RIPPLE ANTENNA ARRAY
SERIES 6

The easiest way to stay online.

Ripple Antenna Array is add-on module to Yacht Router Pro. It is based on Ripple 16 antenna array manufactured by Poynting and four Mobile Expanders s6. System is intended for installations where long-distance (30+ NM) connectivity to 3G/4G/5G networks is expected.

Backbone Ports
Total number of Ethernet ports: 20 (4x5)
Max. data rate on each Ethernet port: 1 Gbps

Mobile Networks
Integrated modems: 4 (4x1)
SIM card slots: 8 (4x2)
SIM card size: Nano SIM
Coverage: global
3G category: R8 (42 Mbps downlink, 5.76 Mbps uplink)
4G category: 20 (1.6 Gbps downlink, 200 Mbps uplink)
5G category: 5G SA Sub-6 (2.4 Gbps downlink, 900 Mbps uplink)
             5G NSA Sub-6 (3.4 Gbps downlink, 550 Mbps uplink)
3G bands: 1/2/4/5/8/19 (2100/1900/1700/850/900/800)
4G FDD bands: 1/2/3/4/5/7/8/12/13/14/17/18/19/20/25/26/28/29/30/32/66/71 (2100/1900/1800/1700/850/2600/900/700/800/2300/1500/600)
4G TDD bands: 34/38/39/40/41/42/43/48/46 (2000/2600/1900/2300/2500/3500/3700/5200)
5G NR bands: 1/2/3/5/7/8/12/13/14/18/20/25/26/28/29/30/38/40/41/48/66/70/71/75/76/77/78/79 (2100/1900/1800/850/2600/900/700/800/2300/2500/3500/1700/2000/600/1500/3700/4700)

Antennas
Type: Omni-directional multi-MIMO (16x16)
Frequency bands (MHz): 617 − 960, 1427 − 1517, 1710 − 2700, 3400 − 4200, 5000 − 7200
Gain (Vertical): 5.5 dBi @ 617 − 960 MHz, 5 dBi @ 1427 − 1517 MHz. 6 dBi @ 1710 − 2700 MHz, 9.5 dBi @ 3400 − 4200 MHz, 9 dBi @ 5000 − 7200 MHz
Gain (Horizontal): 1 dBi @ 617 − 960 MHz, 0 dBi @ 1427 − 1517 MHz, 3 dBi @ 1710 − 2700 MHz, 1 dBi @ 3400 − 4200 MHz, 1 dBi @ 5000 − 7200 MHz
Polarisation: Vertical (8x) + Horizontal (8x)
VSWR (Vertical): <2.5:1
VSWR (Horizontal): ≤2:1

Power, environment and dimensions
DC power supply input range: 6-34 V
Max. power consumption: 36 W
Operating temperature range for internal unit: -40 to +50 °C
Wind Survival: ≤186 km/h
Operating humidity range: 5-95 % non-condensing
IP Protection: IP65
Salt Spray: MIL-STD 810G/ASTM B117
Enclosure Flammability Rating: UL 94-HB
Dimension (DxH): Ø449 mm x 535 mm with base
Weight: 23 kg

