ExtremeSwitching™ 5520 Series

Universal Edge/Aggregation Switch Platform

Product Overview

The ExtremeSwitching 5520 Series is a family of high-performance, feature-rich edge and aggregation switches designed for the next-generation digital enterprise. The 5520 Series universal hardware provides end-to-end secure network segmentation, in addition to advanced policy capabilities, and offers a user-selectable choice of ExtremeSwitching operating systems. This makes the 5520 a uniquely flexible platform that can be deployed across a range of edge, aggregation and wiring-closet environments.

The 5520 Series includes 24- and 48-port 1 Gigabit models, 1/2.5/5 Gigabit multi-rate models, as well as a 24-port 10 Gigabit model. The family also offers 30W, 60W and 90W PoE support (IEEE 802.3at/IEEE 802.3bt) and 10Gb and 25Gb modular uplink options. MACsec on access and modular uplink ports provides secure link encryption.

Layer 2/Layer 3 Fabric services for secure network segmentation and automation are supported. Extended Edge Switching controlling bridge in support of V300/V400 edge devices is available. The 5520 further supports 10G and 25G modular uplinks for flexible linkage to other switches or devices over a range of media.

Highlights

• High-performance feature-rich fixed-form switches for enterprise edge and aggregation deployments
• Range of 24 and 48-port models with Gigabit, Multi-Gigabit and 10 Gigabit Ethernet connectivity
• Universal hardware platform providing end-to-end network segmentation and advanced policy with a choice of ExtremeSwitching operating systems
• 10Gb and 25Gb modular uplink options
• 30W, 60W and 90W PoE support (IEEE 802.3at/IEEE 802.3bt)
• Up to 8-unit 160Gb stacking
• MACsec on access and modular uplink ports for secure link encryption
• Layer 2/Layer 3 Fabric services for secure network segmentation and automation
• Extended Edge Switching controlling bridge in support of V300/V400 edge devices
• Non-blocking, wire-speed design

Smart Management Choices

• ExtremeCloud IQ for powerful, simple and secure public or private cloud management
• Extreme Management Center for centralized, unified management capabilities

Built to Suit Your Business Needs

Extreme Elements are the building blocks that allow you to tailor your network to your specific business environment, goals, and objectives. They enable the creation of an Autonomous Network that delivers the positive experiences and business outcomes most important to your organization.

Combining architecture, automation, and artificial intelligence, Extreme Elements enable you to ensure that your users get what they need — when and where they need it. Providing these superior user experiences is as simple as mixing and matching the right elements.

Learn more at extremenetworks.com/extreme-elements/.
Universal Hardware Platform

The 5520 Series as a universal hardware platform comes with a dual-persona capability allowing user choice of the switch operating system (OS). Either the ExtremeXOS or VSP Operating System (VOSS) persona can be enabled on 5520 hardware models. The desired persona can be selected at start-up or changed at a later stage. Once selected, the 5520 assumes the features/capabilities of the selected OS.

The 5520 persona activation can be done manually at boot-up, including via the system CLI. Or, it can be automated by pre-provisioning the 5520 persona in ExtremeCloud IQ. When first booted, the 5520 automatically connects to ExtremeCloud IQ to find its persona. The pre-provisioned OS persona is then remotely enabled on the 5520 system—eliminating the need for manual selection.

Ethernet Fabric Services

The 5520 supports a variety of Ethernet Fabric services, including Extreme’s Fabric Connect when running VOSS and Extreme’s IP Fabric when running ExtremeXOS. 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 5520 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.

Power Over Ethernet

The 5520 Series includes Power over Ethernet (PoE) models with standards-based IEEE 802.3bt (30/60/90W) PoE support. This enables the 5520 to address the needs of powered edge devices, while eliminating the need for additional electrical cabling and circuits. 5520 PoE models also support perpetual and fast PoE for even more efficient and reliable powered edge device operation.

