

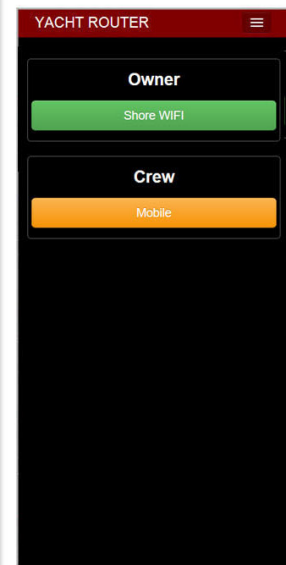
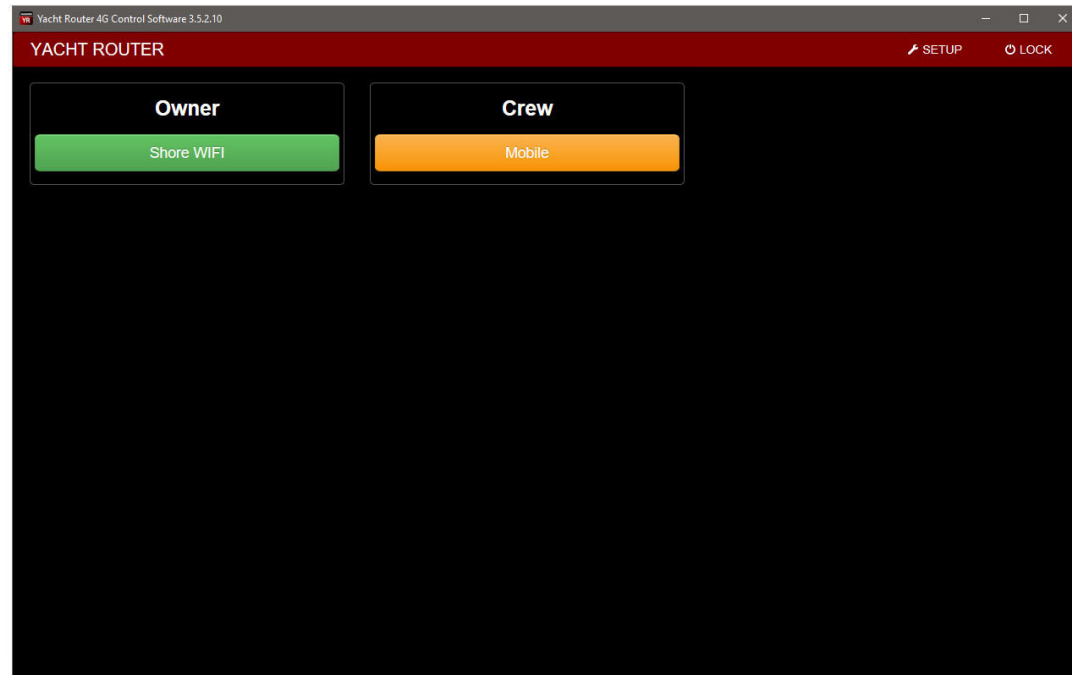
# Locomarine

## YACHT ROUTER

# MINI

SERIES 6

The easiest way to stay online.



# User Manual

version 1.0

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Read carefully.

For better understanding check video tutorials on our website.

Register your product for software update notifications.

Thank you.

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## **RoHS COMPLIANT**

All devices in the Yacht Router series comply with the Restriction of Hazardous Materials (RoHS) Directive. This means that all components used to build Yacht Router and add-on modules are RoHS compliant. The RoHS Directive bans placing on the EU market new electrical and electronic equipment containing more than agreed levels of lead, cadmium, mercury, hexavalent chromium, polybrominated biphenyl (PBB) and polybrominated diphenyl ether (PBDE) flame retardants.

## **INTRODUCING YACHT ROUTER SOLUTION**

Yacht Router with add-on modules is a complete network infrastructure solution for yacht or boat of any size. Yacht Router devices with add-on modules will help you to easily install, setup and control Internet connection on your yacht. The most important part of Yacht Router solution is the software which controls complete system. It is designed by professionals specialized in yacht communication systems in collaboration with experienced yacht captains. The result is a system that is simple to operate, maintain and control. Underneath simple touch user interface, Yacht Router with add-on modules is a solution with an industry level of reliability, performance and unprecedented level of security.

## **DISCLAIMER AND WARNING**

The contents of this manual are well prepared by Locomarine Networks d.o.o.

While we try to improve our equipment at all times, Locomarine Networks d.o.o. shall incur no liability based on contents, updates or modification of the contents, or the lack of contents in this manual.

Because of the nature of wireless communications, transmission and reception of data can never be guaranteed. Data may be delayed, corrupted (i.e. have errors) or be totally lost. Although significant delays or losses of data are rare when wireless devices such as the Yacht Router are used in a normal manner with a well-constructed network, the Yacht Router device and additional modules should not be used in situations where failure to transmit or receive data could result in damage of any kind to the user or any other party, including but not limited to personal injury, death, or loss of property. Locomarine Networks d.o.o. and its affiliates accept no responsibility for damage of any kind resulting from delays or errors in data transmitted or received using the Yacht Router device, or for failure of the Yacht Router device to transmit or receive such data.

The equipment said in this manual must only be used for what it was designed.

Improper operation or installation may cause damage to the equipment or personal injury. Locomarine Networks d.o.o. will not incur any liability of equipment damage or personal injury due to improper use or installation of the equipment. It is strongly recommended to read this manual and the following safety instructions before proceeding to installation or operation.

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## 1.1. ABOUT YACHT ROUTER CONTROL SOFTWARE

This software manual is dedicated to Yacht Router Control software (*YR Control Software* in further text) operating with Yacht Router Mini s5 (*Yacht Router Mini* in further text) product line. Some features might not be available for later Yacht Router Mini model versions.

All Yacht Router product are designed to be operated by Yacht Router Control software. We will call it YR Control Software in any following text.

Purpose of YR Control Software is to setup and monitor Yacht Router devices. **There is no other way to control Yacht Router devices.**

YR Control Software is available for following platforms:

Microsoft Windows 10, 8, 7 (supplied on USB stick inside a package or available for download on [www.yachtrouter.com](http://www.yachtrouter.com))

Android

Apple iOS (iPhone, iPad)

**YR Control Software does not need to permanently run on your device. You can turn it on only when you need to make some setup or monitor performance or status of Yacht Router device. YR Control Software can simultaneously run on multiple devices on same or different platforms (Windows, Android, iPhone etc).**

**IMPORTANT** | We strongly suggest that only one device at a time is used for Yacht Router setup and control to avoid possible collisions.

## 1.2. SOFTWARE INSTALLATION

Windows OS version is available on a USB stick supplied with a package. As we are constantly improving YR Control software we strongly recommend you to download latest version.

You can download latest version from a following links:



**IMPORTANT** | It could happened that some antivirus and firewall software will block YR Control Software to run correctly and communicate with Yacht Router device. In that case temporary disable your antivirus and firewall software and check performance of YR Control Software. If it runs correctly tweak your antivirus and firewall software. If you still have a problem please contact our support. You can find support contact details on [www.yachtrouter.com](http://www.yachtrouter.com)

### 1.3. EXPLAINING VESSEL NETWORKS

Yacht Router Mini support two Vessel Networks (e.g. Crew, Owner). Vessel Network is a network where you will connect your devices (phones, computers, tablets etc). You can connect to Vessel Network over WIFI or with cable via Ethernet LAN port.

Each Vessel Network can be simultaneously connected to same or different internet source. For example, you can set Crew network to use WIFI Hotspot in marina as Internet source while in the same time Owner network use mobile connection as Internet source.

Yacht Router Mini is equipped with two Vessel Network LAN ports. You can use it to connect computer or any other IP based device with Ethernet cable. If you plan to add Add-on modules (e.g. Mobile Expander, Network Extender, WIFI Booster etc.) you will use Backbone LAN ports. Devices connected to Backbone ports will be part of Backbone Network. Backbone Network is dedicated propriety network for communication between various Yacht Router and Add-on modules.

Backbone Network does not have Internet access. It means that any device (except Add-on modules) connected to Backbone port will not have Internet access.

Each LAN port except SAT 1 can be set to be part of any Vessel Network or Backbone Network according your demand. To change LAN port dedication contact our Support at [support@locomarine.com](mailto:support@locomarine.com) and they will make necessary setup over Remote Support (chapter "2.3. REMOTE SUPPORT" on page 11).

