QNAP

QSW-M408 Series
Web Managed Switch
Upgrade to 10GbE network on an affordable budget

Every product was created for solving problems.
AGENDA

◆ Overture
  - The problems of network infrastructure for small businesses
  - Potential issues of current solution
  - True demands of small businesses

◆ Major Theme
  - QSW-M408 Series for the true demands of SMBs
  - Hardware features and benefits
  - Software features and benefits

◆ Concerto
  - QSW-M408 series collaborates with other QNAP products
OVERTURE: LOOK INTO THE PROBLEMS
THE PROBLEMS OF NETWORK INFRASTRUCTURE FOR SMALL BUSINESSES

- Small Business: Staff < 50 people (Small Businesses, SBs)

- Slow LAN speed
  - It is particularly a headache on sharing large files or making system backup.

- Limited budget
  - SBs want to upgrade their network infrastructure but there is no suitable product at affordable price for them to choose.

- No dedicated IT Engineer
  - The IT helper might have limited time and professional background to configure a managed Ethernet switch properly.
Constrained by budget and lack of dedicated IT engineers, SBs would try to solve the problem by

1. Avoiding upgrade network and waiting until something goes down.
2. Upgrading network with 1GbE instead of 10GbE Ethernet switch.
3. Choosing unmanaged instead of managed Ethernet switch.
4. Assigning non-dedicated helper to configure managed Ethernet switches.
SB’S TRUE DEMANDS FOR ETHERNET SWITCH

- **Solid reliability**
- **Upgrade speed**
  Upgraded infrastructure, reinforce the strengths of SBs.
- **Simple to set up**
  Even non-dedicated IT helper can handle it effortlessly.
- **Affordable price**
  Right spec., price and high value.
- **Must-have management**
  Improve the efficiency, safety and expandability.
SB’S TRUE DEMANDS BY APPLICATION – BASIC

- Internet
  - 1G * 4

- Server
  - 10G * 3

- NAS
  - 1G * 3

- Marketing

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SB’S TRUE DEMANDS BY APPLICATION – EXPANDED

- Internet Marketing
- Server
- NAS

Network Diagram:
- 1G * 2
- 1G * 6
- 10G * 2
- 1G
- 1G * 6
- 10G
- 10G * 2
SB’S TRUE DEMANDS BY APPLICATION – STUDIO
MAJOR THEME: SOLUTION TO THE PROBLEMS
QSW-M408 SERIES – BASED ON THE TRUE DEMANDS OF SMALL BUSINESSES

- Transform your 1Gbe network to 10GbE (5-speed) with affordable cost
- 10GbE * 4 for the most needed connections and you can feel the difference, worth every penny.
- Optimized thermal design, quality components, solid reliability.
- Managed to improve the efficiency, safety and expendability significantly.
- Simple U/I, guiding in plain words, effortless management.

- 10Gbps Ethernet
- 1Gbps Ethernet
- 100Mbps Ethernet
- 10Mbps Ethernet

* 10 Gigabit Ethernet abbreviation: 10GE, 10GbE, 10Gig or 10GE

Time consumption of transferring 50GB Blu-ray Disc:

- 1Gbe: 8mins20secs (100 MB/s)
- 10GbE: 50secs (1000 MB/s)

* 1 Gigabit Ethernet abbreviation: 1Gbe, 1Gig, 1GigE or 1GE
PRAGMATIC PORT CONFIGURATION, SUITABLE FOR SB’S BASIC AND EXPANDED APPLICATIONS

Hardware features and benefits

QSW-M408-4C
4 * 10G SFP+/ NBASE-T Combo
8 * 10/100/1000T

QSW-M408-2C
2 * 10G SFP+/ NBASE-T Combo
2 * 10G SFP+
8 * 10/100/1000T

QSW-M408S
4 * 10G SFP+
8 * 10/100/1000T

Backplane 96 Gbps
10G NBASE-T DOWNWARD COMPATIBLE

Hardware features and benefits

10G
5G
2.5G
1G
100M
10G NBASE-T DOWNWARD COMPATIBLE

Hardware features and benefits

Upgrade the network based on original cabling

Re-cabling is not required, enjoy > 1Gbps with the original Cat5e cabling.

