless, they work very much the same. An example using Ethernet is shown in Figure #1. The Ethernet link from the cellular gateway to the instrument can be a direct connection (as shown), or through a router or switch.

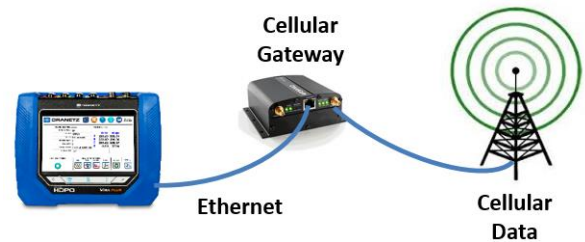


Figure 1. Typical Cellular Gateway Application

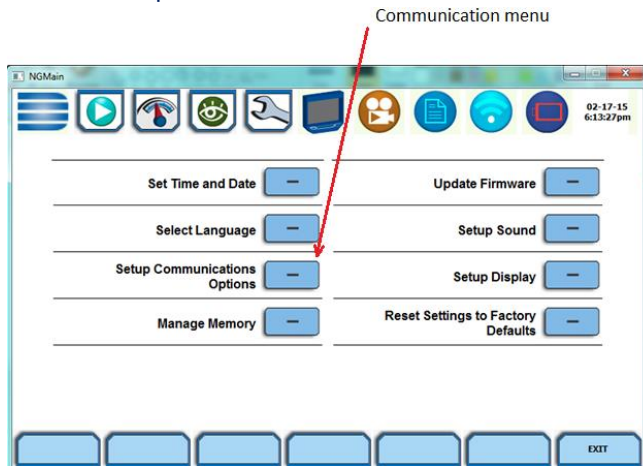
For all remote communications, including cellular, the Dranetz HDPQ instrument must be assigned an IP address that's addressable from the computer, tablet, or smartphone being used. In other words, if you want to use the Internet, both the Dranetz HDPQ and the remote computing device must be properly connected to the Internet. The same is true for any network - public or private. In this application, the cellular gateway connects to the Internet and assigns an IP address to the instrument. Dran-View or a VNC viewer communicates with the cellular gateway which acts as a go-between and 'forwards' information between the Internet and instrument.

There are two types of IP addresses - Dynamic (DHCP) and Static. Dynamic IP addresses are usually automatically assigned by the networking hardware. Dynamic IP addresses can change regularly, so the IP address assigned today can be different tomorrow. Static IP addresses are pre-assigned by the network administrators and don't change. **It's for this reason that it's highly desirable to obtain a Static IP address for your cellular gateway from your wireless carrier - the cellular gateway is what's connected to the Internet and it's much better for it to be fixed and not changed automatically.**

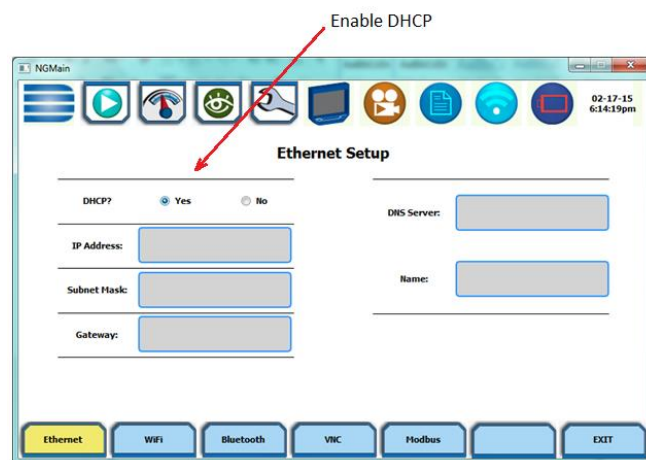
DRANETZ HDPQ INSTRUMENT SETUP

When using a cellular gateway, the communications setup of the Dranetz HDPQ instrument is very straightforward and is the same as when used on most networks.

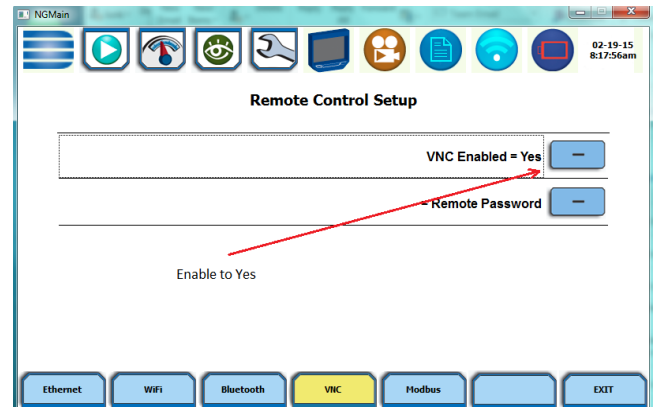
Step #1 - Select 'Setup Communications Options' from the Setup menu.



Step #2 - Select the Ethernet tab (bottom left) and select "Yes" for DHCP. Dynamic Host Configuration Protocol (DHCP) is a network protocol that enables a server to automatically assign an IP address to a device. In this case the cellular gateway is providing the Dynamic IP address to the instrument. A static IP address can also be used, but the cellular gateway must be configured for this option.



Step #3 - Select the "VNC" tab and make sure that VNC communications are enabled and "VNC Enabled = Yes".

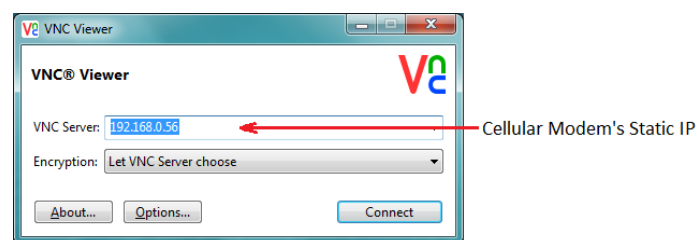


CELLULAR GATEWAY SETUP

The setup of the cellular gateway is manufacturer and model dependent and there are too many variations to describe here. As mentioned above, regardless of where you purchase your cellular gateway, you will have to work with a cellular carrier and obtain a data plan/contract. It's also recommended that you ask that a Static IP address is assigned to your cellular gateway so the IP address doesn't change.

COMMUNICATING WITH A REMOTE DRANETZ HDPQ

A VNC viewer is needed to remotely control the Dranetz HDPQ. Dran-View 7 has a built in VNC viewer for use on a PC, but they are also available for from Google and Apple for use on a smartphone or tablet. PC based versions are also available if you don't want to use Dran-View. 'Real VNC' is commonly used by our customers and is the example shown below. You can easily communicate with the Dranetz HDPQ by entering the IP address of the cellular gateway.



If everything is working, you will then be prompted for a password, which is "Dranetz" by default.

TO CONTACT DRANETZ

- Call 1-800-372-6832 (US and Canada) or 1-732-287-3680 for Technical or Sales support
- To submit a support request online, please visit: <https://www.dranetz.com/contact-us/>