**ApRemote – a web based Raymarine SeaTalk 1 autohelm remote control**

Source: <https://github.com/richardJG/APRemote>, Last commit, Nov 2020

Platform IO

**Libraries for build:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Name & author** | **PlatformIO libdeps entry:** | **Version** | **Maintainer** |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

Moving to alternative web sockets library & code in ApRemote in PlatformIO

<https://m1cr0lab-esp32.github.io/remote-control-with-websocket/led-setup/>

Now complies :-)

String send to client with data is:

267{"hdg":0,"cts":0,"hdgInfo":"&nbsp;","rsa":"S0","sog":0.00,"cog":0,"awa":"0S","xte":"---","aws":0.00,"vlw":0.00,"dpt":0.00,"stw":0.00,"dtw":"---","btw":"---","left":"&nbsp;","right":"&nbsp;","led0":"led\_on","led1":"led\_off","led2":"led\_off","led3":"led\_off","alm":" "}

Adding Wi-Fi Access point capability

Rui Santo’s Tutorials: <https://RandomNerdTutorials.com/>

[ESP32 Access Point (AP) for Web Server | Random Nerd Tutorials](https://randomnerdtutorials.com/esp32-access-point-ap-web-server/)

**SeaTalk 1 interface circuit.**

### Hardware-Interface

### SeaTalk uses three wires, connected in parallel to all devices on the bus:

1. +12V    Supply, red
2. GND    Supply, grey
3. Data    Serial Data, yellow:
   1. +12V=Idle/Mark=1, 0V=Space/Data=0,
   2. 4800 Baud,
   3. pullup circuit in each device,
   4. talker pulls down to 0V (wired OR).

Original Raymarine interface (for 5V microcontroller):

Diagram, schematic

Description automatically generated

Reworked for 3.3V microcontroller:

Using EasyEDA simulation mode.

Diagram, schematic

Description automatically generated5V (VCC) related resistors have been scaled by 3.3/5 and nearest standard value selected.

Simulation showed circuit works with 11, 12 and 14V charge states of 12V lead acid battery.

A picture containing graphical user interface

Description automatically generated

**Info**

1. SeaTalk Autopilot Remote Control device based on an Arduino Pro Micro and a simple 433 MHz Key Fob:

<https://github.com/AK-Homberger/Seatalk-Autopilot-Remote-Control/blob/master/README.md>

1. Great description of SeaTalk 1 electronics and messages …

<http://www.thomasknauf.de/seatalk.htm>

1. something else?

<http://www3.sympatico.ca/ericn/>

**Alternatives**

1. Ray control app – connects to wifi enabled mfd instruments?
2. **Raymarine** **S100** – autohelm remote approx. £400 – a basic unit

<https://www.force4.co.uk/item/Raymarine/S100-Autopilot-Wireless-Remote-with-Base-Station/AHD>

1. **Raymarine SmartController** with base station £540 – a more capable remote with data displays

<https://www.marinesuperstore.com/autopilots/autopilot-accessories/raymarine-smart-controller>