

# Extreme 7520

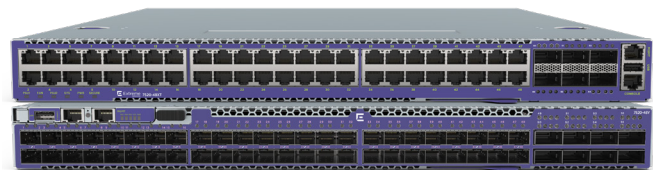
## Universal Aggregation/Core Switch Platform

### Highlights

- High-performance, fixed-form switches for leaf, spine, aggregation, or core applications
- Universal dual-persona hardware allows user choice of switch operating systems
- ExtremeCloud IQ™ and ExtremeCloud IQ - Site Engine for powerful, secure and easy to use cloud-based network management.
- Fabric Connect for automated network operations, simplified network provisioning and enhanced security

### Key Hardware Features

- Two models – 48 x 1/10/25G + 8 x 40G/100G (fiber) and 48 x 1/10G copper connectivity + 6 x 40G/100G uplink options in a fixed 1U form factor
- AC and DC power options
- Back-to-front and front-to-back airflow options
- Up to 8-unit stacking
- Integrated Application Hosting enables 3rd-party applications without impacting switch performance
- Non-blocking, wire-speed design



The Extreme 7520 are purpose-built 48-port 10Gb and 48-port 25Gb switches designed for high-performance aggregation and core applications. As a universal hardware platform, the 7520 provides end-to-end secure network segmentation, in addition to advanced policy capabilities, with a user-selectable choice of Extreme's flagship switch operating systems. This makes the 7520 a uniquely flexible platform that can be deployed in a variety of aggregation and core environments.

The Extreme 7520 network hardware platform enables organizations to design networks that accommodate a variety of applications and east-west traffic patterns. With its high-density scale-out architecture, leading power efficiency, and airflow options, the 7520 platform delivers a cost-effective solution that optimizes power, cooling, and equipment room space, wherever your network operating center might be.

### Two models of the 7520 are available.

#### 7520-48XT-6C

- 48 x 1Gb/10Gb 10GBaseT copper ports
- 6 x 40Gb/100Gb QSFP28 fiber ports

#### 7520-48Y-8C

- 48 x 1Gb/10Gb/25Gb SFP28 fiber ports
- 8 x 40Gb/100Gb QSFP28 fiber ports



## Universal Hardware Platform

The 7520 Series comes with a dual-persona capability allowing user choice of the switch operating system (OS). Either the Switch Engine (EXOS) or Fabric Engine (VOSS) persona can be enabled on 7520 hardware models. The desired persona can be selected at start-up or changed at a later stage. Once selected, the 7520 assumes the features/capabilities of the selected OS.

7520 persona activation can be done manually at boot-up, including via the system CLI. Or, it can be automated by pre-provisioning the 7520 persona in ExtremeCloud IQ. When first booted, the 7520 automatically connects to ExtremeCloud IQ to find its persona. The pre-provisioned OS persona is then remotely enabled on the 7520 system – eliminating the need for manual selection.



## Ethernet Fabric Services

The 7520 supports a variety of Ethernet Fabric services, including Extreme's Fabric Connect when running Fabric Engine (VOSS) and Extreme's IP Fabric when running Switch Engine (EXOS). It also supports Fabric Attach for automated connection to either Layer 2 or Layer 3 fabric services. Extreme's Fabric Connect and IP Fabric on the 7520 enable the creation of virtualized networks that automate network operations, simplify network provisioning, and enhance security, all while reducing the strain on network and IT personnel.



## High-Performance Stacking

Two of the 7520's QSFP28 uplink ports can be used for high-speed 400Gb stacking when running Switch Engine (EXOS). Up to eight systems can be stacked using qualified direct attach cables and/or optical transceivers. (Note: Stacking is not supported when running Fabric Engine (VOSS)).



## Management

The 7520 can be managed by ExtremeCloud™ IQ and ExtremeCloud IQ-Site Engine for comprehensive unified management with a consolidated view of users, devices and applications across wired and wireless networks.

Zero-touch provisioning from ExtremeCloud IQ lets one quickly bring new 7520 switches online as well as enable the selection of the operating system (OS) persona. Alternatively, 7520 on-box management can be done manually via a web-based GUI or generic CLI.

