

AS7712-32X/AS7716-32X Series Switch Switch Design Accepted by Open Compute Project

100GbE Data Center Switch

Bare-Metal Hardware



Product Overview

The Edgecore AS7712-32X and AS7716-32X switches are Top-of-Rack (TOR) or spine switches for high-performance data centers. In a compact 1RU form factor, the switches provide line-rate L2 and L3 switching across the 32 x QSFP28 ports, supporting up to 32 x 40/100 GbE, 64 x 50 GbE, or 128 x 10/25 GbE connections. The AS7712-32X and AS7716-32X can be deployed as a TOR switch supporting 10/25/50 GbE to servers with 40/50/100 GbE uplinks, or as a spine switch supporting 40/50/100 GbE spine interconnects. These open network switches are loaded with the Open Network Install Environment (ONIE) which supports the installation of compatible Network Operating System software, including the open source options Open Network Linux and OpenSwitch, plus commercial NOS offerings.

Key Features and Benefits

- Cost-effective, bare-metal switch infrastructure for data center fabric.
- Deploy as Top-of-Rack switch supporting 10 or 25 GbE to servers, with 40 or 50 or 100 GbE uplinks.
- Deploy as spine switch supporting 40, 50, or 100 GbE ToR and spine interconnects.
- 32 x QSFP28 switch ports, each supporting 1 x 100 GbE or 1 x 40 GbE, or via breakout cables, 2 x 50 GbE or 4 x 25 GbE or 4 x 10 GbE.
- Layer 2 or Layer 3 forwarding of 3.2 Tbps (full duplex).
- Supports hot/cold aisle with port-to-power and power-to-port airflow SKUs.
- All ports on front; PSUs and fans accessible from rear.
- Hot-swappable, load-sharing, redundant AC or -48V DC or 12V DC PSUs.
- 5+1 redundant, hot-swappable fan modules.
- Energy Efficiency: 310 W typical power consumption without pluggable optics.
- Bare-Metal hardware switch pre-loaded with diagnostics software and with Open Network Install Environment (ONIE) for automated loading of compatible open source and commercial NOS offerings.
AS7712 SKU and AS7716 SKU compatible with Open Network Linux (ONL), an open-source, OCP reference NOS.
- AS7712 SKU compatible with future release of Switch Light OS from Big Switch Networks and their Big Monitoring Fabric™ and Big Cloud Fabric™ SDN applications.
- AS7712 SKU compatible with Cumulus® Linux® future release.
- AS7712 SKU compatible with OpenSwitch the open-source NOS.
- AS7712 SKU compatible with Pica8 Inc. PicOS™ future release.
- AS7712 SKU compatible with IP Infusion OcNOS.

Data Center Switch

Features

Ports

Switch Ports:
 32 x QSFP28 ports. Each Port supports 1x40/100 GbE or 2 x 50 GbE or 4 x 10/25 GbE per port using splitter cables.
 Management ports on port side:
 1 x RJ-45 serial console
 1 x RJ-45 100/1000BASE-T management
 1 x USB Type A storage

Key Components

Switch Silicon: Broadcom BCM56960 Tomahawk 3.2 Tbps.
 No PHYs, No Retimers
 CPU Modules:
 AS7712-32X:
 Intel Atom C2538 quad-core 2.4GHz x86 processor
 8GB DDR3 SDRAM SO-DIMM
 8GB NAND Flash
 32GB m.SATA SSD MLC
 AS7716-32X:
 Intel Xeon D-1518 quad-core 2.4GHz
 8G DDR4 SDRAM SO-DIMM
 8GB NAND Flash
 32GB m.2 SSD MLC

Performance

Switching Capacity: 3.2Tbps full duplex
 Forwarding Rate: 4.7 Bpps
 12k Jumbo packets
 IPv4: 8K min./72K max. host entries; 16K LPM entries with TCAM-only mode
 IPv6: 4K min./36K max. host entries; IPv6/64=8K, IPv6/128=4K with TCAM-only mode
 Packet Buffer Size: 16MB integrated packet buffer

Physical and Environmental

Dimensions (WxDxH): 43.8 x 51.5 x 4.35 cm (17.3 x 20.3 x 1.7 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 95% non-condensing
 Operating Altitude: 0 to 10,000 feet

Software

Switch is loaded with Open Network Install Environment (ONIE) software installer
 Compatible with the following NOS options:
 AS7712-32X:
 Cumulus® Linux® future release
 Open Network Linux, the open-source, OCP reference NOS
 OpenSwitch open-source NOS
 PicOS™ future release
 Switch Light OS future release from Big Switch Networks
 AS7716-32X:
 Open Network Linux, the open-source, OCP reference NOS