### 1.4. CONNECTING TO YACHT ROUTER MINI

Prior starting YR Control Software you have to connect to the Yacht Router. You can connect over wireless (WIFI) or cable (LAN) connection.

To connect to the Yacht Router over WIFI connection first you have to enable WIFI on your device and scan for available WIFI networks.

You should see following networks: **Yacht Router VN1** and **Yacht Router VN2**

If your device support ac (5 GHz) standard you will also see following networks: **Yacht Router VN1 5GHz** and **Yacht Router VN2 5GHz**

Initial password for each network is: **12345678**

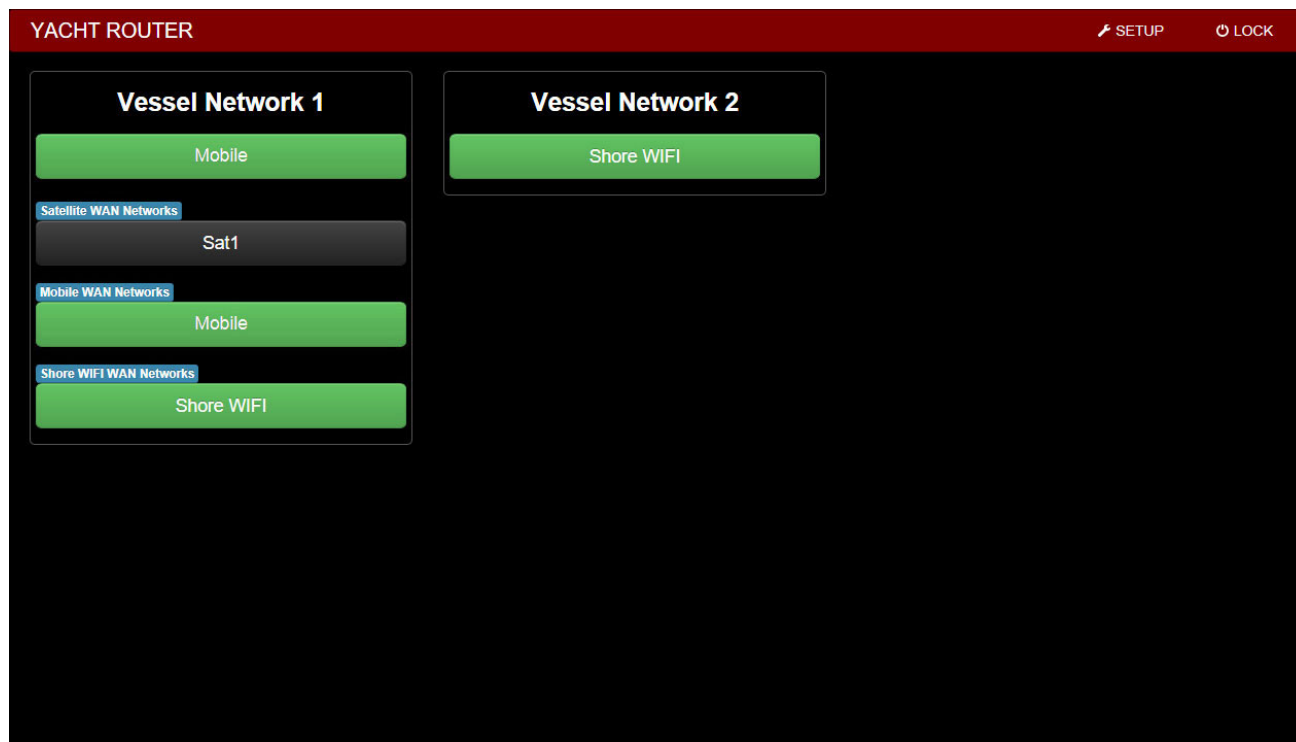
**IMPORTANT** | Be sure that your Windows computer is connected only to Yacht Router WIFI network and that all other connections (e.g. LAN) are disconnected. Windows operation system by default cannot work with two Internet source at the same time. Check that the computer is set to obtain IP address automatically - **DHCP enabled**

If you are connection via cable (LAN) you will not need a password.

**IMPORTANT** | Be sure that your Windows computer is connected only to Yacht Router LAN network and that all other connections (e.g. WIFI) are disconnected. Windows operation system by default cannot work with two Internet source at the same time. Check that the computer is set to obtain IP address automatically - **DHCP enabled**

## 2.1. YR CONTROL SOFTWARE - HOME PAGE

Once you are successfully connected to the Yacht Router over WIFI or LAN connection you should start YR Control Software on your device for the first time. On initial page you will see Connecting... message. Once YR Control Software connects to the Yacht Router green ENTER button will appear. Click on it to enter HOME page. Home page of YR Control Software is the one you will use most of the time.



### Vessel network names

Initial names are **Vessel Network 1** and **Vessel Network 2**. That names are just for your indication and you can change it (e.g My Network, Owner Network, Crew Network, Multimedia) once you enter SETUP page. More details in chapter "2.14. VESSEL NETWORK - MAIN SETUP PAGE" on page 30.

Buttons below **Vessel Network 1** and **Vessel Network 2** name indicates your current Internet source. Once you click on it, menu with available internet sources will appear. Number of buttons depends on connected Add-on modules (e.g. WIFI Booster, Mobile Expander). To route your Vessel Network 1 from Mobile to Shore WIFI (e.g. hotspot in marina) Internet source click on Shore WIFI button.

Internet source buttons can appear in three different colours with different meaning:

**GREEN** - Internet is available.

**ORANGE** - Internet is not available.

**RED** - Internet source (WAN) is disabled in WAN setup pages for each Internet source.

### Setup

Click to enter Main Setup page.

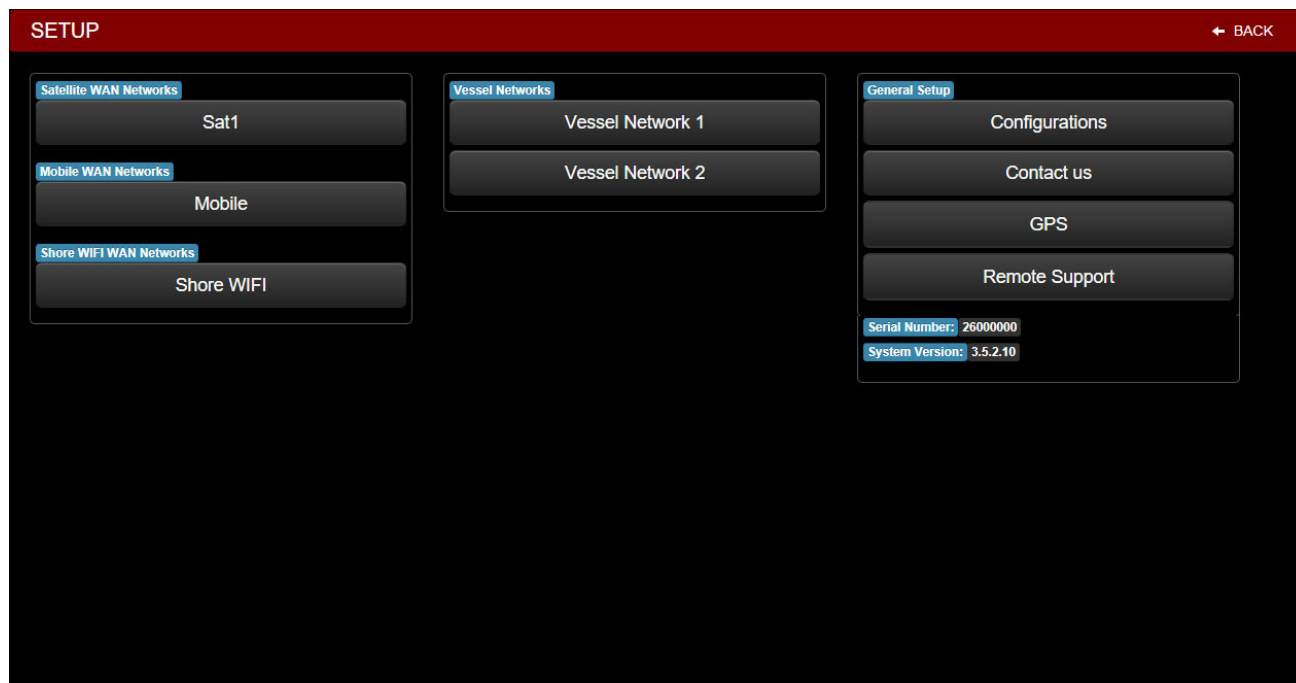
### Lock

Click to lock access to Yacht Router from unwanted access. More information in chapter "2.16. CONFIGURATIONS PAGE" on page 34.



