

## MikroTik CCR2004-16G-2S+

# MikroTik CCR2004-16G-2S+ Router User Manual

16x Gigabit Ethernet Ports, 2x10G SFP+ Cages

## 1. INTRODUCTION

The MikroTik CCR2004-16G-2S+ is a powerful Cloud Core Router designed for high-performance networking environments. It features a robust ARM 64-bit architecture with a 4-core 1700 MHz CPU, 16 Gigabit Ethernet ports, and 2x10G SFP+ cages, providing versatile connectivity and high throughput for demanding applications. This manual provides essential information for setting up, operating, and maintaining your device.

## 2. KEY FEATURES

- **Architecture:** ARM 64bit
- **CPU:** 4-core, 1700 MHz nominal frequency
- **RAM:** 4 GB
- **Storage:** 128 MB NAND
- **Ethernet Ports:** 16x Gigabit Ethernet
- **SFP+ Cages:** 2x 10G SFP+
- **Operating System:** RouterOS (License Level 6)
- **Max Power Consumption:** 48 W
- **Dimensions:** 443 x 210 x 44 mm

## 3. PACKAGE CONTENTS

Verify that your package contains the following items:

- MikroTik CCR2004-16G-2S+ Router
- Power Adapter

- Quick Guide
- Brochure
- User Manual (this document)
- RouterOS current release information
- Block Diagram
- SFP compatibility list
- RouterOS software manual

## 4. SETUP INSTRUCTIONS

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### 4.1. Physical Installation

The CCR2004-16G-2S+ is designed for rackmount installation. Ensure adequate ventilation around the device.

1. Mount the router securely in a standard 1U rack using appropriate rackmount ears (not explicitly listed as included, but implied by dimensions and typical use).
2. Connect the power cable to the device and a suitable power outlet.

### 4.2. Initial Connectivity

1. Connect your computer to any of the Gigabit Ethernet ports (Eth1-Eth16) using an Ethernet cable.
2. The device will typically boot up and acquire an IP address via DHCP on its default configuration.
3. Access the device's web interface (WinBox or WebFig) by navigating to its default IP address (usually [192.168.88.1](http://192.168.88.1)) in your web browser.
4. Log in using the default credentials (username:admin, no password). It is highly recommended to set a strong password immediately after the first login.

### 4.3. SFP+ Port Installation

The device features two 10G SFP+ cages for high-speed fiber or direct attach copper (DAC) connectivity.

1. Insert compatible SFP+ modules into the designated SFP+ cages.
2. Connect the appropriate fiber optic cables or DAC cables to the SFP+ modules.



Figure 1: Front view of the MikroTik CCR2004-16G-2S+ router, highlighting the 16 Gigabit Ethernet ports and 2 SFP+ cages for high-speed network connections.



Figure 2: Rear view of the MikroTik CCR2004-16G-2S+ router, illustrating the dual power inputs for redundancy and integrated cooling fans to maintain optimal operating temperature.

## 5. OPERATING INSTRUCTIONS

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### 5.1. RouterOS Configuration

The CCR2004-16G-2S+ runs on MikroTik's RouterOS, a highly versatile operating system offering extensive configuration options.

- **WebFig:** A web-based graphical user interface accessible via a web browser.
- **WinBox:** A dedicated Windows application for managing MikroTik devices.
- **CLI (Command Line Interface):** Accessible via SSH, Telnet, or serial console for advanced configurations.

Refer to the RouterOS software manual (included in the package contents) for detailed configuration guides and advanced features.

### 5.2. Basic Network Configuration

After initial login, you can configure basic network settings such as:

- WAN/LAN interface setup
- Firewall rules
- DHCP server/client
- Routing protocols
- VPN configurations

## 6. MAINTENANCE

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Regular maintenance ensures optimal performance and longevity of your MikroTik router.

- **Software Updates:** Periodically check for and install the latest RouterOS updates from the MikroTik website to benefit from new features, bug fixes, and security enhancements.
- **Physical Inspection:** Ensure all cables are securely connected and free from damage. Keep the device in a clean, dust-free environment.
- **Ventilation:** Ensure the cooling fans and ventilation slots are not obstructed to prevent overheating.
- **Backup Configuration:** Regularly back up your device configuration to prevent data loss in case of unforeseen issues.

## 7. TROUBLESHOOTING

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If you encounter issues with your CCR2004-16G-2S+, consider the following common troubleshooting steps:

- **No Power:** Verify the power cable is securely connected and the power outlet is functional. Check the power adapter.
- **No Network Connectivity:** Check Ethernet cable connections. Verify IP address settings on your computer and the router. Ensure firewall rules are not blocking access.
- **Slow Performance:** Check CPU and memory usage via RouterOS. Inspect network traffic for bottlenecks. Ensure the latest RouterOS version is installed.
- **SFP+ Link Issues:** Verify SFP+ module compatibility and ensure fiber/DAC cables are correctly installed and undamaged.

- **Factory Reset:** If the device is unresponsive or you've lost access, perform a factory reset by holding the RESET button during power-up until the user LED starts flashing. **Warning:** This will erase all configurations.

For more detailed troubleshooting, consult the RouterOS documentation or MikroTik's support resources.

## 8. TECHNICAL SPECIFICATIONS

Feature	Specification
Product Dimensions	19.69 x 19.69 x 11.02 inches
Item Weight	4.4 pounds
Item Model Number	CCR2004-16G-2S+
CPU Core Count	4
CPU Nominal Frequency	1700 MHz
RAM Size	4 GB
Storage Size	128 MB
Storage Type	NAND
Max Power Consumption	48 W
Connectivity Technology	Ethernet, USB
Color	Grey
Date First Available	August 18, 2021

## 9. WARRANTY AND SUPPORT

For warranty information and technical support, please refer to the official MikroTik website or contact your authorized reseller. Keep your purchase receipt for warranty claims.