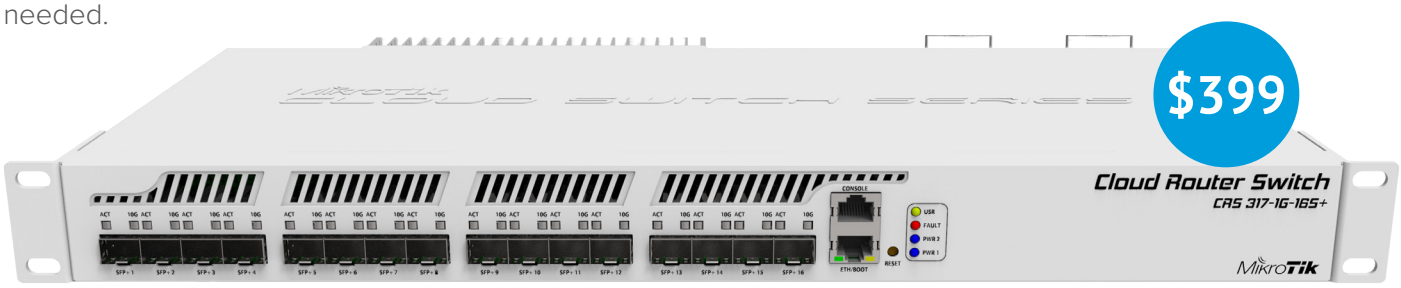
MikroTik
NEWSLETTER, ISSUE #77 - AUGUST 2017

CRS317-1G-16S+RM

The new Cloud Router Switch 317-1G-16S+RM is a rack-mountable manageable switch with Layer3 features, it has 16 SFP+ ports for high performance 10GbE connectivity and a 1GbE copper port for management.

CRS317-1G-16S+RM is powered by a next generation switching chip, giving you wire speed performance for all sixteen 10GbE ports with any Ethernet frame size. New features such as hardware-based Spanning Tree Protocol (MSTP) and Link Aggregation (LACP) provide enhanced protection and true professional performance for your demanding network.

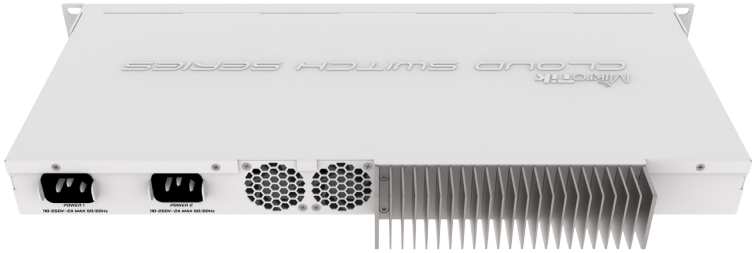
The unit has dual redundant power supplies and passive cooling case, so it's completely silent - for hot environments, like outdoor communications boxes, two redundant fans will automatically keep the system cool if needed.



- Boot option for SwOS or RouterOS
- Non-blocking Layer 2 switching capacity
- 16K host table
- IEEE 802.1Q VLAN
- Supports up to 4K simultaneous VLANs
- Port isolation and Port security
- MSTP
- HW MPLS forwarding coming in future software update
- SFP 1.25 and SFP+ 10Gbit module support
- 800 MHz dual core CPU
- Dual power supplies
- Broadcast storm control
- Port mirroring of ingress/egress traffic
- Rapid Spanning Tree Protocol (RSTP)
- Link Aggregation (LACP)
- Access Control List
- MikroTik neighbour discovery
- SNMP v2/v3
- Rackmount and tabletop
- Supports -20 to +60 C ambient temperatures
- Passive cooling with automatic fan for high temperatures

"Dual boot" feature allows you to choose which operating system you prefer to use, RouterOS or SwOS. If you prefer to have a simplified switch only OS with more switch specific features, use SwOS. If you are used to Winbox and would like the ability to use routing and other Layer 3 features on some ports in your CRS, boot and use RouterOS. You can select the desired operating system from RouterOS, from SwOS or from the RouterBOOT loader settings.

It gives you all the basic functionality for a managed switch, plus more: allows to manage port-to-port forwarding, apply MAC filter, configure VLANs, mirror traffic, apply bandwidth limitation and even adjust some MAC and IP header fields. SFP+ cages supports both 1.25 Gb SFP and 10 Gb SFP+ modules.



