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MikroTik CRS112-8G-4S-IN

MikroTik CRS112-8G-4S-IN Cloud Router Switch User Manual

Model: CRS112-8G-4S-IN

1. INTRODUCTION

This manual provides essential information for the proper installation, configuration, and operation of your MikroTik CRS112-8G-4S-IN Cloud Router Switch. The CRS112-8G-4S-IN is a versatile device combining the functionalities of a fully functional router and a Layer 3 switch, powered by MikroTik's RouterOS.

2. PRODUCT OVERVIEW

The MikroTik CRS112-8G-4S-IN is designed for network environments requiring both routing and switching capabilities. It features eight Gigabit Ethernet ports and four SFP cages for flexible connectivity options.

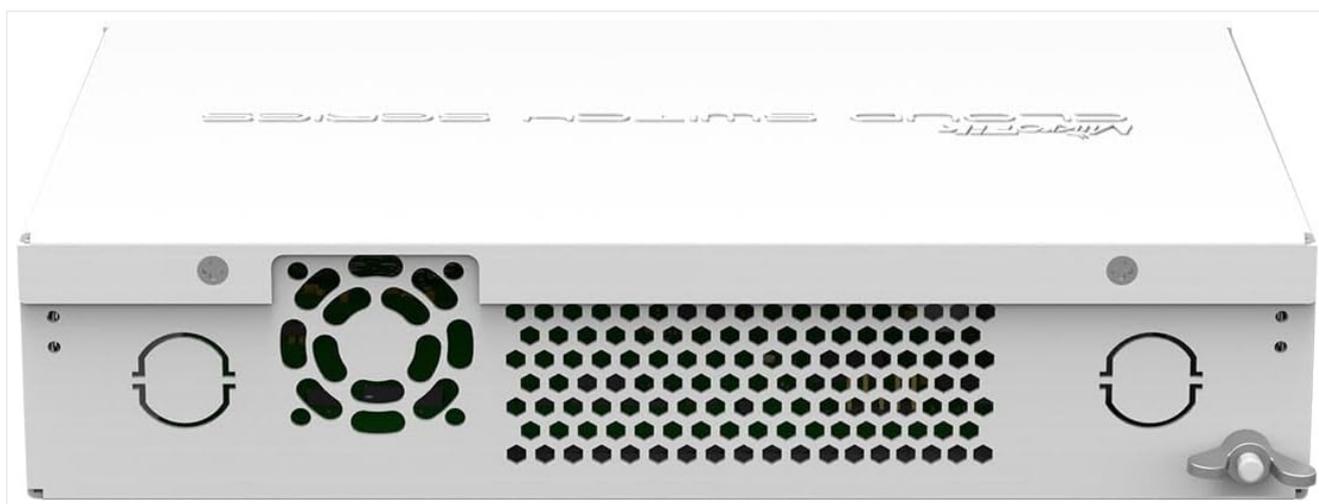


Figure 2.1: Front view of the MikroTik CRS112-8G-4S-IN Cloud Router Switch, showing the Ethernet and SFP ports.

Key features include:

- Eight 10/100/1000 Mbps Gigabit Ethernet ports.
- Four SFP (Small Form-Factor Pluggable) cages for fiber optic connections.

- Integrated RouterOS operating system, offering advanced routing and switching features.
- Passive PoE (Power over Ethernet) input support (10-57 V).
- Compact desktop form factor with a fanless design for quiet operation.



Figure 2.2: Rear view of the MikroTik CRS112-8G-4S-IN Cloud Router Switch, showing the power input and ventilation.

3. PACKAGE CONTENTS

Verify that your package contains the following items:

- MikroTik CRS112-8G-4S-IN Cloud Router Switch unit.
- Power adapter (if included with your specific model/region).
- Quick Guide (may be a separate document or integrated).

If any items are missing or damaged, please contact your vendor or MikroTik support immediately.

4. SETUP

4.1 Physical Installation

1. **Placement:** Place the device on a flat, stable surface or mount it in a rack using appropriate mounting hardware (sold separately). Ensure adequate ventilation around the unit.
2. **Power Connection:** Connect the power adapter to the DC jack on the device and then to a suitable power outlet. The device supports Passive PoE input on Ethernet port 1 (10-57V).
3. **Network Connections:**
 - Connect your network devices (computers, servers, other switches) to the Gigabit Ethernet ports using standard Ethernet cables.
 - For fiber optic connections, insert compatible SFP modules into the SFP cages and connect fiber optic cables.

4.2 Initial Access

The device comes pre-configured with a default IP address (typically 192.168.88.1) and a default username (admin) with no password. You can access the device via:

- **Web Browser (WebFig):** Open a web browser and navigate to the device's IP address.
- **WinBox Utility:** Download and run the WinBox utility from the MikroTik website. It will discover the device by MAC address or IP address.
- **Serial Console:** Connect a serial cable to the console port (if available on your model) and use a terminal emulator.

