Yakker

NMEA to WiFi Bridge

www.yakbitz.com

Once powered up the YAKKER creates a WiFi hotspot. Connect to this with your Wifi Phone/Tablet etc using the default password of 12345678.

Next start your browser and enter 192.168.4.1 into the address bar to access the setup screen shown in Fig. 1.

Operating Mode

The yakker can operate as an Access Point which creates a private network to which you connect your WiFi enabled devices such as a smartphones, PCs or tablets. This is the factory default mode.

The yakker can also connect to your existing WiFi network so your devices can access the NMEA data broadcast by the Yakker and also access resources of your network such as the internet or a printer.

N.B. If the Yakker cannot connect to your router pressing the reset button will reboot it in Access Point mode.

Protocol

The Yakker can send your NMEA data over WiFi using either UDP or TCP protocols as required by your navigation software. UDP is the default factory setting.

Transmit Power

You can adjust the transmit power of the Yakker according to the range required.

Baud Rate

The baud rate is the speed that your NMEA equipment such as your AIS receiver, GPS, Sounder uses to export its data. Refer to your equipment's user to determine the speed that is used. 4800 is the factory default setting.

Sentence Filtering

Port Filters allow you to block certain sentences from being sent over WiFi.

To do this you need to know a little about the different types of sentences. One excellent source of information can be found here.

This is an example of an RMC sentence sent by a GPS receiver.

$GPRMC,123519,A,4807.038,N,01131.000,E,022.4,084.4,230394,003.1,W*6A

Contained within this sentence are data relating to the time, position, direction of travel and speed. The part that is important to us for filtering purposes is just the first part "$GPRMC". The "$" is just used to indicate the start of a sentence so we can ignore it. The first two characters of the sentence "GP" comprise the Talker ID, this one tells us that the sentence was sent from a GPS receiver. The next 3 characters "RMC", the Sentence ID, tells us which sentence it is. RMC is the acronym for "Recommended Minimum Navigation Information".

There are 3 ways to filter sentences:

2 character Talker ID eg. "GP" This will block all sentences starting with GP.

3 character sentence type eg "RMC" This will block all RMC sentences.

5 character Talker ID and sentence type eg. "GPRMC" This will block only RMC sentences with a talker ID of GP.

You can have multiple filters set. Simply separate them with commas eg. "DPT,GPRMC,WI,ZDA"

Sentence Conversion

MWV to VWR Select this option if your autopilot requires the VWR relative wind sentence but your wind instrument only sends the MWV sentence. The YakBak will then convert any incoming MWV sentence to VWR automatically.

V2.2 to V2.3 Select this option if your GPS/Plotter or navigation software outputs version 2.2 or earlier sentences but your autopilot requires version 2.3 or later sentences. The YakBak will then automatically convert any outgoing autopilot sentences to V2.3. The sentences that will be converted are APB, BWC, RMB, RMC, VTG and XTE.