# Switch Specifications

Model	7520-48Y	7520-48XT
<b>Ports</b>	<ul style="list-style-type: none"> <li>• 48 1/10/25GbE SFP28 ports</li> <li>• 8 40/100GbE QSFP28 ports</li> <li>• 1x Serial console port RJ-45</li> <li>• 1x 10/100/1000BASE-T out -of-band management port</li> <li>• USB Type A storage port</li> </ul>	<ul style="list-style-type: none"> <li>• 48 1/10GbE 10GBaseT ports</li> <li>• 6 40/100GbE QSFP28 ports</li> <li>• 1x Serial console port RJ-45</li> <li>• 1x 10/100/1000BASE-T out -of-band management port</li> <li>• USB Type A storage port</li> </ul>
<b>Power Supplies</b>	<ul style="list-style-type: none"> <li>• Modular 800W AC power supply (up to two PSUs)</li> <li>• Modular 800W DC power supply (up to two PSUs)</li> <li>• Front to Back and Back to Front airflow options</li> </ul>	<ul style="list-style-type: none"> <li>• Modular 800W AC power supply (up to two PSUs)</li> <li>• Modular 800W DC power supply (up to two PSUs)</li> <li>• Front to Back and Back to Front airflow options</li> </ul>
<b>Fan Modules</b>	<ul style="list-style-type: none"> <li>• 6 fan modules</li> <li>• Front -Back and Back-Front airflow options</li> </ul>	<ul style="list-style-type: none"> <li>• 6 fan modules</li> <li>• Front -Back and Back-Front airflow options</li> </ul>
<b>Dimensions</b>	• 17.3in W/21.24in D/1.7in H (44.0cm/53.95cm/4.3cm)	• 17.3in W/20.9in D/1.7in H (44.0cm/53.2cm/4.3cm)
<b>Weight</b>	• 16.71 lb (7.58 kg) no PSU / 22.29 lb (10.11 kg) with two AC PSUs (-F and -R models)	• 16.34 lb (7.41 kg) no PSU / 20.88 lb (9.47 kg) with two AC PSUs (-F and -R models)(edited)
<b>Performance</b>	<ul style="list-style-type: none"> <li>• Line rate 4Tbps Switching Capacity (2Tbps ingress, 2Tbps egress)</li> <li>• Average Latency: 800 ns</li> <li>• Forwarding rate: 1000 Mpps</li> </ul>	<ul style="list-style-type: none"> <li>• Line rate 2.16 Tbps Switching Capacity (1.08Tbps ingress, 1.08Tbps egress)</li> <li>• Average Latency: 2,400 ns</li> <li>• Forwarding rate: 1000 Mpps</li> </ul>
<b>CPU Memory</b>	<ul style="list-style-type: none"> <li>• 8-core Processor</li> <li>• 16GB DDR4 ECC memory</li> <li>• 128GB SSD memory</li> </ul>	<ul style="list-style-type: none"> <li>• 8-core Processor</li> <li>• 16GB DDR4 ECC memory</li> <li>• 128GB SSD memory</li> </ul>
<b>Packet Buffers</b>	• 32MB	• 32MB
<b>Environmental Operating Conditions</b>	AC/DC, one fan failed, front-to-back: <ul style="list-style-type: none"> <li>• 0°C (32°F) to 50°C (122°F) at sea level;</li> <li>• 0°C (32°F) to 40°C (104°F) up to 3000 m (10,000 ft)</li> </ul> AC/DC, one fan failed, back-to-front: <ul style="list-style-type: none"> <li>• 0°C (32°F) to 45°C (113°F) at sea level;</li> <li>• 0°C (32°F) to 40°C (104°F) up to 3000 m (10,000 ft)</li> </ul>	AC/DC, one fan failed, front-to-back: <ul style="list-style-type: none"> <li>• 0°C (32°F) to 50°C (122°F) at sea level;</li> <li>• 0°C (32°F) to 40°C (104°F) up to 3000 m (10,000 ft)</li> </ul> AC/DC, one fan failed, back-to-front: <ul style="list-style-type: none"> <li>• 0°C (32°F) to 45°C (113°F) at sea level;</li> <li>• 0°C (32°F) to 40°C (104°F) up to 3000 m (10,000 ft)</li> </ul>

