# TECHNICAL NOTES

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Article applies to - iAIS Product

## ISSUE: Updating an iAIS to Latest AP Firmware

A recent firmware update now allows iAIS products to work in Access Point mode rather than Ad-Hoc Mode. This results in a more stable and reliable network connection and also allows Android devices (which do not support Ad-Hoc networking) to connect to an iAIS.

This Tech Note details a procedure that will allow you to update an iAIS using a home/office wireless network, assuming that this network provides network settings automatically (using DHCP), that it has an internet connection and you know the SSID and Password of the network.

IMPORTANT - Prior to starting this process, please make a note of the four digits in the wireless network name (SSID) of your iAIS unit i.e. DY-iAIS-**1234** you will need this number later after updating your iAIS.

## SOLUTION:

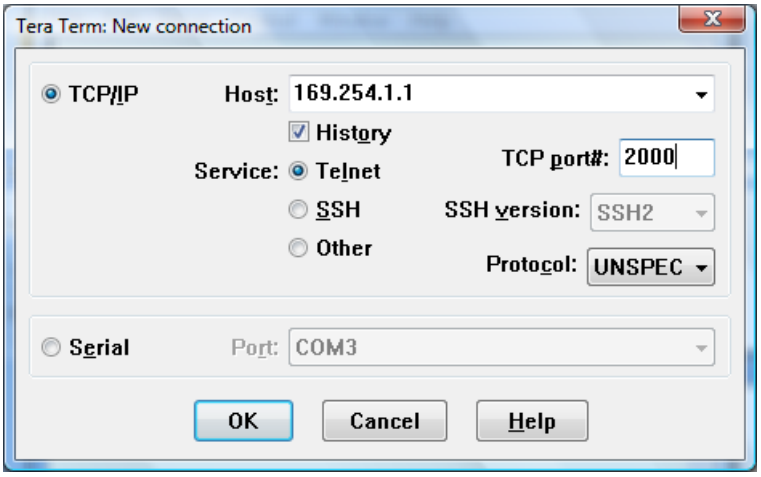
To update an iAIS you need to use a free terminal program called Tera Term. To carry out this configuration, it is necessary to have a Windows PC that has a wireless adaptor and a copy of "Tera Term" installed. A copy of this program is included on the Digital Yacht "Software and Drivers" CD-Rom (in the Utilities folder), or is available for download at the link shown below.

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

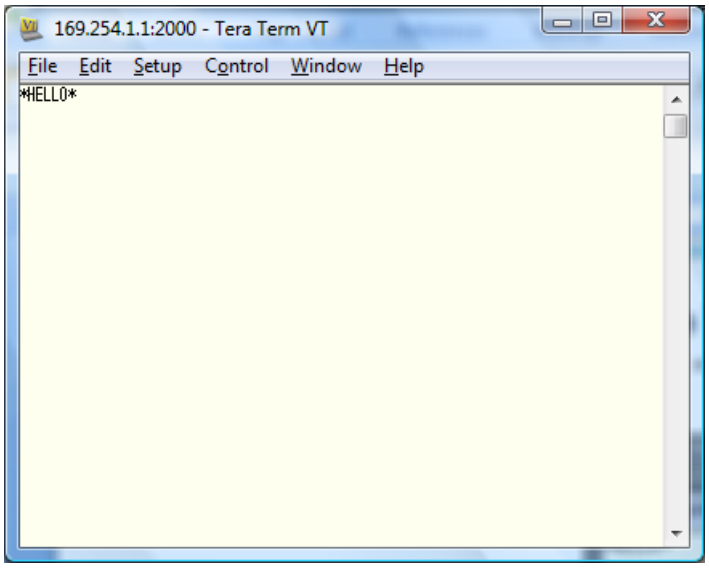
Link to download Tera Term….