<table>
<thead>
<tr>
<th></th>
<th>CAT 5e</th>
<th>CAT 6</th>
<th>CAT 6A &amp; CAT 7</th>
</tr>
</thead>
<tbody>
<tr>
<td>100M</td>
<td>V</td>
<td>V</td>
<td>V</td>
</tr>
<tr>
<td>1G</td>
<td>V</td>
<td>V</td>
<td>V</td>
</tr>
<tr>
<td>2.5G</td>
<td>V</td>
<td>V</td>
<td>V</td>
</tr>
<tr>
<td>5G</td>
<td>V</td>
<td>V</td>
<td>V</td>
</tr>
<tr>
<td>10G</td>
<td>X</td>
<td>V(55m)</td>
<td>V</td>
</tr>
</tbody>
</table>
OPTIMIZED THERMAL DESIGN & QUALITY COMPONENTS

Hardware features and benefits

- PWM double ball bearing fan
- Large conductive and directive heatsink
- All solid capacitors
Distinguish 1GbE and 10GbE interfaces by matt and glossy surface treatments which also present the richness of white. Match with 90° rotatable stone blue power jack, QSW-M408 series brings 10GbE network speed and functional, aesthetic design to the office.
**SUPER USER FRIENDLY WEB U/I**

**Software features and benefits**

Walk the user through to quickly and correctly set up the switch!

<table>
<thead>
<tr>
<th>Feature</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Simple</td>
<td>- Clear function display, one click for setting</td>
</tr>
<tr>
<td>Intuitive</td>
<td>- GUI illustration matches to the real interface</td>
</tr>
<tr>
<td>Referencing</td>
<td>- Status charts stand by for setting reference</td>
</tr>
<tr>
<td>Guiding</td>
<td>- Functions and settings are guided in plain words</td>
</tr>
</tbody>
</table>
Make the setting work simple by reducing the complex control layers and parameters.

- **Simple**
  - Clear function display, one click for setting
Software features and benefits

**Intuitive**

- GUI illustration matches to the real interface

**GUI interacts with user and switch to enhance the experience.**

### Port Management

**Dashboard**

- Device information: Port Status

**Current Port status:**
- Link up: 2 port
- Link down: 10 port
- Enable: 12 port
- Disable: 0 port
- 10 GbE Active: 0 port

<table>
<thead>
<tr>
<th>Port</th>
<th>Link Status</th>
<th>State</th>
<th>Speed</th>
<th>Flow Control</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>Up</td>
<td>Enabled</td>
<td>5 Gbps FDX</td>
<td>Disabled</td>
</tr>
<tr>
<td>10</td>
<td>Down</td>
<td>Enabled</td>
<td>N/A</td>
<td>Disabled</td>
</tr>
</tbody>
</table>

[Setting Guide]
To avoid going back and forth between different setting pages, four major status charts can be called aside for reference during the configuration.
- Functions and settings are guided in plain words

The Web U/I has introduction and setting guide for each function which allows for studying by practicing.
SUPPORT ETHERNET MANAGEMENT PROTOCOLS (I)

Segmentation Efficiency
- VLAN

Allocation Expansion
- LAG

Anti-loop Backup path
- RSTP

Access control
- ACL

Ensure security

Software features and benefits
<table>
<thead>
<tr>
<th>Software features and benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SUPPORT ETHERNET MANAGEMENT PROTOCOLS (II)</strong></td>
</tr>
<tr>
<td><strong>Status snooping</strong></td>
</tr>
<tr>
<td><strong>Traffic reduction</strong></td>
</tr>
<tr>
<td><strong>Balance speed</strong></td>
</tr>
<tr>
<td><strong>Jam prevention</strong></td>
</tr>
</tbody>
</table>

- **Device disclose**
- **Aid troubleshoot**
- **Status snooping**
- **Traffic reduction**
- **Balance speed**
- **Jam prevention**
- **802.3x** (Flow Control)
- **802.3az** (Energy Efficient Ethernet)

