Locomarine

YACHT ROUTER

MICRO

SERIES 6

The easiest way to stay online.

Installation Manual

version 1.0

Read carefully.

For better understanding check video tutorials on our website.

Register your product for software update notifications.

Thank you.

COPYRIGHT NOTICE

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.

SAFETY AND HAZARD

Do not operate your Yacht Router and/or add-on modules:

- In areas where blasting is in progress.
- Where explosive atmospheres may be present including refuelling points, fuel depots, and chemical plants.
- Near medical equipment, life support equipment, or any equipment which may be susceptible to any form of radio interference.

In such areas, Yacht Router and add-on modules **MUST BE POWERED OFF**. Otherwise, they can transmit signals that could interfere with this equipment.

In an aircraft, the Yacht Router and add-on modules **MUST BE POWERED OFF**. Otherwise, the Yacht Router and/or Add-on modules can transmit signals that could interfere with various on-board systems and may be dangerous to the operation of the aircraft or disrupt the cellular network. Use of cellular and WIFI equipment in an aircraft is illegal in some jurisdictions. Failure to observe this instruction may lead to suspension or denial of cellular services to the offender, or legal action or both.

IMPORTANT: It is solely on end-user to set transmitting power value for WIFI Booster 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 by responsible by any means for improper setup. Transmittion power is set and regulated via Yacht Router Control software.

IMPORTANT: Exposure to Radio Frequency Radiation.
63 cm minimum distance has to be maintained between the antenna and the occupational user and 142 cm to general public. Under such configuration, the FCC radiation exposure limits set forth for an population/uncontrolled environment can be satisfied.

List of approved antennas:
Omni Directional (pole), model Locomarine MOB MW 8

ANTENNA INSTALLATION: antennas from other products MUST NOT BE CO-LOCATED within 20 cm range to each other to satisfy FCC regulations.

WARNING: It is installer's responsibility to ensure that when using the authorized antennas in the United States (or where FCC rules apply); only those antennas certified with the product are used. The use of any antenna other than those certified with the product is expressly forbidden in accordance to FCC rules CFR47 part 15.204. The installer should configure the output power level of antennas, according to country regulations and per antenna type. Professional installation is required of equipment with connectors to ensure compliance with health and safety issues.

SAFETY INSTRUCTIONS

ELECTRICAL SHOCK HAZARD: Do not open enclosure of the equipment if you are not qualified to do it.

TURN OFF THE POWER IMMEDIATELY IF WATER LEAKS INTO THE EQUIPMENT OR AN OBJECT DROPS INTO THE EQUIPMENT:
Continue operating the equipment could cause electrical shock or fire. Contact your nearest distributor or dealer for service.

DO NOT DISASSEMBLE THE EQUIPMENT OR MODIFY THE EQUIPMENT: Improper disassemble or modification could cause electrical shock, fire, or personal injury.

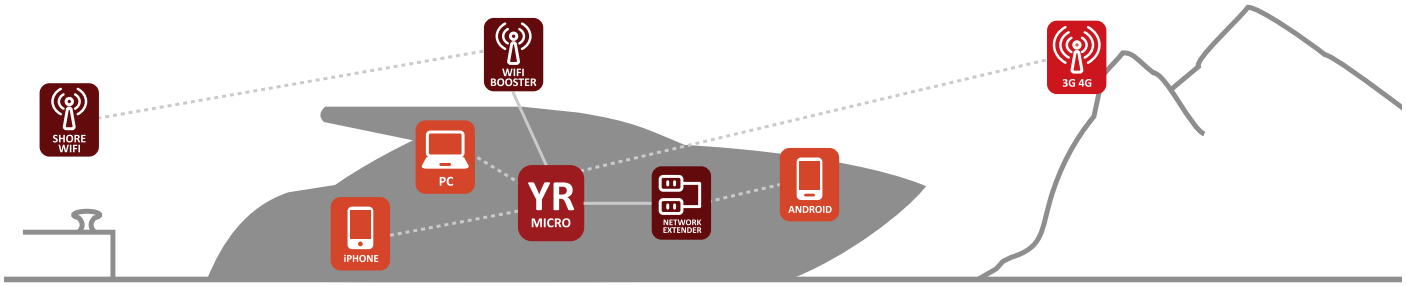
AVOID OPERATING THE EQUIPMENT WITH WET HANDS: Electrical shocks could be resulted if operating with wet hands.
USE PROPER FUSE: Damage to the equipment or fire could be resulted if using improper fuse.