http://en.sourceforge.jp/projects/ttssh2/downloads/51174/teraterm-4.69.exe/

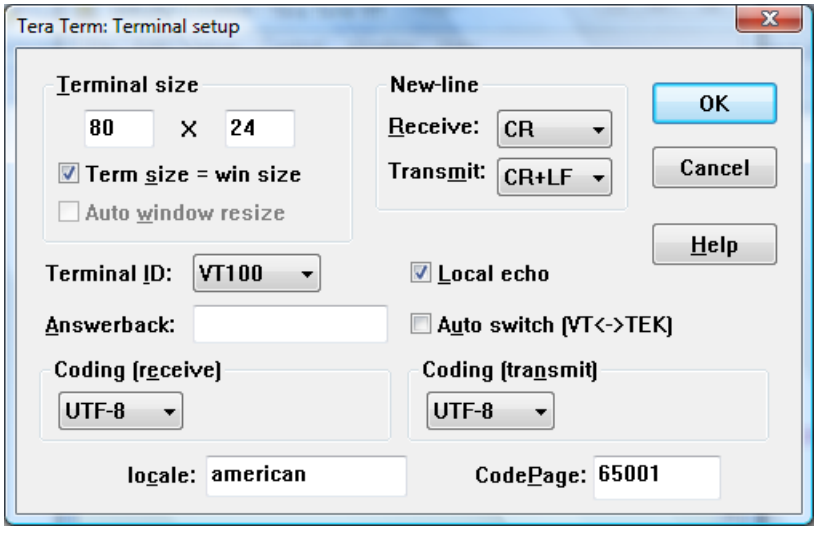
Once connected, run Tera Term and when the “New Connection” window is displayed, select the TelNet service, enter the IP address and Port number of the iAIS – which is always 169.254.1.1 Port 2000.



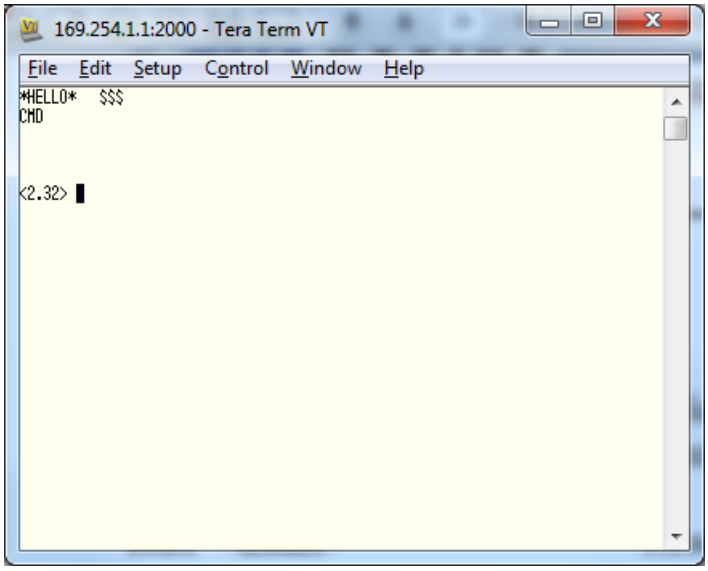

If Tera Term successfully creates a TCP/IP connection to the iAIS, then you should see the window below with the word “*HELLO*” displayed.




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). I also recommend setting the Transmit to “CR+LF” which will put a space between lines and make it easier to read the terminal screen. Once you have done this click “OK” to return to the terminal window.

