# *Edge*Router™ X

## Advanced Gigabit Ethernet Routers

Models: ER-X, ER-X-SFP

Sophisticated Routing Features

Advanced Security, Monitoring, and Management

High-Performance Gigabit Ports
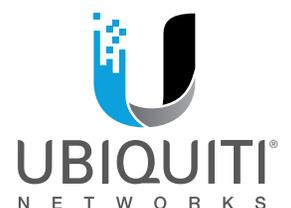
**UBIQUITI®**
N E T W O R K S

## Overview

Ubiquiti Networks introduces the EdgeRouter™ X, part of the EdgeMAX® platform. The EdgeRouter X combines carrier-class reliability with excellent price-to-performance value in an ultra-compact form factor.

## PoE Versatility

Two models of the EdgeRouter X are available. The standard model, the ER-X, can be powered by an external power adapter or 24V passive PoE input. A passive PoE passthrough option[1] is available to support a single airMAX® device[2].

The SFP model, the ER-X-SFP, is powered by an external power adapter. The five Gigabit RJ45 ports support 24V passive PoE output for airMAX or UniFi® devices, while its SFP port provides fiber connectivity to support backhaul applications.

## Configuration Methods

Powered by a proprietary and intuitive graphical interface, EdgeOS®, every EdgeRouter X can easily be configured for the routing, security, and management features required to efficiently run your network. For advanced network professionals, an integrated CLI is available for quick and direct access using familiar commands.

[1] Requires 24V passive PoE or a 12W minimum power adapter (not included).

[2] Check your airMAX device's specifications for voltage and wattage requirements.



PoE Adapter    UniFi AP AC LR    Computer

UniFi Video Camera G3 Dome    NanoBeam NBE-5AC-Gen2
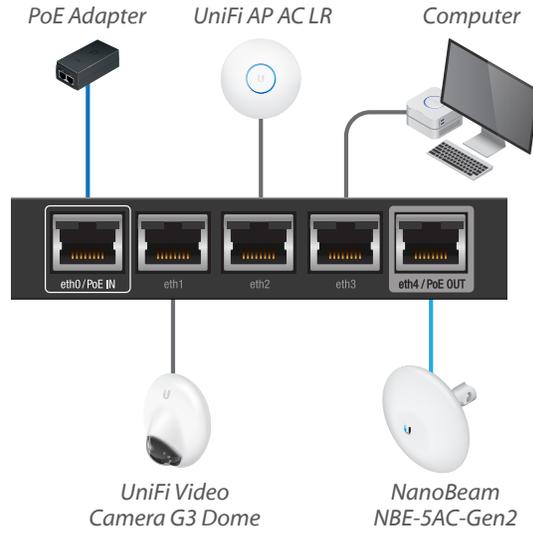
*Example of a CPE Deployment for the ER-X*

*Powered by 24V passive PoE, the ER-X provides data with 24V passive PoE to the NanoBeam® ac and data to the UniFi Video Camera G3 Dome, UniFi AP AC LR, and computer.*



Rocket 5ac Prism
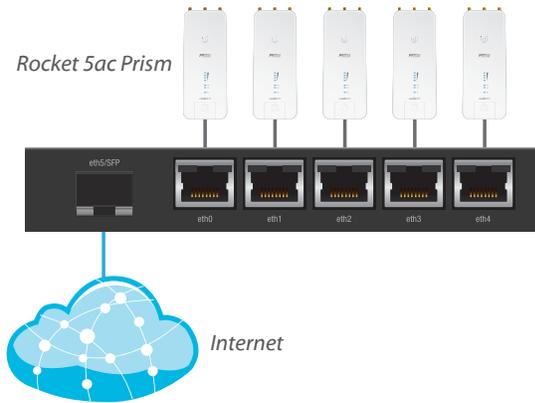
Internet

*Example of a Backhaul Deployment for the ER-X-SFP*

*Powered by the included 24V power adapter, the ER-X-SFP has a fiber connection to the Internet and provides data with 24V passive PoE to the five Rocket® 5ac Prism radios.*



