AS6712-32X
40GbE Data Center Switch
Bare-Metal Hardware

Product Overview
The Edge-Core AS6712-32X is a Top-Rack or spine switch for high-performance data center. In a compact 1RU form factor, the switch provides line-rate L2 and L3 switching across 32 x QSFP+ ports, supporting 32 x 40 GbE connections or 104 x 10 GbE connections. The AS6710-32X can be deployed as a TOR switch supporting 10 GbE or 40 GbE server connections, or as a spine switch supporting 10 GbE or 40 GbE spine interconnects. The AS6712-32X is a bare-metal switch loaded with the Open Network Install Environment (ONIE), which supports the installation of compatible open source and commercial Network Operating Systems for different network use cases and requirements.

Key Features and Benefits
- Cost-effective, bare-metal switch infrastructure for data center fabric.
- 32 fixed x 40GbE QSFP+ switch ports in compact 1RU form factor, each supporting 40 GbE or 4 x 10 GbE via breakout cables.
- Layer 2 or Layer 3 forwarding of 1.28 Tbps full duplex.
- Supports hot/cold aisle with port-to-power and power-to-port airflow SKUs.
- All ports on front. PSUs and fans inserted from rear.
- Hot swappable, load-sharing redundant AC PSUs.
- 4+1 redundant, hot-swappable fans modules.
- Energy Efficiency: 227 W typical power consumption under line rate traffic using 24 x passive QSFP DAC, 8 x 40GBASE-SR4.
- Hardware switch pre-loaded with Open Network Install Environment (ONIE) for automated loading of compatible open source and commerical NOS offerings.
- Compatible with Open Network Linux, an open-source, OCP-approved reference NOS.
- Compatible with Cumulus® Linux® r2.5.3 and later SwitchOS software from Cumulus Networks™
- Design submitted to Open Compute Project as open standard.
## Features

### Ports
- **Switch Ports:** 32 QSFP+ fixed ports: 40 GbE or 4 x 10 GbE per port
- **Total switch capacity:** 32 x 40 GbE; or 104 x 10 GbE
- **Management ports on port side:**
  - 1 x RJ-45 serial console
  - 1 x RJ-45 100/1000BASE-T management port
  - 1 x USB Type A port

### Key Components
- **Switch Silicon:** Broadcom BCM56850 Trident II 1.28 Tbps
- Intel Atom C2538 quad-core 2.4GHz x86 processor
- 8 GB SO-DIMM DDR3 RAM with ECC
- 16MB SPI flash
- 8GB NAND flash
- mSATA SSD (Optional)

### Performance
- **Switching Capacity:** 1.28 Tbps full duplex, with packets>200 bytes
- **Forwarding Rate:** 1.44 Bpps
- **MAC Addresses:** 320K
- **VLAN IDs:** 4K
- **Jumbo frames:** (9216 Bytes)
- **L3 Routes IPv4:** 4K
- **L3 Routes IPv6:** 20K
- **Packet Buffer Size:** 12 MB shared buffer pool
- **Latency (RFC2544):** 600 to 720 ns cut thru

### LEDs
- **40G QSFP+ Port LEDs:** Link Status, Activity
- **Ethernet Management Port LED:** Link Status, Activity
- **Console Port LED:** Link Status
- **System LEDs:** Diagnostic, Locator

### Supported Optics and Cables
- **QSFP+ Ports:**
  - 40GBASE-CR4 DAC: 0.5 m to 5 m; passive and active
  - 40GBASE-CR4 DAC to 4 x SFP+ 10GBASE-CR DAC: 0.5 to 5 m
  - 40GBASE-SR4: Up to 100 m over OM3 MMF, 150 m over OM4 MMF
  - 40GBASE-SR4 to 4 x 10GBASE-SR: 100 m over OM3, 150 m over OM4
  - 40GBASE-LR4: Up to 10 km over SMF

### Software
- **Open Network Install Environment (ONIE) software installer**
- **Compatible with Open Network Linux, open source reference NOS**
- **Compatible with the following switch software solutions:**
  - Cumulus® Linux® r2.5.3 and later from Cumulus Networks™

### Physical and Environmental
- **Dimensions (WxDxH):** 438.4 x 515 x 43.5 mm (17.26 x 20.28 x 1.71 inches)
- **Weight:** 9.65 kg (21.27 lb), with two installed PSUs
- **Fans:** 4+1 redundant, hot-swappable
- **Operating Temperature:** 0°C to 40°C (32°F to 104°F)
- **Storage Temperature:** -40°C to 70°C (-40°F to 158°F)
- **Operating Humidity:** 5% to 95% non-condensing

### Power
- **PSUs:** 2 redundant, load-sharing, hot-swappable AC
- **Input Voltage:** 90 to 264 VAC at 50-60 Hz, -48 to -72 VDC
- **Input Current:** 10 A@100/120 VAC, 5 A@200/240 VAC
- **PSU Efficiency:** Up to 93% for AC PSUs
- **Max Power:** 370W, 32 x 40GBASE-LR4, line rate traffic
- **Typical Power:** 261W, 32 x 40GBASE-SR4, line rate traffic
- **Typical Power (TOR):** 227W, 24 x passive QSFP DAC, 8 x 40GBASE-SR4, line rate traffic

### Regulatory
- **EMI**
  - CE Mark (EN55022 Class A)
  - FCC Part 15 Class A
  - VCCI
- **Safety**
  - CB, EN 60950
  - UL/CUL
- **Environmental:**
  - Temperature: IEC 68-2-14
  - Drop: ISTA 2A
  - RoHS-6 Compliant
  - NEBS GR-1089 Level 2
  - NEBS GR-63 Level 1; Level 2 Operational Thermal and Office Vibrations: Level 3 Operational Thermal, Earthquake (Zone 4), and Storage Transportation and Handling
- **Country of Origin:** Taiwan (TAA 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 Edge-Core Networks products and solutions, visit www.edge-core.com.

