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# Why MikroTik?

MikroTik provides routing, switching and wireless equipment for all possible uses - from the customer location, up to high end data centres.

We have an extensive network of trained consultants, training centres and distributors in almost every country of the world.

Established in Europe in 1996, we have 24 years of experience in networking and wireless installations.

Our in-house developed RouterOS software supports most common and many special features and we are constantly adding new customer requested features.

Whether you are building wireless links across the seas, internet exchanges between countries or secure tunnels between banks- MikroTik can do it all.

- Best price/performance
- Millions of RouterOS powered devices are currently routing the world
- 24 years of developing networking software and hardware
- Over 170'000 RouterOS trained and certified network engineers
- More than 6'000 training classes in the last year
- World wide network of certified consultants
- Offering products that support simple CPEs to complex enterprise networks
- Thousands of pages of documentation, examples, application notes, and guides

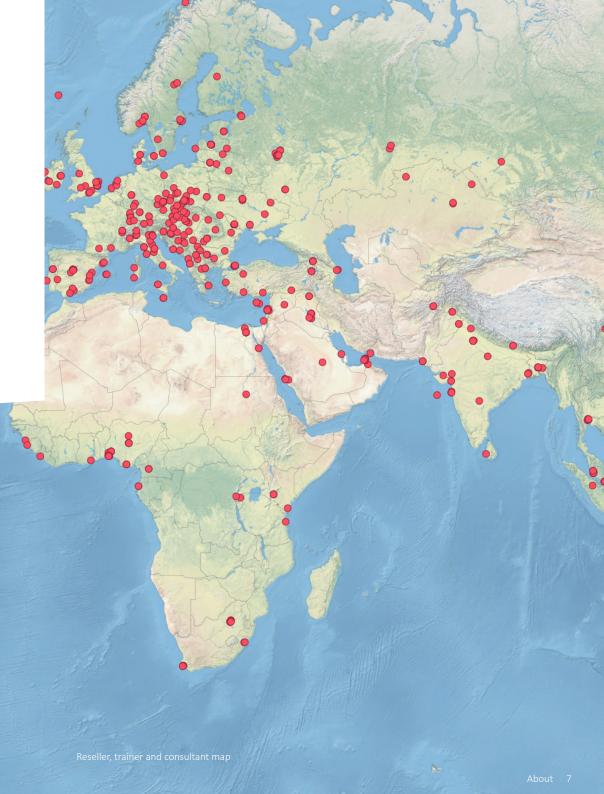


# MikroTik

We are a security and innovation focused European router software and hardware manufacturer, that offers the most flexible and user friendly, up to carrier-class routing and network management solutions. Our products are used by ISPs, individual users and companies for building data network infrastructures all around the world — even in space research, ocean research and on Mount Everest.

There are millions of installations worldwide going back as far as 1996!

Our mission is to make existing Internet technologies faster, more powerful, adaptable and affordable to wider range of users. That is why we offer enterprise-level solutions with consumer-grade pricing.



# RouterOS

MikroTik RouterOS is the operating system of MikroTik RouterBOARD hardware.

It has all the necessary features for an ISP- routing, firewall, bandwidth management, wireless access point, backhaul link, hotspot gateway, VPN server and more.

RouterOS is a stand-alone operating system based on the Linux kernel, and our goal here at MikroTik is to provide all these features with a quick and simple installation and an easy to use interface.

- Powerful QoS control
- RIP, OSPF, BGP, MPLS routing
- Bonding of interfaces
- Stateful firewall, tunnels
- (R)STP bridging with filtering
- High speed 802.11a/b/g/n/ac
- 60 GHz wireless
- Wireless TDMA (Nv2)
- WDS and Virtual AP
- HotSpot Plug-and-Play access
- WinBox GUI and Web admin
- Telnet/MAC-Telnet/SSH/Console
- Real-time configuration and monitoring
- IPsec hardware acceleration
- 2G, 3G and 4G (LTE) support



# MUM

MikroTik User Meeting (MUM) is a conference on MikroTik RouterOS software and RouterBOARD hardware. Meet master distributors and certified trainers, consultants and experienced network engineers. Find answers to your questions, watch presentations, talk with industry experts and witness latest technology demos by MikroTik and participants themselves – all here, at the MUM.

The MUM is also one of the largest and the most consistent WISP conferences in the world, constantly bringing more and more MikroTik users together. Maximum knowledge in the shortest possible time, as well as unique opportunities for new business and sales contacts – don't miss it!

The MUM has already taken place more than 200 times, in 80 countries across all the continents. MUM events keep breaking previous attendance records with more and more people coming every year. More than 3700 people attended the conference in Indonesia in 2018! You should come too!



# Academy

Colleges, universities, and schools around the world are starting MikroTik Academy programs to offer students Internet networking courses using MikroTik RouterOS as a learning tool. We are actively enrolling new locations weekly and looking for new applicants.

The are no charges from MikroTik for material, online testing, and online certificates associated with this program. MikroTik Academy program offers schools an excellent networking education program and program materials for little or no cost.

The program courses offer:

- a proven network education program
- official MikroTik RouterOS certification exams
- discounted (and free) hardware and free RouterOS licenses for training classes

If there is an educational institution near you that could be interested in the MikroTik Academy program, please contact us or forward this information to them.

Please contact us at training@mikrotik.com.

Official MikroTik Academy Web Page: mikrotikacademy.com





# **GPEN Concept**

http://mt.lv/GPENpdf



MikroTik GPEN concept can replace any existing or future GPON solution. It provides all the benefits of GPON, but utilizes well-proven, simple and inexpensive Ethernet solutions.

Similar to GPON, GPEN solution will instead of powering GPON's ONT device, Ethernet cable (with our GPeR devices) is the GPEN analogue of GPON Passive optical splitters – netPower provides additional functionality and possibilities. And the best part of this technology – it of the price. You can connect netPower to your server room by Ethernet, Active optical line or use it to power one end of point-to point backbone wireless link. GPEN – the evolution of GPON done right!





#### GPeR

mt.lv/p/455



Extend Ethernet cable by additional hop with the Gigabit Passive Ethernet Repeater

- 100 150 m to regular network devices, and up to 210 m to another GPeR unit
- Up to 1,500 m total
- Two Gigabit Ethernet ports
- PoE-in-802.3af/at or Passive PoE (24-57 V)
- PoE-out- jumper selectable passive PoE Passthrough



#### GPeR IP67 case





A sturdy and affordable outdoor enclosure for GPeR units. It can be easily mounted on walls and poles. Despite the name, meticulous testing revelead that in real life the enclosure has an IP68 rating with protection from immersion in water, as well as protection from dust.



#### GPFN11





A power injector that can be mounted on a wall, and will power your uplink devices with PoF.

- 2 Gigabit Ethernet ports
- Passive PoE-out
- Can be used to power the ISP equipment, using power from the user premises.
- Has a designated space for an ISP sticker on the front. Sticker size: 6,6 x 2,54 cm.

#### GPFN21





A smart power injector that serves as an advanced software controlled repeater that can power your uplink devices with PoE.

- 2 Gigabit Ethernet ports
- SFP port for fiber to copper functionality Interface management and monitoring
- VLAN support
- SNMP reporting
- Traffic control and shaping
- Has a designated space for an ISP sticker on the front. Sticker size: 6,6 x 2,54 cm.
- Passive PoE-out
- 802.3af/at PoE-in

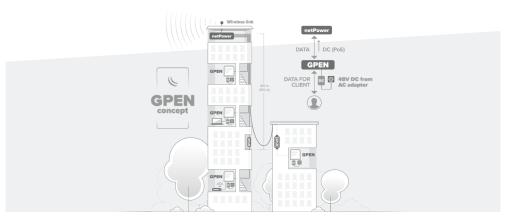
#### netPower 15FR





A 18 port reverse PoE switch in outdoor enclosure. Part of our GPEN concept - aimed to bring the speed and versatility of fiber networking while using the advantages of Ethernet. It is an easy to deploy, low-cost way for any ISP to deliver the Internet to individual apartments.

- 15 reverse PoE-in ports
- Extra PoE-out port- you can use it to power an aggregate link
- Two SFP ports
- Can draw the necessary power even from a single client
- Dual boot feature that allows to choose RouterOs or SwOS





# IoT products

New MikroTik IoT products – Internet of things has never been so affordable. MikroTik is bringing you new, powerful IoT products for the fraction of the cost you would expect.



#### Antenna kit for LoRa®

mt.lv/p/467



Omni antenna kit with a 1 m long SMA cable and mechanical holder for quick and easy mast attachment.

- 824-960 Mhz
- 6.5 dBi
- Vertical beamwidth 30°
- Horizontal beamwidth 360°
- · SMA female connector



#### R11e-I R8



Concentrator Gateway card for LoRa® technology in mini PCIe form factor. It enables LoRa® connectivity for any MikroTik product that has mini PCIe slot with connected USB lines.

- 863-870 MHz (EU863-870, RU864-870, IN865-867)
- Receive max sensitivity-137 dB @ SF12
- RF Output power 863-870 MHz 20 dBm



#### R11e-LR9

mt.lv/p/464



Concentrator Gateway card for LoRa® technology in mini PCIe form factor. It enables LoRa® connectivity for any MikroTik product that has mini PCIe slot with connected USB lines.

- 902-928 MHz (AU915-928, US902-928, AS923, KR920-923)
- Receive max sensitivity-137 dB @ SF12
- RF Output power 902-928 MHz 23 dBm



#### wAP I R8 kit

mt.lv/p/465



An out-of-the-box solution to use Gateway solution for LoRa® technology

- supports 863-870 MHz frequency (EU863-870, RU864-870, IN865-867)
- a pre-installed UDP packet forwarder
- · 2.4 GHz WLAN interface
- renowned weatherproof wAP form-factor
- 10/100 Ethernet port that could be used as a backend

#### wAP LR9 kit



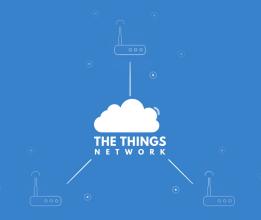


- supports 902-928 MHz frequency (AU915-928, US902-928, AS923, KR920-
- a pre-installed UDP packet forwarder
- 2.4 GHz WLAN interface
- renowned weatherproof wAP form-factor
- 10/100 Ethernet port that could be used as a backend

Our LoRa® are ready to work with "The Things Network" - the famous open source infrastructure that provides free LoRa® network coverage and has tons of apps for your needs. With the help of "The Things Network" you can get started with the Internet of things within a day. And it is easily upgradable to enterprise-grade network "The Things Industries".

Cattle tracking, smart irrigation, level monitors for liquids, smart pulse sensors and thermostats, smart parking and so on – the possibilities are endless. And the setup is so easy, anyone can learn it. There is a large community of developers and enthusiasts all around the globe – you will never be alone with your questions and ideas regarding the LoRa® network. No need to reinvent the wheel – join "The Things Network" to save time and energy with smart solutions!

With this product family we aim to provide the most affordable LoRa® solution to date without compromising quality or performance.



# **Premium class home access points**

#### Chateau ITF12 kit







A high-speed, dual-band home access point with CAT12 LTE for really fast Internet anywhere, anytime.