## 7520 Software Scaling Values

### 7520-48XT/7520-48Y with Switch Engine

MAC Table: 294,000

IPv4 ARP Table: 172,000

IPv4 Route Table: 294,000

IP Multicast Entries (S,G,V): 110,000

IPv6 Neighbor Table: 78,000

IPv6 Route Table: 218,000

ACLs (Ingress/Egress): 38,864/2,048

QoS Egress Queues per port: 8

VLANs: 4,094

Routed VLANs: 4,094

#### One Policy Scaling

Policy Profiles: 63

Unique Permit/Deny Rules per switch: 16,312

### 7520-48XT/7520-48Y with Fabric Engine

MAC Table: 164,000

IPv4 ARP Table: 65,536

IPv4 Route Table: 24,576

IP Multicast Entries (S,G,V): 6,000

IPv6 Neighbor Table: 32,768

IPv6 Route Table: 12,288

ACLs (Ingress/Egress): 8,192/6,144

QoS Egress Queues per port: 8

VLANs: 4,059

IP Interfaces (Routed VLANs): 1,000

#### Fabric Connect Scaling

Fabric Adjacencies per switch: 255

Fabric nodes per area (BEB + BCB): 1,000

BEB Nodes per VSN: 2,000

L2 VSNs: 4,000

LE VSNs: 256

## Power and Heat Dissipation

Switch Model	Minimum Heat Dissipation (BTU/hr) (Idle, no ports linked)	Minimum Power Consumption (Watts) (Idle, no ports linked)	Maximum Heat Dissipation (BTU/hr) (Fans high, all ports 100% traffic)	Maximum Power Consumption (Watts) (Fans high, all ports 100% traffic)
7520-48Y AC	553 BTU/hr	167W	1600 BTU/hr	469W
7520-48Y DC	553 BTU/hr	167W	1600 BTU/hr	469W
7520-48XT AC	642 BTU/hr	194W	1225 BTU/hr	359W
7520-48XT DC	642 BTU/hr	194W	1225 BTU/hr	359W

## Power Supply Specifications

	800W AC PSU XN-ACPWR-800W-F/R	800W DC PSU XN-DCPWR-800W-F/R
Dimensions	3.15in W x 1.57in H x 8.11in D (8.0 cm x 4.0 cm x 20.6 cm)800	3.15in W x 1.57in H x 8.11in D (8.0 cm x 4.0 cm x 20.6 cm)800
Weight	1.79 lb (0.81 kg)	1.85 lb (0.85 kg)
Voltage Input Range	100 -140 VAC/20 0 -240 VAC	-48 to -60 VDC
Line Frequency Range	50 - 60 HZ	N/A
PSU Input Socket	IEC 320 C14	Terminal Block
PSU Output Cord	IEC 320 C13	N/A
Operating Conditions	0° - 55° C operation	0° - 55° C operation

### Environmental

#### Environmental Specifications

EEN/ETSI 300 019-2-1 v2.1.2 - Class 1.2 Storage  
 EN/ETSI 300 019-2-2 v2.1.2 - Class 2.3 Transportation  
 EN/ETSI 300 019-2-3 v2.1.2 - Class 3.1e Operational  
 EN/ETSI 300 753 (1997-10) - Acoustic Noise  
 ASTM D3580 Random Vibration Unpackaged 1.5 G

#### Environmental Compliance

EU RoHS - 2011/65/EU  
 EU WEEE - 2012/19/EU  
 EU REACH - Regulation (EC) No 1907/2006 Reporting  
 China RoHS - SJ/T 11363-2006  
 Taiwan RoHS - CNS 15663(2013.7)

#### Environmental Operating Conditions

Temp: 0°C to 50°C (32°F to 122°F)  
 Humidity: 10% to 95% relative humidity, non-condensing  
 Altitude: 0 to 3,000 meters (9,850 feet)  
 Shock (half sine) 30m/s<sup>2</sup> (3G), 11ms, 60 shocks  
 Random vibration: 3 to 500 Hz at 1.5 G rms

#### Packaging and Storage Specifications

Temp: -40°C to 70°C (-40°F to 158°F)  
 Humidity: 10% to 95% relative humidity, non-condensing  
 Packaged Shock (half sine): 180 m/s<sup>2</sup> (18 G), 6 ms, 600 shocks  
 Packaged Vibration: 5 to 62 Hz at velocity 5 mm/s, 62 to 500 Hz at 0.2 G  
 Packaged Random Vibration: 5 to 20 Hz at 1.0 ASD w/-3 dB/oct. from 20 to 200 Hz  
 Packaged Drop Height: 14 drops minimum on sides and corners at 42 inches (<15 kg box)