## 2.2. MAIN SETUP PAGE

Setup page is divided in three sections: WAN Networks (Satellite, Mobile, Shore), Vessel Networks and General Setup.



### Satellite WAN Networks

Click **Sat 1** to enter **Satellite WAN Networks** setup page. More details in chapter “2.5. SATELLITE WAN NETWORKS - MAIN SETUP PAGE” on page 13.

### Mobile WAN Networks

Click **Mobile** to enter **Mobile WAN Network** setup page. More details in chapter “2.7. MOBILE WAN NETWORKS - MAIN SETUP PAGE” on page 16.

### Shore WIFI WAN Networks

Click **Shore WIFI** to enter **Shore WIFI WAN Networks** setup page. This button is only available when WIFI Booster is connected to the system. More details in chapter “2.11. SHORE WIFI WAN NETWORK SETUP” on page 23

### Vessel Networks

Click **Vessel Network 1** or **Vessel Network 2** to enter **Vessel Networks 1** or **Vessel Networks 2** setup page. More details in chapter “2.14. VESSEL NETWORK - MAIN SETUP PAGE” on page 30.

### General Setup

In this section you can find few buttons that will open several different sections.

#### Configurations

Click **Configuration** to enter **Configurations** setup page. More details in chapter “2.16. CONFIGURATIONS PAGE” on page 34.

#### Contact us

Click **Contact us** to open **Contact** page with details how to contact our Support or Sales.

#### GPS

Click **GPS** to open GPS details. More details in chapter “2.4. GPS” on page 12.

#### Remote Support

Click **Remote Support** if you need Remote Support from our Technical Support. More details in chapter “2.3. REMOTE SUPPORT” on page 11.

#### Serial Number

Yacht Router serial number.

#### System Version

Yacht Router Control software version.

## 2.3. REMOTE SUPPORT

Each Yacht Router is equipped with Remote Support feature that gives our Technical Support ability to connect remotely over the Internet to your Yacht Router. You can request Remote Support in various situations like setup, hardware diagnostics etc.

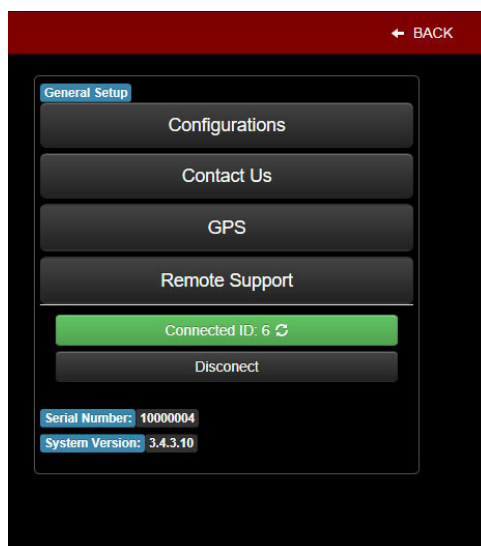
Remote Support is free of charge service. It is available Monday to Friday, 8-15 hrs (Central European Time)

To establish Remote Support please send an e-mail to [support@locmarine.com](mailto:support@locmarine.com) with following details:

- Contact details (name, e-mail, phone number)
- Yacht Router serial number
- Description of the problem or reason you requested Remote Support
- Connected ID number

Once we receive your request we will confirm reception by e-mail or phone.

**IMPORTANT** Before connecting to Remote Support check if Vessel Network 1 is connected to the Internet. Yacht Router will not connect to Remote Support if Internet is not available on Vessel Network 1. Internet connection must be stable and not very slow.



Click on **Connect** button to connect Yacht Router to Support Network. Once it is successfully connected button will go green and **Connected ID** number will appear.

Our Support Team will need this number to identify your Yacht Router.

## 2.4. GPS

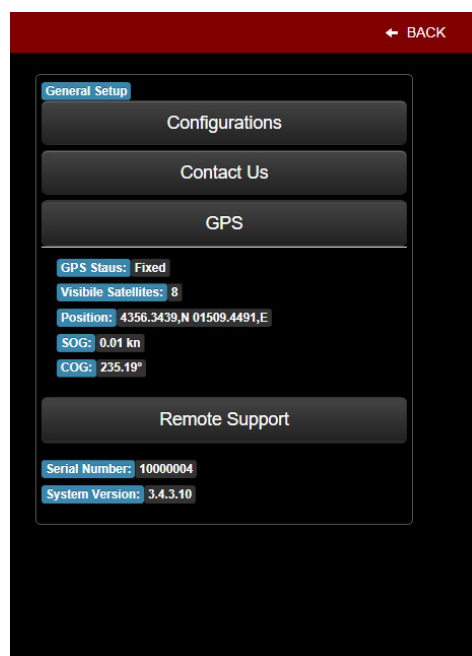
Each Yacht Router Model is equipped with GPS. You need precise GPS position to use following features:

- Remote Tracking
- Anchor Alarm

Remote Tracking will give you ability to remotely track location of your vessel. More about Remote Tracking in chapter “3.2. REMOTE TRACKING” on page 40 . Anchor Alarm will send notification to your phone if vessel move out of predefined anchor area.

To be sure that above mentioned features will work correctly, GPS location must be Fixed.

Click on **GPS** button to open drop down menu with following GPS details:



### GPS Status

Indicated if GPS position is Fixed or Searching (searching for satellites).

### Visible Satellites

Number of currently visible satellites.

### Position

Current GPS position in decimal format.

Example: 4356.3493,N 01509.44,91E means that your current location is N 43°56'35" and E 015°09'44"

### SOG

Speed over Ground

### COG

Course over Ground

## 2.5. SATELLITE WAN NETWORKS - MAIN SETUP PAGE

Yacht Router Mini is equipped with one satellite WAN network port. You can connect any satellite system based on IP protocol.

The screenshot shows the WAN Network configuration page. At the top, there is a dark red header with the title 'WAN Network' and navigation links for 'BACK', 'ADVANCED', and 'HOME'. Below the header, the configuration form is displayed on a dark background. It includes a text input for 'Name' (Iridium Certus), a toggle for 'Status' (On), a toggle for 'Cloud' (On) with a text input for the VPN address (sat1.vpn\_26000000.yachtrouter.eu), and an 'Internet' status indicator (Unavailable) with a refresh button. An 'OK' button is positioned at the bottom right of the form.

### Name

Enter name for your Satellite network Internet source for easier managing.

### Status

Enable or disable connection to Satellite Internet source.

### Cloud

Enable or disable Cloud Service over Satellite connection. More details in chapter "3.1. CLOUD SERVICE" on page 39 . This button is not available if Cloud or Tracking service is not activated.

### Internet

Show status of Internet availability. Click on the button to refresh status.

## 2.6. SATELLITE WAN NETWORK - ADVANCED SETUP

When you click ADVANCED button in upper right corner following sections will appear.

### WAN IP Address configuration

Information about current status of WAN configuration.

**bound** - router is connected properly and received network configuration from mobile network

**searching** - router is searching for network configuration from mobile network

### DHCP

When DHCP is On, Yacht Router will receive IP/Subnet/Gateway/DNS1/DNS2 addresses from satellite controller (router). If you want to manually enter IP/Subnet/Gateway/DNS1/DNS2 addresses enter data in each field and click on UPDATE STATIC CONFIG button.

If you want to refresh or renew DHCP addresses received from from satellite controller (router) click on Renew or Refresh button.

### IMPORTANT

SATELLITE WAN NETWORK 1 and SATELLITE WAN NETWORK 2 should never be in same IP range. Example of good configuration is: SATELLITE WAN NETWORK 1 at 192.168.1.0/24.

### **IP, Subnet, Gateway, DNS 1 & DNS 2**

Network configuration details received from satellite equipment network.

### **Traffic**

Information about data traffic between Yacht Router and mobile network.