- Category 12 LTE modem (600 Mbps Downlink, 150 Mbps Uplink, 3x Carrier Aggregation)
- 5 x Gigabit Ethernet ports
- Quad-core 716 Mhz CPU
- 256 MB RAM
- 802.11 b/g/n 2.4 GHz dual-chain high power wireless
- 802.11 a/n/ac 5 GHz dual-chain high power wireless
- Micro SIM slot
- 4 powerful (4x4 MIMO compatible!) integrated antennas with an option to connect 2 external LTE antennas via SMA
- full size USB port

#### Audience ITF6 kit







- Category 6 LTE modem (300 Mbps Downlink, 50 Mbps Uplink, Carrier Aggregation)
- Two Gigabit Ethernet ports
- Quad-core 716 Mhz CPU
- 256 MB RAM
- 802.11 b/g/n 2.4 GHz dual-chain high power wireless
- 802.11 a/n/ac 5.18- 5.3 GHz dual-chain high power wireless
- 802.11 a/n/ac 5.5- 5.85 GHz quad-chain high power wireless
- Micro SIM slot
- PoE-in

# **PWR-Line Series**



#### PL7510Gi



mt.lv/p/268

Next level product for even faster power-line connection without long LAN cables

- Gigabit Ethernet
- Use up to 8 PWR-Line devices to build your network
- Passive 24 V PoE-out
- Much faster than usual power-line data devices
- Backwards compatible with PL64xx and PL74xx series



#### PL7400



Power adapter with PWR-LINE functionality for microUSB powered MikroTik router (Type C power plug)

- 10/100 Ethernet
- Built-in microUSB cable for MikroTik products with microUSB port, like hAP mini or hAP lite.
- Type C power plug (commonly used in Europe, South America and Asia)



#### PI 6400





Power adapter with PWR-LINE functionality for microUSB powered MikroTik router (Type A power plug)

- 10/100 Fthernet
- Built-in microUSB cable for MikroTik products with microUSB port, like hAP mini or hAP lite.
- Type A power plug (commonly used in USA, Canada, Mexico, Thailand)

# **PWR-Line AP**

The PWR-Line AP is a small Wi-Fi access point, made as an accessory to your existing network, for places, where your signal or your cable is unable to reach. Especially useful in homes with thick walls, where you can extend Wi-Fi coverage to those rooms, where signal is poor, without having to re-wire your house. Simply plug this device directly into one of the LAN ports of your MikroTik router, and add another one somewhere further in your premises. They will link together through the power lines. You can install up to eight PWR-LINE devices to further build your network.

Extend your network without extra LAN cables

EU: mt.lv/p/436 US: mt.lv/p/437



- 2.4 GHz 802.11b/g/n dual chain wireless
- 10/100 Mbps Ethernet
- 650 MHz CPU, 64 MB RAM
- EU and US plug models available







# hEX series

The hEX series of devices are small form factor Ethernet routers with neat plastic design enclosures. They have a total of five ports.



#### hEX lite

mt.lv/p/56



A small, but powerful five port Ethernet router in a nice plastic case.

- 850 MHz CPU, 64 MB RAM
- Compact size



#### hFX PoF lite

mt.lv/p/267



This model supports PoE output on it's Ethernet ports, so you can power other devices.

- 5x 10/100 Mbps Ethernet ports
- 650 MHz CPU, 64 MB RAM
- Ethernet ports 2-5 can power other PoE capable devices



#### hEX

mt.lv/p/262



The hEX is a small and powerfull router with Gigabit Ethernet, IPsec acceleration and more.

- 5 Gigabit Ethernet ports
- Dual core 880 MHz CPU, 256 MB RAM
- IPsec hardware encryption (~470 Mbps) support
- Support for The Dude server package
- · microSD slot and USB



#### hFX PoF

mt.lv/p/295



This model also has PoE output capability, but includes Gigabit Ethernet ports and an SFP cage.

- 5 Gigabit Ethernet ports
- SFP port for 1.25 Gigabit connectivity
- Ethernet ports 2-5 can power other PoE capable devices
- 800 MHz CPU, 128 MB RAM

### hEX S



hEX S is a six port wired Gigabit router for locations where wireless connectivity is not required. Compared to the hEX, the hEX S also features an SFP port and PoE output on the last port.



- Dual Core 880 MHz CPU
- 256 MB RAM
- 1.25Gbit/s SFP cage
- USB 2.0 and microSD slot
- 12 V-57 V input support by PoE or power jack
- 802.3at/af support
- IPsec hardware encryption (~470 Mbps)
- Dude Server package support

# PowerBox series

The PowerBox series of devices are Ethernet routers in outdoor enclosures, ready to be mounted in any weather conditions. They are capable to power MikroTik routers and other supported devices through PoE (Power over Ethernet).



### PowerBox



The basic model is good for 10/100 Mbit devices and lower bandwidth requirements.

- 5x 10/100 Mbps Ethernet ports
- 650 MHz CPU, 64 MB RAM



#### PowerBox Pro



The professional model adds Gigabit ports and a more capable CPU.

- 5 Gigabit Ethernet ports
- SFP port for 1.25 Gigabit connectivity
- 800 MHz CPU, 128 MB RAM

# RB2011 series

#### RB2011iL-IN









The RB2011 lite model comes in a desktop case and features a PoE out port, just like all the other models.

- 600 MHz CPU, 64 MB RAM
- Desktop case

#### RB2011iL-RM







The RM model is similar, but comes in a larger, rackmountable enclosure.

- 600 MHz CPU, 64 MB RAM
- Rackmount case

#### RB2011iLS-IN







This device includes an SFP port for fiber and copper modules. See the Accessories chapter for recommended modules.

- SFP port for 1.25 Gigabit connectivity
- 600 MHz CPU, 64 MB RAM
- Desktop case

#### RB2011UiAS-IN







The U models include more RAM and a USB port.

- SFP port for 1.25 Gigabit connectivity
- 600 MHz CPU, 128 MB RAM
- LCD display and USB
- Desktop case

#### RB2011UiAS-RM







Similar to the above model, but comes in a rackmountable enclosure.

- SFP port for 1.25 Gigabit connectivity
- 600 MHz CPU, 128 MB RAM
- LCD display and USB
- Rackmount case

#### RB3011UiAS-RM





The RB3011 is a multi port device, our first to be running an ARM architecture CPU for higher performance than ever before.

- 10 Gigabit Ethernet ports
- Dual core ARM 1.4 GHz CPU, 1 GB RAM
- SFP port for 1.25 Gigabit connectivity
- LCD display and USB 3.0

#### RB4011iGS+RM





RB4011 series - amazingly powerful routers with ten Gigabit ports, SFP+ 10Gbps interface and IPsec hardware acceleration for a great price!

The RB4011 uses a quad core Cortex A15 CPU, same as in our carrier grade RB1100AHx4 unit. The unit is equipped with 1 GB of RAM, can provide PoE output on port #10 and comes with a compact and professional looking solid metal enclosure in matte black.





- Quad-core 1.4 GHz CPU
- 1 GB of RAM
- All metal pasive cooled enclosure



#### **RB1100AHx4** Dude Edition



The RB1100AHx4 Dude Edition has an Annapurna Alpine AL21400 CPU with four Cortex A15 cores clocked at 1.4 GHz each, for a maximum throughput of up to 7.5 Gbps. The device supports IPsec hardware acceleration and is faster at it than any previous RouterBOARD device (up to 2.2 Gbps with AES128).

The unit comes in a 1U rackmount case, 13 Gigabit Ethernet ports, RS232 serial port and dual redundant power supplies (with - 48 V DC telecom power and 802.3at/af support). The RB1100AHx4 Dude edition features several high speed storage connectors (two SATA and two M.2) for storing The Dude database, proxy cache or for any other storage intensive task. A 60 GB M.2 drive is already included.



- 13 Gigabit Ethernet ports
- Four core Annapurna Alpine 1.4 GHz ARM CPU, 1 GB RAM
- Maximum throughput of up to 7.5 Gbps
- IPsec hardware acceleration (up to 2.2 Gbps with AES128)
- Dual redundant power supplies (with-48 V DC telecom power and 802.3at/af support)
- Two SATA and two M.2 connectors for storage
- 60 GB M.2 drive already installed

#### RB1100AHx4





Powerful 13 Gigabit Ethernet port router in a rackmount case with dual redundant power supplies.



- 13 Gigabit Ethernet ports
- Four core Annapurna Alpine 1.4 GHz CPU, 1 GB RAM
- Maximum throughput of up to 7.5 Gbps
- IPsec hardware acceleration of up to 2.2 Gbps with AES128
- Dual redundant power supplies (with-48 V DC telecom power and 802.3at/af support)

# Cloud Core Router series

The Cloud Core Router series of devices are powered by our fastest networking processors, based on the Tilera architecture. The CCR series is the top of the line Ethernet routers for your most demanding needs.

The CCR series devices use Tilera multicore CPUs, which are so powerful, that the devices can easily handle all port routing without a switch chip. All of the CCR series devices support hardware IPsec acceleration.

## CCR1009-7G-1C-PC







Tilera 9-core CPU, Gigabit Ethearturrnet, IPsec acceleration and combo port. The combo port allows you to select which of the two options you wish to use, an SFP port or another Gigabit copper port. The passively cooled device makes this device absolutely quiet.

- 7 Gigabit Ethernet ports
- · Combo (Gigabit Ethernet or SFP) port
- 1 GB RAM
- Silent passive cooling enclosure

#### CCR1009-7G-1C-1S+PC







Tilera 9-core CPU, Gigabit Ethernet, IPsec acceleration, combo port, and addditional SFP+ port for 10G connectivity.

- Eight Gigabit Ethernet ports
- · Combo (Gigabit Ethernet or SFP) port
- 2 GB RAM
- LCD touch screen, smart card slot, microSD slot
- Silent passive cooling enclosure

#### CCR1009-7G-1C-1S+









- Combo (Gigabit Ethernet or SFP) port
- SFP+ port for 10 Gbps connectivity
- 2 GB RAM
- LCD touch screen, smart card slot, microSD slot
- Dual power supplies built-in for redundancy
- 1U rackmount enclosure

#### CCR1016-12G









- Tilera 16-core CPU, 1.2 GHz per core, 2 GB RAM
- Up to 17.8 Million pps throughput in Fast Path mode (wire speed)
- Up to 12 Gbps throughput with RouterOS queue/firewall configuration
- LCD touch screen
- 1U rackmount enclosure
- full size USB slot and dual PSU for redundancy

#### CCR1016-12S-1S+







- 12 SFP ports for 1.25 Gigabit connectivity
- 1 SFP+ port for 10 Gigabit connectivity
- Tilera 16-core CPU, 1.2 GHz per core, 2 GB RAM
- Dual power supplies built-in for redundancy
- LCD touch screen
- 1U rackmount enclosure
- full size USB slot and dual PSU for redundancy

#### CCR1036-12G-4S





Carrier grade 36 core rackmount router with 12 Gigabit Ethernet ports and four SFP ports for optical fiber connectivity.



- 4 SFP ports for 1.25 Gigabit connectivity
- Tilera 36-core CPU, 1.2 GHz per core, 4 GB RAM
- Up to 24 Mpps throughput in Fast Path mode (wire speed)
- Up to 16 Gbps throughput with RouterOS queue/firewall configuration
- LCD touch screen
- 1U rackmount enclosure
- full size USB slot and dual PSU for redundancy

#### CCR1036-12G-4S-FM





The same carrier grade 36 core rackmount router with 12 Gigabit Ethernet ports and four SFP ports for optical fiber connectivity, but with more RAM for high intensity tasks.

- 8 GB of RAM
- full size USB slot and dual PSU for redundancy

#### CCR1036-8G-2S+



The CCR1036-8G-2S+ is a high performance networking router with eight Gigabit ports, two SFP+ ports for 10G connectivity and dual power supplies for redundancy. Powered by a 36 core CPU, this router is able to perform the most complicated routing and management tasks, for managing large networks with high bandwidth requirements.



Each of it's ports is directly connected to the Tilera networking CPU, with no ports sharing any bandwidth, guaranteeing the best performance and highest reliability. The CPU supports IPsec hardware accelerated encryption, so you can use it also as a high performance VPN gateway to ensure the best encryption between important locations, without sacrificing connection speed.

The M.2 slot allows to install a high speed SSD disk, for using a local user database, proxy storage or for other features.

- Tilera 36-core CPU. 1.2 GHz per core. 4 GB RAM
- 8 Gigabit Ethernet ports
- 2 SFP+ ports for 10 Gigabit connectivity
- Up to 41.5 Mpps throughput in Fast Path mode (wire speed)
- Up to 28 Gbps throughput with RouterOS queue/firewall configuration
- LCD touch screen and full size USB port
- 1U rackmount enclosure with two power supplies for redundancy

#### CCR1036-8G-2S+EM







The same carrier grade 36 core rackmount router with 8 Gigabit Ethernet ports and two SFP+ 10G ports for optical fiber connectivity, but with more RAM for high intensity tasks.

8 GB of onboard RAM



#### CCR1072-1G-8S+



Our flagship router, the CCR1072, is powered by a Tilera 72 core CPU, each core is clocked at 1 GHz, and to fully utilize this power, the CCR1072 is equipped with eight independently connected 10G SFP+ ports.

Thanks to the unique 72 core processor and ports that are directly connected to the CPU, the CCR1072 is capable of over 120 million packets per second throughput.



The unit comes equipped with two removable (hot plug) power supplies for redundancy, smart card slot, eight SFP+ ports and 16 GB of built in ECC RAM.