VIM Options for Flexible Uplinks

Versatile Interface Modules (VIMs) on the 5520 provide flexible uplink capabilities – with 5520 models offering a single VIM slot for this purpose. VIM options include 4-port 10Gb or 25Gb modules that include LRM and 256-bit MACsec support.

Extended Edge Switching

The 5520 models support Extended Edge Switching, an innovative solution that simplifies the deployment and operation of edge switches. As the controlling bridge of an Extended Edge Switching solution, the 5520, when running EXOS, can be combined with Extreme’s V300 and V400 Series access devices to create a single logical switch architecture. The result is a simplified operational model that reduces costs.

High-Performance Stacking

The 5520 also supports high-speed 160Gb stacking when running ExtremeXOS via its two built-in QSFP28 ports. Up to eight systems can be stacked using qualified QSFP+ direct attach cables and optical transceivers.

Management

The 5520 can be managed by ExtremeCloud IQ or the Extreme Management Center (XMC) for comprehensive unified management with a consolidated view of users, devices and applications across wired and wireless networks.

Zero-touch provisioning from ExtremeCloud IQ or from XMC lets one quickly bring new 5520 switches online as well as enable the selection of the operating system (OS) persona. Alternatively, 5520 on-box management can be done manually via a web-based GUI or generic CLI.
# Product Specifications

## External Interfaces

<table>
<thead>
<tr>
<th>Switch Model</th>
<th>Interfaces</th>
</tr>
</thead>
</table>
| **5520-24T**       | • 24 x 10/100/1000Base-T ports  
• Full/Half-Duplex (autosensing)  
• MACsec-capable  
• 2 x Stacking/QSFP28 ports* (unpopulated)  
• 1 x Serial console port (RJ-45)  
• 1 x 10/100/1000BASE-T out-of-band management port  
• 2 x USB A ports for management or external USB flash  
• 1 x USB Micro-B console port  
• 1 x VIM slot                                                                                       |
| **5520-24W**       | • 24 x 10/100/1000Base-T 802.3bt (90W) ports  
• Full/Half-Duplex (autosensing)  
• MACsec-capable  
• 2 x Stacking/QSFP28 ports* (unpopulated)  
• 1 x Serial console port (RJ-45)  
• 1 x 10/100/1000BASE-T out-of-band management port  
• 2 x USB A ports for management or external USB flash  
• 1 x USB Micro-B console port  
• 1 x VIM slot                                                                                       |
| **5520-48T**       | • 48 x 10/100/1000Base-T ports  
• Full/Half-Duplex (autosensing)  
• MACsec-capable  
• 2 x Stacking/QSFP28 ports* (unpopulated)  
• 1 x Serial console port (RJ-45)  
• 1 x 10/100/1000BASE-T out-of-band management port  
• 2 x USB A ports for management or external USB flash  
• 1 x USB Micro-B console port  
• 1 x VIM slot                                                                                       |
| **5520-48W**       | • 48 x 10/100/1000Base-T 802.3bt (90W) ports  
• Full/Half-Duplex (autosensing)  
• MACsec-capable  
• 2 x Stacking/QSFP28 ports* (unpopulated)  
• 1 x Serial console port (RJ-45)  
• 1 x 10/100/1000BASE-T out-of-band management port  
• 2 x USB A ports for management or external USB flash  
• 1 x USB Micro-B console port  
• 1 x VIM slot                                                                                       |
| **5520-12MW-36W**  | • 12 x 100M/1/2.5/5GBase-T 802.3bt (90W) PoE ports  
• Full-Duplex  
• MACsec-capable  
• 36 x 10/100/1000Base-T 802.3bt (90W) PoE ports  
• Full/Half-Duplex  
• MACsec-capable  
• 2 x Stacking/QSFP28 ports* (unpopulated)  
• 1 x Serial console port (RJ-45)  
• 1 x 10/100/1000BASE-T out-of-band management port  
• 2 x USB A ports for management or external USB flash  
• 1 x USB Micro-B console port  
• 1 x VIM slot                                                                                       |
| **5520-48SE**      | • 48 x 100/1000Base-X (SFP) ports (unpopulated)  
• MACsec-capable  
• 2 x Stacking/QSFP28 ports* (unpopulated)  
• 1 x Serial console port (RJ-45)  
• 1 x 10/100/1000BASE-T out-of-band management port  
• 2 x USB A ports for management or external USB flash  
• 1 x USB Micro-B console port  
• 1 x VIM slot                                                                                       |
## Product Specifications (cont.)

