

EdgeMarc 250W Network Services Gateway

Hardware Installation Guide
Version 1.0



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"NOTICE: This equipment meets the applicable Industry Canada Terminal Equipment Technical Specifications. This is confirmed by the registration number. The abbreviation, IC, before the registration number signifies that registration was performed based on a Declaration of Conformity indicating that Industry Canada technical specifications were met. It does not imply that Industry Canada approved the equipment."

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Caution: Users should not attempt to make such connections themselves, but should contact the appropriate electric inspection authority, or electrician, as appropriate."

WARRANTY AND REPAIR SERVICE CENTER:

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Portions of this product include software sponsored by the Free Software Foundation and are covered by the GNU GENERAL PUBLIC LICENSE.

See the *VOS for EdgeMarc User Manual* for more information regarding licenses.

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Preface

Thank you for purchasing the 250W Network Services Gateway.

This Installation Guide describes the 250W hardware and installation procedures. It is intended for network installers, network operators, and security officers.

About this Guide

The following table briefly describes each chapter and appendix in this guide.

Chapter or Appendix	Description
Chapter 1, Overview	Summarizes the 250W's functional features; describes front-panel LEDs and physical features of the back panel
Chapter 2, Getting Started	Provides instructions for installing the 250W and accessing the VOS for EdgeMarc management software.
Appendix A, Specifications	Lists the 250W's technical specifications.
Appendix B, Warranty Information	Provides hardware warranty information for the 250W.
Appendix C, Certification	Provides information about certification and agency compliance.

Typographic Conventions

Task steps are presented in numbered lists. User inputs are displayed in boldface type and can represent either keyboard input or mouse selections in a browser window. Web GUI menus and input areas are represented in italic type.



Note

Denoted with a pencil icon, notes emphasize useful information.



Caution

Denoted with an exclamation point icon, cautions indicate situations in which proper procedures must be followed to avoid the risk of data loss or equipment damage.



Warning

Denoted with a lightning bolt symbol, warnings indicate situations in which proper procedures must be followed to avoid the risk of bodily injury.

Contact and Support Information

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Support Email: support@edgewaternetworks.com

Overview

The EdgeMarc 250W Network Services Gateway combines multiple voice and data features into a single package offering a choice of ADSL or Ethernet WAN interfaces. It also includes an 8 port managed VLAN switch and integrated analog phone and line ports. Among other benefits, it provides cost savings through ease of deployment, management, and robust converged voice and data network security.

The EdgeMarc 250W provides flexible and application ready low cost solutions. It is an ideal platform for managed services for the Small Office/Home Office (SOHO) environment. The 250W can also be deployed in applications such as Enterprise voice over IP.

The 250W provides the following important functions for converged networks:

- **Security**
 - ❑ Uses a Stateful Packet Inspection (SPI) firewall in combination with a VoIP Application Layer Gateway (ALG) to provide comprehensive “media-aware” security.
 - ❑ Supports IPSec for secure site-to-site networking.
- **VoIP**
 - ❑ Resolves NAT/FW traversal problems for SIP traffic. It allows a single public IP address to be used for multiple VoIP clients.
- **Quality of Service**
 - ❑ Maximizes WAN link utilization while optimizing voice quality using prioritization and shaping.
- **Call Quality Monitoring**
 - ❑ Provides passive call quality monitoring statistics for each VoIP call to help enforce SLAs and resolve networking problems that negatively affect call quality.
- **Future-proof Scalability**
 - ❑ Provides a powerful, flexible platform that can be deployed initially as a low-cost WAN access router and then licensed through software for more advanced VoIP features and increased call performance. It is the ideal platform for service providers offering dedicated Internet access, hosted VoIP and managed security services, or enterprises migrating to converged voice and data networks.