Important: For security, change the default administrator password immediately after initial access.

5. OPERATING

The CRS112-8G-4S-IN operates on MikroTik's RouterOS, a powerful and flexible operating system. It combines Layer 2 (switching) and Layer 3 (routing) functionalities.

5.1 Basic Switching Configuration

The device's Ethernet and SFP ports are part of a switch chip. Basic switch configurations, such as VLAN tagging, port isolation, and port mirroring, can be managed through the **Switch** menu in RouterOS. Ports can also be removed from the switch configuration and used for routing purposes if desired.

5.2 Routing Capabilities

As a Cloud Router Switch, the CRS112-8G-4S-IN can perform routing functions. All Layer 3 operations are handled by the CPU. While capable of advanced routing protocols, performance for high-throughput routing will be limited by the CPU's capacity (400 MHz nominal frequency).

5.3 RouterOS Documentation

For detailed configuration guides and advanced features, refer to the official MikroTik RouterOS documentation available on the MikroTik website (wiki.mikrotik.com). This resource provides comprehensive information on all aspects of RouterOS configuration.

6. MAINTENANCE

6.1 Firmware Updates

Regularly update RouterOS firmware to ensure optimal performance, security, and access to new features. Firmware updates can be performed via the RouterOS interface (WebFig or WinBox) by downloading the latest

package from the MikroTik website.

6.2 Cleaning

Keep the device clean and free from dust. Use a soft, dry cloth for cleaning the exterior. Do not use liquid cleaners or aerosols. Ensure ventilation openings are not obstructed.

6.3 Environmental Considerations

Operate the device within the specified temperature range (up to 70 Degrees Celsius). Avoid exposing the device to direct sunlight, high humidity, or extreme temperature fluctuations.

7. TROUBLESHOOTING

This section addresses common issues you might encounter with your CRS112-8G-4S-IN.

- **Device not powering on:** Verify the power adapter is correctly connected to the device and a working power outlet. Check if the power LED is illuminated.
- **Cannot access RouterOS:** Ensure your computer is on the same subnet as the device's default IP (192.168.88.1). Check network cable connections. Try accessing via MAC address using WinBox. If the IP address was changed and forgotten, a hard reset might be necessary (refer to MikroTik documentation for reset procedures).
- **No network connectivity on a port:** Check the cable connection. Verify the link LED for the port is active. Ensure the port is enabled and correctly configured in RouterOS (e.g., not disabled, correct VLAN settings).
- **Poor performance:** For routing tasks, CPU utilization might be high. Check system resources in RouterOS. For switching, ensure proper VLAN configuration and avoid loops.

For more advanced troubleshooting, consult the MikroTik Wiki or contact technical support.

8. SPECIFICATIONS

The following table details the technical specifications of the MikroTik CRS112-8G-4S-IN.

| Feature | Specification |
|-----------------------|--|
| Model Number | CRS112-8G-4S-IN |
| CPU Nominal Frequency | 400 MHz |
| RAM | 128 MB |
| Ethernet Ports | 8 x Gigabit Ethernet |
| SFP Cages | 4 |
| Operating System | RouterOS Level 5 |
| PoE Input | Passive PoE, 10-57 V |
| Dimensions | 200 x 143 x 44 mm (7.87"L x 5.63"W x 1.73"H) |
| Weight | 1 kg (2.2 pounds) |
| Case Material | Plastic |

| Feature | Specification |
|---------------------------|--------------------------------------|
| Max Operating Temperature | 70 Degrees Celsius |
| Data Transfer Rate | 12 Gigabits Per Second (Switch Chip) |

9. SAFETY INFORMATION

- Read all instructions before operating the device.
- Do not open the device enclosure. There are no user-serviceable parts inside.
- Use only the power adapter provided or a compatible power source within the specified voltage range.
- Keep the device away from water, fire, and high temperatures.
- Ensure proper grounding if required by local electrical codes.

10. WARRANTY INFORMATION

MikroTik products typically come with a limited manufacturer's warranty. The duration and terms of the warranty may vary by region and reseller. Please refer to the warranty card included with your product or consult the MikroTik official website for detailed warranty policies. Keep your proof of purchase for warranty claims.

11. TECHNICAL SUPPORT

For technical assistance, configuration help, or troubleshooting beyond the scope of this manual, please visit the official MikroTik support resources:

- **MikroTik Wiki:** <https://wiki.mikrotik.com/> (Comprehensive documentation and guides)
- **MikroTik Forums:** <https://forum.mikrotik.com/> (Community support)
- **Contact Support:** Refer to the MikroTik official website (mikrotik.com) for direct support contact options.