**SUPPORT ETHERNET MANAGEMENT PROTOCOLS (II)**

Software features and benefits
# QSW-M408 SERIES + QNAP 10GB NAS

<table>
<thead>
<tr>
<th>QNAP 10GbE NAS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Built-in 10GbE</strong></td>
</tr>
<tr>
<td>TES-X85U series, TDS-16489U, TVS-x80U series, TS-x73U series, TS-x63U series, TS-1635, TS-932X, TS-x31X series, TS-x31XU series</td>
</tr>
<tr>
<td><strong>RJ45 (BASE-T)</strong></td>
</tr>
<tr>
<td>TS-1685, TS-1677X, TVS-x82T series, TVS-x71T series, TVS-863+</td>
</tr>
<tr>
<td><strong>Expandable to 10GbE</strong></td>
</tr>
<tr>
<td>TVS-x82 series, TS-x77 series, TVS-x71U-RP series, TVS-x71 series, TVS-x73 series, TVS-x73e series, TS-x73 series, TS-563, TS-x53BU series, TS-x53B series, TS-x53Be series, TS-X32x series</td>
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</tbody>
</table>
# YOUR NOTEBOOK + QNA ADAPTER
(USB 3.2 Gen 1/Thunderbolt 3 to 5/10GbE adapter)

<table>
<thead>
<tr>
<th>QNA-UC5G1T</th>
<th>QNA-T310G1S</th>
<th>QNA-T310G1T</th>
</tr>
</thead>
<tbody>
<tr>
<td>![QNA-UC5G1T Image]</td>
<td>![QNA-T310G1S Image]</td>
<td>![QNA-T310G1T Image]</td>
</tr>
<tr>
<td>Built-in USB3.0</td>
<td>Built-in Thunderbolt 3</td>
<td>Built-in Thunderbolt 3</td>
</tr>
<tr>
<td>• 5G, 2.5G, 1G, 100M</td>
<td>• 10G, 5G, 2.5G, 1G, 100M</td>
<td>• 10G, 5G, 2.5G, 1G, 100M</td>
</tr>
<tr>
<td>• RJ45 NBASE-T</td>
<td>• RJ45 NBASE-T</td>
<td>• RJ45 NBASE-T</td>
</tr>
<tr>
<td>YOUR SERVER OR NAS + QNAP NETWORK EXPANSION CARD</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-----------------------------------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10 GbE Network Expansion Card</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- QXG-10G1T</td>
<td></td>
<td></td>
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<tr>
<td>- QXG-10G2T-107</td>
<td></td>
<td></td>
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<tr>
<td>- LAN-10G2T-X550</td>
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<tr>
<td>- QXG-5G1T-111C</td>
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<tr>
<td>- QXG-10G2SF-CX4</td>
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<tr>
<td>- LAN-10G2SF-MLX</td>
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<tr>
<td>QM2 M.2 SSD/10GbE PCIe Expansion Card</td>
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<td></td>
</tr>
<tr>
<td>- QM2-2S10G1TA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- QM2-2P10G1TA</td>
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</table>
# GET THE CABLES FOR IMMEDIATE START

<table>
<thead>
<tr>
<th>Length</th>
<th>Description</th>
<th>Ordering Code</th>
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<tbody>
<tr>
<td>1.5M</td>
<td>SFP+ 10GbE Direct Attach Cable</td>
<td>CAB-DAC15M-SFPP-DEC02</td>
</tr>
<tr>
<td>3.0M</td>
<td>SFP+ 10GbE Direct Attach Cable</td>
<td>CAB-DAC30M-SFPP-DEC02</td>
</tr>
<tr>
<td>5.0M</td>
<td>SFP+ 10GbE Direct Attach Cable</td>
<td>CAB-DAC50M-SFPP-DEC02</td>
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</tbody>
</table>

[Images of the cables are shown below each description.]

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QNAP
## EASTER EGGS ~ QNAP UNMANAGED 10GBE ETHERNET SWITCHES

<table>
<thead>
<tr>
<th>Model</th>
<th>Port Configuration:</th>
</tr>
</thead>
</table>
| QSW-308-1C    | 10GbE SFP+/ RJ-45 Combo * 1  
|               | 10GbE SFP+ * 2  
|               | 1GbE RJ45 * 8     |
| QSW-308S      | 10GbE SFP+/ RJ-45 Combo * 1  
|               | 10GbE SFP+ * 2  
|               | 1GbE RJ45 * 8     |
| QSW-1208-8C   | 10GbE SFP+/ RJ-45 Combo * 8  
|               | 10GbE SFP+ * 4    |
| QSW-804-4C    | 10GbE SFP+/ RJ-45 Combo * 4  
|               | 10GbE SFP+ * 4    |
QSW-M408 Series
the best choice for small businesses.