### Regulatory and Safety

North American ITE  
 UL 60950-1  
 UL/CuL 62368-1 Listed  
 CSA 22.2 No. 60950-1 2nd edition 2014 (Canada)  
 Complies with FCC 21CFR 1040.10 (U.S. Laser Safety)  
 CDRH Letter of Approval (US FDA Approval)

#### European ITE

EN 60950-1 2nd Edition  
 EN 62368-1  
 EN 60825-1 Class 1 (Lasers Safety)  
 2014/35/EU Low Voltage Directive

#### International ITE

CB Report & Certificate per IEC 60950-1  
 CB Report & Certificate IEC 62368-1  
 AS/NZS 60950-1 (Australia/New Zealand)

### EMI/EMC Standards

#### North American EMC for ITE

FCC CFR 47 Part 15 Class A (USA)  
 ICES-003 Class A (Canada)

#### European EMC Standards

EN 55032 Class A  
 EN 55024  
 EN 61000-3-2,2014 (Harmonics)  
 EN 61000-3-3 2013 (Flicker)  
 EN 300 386 (EMC Telecommunications)  
 2014/30/EU EMC Directive

### International EMC Certifications

CISPR 32, Class A (International Emissions)

AS/NZS CISPR32

CISPR 24 Class A (International Immunity)

IEC 61000-4-2/EN 61000-4-2 Electrostatic Discharge, 8kV Contact, 15 kV Air, Criteria B

IEC 61000-4-3/EN 61000-4-3 Radiated Immunity 10V/m, Criteria A

IEC 61000-4-4/EN 61000-4-4 Transient Burst, 2 kV, Criteria B

IEC 61000-4-5/EN 61000-4-5 Surge, 2 kV L-L, 2 kV L-G, Level 3, Criteria B

IEC 61000-4-6 Conducted Immunity, 0.15-80 MHz, 10V/rms, 80%AM (1kHz), Criteria A

IEC/EN 61000-4-11 Power Dips & Interruptions, >30%, 25 periods, Criteria C

### Country Specific

VCCI Class A (Japan Emissions)

ACMA RCM (Australia Emissions)

CCC Mark (China)

KCC Mark, EMC Approval (Korea)

BSMI (Taiwan)

Anatel (Brazil)

NoM (Mexico)

EAC (Russia, Belarus, Kazakhstan)

NRCS (South Africa)

### IEEE 802.3 Media Access Standards

IEEE 802.3ab 100BASE-T

IEEE 802.3ae 10GBASE-X

IEEE 802.3 10GBASE-T (up to 100m using Cat6a cabling or better)

IEEE 802.3by-2016 25Gb/s Operation

IEEE 802.3ba/802.3bm 40 GBASE-X and 100 GBASE-X

## Ordering notes

Customers ordering an AC-bundled version of the 7520 Series switch receive the hardware switch along with a Base software license, integrated power supply, fan modules, and rack-mount kit.

Customers ordering a non-bundled version of the 7520 Series switch customers will only receive the hardware switch, Base software license, and rackmount kit. Customers in this case, must order Power Supply Units (PSU) and fan modules separately.

At least one Power Supply Unit (PSU) is required for 7520 operations. Additional power supplies, transceiver/optics, power cords, as well as Premier and/or MACsec licenses, must be ordered separately.

## Base Software and Optional Premier License

The Base software included with each 7520 unit supports most available software features. Certain features, however, require a Premier License to operate:

### For Switch Engine, a Premier License is required for:

- 5 or more OSPF interfaces
- PIM DM/PIM SSM
- Anycast RP (Rendezvous Point)
- MultiSource Discovery Protocol (MSDP)
- IS-IS/BGP4/MBGP\*
- GRE Tunneling
- Ethernet VPN (EVPN)

\*Up to 2 BGP interfaces included in Base software

### For Fabric Engine, a Premier License is required for :

- Layer 3 Virtual Services Networks (VSNs)
- Distributed Virtual Routing Controller
- VXLAN Gateway
- 5 or more active OSPF interfaces
- 17 or more BGP peers
- Insight Architecture/Integrated Application Hosting (IAH)

## Power Supplies for Use with Your Switch

Each 7520 Series switch runs with two replaceable internal power supply modules that provide all of the power needed for the switch to operate. You can remove one power supply module without interrupting the switch's operation. Supported power supply configurations include two 750W AC power supply modules, two 750W DC power supply modules, or one 750W AC and one 750W DC power supply module. Power supply modules have integrated cooling fans that operate independently of the switch fans and are available with front-to-back or back-to-front airflow. The direction of the airflow in both power supply modules must be in the same direction and must also be in the same direction of the airflow in the fan modules.