### External Interfaces (cont.)

<table>
<thead>
<tr>
<th>Switch Model</th>
<th>Interfaces</th>
</tr>
</thead>
</table>
| 5520-24X     | • 24 x 10GBase-X (SFP+) ports (unpopulated)  
• 2 x Stacking/QSFP28 ports* (unpopulated)  
• 1 x Serial console port (RJ-45)  
• 1 x 10/100/1000BASE-T out-of-band management port  
• 2 x USB A ports for management or external USB flash  
• 1 x USB Micro-B console port  
• 1 x VIM slot |
| 5520-VIM-4X  | • 4 x 1/10GBase-X SFP+ ports (unpopulated) |
| 5520-VIM-4XE | • 4 x 1/10Gbase-X SFP+ ports (unpopulated)  
• LRM-capable  
• MACsec-capable |
| 5520-VIM-4YE | • 4 x 10/25Gbase-X SFP28 ports (unpopulated)  
• MACsec-capable |

* The 2 x Stacking/QSFP28 ports can be used either for stacking or as Ethernet front panel ports  
  • Stacking mode data rate per port: 40Gb (supported with EXOS)  
  • Ethernet front panel QSFP28 data rate options per port, with channelization: 4 x 10Gb SFP+, 4 x 25Gb SFP28, 1 x 40Gb QSFP+  
    (supported with EXOS and VOSS non-Fabric mode); 2 x 50Gb (EXOS only)

### Performance and Scale

<table>
<thead>
<tr>
<th>Switch Model</th>
<th>Max Active 10/100/1000Mb ports</th>
<th>Max Active 100Mb/1Gb/2.5Gb/5Gb ports</th>
<th>Max Active 100Mb/1Gb SFP ports</th>
<th>Max Active 1Gb SFP ports*</th>
<th>Max Active 25Gb SFP28 ports**</th>
<th>Max Active 40Gb QSFP+ ports***</th>
<th>Max Active 50Gb ports**</th>
<th>Aggregated Switch Bandwidth</th>
<th>Frame Forwarding Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>5520-24T</td>
<td>24</td>
<td>0</td>
<td>0</td>
<td>12</td>
<td>12</td>
<td>2</td>
<td>4</td>
<td>2</td>
<td>648 Gbps</td>
</tr>
<tr>
<td>5520-24W</td>
<td>24</td>
<td>0</td>
<td>0</td>
<td>12</td>
<td>12</td>
<td>2</td>
<td>4</td>
<td>2</td>
<td>648 Gbps</td>
</tr>
<tr>
<td>5520-48T</td>
<td>48</td>
<td>0</td>
<td>0</td>
<td>12</td>
<td>12</td>
<td>2</td>
<td>4</td>
<td>2</td>
<td>696 Gbps</td>
</tr>
<tr>
<td>5520-48W</td>
<td>48</td>
<td>0</td>
<td>0</td>
<td>12</td>
<td>12</td>
<td>2</td>
<td>4</td>
<td>2</td>
<td>696 Gbps</td>
</tr>
<tr>
<td>5520-12MW-36W</td>
<td>36</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>2</td>
<td>4</td>
<td>2</td>
<td>792 Gbps</td>
</tr>
<tr>
<td>5520-48SE</td>
<td>0</td>
<td>0</td>
<td>48</td>
<td>12</td>
<td>12</td>
<td>2</td>
<td>4</td>
<td>2</td>
<td>696 Gbps</td>
</tr>
<tr>
<td>5520-24X</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>36</td>
<td>12</td>
<td>2</td>
<td>4</td>
<td>2</td>
<td>1080 Gbps</td>
</tr>
</tbody>
</table>

