
Installation & Quick Start Guide

Aqua PC Range – AquaNav PC Version



1. Introduction

Congratulations on the purchase of your AquaNav PC. It is recommended that your new computer is installed by a professional installer.

-  **Do not disconnect the White wire from the Red on the main power/data cable until you have read and understood the Remote Switch operation (Installation Step 3+4) explained in this Quick Start Guide.**

2. Before you start

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

- A USB Keyboard and Mouse
- A suitable Monitor with VGA or DVI-D input
- Access to 12V or 24V DC power supply where the unit is to be installed
- Crimps, terminal block or other connectors suitable for connecting DC/Signal wiring
- M3 or M4 screws or other fixings appropriate to the mounting location

If the AquaNav PC has Windows pre-installed, you will need to authorise this copy of Windows by either connecting the computer to the internet or ringing the Microsoft automated telephone authorisation system.

Other optional items you may wish to have with you during installation include;

- Suitable USB Memory stick for transferring software and data
- A momentary action push button switch (push to make) if you want a remote power switch
- A powered USB hub if you intend to connect more than 3 USBs devices to the AquaNav PC
- Original CDs/DVDs of the software you wish to install on the AquaNav PC

3. Installation

Before starting installation select a suitable location for the AquaNav PC. The unit is not water resistant and should be mounted in a dry location where it will not come in to contact with water or excessive moisture. When locating the unit you should consider:

- Routing of power, USB and NMEA cables to the unit
- Provision of sufficient space behind the unit for cable connections
- Getting access to the AquaNav PC for plugging in USB devices and loading CDs/DVDs
- Maintaining the compass safe distance of 0.5m

Installation Step 1

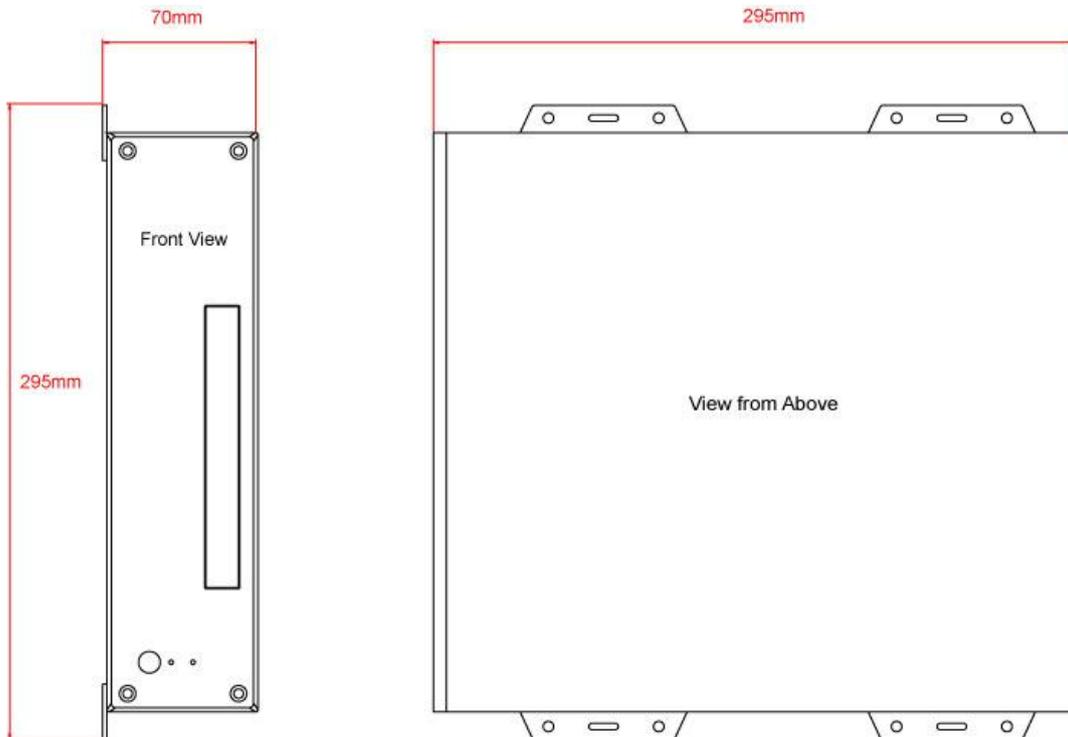
- Run a suitable 12v or 24v supply to the location where the AquaNav PC will be mounted.
- The AquaNav PC normally consumes around 1.5A at 12v but will consume more power if you are powering a 12v monitor or lots of USB devices from the AquaNav PC.
- Ensure a suitable in-line fuse is fitted or circuit breaker (maximum 10A).
- Run any USB or NMEA interfacing cables to the location where the AquaNav PC will be mounted.
- 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 AquaNav PC to any USB device is < 5m.**