The CCR1072 also has two built-in M.2 slots, microSD slot and 2x USB ports for adding storage, to use for proxy cache, user manager and other features. The M.2 slots accept 800 mm Key-M x4 PCle 2.0 modules.

### Quick specifications

- 1 Gigabit Ethernet port
- 8 SFP+ ports for 10 Gigabit connectivity
- Tilera 72-core CPU, 1 GHz per core, 16 GB RAM
- Up to 120 Mpps throughput in Fast Path mode (wire speed)
- Up to 80 Gbps throughput
- Two built-in M.2 slots, microSD slot and 2x USB
- LCD touch screen
- Two hot swap power supplies for redundancy (two 12POW150 included)
- 1U rackmount enclosure
- PW48V-12V150W can be used as an alternative



# **SOHO** switches

Our smaller SOHO switches have five Gigabit Ethernet ports and an SFP port for optical fiber connectivity. The devices are powered by RouterOS or SwOS, our switch operating system that gives you all the most important switch configuration options.

#### RB260GS

mt.lv/p/174

The tiny desktop case is compact enough to mount in narrow places, mounting hooks provide possibility to wall mount it in any direction.

- Five Gigabit Ethernet ports
- SFP port for 1.25 Gigabit connectivity
- · Powered by SwOS
- All the basic functionality for a managed switch, plus more



#### RB260GSP

mt.lv/p/218



The P model also includes capability to power other devices.

- Ethernet ports 2-5 can power other PoE capable devices
- · Powered by SwOS



### CRS106-1C-5S



A desktop size smart switch with a Gigabit Ethernet / SFP combo port and five SFP ports for optical fiber connectivity.

- · Combo (Gigabit Ethernet or SFP) port
- 400 MHz CPU, 128 MB RAM
- A market leading solution for connecting up to six SFP devices
- · Powered by RouterOS



#### **FiberBox**

mt.lv/p/328

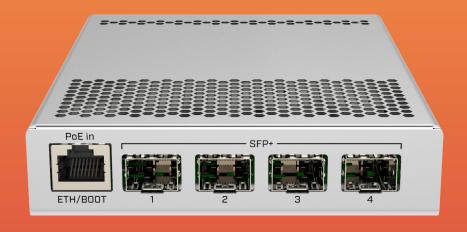


An outdoor switch with five SFP ports, ideal for locations where distance is restricting the use of regular Ethernet cables.

- 400 MHz CPU, 128 MB RAM
- Weatherproof outdoor case
- RJ45 SFP (S-RJ01) copper module already pre-installed in the first port
- Powered by RouterOS



#### CRS305-1G-4S+IN



- 4 SFP+ ports
- 1 Gigabit Ethernet ports
- Non-Blocking throughput: 41 Gbps
- Switching capacity: 82 Gbps
- Forwarding rate: 61 Mpps
- 2 DC jack for redundancy

- Maximum power consumption: 12 W (with attachments 18 W)
- Supports PoE+ IEEE 802.3at/af and passive PoE 12-57 V
- Metal enclosure
- Fanless

# Medium business switches



#### CRS109-8G-1S-2HnD-IN



A desktop size smart switch with 8 Gigabit Ethernet ports, SFP port for optical fiber connectivity and high power 2.4 GHz wireless.

- 8 Gigabit Ethernet ports
- SFP port for 1.25 Gigabit connectivity
- · High power 2.4 GHz dual chain wireless
- 600 MHz CPU, 128 MB RAM
- LCD touch screen, microUSB port

#### CRS112-8G-4S-IN







A desktop size smart switch with 8 Gigabit Ethernet ports and 4 SFP ports for optical fiber connectivity.

- 8 Gigabit Ethernet ports
- 4 SFP ports for 1.25 Gigabit connectivity
- 400 MHz CPU, 128 MB RAM

#### CRS112-8P-4S-IN

mt.lv/p/349





A desktop size smart PoE switch with 8 Gigabit Ethernet ports, 4 SFP ports for optical fiber connectivity and PoE output.

- · 8 Gigabit Ethernet ports with PoE output
- · 4 SFP ports for 1.25 Gigabit connectivity
- 400 MHz CPU, 128 MB RAM
- 28 V 3.4 A power supply included
- Secondary DC jack on the back of the enclosure that supports 48-57 V power supply (optional)

#### CRS212-1G-10S-1S+IN

mt.lv/p/249





A desktop size smart switch with a Gigabit Ethernet port, 10 SFP ports and an SFP+ port for 10 Gigabit connectivity.

- Gigabit Ethernet port
- 10 SFP ports for 1.25 Gigabit connectivity
- · SFP+ port for 10 Gigabit connectivity
- 400 MHz CPU, 64 MB RAM
- LCD touch screen

#### CRS309-1G-8S+IN

mt.lv/p/447





The CRS309-1G-8S+ is a very compact, yet powerful networking switch.

- · 8 SFP+ ports for 10 Gigabit connectivity
- Dual-core 800 MHz CPU, 512 MB RAM
- Management Ethernet port with PoE power input
- · RS232 serial port and a grounding terminal
- Dual boot feature that allows to choose RouterOs or SwOS
- · Special rackmount ears for installing unit into the standard rack

#### CRS328-24P-4S+RM



The CRS328-24P-4S+RM is a 28 independent port PoE switch with multiple power options: Passive PoE, low voltage PoE, 802.3af/at (Type 1 "PoE" / Type 2 "PoE+") with per port autosensing. The 4 SFP+ ports provide up to 10 Gigabit connectivity options via either optical fiber or Ethernet modules (not included).

CRS328-24P-4S+RM comes in a 1U rackmount case with 100-240 V AC 500 W power supply built-in.



- 24 Gigabit Ethernet ports with PoE output
- 4 SFP+ ports for 10 Gigabit connectivity
- 800 MHz CPU. 512 MB RAM
- Power output options: Passive PoE, low voltage PoE, 802.3at/af (Type 1 "PoE" / Type 2 "PoE+") with auto-sensing
- 100-240 V AC 500 W power supply built-in
- Non-Blocking throughput: 64 Gbps
- Switching capacity: 128 Gbps
- Dual boot feature that allows to choose RouterOS or SwOS

#### CSS326-24G-2S+RM









E 1111 1111 1111 1111 ...

- · 24 Gigabit Ethernet ports
- 2 SFP+ ports for 10 Gigabit connectivity
- Powered by SwOS
- 1U rackmount case

#### CRS326-24G-2S+RM







A 24 port Gigabit Ethernet router/switch with two SFP+ ports in 1U rackmount case, dual boot.

- 24 Gigabit Ethernet ports
- Two SFP+ ports for 10 Gigabit connectivity
- 800 MHz CPU, 512 MB RAM
- Dual boot feature that allows to choose RouterOS or SwOS
- 1U rackmount case

# **Enterprise switches**

#### CRS312-4C+8XG-RM







Switch of the future: the first MikroTik product with 10G RJ45 Ethernet ports and SFP+

- 8 10G Ethernet ports
- 4 Combo 10G Ethernet/SFP+ ports
- Combo ports can be software selected
- Dual power supply
- 1U rackmount case

#### CRS326-24S+2Q+RM





Our fastest switch for the most demanding setups

- Two 40 Gbps QSFP+ ports
- 24 SFP+ ports for 10 Gigabit connectivity
- Dual boot feature that allows to choose RouterOs or SwOS
- Dual power supply
- 1U rackmount case

### CRS354-48G-4S+2Q+RM







Best price and best performance on the market – this 48 port switch will rock any setup, including 40 Gbps devices!

- Two 40 Gbps QSFP+ ports
- 48 Gigabit Ethernet ports
- · 4 SFP+ ports for 10 Gigabit connectivity
- Dual power supply
- 1U rackmount case

#### CRS125-24G-1S-2HnD-IN







A desktop size smart switch with 24 Gigabit Ethernet ports, an SFP port for optical fiber connectivity and high power 2.4 GHz wireless.

- 24 Gigabit Ethernet ports
- SFP port for 1.25 Gigabit connectivity
- High power 2.4 GHz dual chain wireless
- 600 MHz CPU, 128 MB RAM
- · LCD touch screen, microUSB port



### CRS354-48P-4S+2Q+RM

mt.lv/p/472



If you are looking for a single switch that will put your network setup ahead of the curve and power all the necessary devices – look no further! The new CRS354-48P-4S+2Q+RM is an effective and adaptable rackmount solution for managing networks in the most demanding environments. Unlike many other switches out there, our products are made with the system administrator in mind.



CRS354-48P-4S+2Q+RM is extremely functional, and it has the best price-point on the market - it will make the perfect addition to a professional setup. The total non-blocking throughput is 168 Gbps, switching capacity is 336 Gbps and the forwarding rate reaches 235 Mpps.

- Two 40 Gbps QSFP+ ports
- 48 Gigabit Ethernet ports with PoE-out
- Passive PoE, low voltage PoE, 802.3af/at (Type 1 "PoE" / Type 2 "PoE+") with auto-sensing
- 4 SFP+ ports for 10 Gigabit
- 1U rackmount case

#### CRS317-1G-16S+RM





A 1U rackmount manageable switch with 16 SFP+ ports for for 10 Gigabit connectivity and a Gigabit Ethernet port for management.



- 16 SFP+ ports for 10 Gigabit connectivity
- · Dual core 800 MHz CPU, 1 GB RAM
- Dual boot feature that allows to choose RouterOS or SwOS
- Dual redundant power supplies
- · Silent passive cooling enclosure
- 1U rackmount case

#### CRS328-4C-20S-4S+RM



The CRS328-4C-20S-4S+RM is a 28 independent port switch with a combo group.

This device has twenty SFP ports, four SFP+ ports for 10G modules and four combo ports, where you can choose to use SFP or RJ45 ports from the combo group. These ports can also be software selected, so if you have plugged in all eight cables, you can use scripting, to decide which four combo ports will be active.

The device has a "Dual boot" feature that allows you to choose between two operating systems - RouterOS or SwOS.

If you prefer to have a simplified operating system with only switch specific features, use SwOS. If you would like the ability to use routing and other Layer 3 features in your CRS, use RouterOS. You can select the desired operating system from RouterOS, from SwOS or from the RouterBOOT loader settings. All the feature set comes with our disruptive price, providing best price/performance on the market.



#### Switching features

- Non-blocking Layer 2 switching capacity
- 16K host table
- IEEE 802.1Q VLAN
- Supports up to 4K simultaneous VLANs
- Port isolation
- Port security
- Broadcast storm control
- Port mirroring of ingress/egress traffic
- STP / RSTP / MSTP
- Access Control List
- MikroTik neighbor discovery
- SNMP
- 10218-byte jumbo frames support
- IGMP snooping
- IEEE 802.3ad and static link aggregation

#### Quick specifications

- 20 SFP ports
- 4 ETH/SFP combo ports
- 4 SFP+ ports
- Non-Blocking throughput: 64 Gbps
- Switching capacity: 128 Gbps
- Forwarding rate: 95.2 Mpps
- RJ45 serial console port
- Dual PSU
- Maximum power consumption: 43 W
- Temperature based fan control
- 1U rackmount

# 2.4 GHz integrated directionals



### SXTsq Lite2

mt.lv/p/361



A compact, low-cost and lightweight outdoor 2.4 GHz 802.11b/g/n wireless device with an 10 dBi integrated antenna.

- 2.4 GHz 10 dBi antenna
- 802.11b/g/n dual chain wireless
- 10/100 Mbps Ethernet
- 650 MHz CPU, 64 MB RAM
- RouterOS level 3 license (CPE or Point-to-Point)



#### IHG 2

mt.lv/p/333



An outdoor 2.4 GHz 802.11b/g/n wireless device with an 18 dBi integrated antenna for longer distances.

- 2.4 GHz 18 dBi antenna
- 802.11b/g/n dual chain wireless
- 10/100 Mbps Ethernet
- 650 MHz CPU, 64 MB RAM
- RouterOS level 3 license (CPE or Point-to-Point)



#### LHG XL 2



An outdoor 2.4 GHz 802.11b/g/n wireless device with an extra large 21 dBi integrated antenna for even longer distances.

- 2.4 GHz 21 dBi antenna
- 802.11b/g/n dual chain wireless
- 10/100 Mbps Ethernet
- 650 MHz CPU, 64 MB RAM
- RouterOS level 3 license (CPE or Point-to-Point)



#### IDF 2



A tiny 2.4 GHz system for super long distance links with satellite offset dish antennas.