### **GB - MB - KB**

Traffic data volume in Gigabytes, Megabytes or Kilobytes.

### **Since**

Date since last reset.

### **Received**

Data received since specified date.

### **Sent**

Data sent since specified date.

### **Autoreset**

Automatic reset data traffic counter on first day of each month.

### **Reset now**

Reset data counter.

## 2.7. MOBILE WAN NETWORKS - MAIN SETUP PAGE

The screenshot shows the 'WAN Network' configuration page for a mobile network. The page has a dark theme with a red header bar. At the top right of the header, there are navigation links: 'BACK', 'ADVANCED', and 'HOME'. The main content area is divided into several sections:

- Name:** A text input field containing 'Mobile'.
- Status:** A toggle switch set to 'On'.
- Cloud:** A toggle switch set to 'On' and a text input field containing 'mobile.Boat.yachtrouter.eu'.
- Internet:** A green button labeled 'Available' with a refresh icon, and an 'OK' button.
- Mobile Status:** A section header with 'Connected • TELE2 • 4G'.
- Active SIM:** Two toggle switches for 'SIM2' and 'SIM1', with 'SIM1' selected.
- Network APN:** A toggle switch set to 'On'.
- PIN:** A text input field.
- Reload SIM Card:** A button with a refresh icon.
- UPDATE:** A button.
- Network Mode:** A row of buttons for 'Auto', '5G', '4G', and '3G', with 'Auto' selected.
- Roaming:** A toggle switch set to 'On'.
- Keep Alive:** A toggle switch set to 'On'.

### Name

Enter name for your Mobile network Internet source for easier managing.

### Status

Enable or disable connection to Mobile Internet source.

### Cloud

Enable or disable Cloud Service over Mobile connection. More details in chapter "3.1. CLOUD SERVICE" on page <?>.

### Internet

Show status of Internet availability. Click on the button to refresh status.



### Mobile Status

Information about current mobile connection:

- **Connected** • *“mobile provider”* • *“network mode”* - indicate that Yacht Router is connected to the mobile network. It is not indication that Internet is available as router can be connected but Internet could be unavailable. Example: **Connected • TELE2 • 4G** means that you are connected to TELE2 mobile network using 4G network technology.
- **SIM Failure** - indicate that mobile connection is disabled with **Status** button or SIM card failed.
- **Limited Service “mobile provider”** - indicate that you are connected to the mobile network but your access to the Internet is limited. Reasons can be various: your subscription is out of date or you do not have any more credits on your account. Maybe you have to activate your SIM card over the Internet or mobile phone before first use. The easiest solution to find out why your access to the Internet is limited is to contact your mobile provider. One of the reason can also be damaged SIM card.
- **Denied** - connection to current mobile provider is denied. Usually it happened when SIM card is in roaming network without roaming agreement with your SIM card provider.
- **Offline** - modem is turned off on Status button

### Active SIM

Set active SIM card: SIM 1 or SIM 2.

### Network APN

Yacht Router is equipped with Network APN feature to request APN, Username and Password from network provider. This feature will work on most worldwide mobile networks. If you switch Network APN to Off you will be able to manually enter APN, Username and Password.

### APN / Username / Password

This fields are visible only when you turn off Network APN.

Set APN, Username and Password for your SIM card. You can obtain APN, Username and Password details from your provider.

**IMPORTANT** | Without correct APN, Username and Password mobile network will not give you to access to the Internet.

### PIN

PIN is a number provided with your SIM card to protect it from unattended use. Once you enter PIN number click UPDATE button. If you enter incorrect PIN three times in a row, your SIM card will lock. Once it is locked you will need PUK number to unlock it. Both PIN and PUK numbers are usually provided in a package with your SIM card. If you plan to change SIM cards in your Yacht Router more often, we strongly suggest to disable PIN number. The easiest way to do it is to insert SIM card into your mobile phone.

**IMPORTANT** | If you plan to use two SIM cards in the Yacht Router simultaneously we strongly suggest you to disable PIN number to minimize risk of SIM card locking.

### Reload SIM Card

Yacht Router is equipped with SIM card Hot-Swap feature that will automatically reset connection each time you change SIM card in active SIM card slot. However, you can also do it manually by pressing Reload SIM Card button. Please note that this process will take about 30 seconds.

### Network Mode

Currently used mobile network mode:

- **3G** - HSUPA, HSDPA or HSPA+ mode
- **4G** - 4G (LTE) mode
- **5G** - 5G mode

### Roaming

When used in roaming it could take up to 5 min for Yacht Router to connect to mobile network. Sometimes, especially during high season in busy touristic places you will not get connection at all as provider will give priority connection to local SIM cards.

### Keep Alive

This is very useful feature with some mobile providers that disconnect your SIM card from the Internet after some period of inactivity (few hours to few days). Keep Alive feature will check every 2 minutes if Internet is available. If it is not available it will restart connection.

**IMPORTANT** | When you use SIM card in Roaming we suggest you to turn off Keep Alive. When SIM cards is in roaming it could take up to 5 minutes for successful connection to mobile network. As Keep Alive feature restart connection every 2 minutes it could happened that Yacht Router will be in permanent restart connection process.

## 2.8. MOBILE WAN NETWORK - ADVANCED SETUP

When you click **ADVANCED** button in upper right corner following sections will appear.

The screenshot displays the WAN Network configuration page in an advanced mode. At the top right, the 'ADVANCED' button is highlighted with a pink box. A pink dashed arrow points from this button to the 'WAN IP Address configuration' section, which is also highlighted with a pink box. The interface includes the following sections:

- WAN Network Header:** Includes 'BACK', 'ADVANCED', and 'HOME' navigation buttons.
- Name:** Mobile
- Status:** On/Off toggle
- Internet:** Available with a refresh icon and an 'OK' button.
- Mobile Status:** Connected - TELE2 - 4G
- Active SIM:** SIM2/SIM1 toggle
- Network APN:** On/Off toggle
- PIN:** Input field
- Reload SIM Card:** Refresh icon and an 'UPDATE' button.
- Network Mode:** Auto, 5G, 4G, 3G toggle
- Roaming:** On/Off toggle
- Keep Alive:** On/Off toggle
- WAN IP Address configuration:**
  - IP: 100.69.50.200
  - SUBNET: 255.255.255.0
  - GATEWAY: 100.69.50.200
  - DNS 1: 8.8.8.8
  - DNS 2: (empty)
- Traffic:**
  - Units: GB, MB, KB
  - Since: 0
  - Received: 0.18 GB
  - Sent: 0.01 GB
  - Autoreset: On/Off toggle and 'Reset now' button.

### WAN IP Address configuration

Information about current status of WAN configuration.

**bound** - router is connected properly and received network configuration from mobile network

**searching** - router is searching for network configuration from mobile network

### IP, Subnet, Gateway, DNS 1 & DNS 2

Network configuration details received from mobile network.

### Traffic

Information about data traffic between Yacht Router and mobile network.

#### **GB - MB - KB**

Traffic data volume in Gigabytes, Megabytes or Kilobytes.

#### **Since**

Date since last reset.

#### **Received**

Data received since specified date.

#### **Sent**

Data sent since specified date.

#### **Autoreset**

Automatic reset data traffic counter on first day of each month.

#### **Reset now**

Reset data counter.

## 2.9. MOBILE STATUS DETAILS

If you need more details about current mobile connection click on text next to **Mobile Status** field following sections will appear.

The screenshot shows the WAN Network configuration page. At the top, there are navigation links: BACK, ADVANCED, and HOME. The main section is titled 'Mobile' and includes a Name field, a Status toggle (On/Off), and an Internet status (Available). Below this, the 'Mobile Status' is shown as 'connected • A1 HR • LTE'. A pink box highlights the detailed connection information, which includes:

Status	connected
Current Operator	A1 HR
Data Class	LTE
IMEI	869710032104915
IMSI	219101150013280
UICC	8938591423010052795F
Current Cell ID	1151747
Session Uptime	2m31s
Primary Band	B3@20Mhz earfcn: 1749 phy-cellid: 47
RSRP	-51
RSRQ	-85
SINR	-13
SINR	9
CA Band	B1@20Mhz earfcn: 500 phy-cellid: 47, B7@20Mhz earfcn: 3050 phy-cellid: 47

At the bottom, there are options for Active SIM (SIM2/SIM1) and Network APN (On/Off).

Click here to get details about current mobile connection.