* Includes 8 ports available through channelization of the 2 x Stacking/QSFP28 ports when these ports are not used for stacking with EXOS, or when in non-Fabric mode with VOSS  
** Available through channelization of the 2 x Stacking/QSFP28 ports when these ports are not used for stacking in EXOS, or when in non-Fabric mode with VOSS  
*** Stacking supported in EXOS mode only

### Software Scaling Values

#### 5520 with ExtremeXOS

- MAC Table: 114,688/65,536  
- IPv4 ARP Table: 60,000/41,000*  
- IPv4 Route Table: 81,000/16,000*  
- IP Multicast Entries (S,G,V): 43,000/24,000*  
- IPv6 ND Table: 18,000  
- IPv6 Route Table: 40,000/8,000*  
- ACL (Ingress/Egress): 9,216/1,024  
- VLANs: 4,094  
- Routed VLANS: 2,048

**One Policy Scaling**

- Policy Profiles: 63  
- Unique permit/deny rules per switch: 8,120  
- Authenticated policy users/switch: 9,216

* First value is the maximum; second is the default. Scaling limits are configurable. See the ExtremeXOS Release Notes for additional details

#### 5520 with VOSS

- MAC Table: 40,960 (81,920 non-Fabric)  
- IPv4 ARPARP/IP Host Table: 16,000/48,000  
- IPv4 Route Table: 15,500  
- IP Multicast Routes: 4,000  
- IPv6 ND Table: 16,000  
- IPv6 Route Table: 7,500  
- IPv4 ACL (Ingress/Egress): 1,024/336  
- VLANs: 4,059  
- Routed VLANS: 500

**Fabric Connect Scaling**

- Fabric Adjacencies per switch: 128  
- Fabric nodes per area (BEB + BCB): 800  
- BEB Nodes per VSN: 500  
- L2 VSN: 3500  
- L3 VSN: 256
## Product Specifications (cont.)

### Weights and Dimensions

<table>
<thead>
<tr>
<th>Switch Model</th>
<th>Weight* (lb / kg)</th>
<th>Physical Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>5520-24T</td>
<td>12.2 / 5.54</td>
<td>17.4 in W / 1.7 in H /17.4 in D 441 mm x 44 mm x 442 mm</td>
</tr>
<tr>
<td>5520-24W</td>
<td>13.8 / 6.25</td>
<td></td>
</tr>
<tr>
<td>5520-48T</td>
<td>12.7 / 5.76</td>
<td></td>
</tr>
<tr>
<td>5520-48W</td>
<td>13.4 / 6.06</td>
<td></td>
</tr>
<tr>
<td>5520-12MW-36W</td>
<td>14.0 / 6.33</td>
<td></td>
</tr>
<tr>
<td>5520-48SE</td>
<td>12.6 / 5.7</td>
<td></td>
</tr>
<tr>
<td>5520-24X</td>
<td>13.8 / 6.25</td>
<td></td>
</tr>
<tr>
<td>5520-VIM-4X</td>
<td>0.37 / 0.17</td>
<td>1.7 in W / 1.5 in H / 7.2 in D 43mm / 38 mm / 182 mm</td>
</tr>
<tr>
<td>5520-VIM-4XE</td>
<td>0.44 / 0.20</td>
<td></td>
</tr>
<tr>
<td>5520-VIM-4YE</td>
<td>0.46 / 0.21</td>
<td></td>
</tr>
</tbody>
</table>