- 40 mm diameter to fit any available satellite TV dish with an offset mount
- integrated 2.4 GHz 10 dBi antenna
- 802.11b/g/n dual chain wireless
- 10/100 Mbps Ethernet
- 650 MHz CPU, 64 MB RAM
- RouterOS level 3 (CPE or Point-to-Point)

# 2.4 GHz integrated base stations



#### SXT 2

mt.lv/p/168



An outdoor 2.4 GHz 802.11b/g/n base station with a 10 dBi, 60 degree integrated sector antenna and Gigabit Ethernet.

- 2.4 GHz 10 dBi 60° sector antenna
- 802.11b/g/n high power dual chain wireless
- Gigabit Ethernet
- 600 MHz CPU, 64 MB RAM
- RouterOS level 4 license (AP, CPE or Point-to-Point)



#### mANTBox 2 12s



The mANTBox is based on our new mANT sector antennas, but also has a wireless router built right in. Powered by the RB911 device, the mANTBox comes ready to use with everything included. The device uses a high speed 600 MHz CPU, comes with the Gigabit Ethernet port and has a built in 802.11 b/g/n wireless device with up to 30 dBm output power.

- 2.4 GHz 12 dBi 120° sector antenna
- 802.11b/g/n, dual-chain
- Gigabit Ethernet
- 600 MHz CPU, 64 MB RAM
- RouterOS level 4 license (AP, CPE or Point-to-Point)

# **5 GHz integrated directionals**

#### Up to 10 km distance



# SXTsq Lite5





A compact and lightweight outdoor wireless device with an integrated antenna. Perfect for point to point links of up to 12 kilometers or as a CPE unit.

- 5 GHz 16 dBi antenna
- 802.11a/n dual chain wireless
- 10/100 Mbps Ethernet
- 600 MHz CPU, 64 MB RAM
- RouterOS L3 (CPE or Point-to-Point)



# SXTsq 5 High Power





A compact, low-cost and lightweight outdoor 5 GHz 802.11a/n high power wireless device with a 16 dBi integrated antenna.

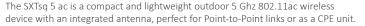
- 802.11a/n increased output power, dual chain wireless
- 10/100 Mbps Ethernet
- 600 MHz CPU, 64 MB RAM
- RouterOS level 3 license (CPE or Point-to-Point)



## SXTsq 5 ac







- 5 GHz 16 dBi antenna
- 802.11a/n/ac dual chain wireless
- Gigabit Ethernet
- 716 MHz CPU, 256 MB RAM
- RouterOS level 3 license (CPE or Point-to-Point)



#### Disc Lite 5





An outdoor 5 GHz 802.11a/n/ac wireless device with a high gain 21 dBi integrated antenna.

- 5 GHz 21 dBi antenna
- 802.11a/n/ac dual chain wireless
- 10/100 Mbps Ethernet
- 600 MHz CPU, 64 MB RAM
- RouterOS level 3 license (CPE or Point-to-Point)



#### Disc Lite5 ac



An outdoor 5 GHz 802.11a/n/ac wireless device with a high gain 21 dBi integrated antenna and Gigabit Ethernet for high speed on long distances.

- 5 GHz 21 dBi antenna
- 802.11a/n/ac high power dual chain wireless
- · Gigabit Ethernet
- 716 MHz CPU, 256 MB RAM
- · RouterOS level 3 license (CPE or Point-to-Point)

#### More than 10 km range



#### LHG XL 52 ac



Powerful 5 GHz backbone with 2.4 GHz backup for long-distance connection without downtime

- · 2.4 GHz 18 dBi antenna
- 5 GHz 27 dBi antenna
- 802.11b/g/n and 802.11a/n/ac dual-chain high power wireless
- Gigabit Ethernet port
- 716 MHz quad-core CPU, 256 MB RAM



#### IHG 5

mt.lv/p/285



An outdoor 5 GHz 802.11a/n wireless device with a 24.5 dBi integrated antenna for long distances.

- 5 GHz 24.5 dBi antenna
- 802.11a/n dual chain wireless
- 10/100 Mbps Ethernet
- 600 MHz CPU, 64 MB RAM
- · RouterOS level 3 license (CPE or Point-to-Point)



#### IHG HP5

mt.lv/p/316



An outdoor 5 GHz 802.11a/n high power wireless device with a 24.5 dBi integrated antenna for long distances.

- 5 GHz 24.5 dBi antenna
- 802.11a/n dual chain high power wireless
- 10/100 Mbps Ethernet
- 600 MHz CPU, 64 MB RAM
- RouterOS level 3 license (CPE or Point-to-Point)



#### LHG XL HP5

mt.lv/p/317



An outdoor 5 GHz 802.11a/n high power wireless device with an extra large 27 dBi integrated antenna for extra large distances.

- 5 GHz 27 dBi antenna
- 802.11a/n dual chain high power wireless
- 10/100 Mbps Ethernet
- 600 MHz CPU, 64 MB RAM
- RouterOS level 3 license (CPE or Point-to-Point)



#### LHG 5 ac

mt.lv/p/335



An outdoor 5 GHz 802.11a/n/ac wireless device with a 24.5 dBi integrated antenna and Gigabit Ethernet.

- 5 GHz 24.5 dBi antenna
- 802.11a/n/ac dual chain wireless
- · Gigabit Ethernet
- 716 MHz CPU, 256 MB RAM
- RouterOS level 3 license (CPE or Point-to-Point)



### QRT 5 ac

mt.lv/p/257

An outdoor 5 GHz 802.11a/n/ac high power wireless device for long distances with a 24 dBi integrated antenna and Gigabit Ethernet.

- 5 GHz 24 dBi antenna
- 802.11a/n/ac high power dual chain wireless
- Gigabit Ethernet
- 720 MHz CPU, 128 MB RAM
- RouterOS level 4 license (AP, CPE or Point-to-Point)



# LHG XL 5 ac





An outdoor 5 GHz 802.11a/n/ac wireless device with an extra large 27 dBi integrated antenna for extra long distances and Gigabit Ethernet.

- 5 GHz 27 dBi antenna
- 802.11a/n/ac dual chain wireless
- · Gigabit Ethernet
- 716 MHz CPU, 256 MB RAM
- RouterOS level 3 license (CPE or Point-to-Point)



#### SEXTANT G





An outdoor 5 GHz 802.11a/n high power wireless device with an 18 dBi integrated antenna and Gigabit Ethernet.

- 5 GHz 18 dBi antenna
- 802.11a/n high power dual chain wireless
- · Gigabit Ethernet
- 600 MHz CPU, 64 MB RAM
- RouterOS level 3 license (CPE or Point-to-Point)





### QRT 5

mt.lv/p/222



An outdoor 5 GHz 802.11a/n high power wireless device for long distances with a 24 dBi integrated antenna and Gigabit Ethernet.

- 5 GHz 24 dBi antenna
- 802.11a/n high power dual chain wireless
- Gigabit Ethernet
- 600 MHz CPU, 64 MB RAM
- RouterOS level 4 license (AP, CPE or Point-to-Point)



# DynaDish 5



An outdoor 5 GHz 802.11a/n/ac high power wireless device for extra long distances with a 25 dBi integrated antenna and Gigabit Ethernet.

- 5 GHz 25 dBi antenna
- 802.11a/n/ac hight power dual chain wireless
- Gigabit Ethernet
- 720 MHz CPU, 128 MB RAM
- RouterOS level 3 license (CPE or Point-to-Point)



#### LDF 5

mt.lv/p/301



A tiny 5 GHz system for super long distance links with a satellite offset dish antennas

- 40 mm diameter to fit any available satellite TV dish with an offset mount
- Integrated 5 GHz 9 dBi antenna
- 802.11a/n dual chain wireless
- 10/100 Mbps Ethernet
- 600 MHz CPU, 64 MB RAM
- · RouterOS level 3 license (CPE or Point-to-Point)



#### IDF 5 ac



A tiny 5 GHz system with Gigabit Ethernet and 802.11a/n/ac support for super long distance links with satellite offset dish antennas

- · 40 mm diameter to fit any available satellite TV dish with an offset mount
- Integrated 5 GHz 9 dBi antenna
- 802.11a/n/ac dual chain wireless
- Gigabit Ethernet
- 716 MHz CPU, 256 MB RAM
- · RouterOS level 3 license (CPE or Point-to-Point)

# **5 GHz integrated base stations**



#### SXT SA5





An outdoor 5 GHz 802.11a/n high power wireless integrated base station with a 14 dBi 90° sector antenna.

- 5 GHz 14 dBi 90° sector antenna
- 802.11a/n dual chain high power wireless
- Gigabit Ethernet
- 600 MHz CPU, 64 MB RAM
- USB
- RouterOS level 4 license (AP, CPE or Point-to-Point)



#### SXT SA5 ac





An outdoor 5 GHz 802.11a/n/ac high power wireless integrated base station with a 14 dBi 90° sector antenna.

- 5 GHz 14 dBi 90° sector antenna
- 802.11a/n/ac dual chain high power wireless
- · Gigabit Ethernet
- 720 MHz CPU, 128 MB RAM
- USB
- RouterOS level 4 license (AP, CPE or Point-to-Point)



#### mANTBox 15s





An outdoor 5 GHz 802.11a/n/ac high power wireless integrated base station with a 15 dBi 120° sector antenna and an SFP port.

- 5 GHz 15 dBi 120° sector antenna
- 802.11a/n/ac dual chain high power wireless
- · Gigabit Ethernet
- 720 MHz CPU, 128 MB RAM
- SFP port for 1.25 Gigabit connectivity



#### mANTBox 19s





An outdoor 5 GHz 802.11a/n/ac high power wireless integrated base station with a long range 19 dBi 120° sector antenna and an SFP port.

- 5 GHz 19 dBi 120° sector antenna
- 802.11a/n/ac dual chain high power wireless
- Gigabit Ethernet
- 720 MHz CPU, 128 MB RAM
- SFP port for 1.25 Gigabit connectivity

#### OmniTik 5





An outdoor 5 GHz 802.11a/n high power wireless integrated access point with two integrated 7.5 dBi omni antennas and 5 Ethernet ports.

- 2 integrated 5 GHz 7.5 dBi omni antennas
- 802.11a/n dual chain high power wireless
- 5x 10/100 Mbps Ethernet ports
- 600 MHz CPU, 64 MB RAM
- USB

#### OmniTik 5 ac





An outdoor 5 GHz 802.11a/n/ac high power wireless integrated access point with two integrated 7.5 dBi omni antennas and five Ethernet ports.

- 2 integrated 5 GHz 7.5 dBi omni antennas
- 802.11a/n/ac dual chain high power wireless
- 5 Gigabit Ethernet ports
- 720 MHz CPU, 128 MB RAM
- USB

### OmniTik 5 PoF





An outdoor 5 GHz 802.11a/n high power wireless integrated access point with two integrated 7.5 dBi omni antennas and 5 Ethernet ports with PoE output.

- 2 integrated 5 GHz 7.5 dBi omni antennas
- 802.11a/n dual chain high power wireless
- 5x 10/100 Mbps Ethernet ports (PoE output on ports 2-5)
- 600 MHz CPU, 64 MB RAM
- USB
- RouterOS level 4 license (AP, CPE or Point-to-Point)

#### OmniTik 5 PoF ac





An outdoor 5 GHz 802.11a/n/ac high power wireless integrated access point with two integrated 7.5 dBi omni antennas and 5 Ethernet ports with PoE output.

- 2 integrated 5 GHz 7.5 dBi omni antennas
- 802.11a/n/ac dual chain high power wireless
- 5 Gigabit Ethernet (PoE output on ports 2-5)
- 720 MHz CPU, 128 MB RAM
- RouterOS level 4 license (AP, CPE or Point-to-Point)

# **Connectorized units**



#### Groove 52





Our smallest outdoor integrated wireless device with a selectable wireless band (2.4 GHz or 5 GHz) and N-male connector for an external antenna.

- 5 GHz 802.11a/n or 2.4 GHz 802.11b/g/n single chain wireless (selectable)
- N-male connector for external antenna
- 10/100 Mbps Ethernet
- 600 MHz CPU, 64 MB RAM
- RouterOS level 3 license (CPE or Point-to-Point)



### GrooveA 52





Our smallest outdoor integrated wireless AP with a selectable wireless band (2.4 GHz or 5 GHz) and N-male connector for external antenna.

