



Article Number - 00065-2017

Date - 22<sup>nd</sup> August 2017 (Updated)

Article applies to - iAIS, WLN10, WLN10HS, NavLink and PilotLink wireless NMEA servers

## **ISSUE: Changing IP address of our Wireless NMEA Gateway Products**

Originally Digital Yacht's wireless NMEA products; iAIS, WLN10, WLN10HS, NavLink and PilotLink were designed to create an "Ad-Hoc" wireless network using an IP address of 169.254.1.1. When Android devices started to appear on the market we had to update our units to create an "Access Point" wireless network which was more stable and supported Android devices.

However, to avoid major changes, we continued to use the original 169.254.1.1 address (Ad-Hoc address range) and apart from a Sony Android Tablet that did not like using this address, everything worked well until the recent Apple release of iOS 10. Now Apple devices will not allow a TCP connection to devices that have a 169.254.xxx.xxx IP address and it is necessary to change the IP address of your wireless gateway.

Please note that UDP mode still works and if you have an app that uses UDP mode then you do not need to follow the procedure in this Tech Note. Conversely if you have been using TCP mode and your App also supports UDP mode, then an easier work around is to just start using UDP mode.

## **SOLUTION:**

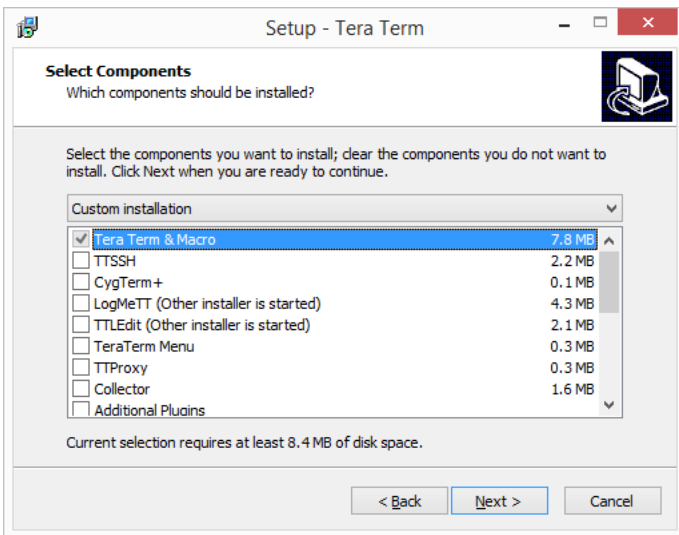
The solution involves sending a command to our wireless NMEA product to change the IP address from 169.254.1.1 to 192.168.1.1 which is the most common IP address range for home/office wireless routers. Once the IP address is set to 192.168.1.1 then Apple iOS 10 will allow a TCP connection to be made.

In order to send the command, you will need to use a Windows PC running TeraTerm a free Terminal program. The procedure can be done on the boat or in your home/office but in this case you will need to connect our wireless product to a 12v DC power supply.

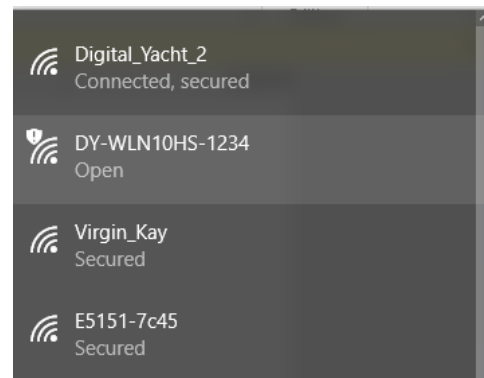
The terminal program we recommend for Windows is called TeraTerm and a copy of this program is included on the Digital Yacht "Software and Drivers" CD-Rom (in the Utilities folder), or is available for download at the link below;

<https://osdn.net/projects/ttssh2/downloads/66795/teraterm-4.93.exe/>

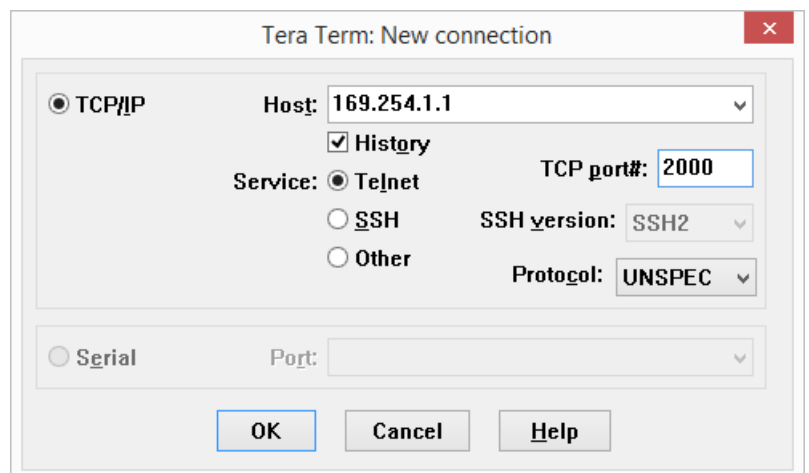
When you have downloaded the installer, double click on the file to install TeraTerm and you only need the main program, not all of the extra plugins and language extensions, so untick everything else as shown below....



