

NOTE:- This manual is only applicable to AISNet units built after September 2015. These units can be identified by them having a number of status LEDs on the front face of the product. Units prior to September 2015 had no status LEDs.

AISNet


Internet AIS Receiver Base Station

Installation and instruction Manual



1. Introduction

Congratulations on the purchase of your AISNet Internet Base Station AIS Receiver. It is recommended that your receiver is installed by a professional installer. The AISNet requires connection to the internet via a local area network (LAN) and it is recommended that this is carried out by someone with suitable IT experience and knowledge of ethernet networks.

 **Before operating the unit you should familiarise yourself with this Quick Start manual and the manual for your personal computer and network router.**

2. Before you start

You will need the following items and tools to complete the installation:

- The AISNet Receiver
- An external, dedicated AIS/VHF antenna mounted as high as possible
- RJ45 Cat 5 cable to connect between the AISNet and your Ethernet network
- Access to a 110v/240v AC mains supply where the unit is to be installed.
- M3 or M4 screws or other fixings appropriate to the mounting location.

To setup the AISNet and display the received AIS targets locally you will need:

- A PC or Mac with a free USB port
- The latest AISNet configuration program V1.20 (copy at <https://support.digitalyacht.net>)
- Navigation software that can display AIS targets (copy of SmarterTrack Lite at <https://support.digitalyacht.net>)


3. Installation

Before starting installation select a suitable location for the AISNet Receiver. The unit is designed for mounting at home or in an office and is not water resistant. It should be installed in a cool, dry location and can be mounted on a vertical or horizontal surface. When locating the unit you should consider:

- Routing of power and antenna cables to the unit.
- Provision of sufficient space around the unit for cable connections.
- Routing of USB data connections to a PC from the unit (if necessary).
- Maintaining the compass safe distance of 0.5m.

Installation Step 1

- Siting of the VHF antenna is critical for good AIS reception. The aerial needs to be outside and as high as possible. Most antennas are tuned and matched to their coax cable, so do not lengthen or shorten the supplied cable unless the aerial manufacturer states that this is OK.
- Care should be taken in cutting and rejoining the cable to ensure that good connectivity is maintained, that the inner and outer coax connections are isolated and that the connections are protected from physical and environmental damage.
- Run the VHF co-axial cables to the AIS Receiver and terminate with the correct BNC connector (Bayonet).
- Run the USB interface cable from the AIS Receiver to a suitable PC computer.
- Do not make any connections yet.

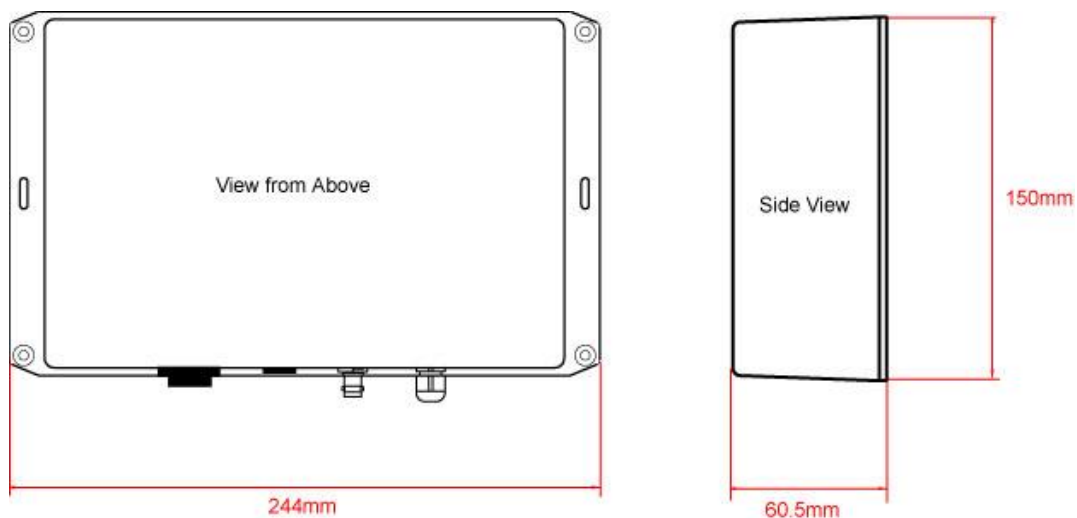
 **The USB Interface Standard specifies that USB cables should be no longer than 5m without using a special powered USB extender cable – ensure that the total USB cable length from the AIS Receiver to the PC is < 5m.**



Installation Step 2

- Use suitable fixings (not supplied) to fix the AISNet to a flat surface – using the dimensions and details shown in the drawing below. Note that the unit may be installed in any orientation.

Dimension drawing



- Once the unit is secured in place, position the antennas so that they are pointing vertically upwards or if connected via extension leads, mount and secure the antennas within the cabin area.