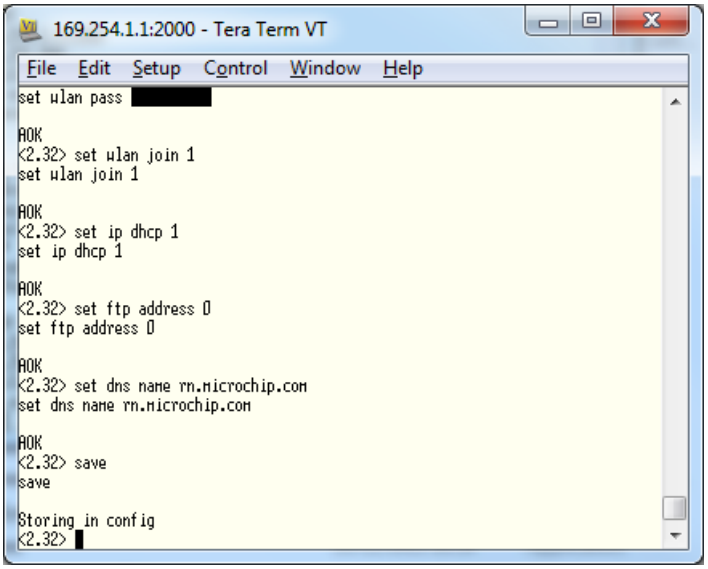


To change the configuration, you need to be in “Command” mode. To put the iAIS/WLN10/WLN10HS into “Command” mode, type **$$$** on your PC keyboard and then press the ENTER key. You should see the text CMD appear, just below the *HELLO* text, in the terminal window. Press the ENTER key again and a cursor will appear with the current software version shown.




You are now in “Command” mode and can start to type in the commands to configure the iAIS to connect to your home/office wireless network and download the update. The following commands set the SSID and password of your network, tell the iAIS to try and join the network when it first boots, take its network settings from the network automatically using DHCP and then tells the iAIS where to get the update from. The last command must always be the SAVE command that stores the changes you have made and applies them when the iAIS next boots up.

**factory RESET**
**set wlan ssid NETWORK_NAME**
**set wlan pass PASSWORD**
**set wlan join 1**
**set ip dhcp 1**
**set ftp address 198.175.253.161**
**save**




You will need to carefully replace the NETWORK_NAME and PASSWORD text with the exact values needed to connect to your wireless network – **double check these values**. This should work with all WEP, WPA and WPA2 type networks.

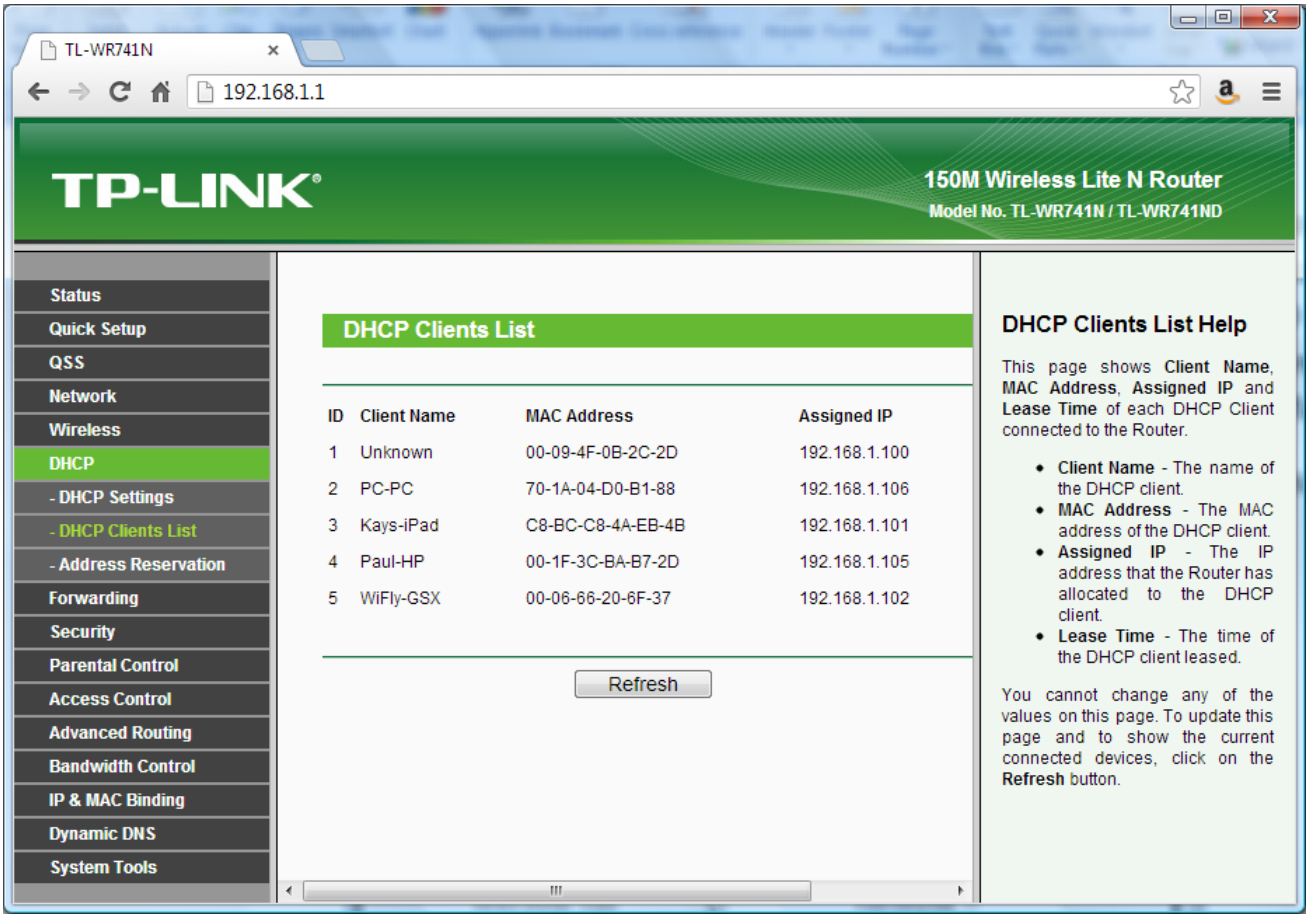
Your existing wireless network must be setup to provide DHCP to our wireless device i.e. your network automatically issues an IP address and the other network settings to our wireless device.

