



NetVanta 1224R PoE/1224STR PoE

All-in-One Network Access with Power of Ethernet: Modular WAN interface, Firewall, Ethernet Switch, IP Router, and Optional VPN

Solution Benefits

- Converged LAN/WAN architecture
- Lower total cost of ownership
- Efficient bandwidth usage
- Space-savings, equipment consolidation
- Simplified network administration

Product Features

- Full-featured, managed Layer 2 switch-routers
- 24-port Ethernet, Fast Ethernet, Power over Ethernet, and Gigabit Ethernet functionality
- Unique all-in-one switching/routing/firewall/VPN platforms
- Interoperable in established, multi-vendor networks
- 8.8 Gbps switching capacity, non-blocking
- Gigabit SFP/1000Base-T uplink/stacking capability available
- Stacking up to 16 switches with single IP address management
- Link Aggregation, GVRP, and LLDP
- MAC-based port security
- SIP ALG for NAT traversal in VoIP applications
- Easily recognizable Command Line Interface (CLI)
- Intuitive web-based Graphical User Interface (GUI)
- Free firmware updates
- Unlimited, responsive, toll-free technical support
- Industry-leading five-year North American warranty

The NetVanta® 1000 Series from ADTRAN® is a standards-based, non-blocking Layer 2 switch-ing solution suitable for converged LAN/WAN access, interconnecting LAN devices, for network segmentation, or for powering LAN network devices. The NetVanta 1224R PoE (Power over Ethernet) and 1224STR PoE are unique, all-in-one access platforms that combine a 24 port Ethernet switch, an IP access router, a modular WAN interface with built-in DSU/CSU, a stateful inspection firewall, and the option for Virtual Private networking (VPN), all in a single 1U chassis. The 1224R PoE and STR PoE provide 24-port Ethernet and Fast Ethernet switching, with the STR PoE offering two extra 1000Base-T/SFP Gigabit ports for uplink or stacking capability.

Modular Hardware

A single WAN access slot in the back of the NetVanta chassis supports a variety of Network Interface Modules (NIMs) including ADSL, 56/64k, T1/FT1, T1/FT1 with DSX-1, E1/FE1, E1/FE1 with G.703, Dual T1, or a serial interface. The optional Analog or ISDN BRI Dial Backup Modules (DIMs) support a solid business continuity plan by dialing around a failed circuit to any PPP-compliant device. The ADSL NIM may also be used for broadband backup, allowing for larger bandwidth applications and faster data rates.

Standard-based Protocols

Based on the ADTRAN Operating System (AOS), these devices offer support for 802.1Q Virtual LANs (VLANs), Port-based switching features include Broadcast Storm Control, 802.1D and 802.1w Spanning/Rapid Spanning Tree, Link Aggregation, Port Mirroring, and GVRP. Link Layer Discovery Protocol (LLDP) auto-discovers neighboring Ethernet devices, simplifying integration into multi-vendor environments. In addition the integral IP router provides cost-effective Internet access, corporate Frame Relay or point-to-point connectivity using standard routing protocols such as BGP, OSPF and RIP.

Power over Ethernet

The NetVanta 1224R PoE and 1224STR PoE platforms provide standards-based 802.3af PoE functionality for powering IP phones, Wireless Access Points (WAPs), or other devices requiring LAN power. The products support up to 15.4 watts per port or 370 watts total.

Security

Rest assured, with the NetVanta 1224R PoE and STR PoE your network is protected. Each platform comes standard with a stateful inspection firewall to stop intruders and common Denial of Service (DoS) attacks. These products also offer a variety of data security features including MAC-based port security, multilevel user passwords, Secure Shell (SSH) and Secure Socket Layer (SSL) for encrypted user login, and Access Authentication and Authorization (AAA) with RADIUS, RSA SecurID, or TACACS+. For added security, these platforms offer a VPN upgrade supporting up to 500 IPsec tunnels using DES, 3DES or AES encryption.