Feature Summary

VoIP

- SIP ALG that allows a single public IP address to be used for multiple VoIP endpoints

QoS

- Class based queuing/prioritization
- Diffserv marking and policing
- Traffic shaping
- VoIP Call Admission Control (CAC) prevents oversubscription of priority queue

Security

- Stateful packet inspection firewall
- VoIP aware firewall dynamically provisioning and closing of UDP ports used for VoIP calls
- IPSec: 3DES, SHA-1
- NAT/PAT server that hides enterprise LAN topology

Passive Call Quality Monitoring

- Per call statistics that include Mean Opinion Score (MOS) (average and minimum), jitter, latency, and packet loss
- Alarms for poor MOS scores
- Active call count indicators

Back Panel

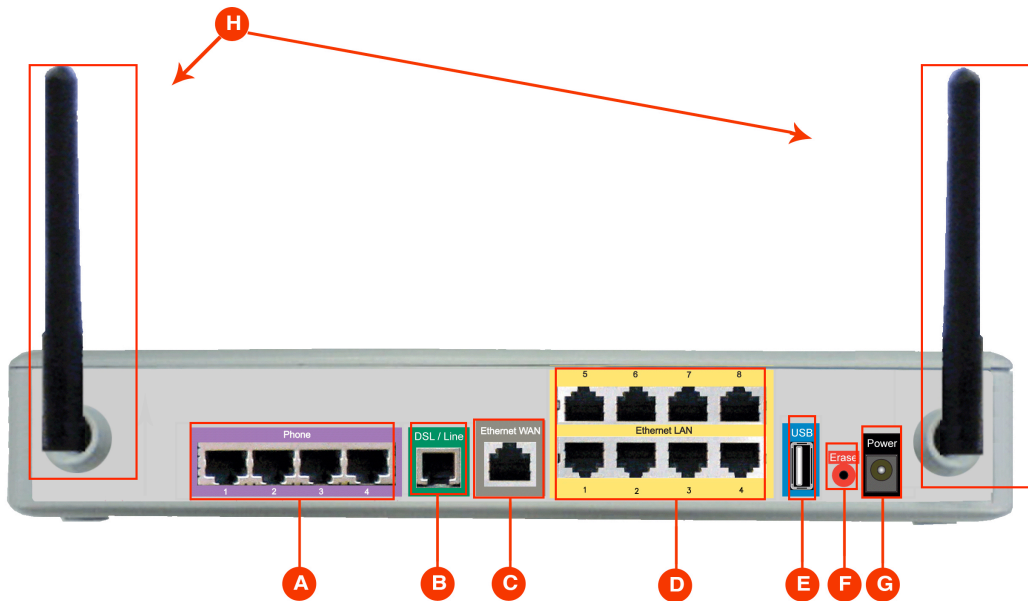


Figure 1: 250W Back Panel

	Name	Description	
A	Phone	Four FXS ports (NOTE: These ports are not active or supported)	
B	ADSL WAN/ FXO Port	Connects the 250W to a phone line supporting ADSL/ADSL 2/2+ standards. The FXO feature can be used to make calls to the PSTN. Note: Your connection to the PSTN can be tested by attaching a phone to FXS port 4 and disconnecting the 250W from its power source.	
C	Ethernet WAN Port	Connects the 250W to a cable or xDSL modem.	
D	10/100/1000 Mbps LAN Ports	Eight Local Area Network (LAN) ports to connect IP phones or data PCs. NOTE: Unit can also be configure through any of these ports using the web interface	
		Link Activity	Solid Green - Ethernet link is up.
			Blinking Green - Indicates activity on the link.
E	USB Port	One USB port	


	Name	Description
F	Erase Button	<p>If pressed twice in quick succession, only the CLI password will be changed back to its original password.</p> <p>If pressed three times in quick succession, the EdgeMarc will revert back to the factory default settings. This will reset all passwords and erase all prior configurations. The default LAN address will be set to 192.168.1.1.</p> <p> Caution <i>Setting the system configuration to factory default will erase all configuration changes made since the last factory default settings. This will leave all IP phones behind the device non-operational and Internet connectivity or network access for PCs will be down until the system is reconfigured.</i></p>
G	Power Connector	Accepts the plug from the supplied power cord to connect the unit to an AC power outlet.
H	Antennas	Antennas for the wireless LAN

