QNAP QSW-M2108-2C

QNAP QSW-M2108-2C 10-Port Managed Switch User Manual

Model: QSW-M2108-2C

1. Product Overview

The QNAP QSW-M2108-2C is a managed switch designed for high-speed network environments. It features 8 ports with 2.5Gbps connectivity and 2 combo ports supporting 10Gbps SFP+ or NBASE-T. This switch offers easy management through a web browser interface, providing robust control over network traffic and configurations. It is available in both desktop and rack-mountable versions, with the rack-mountable model featuring an all-metal case and an integrated power supply.

Figure 1: Front view of the QNAP QSW-M2108-2C Managed Switch, showing 8x 2.5GbE ports and 2x 10GbE SFP+/NBASE-T combo ports.

2. Setup

2.1. Unboxing and Package Contents

Before proceeding with installation, ensure all components are present:

- QNAP QSW-M2108-2C 10-Port Management Switch
- Power Cord
- Power Adapter
- Quick Start Guide

2.2. Physical Installation

The QSW-M2108-2C is designed for both desktop and rack-mount environments. The rack-mountable version features an all-metal case and an integrated power supply, making it suitable for server racks. The desktop version is more compact and uses an external power supply.

Figure 2: Rear view of the QNAP QSW-M2108-2C Managed Switch, showing power input and cooling vents.

Rack Mounting (for rack-mountable version)

The rack-mountable version is designed to occupy about half the size of a 1U rack. It includes spacer bars and brackets to secure it within a standard rack. Two units can be installed side-by-side in a 1U rack with an additional adapter (sold separately).

Desktop Placement (for desktop version)

Place the switch on a stable, flat surface. Ensure adequate ventilation around the device to prevent overheating.

2.3. Connecting Devices

Connect your network devices to the available ports. The switch supports auto-negotiation, meaning it will automatically detect and adjust the speed based on the connected device's capabilities (e.g., 1Gbps, 2.5Gbps, 5Gbps, 10Gbps).

- **2.5Gbps Ports (Ports 1-8):** Use standard Cat5e or higher Ethernet cables for optimal performance.
- **10Gbps Combo Ports (Ports 9-10):** These ports support either RJ45 (NBASE-T) or SFP+ connections. If an SFP+ module is inserted, the corresponding RJ45 port will be disabled.
- **Management Port (MGMT):** This dedicated RJ45 port can be used for direct management access to the switch's web interface.

Figure 3: QNAP QSW-M2108-2C with Ethernet cables connected to its ports, illustrating active network links.

3. Operating the Switch

3.1. Web-based Management (QSS Management)

The QSW-M2108-2C is managed via a web-based interface called QSS Management. To access it:

1. Ensure your computer is connected to the switch (either directly via the MGMT port or through any other port on the same network segment).
2. Open a web browser and enter the switch's IP address. The default IP address can usually be found in the Quick Start Guide or detected by QNAP's utility tools.
3. Log in using the default credentials (username: admin, password: [refer to Quick Start Guide or default QNAP password]). It is highly recommended to change the default password immediately after the first login.

3.2. Key Management Features

The QSS Management interface provides various configuration options:

- **Overview:** Displays the current status of all ports, system information (IP address, MAC address, firmware version), and real-time traffic monitoring for 2.5GbE and 10GbE ports.
- **Port Management:** Allows you to view link status, state (enabled/disabled), speed, and flow control settings for each

port. You can manually configure port speeds (e.g., 100Mbps, 1Gbps, 2.5Gbps, 5Gbps, 10Gbps Full Duplex) or leave them on auto-negotiation.

- **VLAN:** Configure Virtual Local Area Networks (VLANs) to segment your network traffic. This allows administrators to group different ports on one or multiple connected switches, ensuring traffic separation and efficient delivery of tagged packets.
- **Link Aggregation (LAG):** Combine multiple physical point-to-point links into a single high-throughput data link. This feature is useful for increasing bandwidth and providing redundancy. Ensure connected equipment supports LAG.
- **RSTP (Rapid Spanning Tree Protocol):** Prevents network loops and maintains backup paths in case of designated port failure.
- **LLDP (Link Layer Discovery Protocol):** Collects and monitors network device profiles that are connected to the network switch, aiding in network troubleshooting and management.
- **IGMP Snooping:** Monitors IGMP network traffic to control the delivery of IP multicasts, optimizing bandwidth utilization.
- **ACL (Access Control List):** An access control tool that filters packets based on matching conditions such as IP address, MAC address, and port number.
- **QoS (Quality of Service):** Provides traffic prioritization and resource reservation to ensure preferred performance for critical applications and users.

4. Maintenance

4.1. Firmware Update

Regularly check for and apply firmware updates to ensure optimal performance, security, and access to new features. Firmware updates can typically be performed through the QSS Management interface under the 'Firmware Update' section.

4.2. Backup and Restore

It is recommended to back up your switch's configuration settings periodically. This allows for quick restoration of your preferred settings in case of a factory reset or device replacement. This option is usually found in the 'System Settings' section of the web interface.

4.3. Fan Noise

The rack-mounted version of the QSW-M2108-2C features two cooling fans. The fan noise is designed to be minimal. For environments where noise is a critical concern, the rack-mounted version is generally quieter than some desktop multi-gig switches.

5. Troubleshooting

5.1. Connectivity Issues

- **Check Link Status:** In the QSS Management 'Port Management' section, verify that the 'Link Status' for connected ports is 'Link up'.
- **Verify Speed:** Ensure the 'Speed' displayed for the port matches the expected speed of the connected device. If not, try manually setting the speed in 'Port Configuration'.
- **Cable Quality:** Ensure you are using appropriate Ethernet cables (e.g., Cat5e or higher for 2.5Gbps, Cat6a or higher for 10Gbps over longer distances).

5.2. Performance Problems

- **Monitor Port Statistics:** Use the 'Port Statistics' feature in QSS Management to check for high traffic, received/transmitted bytes, and especially 'Errors'. A high number of errors can indicate cable issues or a faulty connection.
- **Check for Network Loops:** Ensure RSTP is enabled to prevent network loops that can degrade performance.

6. Specifications

Feature	Description
Brand	QNAP
Model Number	QSW-M2108-2C
Number of Ports	10 (8x 2.5GbE, 2x 10GbE SFP+/NBASE-T Combo)
Data Transfer Rate	10 Gigabits Per Second (max)
Switch Type	Managed
Platform	Web Browser
Item Weight	1.12 Kilograms
Voltage	12 Volts (AC)
Operating Temperature	32 to 104 Degrees Fahrenheit
UPC	885022020386

7. Warranty and Support

7.1. Warranty Information

The QNAP QSW-M2108-2C 10-Port Management Switch comes with a 2-Year Limited Warranty from QNAP. For detailed terms and conditions, please refer to the official QNAP warranty documentation or contact QNAP support.

7.2. Technical Support

For technical assistance, troubleshooting, or further inquiries, please visit the official QNAP support website or contact their customer service. The Quick Start Guide also contains initial support contact information.