Software features
Automatic APN
SIM card hot-swap
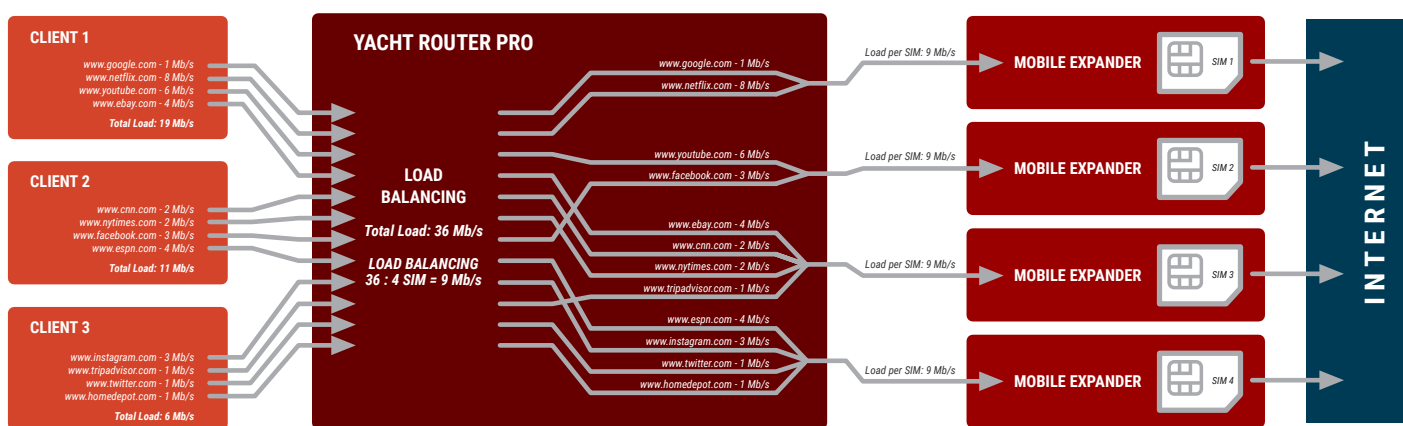Load Balancing

Ordering information
Ripple Antenna Array: MAA-06

Load Balancing
Advanced algorithm for fast Internet.

Load balancing is the process of distributing network traffic across multiple SIM cards. This ensures no single SIM card bears too much demand. By spreading the work evenly, load balancing improves application responsiveness. This results in speeding up performance and better user experience in general.

CLIENT 1
www.google.com - 1 Mb/s
www.netflix.com - 8 Mb/s
www.youtube.com - 6 Mb/s
www.ebay.com - 4 Mb/s
Total Load: 19 Mb/s

CLIENT 2
www.cnn.com - 2 Mb/s
www.nytimes.com - 2 Mb/s
www.facebook.com - 3 Mb/s
www.espn.com - 4 Mb/s
Total Load: 11 Mb/s

CLIENT 3
www.instagram.com - 3 Mb/s
www.tripadvisor.com - 1 Mb/s
www.twitter.com - 1 Mb/s
www.homedepot.com - 1 Mb/s
Total Load: 6 Mb/s

YACHT ROUTER PRO

LOAD BALANCING

Total Load: 36 Mb/s

*LOAD BALANCING
36 : 4 SIM = 9 Mb/s*

www.google.com - 1 Mb/s
www.netflix.com - 8 Mb/s

www.youtube.com - 6 Mb/s
www.facebook.com - 3 Mb/s

www.ebay.com - 4 Mb/s
www.cnn.com - 2 Mb/s
www.nytimes.com - 2 Mb/s
www.tripadvisor.com - 1 Mb/s

www.espn.com - 4 Mb/s
www.instagram.com - 3 Mb/s
www.twitter.com - 1 Mb/s
www.homedepot.com - 1 Mb/s

Load per SIM: 9 Mb/s — **MOBILE EXPANDER** — SIM 1
Load per SIM: 9 Mb/s — **MOBILE EXPANDER** — SIM 2
Load per SIM: 9 Mb/s — **MOBILE EXPANDER** — SIM 3
Load per SIM: 9 Mb/s — **MOBILE EXPANDER** — SIM 4

INTERNET

Load Balancing vs Network Bonding

Several router manufacturers have invested in Network Bonding solution. Network Bonding solutions take individual SIM card connections and combine them to form a single aggregated connection. Based on our experiences with mobile connections on vessels, we at Locomarine decided for Load Balancing as a better solution. The reason is simple: Network Bonding is only as good as the worst performing SIM card. For example, if you have four SIM cards, three running a 4G service and one running a 3G service, the Network Bonding will run at the speed of the 3G service. And that situation is quite common, especially with SIM cards from several providers and vessels roaming in different countries.

www.yachtrouter.com