Internet

OSPF Area 1    OSPF Area 0    OSPF Area 2

Site-to-Site Link

Site A    Site B
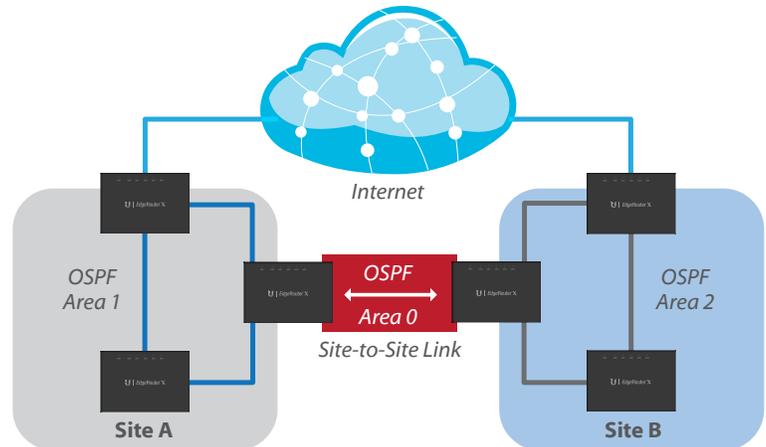
*Example of a Service Provider Deployment for the ER-X*

*Multiple ER-X devices connect the Internet and three OSPF areas of the service provider's network.*

## Intuitive User Interface

The EdgeRouter X provides a graphical user interface designed for convenient setup and control.

Accessed via a network port and web browser, the user-friendly interface provides intuitive management with a virtual view of the ports, displaying physical connectivity, speed, and status.

The Dashboard displays detailed statistics: IP information, MTU, transmit and receive speeds, and status for each physical and virtual interface.
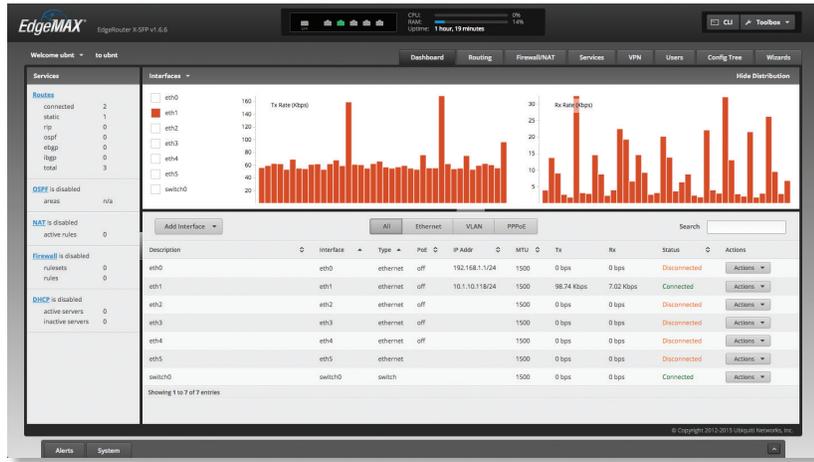


## Powerful Features

EdgeOS is a sophisticated operating system with robust features, including:

- VLAN interfaces for network segmentation
- Static routes and support of routing protocols: OSPF, RIP, and BGP
- Firewall policies and NAT rules
- DHCP services
- Quality of Service (QoS)
- Network administration and monitoring tools
- Administrator and operator accounts
- Comprehensive IPv6 support
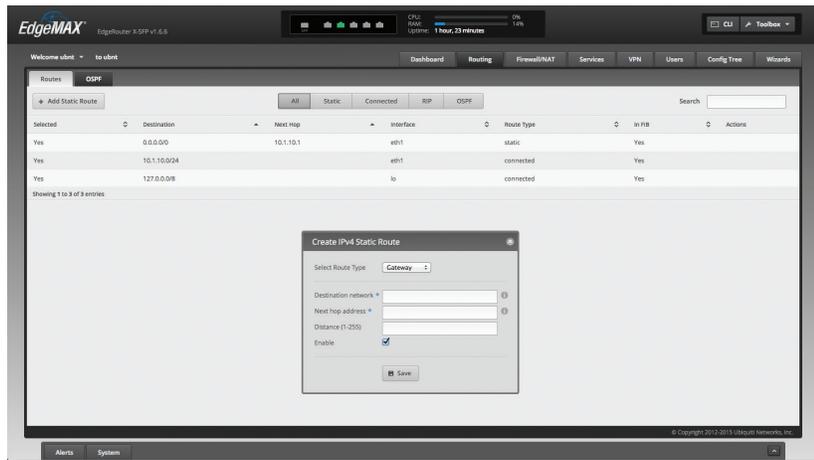


## Configuration by CLI

The CLI provides quick and flexible configuration by command line and features the following:

- For power users, configuration and monitoring of all advanced features
- Direct access to standard Linux tools and shell commands
- CLI access through SSH, Telnet, and the graphical user interface
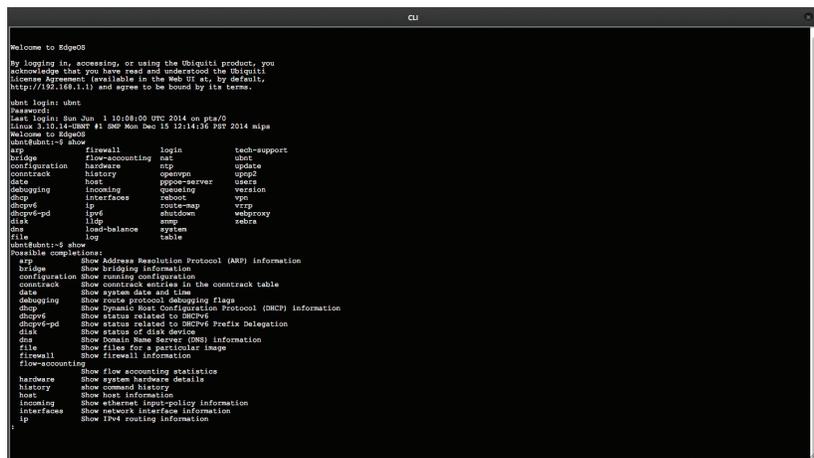
# Models

## EdgeRouter X

Model: ER-X

- (5) Gigabit RJ45 ports
- Passive PoE passthrough option*
- Power via 24V passive PoE or power adapter
- Ports configurable for line-rate, Layer-2 switching
- 260 kpps for 64-byte packets
- 1 Gbps for 1518-byte packets

*Front Panel*

*Back Panel*

## EdgeRouter X SFP

Model: ER-X-SFP

- (5) Gigabit RJ45 ports with passive PoE support
- (1) Gigabit SFP port for backhaul applications
- Ports configurable for line-rate, Layer-2 switching
- 260 kpps for 64-byte packets
- 1 Gbps for 1518-byte packets

*Front Panel*

*Back Panel*

* Requires 24V passive PoE or a 12W minimum power adapter (not included).

# *Edge*Router™ **X**

## Hardware Specifications

| ER-X | |
|---|---|
| Dimensions | 110 x 75 x 22 mm (4.33 x 2.95 x 0.87") |
| Weight | 175 g (6.17 oz) |
| Max. Power Consumption | 5W |
| Power Input | 12VDC, 0.5A Power Adapter (Included)<br>or<br>24V Passive PoE |
| Power Supply | External AC/DC Adapter |
| Supported Voltage Range | 9 to 26VDC |
| Button | Reset |
| LED | Power, Ethernet 0-4 |
| Processor | Dual-Core 880 MHz, MIPS1004Kc |
| System Memory | 256 MB DDR3 RAM |
| Code Storage | 256 MB NAND |
| Certifications | CE, FCC, IC |
| Wall-Mount | Yes |
| ESD/EMP Protection | Air: ± 24 kV, Contact: ± 24 kV |
| Operating Temperature | -10 to 45° C (14 to 113° F) |
| Operating Humidity | 10 to 90% Noncondensing |

