Nokia 7750 SR-a Service Router

Media dependent adapters

The Nokia 7750 SR-a Service Router (SR-a) Media Dependent Adapter (MDA)-a XP and MDA-a deliver high-performance Ethernet interfaces for highly scalable IP/MPLS routing and service applications.

With Gigabit Ethernet (GE), 10GE, 40GE and 100GE interface options, the Nokia MDA-a XP and MDA-a provide the performance, flexibility and advanced service delivery capabilities to meet a full array of IP network functions, services and applications.

Nokia MDA-a XP variants deliver up to 100 Gb/s full duplex (FD) of throughput and provide physical layer termination, specific interface ports, physical media and optical functions over 10GE, 40GE and 100GE interfaces.

The MDA-a variants deliver up to 25 Gb/s FD of throughput and provide physical layer termination, specific interface ports, physical media and optical functions over GE and 10GE interfaces.

The MDA-a XP and MDA-a types provide a wide range of optical modules for a high degree of configuration flexibility and service optimization. Up to four MDA-a XP and MDA-a types are supported by the 7750 SR-a Input/Output Module-a (IOM-a).

Using 7750 SR-a IOM-a FP3 technology, the MDA-a XP and MDA-a support processing-intensive routing applications without sacrificing performance. For service providers it is ideal for linear TV, video on demand, Internet access, mobile backhaul, enterprise virtual private network (VPN) services/Internet access, and cloud and data center interconnect services.

For webscale companies and enterprises, it provides high-performance networking for cloud, data center, and wide area networking applications.
Features and benefits

- High-speed 100 Gb/s FD and high-density 25 Gb/s FD adapter options make it ideal for subscribed and over-subscribed environments
- Nokia’s FP3 silicon-based IOM-a provides both speed and functionality, with low total cost of ownership
- Modular, compact Ethernet adapters and IOM-a provide a flexible, mix-and-match approach to system configuration and protect investments
- High-performance line-rate Internet mix forwarding with advanced services enabled
- ITU-T Synchronous Ethernet (SyncE) and IEEE 1588v2 distribute precision network timing and synchronization over Ethernet
- Support for a wide range of pluggable optical modules, which support a variety of grey, black, and white wavelengths and distances. It also supports CWDM and DWDM optical modules as well as copper media types for greater flexibility
- Pluggable optics with Digital Diagnostic Monitoring (DDM) are supported for extended operations, administration, and maintenance (OAM), and improved installation, activation, and troubleshooting
- Field upgrades are simplified, as hot-swappable MDA-a types can be exchanged in-service to change media type and physical interfaces, as required
- Management is provided by the Nokia Network Services Platform (NSP)

Table 1. Nokia 7750 SR-a MDA-a XP and MDA-a summary

<table>
<thead>
<tr>
<th>MDA-a type</th>
<th>Ports</th>
<th>Connector type</th>
<th>Maximum density</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>7750 SR-a8</td>
</tr>
<tr>
<td>MDA-a XP</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10/1GBASE (MACsec)</td>
<td>10</td>
<td>SFP+/SFP</td>
<td>80</td>
</tr>
<tr>
<td>10GBASE</td>
<td>10</td>
<td>SFP+</td>
<td>80</td>
</tr>
<tr>
<td>40GBASE/10GBASE</td>
<td>1/6</td>
<td>QSFP+/SFP+</td>
<td>8/48</td>
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<tr>
<td>(combination)</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>100GBASE</td>
<td>1</td>
<td>CFP, CFP2, CFP4</td>
<td>8</td>
</tr>
<tr>
<td>MDA-a</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>1000BASE</td>
<td>44 or 22</td>
<td>CSFP or SFP</td>
<td>352 or 176</td>
</tr>
<tr>
<td>10/100/1000BASE-TX</td>
<td>20</td>
<td>RJ-45</td>
<td>160</td>
</tr>
<tr>
<td>10GBASE/1000BASE</td>
<td>2/12</td>
<td>SFP+/SFP</td>
<td>16/96</td>
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<tr>
<td>(combination)</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>10GBASE</td>
<td>4</td>
<td>SFP+</td>
<td>32</td>
</tr>
</tbody>
</table>
Technical specifications

**Dimensions***
- Height: 3.56 cm (1.4 in)
- Width: 19.3 cm (7.6 in)
- Depth: 22.86 cm (9.0 in)

**Weight***
- 10-port 10/1GE SFP+/SFP (MACsec) MDA-a XP: 0.96 kg (2.13 lb)
- 10-port 10GE SFP+ MDA-a XP: 0.96 kg (2.13 lb)
- 6-port 10GE SFP+/1-port 40GE QSFP+ (combination) MDA-a XP: 0.96 kg (2.11 lb)
- 1-port 100GE CFP MDA-a XP: 1.25 kg (2.76 lb)
- 1-port 100GE CFP2 MDA-a XP: 1.03 kg (2.27 lb)
- 1-port 100GE CFP4 MDA-a XP: 1.02 kg (2.24 lb)
- 44/22-port GE CSFP/SFP MDA-a: 1.11 kg (2.45 lb)
- 20-port 10/100/1000BASE-TX RJ-45 MDA-a: 1.12 kg (2.46 lb)
- 12-port 10GE SFP/2-port 10GE SFP+ (combination) MDA-a: 0.92 kg (2.03 lb)
- 4-port 10GE SFP+ MDA-a: 0.86 kg (1.9 lb)

* Dimensions and weights are approximate and subject to change. Refer to the appropriate Installation Guide for the current dimensions and weights.

Refer to the 7750 SR-a data sheet and product documentation for full system details on safety standards, compliance agency certifications and protocol support.