Quality of Service (QoS)

The NetVanta switch-routers support QoS to prioritize mission critical traffic and control network congestion at various layers of the OSI model. On the LAN, the NetVanta 1000 Series offers 802.1p and DiffServ Class of Service (CoS). To assign priority to traffic, Weighted Round Robin and Strict Priority Queuing is used with four egress queues per port. For the WAN, DiffServ marking, Low Latency Queuing, and Weighted Fair Queuing provide priority for IP packets routed over the WAN. Together these features offer a powerful end-to-end QoS story.

VoIP Ready

In combination with the QoS features, a specialized SIP Application Layer Gateway (ALG) allows SIP traffic to traverse NAT-enabled firewalls. For an enterprise network, this interoperability allows IP PBXs, phones, and other SIP-based devices to set up, tear down, and pass voice and call control messages seamlessly through the integral NAT-enabled firewall.

Administration

The AOS offers both a Command Line Interface (CLI) that mimics the widely deployed, industry *de facto* standard and an intuitive web-based GUI with step-by-step configuration wizards. For a centralized enterprise-wide management scheme, ADTRAN offers n-Command®, an intuitive, scalable software suite for managing firmware revisions, push firmware upgrades and configuration changes, backup and restore configurations, and manage security policies and Access Control Lists (ACLs).



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Product Specifications

Network Interfaces

NIM (Network Interface Modules)

- 56/64K
- T1/FT1
- Dual T1
- T1/FT1 with DSX-1
- ADSL
- E1/FE1
- E1/FE1 with G.703
- SHDSL
- Serial (V.35, X.21/V.11)

DIM (Dial Backup Interface Modules)

- Analog Modem
- ISDN BRI 'U' and 'ST'

24 Fast Ethernet Ports

- 10/100Base-T
- Auto-duplex
- Auto-rate
- Auto-MDI/MDI-X

Gigabit Ethernet Port (1224STR PoE)

- Two combo Gigabit Ethernet port supporting both 10/100/1000Base-T and SFP for copper or optical connectivity
- Auto-duplex
- Auto-rate
- Auto-MDI/MDI-X

Console Port

- DB-9

Switching Performance

- Non-blocking
- 8,000 MAC Addresses
- 16-MB memory shared by all ports

Maximum Forwarding Bandwidth

- 1224R PoE: 4.8 Gbps
- 1224STR PoE: 8.8 Gbps

Routing Performance

- 133 MHz Motorola MPC 866
- 16 MB Flash
- 32 MB DRAM
- 30,000 PPS

Status LEDs

- Power
- **WAN:** Link, Activity, Alarm, Test
- **DBU:** Link, In DBU, Alarm, Test
- **Ethernet Port Status:** Link, Activity, PoE Status

Protocols

- eBGP/iBGP
- OSPF
- RIP (v1 and v2)
- PIM Sparse Mode
- Demand Routing
- Policy-based Routing
- GRE
- ATM (ADSL)
- Frame Relay
- Multilink Frame Relay
- Layer 3 Backup
- PPP
- Multilink PPP
- PPPoE
- PPPoA
- IGMP v2
- RFC 1483
- HDLC
- PPP Dial Backup
- PAP and CHAP
- Multihoming

DHCP

- Client, Server and Relay

Spanning Tree Support

- 802.1D Spanning Tree
- 802.1w Rapid Spanning Tree

Frame Relay

- Point-to-Point
- RFC 1490 Encapsulation (Multiprotocol Over Frame Relay)
- **LMI Types:** LMI, CCITT (Annex A), ANSI (Annex D), Static

VLAN Support

- Port based VLANs
- 802.1Q tagged trunked VLANs
- Support for up to 255 active VLANs
- Inter-VLAN routing
- GARP VLAN Registration Protocol (GVRP)

Power over Ethernet

- 802.3af (15.4 watts/port)
- 370 total watts
- Power provided over Ethernet data leads

