

EdgeMarc 200 Series Converged Networking Router

Introduction

The EdgeMarc 200 Series combines multiple voice and data features into a single, easy to use converged networking router. The 200 Series includes models that provide ADSL or Ethernet WAN links, a 4 port managed VLAN switch, optional 802.11 Wireless Access Point and integrated analog phone and line ports.

The EdgeMarc 200 is a flexible, application ready, low-cost ADSL or Ethernet router. The 200 Series can be expanded to other applications such as hosted VoIP, SIP trunking and enterprise video over IP. It is the ideal platform for service providers offering home office SIP trunking services, hosted VoIP and other managed small office/home office products and services.



Feature Rich, Simple to Use - Key Features

- ✦ ADSL 2+ or Ethernet WAN versions
- ✦ Integrated FXS and FXO ports
- ✦ VoIP survivability (local)
- ✦ Integrated VoIP failover to PSTN
- ✦ Integrated 4 port managed Ethernet switch with VLAN support
- ✦ VoIP-aware VPN/Firewall
- ✦ VoIP application layer gateway resolves NAT/Firewall traversal issues
- ✦ QoS: priority queuing, traffic shaping, diffserv marking/policing
- ✦ VoIP call admission control
- ✦ Passive call quality monitoring (MOS, jitter, latency and more)
- ✦ DHCP server
- ✦ NAT/PAT
- ✦ Management: HTTP, HTTPS, SSH, Telnet, SNMPv1 and V3

Product Features

- Small Office ADSL or Ethernet Modem/Router
- Support for up to 10 simultaneous VoIP calls
- Stateful Packet Inspection Firewall
- EdgeMarc feature-set
 - Bandwidth Manager
 - Call Quality Monitoring
 - EdgeView manageable and Plug & Dial compatible
 - SIP ALG
 - Survivability
- SIP FXS Ports for Key System Trunks and Analog Phones
- SIP FXO Gateway for Local Calls and Emergency Dialing
- Optional 802.11 b/g WAP for data

Product Benefits

All-in-one - One box for your DSL router, Ethernet switch, analog ports, WiFi, firewall, VoIP ALG – with a single management interface.

Flexible WAN connections – Available in ADSL 2+ or Ethernet ports.

Survivability – VoIP calls can be re-routed locally or over the PSTN during WAN link failures - using one device.

Quality of Service – Packet prioritization and data traffic shaping for VoIP calls.

Plug & Dial – Interoperates with EdgeView VoIP Support system to configure IP phones and the integrated analog ports in minutes, not hours.

Simplified troubleshooting – MOS statistics, call monitoring, LAN/WAN problem isolation from the router, TCPdump, ping, Traceroute and more.

Security – Stateful packet inspection firewall, “media-aware” ALG security, IPSec.

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Specifications

Interfaces	
Support for ADSL, ADSL2, ADSL2+ (G.992.1)	1 ports
Support for Annex A and Annex B	Yes
Ethernet WAN	
Autosensing	Yes
10/100 Mbps	Yes
Duplex	Full or half
Ethernet LAN	
	4
Autosensing	Yes
10/100 Mbps	Yes
Duplex	Full or half
Managed VLAN	Yes
Phone/FXS	
	2
Connector	RJ11
Loop start	Yes
Ringer Equivalency Number (REN)	5 per port; 10 per system
Ring voltage: $\geq 50V_{rms}$ at 20 Hz sinusoidal waveform	Yes
Selectable resistive and complex impedances for global usage	Yes
48V on-hook voltage	Yes
24mA off-hook current	Yes
Line/FXO	
	1
Connector	RJ11
Loop start	Yes
Far end disconnect supervision - battery reversal	Yes
Far end disconnect supervision - RTP silence detection	Yes
802.11 Wireless Access Point for Data	
	Yes
b/g	Yes
WEP	Yes
WPA	Yes
AES	Yes
Console	
Connector	DB9 Male

Power and Dimensions	
Power Supply (AC) - external brick	12V, 3.0A
Dimensions (H/Depth/L)	1x11/16" 6x10/16" 10x7/16"
Weight	2 lbs.

Certifications	
UL	Yes
CE	Yes
FCC Part 68	Yes
FCC Part 15	Yes
Industry Canada	Yes
CB	Yes

Management	
Web GUI	Yes
CLI	Yes
http, https	Yes
SSH, Telnet	Yes
SNMP V1	Yes
SNMP V3	Yes
TCPdump, Traceroute, Ping, Syslog	Yes
Configuration backup/restore	Yes
Remote Upgrades (FTP)	Yes

VoIP	
SIP ALG	Yes
NAT for SIP	Yes
Survivability (SIP) - station to station	Yes
Survivability (SIP) - PSTN failover	Yes
SIP registration pacing	Yes
Softswitch redundancy	Yes
Proxy mode	Yes
Multi-homed proxy mode	Yes
Transparent mode	Yes
EdgeView Plug & Dial Compatible	Yes
Dynamic VoIP clients list	Yes
SIP RFC 3261	Yes
SIP RFC 2327	Yes
SIP RFC 3263	Yes
SIP RFC 2833	Yes