- 5 GHz 802.11a/n or 2.4 GHz 802.11b/g/n single chain wireless (selectable)
- 2.4/5 GHz omni directional antenna (6 dBi 2.4 GHz, 8 dBi 5 GHz) included
- 10/100 Mbps Ethernet
- 600 MHz CPU, 64 MB RAM
- RouterOS level 4 license (AP, CPE or Point-to-Point)



#### GrooveA 52 ac





Our smallest outdoor integrated wireless AP with a selectable wireless band (2.4 GHz or 5 GHz) and N-male connector for an external antenna.

- 5 GHz 802.11a/n or 2.4 GHz 802.11b/g/n single chain wireless (selectable)
- 2.4/5 GHz omni directional antenna (6 dBi 2.4 GHz, 8 dBi 5 GHz) included
- Gigabit Ethernet
- 720 MHz CPU, 64 MB RAM
- RouterOS level 4 license (AP, CPE or Point-to-Point)



#### Metal 52 ac





A small size outdoor integrated super high power wireless AP in a weatherproof metal case with a selectable wireless band (2.4 GHz or 5 GHz) and N-male connector for an external antenna.

- 5 GHz 802.11a/n or 2.4 GHz 802.11b/g/n single chain wireless (selectable)
- 2.4/5 GHz omni directional antenna (6 dBi 2.4 GHz. 8 dBi 5 GHz) included
- Gigabit Ethernet
- 720 MHz CPU, 64 MB RAM
- RouterOS level 4 license (AP, CPE or Point-to-Point)



#### BaseBox 2





An outdoor 2.4 GHz 802.11b/g/n high power wireless integrated base station with two RPSMA connectors for external antennas and an expansion slot.

- 2.4 GHz 802.11b/g/n dual chain high power wireless
- 2x RPSMA connectors for external antennas
- 10/100 Mbps Ethernet

- 600 MHz CPU, 64 MB RAM
- miniPCle slot, SIM slot, USB
- RouterOS level 4 license (AP, CPE or Point-to-Point)



#### BaseBox 5



An outdoor 5 GHz 802.11a/n high power wireless integrated base station with two RPSMA connectors for external antennas and an expansion slot.

- 5 GHz 802.11a/n dual chain high power wireless
- 2x RPSMA connectors for external antennas
- 10/100 Mbps Ethernet

- 600 MHz CPU, 64 MB RAM
- miniPCle slot, SIM slot, USB
- · RouterOS level 4 license (AP, CPE or Point-to-Point)



#### NetBox 5

mt.lv/p/234



An outdoor 5 GHz 802.11a/n/ac high power wireless integrated base station with two RPSMA connectors for external antennas.

- 802.11a/n/ac dual chain high power
- 2 RPSMA connectors for external antennas
- Gigabit Ethernet

- 720 MHz CPU, 128 MB RAM
- · RouterOS level 4 license (AP, CPE or Point-to-Point)

### NetMetal 5 series





An rock solid, metalic outdoor 5 GHz 802.11a/n/ac high power wireless integrated base station with RPSMA connectors for external antennas. Extra slot for a cellular modem or a second wireless interface, to build a dual band AP.

- 802.11a/n/ac dual or triple chain super high power wireless
- 2-3 RPSMA connectors for external antennas
- · Gigabit Ethernet
- · SFP port for 1.25 Gigabit connectivity
- 720 MHz CPU, 128 MB RAM
- miniPCle slot for additional interface (some models), USB port
- · RouterOS level 4 license (AP, CPE or Point-to-Point)
- · Weatherproof metal enclosure (IP66)



#### NetMetal ac<sup>2</sup>



Our toughest long-range AP, now with dual-band support

- 802.11 b/g/n 2.4 GHz dual-chain high power wireless
- 802.11 a/n/ac 5 GHz dual-chain high power wireless
- Gigabit Ethernet port
- 716 MHz quad-core CPU, 256 MB RAM
- Two RP-SMA connectors for extra antennas
- miniPCle slot for additional interface, USB port

# 60 GHz integrated units



#### Wireless Wire Dish





2 Gb/s aggregate link up to 1500m+ without cables!

- · Includes two LHGG 60 devices for 60 GHz link
- 1 Gbps full duplex AES encrypted
- · Devices already paired together
- Distances 1,500 m+
- Outdoor weatherproof enclosures
- Four core 716 MHz CPU, 256 MB RAM



### Wireless Wire





2 Gb/s aggregate link up to 200m+ without cables!

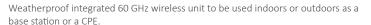
- Includes two wAP60 devices for 60 GHz link
- 1 Gbps full duplex AES encrypted
- Devices already paired together
- Distances 200 m+
- Outdoor weatherproof enclosures
- Four core 716 MHz CPU, 256 MB RAM



#### WAP 60G AP







- 60 GHz phase array 60° beamforming antenna
- 4 core 716 MHz CPU, 256 MB RAM
- Distances 200 m+
- · Gigabit Ethernet
- Works through most windows, depending on their material
- Outdoor weatherproof enclosure
- RouterOS level 4 license (AP, CPE or Point-to-Point)



#### WAP 60G





Weatherproof integrated 60 GHz wireless unit to be used indoors or outdoors as a Point-to-Point or a CPE.

- 60 GHz phase array 60° beamforming antenna
- 4 core 716 MHz CPU, 256 MB RAM
- Distances 200 m+
- · Gigabit Ethernet
- · Works through most windows, depending on their material
- Outdoor weatherproof enclosure
- RouterOS level 3 license (CPE or Point-to-Point)

#### **WAP 60Gx3 AP**







The wAP 60Gx3 AP is a new access point model for the 60 GHz spectrum. Compared with the regular wAP 60G AP, this new much wider angle of coverage and is optimized specifically for

provide connectivity for up to eight 60 GHz client devices at the



#### Cube Lite 60





The most affordable 60 GHz CPE for crowded wireless spectrum

- 10/100 Mbit Ethernet
- · Built-in 60 GHz 802.11ad wireless
- Passive PoE
- Distances up to 800 m



#### IHG Lite60



A low cost CPE unit for connecting to a 60 GHz AP at longer distances, enabling you to build a cost effective point to multipoint setup in the 60 GHz wireless spectrum.

- 60 GHz phase array 60° beamforming antenna
- 650 MHz CPU, 64 MB RAM
- Distances up to 800 m
- 10/100 Mbit Ethernet
- RouterOS level 3 license (CPE or Point-to-Point)

# **6 GHz integrated units**



### SXT<sub>6</sub>

mt.lv/p/310



The SXT 6 is an outdoor wireless device for licensed bands with a dual chain 16 dBi 28° 5.9-6.4 GHz integrated antenna.

- 5.9-6.4 GHz 16 dBi antenna for licensed bands
- 802.11a/n dual chain wireless
- Gigabit Ethernet
- 600 MHz CPU, 64 MB RAM
- RouterOS level 4 license (AP, CPE or Point-to-Point)



#### BaseBox 6





An outdoor wireless device, fitted with two SMA connectors for antennas, and a cable hood for protection against moisture.

- 5.9-6.4 GHz frequency range
- 802.11a/n dual chain wireless
- Gigabit Ethernet and 2 RP-SMA connectors for antennas
- 600 MHz CPU, 64 MB RAM
- RouterOS level 4 license (AP, CPE or Point-to-Point)



# DynaDish 6







- 5.9-6.4 GHz 25 dBi antenna for licensed bands
- 802.11a/n dual chain wireless
- · Gigabit Ethernet
- 600 MHz CPU, 64 MB RAM
- RouterOS level 4 license (AP, CPE or Point-to-Point)

# Single band 2.4 GHz access points



#### hAP mini



A tiny size 2.4 GHz SOHO AP with three Ethernet ports in a tower case.

- 802.11b/g/n dual chain wireless
- 3x 10/100 Mbps Ethernet ports
- 650 MHz CPU, 32 MB RAM
- Tiny size (8 cm tall) tower enclosure
- Most affordable MikroTik AP



#### hAP lite TC



A compact 2.4 GHz SOHO AP with four Ethernet ports in a colorful tower case.

- 802.11b/g/n dual chain wireless
- 4x 10/100 Mbps Ethernet ports
- 650 MHz CPU, 32 MB RAM
- Compact colorful tower case
- Button triggered WPS



#### hAP lite classic

mt.lv/p/253



A compact 2.4 GHz SOHO AP with four Ethernet ports in a desktop case.

- 802.11b/g/n dual chain wireless
- 4x 10/100 Mbps Ethernet ports
- 650 MHz CPU, 32 MB RAM
- Compact desktop case
- Button triggered WPS



#### hAP





- 802.11b/g/n dual chain wireless
- 5x 10/100 Mbps Ethernet ports (PoE output on port 5)
- 650 MHz CPU, 64 MB RAM
- Compact desktop case
- USB

48 Outdoor wireless systems

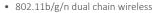
#### mAP











- 2x 10/100 Mbps Ethernet ports (PoE output on port 2)
- 650 MHz CPU, 64 MB RAM
- Accepts power from a wide variety of sources USB, PoE and power jack
- · Small case



### cAP lite







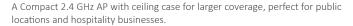
- Two different casings included ceiling and wall mount
- 802.11b/g/n dual chain wireless
- 1.5 dBi 2.4 GHz antenna
- 10/100 Mbps Ethernet
- 650 MHz CPU, 64 MB RAM



#### cAP







- 802.11b/g/n dual chain wireless
- 2 dBi 2.4 GHz antenna
- 10/100 Mbps Ethernet
- 650 MHz CPU, 64 MB RAM
- Ceiling case



#### WAP







- 802.11b/g/n dual chain wireless
- 10/100 Mbps Ethernet
- 650 MHz CPU, 64 MB RAM
- Weatherproof outdoor case, available in white and black



#### RB951Ui-2HnD





A high power 2.4 GHz AP in desktop case with five Ethernet ports and PoE support.

- 802.11b/g/n 2.4 GHz high power dual chain wireless
- 5x 10/100 Mbps Ethernet ports (PoE output on port 5)
- 600 MHz CPU, 128 MB RAM
- Compact desktop case
- USB, NAND memory for storage



#### RB951G-2HnD



A high power 2.4 GHz AP in desktop case with five Gigabit Ethernet ports.

- 802.11b/g/n 2.4 GHz high power dual chain wireless
- 5 Gigabit Ethernet ports
- 600 MHz CPU, 128 MB RAM
- Compact desktop case
- USB, NAND memory for storage

#### RB2011UiAS-2HnD-IN





A high power multi port 2.4 GHz AP in a metal desktop case with PoE functionality and support for optical fiber connectivity.

- 802.11b/g/n 2.4 GHz high power dual chain wireless with external dipole antennas
- 5x Gigabit Ethernet ports
- 5x 10/100 Mbps Ethernet ports
- Ethernet port 10 can power other PoE capable devices
- SFP port for 1.25 Gigabit connectivity
- 600 MHz CPU, 128 MB RAM, LCD display and USB
- Sturdy metal desktop enclosure



#### mAP lite



A tiny size travel router with 2.4 GHz AP functionality.

- Our smallest wireless access point, barely larger than a matchbox
- 802.11b/g/n dual chain wireless
- 10/100 Mbps Ethernet
- Can be used as a client device to improve laptop signal range
- 650 MHz CPU, 64 MB RAM

# **Dual band home access points**



#### hAP ac lite

mt.lv/p/278



A compact dual concurrent 2.4 GHz / 5 GHz SOHO AP with five Ethernet ports in a desktop case and PoE support

- 802.11b/g/n dual chain and 802.11a/n/ac single chain wireless
- Five 10/100 Mbps Ethernet ports (PoE output on port 5)
- 650 MHz CPU, 64 MB RAM
- Compact classic desktop case
- USB



#### hAP ac lite tower

mt.lv/p/299



A compact dual concurrent 2.4 GHz / 5 GHz SOHO AP with five Ethernet ports in a universal case and PoE support.