2x IEC cord

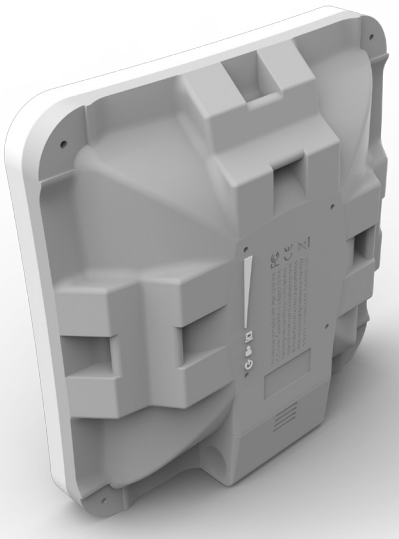
Rackmount ears

View online

SXTsq Lite5

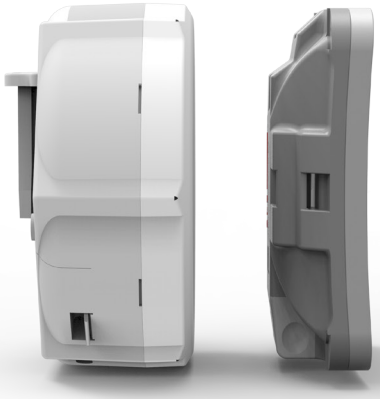
The SXTsq Lite5 is a compact and lightweight outdoor wireless device with an integrated antenna. Perfect for point-to-point links of up to 12 kilometers or as a CPE unit. It is compact, weatherproof and easy to mount. The SXTsq Lite5 retains a 16dBi antenna like the SXT Lite5, our previous model, yet the antenna design has been improved and the physical size has been dramatically reduced - the SXTsq is two times thinner.

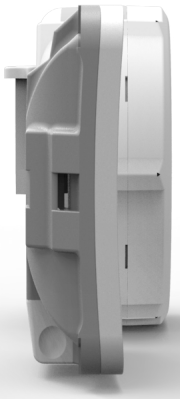
$46



The enclosure includes slots for directly attaching a hose clamp mount in three different mounting places, with ability to be mounted on horizontal railings. The device includes one 10/100Mbit ethernet port. There is also an easily accessilble grounding connection to protect it against lightning.

Comparison to previous SXTs





24V 0.38A Power adapter

Hose clamp

PoE injector

View online

wAP LTE kit & wAP R

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.

The weatherproof device can be mounted outside your house, in the vehicle, on your porch or anywhere else where you need wireless access from your phone or computer. It also includes a desktop stand so you can put it inside the building near a window.

LTE cards are connected to two internal antennas with u.FL connectors, so if you want, you can unplug the connectors and add your own external LTE antenna for larger coverage. Unit has the several powering options - 9-30v PoE-in by Ethernet port, DC jack and Automotive connector, very handy in mobile devices like car, bus or train.

Three versions are available

The **wAP LTE kit (EU)** includes LTE modem that supports International LTE bands 1,2,3,7,8,20,38 and 40.

The **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.

The **wAP R** is shipped without LTE card installed (empty miniPCI-e slot), so you can use your own LTE card.

Temperatures tested: -40°C to +60°C.

Included


24V 0.8 A Power adapter

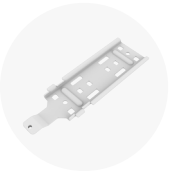

Screw kit


PoE injector


0.35m 4pin Automotive adapter cable


Desktop stand

2x plastic straps


Mount base

wAP R | wAP LTE kit (EU) | wAP LTE kit (US)