Table 1: 250W Back Panel Port Description

Front Panel

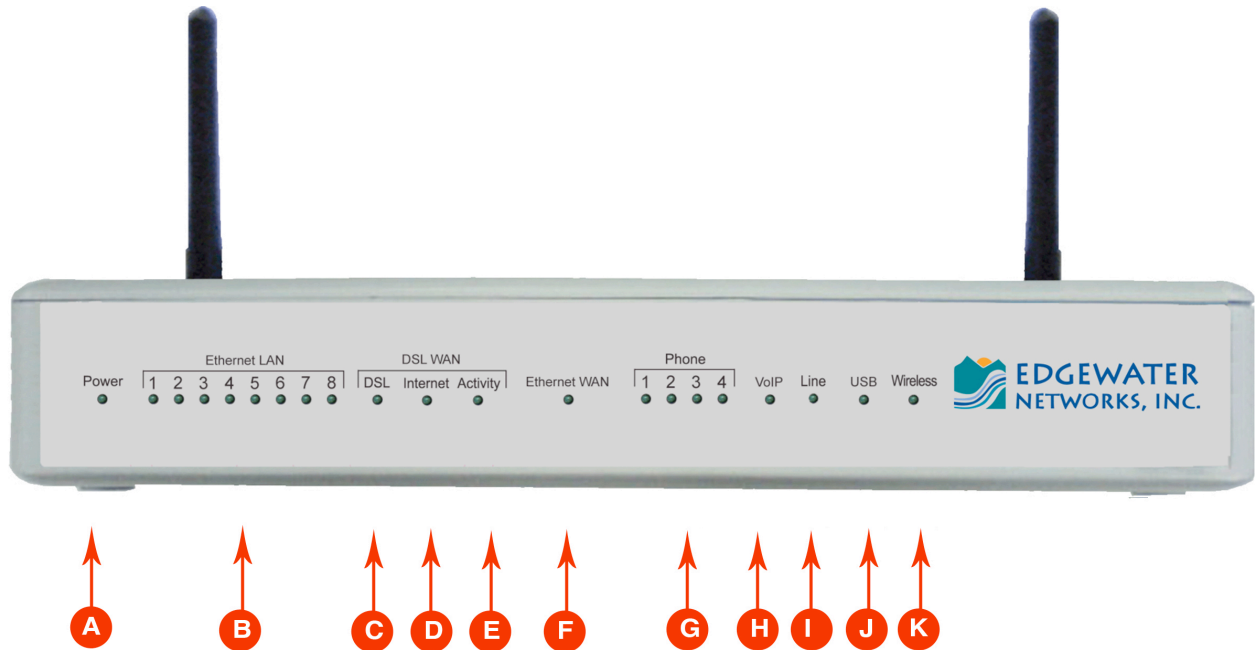


Figure 2: 250W Front Panel LED

	LED Label	Activity	Description
A	Power	Solid Green	The device is powered.
		Off	The device is not powered.
		Flashing Red	Power-On Self-Test is in Progress
		Red	A device malfunction has occurred.
B	Ethernet LAN (1-8)	Solid Green	A powered device is connected to the associated port.
		Flickering Green	LAN activity is occurring with the device that is connected to the port. Note: A flickering light is synchronized with actual data traffic.
		Off	A device that is connected to the port is not powered or connected to the port.
C	DSL	Solid Green	DSL Connection is synchronized with actual data traffic.
		Off	The device is not powered.

	LED Label	Activity	Description
		Flashing Green	Attempting to synchronize the connection.
		Flashing Green & Solid Red	Attempting to synchronize the connection after three consecutive minutes has passed.
		Flashing Red	No DSL connection and no signal.
D	Internet	Solid Green	The device has a WAN IP address and is connected.
		Off	The device is not powered or the broadband connection is not present.
		Flashing Green	Attempting PPP connection.
		Red	Device attempted to become IP connected and failed.
E	Activity	Off	The device is not powered or the broadband connection is not present.
		Flickering Green	Internet activity detected via the broadband connection. Note: The flickering of the light will be synchronized with actual data traffic.
F	Ethernet WAN	Solid Green	Powered device is connected to the associated port.
		Flickering Green	LAN activity is occurring with the device that is connected to the port. Note: The flickering of the light will be synchronized with actual data traffic.
		Off	No device is connected to the port, or the connected device is without power.
G	Phone (1-4) (Not Supported)	Off	Phone is not off-hook.
		Solid Green	Phone is off-hook.
		Off	Not connected.