- 802.11b/g/n dual chain and 802.11a/n/ac single chain wireless
- Five 10/100 Mbps Ethernet ports (PoE output on port 5)
- 650 MHz CPU, 64 MB RAM
- · Universal case to be positioned either horizontally or vertically
- USB





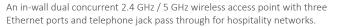




- 802.11b/g/n triple chain and 802.11a/n/ac triple chain high power wireless
- 5 Gigabit Ethernet ports (PoE output on port 5)
- SFP port for 1.25 Gigabit connectivity, USB
- 720 MHz CPU, 128 MB RAM

# wsAP ac lite





- In-wall case that fits US and EU most popular telecommunication sockets
- 802.11b/g/n 2.4 GHz dual chain and 802.11a/n/ac 5 GHz single chain wireless
- Pass through telephone jack (RJ11)
- USB for charging mobile devices or for storage
- 650 MHz CPU, 64 MB RAM

### RB4011iGS+5HacQ2HnD-IN







The RB4011 uses the amazingly powerful quad core Cortex A15 chip from Annapurna labs, an Amazon company, same as in our carrier grade RB1100AHx4 unit.

- Quad-core 1.4 GHz CPU
- 1 GB of RAM
- Quad chain 5 GHz, dual chain 2 GHz access point
- All metal pasive cooled enclosure
- External antennas for best coverage

#### hAP ac<sup>2</sup>





The hAP ac<sup>2</sup> is a Dual-concurrent Access Point, that provides Wifi coverage for 2.4 GHz and 5 GHz frequencies at the same time. Five 10/100/1000 Ethernet ports provide Gigabit for external storage or 4G/LTE modem.

New design universal case allows unit to be positioned either horizontally (desktop) or vertically (tower case). Wall anchored mounting kit is provided.





- New design universal case to be positioned either horizontally (desktop) or vertically (tower case)



#### cAP ac



A powerful dual concurrent 2.4 GHz / 5 GHz wireless access point with two Gigabit Ethernet ports and PoE functionality, that looks beautiful on both walls and ceilings.

- 802.11b/g/n dual chain wireless
- 802.11a/n/ac dual chain wireless
- 2 Gigabit Ethernet ports (PoE output on port 2)
- 716 MHz CPU, 128 MB RAM
- The customizable mode button in the device center will turn off all lights and sounds, can be reconfigured to launch any RouterOS script.
- Two different casings included circular and square, to match any taste.



### wAP ac



A small weatherproof dual concurrent 2.4 GHz / 5 GHz high power wireless access point for mounting on a ceiling, wall or pole.

- 802.11b/g/n dual chain high power wireless
- 802.11a/n/ac triple chain high power wireless
- Gigabit Ethernet port
- 720 MHz CPU, 64 MB RAM
- Weatherproof outdoor case, available in white or black

# **Devices with LTE support**

#### wAP ac LTE series

The wAP ac LTE is a small dual band weatherproof wireless access point with a built in cellular modem that supports 2G, 3G and 4G (LTE) connectivity. It has two Gigabit Ethernet ports, a powerful quad-core 716 MHz CPU and 128 MB of RAM. Dual-chain 2.4 GHz and dual-chain 5GHz wireless for dual concurrent AP coverage will solve most interference issues in a crowded environment.

Four versions are available:

- wAP R ac wAP R ac is shipped without an LTE card (there is an extra empty miniPCI-e slot), so you can use your own LTE card.
- wAP ac LTE kit includes LTE modem that supports International LTE bands 1,2,3,7,8,20,38 and 40.
- wAP ac 4G kit includes LTE modem that supports International/USA LTE bands FDD bands 3 (1800MHz), 7 (2600MHz), 20 (800MHz) and 31 (450MHz), as well as LTE TDD bands 41n (2500MHz), 42 (3500MHz) and 43 (3700MHz).
- wAP ac LTE6 kit includes the new R11e-LTE6 Category 6 modem, which enables carrier aggregation and allows the device to use multiple bands at the same time. It supports LTE FDD bands 1(2100)/2(1900)/3(1800)/5(850)/7(2600)/8 (900)/12(700)/17(700)/20(800)/25(1900)/26(850), as well as LTE TDD bands 38(2600)/39(1900)/40(2300)/41n(2500).

#### wAP LTE series

The wAP LTE is a small weatherproof wireless access point with a built in cellular modem that supports 2G, 3G and 4G (LTE) connectivity. Connect to the wAP's built-in 802.11b/g/n wireless and access the LTE network from your phone or any other wireless device. The wAP LTE also has one 10/100 Ethernet LAN port for your wired devices.

Four versions are available:

- wAP LTE kit includes LTE modem that supports International LTE bands 1,2,3,7,8,20,38 and 40.
- wAP LTE kit-US includes LTE modem that supports LTE bands 2,4,5 and 12, mostly used by
  mobile operators in United States. Canada and Latin America.
- wAP 4G kit includes LTE modem that supports LTE FDD bands 3, 7, 20 and 31 as well as LTE TDD bands 41n, 42 and 43.
- wAP R is shipped with without LTE card installed (empty miniPCI-e slot), so you can use your own LTE card.

#### ItAP ITF series

LtAP is a compact, heavy-duty weatherproof wireless access point with three SIM slots and GNSS support (GPS, GLONASS, BeiDou, Galileo). It has high power 2.4 GHz 802.11b/g/n wireless and a Gigabit Ethernet port for your wired devices. There are several power options — DC jack, POE-in and automotive. The unit comes with a two miniPCle slots, offering many expansion options.

Four versions are available:

- LtAP is shipped without an LTE card (there is an extra empty miniPCI-e slot), so you can use
  your own LTE card.
- LtAP LTE kit includes LTE modem that supports International LTE bands 1,2,3,7,8,20,38 and 40.
   One miniPCle slot is already populated with the LTE modem.
- LtAP 4G kit includes LTE modem that supports International/USA LTE bands FDD bands 3
  (1800MHz), 7 (2600MHz), 20 (800MHz) and 31 (450MHz), as well as LTE TDD bands 41n
  (2500MHz), 42 (3500MHz) and 43 (3700MHz). One miniPCle slot is already populated with the
  LTE modem.
- LtAP LTE6 kit includes the new R11e-LTE6 Category 6 modem, which enables carrier aggregation and allows the device to use multiple bands at the same time. It supports LTE FDD bands 1(2100)/2(1900)/3(1800)/5(850)/7(2600)/8 (900)/12(700)/17(700)/20(800)/25(1900)/26(850), as well as LTE TDD bands 38(2600)/39(1900)/40(2300)/41n(2500). One miniPCle slot is already populated with the LTE modem.

#### LtAP mini series

The LtAP mini LTE kit is a small weatherproof wireless access point with a built in cellular modem that supports 2G (international version only), 3G and 4G (LTE) connectivity. It is also available separately, without the modem, so you can use your own.

Four versions are available:

- LtAP mini LTE kit includes LTE modem that supports International LTE bands 1,2,3,7,8,20,38 and 40.
- LtAP mini LTE kit-US includes LTE modem that supports LTE bands 2,4,5 and 12, mostly used by mobile operators in United States, Canada and Latin America.



- LtAP mini 4G kit includes LTE modem that supports LTE FDD bands 3 (1800MHz), 7 (2600MHz), 20 (800MHz) and 31 (450MHz), as well as LTE TDD bands 41n (2500MHz), 42 (3500MHz) and 43 (3700MHz).
- LtAP mini is shipped with without LTE card installed (empty miniPCI-e slot), so you can use
  your own LTE card.

#### SXT LTE series

The SXT LTE kit is a device for remote locations that are within cellular network coverage. However, due to it's professional LTE chip design and high gain antenna, it can provide connectivity for your building even where cell phones can't. The device has a built in high quality Category 4 modem for speeds of up to 150 Mbit/s downlink and 50 Mbit/s uplink, as well as two Micro SIM slots for backup link. There is also a new Category 6 version for higher speed and additional features, see the list below.

Five versions are available:

- SXT LTE Kit includes LTE modem that supports International LTE bands 1, 2, 3, 7, 8, 20, 38 and 40.
- SXT LTE Kit-US includes LTE modem that supports LTE bands 2, 4, 5 and 12, mostly used by mobile operators in United States. Canada and Latin America.



- SXT 4G kit includes LTE modem that supports LTE FDD bands 3 (1800MHz), 7 (2600MHz), 20 (800MHz) and 31 (450MHz), as well as LTE TDD bands 41n (2500MHz), 42 (3500MHz) and 43 (3700MHz).
- SXT LTE6 features the new R11e-LTE6 Category 6 modem, which enables carrier aggregation and allows the device to use multiple bands at the same time. It supports LTE FDD bands 1(21 00)/2(1900)/3(1800)/5(850)/7(2600)/8(900)/12(700)/17(700)/20(800)/25(1900)/ 26(850), as well as LTE TDD bands 38(2600)/39(1900)/40(2300)/41n(2500).
- SXT R is shipped without an LTE card (there is an extra empty miniPCI-e slot), so you can use
  your own LTE card.

### LHG LTE series

The LHG LTE kit is a device for remote locations that are within cellular network coverage. Mount it outdoors, on a pole, mast or any high enough structure, and connect even where cell phones can't. Due to it's large sized high gain antenna, the device is capable to connect to cell towers in extreme rural locations, giving you the ability to provide last mile internet access where nothing else is available. The unit is equipped with one Ethernet port, has a built in high quality Category 4 modem for speeds of up to 150 Mbit/s downlink and 50 Mbit/s uplink. There is also a new Category 6 version for higher speed and additional features, see the list below.

Five versions are available:

- LHG LTE kit includes LTE modem that supports International LTE bands 1, 2, 3, 7, 8, 20, 38 and 40
- LHG LTE kit-US includes LTE modem that supports LTE bands 2, 4, 5 and 12, mostly used by mobile operators in United States, Canada and Latin America.
- LHG 4G kit includes LTE modem that supports LTE FDD bands 3 (1800MHz), 7 (2600MHz), 20 (800MHz) and 31 (450MHz), as well as LTE TDD bands 41n (2500MHz), 42 (3500MHz) and 43 (3700MHz).
- LHG LTE6 kit features the new R11e-LTE6 Category 6 modem, which enables carrier aggregation and allows the device to use multiple bands at the same time. It supports LTE FDD bands 1(2100)/2(1900)/3(1800)/5(850)/7(2600)/8 (900)/12(700)/17(700)/20(800)/25(1 900)/ 26(850), as well as LTE TDD bands 38(2600)/39(1900)/40(2300)/41n(2500).
- **LHG R** is shipped without an LTE card (there is an extra empty miniPCl-e slot), so you can use your own LTE card.



Devices with ITE support

# **Devices with one Ethernet port**

The RouterBOARD PCB series of devices come without enclosures, allowing you to build custom solutions or use existing telecomunication boxes for installations. These devices are versatile and customizable for any situation.



#### RBM11G

mt.lv/p/324



The RBM11G is a fully featured RouterBOARD device perfect for using with your own enclosure or building a custom solution. It uses the same square PCB and mounting holes as it's predecessors, you can simply swap out the older models with the brand new RBM11G.

- RB411 and RB911 form factor
- · Powerful dual core 880 MHz CPU, 256 MB RAM
- Gigabit Ethernet port
- · miniPCle slot, SIM slot
- Power jack



#### RB912UAG-2HPnD



A small AP type OEM router with an integrated 2.4 GHz dual chain wireless, Gigabit Ethernet and expansion options.

- · Small size
- 802.11b/g/n 2.4 GHz dual chain high power wireless onboard
- 600 MHz CPU, 64 MB RAM
- Gigabit Ethernet port
- miniPCI slot, SIM slots, USB
- Power jack
- RouterOS level 4 license (AP, CPE or Point-to-Point)



#### RB911-5Hn

mt.lv/p/223



A small CPE type OEM router with an integrated 5 GHz single chain wireless.

- · Low cost, small size
- 802.11a/n 5 GHz single chain wireless onboard
- 600 MHz CPU, 64 MB RAM
- 10/100 Mbps Ethernet
- RouterOS level 3 license (CPE or Point-to-Point)



#### RB911-5HnD

mt.lv/p/225

A small CPE type OEM router with an integrated 5 GHz dual chain wireless.

- Low cost, small size
- 802.11a/n 5 GHz dual chain wireless onboard
- 600 MHz CPU, 64 MB RAM
- 10/100 Mbps Ethernet
- RouterOS level 3 license (CPE or Point-to-Point)



#### RB911-5HacD

mt.lv/p/287



A small CPE type OEM router with an integrated 5 GHz 802.11a/n/ac dual chain wireless.