Installation Step 2

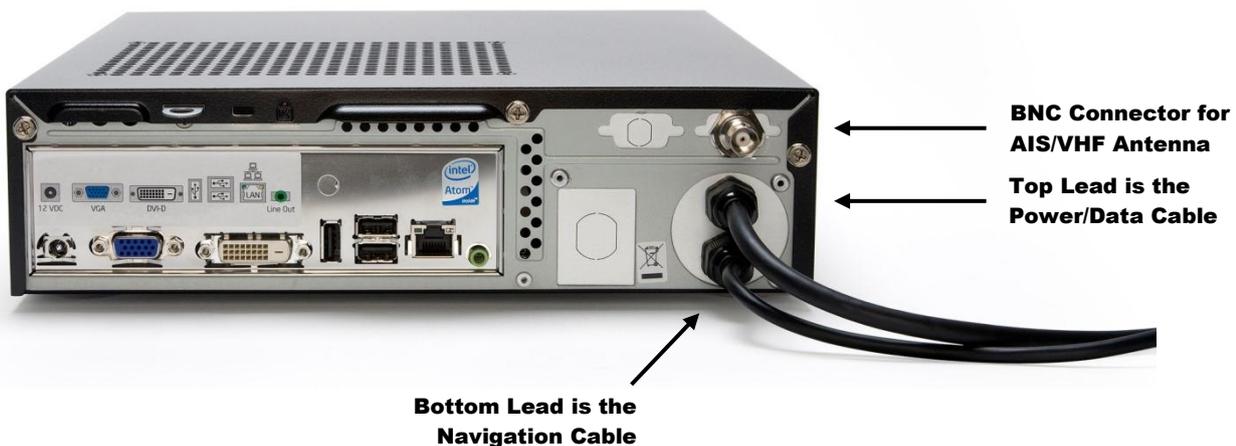
- The AquaNav PC is supplied with four mounting brackets which are screwed (wrong way round) to the base of the AquaNav PC for transit. Unscrew the brackets, reverse them and screw them back in place. Use suitable fixings (not supplied) to fix the AquaNav PC to a flat surface – using the dimensions and details shown in the drawing below. Note that the unit may be installed in any orientation.

Fixing location drawing



- i** The AquaNav PC is also supplied with two plastic stands that can be fitted if the AquaNav PC is to be desk mounted as you would in an office or home environment – these are definitely not recommended for installation of a boat

Photo of AquaNav PC Rear Panel



Installation Step 3

- On the rear of the AquaNav PC are two black cables. The top cable has nine wires and is the Power/Data cable. Connect the Red (+) and Black (-) wires in the Power/Data cable to the ship's 12v or 24v supply.
- **Ensure that the supply is connected via a suitable fuse or suitable circuit breaker (in the positive power connection).** A 5A fuse/circuit breaker is recommended for most installations and 10A is the maximum value that should be used.
- You will note that there is a White wire soldered to the Red wire. This is the remote switch wire and should always be connected to the Red wire if no remote switch is required. The AquaNav PC will not power up correctly if the White wire is disconnected from the Red wire and no remote switch is fitted – see wiring diagram.
- Do not try to turn on the AquaNav PC yet.