Once you have saved the new settings, press the RESET button on the iAIS or power the unit off and then back on again. If everything is correctly configured and the wireless product is connected to your existing

wireless network, then you should see just the Green LED flash (and Yellow LED if NMEA data is being received) but the Red LED should not come ON at all. If you have got any of the settings wrong and connection to your network was not possible, then the Green and Red LEDs will alternately flash.

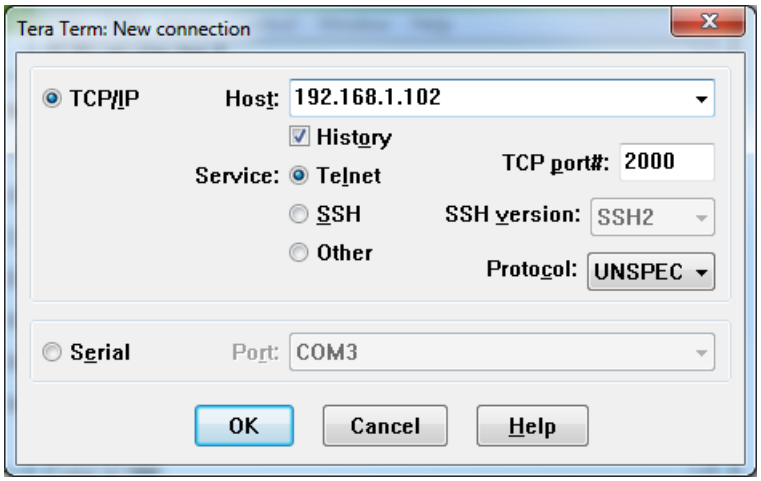
Now it is necessary to find out what IP address your wireless network has given the iAIS and to do this, you need to connect your PC to the networks wireless router, and then from your browser bring up the routers web interface and login – refer to the manufacturer's manual for details of how to do this.

Then find the DHCP Client List and you will see a device called WiFly-GSX and this is your iAIS. Make a note of the IP address and if possible, set the router to reserve this IP address for your device – thus ensuring that the IP address is always the same. Below is an example from a TP-Link wireless router where you can see that the IP address is 192.168.1.102.