LEDs

QSFP 28 Port LEDs: Link Status, Activity, Rate
 Ethernet Management Port LED: Link Status, Activity
 Console Port LED: Link Status
 System LEDs: Diagnostic, Locator, PSU and Fan Status

Power

PSUs: 2 redundant, load-sharing, hot-swappable AC PSUs
 Input Voltage: 90 to 264 VAC at 50-60 Hz
 Output Voltage: 12 V@ 52.9 A, 5 V@ 4 A
 PSU Efficiency: Up to 93% for AC PSUs
 -48V DC PSUs
 Input Voltage: -36 to -72 VDC
 Output Voltage: 12 V@ 52.9 A, 5 V@ 4 A
 12V DC PSUs
 Input Voltage: 12 VDC +5%
 Output Voltage: 12 V@ 52.9 A, 5 V@ 4 A
 Max Power: 350 W, without pluggable optics
 Typical Power: 310 W, without pluggable optics

Regulatory

EMI
 CE Mark
 EN55022 Class A
 EN55024 (Immunity) for IT Equipment
 EN61000-3-2
 EN61000-3-3
 FCC Part 15 Subpart B Class A
 VCCI Class A
 Safety
 CB, EN 60950
 UL/CUL
 Environmental:
 Temperature: IEC 68-2-14
 Vibration: IEC 68-2-36, IEC 68-2-6
 Shock: IEC 68-2-29
 Drop: ISTA 2A
 Acoustic Level: 62dB@ 27°C
 RoHS-6 Compliant

Warranty

Please check www.edge-core.com for the warranty terms in your country. The warranty provides return-to-factory hardware replacement for a three year period in North America.

For More Information

To find out more about Edgecore Networks Corporation products and solutions, visit www.edge-core.com.

About Edgecore Networks Corporation

Edgecore Networks Corporation is in the business of providing innovative network solutions. In the service provider network, in the data center or in the cloud, Edgecore Networks Corporation delivers the software and systems that transform the way the world connects. Edgecore Networks Corporation serves customers and partners worldwide. Additional information can be found at www.edge-core.com.

Edgecore Networks Corporation is a subsidiary of Accton Technology Corporation, the leading network ODM company. The Edgecore Data Center switches are developed and manufactured by Accton.

To purchase Edgecore Networks solutions, please contact your Edgecore Networks Corporation representatives at +886 3 563 8888 (HQ) or +1 (877) 828-CORE (877-828-2673) or authorized resellers.

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Ordering Information

Base Model: AS7712-32X; 32-Port 40G QSFP+; ONIE software installer

Model Number	CPU Module	PSU	Airflow	Region (power cord)
7712-32X-O-AC-F-US	Intel Atom C2538 processor	dual AC PSUs	port-to-power airflow	N. America
7712-32X-O-AC-B-US	Intel Atom C2538 processor	dual AC PSUs	power-to-port airflow	N. America
7712-32X-O-AC-F-EU	Intel Atom C2538 processor	dual AC PSUs	port-to-power airflow	Europe
7712-32X-O-AC-B-EU	Intel Atom C2538 processor	dual AC PSUs	power-to-port airflow	Europe
7712-32X-O-AC-F-UK	Intel Atom C2538 processor	dual AC PSUs	port-to-power airflow	UK
7712-32X-O-AC-B-UK	Intel Atom C2538 processor	dual AC PSUs	power-to-port airflow	UK
7712-32X-O-AC-F-JP	Intel Atom C2538 processor	dual AC PSUs	port-to-power airflow	Japan
7712-32X-O-AC-B-JP	Intel Atom C2538 processor	dual AC PSUs	power-to-port airflow	Japan
PSU-AC-650A-F		650W AC Power Supply FRU	port-to-power airflow	no power cord
PSU-AC-650A-B		650W AC Power Supply FRU	power-to-port airflow	no power cord
FAN-1U-1x1C-F		Fan Module FRU	port-to-power airflow	
FAN-1U-1x1C-B		Fan Module FRU	power-to-port airflow	
Model Number	Description			
77xx-32X-SVC-RTF	AS77xx-32X series, Annual Hardware Service, Return-to-Factory, after warranty. 3 year warranty included already with the product, maximum 2 additional years per product.			
CBL-PWR-US	AC Power Cable - US (125V/13A, 1830mm) – only required with spare power supplies			
CBL-PWR-EU	AC Power Cable - Europe (250V/10A, 1830mm) – only required with spare power supplies			
CBL-PWR-UK	AC Power Cable - UK (250V/10A, 1830mm) – only required with spare power supplies			
CBL-PWR-JP	AC Power Cable - Japan – only required with spare power supplies			