Installation Step 4

- The bottom black cable has eight wires and is the Navigation cable for connecting the GPS105 antenna and also interfacing the High Speed NMEA Output (38,400 Baud) of the AIS to other navigation equipment. This cable is terminated in a terminal block.
- After mounting the GPS105 and feeding the cable through to the AquaNav PC, connect the GPS105 cable to the AquaNav Navigation cable as follows;

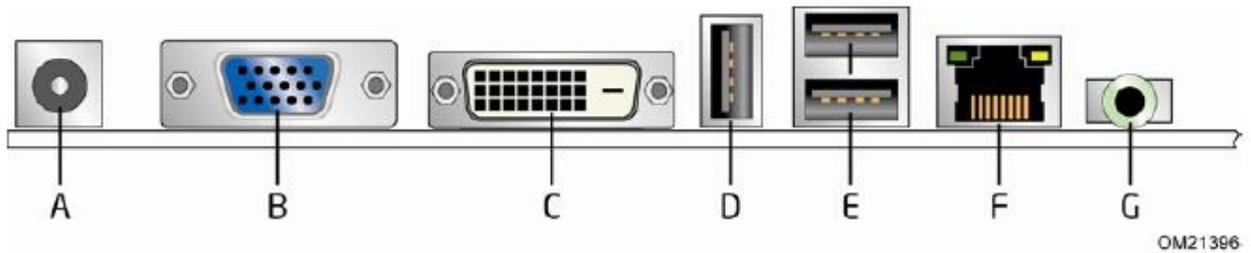
GPS105 Cable		AquaNav Navigation Cable
Red	-	Red
Black	-	Black
Green	-	Green
White	-	White
Shield*	-	Blue

*NOTE – the Shield (silver wire) has black heat shrink insulation on it

- If you wish to take the High Speed NMEA0183 GPS and AIS data out to another piece of navigational, then use the following two wires of the Navigation Cable;
 - Orange (TX+)
 - Brown (TX-)
- Remember that this data is high speed NMEA0183 data and you must set the equipment receiving this data to accept data at 38,400 baud rate, which is the standard for AIS data
- Please note that the GPS105 and built-in AIS receiver are powered directly from the main +12/24v supply connected to the AquaNav PC and remain powered even when the PC is shut down. This allows the GPS and AIS units to be run independent of the PC which can be useful on sail boats where constant running of the PC can cause power consumption problems.
- To ensure that the GPS and AIS are powered down, it is necessary to turn off the circuit breaker that provides power to the AquaNav PC.
- Feed the coax cable from a dedicated AIS/VHF aerial or from a suitable VHF antenna splitter to the AquaNav PC and connect it to the BNC connector on the rear of the unit.

Installation Step 5

- The connections on the rear of the AquaNav PC are as follows;

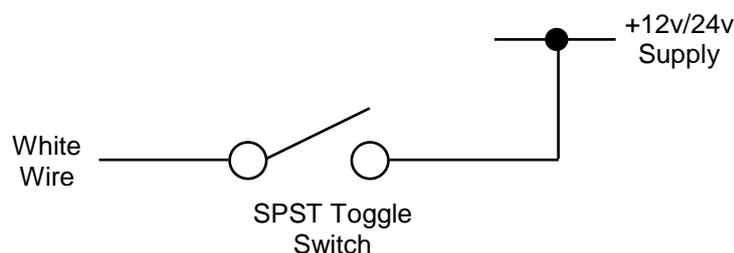


Item	Description
A	12 V power connector
B	VGA port
C	DVI-D connector
D	USB port
E	USB ports
F	LAN connector (RJ-45)
G	Audio line out