- · Low cost, small size
- 802.11a/n/ac 5 GHz dual chain wireless onboard
- 650 MHz CPU, 64 MB RAM
- 10/100 Mbps Ethernet
- RouterOS level 3 license (CPE or Point-to-Point)



#### RB911G-5HPnD

mt.lv/p/182



A small CPE type OEM router with an integrated 5 GHz dual chain wireless and Gigabit Ethernet.

- · Low cost, small size
- 802.11a/n 5 GHz dual chain high power wireless onboard
- 600 MHz CPU, 32 MB RAM
- Gigabit Ethernet port
- Power jack
- RouterOS level 3 license (CPE or Point-to-Point)



### RB912UAG-5HPnD

mt.lv/p/184



A small AP type OEM router with an integrated 5 GHz dual chain wireless, Gigabit Ethernet and expansion options.

- 802.11a/n 5 GHz dual chain high power wireless onboard
- 600 MHz CPU, 64 MB RAM
- · Gigabit Ethernet port
- miniPCI, SIM slots, USB
- RouterOS L4 (AP, CPE or Point-to-Point)



#### RB911G-5HPacD

mt.lv/p/241



A small CPE type OEM router with an integrated 5 GHz 802.11a/n/ac dual chain wireless and Gigabit Ethernet.

- 802.11a/n/ac 5 GHz dual chain high power wireless onboard
- 720 MHz CPU, 128 MB RAM
- Gigabit Ethernet port
- Power jack
- RouterOS level 3 license (CPE or Point-to-Point)



#### RB922UAGS-5HPacD





A small, powerful AP type OEM router with an integrated 5 GHz 802.11a/n/ac dual chain wireless, Gigabit Ethernet, SFP and expansion options.

- 802.11a/n/ac 5 GHz dual chain high power wireless onboard
- 720 MHz CPU, 128 MB RAM
- One Gigabit Ethernet port
- SFP port for 1.25 Gigabit connectivity
- · miniPCle. SIM slots. USB
- RouterOS level 4 license (AP, CPE or Point-to-Point)

# **Devices with multiple Ethernet ports**



#### RB953GS-5HnT-RP





An OEM board with faster CPU, onboard triple chain 5 GHz wireless, two miniPCI slots, three Gigabit Ethernet and two SFP ports.

- 720 MHz CPU, 128 MB RAM
- Onboard 802.11a/n 5 GHz high power triple chain wireless
- 3 RP-SMA connectors for external antennas
- 3 Gigabit Ethernet ports
- · 2 SFP port for 1.25 Gigabit connectivity
- · 2 miniPCI slots and two SIM slots



#### RB450Gx4





The RB450Gx4 is powered by MikroTik RouterOS. It comes without an enclosure, you are free to use it in your own. The device form factor is identical to our previous RB850 and RB450 series, so you can even use the same enclosures.

- · 4 core 716 MHz CPU, 1GB RAM
- microSD slot, two Power jacks, RS232 serial port
- Supports 10 V-57 V input, 802.3af/at compliant
- · Hardware IPsec encryption supported
- RouterOS level 5 license

#### RBM33G







The RBM33G is a fully featured RouterBOARD device perfect for using in your own enclosure or building a custom solution. It uses the same PCB form factor and the same mounting holes as its predecessors (RB433 and RB953 series).

The RBM33G features a new MediaTek dual core CPU running at 880 MHz and 256 MB of DDR3 RAM and three Gigabit Ethernet ports. It is specially designed for setups that require two 3G/LTE modems.

- Powerful dual core 880 MHz CPU, 256 MB RAM
- 3 Gigabit Ethernet ports
- 2 miniPCle slots, two SIM slots
- · USB, microSD and a PCIe M.2 slot
- · RouterOS level 4 license (AP, CPE or Point-to-Point)

# Accessories



CA433U

mt.lv/p/61



A medium size aluminium indoor case.

- Fits RBM33G, RB433, RB953 series
- Comes with changeable front panels
- 3 holes for N-female bulkhead connectors or swivel antennas and a hole for USB on the back
- High profile to accommodate high power wireless cards



CA150





An indoor aluminium case for Ethernet RouterBOARDs.

- · Fits RB450 and RB850 series
- · Wall mounting holes on the back



CA411-711





A small aluminium indoor case.

- Fits RBM11G, RB411, RB911, RB912 and RB922 series
- · Comes with changeable front panels
- · High profile to accommodate high power wireless cards
- · Wall mounting holes on the back



#### RB2011 mount





The RB2011 wall mount kit for protecting the cables from unplugging.

- Ideal for public installations such as shared server rooms, attics, accessible closets and cabinets
- Fits all standard RB2011 desktop cases



### RB4011 wall mount kit





A simple solution for mounting the RB4011 in public locations to avoid unplugging of cables.

- Fits RB4011 series
- · Made from durable steel
- · Wall mounting holes on the back

# **Accessories for LTE**



#### R11e-LTE6



2G/3G/4G/LTE miniPCI-e card with carrier aggregation support (up to 300 Mbps) for bands 1/2/3/5/7/8/12/17/20/25/26/38/39/40/41n

- Two U.FL connectors
- Can be used with any MikroTik products with RouterOS and miniPCle slot (except RB800 and RB4011)



#### R11e-LTE

mt.lv/p/341



LTE miniPCle card for international bands.

- 2G/3G/4G/LTE miniPCle card
- Support for international LTE bands 1/2/3/5/7/8/20/38/40
- Two U.FL connectors
- Can be used with any MikroTik products with RouterOS and miniPCle slot (except RB800)



#### R11e-LTE-US



LTE miniPCle card for United States bands.

- 3G/4G/LTE miniPCle card
- Support for US LTE bands 2/4/5/12
- Two U.FL connectors
- Can be used with any MikroTik products with RouterOS and miniPCle slot (except RB800)



#### R11e-4G



Category 4 4G/LTE miniPCI-e card.

- R11e-4G supports LTE FDD bands 3 (1800MHz), 7 (2600MHz), 20 (800MHz) and 31 (450MHz), as well as LTE TDD bands 41n (2500MHz), 42 (3500MHz) and 43
- · Compatible with our products that has miniPCle slots, like LtAP mini, wAP R, RBM11G. RBM33G or others

#### ACSMAUFL

mt.lv/p/337



U.FL-SMA female pigtail.



- · U.FL connector on one side, SMA female on other
- · Designed for use with the wAP R



#### mANT ITF 50

mt.lv/p/359



An omnidirectional antenna specifically designed for LTE frequencies.

- Omnidirectional 360 degrees LTE antenna
- Sesigned for MikroTik LTE products
- Improve the connection in the areas with inadequate LTE service coverage
- 2 SMA female connectors
- 699 MHz- 2.7 GHz range









The active GPS antenna is the perfect companion for the LtAP mini, giving you the possibility to get accurate geographical coordinates of your router, even when it is mounted indoors.

The long cable allows to bring the antenna outside and mount it with the included magnet, or double sided tape.

- 1575.42 MHz center frequency
- 100% waterproof (IP67)
- · SMA connector
- 26 dB gain



#### **SMASMA**

mt.lv/p/348



SMA-Male to SMA Male cable.

- To be used to connect LTE card to an external antenna (via ACSMAUFL)
- 100 cm long, SMA-Male connectors on both sides
- Designed for use with the wAP R



#### DINrail PRO





DINrail PRO is a mounting bracket for LtAP mini series products, designed to fit standard 35 mm × 7.5 mm DIN rails. This bracket will allow to install LtAP mini next to the industrial control equipment like water meters etc., as well as in equipment racks. Mounting bracket is made from metal and comes with a metal ring.

# Accessories for fiber



#### Q+DA0001

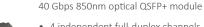
mt.lv/p/426

40 Gbps direct attach QSFP+ cable

- 1m long
- Flexible
- Minimum bend radius 35 mm

#### Q+85MP01D





- 4 independent full-duplex channels
- Up to 10 Gbps per channel bandwidth and aggregate bandwidth of 40 Gbps
- Strong connection over 100 m on OM3 Multimode Fiber (MMF) and 150 m on
- Built-in digital diagnostic functions, including optical power monitoring
- For use in MikroTik products with QSFP+ ports for 40 Gbps connectivity
- Compatible with non-MikroTik QSFP+ devices as well



#### Q+BC0003-S+

mt.lv/p/449



40 Gbps QSFP+ breakout cable to 4x10G SFP+. An easy way to connect 40 Gbps devices without upgrading your whole setup.

- 3m long
- Flexible
- Minimum bend radius 35 mm
- integrated QSFP+ module and 4 SFP+ modules

#### S-85DI C05D



1.25G SFP transceiver for up to 550 meter fiber connection.

- 850 nm Dual LC connector
- Multi mode
- Up to 550 meter fiber connection
- For use in MikroTik products with SFP ports for 1.25 Gigabit connectivity
- · Compatible with non-MikroTik SFP devices as well

#### S-31DLC20D







- · 1310 nm Dual I C connector
- Single Mode
- Up to 20 km fiber connection
- For use in MikroTik products with SFP ports for 1.25 Gigabit connectivity
- · Compatible with non-MikroTik SFP devices as well



#### S-3553LC20D

mt.lv/p/179





A pair of 1.25G SFP transceivers for up to 20 km fiber connection on a single optical cable.

- 1.25G single mode optical SFP module with a LC connector, T1310 nm/R1550 nm
- 1.25G single mode optical SFP transceiver with an LC connector, T1550 nm/ R1310 nm
- Up to 20 km fiber connection
- For use in MikroTik products with SFP ports for 1.25 Gigabit connectivity
- Compatible with non-MikroTik SFP devices as well



### S-45541 C80D







- Supports any MikroTik device that has SFP or SFP+ ports
- Well suited for distances up to 80 km.



#### S+85DLC03D

mt.lv/p/198



10G SFP+ transceiver for up to 300 meter 10 Gbps fiber connection.

- 850 nm Dual LC connector
- · Multi mode
- Up to 300 meter 10 Gbps fiber connection
- For use in MikroTik products with SFP+ ports
- Compatible with non-MikroTik SFP+ devices as wel



#### S+31DLC10D

mt.lv/p/199





- 1310 nm Dual LC connector
- · Single Mode
- Up to 10 km 10 Gbps fiber connection
- For use in MikroTik products with SFP+ ports
- Compatible with non-MikroTik SFP+ devices as well









A pair of SFP+ transceivers for up to 10 km 10 Gbps fiber connection on a single optical cable.

- 10G single mode optical SFP+ module with a LC connector, T1270 nm/R1330 nm
- 10G single mode optical SFP+ transceiver with an LC connector, T1330 nm/ R1270 nm
- Up to 10 km 10 Gbps fiber connection on single optical cable
- For use in MikroTik products with SFP+ ports
- Compatible with non-MikroTik SFP+ devices as well



#### S-55DLC80D





- 1.25G Single Mode optical SFP module with a Dual LC connector
- Supports any MikroTik device that has SFP or SFP+ ports
- Well suited for distances up to 80 km

#### S-RJ01

mt.lv/p/228



Converts SFP port for 1.25 Gbps connectivity in fully functional Gigabit Ethernet

- Compatible with most Gigabit SFP ports available on various networking devices
- Up to 1.25 Gpbs bi-directional data links
- · 100 m transmission over unshielded







Converts SFP+ port in fully functional 10 Gigabit Ethernet port.

- Supports any MikroTik device that has SFP+ ports
- Supports 10 Mbps, 100 Mbps, 1 Gbps, 2.5 Gbps, 5 Gbps, 10 Gbps data rates
- For distances up to 200 m

### S+DA0001







Highly cost-effective way to connect two SFP/SFP+ devices within racks and across adiacent racks.

- 1 m SFP+ direct attach cable
- Low cost, low power and low latency interconnect solution for 10-Gigabit Ethernet, Fiber Channel and other industry standards
- Direct attached compliant
- Fully conform to the SFP+ MSA specifications

#### S+DA0003



Highly cost-effective way to connect two SFP/SFP+ devices within racks and across adjacent racks.

- 3 m SFP+ direct attach cable
- Low cost, low power and low latency interconnect solution for 10-Gigabit Ethernet, Fiber Channel and other industry standards
- Direct attached compliant
- Fully conform to the SFP+ MSA specifications



#### S+A00005



This is highly cost-effective way to connect two SFP/SFP+ devices for very short distances, within racks and across adiacent racks.