	LED Label	Activity	Description
H	VoIP	Off	Not connected.
		Solid Green	Data is being streamed using RTP forwarding to the connection. Note: In the case of LAN to LAN calls, the LED light is off because RTP forwarding is not present.
		Solid Amber	The system is booting.
I	Line	Off	The device is not powered or a PSTN call is not in progress.
		Solid Green	A PSTN call is in progress.
J	USB	Off	The device is without power or a USB device is not connected.
		Solid Green	A USB device is connected.
		Flickering Green	Activity detected on the USB device.
K	Wireless	Off	The device is not powered or the wireless interface is not enabled.
		Solid Green	Wireless is enabled.
		Flickering Green	Inbound activity detected on the wireless interface. Note: The flickering of the light will be synchronized with actual data traffic.

Table 2: 250W Front Panel LED Description

Getting Started

Physical Installation

The 250W is designed for desktop installation. Observe the following guidelines when installing the system:

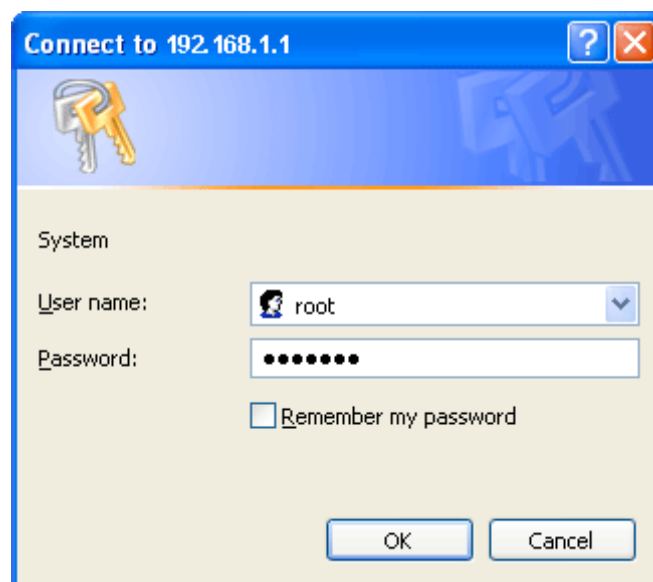
- Always verify that the 250W is disconnected from a power source prior to installation.
- Ensure that the installation site has adequate air circulation and meets the minimum operating conditions for the system as specified in the Specifications section of this document.

Administration

You can configure the 250W using a web browser such as Internet Explorer or Mozilla Firefox. The 250W is shipped with the pre-configured IP address 192.168.1.1 for the LAN port.

To connect to the 250W, follow these steps:

1. Connect the PC to LAN port 1 of the 250W.
2. Launch a web browser on the PC and enter the URL string: **192.168.1.1**. Press **Return**. The following login window should appear:



3. Enter the username “root” and the password “default” to log into the system. The following initial 250W main configuration menu should appear:

[Help](#)

System

Software Version:
Version 9.2.0AlphaApr-13-2009 -- Mon Apr 13 01:18:18 PDT 2009

Hostname:
250W

Model:
EdgeMarc 250W

Vendor:
Edgewater

LAN Interface MAC Address:
00:03:6D:F6:8A:5B

Registration Status:
The ALG feature is registered. View [license key](#).

System Date:
04/14/2009 23:57:35 UTC

Change Administrative Password:
The password of the read-write administrative user can be [changed](#).

Change Read-Only Password:
The password of the read-only user can be [changed](#).