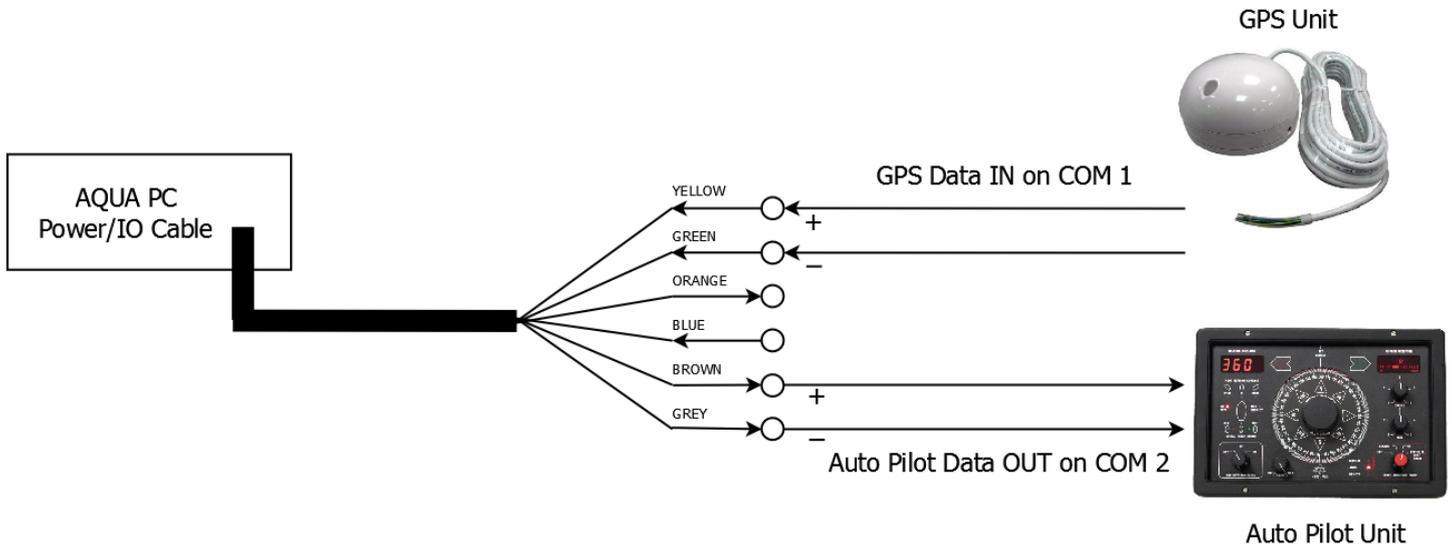
- The wires in the nine core Power/IO are as follows;

○ RED	-	Power + (12v or 24v)
○ BLACK	-	Power - (0v)
○ WHITE	-	Remote Power Switch
○ ORANGE	-	COM 1 TX+
○ YELLOW	-	COM 1 RX +
○ GREEN	-	COM 1 Ground (-)
○ BROWN	-	COM 2 TX+
○ BLUE	-	COM 2 RX+
○ GREY	-	COM 2 Ground (-)

- Connect a USB mouse and keyboard to the any of the three USB ports on the AquaNav PC
- Connect a suitable monitor or monitors to the VGA and/or DVI-D connectors on the AquaNav PC
- If you are using an LCD monitor that requires a 12v regulated DC supply, then it is possible to provide this DC supply from the AquaNav PC (up to 7A). Connect the monitors power input to the 12v Power Connector on the rear of the AquaNav PC. This will require the construction or sourcing of a suitable lead but the DC jack plug type connector is very common and can be sourced from any good electronic component shop. **NOTE: Centre pin is positive.**
- To connect a remote power switch for the AquaNav PC, at another location in the boat, simply remove the white wire from the red wire and connect the white wire to the ship's supply (+12v or +24v) via a SPST toggle switch as shown below.



- To connect NMEA devices to the AquaNav PC you can connect them directly to the two COM port wires in the Power/IO cable. A couple of typical examples are shown below;



- Once all devices are correctly connected to the AquaNav PC ensure the 12v or 24v power is connected i.e. the circuit breaker is ON (if fitted) and then turn on the remote toggle switch and the AquaNav PC will power up. As you turn on the remote switch, the Power and Hard Disk LEDs on the front face of the AquaNav PC should come on as the PC starts it's power up sequence.
- Installation is now complete.