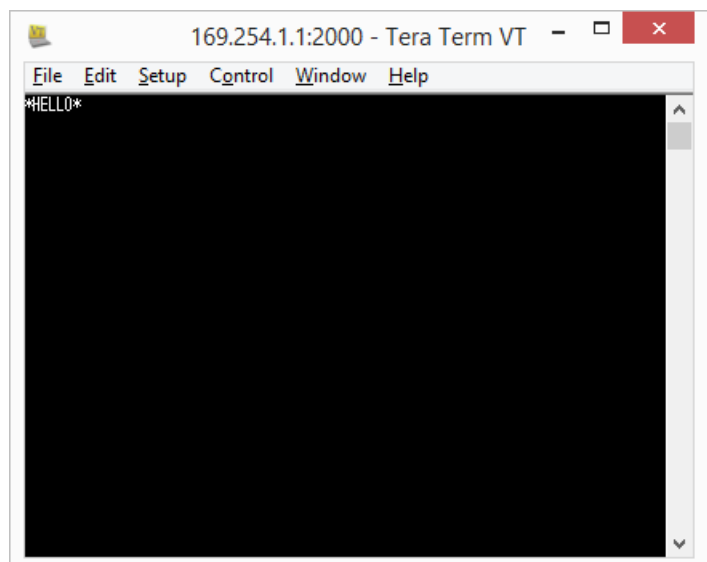
After installing Tera Term, it is necessary to wirelessly connect the PC to our wireless NMEA product using the Windows Wireless Network utility, scan for available networks and connect to the device to be configured.



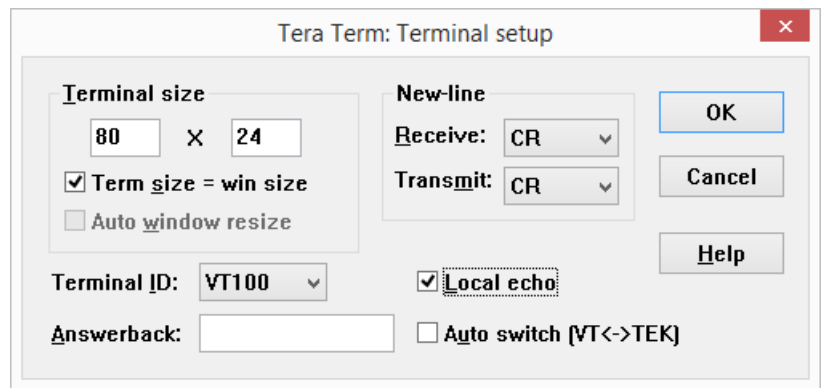
Once connected, run Tera Term and when the "New Connection" window is displayed, select the TelNet service, enter the IP address and Port number of the our wireless NMEA product – which is always 169.254.1.1 Port 2000.



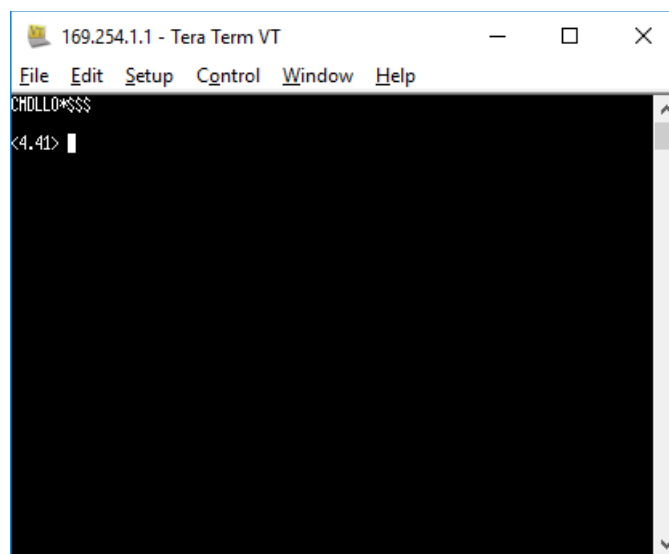
If Tera Term successfully creates a TCP/IP connection to our wireless NMEA product, then you should see the window below with the word "\*HELLO\*" displayed.



In order to see what you are typing in Tera Term, click on Setup>Terminal and then make sure the “Local Echo” option is ticked (see below). Once you have done this click “OK” to return to the terminal window.



To put the wireless gateway in to Command Mode type three dollar signs \$\$\$ and then press the ENTER key. You should see the text CMD has been over typed on the \*HELLO\* text – you’re now in Command Mode and can send the configuration command to the wireless NMEA product. Press the ENTER key to display the cursor which also shows you what version of firmware is running, version 4.41 in this example...