*Switch weights include fans but no PSUs

### Power Supply Unit Specifications

<table>
<thead>
<tr>
<th>Voltage Input Range (Nominal)</th>
<th>350W AC PSU</th>
<th>715W AC PSU</th>
<th>1100W AC PSU</th>
<th>2000W AC PSU*</th>
</tr>
</thead>
<tbody>
<tr>
<td>(100-120VAC)</td>
<td>100-127/200-240</td>
<td>100-127/200-240</td>
<td>100-127/200-240</td>
<td>100-127/200-240</td>
</tr>
<tr>
<td>Line Frequency Range</td>
<td>47 to 63 Hz</td>
<td>47 to 63 Hz</td>
<td>47 to 63 Hz</td>
<td>47 to 63 Hz</td>
</tr>
<tr>
<td>Power Supply Input Socket</td>
<td>IEC/EN 60320 C14</td>
<td>IEC/EN 60320 C16</td>
<td>IEC/EN 60320 C16</td>
<td>IEC/EN 60320 C16</td>
</tr>
<tr>
<td>Operating Temperature</td>
<td>0° C to 50° C</td>
<td>0° C to 50° C</td>
<td>0° C to 50° C</td>
<td>0° C to 45° C**</td>
</tr>
<tr>
<td>Normal Operation</td>
<td>Normal Operation</td>
<td>Normal Operation</td>
<td>Normal Operation</td>
<td>Normal Operation</td>
</tr>
</tbody>
</table>

*200-240 VAC is required to achieve full 2000W output. If run at 100-120VAC, output is limited to 1100W.
**At sea-level, 0° C to 40° C at 1500m; 0° C to 35° C at 3000m.

### PoE Power Budget

<table>
<thead>
<tr>
<th>Switch Model</th>
<th>1 x 715W</th>
<th>2 x 715W</th>
<th>1 x 1100W</th>
<th>2 x 1100W</th>
<th>1 x 2000W @ 100-240VAC</th>
<th>2 x 2000W @ 100-240VAC</th>
<th>2 x 2000W @ 200-240VAC</th>
</tr>
</thead>
<tbody>
<tr>
<td>5520-24W</td>
<td>494W</td>
<td>1079W</td>
<td>879W</td>
<td>1781W</td>
<td>879W</td>
<td>1779W</td>
<td>1869W</td>
</tr>
<tr>
<td>5520-48W</td>
<td>483W</td>
<td>1068W</td>
<td>868W</td>
<td>1770W</td>
<td>868W</td>
<td>1768W</td>
<td>1858W</td>
</tr>
<tr>
<td>5520-12MW-36W</td>
<td>464W</td>
<td>1049W</td>
<td>849W</td>
<td>1751W</td>
<td>849W</td>
<td>1749W</td>
<td>1839W</td>
</tr>
</tbody>
</table>

Note: It's recommended that primary and secondary power supply units (PSUs) be of the same type to support optimal PoE operation.

### Minimum/Maximum Power Consumption and Heat Dissipation

<table>
<thead>
<tr>
<th>Switch Model</th>
<th>Minimum Power Consumption (Watts)</th>
<th>Minimum Heat Dissipation (BTU/hr)</th>
<th>Maximum Power Consumption (Watts)*</th>
<th>Maximum Heat Dissipation (BTU/hr)**</th>
</tr>
</thead>
<tbody>
<tr>
<td>5520-24T</td>
<td>52</td>
<td>176</td>
<td>142</td>
<td>483</td>
</tr>
<tr>
<td>5520-24W</td>
<td>54</td>
<td>182</td>
<td>2480</td>
<td>1092</td>
</tr>
<tr>
<td>5520-48T</td>
<td>60</td>
<td>205</td>
<td>171</td>
<td>584</td>
</tr>
<tr>
<td>5520-48W</td>
<td>59</td>
<td>203</td>
<td>4100</td>
<td>1817</td>
</tr>
<tr>
<td>5520-12MW-36W</td>
<td>66</td>
<td>224</td>
<td>4095</td>
<td>1862</td>
</tr>
<tr>
<td>5520-48SE</td>
<td>61</td>
<td>209</td>
<td>255</td>
<td>872</td>
</tr>
<tr>
<td>5520-24X</td>
<td>48</td>
<td>165</td>
<td>171</td>
<td>585</td>
</tr>
</tbody>
</table>

*Includes maximum PoE load (W) through the switch
**Does not include PoE load heat dissipated through external electronic load
## Product Specifications (cont.)