| Networking Interfaces | |
|---|---|
| Data/PoE Input Port | (1) 10/100/1000 RJ45 Port |
| Data Ports | (3) 10/100/1000 RJ45 Ports |
| Data/PoE Passthrough Port | (1) 10/100/1000 RJ45 Port |

# EdgeRouter™ X SFP

## Hardware Specifications

| ER-X-SFP | |
|---|---|
| Dimensions | 142 x 75 x 23 mm (5.59 x 2.95 x 0.91") |
| Weight | 215 g (7.58 oz) |
| Max. Power Consumption | 5W |
| Max. Total PoE Output | 50W @ 24V |
| PoE Output | Passive 24V (Pins 4, 5+; 7, 8-) |
| Power Input | 24VDC, 2.5A Power Adapter (Included) |
| Power Supply | External AC/DC Adapter |
| Supported Voltage Range | 9 to 26VDC |
| Button | Reset |
| LED | Power, Link/Activity (6), PoE (5) |
| Processor | Dual-Core 880 MHz, MIPS1004Kc |
| System Memory | 256 MB DDR3 RAM |
| Code Storage | 256 MB NAND |
| Certifications | CE, FCC, IC |
| Wall-Mount | Yes |
| ESD/EMP Protection | Air: ± 24 kV, Contact: ± 24 kV |
| Operating Temperature | -10 to 45° C (14 to 113° F) |
| Operating Humidity | 10 to 90% Noncondensing |

| Networking Interfaces | |
|---|---|
| Data/PoE Output Port | (5) 10/100/1000 RJ45 Ports |
| Data Port | (1) 100/1000 SFP Port |

| PoE with 24VDC Power Adapter | |
|---|---|
| PoE Out Voltage Range | 22-24VDC |
| Max. PoE Wattage Per Data/PoE Output Port | 12W (24V) |
| Max. PoE Wattage Combined (All 5 Data Ports) | 50W |
| PoE Method | Passive |

# EdgeOS

## Software Specifications

| EdgeOS | |
|---|---|
| Interface/Encapsulation | Ethernet<br>802.1q VLAN<br>PPPoE<br>GRE<br>IP in IP<br>Bridging<br>Bonding (802.3ad) |
| Addressing | Static IPv4/IPv6 Addressing<br>DHCP/DHCPv6 |
| Routing | Static Routes<br>OSPF/OSPFv3<br>RIP/RIPng<br>BGP (with IPv6 Support)<br>IGMP Proxy |
| Security | ACL-Based Firewall<br>Zone-Based Firewall<br>NAT |
| VPN | IPSec Site-to-Site and Remote Access<br>OpenVPN Site-to-Site and Remote Access<br>PPTP Remote Access<br>L2TP Remote Access<br>PPTP Client |
| Services | DHCP/DHCPv6 Server<br>DHCP/DHCPv6 Relay<br>Dynamic DNS<br>DNS Forwarding<br>VRRP<br>RADIUS Client<br>Web Caching<br>PPPoE Server |
| QoS | FIFO<br>Stochastic Fairness Queueing<br>Random Early Detection<br>Token Bucket Filter<br>Deficit Round Robin<br>Hierarchical Token Bucket<br>Ingress Policing |
| Management | Web UI<br>CLI (SSH, Telnet)<br>SNMP<br>NetFlow<br>LLDP<br>NTP<br>UBNT Discovery Protocol<br>Logging |

EdgeRouter™ X

www.ubnt.com

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