There you will find detailed specification about your current connection and details related to SIM card (IMEI) and modem (IMSI).

### Status, Current Operator, Data Class

Indication of you correct connection status, mobile operator and network technology for current connection.

### IMEI, IMSI, UICC

The International Mobile Equipment Identity (IMEI) is a numeric identifier of modem inside Yacht Router. Some mobile providers might ask you for that number during SIM card registration.

The international mobile subscriber identity (IMSI) is a number that uniquely identifies every user of a cellular network.

The universal integrated circuit card (UICC) is SIM card identification number.

### Current Cell ID

Identification of base station where Yacht Router is currently connected to.

**Session Uptime**

Durration of current connection to base station (it does not indicatate Internet availability).

**Primary Band**

Indication of band (frequency) of current connection.

**RSSI, RSRP, RSRQ, SINR**

Indicatiros for your connection strength and quality.

RSSI = Received Signal Strength Indicator

RSRP = Reference Signal Received Power

RSRQ = Reference Signal Received Quality

SINR = Signal to Interference plus Noise Ratio

Connection	RSSI	RSRP	RSRQ	SINR
Excellent	$\geq -65$	$\geq -80$	$\geq -10$	$\geq -20$
Good	-65 to -80	-80 to -90	-10 to -15	13 to 20
Medium	-80 to -95	-90 to -100	-15 to -20	0 to 13
Weak	$\leq 95$	$\leq 100$	$\leq 20$	$\leq 0$

**CA Band**

Indication of Carrier Aggregation band (frequency) of current connection.

## 2.10. SHORE WIFI WAN NETWORK SETUP

This feature is only available when Yacht Router is set to work with connected WIFI Booster. If you initially purchased your Yacht Router with

**IMPORTANT**

If you initially purchased your Yacht Router without WIFI Booster please contact our Support at [support@locmarine.com](mailto:support@locmarine.com) for Remote Support. Without additional settings Yacht Router will not recognise WIFI Booster and you will not be able to use it.

WAN Network

← BACK 🔥 ADVANCED 🏠 HOME

Name: Shore WIFI

Status: On Off

Cloud: On Off wifi.Boat.yachtrouter.eu

Internet: Available ↻ OK

WIFI Status: connected to Lumbrosik

WIFI Network: Lumbrosik

Password: lumbrosikCC77

Band: 2.4 GHz 5 GHz

Scan Connect to WIFI

**Name**

Enter name for your Shore WIFI network Internet source for easier managing.

**Status**

Enable or disable connection to Shore WIFI Internet source.

**Cloud**

Enable or disable Cloud Service over Shore WIFI connection. More details in chapter “3.1. CLOUD SERVICE” on page 34.

**Internet**

Show status of Internet availability. Click on the button to refresh status.

### Shore WIFI Status

Information about current Shore WIFI connection:

- **connected to "shore WIFI name"** - indicate that Yacht Router is connected to the shore WIFI network. It is not indication that Internet is available as router can be connected but Internet could be unavailable. **SIM Failure** - indicate that mobile connection is disabled with **Status** button or SIM card failed.
- **searching** - indicate that Yacht Router is searching for selected WIFI network.
- **disabled** - indicate your WIFI is disabled by **Status** button. Same status will also appear when you press **Scan** button.

### WIFI Network

Name of WIFI network Yacht Router is currently connected to. If you know exact name you can enter it manual or you can use Scan button.

### Password

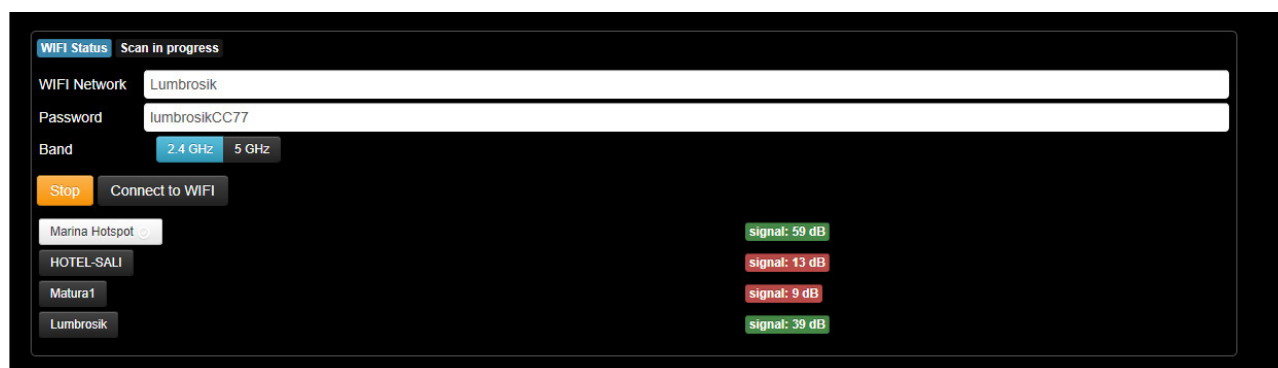
Password for WIFI network Yacht Router is currently connected to.

### Band

As WIFI Booster support both 2.4 and 5 GHz frequency you can set which one you want to use.

### Scan

Once you click on **Scan** list of visible networks will appear.



On example above you WIFI Booster found 4 WIFI networks. When network name is in white buttons (e.g. Marina Hotspot) it indicated unencrypted (open) WIFI network where you connect without a password. Networks in black buttons are encrypted WIFI networks where you must enter password to connect. Next to WIFI network name is signal strength. Signal strength is indicated in dB where higher means more powerful signal. When signal strength is higher than 30 dB it will be in green, otherwise in red color.

Once you choose and click on WIFI network you want to connect, network name will appear in WIFI Network field. Now you need to enter password (for encrypted network) and click **Connect to WIFI** button. If network is not encrypted leave password field empty.



## 2.11.SHORE WIFI STATUS DETAILS

If you need more details about current mobile connection click on text next to **Shore WIFI Status** field following sections will appear.

The screenshot shows the WAN Network configuration page. At the top, there are navigation buttons: BACK, ADVANCED, and HOME. The main section is titled 'WAN Network' and contains several fields:

- Name: Shore WIFI
- Status: On (selected), Off
- Cloud: On (selected), Off, wifi.Boat-yachtrouter.eu
- Internet: Available (with refresh icon)

Below this, there is a 'WIFI Status' section with the text 'connected to Lumbrosik'. A pink box highlights this section, and a pink arrow points from a callout box to the 'WIFI Status' text. The details shown are:

ssid	Lumbrosik
channel	2412/20/gn/P
wireless protocol	802.11
tx rate	65Mbps-20MHz/1S Mbps
rx rate	65Mbps-20MHz/1S Mbps
bssid	D4:CA:6D:67:96:59
radio name	D4CA6D679659
signal strength	-53 dBm
tx signal strength	-70 dBm
noise floor	-104 dBm
signal to noise	51 dB
tx ccq	80 %
rx ccq	81 %
overall tx ccq	80 %
last ip	-
authentication-type	wpa2-psk
group encryption	aes-ccm
management protection	false
compression	false

Below the details, there are fields for 'WIFI Network' (Lumbrosik) and 'Password' (lumbrosikCC77). At the bottom, there are buttons for 'Scan' and 'Connect to WIFI'.

Click here to get details about current Shore WIFI connection.

### SSID

Service Set Identifier is name of WIFI network.

### Channel

Channel on which connection is established.

**Wireless protocol**

WIFI protocol on WIFI network currently in use.

**Tx-rate**

Maximum transmit data rate for current WIFI connection.

**Rx-rate**

Maximum receive data rate for current WIFI connection.

**BSSID**

Basic Service Set Identifier is unique address (name) that identifies the access point/router that creates the wireless network.

**Radio name**

Proprietary extension for Atheros cards.

**Signal strength**

WIFI signal strength in dBm

**Tx signal strength**

Transmit signal level in dBm.

**Noise floor**

Noise level in dBm.

**Signal to noise**

Difference between signal strength and noise floor. This is the good indicator of WIFI signal quality (excellent: more than 40, very good: 25 to 40, good: 15 to 25, low: 10 to 15, very low: less than 10). Higher value means better signal. For example, if signal strength is -10 dBm and noise floor is -107 dBm then signal to noise is 97 dB. This number actually shows you how much your WIFI signal is stronger than noise, but it does not indicate Internet speed and quality.