### Fan and Acoustic Noise

<table>
<thead>
<tr>
<th>Switch Model</th>
<th>Acoustic information</th>
</tr>
</thead>
</table>
| **5520-24T** | Typical: Single 350W AC PSU, no VIM  
   Maximum: Dual 350W AC PSU, 5520-VIM-4YE  
   **Bystander Sound Pressure**  
   • 39.6 dB(A), 0°C to 35°C (Typical)  
   • 77.5 dB(A), 50°C (Maximum)  
   **Sound Power**  
   • 5.1 B, 0°C to 35°C (Typical)  
   • 8.46 B, 50°C (Maximum) |
| **5520-24W** | Typical: Single 715W AC PSU, no VIM  
   Maximum: Dual 1100W AC PSU, 5520-VIM-4YE  
   **Bystander Sound Pressure**  
   • 50.4 dB(A), 0°C to 35°C (Typical)  
   • 67.1 dB(A), 25°C (Maximum)  
   • 78.9 dB(A), 50°C (Maximum)  
   **Sound Power**  
   • 6 B, 0°C to 35°C (Typical)  
   • 7.61 B, 25°C (Maximum)  
   • 8.6 B, 50°C (Maximum) |
| **5520-48T** | Typical: Single 350W AC PSU, no VIM  
   Maximum: Dual 350W AC PSU, 5520-VIM-4YE  
   **Bystander Sound Pressure**  
   • 39.0 dB(A), 0°C to 35°C (Typical)  
   • 79.0 dB(A), 50°C (Maximum)  
   **Sound Power**  
   • 4.9 B, 0°C to 35°C (Typical)  
   • 8.52 B, 50°C (Maximum) |
| **5520-48W** | Typical: Single 1100W AC PSU, no VIM  
   Maximum: Dual 2000W AC PSU (240VAC), 5520-VIM-4YE  
   **Bystander Sound Pressure**  
   • 64.3 dB(A), 0°C to 35°C (Typical)  
   • 69.1 dB(A), 25°C (Maximum)  
   • 79.4 dB(A), 50°C (Maximum)  
   **Sound Power**  
   • 7.24 B, 0°C to 35°C (Typical)  
   • 7.65 B, 25°C (Maximum)  
   • 8.6 B, 50°C (Maximum) |
| **5520-12MW-36W** | Typical: Single 1100W AC PSU, no VIM  
   Maximum: Dual 2000W AC PSU (240VAC), 5520-VIM-4YE  
   **Bystander Sound Pressure**  
   • 62.7 dB(A), 0°C to 35°C (Typical)  
   • 69.2 dB(A), 25°C (Maximum)  
   • 78.8 dB(A), 50°C (Maximum)  
   **Sound Power**  
   • 7.25 B, 0°C to 35°C (Typical)  
   • 7.64 B, 25°C (Maximum)  
   • 8.6 B, 50°C (Maximum) |
| **5520-48SE** | Typical: Single 350W AC PSU, no VIM  
   Maximum: Dual 350W AC PSU, 5520-VIM-4YE  
   **Bystander Sound Pressure**  
   • 41.4 dB(A), 0°C to 35°C (Typical)  
   • 77.9 dB(A), 50°C (Maximum)  
   **Sound Power**  
   • 5.14 B, 0°C to 35°C (Typical)  
   • 8.53 B, 50°C (Maximum) |
| **5520-24X** | Typical: Single 350W AC PSU, no VIM  
   Maximum: Dual 350W AC PSU, 5520-VIM-4YE  
   **Bystander Sound Pressure**  
   • 40.6 dB(A), 0°C to 35°C (Typical)  
   • 76.9 dB(A), 50°C (Maximum)  
   **Sound Power**  
   • 5.05 B, 0°C to 35°C (Typical)  
   • 8.52 B, 50°C (Maximum) |