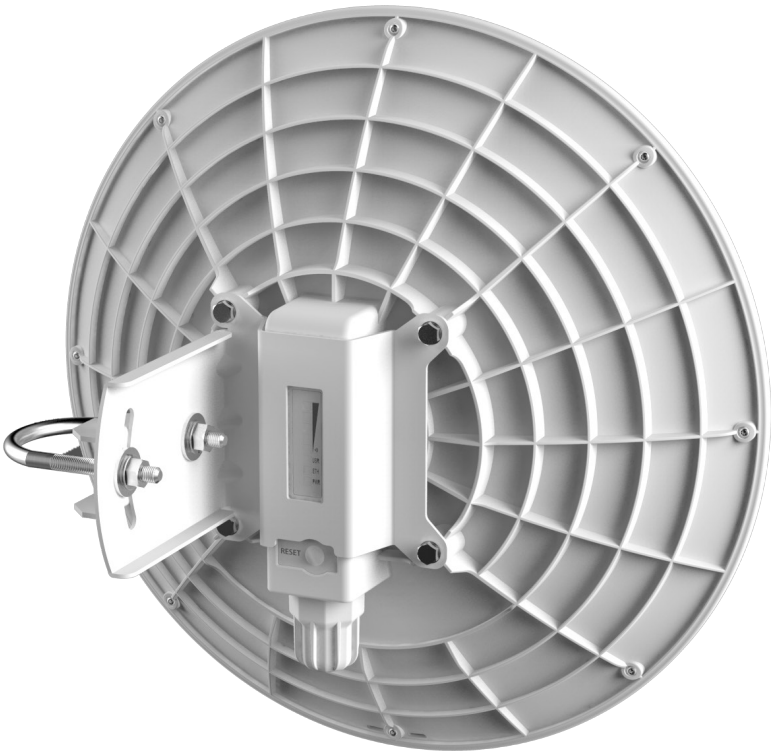
DynaDish 6

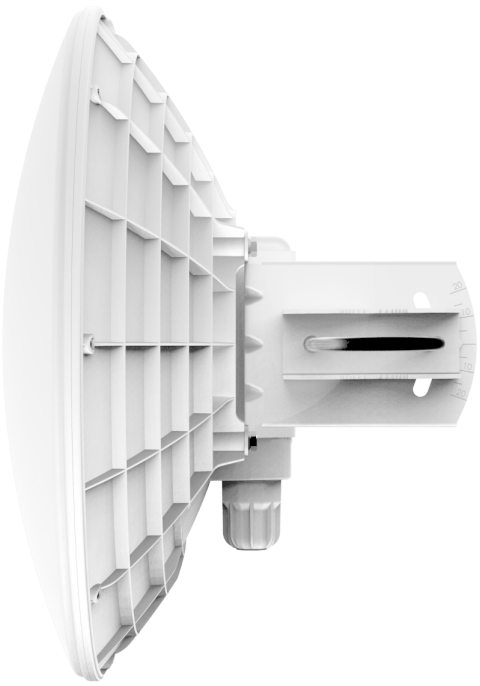
The Dynadish 6 uses the same effective antenna design and enclosure as our successful 5 GHz model, but this new device operates in the licensed 6GHz frequency. This means less interference than the often saturated 5 GHz frequencies for higher speed and more reach. By operating above the most popular WiFi frequencies you are now able to build your wireless links from busy towers without suffering problems with noise. It is a simple and completely integrated product with everything you need to quickly install a reliable point-to-point link.

Please note that use of the 6GHz spectrum depends on your country regulations and might require a license.

Ideal for long distance point-to-point links

- 5.9 - 6.4 GHz dual chain board integrated into a 25 dBi dish antenna
- Precision mounting kit included
- One Gigabit Ethernet port
- 802.11n standard





DynaDish 6

The antenna is a 25 dBi dish, and it includes a precise alignment mount, ideal for long range (up to 25 km at full speed) point-to-point wireless links.