TURN OFF THE POWER IMMEDIATELY IF THE EQUIPMENT IS EMITTING SMOKE OR FIRE: Continue operating the equipment could cause electrical shock or fire. Contact your nearest distributor or dealer for service.

DO NOT PLACE ANY LIQUID-FILLED CONTAINER ON TOP OF THE EQUIPMENT.

1.1. ABOUT YACHT ROUTER MICRO S6

Yacht Router Micro s6 (*Yacht Router Micro* in further text) is designed for installation on smaller vessels. You can establish single Vessel WIFI network that you can connect to mobile networks (4G/3G). With dual SIM card slot, you can use two SIM cards from same or different mobile provider.



Schematic drawing of Yacht Router Micro capability and connectivity.

1.2. FEATURES

- High power 3G/4G modem (30+ Nautical miles with outdoor antennas)
- Optional WIFI Booster for long distance WIFI connection (10+ NM)
- 1x Vessel WIFI network
- 5x Backbone or Vessel Network Ethernet port (LAN)
- 2,4 + 5 GHz high power WIFI (b/g/n/a/ac)
- Free online Remote Support
- Free Remote Tracking and Anchor alarm
- Wide range DC power input (10-30 V)
- Compatible with Furuno, Lowrance,
- Simrad, B&G, Maretron, Sonos, Apple Airplay and other IP based systems