### Environmental and Regulatory

#### Environmental

**Environmental Specifications**

- EN/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)

**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/s² (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/s² (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.  
- 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
- Complies with FCC 21CFR 1040.10 (U.S. Laser Safety)
- CDRH Letter of Approval (US FDA Approval)
- CAN/CSA 22.2 No. 60950-1

European ITE
- EN 60950-1, EN 62368-1
- EN 60825-1 Class 1 (Lasers Safety)
- 2014/35/EU Low Voltage Directive

International ITE
- CB Report and Certificate per IEC 60950-1
- IEC 62368-1

EMI/EMC Standards

North American EMC for ITE
- FCC CFR 47 Part 15 Class A (USA)
- CB Report and Certificate IEC 62368-1
- RoHS Directive 2011/65/EU
- AS/NZS 60950-1 (Australia / New Zealand)

European EMC Standards
- EN 55022 Class A
- EN 55024
- EN 55011
- 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, 1 kV, Criteria AB
- 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/m unmod. RMS, 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)
- EAC Mark (Custom Union)
- NRCS Mark (South Africa)
- BSMI Mark (Taiwan)
- Anatel (Brazil)
- NoM (Mexico)

IEEE 802.3 Media Access Standards
- IEEE 802.3ab 1000BASE-T
- IEEE 802.3bz 2.5G/5GBASE-T
- IEEE 802.3bt Type4 PoE
- IEEE 802.3ae 10GBASE-X
- IEEE 802.3aq 10GBASE-LRM
- IEEE 802.3by 25GBASE-X
- IEEE 802.3ba/802.3bjm 40GBASE-X and 100GBASE-X
- IEEE 802.3az Energy Efficient Ethernet

Ordering Notes

Customers ordering a 5520 switch receive the base switch along with Base software license, fan modules and rack-mount kit. In addition, each 5520 switch comes with a free 1-year ExtremeCloud IQ Pilot subscription.

Versatile Interface Modules (VIMs), power supplies, transceiver/optics, power cords, as well as Premier and/or MACsec licenses must be ordered separately. At least one Power Supply Unit (PSU) is required for 5520 operation; a second PSU is required for redundancy and/or additional power.

Base Software and Optional Premier License

The Base software included with each 5520 unit supports most available switch features. Certain features, however, require a Premier license to operate.

For ExtremeXOS, a Premier License is required for:
- 5 or more OSPF and/or PIM SM interfaces
- PIM DM / PM SSM
- Anycast RP (Rendezvous Point)
- Multi-Source Discovery Protocol (MSDP)
- IS-IS/BGP4/MBGP
- GRE Tunneling
- Ethernet VPN (EVPN)

For VOSS, a Premier license is required for:
- 5 or more OSFP or RIP interfaces
- 3 or more BGP peers
- 5 or more VRFs
- Layer 3 Virtual Service Networks (L3 VSNs)
- Distributed Virtual Routing (DvR) Controller
# Ordering Information