Passive Call Quality Monitoring	
Per call statistics	Yes
LAN side measurements	Yes
WAN side measurements	Yes
Mean Opinion Score (MOS)	Yes
Bad MOS score alarms	Yes
Below threshold MOS counters	Yes
Degradation in MOS due to network impairments	Yes
Jitter	Yes
Packet loss	Yes
Consecutive lost packets	Yes
Total # of RTP packets received	Yes
Sum of received & expected packets	Yes
Out of sequence packets	Yes
Average packet loss burst length	Yes

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Estimated jitter buffer delay	Yes
Estimated jitter buffer packet discard rate	Yes
Probability that degradation is due to LAN congestion	Yes
Probability that degradation is due to Router congestion	Yes
Probability that degradation is due to access link congestion	Yes
Probability that degradation is due to diverse routing	Yes
Probability that degradation is due to unreliable link	Yes

Security	
Stateful packet inspection firewall	Yes
VoIP protocol aware firewall	Yes
Dynamic network address translation	Yes
Static network address translation	Yes
Port address translation	Yes
Denial of Service protection - SYN flood	Yes
Denial of Service protection - UDP flood	Yes
Denial of Service protection - ICMP flood	Yes
Denial of Service protection - Fragment flood	Yes
IPSec	Yes
IKE key management	Yes
3DES	Yes
AES	Yes
SHA-1	Yes
MD-5	Yes

Traffic Management/QoS/Routing	
Class-based queuing	Yes
Prioritization on IP	Yes
Prioritization on VoIP Protocol	Yes
Traffic shaping	Yes
Guaranteed bandwidth	Yes
Upstream bandwidth management	Yes
Downstream bandwidth management	Yes
VoIP call admission control	Yes
Diffserv marking	Yes
Diffserv policing	Yes
IP routing	Yes
Secondary address/subinterface support	Yes
VLAN - 802.1Q	Up to 16

System Services	
DHCP server	Yes
Local TFTP/FTP server	Yes
Automatic TFTP/FTP download on restart	Yes

Calling Features - Phone & Line Ports	
SIP User Agent	Yes
SIP PSTN gateway	Yes
Transfer	Yes

Hold	Yes
Conference	Yes
Caller id	Yes
Call waiting	Yes
T.38 fax support	Yes
G711 u-law	Yes
G711 a-law	Yes
G729	Yes
G728	Yes
G726-16	Yes
G726-24	Yes
G726-32	Yes
G726-40	Yes
Adjustable Tx/Rx Gain settings	Yes
Inbound PSTN calling line port - forwarded phone number or extension	Yes
Inbound PSTN calling line port - 2 stage dialing (survivable mode)	Yes
Inbound WAN IP calling line port - 2 stage dialing (ALG mode)	Yes
Outbound calling line port - PSTN failover (survivable mode)	Yes
Outbound calling line port - local enterprise gateway	Yes

Ordering Information	
EM-200A-03-02	EdgeMarc 2: ADSL WAN, 2xFXS, 1FXFO, 4x10/100 LAN switch
EM-200A-03-05	EdgeMarc 5: ADSL WAN, 2xFXS, 1FXFO, 4x10/100 LAN switch
EM-200A-03-10	EdgeMarc 10: ADSL WAN, 2xFXS, 1FXFO, 4x10/100 LAN switch
EM-200AW-03-02	EdgeMarc 2: ADSL WAN, 2xFXS, 1FXFO, 4x10/100 LAN switch, WAP
EM-200AW-03-05	EdgeMarc 5: ADSL WAN, 2xFXS, 1FXFO, 4x10/100 LAN switch, WAP
EM-200AW-03-10	EdgeMarc 10: ADSL WAN, 2xFXS, 1FXFO, 4x10/100 LAN switch, WAP
EM-200E-03-02	EdgeMarc 2: Ethernet WAN, 2xFXS, 1FXFO, 4x10/100 LAN switch
EM-200E-03-05	EdgeMarc 5: Ethernet WAN, 2xFXS, 1FXFO, 4x10/100 LAN switch
EM-200E-03-10	EdgeMarc 10: Ethernet WAN, 2xFXS, 1FXFO, 4x10/100 LAN switch
EM-200EW-03-02	EdgeMarc 2: Ethernet WAN, 2xFXS, 1FXFO, 4x10/100 LAN switch, WAP
EM-200EW-03-05	EdgeMarc 5: Ethernet WAN, 2xFXS, 1FXFO, 4x10/100 LAN switch, WAP
EM-200EW-03-10	EdgeMarc 10: Ethernet WAN, 2xFXS, 1FXFO, 4x10/100 LAN switch, WAP