24V 0.8A Power adapter

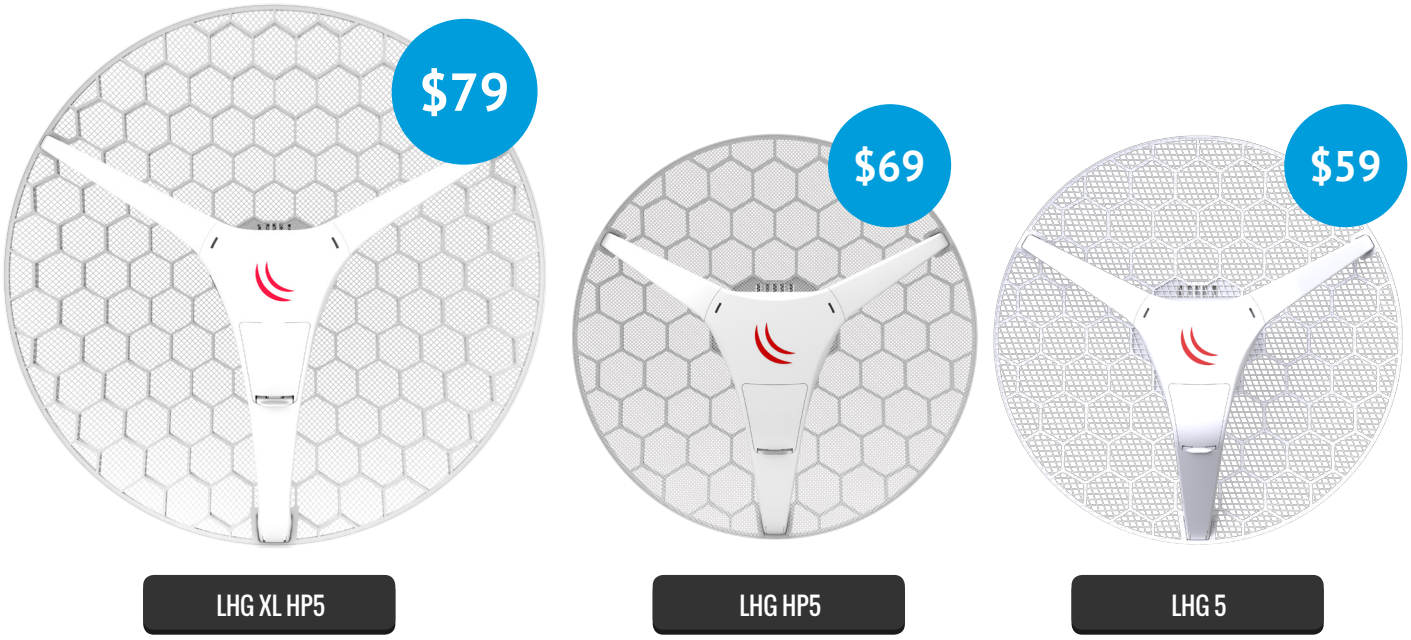
U Kit

Precision mount

Gigabit PoE injector

LHG series - now you can reach further!

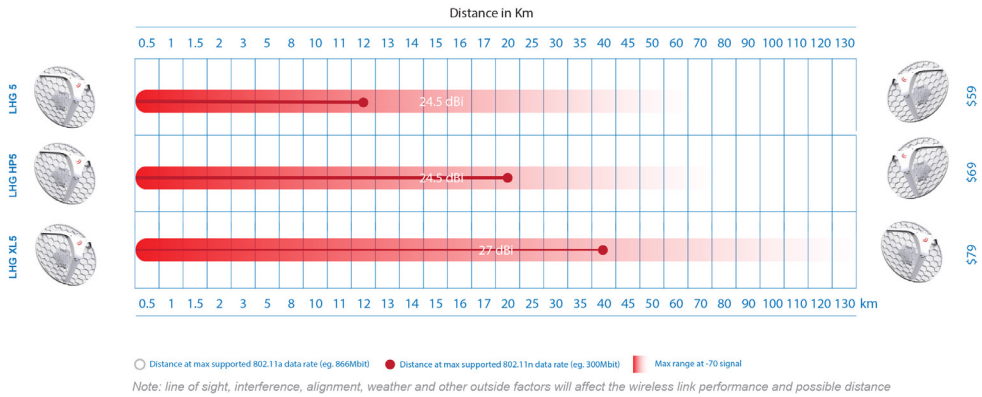
We are adding two new models to our LHG product family, the LHG HP5 (high power) and LHG XL HP5 (extra large, high power). LHG HP5 comes with two times more output power than our regular LHG 5 - up to 630 mW, and is designed to reach up to 60% longer distances.



The LHG XL HP5 has a bigger 27dBi antenna with 630mW TX output power, designed to reach up to 40km in point-to-point setups at full speed, see the graphs for more information.

All units come with a PoE injector, power supply and pole mount, ready to be deployed.

Model	Antenna gain	TX power	Price
LHG 5	24.5 dBi	up to 316 mW	$59
LHG HP5	24.5 dBi	up to 630 mW	$69
LHG XL HP5	27 dBi	up to 630 mW	$79



Note: line of sight, interference, alignment, weather and other outside factors will affect the wireless link performance and possible distance

Traffic Generator

Traffic Generator is one of the most important utilities in any network administrators arsenal, and it is built right into RouterOS. This tool allows to perform performance testing without expensive testing hardware. Traffic is generated from one more router in the network. You generate and send RAW packets over specific ports, it will collect latency and jitter values, tx/rx rates, count lost packets and detect Out-of-Order (RX-OOO) packets.