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Product Name</th>
<th>Product Description</th>
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</thead>
<tbody>
<tr>
<td>5520-24T</td>
<td>5520 24-port Switch</td>
<td>5520 Universal Switch with 24 x 10/100/1000BASE-T full/half duplex MACsec-capable ports, includes 2 x Stacking/QSFP28 ports, 2 fan modules, 1 VIM slot, 2 unpopulated modular PSU slots, Base software license, includes 1-year XIQ Pilot subscription</td>
</tr>
<tr>
<td>5520-24W</td>
<td>5520 24-port 90w PoE Switch</td>
<td>5520 Universal Switch with 24 x 10/100/1000BASE-T full/half duplex 802.3bt 90W PoE MACsec-capable ports, includes 2 x Stacking/QSFP28 ports, 3 fan modules, 1 VIM slot, 2 unpopulated modular PSU slots, Base software license, includes 1-year XIQ Pilot subscription</td>
</tr>
<tr>
<td>5520-48T</td>
<td>5520 48-port Switch</td>
<td>5520 Universal Switch with 48 x 10/100/1000BASE-T full/half duplex MACsec-capable ports, includes 2 x Stacking/QSFP28 ports, 3 fan modules, 1 VIM slot, 2 unpopulated modular PSU slots, Base software license, includes 1-year XIQ Pilot subscription</td>
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</tr>
<tr>
<td>5520-12MW-36W</td>
<td>5520 48-port 90w PoE with 12 ports multi-rate Switch</td>
<td>5520 Universal Switch with 12 x 100Mb/1Gb/2.5Gb/5Gb 802.3bt 90W PoE MACsec-capable ports plus 36 x 10/100/1000BASE-T 802.3bt 90W PoE full/half duplex MACsec-capable ports, includes 2 x Stacking/QSFP28 ports, 3 fan modules, 1 VIM slot, 2 unpopulated modular PSU slots, Base software license, includes 1-year XIQ Pilot subscription</td>
</tr>
<tr>
<td>5520-48SE</td>
<td>5520 48-port SFP Switch</td>
<td>5520 Universal Switch with 48 x 100M/1Gb SFP MACsec-capable ports, includes 2 x Stacking/QSFP28 ports, 3 fan modules, 1 VIM slot, 2 unpopulated modular PSU slots, Base software license, includes 1-year XIQ Pilot subscription</td>
</tr>
<tr>
<td>5520-24X</td>
<td>5520 24-port SFP+ Switch</td>
<td>5520 Universal Switch with 24 x 100Mb/1Gb/10Gb SFP+ ports, includes 2 Stacking/QSFP28 ports, 2 fan modules, 1 VIM slot, 2 unpopulated modular PSU slots, Base software license, includes 1-year XIQ Pilot subscription</td>
</tr>
<tr>
<td>5520-VIM-4X</td>
<td>4-port SFP+ module</td>
<td>5520 Versatile Interface Module with 4 x 1/10Gb SFP+ ports</td>
</tr>
<tr>
<td>5520-VIM-4XE</td>
<td>4-port SFP+ module LRM/MACsec capable</td>
<td>5520 Versatile Interface Module with 4 x 1/10Gb SFP+ LRM and MACsec-capable ports</td>
</tr>
<tr>
<td>5520-VIM-4YE</td>
<td>4-port SFP28 module MACsec capable</td>
<td>5520 Versatile Interface Module with 4 x 10/25Gb SFP28 MACsec-capable ports</td>
</tr>
</tbody>
</table>

## Accessories

<table>
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<tr>
<th>Part Number</th>
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<tr>
<td>10953</td>
<td>350W AC PSU FB</td>
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<tr>
<td>10951</td>
<td>715W AC PSU FB</td>
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<tr>
<td>10941</td>
<td>1100W AC PSU FB</td>
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<tr>
<td>XN-ACPWR-2000W-F</td>
<td>2000W AC PSU FB</td>
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<tr>
<td>17115</td>
<td>Spare Fan Module FB</td>
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<tr>
<td>XN-4P-RMKIT-005</td>
<td>4-Post Rack Mount Kit</td>
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## Software Licenses

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<tr>
<td>5000-PRMR-LIC-P</td>
<td>Premier License for 5000 Series</td>
</tr>
<tr>
<td>5000-MACSEC-LIC-P</td>
<td>MACsec License for the 5000 Series</td>
</tr>
</tbody>
</table>
Warranty
All 5520 Series models are covered under Extreme's Universal LLW policy. For warranty details, please visit: www.extremenetworks.com/support/policies.

Power Cords
In support of Extreme Networks Green initiatives, power cords are not included with the 5520, but can be ordered separately. They should be specified at time of ordering.

Optics/Transceivers
For a list of the optics/transceivers supported on the 5520 Series hardware, refer to our Extreme Optics Compatibility Tool at https://optics.extremenetworks.com.

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.