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MikroTik CubeG-5ac60aypair Wireless Wire Cube Pro Kit User Manual

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MikroTik CubeG-5ac60aypair Wireless Wire Cube Pro Kit

Product Information

The Wireless Wire Cube Pro (CubeG-5ac60aypair) is a MikroTik radio device that operates within legal frequency channels and complies with FCC, IC, and European Union radiation exposure limits. It should be installed and operated at a minimum distance of 21 centimeters from the body. The device accepts DC power from Passive PoE injectors and has a maximum power consumption of 13W. It is equipped with a 4-core IPQ-4019 CPU running at 716 MHz. The device can be mounted on a vertical or horizontal pole with a maximum diameter of 51mm. It has an IP54 rating and cable openings should be directed downwards when mounted outdoors. It is recommended to use a CAT6 shielded cable for proper grounding.

Product Usage Instructions

1. Connect the device to the included PoE injector using an Ethernet cable.
2. Connect the PoE injector to either a PC or a network switch.
3. Connect the power adapter to the PoE injector.
4. Download the WinBox configuration tool from **https://mt.lv/winbox**.
5. Open WinBox and connect to the device.
6. Default IP: 192.168.88.2/192.168.88.3, user name: admin (The password can be found on the sticker).
7. Download the latest RouterOS software from **https://mikrotik.com/download**.
8. Choose ARM packages and save them to your PC.
9. Open WinBox and upload the downloaded packages by dragging and dropping them into any window.
10. Restart the device.
11. Reconnect to the device and select your Region in the Wireless menu, W60G tab, and set your Country in the QuickSet menu to apply country regulation settings.
12. If the device experiences RX blocking, it will restore its signal after a few seconds.

Note
The assembly, mounting, and configuration of this device should be done by a certified person. Ensure that the device is properly grounded and that the Maximum Permissible Exposure (MPE) safety distance of at least 20 cm between the radiator and the body.

Reset Button
 The device is equipped with a reset button for resetting the configuration if needed.

Cube 60Pro ac (CubeG-5ac60ay)

It is the customer's responsibility to follow local country regulations, including operation within legal frequency channels, output power, cabling requirements, and Dynamic Frequency Selection (DFS) requirements. All Mikrotik radio devices must be professionally installed.

Note. The information contained here is subject to change. Please visit the product page on **www.mikrotik.com** for the most up-to-date version of this document.

Safety Warnings

Before you work on any equipment, be aware of the hazards involved with electrical circuitry, and be familiar with standard practices for preventing accidents. Ultimate disposal of this product should be handled according to all national laws and regulations. The Installation of the equipment must comply with local and national electrical codes. This unit is intended to be installed in the rackmount. Please read the mounting instructions carefully before beginning installation. Failure to use the correct hardware or to follow the correct procedures could result in a hazardous situation for people and damage to the system.

This product is intended to be installed indoors. Keep this product away from water, fire, humidity, or hot environments. Use only the power supply and accessories approved by the manufacturer, which can be found in the original packaging of this product. Read the installation instructions before connecting the system to the power source. We cannot guarantee that no accidents or damage will occur due to the improper use of the device. Please use this product with care and operate at your own risk!

In the case of device failure, please disconnect it from power. The fastest way to do so is by unplugging the power plug from the power outlet. It is the customer's responsibility to follow local country regulations, including operation within legal frequency channels, output power, cabling requirements, and Dynamic Frequency Selection (DFS) requirements. All Mikrotik radio devices must be professionally installed.

This is a class A device. In a domestic environment, this product might cause radio interference in which case the user might be required to take adequate measures. Exposure to Radio Frequency Radiation: This MikroTik equipment complies with the FCC, IC, and European Union radiation exposure limits set forth for an uncontrolled environment. This MikroTik device should be installed and operated no closer than 21 centimeters from your body, occupational user, or the general public.