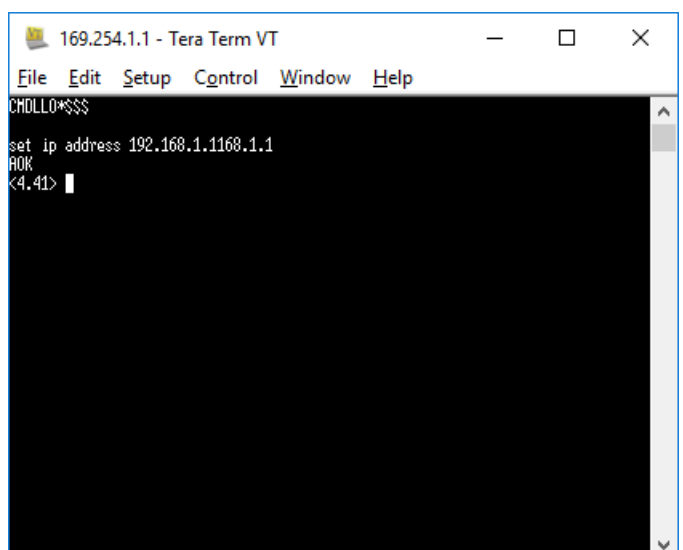


**IMPORTANT NOTE** – if the firmware version is less than V2.45, DO NOT CONTINUE but contact Digital Yacht for further advice as you have the earlier “Ad-Hoc” firmware that needs to be updated.

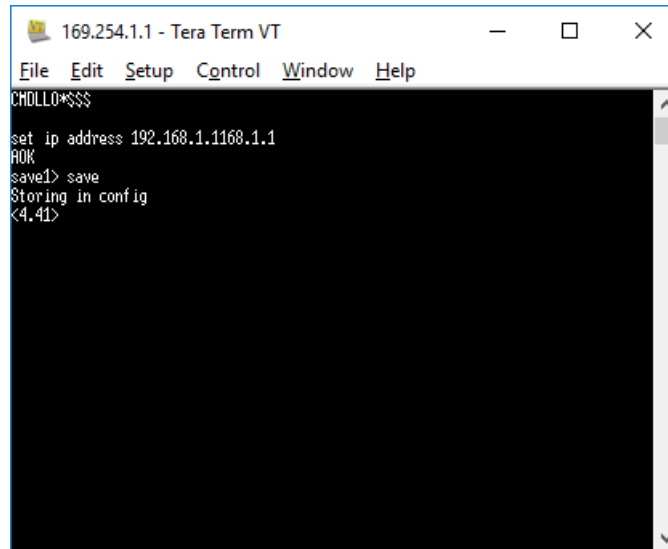
To change the IP address from 169.254.1.1 to 192.168.1.1, type the following command and then press the ENTER key.

**set ip address 192.168.1.1**

The wireless NMEA product should respond with an Acknowledgement “AOK” as shown.

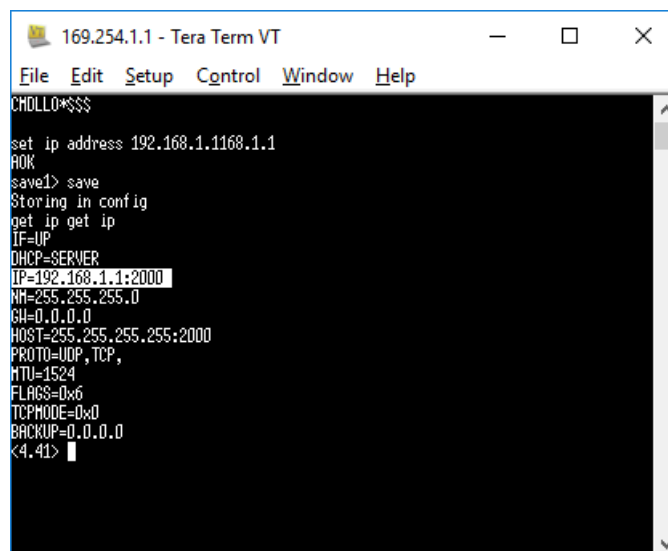


Now you should save the settings you have changed by typing **save** and then pressing the ENTER key, which should cause the following message to be displayed.



```
169.254.1.1 - Tera Term VT
File Edit Setup Control Window Help
CHOLLO*$$$
set ip address 192.168.1.1168.1.1
AOK
save1> save
Storing in config
<4.41>
```

You can double check that the new setting has been accepted by typing **get ip** and then pressing the ENTER key, which will display the following information



```
169.254.1.1 - Tera Term VT
File Edit Setup Control Window Help
CHOLLO*$$$
set ip address 192.168.1.1168.1.1
AOK
save1> save
Storing in config
get ip get ip
IF=IP
DHCP=SERVER
IP=192.168.1.1:2000
MM=255.255.255.0
GW=0.0.0.0
HOST=255.255.255.255:2000
PROTO=UDP, TCP,
MTU=1524
FLAGS=0x6
TCPMODE=0x0
BACKUP=0.0.0.0
<4.41>
```

The highlighted line in the previous image is the changed IP Address setting which should now read 192.168.1.1:2000, where 2000 is the port number.

Now you should turn off your wireless NMEA product, wait a couple of seconds and then turn it on again.

To test that everything is working OK, go to **Settings>Wi-Fi** on the iPhone/iPad scan for wireless networks and connect to our wireless NMEA product. Then run whatever App you use to display the NMEA data and make sure you can setup a TCP connection.