- 5 m SFP+ direct attach active optical cable
- Works with all our products with SFP/SFP+ ports

#### **CWDM**

The CWDM is a passive MUX/DEMUX unit, which allows to combine up to eight fiber links into one, to simplify and reduce the cost of long distance fiber installations.

At the other location, the combined line is split back up again, so that instead of eight long fiber lines, you would only need one. The Coarse Wavelength-Division Multiplexing (CWDM) technology offers a solution which will increase capacity of existing fiber infrastructure by enabling multiple channels/ wavelengths over the same fiber cabling and will reduce costs for a new fiber optic deployment.

Available separately is a 1U mounting bracket and a wide variety of CWDM fiber optics modules,





mt.lv/p/246



Fiber to copper converter in weatherproof outdoor case.

- 12-57 V PoE input
- Supports 1.25G 1000Base-X fiber to 10/100/1000 Mbps copper

# **Power supplies**



#### 12POW150



Hot swap 12 V 150 W AC/DC power supply for CCR1072-1G-8S+.

- 12 V 150 W AC/DC
- Hot swappable, zero downtime



#### PW48V-12V150W



Hot swap-48 V DC telecom power supply for CCR1072-1G-8S+.

- 48 V DC
- Hot swappable, zero downtime



#### 18POW





A spare power supply for most RouterBOARD models.

- 24 V 0.8 A DC jack power supply
- Fits hAP mini, hAP lite and mAP lite
- · Available with EU, UK, AR, AU or US plug

# 24HPOW







A spare high power supply with plug.

- 24 V 2.5 A stand alone power supply
- Recommended for RouterBOARD models with high power consumption (e.g. models with PoE output or for long cable runs with several high power wireless
- · Available with EU, UK or US plug



#### 48POW

mt.lv/p/85



A spare high power supply with plug.

- 48 V 1.46 A 70 W stand alone power supply
- Recommended for RouterBOARD models with 48 V support (like RB800)
- Recommended for powering 48 V devices (IP cameras etc.) through PoE output of supported devices like CRS112-8P-4S-IN
- · Available with EU, UK or US plug



#### 48V2A96W

mt.lv/p/358



Spare 48 V power supply with plug for resource-hungry PoE-out devices.

- 48 V 2 A 96 W power supply
- Recommended for powering 48 V devices (IP cameras etc.) through PoE output of supported devices like CRS112-8P-4S-IN
- Providing 30% more current than the old model 48POW, more power per port
- · Available with EU, UK or US plug



#### RBPOF



Low-cost passive PoE base unit for powering passive PoE devices over Ethernet.

- Helps reducing number of wires that lead up the tower
- Support 10-28 V PoE powering
- Input needs to be at least 18 V to accommodate any losses in cables



#### **RBGPOE**

mt.lv/p/100



Passive Gigabit PoE base unit for powering passive PoE devices over Ethernet.

- Helps reducing number of wires that lead up the tower
- For using with any RouterBOARD that supports 9-48 V PoE
- · Shielded connectors



#### RBGPOE-CON-HP



48 to 24 V Gigabit PoE Converter.

- Allows to use any 48 V PoE source (including Passive PoE, telecom PoE, 802.3af and 802.3at) to power RouterBOARD devices
- Supports any 8-30 V capable RouterBOARD devices and 10/100/1000 Mbps
- Capable to provide high power output up to 24 W (up to 1 A at 24 V)
- Integrated heatsink; has mounting holes for attaching to a wall



#### mUPS



Gigabit PoE injector with battery backup capability with 12 V battery connector.

- LEDs indicate DC line or battery usage, the charging of battery and low battery level (<50 %)
- Works with any single 12 V battery (AGM, Gel, Lead Acid, regular car batteries, deep cycle marine batteries, etc.)
- 12-28 V input and output
- Powering by DC jack or PoE-in

# Antennas and antenna accessories



#### mANT 15s



5 GHz 15 dBi 120° sector antenna with two RP-SMA connectors.

- · Perfect companion for the BaseBox, NetBox, NetMetal or any other outdoor wireless device with RPSMA connectors
- 5.17-5.825 GHz 15 dBi 120° sector
- 2 RP-SMA connectors
- quickMOUNT pro included



#### mANT 19s



5 GHz 19 dBi 120° sector antenna with two RP-SMA connectors for larger coverage.

- Perfect companion for the BaseBox, NetBox, NetMetal or any other outdoor wireless device with RPSMA connectors
- 5.17-5.825 GHz 19 dBi 120° sector
- 2 RP-SMA connectors
- · Metallic U bolt type mount included



### mANT30

mt.lv/p/226



30 dBi parabolic dish antenna for 5 GHz.

- Professional class 4.7-5.875 GHz 30 dBi dish antenna
- Designed for BaseBox, NetBox and NetMetal
- Can be used for any pole mounted wireless device
- 2 RP-SMA Female connectors
- 2 FlexGuide cables included
- Recommended to use with quickMOUNT extra



#### mANT30 PA



30 dBi parabolic dish antenna with precision alignment mount for 5 GHz.

- Professional class 4.7-5.875 GHz 30 dBi dish antenna
- Designed for BaseBox, NetBox and NetMetal
- Can be used for any pole mounted wireless device
- 2 RP-SMA Female connectors
- 2 FlexGuide cables included
- · Comes with a precision alignment mount



### Radome Cover Kit for mANT30 mt.lv/p/247



Cover kit for mANT reduces wind load, increases antenna operational life.

- Protects reflector surfaces from harsh environment.
- Protects the antenna feed from falling objects
- · Sustains wide range of temperature and direct sunlight
- Compatible with mANT30 and mANT30 PA



# quickMOUNT pro

mt.lv/p/263



Advanced wall mount adapter for small Point-to-Point and sector antennas (SXT, OmniTIK, BaseBox etc.).

- To be mounted on the wall or use as an adapter from large diameter pole to small size antenna
- Gives possibility to turn antenna within 140° both in horizontal and vertical plane
- Possible to perfectly set antenna alignment using integrated graduated scale
- Supports any pole mountable device with weight less than 1.5 kg
- Very durable due to it's special composite material anvilNITE (TM)



### Sleeve30

mt.lv/p/277



Sleeve30 kit for mANT30

- Enhance point-to-point link performance by reducing noise
- Reduce impact on adjacent RF devices by removing the side radiation
- · Reduces wind load
- Protects antenna reflector and feed from harsh environment
- Excellent RF signal transparency





# quickMOUNT



Basic wall mount adapter for small Point-to-Point and sector antennas (SXT, OmniTIK etc.)

- · Simple and low cost
- To be mounted on the wall or use as an adapter from large diameter pole to small size antenna
- Gives possibility to turn antenna within 190°
- Possible to simultaneously mount two SXTs
- Supports any pole mountable device with weight less than 1.5 kg





# quickMOUNT extra





Basic wall mount adapter for large Point-to-Point and sector antenna.

- To be mounted on the wall or use as an adapter from large diameter pole to small size antenna
- · Gives possibility to turn antenna within 190°
- Supports mANT, SXT, OmniTIK, BaseBox, DynaDish, mANT 30 etc.
- Recommended for long range heavy antennas with weight less than 8 kg
- Very durable due to it's special composite material anvilNITE (TM)



# quickMOUNT pro LHG

mt.lv/p/294



Advanced wall mount adapter for LHG.

- Advanced wall or pole mount adapter for our LHG antennas
- Gives possibility to turn antenna within 140° both in horizontal and vertical plane
- Possible to perfectly set antenna alignment using integrated graduated scale
- Very durable due to it's special composite material anvilNITE (TM)



#### LHG mount

mt.lv/p/435



The LHG mount is a basic pole mount adapter for LHG series products.

- Simple and low cost
- Supports all LHG series, products, including LHG XL
- · Made from metal
- Package also includes a U-bolt and a K-58 mounting kit



#### solidMOUNT

mt.lv/p/439



Advanced pole mount adapter for LHG series products.

- Allows adjustment both vertically and horizontally
- · Supports all LHG series, products, including LHG XL
- Made from metal
- · Package also includes a U-bolt and a mounting kit



#### OM-X



quickMOUNT-X - additional axis for pole-mounting SXTsq devices

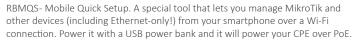
- Enables vertical and horizontal adjustment on the pole
- · Glass fibre reinforced nylon
- · Lightweight, easy to use, extremely durable
- Maximum antenna weight- 2 kg
- Compatible with SXTsq series, DISC 5

# Other accessories

# **RBMQS**

mt.lv/p/456





- Portable assistant for CPE install, bandwidth test and configuration
- Can also be used as a temporary travel AP
- 10/100 Ethernet port
- 2.4 GHz 802.11b/g/n Wireless
- Passive PoE-in, 5-30 V
- Passive PoE-out, 12 V 400 mA (when USB 5 V input is used)
- Max power consumption 1 W



#### R11e-5HnD

mt.lv/p/204



5 GHz 802.11a/n dual chain miniPCle card with 2 MMCX connectors.

- 4920-5920 MHz 802.11a/n dual chain wireless
- 2 MMCX connectors
- Perfect for any RouterBOARD with a miniPCle slot
- Output power up to 27 dBm



#### R11e-5HacD



5 GHz 802.11a/n/ac dual chain miniPCle card with 2 MMCX connectors.

- 4920-6100 MHz 802.11a/n/ac dual chain wireless
- Output power up to 27 dBm



#### R11e-5HacT



5 GHz 802.11a/n/ac triple chain miniPCle card with 3 MMCX connectors for maximum bandwidth.

- 4920-6100 MHz 802.11a/n/ac triple chain wireless
- · Perfect for any RouterBOARD with miniPCle slot
- Up to 1.3 Gbps data rate and 80 MHz channels
- · Output power up to 28 dBm



#### R11e-2HnD

mt.lv/p/209



2.4 GHz 802.11b/g/n dual chain low profile miniPCle card with 2 U.FL connectors.

- 2192-2732 MHz 802.11b/g/n dual chain wireless
- · Perfect for any RouterBOARD with a miniPCle slot
- Low profile, small heat-sink, designed for laptops
- Output power up to 29 dBm



#### R11e-2HPnD

mt.lv/p/208



2.4 GHz 802.11b/g/n high power miniPCle card with 2 MMCX connectors.

- 2192-2732 MHz 802.11b/g/n high power dual chain wireless
- · Perfect for any RouterBOARD with a miniPCle slot
- Output power up to 30 dBm



#### R52HnD



2.4 GHz/5 GHz 802.11a/b/g/n high power miniPCI card with 2 MMCX connectors.

- 2192-2732 MHz 802.11b/g/n high power dual chain wireless
- 4.920-6.100 GHz 802.11a/n high power dual chain wireless
- Output power up to 26 dBm



### 2.4GHz Dipole



2.4 GHz dipole antenna with RPSMA connector. Attach two of those to the BaseBox 2 to have 2x2 MIMO 2.4 GHz access point.

- 2.4 GHz 5 dBi dipole antenna
- RPSMA connector
- Waterproof for outdoor use



#### **ACSWIM**



2.4/5 GHz swivel omni antenna with MMCX connector.

- Compatible with R2SHPn, R52nM, R52HnD miniPCl and R11e series miniPCle wireless cards and our indoor enclosures
- Supports 2.4/5 GHz
- 2.4/5 GHz 4 dBi

## Woobm





The Wireless out of band management USB stick (Woobm-USB) is a useful assistant for any network administrator. Simply plug it into any RouterBOARD USB port and it will allow you to access the console of that device over wireless. It sets up as a wireless access point and has a simple web interface where you can access a fully featured terminal interface to configure

It can even work as a wireless client: if you wish to manage many devices, just connect all the Woobms to one AP inside your server room and manage the





#### **ACMMCXRPSMA**





Designed for adding second wireless interface to BaseBox, NetBox or NetMetal.

- MMCX to RPSMA pigtail
- 26 cm long, MMCX connector on one side, RPSMA to other
- Compatible with most of our miniPCI and miniPCIe wireless cards



# Flex-guide





Ideally suited for our BaseBox, NetMetal and other products with RPSMA connectors.

- Low loss 50 cm RPSMA cable
- 50 cm long, RPSMA connectors on both sides
- For use with up to 6 GHz frequency
- · Works with most antennas
- Suited for indoor and outdoor use
- Soldered, not crimped, for the best possible signal quality