Quickstart

- Connect the device to the included PoE injector with an Ethernet cable;
- Connect the PoE injector to the PC or to the network switch;
- Connect the power adapter to the PoE injector;
- Download the WinBox configuration tool **https://mt.lv/winbox**;
- Open WinBox and connect to the device;
- Default IP: 192.168.88.2/192.168.88.3, user name: admin, please find the password on the sticker;
- Download the latest RouterOS software from **https://mikrotik.com/download**;
- Choose ARM packages, and save them to your PC;
- Open WinBox and upload downloaded packages, drag and drop into any window;
- Restart the device;
- Connect again and select your Region in the Wireless menu, W60G tab, and in the QuickSet menu set your Country, to apply country regulation settings.
- If the device RX blocking condition has happened device will restore its signal after a few seconds.
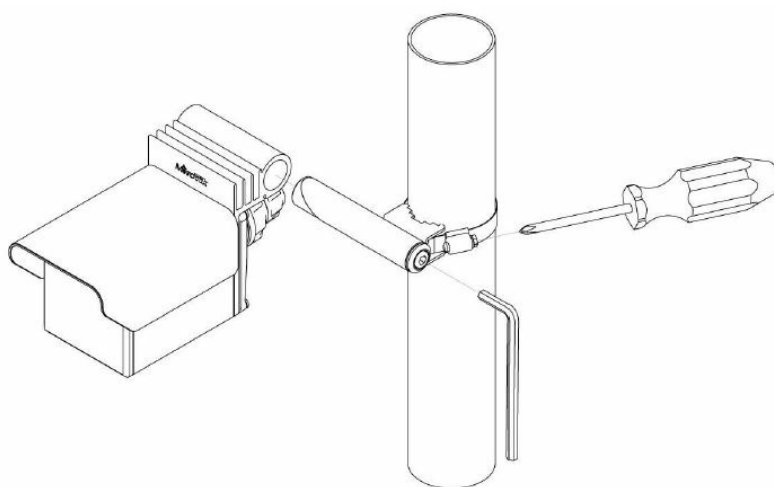
Configuration

Once logged in, we recommend clicking the "Check for updates" button in the QuickSet menu, as updating your RouterOS software to the latest version ensures the best performance and stability. For wireless models, please

make sure you have selected the country where the device will be used, to conform to local regulations. RouterOS includes many configuration options in addition to what is described in this document. We suggest starting here to get yourself accustomed to the possibilities: **https://mt.lv/help**. In case an IP connection is not available, the Winbox tool (**https://mt.lv/winbox**) can be used to connect to the MAC address of the device from the LAN side (all access is blocked from the Internet port by default). For recovery purposes, it is possible to boot the device from the network (see Reset button). If the device loses connection, wait for a few seconds and then the device will recover connection automatically.

Assembly and mounting

The device can be mounted on a vertical or horizontal pole. The maximum pole diameter is 51 mm. Mounting and configuration of this device should be done by a certified person. Choose your desired position, the device will require precise adjustment for best performance.

1. Attach the provided mount to the mast and secure it with a screwdriver.
2. Attach the device to the mounting bracket and secure using the provided tool.

The IP rating scale for this device is IP54. When mounting outdoors, please ensure that any cable openings are directed downwards. We recommend using the POE injector and proper grounding with a Cat6 shielded cable. When using and installing this device please pay attention to the Maximum Permissible Exposure (MPE) safety distance with a minimum of 20 cm between the radiator and your body.

Powering

The device accepts DC   power from Passive PoE injectors (one power supply and PoE injector are included) and accepts 18-48 V DC   consuming at a maximum load of 13 W.
Connecting to a PoE Adapter:

1. Connect the Ethernet cable from the device to the PoE+DATA port of the PoE adapter.
2. Connect an Ethernet cable from your local network (LAN) to the PoE adapter.
3. Connect the power cord to the adapter, and then plug the power cord into a power outlet.

Extension Slots and Ports

- Product code CubeG-5ac60ay / CubeG-5ac60ay-SA
- CPU 4 core IPQ-4019 716 MHz
- Size of RAM 256 MB
- Storage 64 MB flash
- Number of 1G Ethernet ports 1

- Wireless 5 GHz 802.11a/n/ac

- Wireless Chains 1

- Antenna gain (dBi) 11.5 5 GHz

- Antenna beamwidth 35° 5 GHz

- Antenna beamwidth at 60 GHz 11° (CubeG-5ac60ay); 60° (CubeG-5ac60ay-SA)

- GPS MT3337V

- WiGig chipset QCA6438

- WiGig antenna module SWL-QD46

- Supported protocol MikroTik 802.11ad / 802.11ay

- Max EIRP (dBm) 40

- Dimensions 115 x 95 x 82 mm (CubeG-5ac60ay) 115 x 211 x 90 mm (Cube G-5ac60ay-SA)