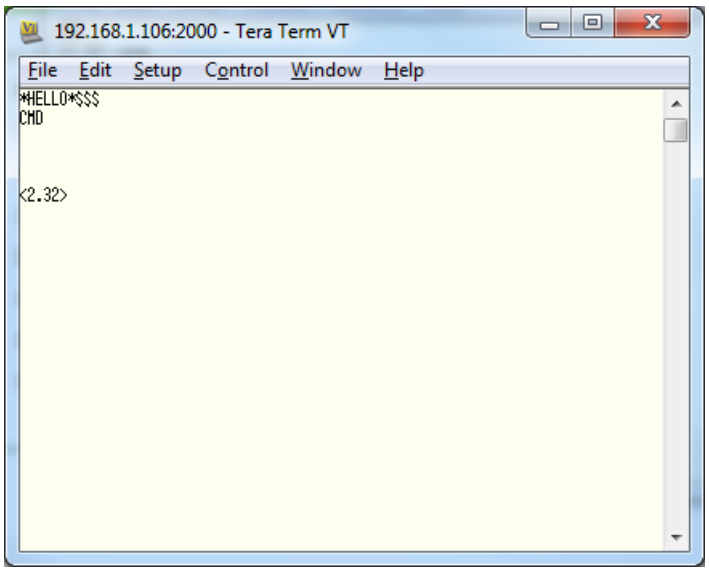



Now it should be possible to set up a TCP connection between your PC and the iAIS, using the IP address that the iAIS has been given (192.168.1.102 in this example) and port 2000.

Open Tera Term again and type in the IP address and Port.



You should see the *HELLO* screen again and remember to set the Local Echo ON and the Transmit to LF+CR as you did before. Now type the three dollar signs $$$, to go in to Command mode.



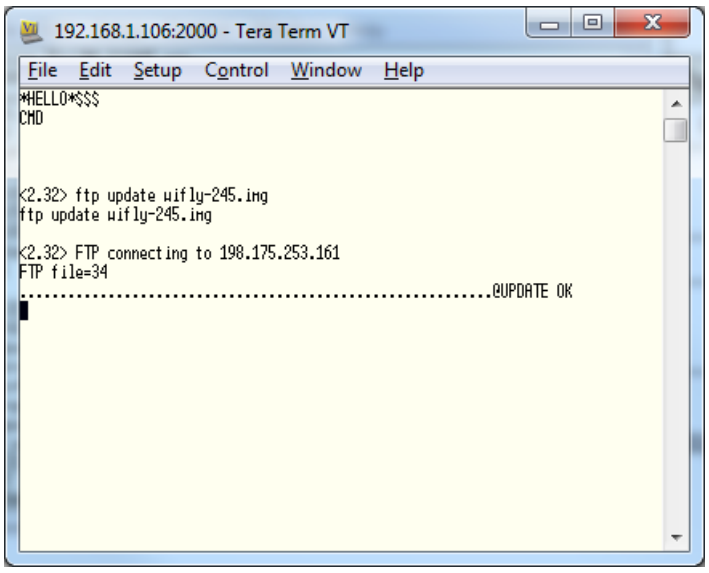

Now we are ready to update the iAIS, but before you do this, download the iAIS Configuration Script file from our website…

http://www.digitalyachtamerica.com/index.php/en/support/support-manuals/utilities?download=441:teraterm-macro-for-tech-note-00048-2013

If when you click the above link, your browser opens the file rather than downloads it, right click on the page and select SAVE AS and make sure you save it as a .TTL file.

Go back to the Tera Term window and you need to enter the command that tells the iAIS to start the downloading the new firmware file…

## ftp update wifly3-441.img

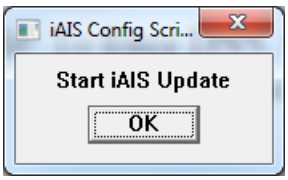



You should see the update being downloaded as shown, the whole process takes less than 1 minute and should end with the UPDATE OK text being displayed.

Press the ENTER button on your PC and then in Tera Term click on the ***CONTROL*** menu and select “Macro”.