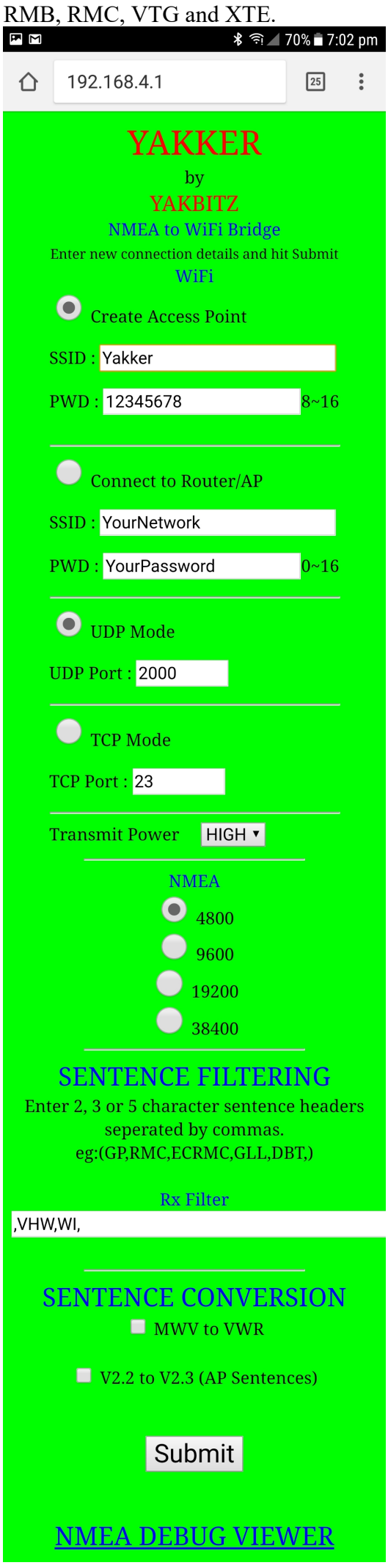

Fig. 1

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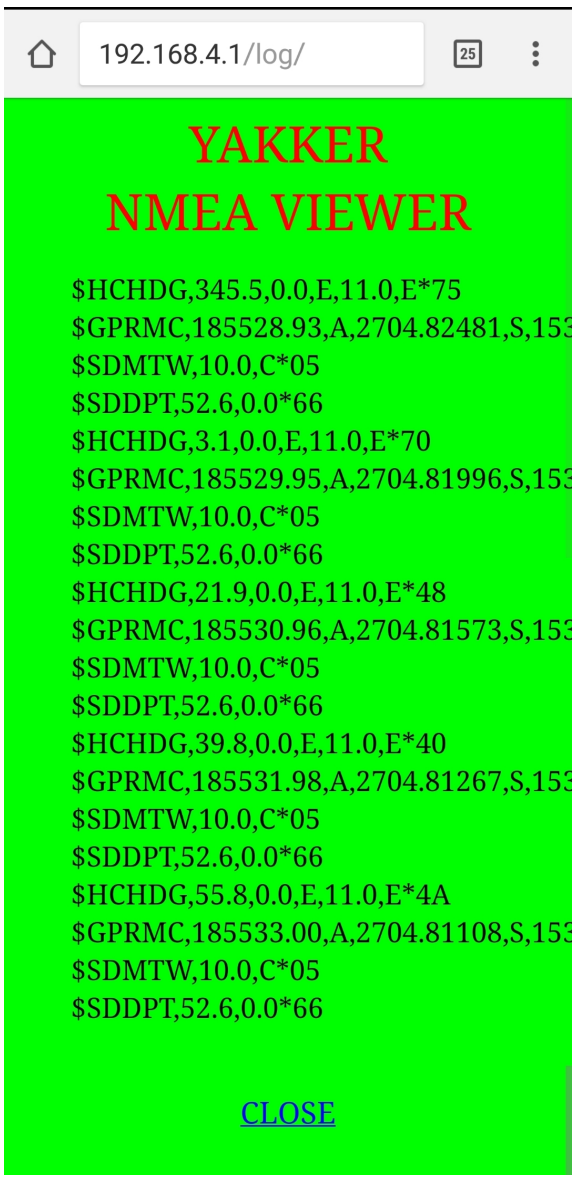
NMEA DEBUG VIEWER

The NMEA Viewer allows you to see the NMEA sentences immediately before they are transmitted over WiFi.

This is very useful when first getting connected, if you can see your data here then you know you have a good connection to your NMEA equipment and you can now move on to setting up your software to receive the transmitted sentences.

The NMEA Viewer can also be used to test any sentence filtering you've set up. Sentences that are being blocked by your filter will not be seen here as the NMEA Viewer only shows the sentences that are being transmitted to your WiFi devices.



Reset Button

Pressing the reset button reboots the YakBak in Access Point mode. Press and hold the reset button until the green light starts blinking (approx 5 sec.) to reset the Yakker to factory default settings.

CONNECTIONS

Connect the NMEA OUT + wire of your Chartplotter to the YakBak's Rx terminal.

Connect the NMEA IN + wire of your Autopilot to the YakBak's Tx terminal.

Set the Baud Rate (speed) of to the YakBak to match the speed of your Chartplotter and Autopilot.