- Operating temperature -40°C to +70°C

- Operating system RouterOS, License level 4

Reset button

The router boot reset button has the following functions. Press the button and apply the power, then:

- Release the button when the green LED starts flashing, to reset the RouterOS configuration to defaults.
- Release the button when the LED turns solid green to clear all configurations and defaults.
- Release the button after the LED is no longer lit (~20 seconds) to cause the device to look for Netinstall servers (required for reinstalling RouterOS over the network).
- Regardless of the above option used, the system will load the backup routerBOOT loader if the button is pressed before power is applied to the device. Useful for RouterBOOT debugging and recovery.

Accessories
The package includes the following accessories that come with the device:

24 V 0.8 A
power adapter

PoE
injector

Hose
clamp

Operating system support
The device supports RouterOS software version v6.49.5. The specific factory-installed version number is indicated in the RouterOS menu /system resource. Other operating systems have not been tested.
Federal Communication Commission Interference Statement

FCC ID: TV7CB5A60Y
This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a commercial installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.
This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. This device is not to be operated on aircraft except for the conditions listed on FCC CFR §15.255 (b)

IMPORTANT
FCC Radiation Exposure

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20cm between the radiator & your body. All cables used to connect peripherals must be shielded and grounded. Operation with cables connected to peripherals that are not shielded and grounded may result in interference to radio and television reception.
Innovation, Science, and Economic Development Canada IC: 7442A-CB5A60Y

This device contains license-exempt transmitter(s)/receiver(s) that comply with Innovation, Science, and Economic Development Canada's license-exempt RSS(s). Operation is subject to the following two conditions: (1) This device may not cause interference. (2) This device must accept any interference, including interference that may cause undesired operation of the device. This Class A digital apparatus complies with Canadian ICES-003.

CAN ICES-003 (A) / NMB-003 (A)
The device for operation in the band 5150–5250 MHz is only for indoor use to reduce the potential for harmful interference to co-channel mobile satellite systems. This device is not to be operated on aircraft except for the conditions listed on ISED RSS-210 Annex J.1.

IMPORTANT
IC Radiation ExposureThis equipment complies with IC RSS-102 radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20cm

between the radiator & your. CE Declaration of Conformity Hereby, Mikrotīkls SIA declares that the radio equipment type CubeG-5ac60ay, CubeG-5ac60ay-SA is in compliance with Directive 2014/53/EU. The full text of the EU Declaration of Conformity is available at the following internet address: **https://mikrotik.com/products**

This device meets the Maximum TX power limit per ETSI regulations. The frequency is 5470-5725MHz and the maximum transmitted power is less than 27dBm. The frequency and the maximum transmitted power in the EU are listed below 57 – 66 GHz: 34.02 dBm. An Operational mode in the 60 GHz band: 58.32 GHz, 60.48 GHz, 62.64 GHz. This device is certified for outdoor use in point-to-multipoint applications. In the following countries, this device cannot be used in Fixed Point-to-Point applications:

	AT	BE	BG	CH	CY	CZ	DE
	DK	EE	EL	ES	FI	FR	HR
	HU	IE	IS	IT	LI	LT	LU
	LV	MT	NL	NO	PL	PT	RO
	SE	SI	SK	TR	UK(NI)		

WiGig
Operational channels / Maximum output power 58.32 GHz / <40 dBm

WLAN
Operating Frequency / Maximum output power 5470-5725 MHz / 27 dBm

Technical Specifications

- Product Power Input Options
- DC Adapter Output Specification
- DC Adapter Output Specification
- Operating Temperature

Documents / Resources

User Manual Wireless Wire Cube Pro (CubeG-5ac60aypair) Cube 60Pro ac (CubeG-5ac60ay) Safety Warnings	**MikroTik CubeG-5ac60aypair Wireless Wire Cube Pro Kit** [pdf] User Manual CubeG-5ac60aypair, CubeG-5ac60ay, CubeG-5ac60aypair Wireless Wire Cube Pro Kit, Wireless Wire Cube Pro Kit, Wire Cube Pro Kit, Cube Pro Kit

References

- 🔗 **MikroTik Routers and Wireless**
- 🔗 **MikroTik Routers and Wireless - Software**
- 🔗 **MikroTik Routers and Wireless - Products**