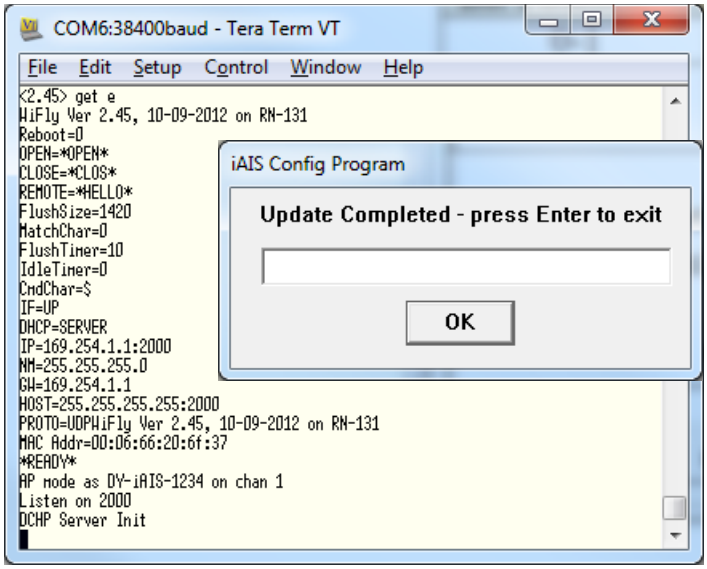
Now browse to the location where you downloaded the iAIS Configuration Script file, select it and press the “Open” button.

You should now see a small Pop Up window asking you to Start the iAIS Update.

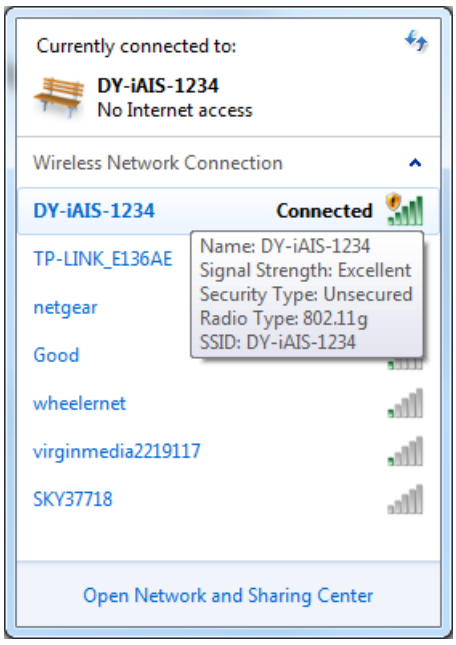


Click the “OK” Button and the script will configure your iAIS.

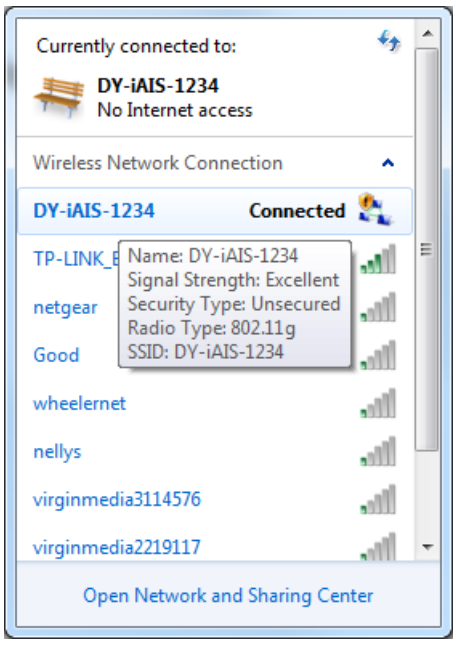
When you are asked to Enter Serial Number, type in the four digits of the original iAIS network name (SSID) and click the “OK” button. The script will now complete and you will see a screen similar to the one below…




Press the “OK” button and exit Tera Term, your iAIS is now updated and reconfigured to work in Access Point Mode. To check if this is OK scan for wireless networks on your PC and you should see the iAIS shown as a normal wireless network (green bar graph icon) and not an Ad-Hoc network (three computers connected together icon) as shown below.




Normal AP Mode




Ad-Hoc Mode