



DATASHEET

## N8500-48B6C (25G SDN Switch)

N8500-48B6C (48\*25GbE+6\*100GbE) 25G SDN  
Switch

## Overview

N8500-48B6C is a Top-of-Rack (TOR) or Leaf switch in a compact 1U form factor, ideally suited for high performance and programmable data center environments. The N8500-48B6C provides 48-port 25GbE SFP28 and 6-port 100GbE QSFP28. It delivers excellent low latency and power efficiency in a PHYless design, while offering high reliability features such as redundant and hot swappable power supplies and fans in forward and reverse airflow configurations. With support for advanced features, including MLAG, VxLAN, SFLOW, SNMP, MPLS etc, this switch is ideal for traditional or fully virtualized data center.

The N8500-48B6C supports current and future data center requirements, including a x86-based control plane for easier integration of automation tools, an ONIE installer for 3rd party network operating systems and compatibility with Software Defined Networks via OpenFlow 1.3.11. Additionally, N8500-48B6C supports the advanced hardware based VXLAN feature to support over 16M virtual networks.

## Key Features and Benefits

### Layer 2 Hardware Supported

- 802.3ad LACP
- 802.1D STP, 802.1w RSTP, 802.1s MSTP, TRILL
- 802.1Q VLAN 4096, SVLAN, PVLAN
- 802.1 Q-in-Q double-tagged VLAN
- 802.1P L2 Prioritization
- 802.1AB Link Layer Discovery Protocol (LLDP)
- PBB/PBB-TE
- 802.1x Network Access Control
- IGMP/MLD Snooping
- VM Switching/VEPA/VN-Tag/802.1Qbh
- Mirroring
- Storm Control

## Layer 3 Hardware Supported

- Hardware-based IP Forward
- IPv4/v6 Routing Protocols: OSPF, RIP, BGP
- VRF
- ECMP/WCMP, VRRP
- MPLS
- Hardware Based Tunneling: IPv4/v6, GRE
- IGMPv1/v2/v3
- IP Multicast: PIM-SM, PIM-DM, PIM-SSM
- Enhanced IPF widths and keys for SDN

## Traffic Management

- Flexible QoS Queuing for UC Packets
- Separate QoS Queues for UC and MC Packets (10 each/port)
- 2-Rate, 3-Color Policing
- SP, WRR, WDRR Queuing
- DCBX (ETS, PFC, CN/QCN)
- Per-Port DSCP
- Per-Port Oversubscription
- IEEE 1588 1-step and 2-step time stamping
- SyncE recovery

## Features

### Ports

Switch Ports:

- 48 x 25G SFP28 plus 6 x 100G QSFP28 ports
  - Each SFP28 supports 1 x 10 G or 25 GbE
  - Each QSFP28 supports 1x40/100 GbE or 4 x 25 GbE or 4 x 10 GbE per port using splitter cables

Management Ports on Front Panel:

- 1 x RJ-45 serial console
- 1 x RJ-45 100/1000BASE-T management port
- 1 x USB Type A port

## Key Componets

- Switch Silicon: Tomahawk+ BCM56967
- CPU: Broadwell-DE 2.2Ghz 2-core
- 4-32GB ECC DDR4
- 64GB up to 1TB M.2 SSD

## Performance

- Switching Capacity: 3.6Tbps full-duplex
- Forwarding Rate: 4.7 Bpps
- Jumbo frames support up to 9K Bytes
- Packet Buffer Size: 16 MB integrated packet buffer
- MAC Addresses: 32K
- VLAN IDs: 4 K

## Physical and Environmental

- Dimensions (WxDxH): 438 x 520 x 43.8 mm (17.24 x 20.5 x 1.72 in)
- Weight: 10 kg (23 lb)
- Operating Temperature: 0° C to 45° C (32° F to 113° F)
- Storage Temperature: -40° C to 70° C (-40° F to 158° F)
- Operating Humidity: 5% to 90% non-condensing

## Compatible Software Option

- Cumulus- Cumulus Linux
- Open Compute Project - Open Network Linux
- Broadcom- ICOS
- Snaproute-Snaproute FlexSwitch
- Pica8 - PicOS

## LEDs

- 25G SFP28 Port LEDs: Link Status, Activity for 25G status
- 100G QSFP28 Port LEDs: Link Status, Activity for 100G status

- Ethernet Management Port LED: Link Status, Activity
- Console Port LED: Link Status
- System LEDs: Diagnostic, Locator, PSU and Fan Status

### Power and Cooling

- < 550W peak consumption DAC configuration, 1+1 redundant, hot swap PSUs
- 100 - 240VAC auto-ranging, 47-63Hz or 180-300VDC auto input
- 3+1 redundant fans, back to front system cooling

### Regulatory

- ISO9001, FCC, CE, CB, UL

### Warranty

- One year warranty, including the quality of any quality problems during the free maintenance. For more information, please check [www.fs.com](http://www.fs.com) for the warranty terms in your country.

## Ordering Information

Model Number	CPU	PSU	Airflow
N5850-48S6Q	Intel Rangeley C2538 2.4Ghz 4-core	dual PSUs	Back-to-Front
N8500-48B6C	Broadwell-DE 2.2Ghz 2-core	dual PSUs	Back-to-Front
N8000-32Q	Intel Rangeley C2538 2.4Ghz 4-core	dual PSUs	Back-to-Front
N8500-32C	Intel Rangeley C2538 2.4Ghz 4-core	dual PSUs	Back-to-Front

# Accessories



Item	Quantity
Grounding Cable	1
Console Cable	1
Power cord	2
M4/Screws M4	6
M6/Screws M6	8
Rubber Pads	4
Dummy PSU Bracket	1
Rack Mount Bracket	4



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