4. Click on “Network” under the “Configuration Menu” and start configuring the 250W.



Note

For better network management security change the default user name and password by following the procedure described in the *VOS for EdgeMarc User Manual*.

Specifications

WAN Ports	ADSL/ADSL 2/2+ or 10/100 Ethernet
LAN Ports	8x10/100 Ethernet (Managed VLAN Switch)
FXS Ports	4
FXO Port	1 (integrated with ADSL WAN port)
USB Port	1
Wireless LAN	802.11b/g/n
Dimensions	Height 1" (25.4 mm), Width 1' (304.8 mm), Depth 6" (152.4 mm)
Weight	2 lb (0.91 kg)
Power	12V @ 3A, external plug pack
Warranty	1 Year
Environmental	Operating Temperature: 5° to 40°C Humidity: 20% to 80%, non-condensing

For the latest information, please visit the following URL: <http://www.edgewaternetworks.com> and look for EdgeMarc Product Family Specifications under Products→EdgeMarc

Warranty Information

Hardware Warranty

For a period of one (1) year after shipment of the product, Edgewater warrants that such Hardware will substantially conform to Edgewater's published specifications for such Hardware on the date of order if properly used in accordance with procedures described in the documentation supplied by Edgewater. End-user shall notify Edgewater of any nonconformance during the warranty period, obtain a return authorization for the nonconforming Hardware from Edgewater, and return the nonconforming Hardware to Edgewater's designated repair facility, freight prepaid, with a statement describing the nonconformity. Edgewater's exclusive obligations with respect to nonconforming Hardware shall be, at Edgewater's option, to advance replace such Hardware, if it is determined to be defective, or to refund to End-user the purchase price paid for the Product. Advance replacement units are shipped same business day for next-day delivery (within the US) when hardware failure is determined by 1pm PST. Failed components must be returned to Edgewater within 14 days or End-user will be charged for new product purchase.

Certification and Compliance

WIRELESS LAN

- 802.11b/g/n draft 2.0 compliant
- 40MHz system reference clock
- WoWLAN mode: < 10mA
- Shutdown mode: << 1mA
- Suspend mode: 1.6mA
- Security: WEP, WPA, WPA2
- EAP types: EAP-TLS, EAP-TTLS/MSCHAPv2, PEAPv0/EAP-MSCHAPv2, PEAPv1/EAP-GTC, EAP-SIM
- Multimedia: WMM and WMM-PS
- Completed Wi-Fi Alliance interoperability testing.

FCC PART 68 NOTICE

This equipment complies with Part 68 of the FCC Rules and the requirements adopted by ACTA. On the bottom surface of this equipment is a label that contains, among other information, a product identifier in the format US:AAAEQ##TXXXX. If requested, this number must be provided to the telephone company.

This equipment uses RJ48C and R11 jacks.

A Plug and jack used to connect this equipment to the premises wiring and telephone network must comply with the applicable FCC Part 68 rules and requirements adopted by ACTA. See installation instructions for details.

If this equipment, Model 200 causes harm to the telephone network, the telephone company will notify you in advance that temporary discontinuance of service may be required. But if advance notice is not practical, the telephone company will notify the customer as soon as possible. Also, you will be advised of your right to file a complaint with the FCC if you believe it is necessary.

The telephone company may make changes in its facilities, equipment, operations or procedures that could affect the operation of the equipment. If this happens, the telephone company will provide advance notice in order for you to make the necessary modifications to maintain uninterrupted service.

If trouble is experienced with this equipment, Model 200 for repair or warranty information, please contact Edgewater Networks Technical Assistance Center at 408.351.7255. If the equipment is causing harm to the telephone network, the telephone company may request that you disconnect the equipment until the problem is resolved.

**Caution**

This equipment contains no user-serviceable parts.

Connection to party line service is subject to state tariffs. Contact the state public utility commission, public service commission or corporation commission for information.

If your home has specially wired alarm equipment connected to the telephone line, ensure the installation of Model 200 equipment does not disable your alarm equipment. If you have questions about what will disable alarm equipment, consult your telephone company or a qualified installer.

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