Traffic Generator can be used just like the bandwidth test tool. It also generates packets that will be routed back to packet generator for advanced status collection.

We are constantly adding new features to this useful program.

One of the newest features we have recently added is the ability to see packet-loss as a percentage from the total generated packet count, in the same way as defined in RFC2544.

Terminal

```
[admin@CCR3] > tool traffic-generator quick mbps=200
SEQ    ID      TX-PACKET   TX-RATE      RX-PACKET   RX-RATE        RX-OOO   RX-BAD-CSUM   LOST-PACKET LOST-RATE LOST-RATIO LAT-MIN LAT-AVG LAT-MAX JITTER
7      0          16 665 199.9Mbps        16 669 200.0Mbps                           0            -4  48.0kbps   -0.024%  450.us  869.us  9.38ms  8.93ms
8      0          16 667 200.0Mbps        16 631 199.5Mbps                           0            36 432.0kbps    0.216%  454.us  854.us  12.2ms  11.8ms
9      0          16 667 200.0Mbps        16 703 200.4Mbps                           0           -36 432.0kbps   -0.216%  454.us  819.us  3.80ms  3.35ms
10     0          16 667 200.0Mbps        16 666 199.9Mbps                           0             1  12.0kbps    0.006%  450.us  806.us  3.85ms  3.40ms
11     0          16 667 200.0Mbps        16 668 200.0Mbps                           0            -1  12.0kbps   -0.006%  392.us  811.us  3.95ms  3.56ms
12     0          16 667 200.0Mbps        16 666 199.9Mbps                           0             1  12.0kbps    0.006%  405.us  809.us  11.8ms  11.4ms
13     0          16 666 199.9Mbps        16 668 200.0Mbps                           0            -2  24.0kbps   -0.012%  423.us  805.us  3.95ms  3.53ms
14     0          16 666 199.9Mbps        16 665 199.9Mbps                           0             1  12.0kbps    0.006%  436.us  808.us  4.03ms  3.59ms
15     0          16 666 199.9Mbps        16 667 200.0Mbps                           0            -1  12.0kbps   -0.006%  447.us  806.us  3.96ms  3.52ms
16     0          16 667 200.0Mbps        16 666 199.9Mbps                           0             1  12.0kbps    0.006%  421.us  819.us  4.07ms  3.65ms
17     0          16 666 199.9Mbps        16 667 200.0Mbps                           0            -1  12.0kbps   -0.006%  412.us  800.us  4.09ms  3.67ms
18     0          16 667 200.0Mbps        16 664 199.9Mbps                           0             3  36.0kbps    0.018%  429.us  806.us  3.94ms  3.51ms
19     0          16 667 200.0Mbps        16 667 200.0Mbps                           0             0      0bps    0.000%  425.us  810.us  4.10ms  3.67ms
20     0          16 668 200.0Mbps        16 667 200.0Mbps                           0             1  12.0kbps    0.006%  466.us  808.us  4.15ms  3.69ms
21     0          16 666 199.9Mbps        16 670 200.0Mbps                           0            -4  48.0kbps   -0.024%  445.us  802.us  3.82ms  3.38ms
22     0          16 667 200.0Mbps        16 667 200.0Mbps                           0             0      0bps    0.000%  419.us  800.us  3.73ms  3.31ms
23     0          16 666 199.9Mbps        16 667 200.0Mbps                           0            -1  12.0kbps   -0.006%  434.us  807.us  3.96ms  3.53ms
24     0          16 666 199.9Mbps        16 666 199.9Mbps                           0             0      0bps    0.000%  387.us  805.us  3.86ms  3.48ms
25     0          16 667 200.0Mbps        16 640 199.6Mbps                           0            27 324.0kbps    0.162%  413.us  911.us  10.2ms  9.79ms
TOT    0         416 644 199.9Mbps       416 608 199.9Mbps                           0            36  17.2kbps    0.009%  387.us  816.us  12.2ms  11.8ms

[admin@CCR3] >
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Upcoming MUM events in 2017