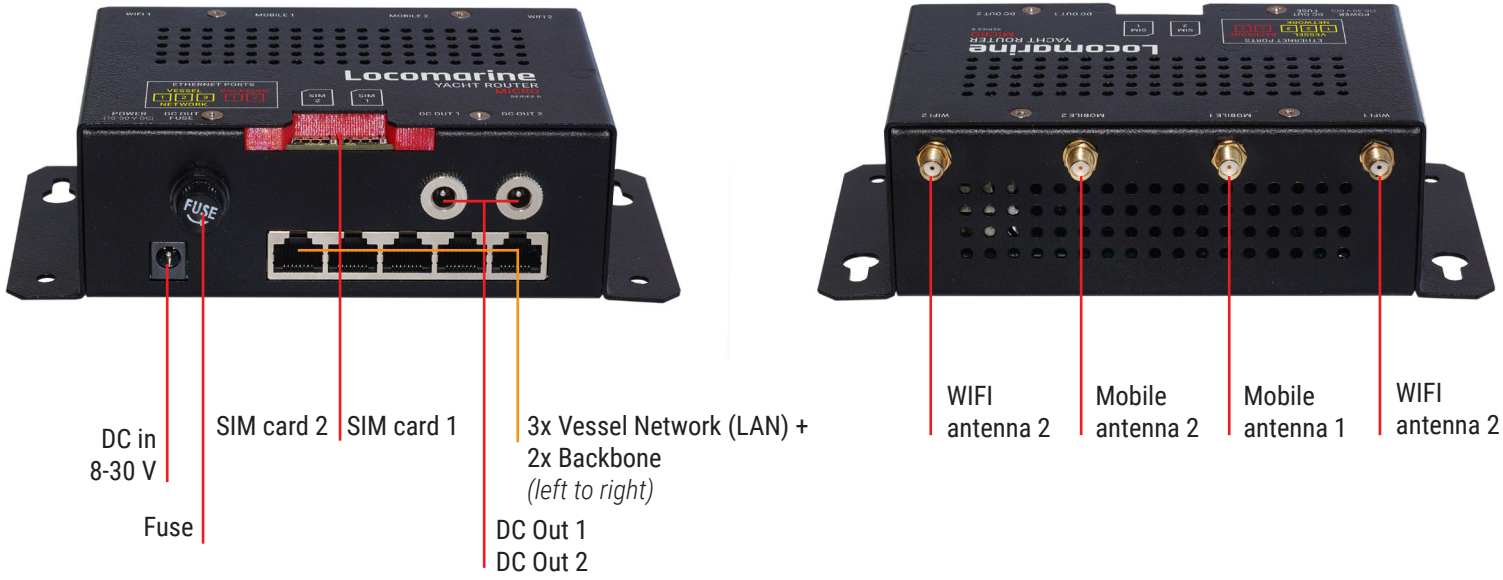
1.3. WHAT IS IN THE PACKAGE

When shipped, all devices are wrapped in plastic bags that protect them from humidity. Devices are then placed into a cardboard box. A bag containing accessory items is placed inside the box too. List of all included components is enclosed in the package.

1 - Yacht Router Micro, LYR-S06, 1 pcs
2 - Locomarine MW 8 antenna (MOB/WIFI, 3 dBi, indoor), MW-A-03, 4 pcs
3 - AC/DC power supply 24V/0.8A, PSU-05, 1 pcs
4 - CAT5 cable (with connectors, 1m), CAT5-02, 1 pcs
5 - DC power cable with connector 2 m, PWC-01, 1 pcs
6 - Fixing screw, FSC-01, 4 pcs
7 - Fuse 1.5 A, FUS-01, 1 pcs

1.4. PORTS AND CONNECTORS

Yacht Router Micro is equipped with following ports and connectors.



2.1. CONNECTING POWER SUPPLY

There are two ways to power Yacht Router Micro:

- **DC in 8-30 V** connector directly from vessel battery (with supplied DC power cable with connector 2 m)
- **DC in 8-30 V** connector using supplied AC/DC power adaptor

Most common way is to connect Yacht Router Micro directly to vessel battery using 2 m supplied DC power cable. Power cable consist of RED and BLACK wire. Connect RED wire to positive (+) and BLACK wire to negative (ground -) power source on your vessel power supply system (battery).

IMPORTANT | Wrongly connected DC power cable can damage Yacht Router and void a warranty.
Voltage lower than 8 V and higher than 30 V can damage Yacht Router and void a warranty.

2.2. INSTALLING ANTENNAS

Yacht Router Micro is equipped with four antenna. Connect two antennas to WIFI connector and two antennas to Mobile connectors.

To significantly increase performance and maximum offshore connectivity distance we strongly suggest installation of outdoor antennas.

For more info about outdoor antennas please visit our website www.yachtrouter.com

2.3. INSERTING SIM CARDS

Yacht Router Micro is equipped with two SIM card slots for nano SIM card size. Push SIM card gently into slot until you hear click sound.

3.1. SETUP

Once you finished hardware installation you need to install Yacht Router Control software to setup and control Yacht Router:

Once you install the software refer to USER MANUAL how to use it. It is available for download on our website www.yachtrouter.com

You can also check VIDEO TUTORIALS on our website www.yachtrouter.com

4.1. HARDWARE DETAILS

WAN, LAN, Backbone ports

Total number of Ethernet ports: 5
Ethernet Satellite WAN ports: not available
Ethernet Vessel Networks (LAN) / Backbone ports: 5
Max. data rate on Ethernet port: 1000 Mbps

Add-on Modules support

WIFI Booster: 1
Mobile Expander: yes
Network Extender: 2
NMEA0183 to Ethernet converter: yes
NMEA2000 to Ethernet converter: yes
Touch Screen Controller: no

Vessel networks (WIFI/LAN)

Max. number of networks: 1
Supported standard: 2.4 GHz (b/g/n), 5 GHz (a/n/ac)
Max. WIFI data rates on 2.4 GHz: 300 Mbps
Max. WIFI data rates on 5 GHz: 867 Mbps
Max. WIFI transmit power on 2.4 GHz: 29/794 dBm/mW
Max. WIFI transmit power on 5 GHz: 33/1995 dBm/mW
Sensitivity of antennas (2.4/5 GHz): 4/4 dB