Installation Step 3

- The supplied mains adaptor has suitable plug fittings for Europe, USA and the United Kingdom. Select and fit the plug required for your location. If the AC Mains socket has a switch, ensure the switch is OFF and then plug the adaptor in to the AC Mains socket. If the AC mains socket does not have a switch do not plug in the adaptor yet.
- Plug in the 12v DC Jack plug (2.1mm centre pin positive) into the power socket on the AISNet.
- Plug one end of the RJ45 Cat 5 network cable (not supplied) in to the AISNet and the other end in to a spare network socket (LAN) on your ethernet network. On small home/office wireless networks, you will probably have to plug straight in to one of the LAN connectors on the back of the wireless router.

Installation Step 4


- In order to display AIS targets locally on a PC or Mac, it is necessary to use the AISNet USB cable. Windows PCs need to be turned on and connected to the internet before plugging the USB cable in, so that Windows can automatically go online and download the USB drivers.
- Then it is necessary to find out what device name the AISNet has been given by Windows (**COM3**, **COM4**, etc.) or by the Mac (**/dev/cu.usbmodem1234** or similar) and select this on your navigation program remembering that the data speed is 38400 baud for AIS and not 4800 baud that is the normal NMEA0183 speed.







- You do not need to power up the AISNet for the USB interface to operate and AIS reception can be achieved with the AISNet just taking its power from the USB cable. However, the network interfacing will not operate without the main power supply being connected and turned on.

Installation Step 5

- Now that we have all of the connections made, we can apply power to the AISNet. Turn ON or plug in the AC Mains Adaptor and the green POWER LED on the front of the AISNet should illuminate.



POWER  NMEA 


RECEIVE  TCP/IP 





AISnet Internet Base Station AIS Receiver

PART NOS: ZDIGAISNET
Manufactured in the UK

12V DC OPERATION ONLY
Connect via supplied DC adaptor
NOTE! Metal parts to DC Ground

TEL +44 1179 554474
www.digitallyachtamerica.com

 Tested to comply with FCC standards

 **NETWORK**  **BNC VHF ANT**  **USB**  **DC 12V**

- Assuming that the AIS/VHF antenna is connected and there are AIS targets within the reception range of the AISNet (typically 20NM or more), the yellow RECEIVE LED on the front of the AISNet should flash each time an AIS target is received.
- If the network interface is powered up and working then the green NMEA LED will flash and once a TCP connection is established the green TCP/IP LED will illuminate.
- By studying the LEDs, the status of the AISNet can be determined and if everything appears to be working then installation is complete and you should proceed to section 4. Network Configuration.

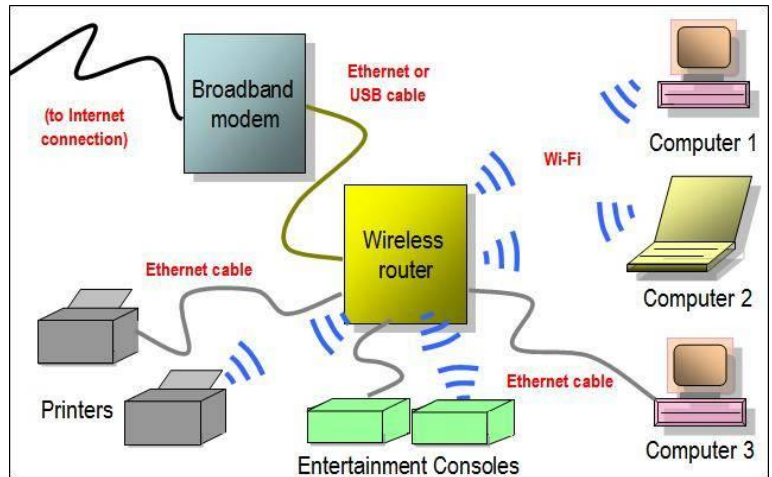


4. Network Configuration

This Quick Start Guide assumes the reader has experience of setting up a PC network. If you have an unusual network configuration or need further assistance to setup your AIS Base Station please contact support@digitalyacht.co.uk.

Most Small Office or Home (SoHo) networks will have a wireless router that is either connected to a “Broadband Modem” or has an ADSL telephone router built-in. A “Broadband Modem” refers generically to any of the common broadband internet connections i.e. cable modem, ADSL, DSL, ISDN, 3G or even satellite connection.

The most common setup is for the Router to assign IP addresses to the devices that connect to it using DHCP. If this is how your network router operates, then the settings detailed in this document will work. If your network has static IPs, then you will need to allocate an unused IP address for the Base Station.



Typical Home/Small Office Network

Configuring the AISNet Network Settings

Download and install the latest AISNet Configuration Tool (from the Digital Yacht website). When you run this program, you should see the window shown in Fig 1. Click the “search” icon and the program will search for the AIS Base Station. After the search is complete, you should see the Mac Address of the AISNet in the top of the Module List – see Fig 2.