**Tx-ccq**

Transmitting Client Connection Quality is value in percent that shows how effective the transmit bandwidth is used regarding the theoretically maximum available bandwidth.

**Rx-ccq**

Receiving Client Connection Quality is value in percent that shows how effective the receive bandwidth is used regarding the theoretically maximum available bandwidth.

**Overall tx ccq**

Overall Transmitting Client Connection Quality is value in percent that shows how effective the transmit bandwidth is used regarding the theoretically maximum available bandwidth.

**Last IP**

IP address found in the last IP packet received from the registered client.

**Authentication type**

Authentication method used by current WIFI network.

**Group encryption**

Encryption algorithm used by current WIFI network.

**Management protection**

Status of management protection authentication mode.

**Compression**

Status of hardware compression on current WIFI network.

## 2.12. SHORE WAN NETWORK - ADVANCED SETUP

When you click **ADVANCED** button in upper right corner following sections will appear.

### WAN IP Address configuration

Information about current status of WAN configuration.

**bound** - router is connected properly and received network configuration from shore WIFI network

**searching** - router is searching for network configuration from shore WIFI network

### DHCP

The Dynamic Host Configuration Protocol (DHCP) is a network management protocol used on UDP/IP networks whereby a DHCP server dynamically assigns an IP address and other network configuration parameters to each device on a network so they can communicate with other IP networks.

**On**

DHCP enabled. In most cases DHCP should be enabled so Yacht Router can receive IP address and other settings from Shore WIFI network.

**Renew**

Click to request new IP address from DHCP server.

**Refresh**

Manually refresh values of IP, Subnet, Gateway, DNS 1 and DNS 2 data.

**IP, Subnet, Gateway, DNS 1 & DNS 2**

Network configuration details received from shore WIFI network.

If you want to use static IP address instead of DHCP you can enter it manually. Once you enter all necessary details click on **Update Static Configuration**.

**Traffic**

Information about data traffic between Yacht Router and mobile network.

**GB - MB - KB**

Traffic data volume in Gigabytes, Megabytes or Kilobytes.

**Since**

Date since last reset.

**Received**

Data received since specified date.

**Sent**

Data sent since specified date.

**Autoreset**


Automatic reset data traffic counter on first day of each month.

**Reset now**

Reset data counter.

## 2.13. VESSEL NETWORK - MAIN SETUP PAGE

Vessel Network is password protected network where all users will connect to access the Internet over Yacht Router.



The screenshot shows the Vessel Network configuration interface. At the top, there's a dark red header with the title 'Vessel Network' and three navigation buttons: 'BACK', 'ADVANCED', and 'HOME'. Below the header is a white form area with a dark border. It contains four input fields: 'Name' with the value 'My network', 'WIFI SSID' with 'SY Thandiwee', 'WIFI Password' with '12345678', and a 'WIFI' toggle switch currently set to 'On'. An 'OK' button is located at the bottom right of the form.

### Name

Enter name for your Vessel network (e.g. Owner WIFI, Crew WIFI, My network etc) for easier managing.

### WIFI SSID

Name that Vessel network transmit as a WIFI. This name will appear when you scan for available network with your computer, iPhone, iPad, Android or other device.

**IMPORTANT** | Do not use special characters (e.g. "#\$%!"). Use only letters and numbers. Password must have minimum 8 characters.

If your system is equipped with Network Extenders you will see notification to continue with operation only if you are connected with Ethernet (LAN) cable.

### WIFI Password

Password that all users will need to connect to the Vessel network.

**IMPORTANT** | Do not use special characters (e.g. "#\$%!"). Use only letters and numbers. Password must have minimum 8 characters.

If your system is equipped with Network Extenders you will see notification to continue with operation only if you are connected with Ethernet (LAN) cable.

### WIFI

Turn on or off transmission of Vessel Network WIFI. This button will not disable cable part (LAN) of Vessel Network. This button is not available on Vessel Network 1.

## 2.14. VESSEL NETWORK - ADVANCED SETUP

When you click **ADVANCED** button in upper right corner following sections will appear.

Vessel Network

← BACK **ADVANCED** HOME

Name: My network

WIFI SSID: SY Thandiwee

WIFI Password: 12345678

WIFI:  On  Off

OK

**DHCP-Client List**

Berinjo-laptop	10.81.255.254
A8-Bero	10.81.255.253

**Hotspot**

On  Off

Create New User

Reset Usage for All

**Bandwidth Control**

MBit/s KBit/s

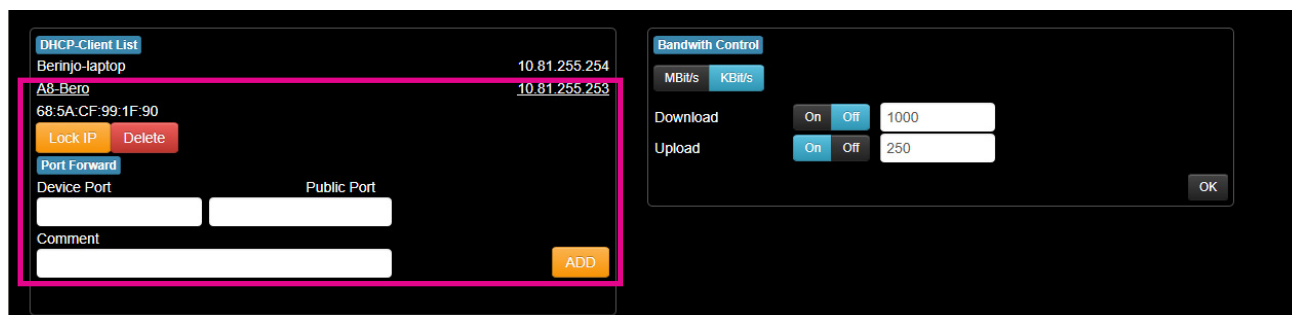
Download:  On  Off 1000

Upload:  On  Off 250

OK

## DHCP Client List

List of currently connected clients (devices) to Vessel Network together with assigned IP address.  
If you click on client name or address new section will appear:



Beside IP address now you can see MAC address of connected device (e.g. **68:5A:CF:99:1F:90** for device **A8-Bero** with IP address **10.81.255.253**).

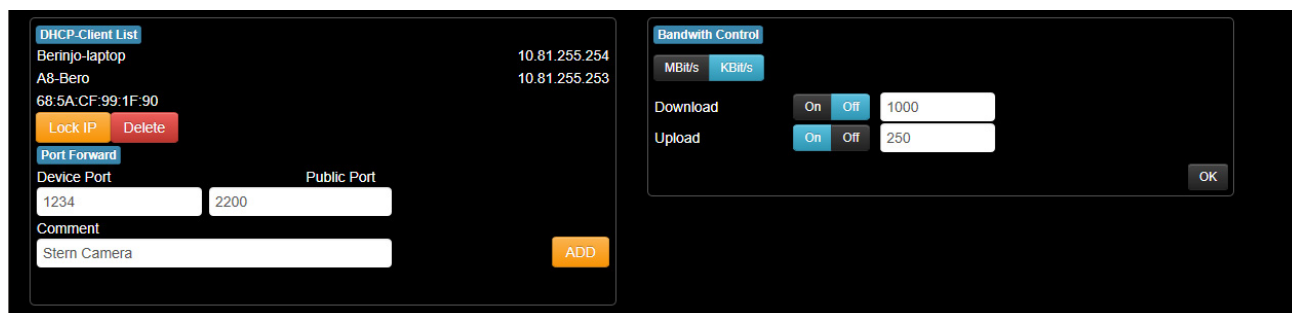
If you want that connected device receive same IP address each time it connects to Vessel Network 1 click on **Lock IP** button. That is very useful feature that you can use instead of fixed IP system as you will always see name of your device on **DHCP Client List**. Once you lock device to dedicated IP address **Locked IP** note will appear below client IP address.

If you want to delete connected device from **DHCP Client List** click on **Delete** button.

## Port Forward

Port forwarding allows remote devices (computer, tablets, smart-phones etc) to connect to a specific device connected to Yacht Router. It can be used, for example, if you want to remotely connect to your on-board IP camera over Cloud Service (more details in Cloud Service chapter). In some cases software on locally connected devices, e.g. computer with navigation software might ask for IP address and Port to connect to certain device.