Mobile Networks

Integrated modems: 1
SIM card slots: 2
SIM card size: Nano SIM
Antenna connector type (on device): 2x SMA female
Sensitivity of included antennas: 4 dB
Coverage: global
3G category: R8 (42 Mbps downlink, 5.76 Mbps uplink)
4G category: 12 (600 Mbps downlink, 150 Mbps uplink)
3G bands: 1/2/3/4/5/8/9/19 (2100/1900/1800/1700/850/900/1700/800)
4G FDD bands: 1/2/3/4/5/7/8/9/12/13/14/17/18/19/20/21/25/26/28/29/30/32/66 (2100/1900/1800/1700/850/2600/900/700/800/1500/2300)
4G TDD bands: 38/39/40/41 (2600/1900/2300/2500)

GNSS receiver

Channels: 22 tracking / 66 acquisition
Supported system: GPS/GLONASS/BeiDou/Galileo/QZSS
Sensitivity: -158 dBm
Antenna: no separate antenna - GNSS use mobile antennas

Power, environment and dimensions

DC power supply input range: 10-30 V
Max. power consumption: 9 W
Operating temperature range for internal unit: -10 to +50 °C
Operating humidity range: 5-95 % non-condensing
IP Protection: IP50
Dimension (WxDxH, without antennas): 175 x 90 x 49 mm

Software features

One Vessel Network (WIFI/LAN)
Automatic APN
SIM card hot-swap
Anchor alarm
GPS Tracking
Simple Internet source selection
Bandwidth control per user

Ordering information

Yacht Router Micro: LYR-C06

4.2. NETWORK DETAILS

Yacht Router Micro 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 Micro IP reservation details:

Backbone Network

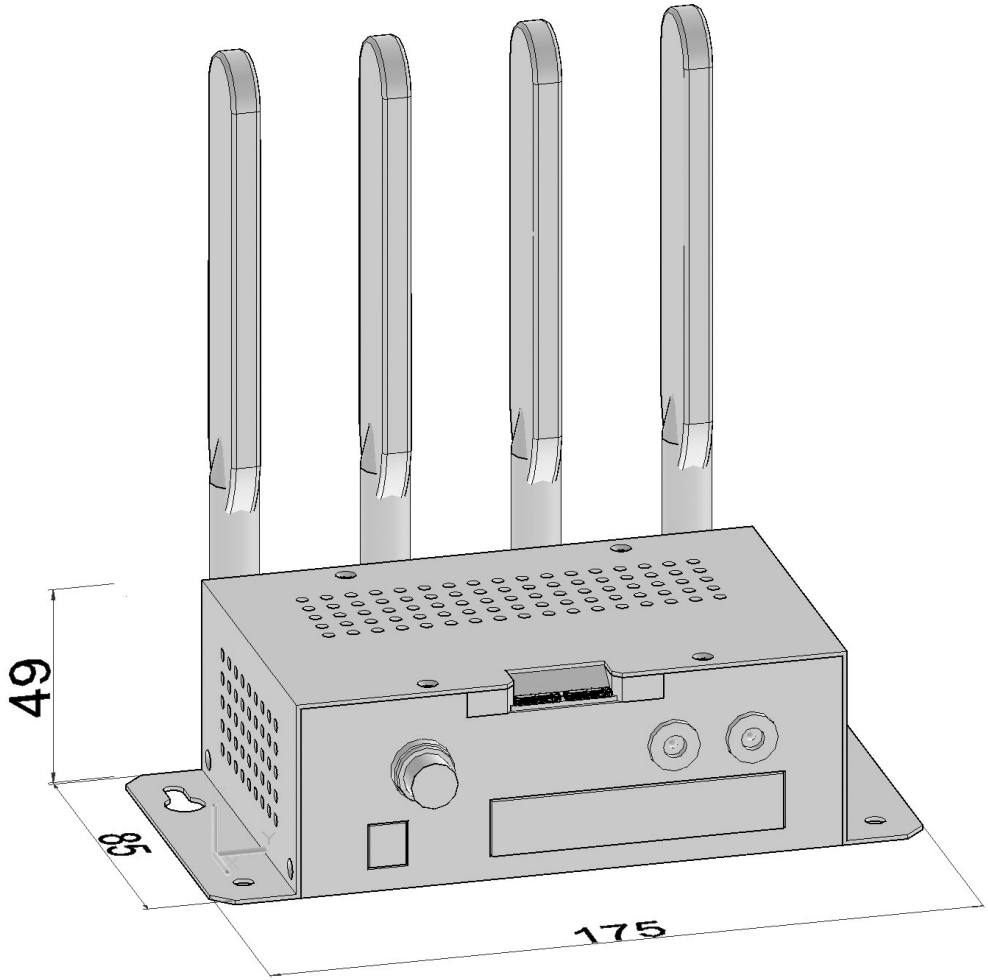
10.80.0.0/16

Vessel Network

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

4.3. OUTLINE DRAWINGS

All dimensions in mm.



LOCOMARINE NETWORKS d.o.o. LIMITED FACTORY WARRANTY

Locomarine Networks d.o.o. manufactures marine electronic products which are marketed and supported worldwide via the Locomarine Networks d.o.o. distributor, dealer and partner network. Each and every Locomarine Networks d.o.o. distributor, dealer and partner is committed to service and support the products in accordance with the market's needs and requirements. In addition, the Locomarine Networks d.o.o. distributor, dealer and partner networks are obliged to support the products irrespective of who sold and installed the product. Locomarine Networks d.o.o. Limited Factory Warranty for Yacht Router products can be downloaded from www.yachtrouter.com under Support/Download section.

DECLARATION OF CONFORMITY

Hereby, Locomarine Networks d.o.o. declares that this Yacht Routers and add-on modules are is in compliance with the essential requirements and other relevant provisions of Directive 2014/53/EC. Declaration of Conformity is available for download on www.yachtrouter.com .

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 Isotopically Radiated Power) are widely available on the Internet. It is solely up to user to comply with country regulations and Locomarine Networks d.o.o. cannot by responsible by any means for improper setup. Transmitting power is set and regulated via Yacht Router Control software.

FCC INTERFERENCE STATEMENT

This FCC statement is related to Yacht Router Micro s6.

This device contains FCC ID: FCC ID: XMR201901EM12G, TV7RBD52-5ACD2ND. This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.
This device and its antennas must not be co-located or operated in conjunction with any other antenna or transmitter.

IMPORTANT: Exposure to Radio Frequency Radiation.
63 cm minimum distance has to be maintained between the antenna and the occupational user and 142 cm to general public. Under such configuration, the FCC radiation exposure limits set forth for a population/uncontrolled environment can be satisfied.

List of approved antennas:
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Antenna Installation. WARNING: It is installer's responsibility to ensure that when using the authorized antennas in the United States (or where FCC rules apply); only those antennas certified with the product are used. The use of any antenna other than those certified with the product is expressly forbidden in accordance to FCC rules CFR47 part 15.204. The installer should configure the output power level of antennas, according to country regulations and per antenna type. Professional installation is required of equipment with connectors to ensure compliance with health and safety issues.

INDUSTRY CANADA NOTICE TO USERS

Notice: To satisfy IC RF exposure requirements for mobile and base station transmission devices, a separation distance of 63 cm or more should be maintained between the antenna of this device and persons during operation. To ensure compliance, operation at closer than this distance is not recommended. The antenna(s) used for this transmitter must not be co-located or operated in conjunction with any other antenna or transmitter.

Avis: Pour répondre à la IC d'exposition pour les besoins de base et mobiles dispositifs de transmission de la station, sur une distance de séparation de 63 cm ou plus doit être maintenue entre l'antenne de cet appareil et les personnes en cours de fonctionnement. Pour assurer le respect, l'exploitation de plus près à cette distance n'est pas recommandée. L'antenne (s) utilisé pour cet émetteur ne doit pas être co-localisés ou fonctionner conjointement avec une autre antenne ou transmetteur.