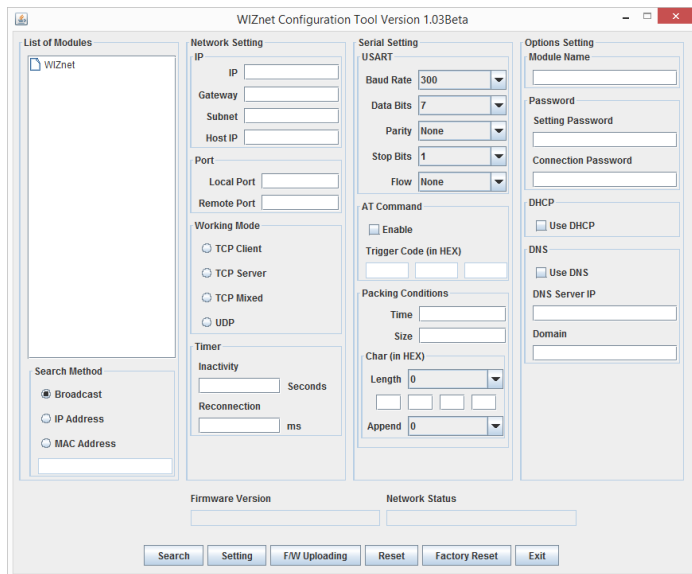


Figure 1

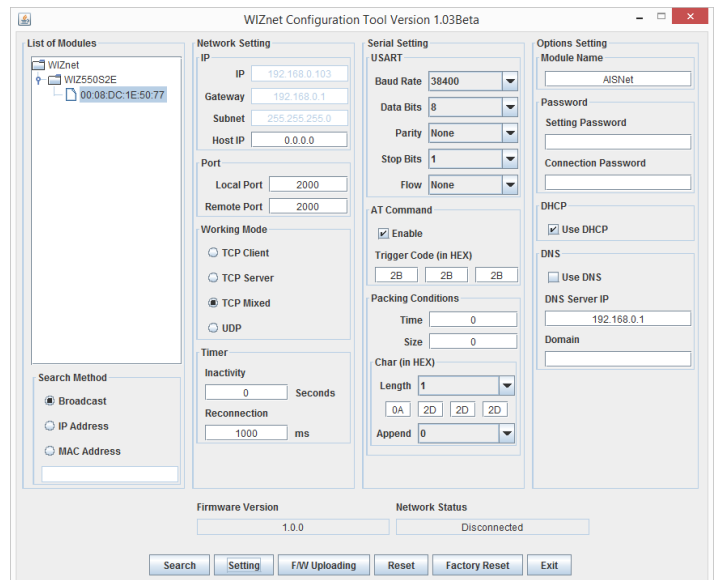


Figure 2



Ensure the IP Configuration Method is set to “DHCP”, operation mode is set to “TCP CLIENT” or “UDP” which are two protocols that have been tested with Marine Traffic and should also work with other online AIS services.

Now enter the Host IP address and Remote Port given to you by the On-Line AIS service in the relevant boxes. These are the unique settings that identify to the AIS server that the data is coming from you, so it is very important that you get these right. The Local port can be any unused Port on your network, if in doubt just use the default Local Port of 2000.

Once you are sure that all of the settings have been set correctly, click the “Setting” icon and your settings will be copied in to the AISNet Base Station memory.

To apply the settings, you can either click the “Reset” button (not the “Factory Reset” button) or power cycle the AISNet. Either way after a few seconds the AISNet will restart using the new settings.

Now check the website of the on-line AIS service that you wish to send AIS data to. The example below is for Marine Traffic but each service should have a page where you can check that your data is being received.

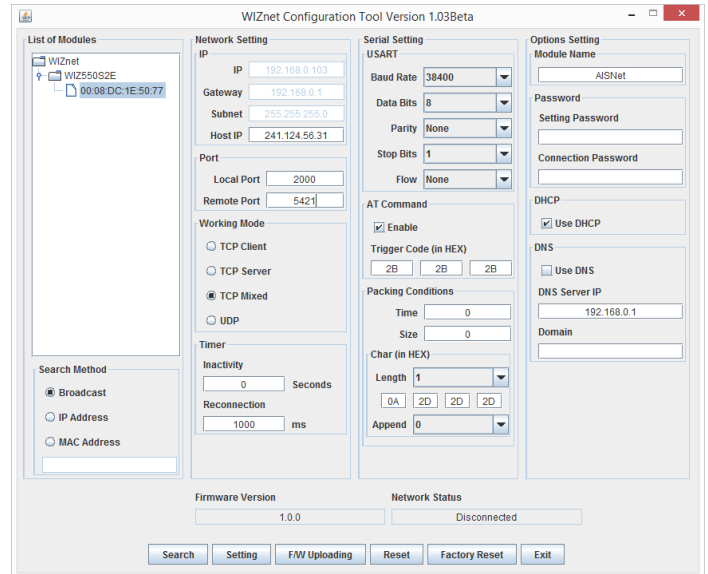


Figure 3