## Ordering Information

Part Number	Product Name	Description
<b>7520 Systems</b>		
7520-48XT-6C	7520-48XT Base System	Extreme 7520-48XT Switch with two empty power supply slots, six empty fan slots, Ships with one 4-post rack mount kit. Supports 48 x 1G/10G copper ports and 6 x 40G/100G fiber ports
7520-48XT-6C-AC-F	7520-48XT with front-to-back airflow	Extreme 7520-48XT Switch - Ships with two AC front-to-back airflow power supplies, six front-to-back airflow fans, one 4-post rack mount kit. Supports 48 x 1G/10G copper ports and 6 x 40G/100G fiber ports
7520-48XT-6C-AC-R	7520-48XT with back-to-front airflow	Extreme 7520-48XT Switch - Ships with two AC back-to-front airflow power supplies, six back-to-front airflow fans, one 4-post rack mount kit. Supports 48 x 1G/10G copper ports and 6 x 40G/100G fiber ports
7520-48Y-8C	7520-48Y Base System	Extreme 7520-48Y Switch with two empty power supply slots, six empty fan slots, Ships with one 4-post rack mount kit. Supports 48 x 1G/10G/25G fiber ports and 8 x 40G/100G fiber ports
7520-48Y-8C-AC-F	7520-48Y with front-to-back airflow	Extreme 7520-48Y Switch - Ships with two AC front-to-back airflow power supplies, six front-to-back airflow fans, one 4-post rack mount kit. Supports 48 x 1G/10G/25G fiber ports and 8 x 40G/100G fiber ports
7520-48Y-8C-AC-R	7520-48Y with back-to-front airflow	Extreme 7520-48Y Switch - Ships with two AC back-to-front airflow power supplies, six back-to-front airflow fans, one 4-post rack mount kit. Supports 48 x 1G/10G/25G fiber ports and 8 x 40G/100G fiber ports
<b>Accessories</b>		
XN-ACPWR-800W-F	800W AC PSU (Front-to-Back)	AC 800W PSU, Front to Back Airflow for use in 7520, 7720
XN-ACPWR-800W-R	800W AC PSU (Back-to-Front)	AC 800W PSU, Back to Front Airflow for use in 7520, 7720
XN-DCPWR-800W-F	800W DC PSU (Front-to-Back)	DC 800W PSU, Front to Back Airflow for use in 7520, 7720
XN-DCPWR-800W-R	800W DC PSU (Back-to-Front)	DC 800W PSU, Back to Front Airflow for use in 7520, 7720
XN-FAN-001-F	Fan Module (Front-to-Back)	Single Fan module Front to Back Airflow (also used in X695, VSP 7400, SLX 9150, SLX 9250, 7720, 8520, and 8720)
XN-FAN-001-R	Fan Module (Back-to-Front)	Single Fan module Back to Front Airflow (also used in X695, VSP 7400, SLX 9150, SLX 9250, 7720, 8520, and 8720)
<b>Software Licenses</b>		
7000-PRMR-LIC-P	Premier License for 7000 Series	Extreme 7000 Premier Feature License (Includes Integrated Application Hosting)

## Warranty

All 7520 Series models are covered under Extreme's Universal LLW policy. For warranty details, please visit: <http://www.extremenetworks.com/support/policies>

## Maintenance Services

Extreme's maintenance and support services with 100% in-sourced engineering experts and over 90% first-person resolution ensure efficient operation of your business-essential network. 24x7x365 phone support, advanced parts replacement, and on-site support augment your staff with experienced resources that help you mitigate critical network issues fast. Visit Extreme Maintenance Services for more information.

## Optics/Transceivers

For a list of the optics/transceivers supported on the 7520 Series hardware, refer to our Extreme Optics Compatibility Tool at <https://optics.extremenetworks.com>.

## Power Cords

In support of Extreme Networks green initiatives, power cords are not included with the 7520, but can be ordered separately. They should be specified at time of ordering.



<http://www.extremenetworks.com/contact>

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