On a following example we set Device Port **1234** and Remote Port **2200** for device **A8-Bero** device connected with IP address 10.81.255.253. We also put comment that device **A8-Bero** is Stern Camera. Once all values are set click **ADD** button to add settings to the Yacht Router.



There is another section called **Port Forward List** under **Configurations** page. More details in chapter "2.16. CONFIGURATIONS PAGE" on page 34.



### Bandwidth Control

Limit data bandwidth between Vessel Network and connected clients (devices) and Vessel Network.

This feature can be very useful if you want to prevent connected clients to use streaming services like YouTube, Netflix etc.

#### **Mbit/s - kbit/s**

Data bandwidth in Mbit per second or kbit per second.

#### **Upload - On/Off**

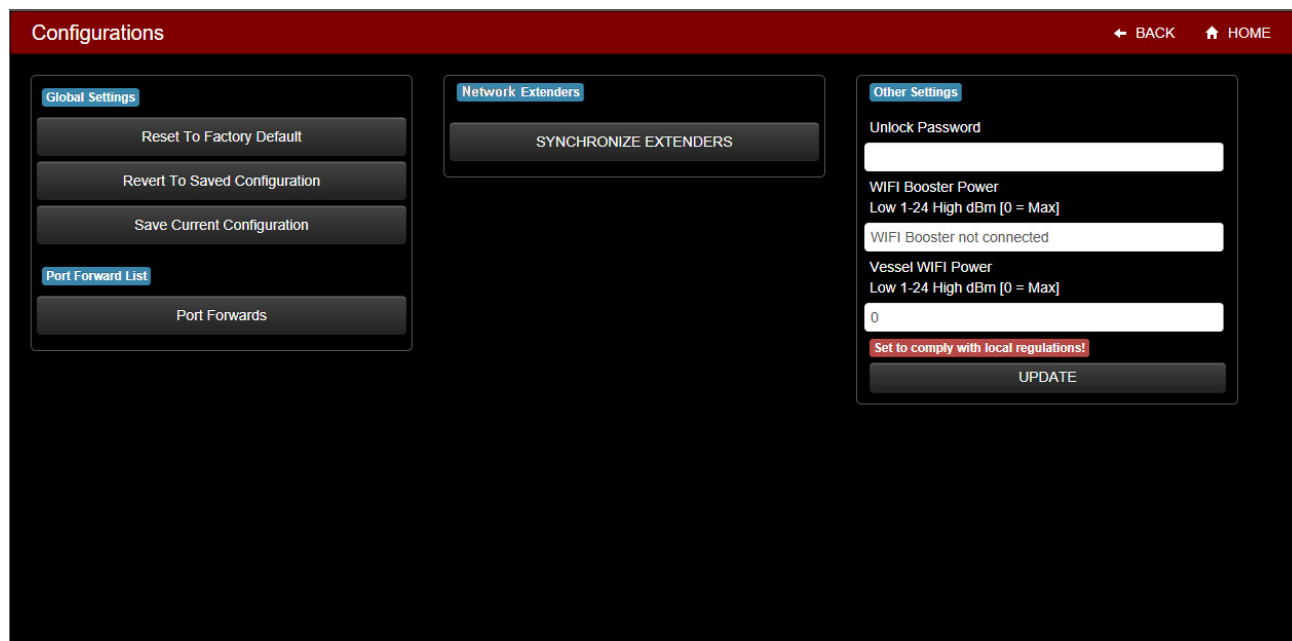
Enable or disable upload data limit. If you want to set limit enter value and click OK.

#### **Download - On/Off**

Enable or disable download data limit. If you want to set limit enter value and click OK.

## 2.15. CONFIGURATIONS PAGE

From main setup page can enter Configurations Page.



### Global Settings

Consist of 3 features related to Yacht Router configuration.

#### Reset to Factory Defaults

Reset Yacht Router to factory defaults. All settings will be reset.

#### Revert to Saved Configuration

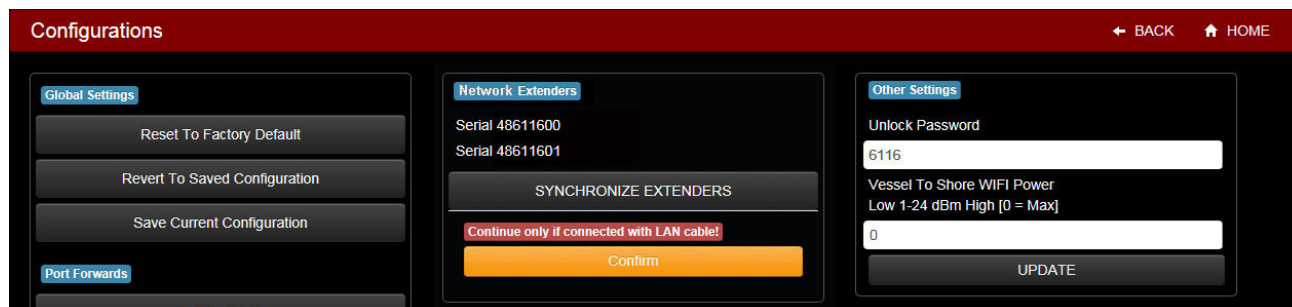
Revert saved user configuration.

#### Save Current Configuration

Save current user configuration that can later be reverted.

## Network Extenders

If you have Network Extenders connected to the system you will see it on a list. Each Network Extender is marked with serial number.



First time when you add Network Extenders to the network you must synchronize them. You have to synchronize Network Extenders only once so it can collect all changes you made on a Yacht Router in the future.

If your system is equipped with Network Extenders you will see notification to continue with operation only if you are connected with Ethernet (LAN) cable.

## Other Settings

Few settings related to security and WIFI power.

### Unlock Password

Once you set Unlock Password every time you open YR Control Software you will be prompted to enter this password.

#### IMPORTANT

Set password to prevent unwanted access to your Yacht Router. If you do not set Unlock Password anyone who is connected to any Vessel Network (by WIFI or LAN cable) with installed YR Control Software will be able to control Yacht Router. It can cause many unwanted and very expensive consequences (e.g. if someone switch Internet source on your Vessel Network from WIFI Hotspot in marina to your Inmarsat FleetBroadband while you are watching video on YouTube).

### WIFI Booster Power

Set WIFI Booster power in range 1-24 dBm. If you enter value of 0 (zero), WIFI Booster will transmit on maximum power of 32 dBm. This feature does not have any functionality when WIFI Booster is not connected to Yacht Router ("WIFI Booster not connected" message will appear).

#### IMPORTANT

It is solely on end-user to set transmitting power value for all Yacht Router WIFI components to comply with regulations of country where product will be used. Regulations and online WIFI power calculators (EIRP - Equivalent Isotropically Radiated Power) are widely available on the Internet. Locomarine Networks d.o.o. cannot be responsible by any means for improper setup.

When you are using WIFI Booster inside a marina or harbour where nearby Hotspot antenna is close to your boat it is useful to lower down the power of WIFI Booster. Very high power could cause problems for other users. Even performance of your Yacht Router could be reduced. Try to lower power of WIFI Booster to lowest possible that will give you good results. Once you are further offshore, increase power to get better performance.

