DIGITAL YACHT

TECHNICAL NOTES

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Article applies to - MUX100 and WLN10HS

ISSUE: Dual Input Wireless NMEA with our MUX100 and WLN10HS

With more and more customers wanting to have wireless NMEA data on their mobile devices (iPhones, iPads, etc.) we are often asked how to get AIS data at 38400 baud and Instrument or GPS data at 4800 baud in to one of our wireless NMEA servers (WLN10HS).

For customers who already have a Digital Yacht AIS, this is easy as most of our AIS products have a 4800 baud multiplexer built-in but for customers with a 3rd party AIS this can often be a problem.

This was the reason we developed our MUX100 NMEA Multiplexer and this Tech Note explains how to use the MUX100 with one of our WLN10HS units to combine two NMEA outputs at different baud rates and then stream all of the data wirelessly to a mobile device using our WLN10HS.

SOLUTION:

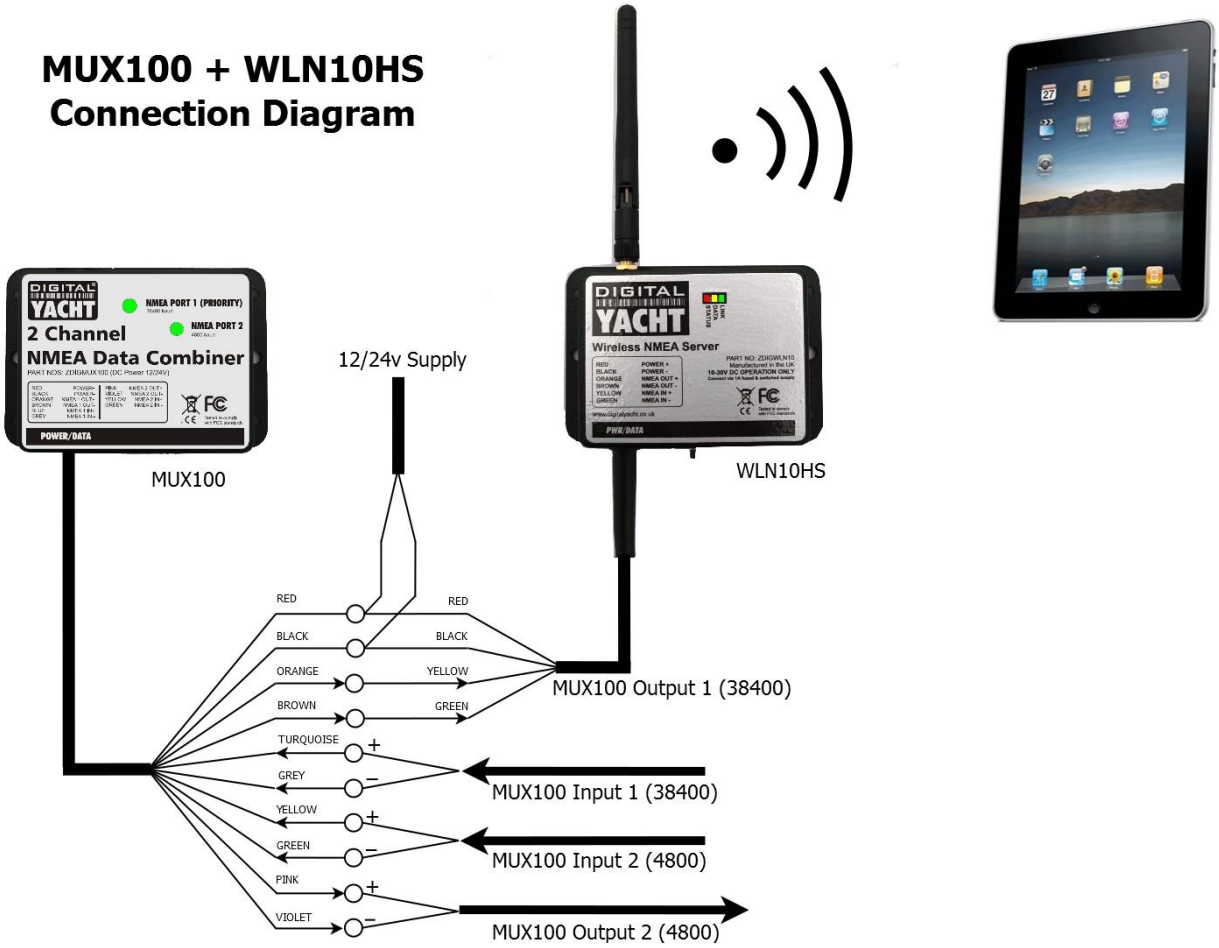
The MUX100 has two NMEA0183 Ports (interfaces) where each port has one input and one output. Port 1 is set to 38400 baud and Port 2 to 4800 baud. Port 1 has priority over Port 2 and if the same data is received on both ports, then the data on port 1 will be used.

Typically you would connect the NMEA0183 output of your AIS to the Port 1 Input and your instrument or GPS system Output to the Port 2 Input. Then the combined data (AIS+Instrument+GPS) would come out on the Port 2 Output where we connect the WLN10HS input. All of the data would then be converted to wireless network data that can be received by the mobile device.

If the AIS connected to the MUX100 is a transponder and is outputting its own GPS data, then the MUX100 will output the transponders GPS data unless the position fix is lost, in which case the MUX100 will check to see if there is valid GPS data on Port 2 and if there is, switch to using this data until the transponder's GPS starts to get a position fix again.

The two LEDs on the front of the MUX100 flash if there is valid data on their respective NMEA inputs and the port that is currently providing the GPS data is ON flashing OFF while the other port is OFF flashing ON. In this way, you always know if valid NMEA data is being received and which GPS source is providing the position data.

The diagram on page 2 shows how the two units should be wired together.



The WLN10HS receives all of the multiplexed data from Output 1 at 38400 baud and converts this to either TCP or UDP data packets that are available on its wireless network for any mobile device to receive. The Yellow “Data” LED on the WLN10HS will flash as it receives data from the MUX100 and you should then be able to scan for the WLN10HS wireless network on your mobile device, connect to it and then run any App that can accept TCP/UDP NMEA0183 data.

If you have GPS data connected to one or both of the NMEA inputs of the MUX100, then you can connect the 4800 baud Output 2 of the MUX100 to any device that needs a GPS position e.g. DSC VHF Radio. Only GPS data is sent out on Output 2 and this can be useful if you have an AIS Transponder that you want to take GPS data from but the devices that need the data cannot accept GPS data at 38400 baud. The MUX100 effectively “slows down” the GPS baud rate to 4800 which can be accepted by all devices.

For more information about the MUX100 and WLN10HS, visit the Support>Downloads>Manuals section of the Digital Yacht website and download the latest manuals.

http://www.digitalyacht.co.uk/