### About Edge-Core Networks
Edge-Core Networks is in the business of providing innovative network solutions. In the service provider network, in the data center or in the cloud, Edge-Core Networks delivers the software and systems that transform the way the world connects.

Edge-Core Networks serves customers and partners worldwide. Additional information can be found at www.edge-core.com.

Edge-Core Networks is a subsidiary of Accton Technology Corporation, the leading network ODM company. The Edge-Core data center switches are developed and manufactured by Accton.

To purchase Edge-Core solutions, please contact your Edge-Core Network representatives at +866 3 563 8888 (HQ) or +1 (877) 828-CORE (877-828-2673) or authorized resellers.

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## Ordering Information

**Base Model: AS6712-32X 32-Port 40G QSFP+; ONIE software installer**

<table>
<thead>
<tr>
<th>Model Number</th>
<th>CPU Module</th>
<th>PSU</th>
<th>Airflow</th>
<th>Region (power cord)</th>
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<tbody>
<tr>
<td>6712-32X-O-AC-F-US</td>
<td>Intel Atom C2538 processor</td>
<td>dual AC PSUs</td>
<td>port-to-power airflow</td>
<td>N. America</td>
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<td>Intel Atom C2538 processor</td>
<td>dual -48V DC PSUs</td>
<td>port-to-power airflow</td>
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<tr>
<th>Model Number</th>
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<tbody>
<tr>
<td>PSU-AC-400-F</td>
<td>400W AC Power Supply FRU</td>
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<tr>
<td>PSU-AC-400-B</td>
<td>400W AC Power Supply FRU</td>
</tr>
<tr>
<td>PSU-48V-400-F</td>
<td>-48V DC Power Supply FRU</td>
</tr>
<tr>
<td>PSU-48V-400-B</td>
<td>-48V DC Power Supply FRU</td>
</tr>
<tr>
<td>FAN-1U-1x1C-F</td>
<td>Fan Module FRU</td>
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<tr>
<td>FAN-1U-1x1C-B</td>
<td>Fan Module FRU</td>
</tr>
</tbody>
</table>

**Model Number Description**

- **AS6712-32X series**, Annual Hardware Service, Return-to-Factory, after warranty. 3 year warranty included already with the product, maximum 2 additional years per product.
- **RKIT-85-6712** - AS6712-32X/AS5712-54X rear rack mount bracket, front back mount bracket and screws for mounting into 19 inch standard rack.
- **ORSA-1U** - Open Rack Switch Adapter, for mounting standard 19 inch form factor 1U switches into 21 inch Open Rack.
- **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.

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**Country of Origin:** Taiwan (TAA Compliant)

**Certifications:**
- UL/CUL, CE Mark (EN55022 Class A), FCC Part 15 Class A
- VCCI, RoHS-6 Compliant
- EMI: EN61000-6-2
- Safety: UL 60950, CB, EN 60950

**Environmental Conditions:**
- Temperature: IEC 68-2-14
- Vibrations: Level 3 Operational Thermal, Earthquake (Zone 4), NEBS GR-1089 Level 2
- office
- Storage Transportation and Handling:
- Drop: ISTA 2A
- EMI: NEBS GR-63 Level 1; Level 2 Operational Thermal and Office
- Input Voltage: 90 to 264 VAC at 50-60 Hz. -48 to -72 VDC.
- PSU Efficiency: Up to 93% for AC PSUs
- Input Current: 10 A@100/120 VAC, 5 A@200/240 VAC

**Power:**
- Typical Power (TOR): 227W, 24 x passive QSFP DAC, 8 x 40GBASE-SR4, line rate traffic
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- Max Power: 370W, 32 x 40GBASE-LR4, line rate traffic
- PSU Efficiency: Up to 93% for AC PSUs

**Ordering Information:**

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- **6712-32X-O-AC-B-US**
- **6712-32X-O-AC-F-EU**
- **6712-32X-O-AC-B-EU**
- **6712-32X-O-AC-F-UK**
- **6712-32X-O-AC-B-UK**
- **6712-32X-O-AC-F-JP**
- **6712-32X-O-AC-B-JP**
- **6712-32X-O-48V-F**
- **6712-32X-O-48V-B**
- **PSU-AC-400-F**
- **PSU-AC-400-B**
- **PSU-48V-400-F**
- **PSU-48V-400-B**
- **FAN-1U-1x1C-F**
- **FAN-1U-1x1C-B**

**Contact Information:**

- **TEL:** +886-3-563-8888
- **FAX:** +886-3-668-6111
- **sales_ec@edge-core.com**
- **www.edge-core.com**

**Additional Information:**

- **Intel**
- **RKIT-85-6712** - AS6712-32X/AS5712-54X rear rack mount bracket, front back mount bracket and screws for mounting into 19 inch standard rack.
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- **CBL-PWR-JP** - AC Power Cable - Japan – only required with spare power supplies.