### Vessel WIFI Power

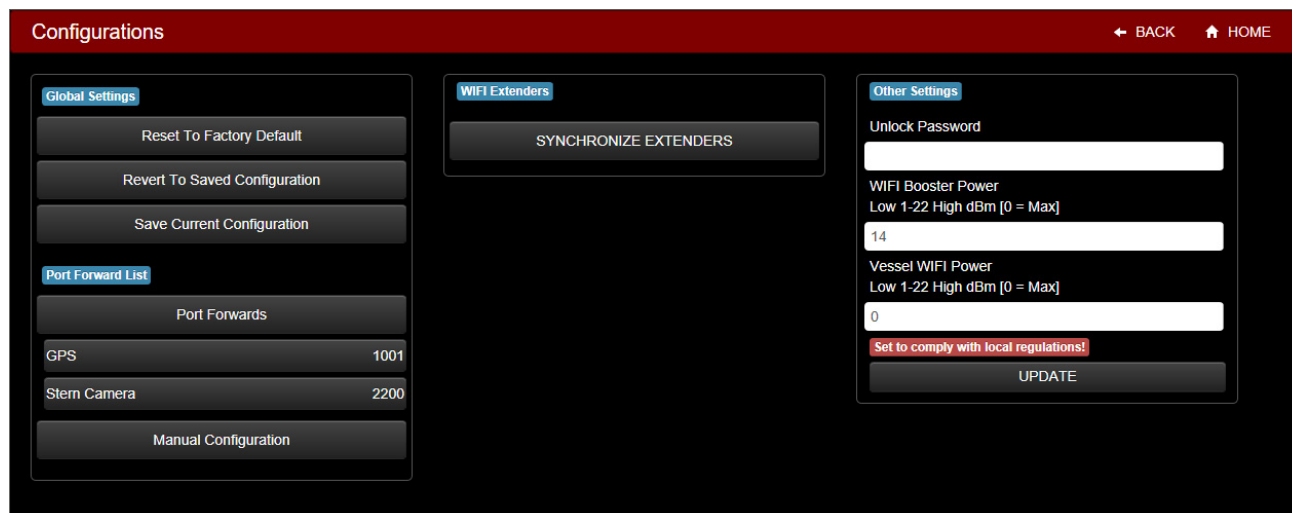
Set Vessel Network power in range 1-22 dBm. If you enter value of 0 (zero), WIFI Booster will transmit on maximum power of 22 dBm.

#### **IMPORTANT**

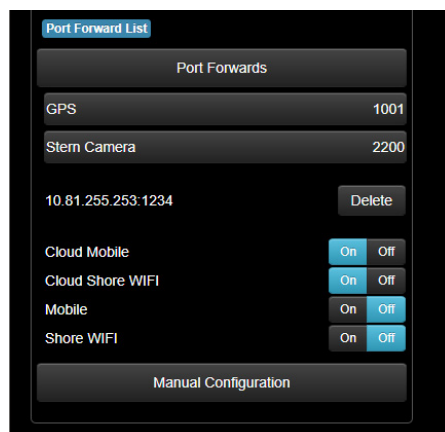
It is solely on end-user to set transmitting power value for all Yacht Router WIFI components to comply with regulations of country where product will be used. Regulations and online WIFI power calculators (EIRP - Equivalent Isotropically Radiated Power) are widely available on the Internet. Locomarine Networks d.o.o. cannot be responsible by any means for improper setup.

## Port Forward List

Port Forward button will open a list of all devices that have port forward set to some value. On this example you can see two devices (GPS and Stern Camera) with set port forwards.



If you click on each device name (e.g. GPS or Stern Camera) more details will appear.



On this example you can see that device labelled **Stern Camera** with IP address 10.81.255.253 is set to local port 1234 and public port 2200. Stern Camera is reachable remotely over **Cloud Mobile** and Cloud Shore WIFI but not over Mobile and Shore WIFI connection. It means that you will be able to access Stern Camera remotely over Yacht Router Cloud service when Yacht Router

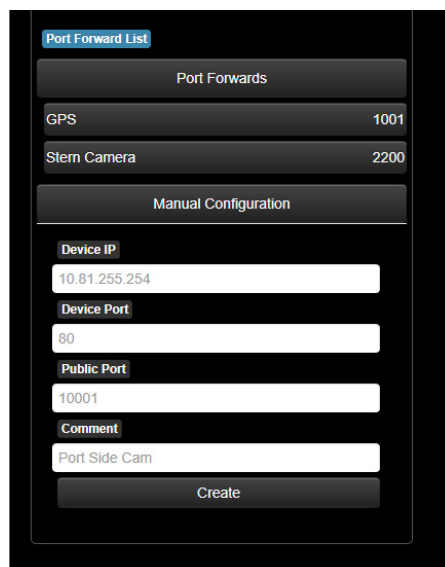
is connected over Mobile and/or Shore WIFI connection). More details about Cloud Service you can find in chapter “3.1. CLOUD SERVICE” on page 34. In the same time it is not available over Mobile and Shore WIFI connection.

**IMPORTANT**

It is advisable to disable Mobile and Shore WIFI port forward access as your device could be publicly exposed. In previous example, if you enable Shore WIFI port forward availability for Stern Camera, anyone who find out your IP address while you are connected to some shore WIFI (e.g. Hotspot in marina) will be able to access Stern Camera without any limitations.

If you want to delete device from Port Forward list click Delete.

You can also set port forwarding if you click on **Manual Configuration**. Following menu will appear.



The screenshot shows a mobile application interface for port forwarding. At the top, there is a 'Port Forward List' section with a table containing two entries: 'GPS' with port '1001' and 'Stern Camera' with port '2200'. Below this is a 'Manual Configuration' section with several input fields: 'Device IP' (10.81.255.254), 'Device Port' (80), 'Public Port' (10001), and 'Comment' (Port Side Cam). A 'Create' button is located at the bottom of the form.

To set port forwarding enter **Device IP**, **Device Port**, **Public Port** and **Comment**. Click **Create** to add it to Port Forward List. This feature is useful when you want to set port forward for device that has static IP address and is not listed on DHCP Client List (chapter “2.15. VESSEL NETWORK - ADVANCED SETUP” on page 31).

### 3.1. CLOUD SERVICE

Cloud Service is reliable, secure and simple way to connect remotely (over the Internet) to your vessel equipped with Yacht Router. With Cloud Service you can remotely connect to any navigation systems (MFD, radars, sounders etc), monitoring and alarm system, IP cameras, NMEA2000 networks or any other devices connected to the Yacht Router.

When you are connecting to your vessel via Cloud Service, **you can choose Internet connection route that you want to use. That is very important!**

For example, when you are connecting to your vessel cameras, you want to be sure that you are not connecting via expensive Inmarsat satellite connection. Instead, you will choose to connect via 3G/4G or WIFI connection.

Yacht Router Cloud Service is subscription service. Contact Locomarine Sales or your local dealer for subscription details.

Once you are subscribed you will receive further instruction details by mail. To be able to use Cloud Service you must connect your Yacht Router to **Remote Support** (chapter "2.3. REMOTE SUPPORT" on page 11) so our Technical Support activate Cloud Service on your Yacht Router.

For more details about Cloud Service visit [www.yachtrouter.com](http://www.yachtrouter.com)

## 3.2. REMOTE TRACKING

Remote Tracking is free of charge service designed for vessel tracking. To activate Remote Tracking service you need to connect Yacht Router to Support Network (chapter “2.3. REMOTE SUPPORT” on page 10) and send request for activation to [support@locomarine.com](mailto:support@locomarine.com) with following details:

- **Remote Support ID** (you can read it on **Connect** button under Remote Support menu in Yacht Router Control software)
- **Yacht Router serial number** (you can read it from a sticker on Yacht Router or below **Connect** button under Remote Support menu)
- **List of Add-on modules** (e.g. WIFI Booster, Mobile Expander etc.)
- **Email** (to receive activation notification)
- **Name and Phone number** (optional)

Once Yacht Router is activated you will receive notification by mail.

Now you need to login to Remote Tracking page: <http://tracking.yachtrouter.eu> and enter initial Username and Password.

Initial Username: **serial number** of your Yacht Router.

Initial Password: **default**

Once you login for a first time you will be prompted to change your initial password to new one that you will use in the future.

If you forget your password you will have to send request for reset.

Connect Yacht Router to Support Network and send request for reset to [support@locomarine.com](mailto:support@locomarine.com) with following details:

- **Remote Support ID** (you can read it on **Connect** button under Remote Support menu in Yacht Router Control software)
- **Email** (to receive activation notification)

Remote Tracking service is in constant developing process with new features adding periodically.

For more details about Remote Tracking visit [www.yachtrouter.com](http://www.yachtrouter.com)



## 4.1. NETWORK DETAILS

Yacht Router Mini has reserved IP ranges that cannot be used by other connected equipment:

### Support network

10.10.10.0/24

### Reserved range

10.80.0.0/12

### Yacht Router Mini IP reservation details:

#### Backbone Network

10.80.0.0/16

#### Vessel Network 1

Gateway: 10.81.0.1

Free static range: 10.81.0.20 - 10.81.0.99

DHCP: 10.81.0.100 - 10.81.255.254

DNS: 10.81.0.1, 8.8.8.8

#### Vessel Network 2

Gateway: 10.82.0.1

Free static range: 10.82.0.20 - 10.82.0.99

DHCP: 10.82.0.100 - 10.82.255.254

DNS: 10.82.0.1, 8.8.8.8