Link Aggregation

- 802.3ad Link Aggregation
- Support for six trunk groups
- Trunk groups consist of up to eight access ports

Class of Service (LAN Traffic)

- Enforces 802.1p priorities
- DiffServ
- Four output queues per egress port
- Weighted Round Robin
- Strict Priority Queuing

Quality of Service (WAN Traffic)

- Low Latency Queuing
- Weighted Fair Queuing (WFQ)
- Class-based WFQ
- DiffServ aware/mark
- Frame Relay Fragmentation (FRF.12)

Security

Firewall

- Stateful Inspection Firewall
- Denial of Service (DoS) Protection
- Access Control Lists (ACLs)
- Application Level Gateways (ALGs)

Optional Virtual Private Network (VPN)

- **IPSec Tunnel Mode:** 500 Tunnels
- **Encryption:** DES, 3DES, and AES
- **Diffie Hellman Group Support:**
 - **Group 1:** MODP 768
 - **Group 2:** MODP1024
- **Hash Algorithms:** MD5-HMAC and SHA1-HMAC
- **Authentication Mechanisms:** XAUTH, X.509 Digital Certificates, Preshared Keys, Secure ID, DSS Signature



NetVanta 1224STR Web-GUI



NetVanta 1224STR PoE



NetVanta 1224R PoE



WAN Interface (using NIM) DBU Interface (using DIM)

Back Panel

- **Key Management:** IKE (ISAKMP/Oakley)
- **IKE Modes:** Main, Aggressive, Perfect Forward Secrecy, Mode Configuration
- Dead Peer Detection
- NAT Traversal V3

Network Address Translation

- Basic NAT (1:1), NATP (Many:1), and Port Translation
- NAT compatible SIP ALG

Secure Management

- Multi-level access control
- TACACS+
- RADIUS AAA
- SSH CLI and SSL GUI

Network Access Control

- Port Authentication (802.1x)
- MAC-based Port Security
- Private VLAN Edge

Administration

- Familiar Command Line Interface (CLI)
- Web-based GUI
- n-Command® support
- SNMP v3
- SYSLOG Logging
- Email Alerts (SMTP)
- Policy Statistics
- SNMP Client/Server

Diagnostics

- Port Mirroring
- Ping
- Traceroute
- LLDP (802.1ab)

Environment

- **Operating Temperature:** 0° to 50 °C (32° to 122 °F)
- **Storage Temperature:** -20° to 70 °C (-4° to 158 °F)
- **Relative Humidity:** Up to 95%, non-condensing

Physical

- **Chassis:** 1U, 19" rackmountable metal enclosure
- **Dimensions:** 1.7" H, 17.2" W, 12.8" D
- **Weight:** 12 lbs.
- **AC Power:** 100–250 VAC, 50/60 Hz
- **Power:** 450 watts

Agency Approvals

- FCC Part 15 Class A
- C-tick
- CE Mark
- UL 1950/CSA
- FCC Part 68
- RoHS (NetVanta® 1224STR PoE)

Ordering Information

Equipment	Part #
NetVanta 1000 Series Chassis	
NetVanta 1224R PoE	4200530L1
NetVanta 1224R PoE with VPN	4200530L2
NetVanta 1224STR PoE	4200570L1
NetVanta 1224STR PoE with VPN	4200570L2

NetVanta 1224R PoE Product Bundles

NetVanta 1224R PoE with 56/64k NIM	4200531L1
NetVanta 1224R PoE with T1/FT1 NIM	4200532L1

NetVanta 1224STR PoE Product Bundles

NetVanta 1224STR PoE with 56/64k NIM	4200571L1
NetVanta 1224STR PoE with T1/FT1 NIM	4200572L1

Equipment	Part #
NetVanta 1000 Network Interface Modules (NIMs)	
56/64k NIM	1200861L1
T1/FT1 NIM	1202862L1
T1/FT1 with DSX-1 NIM	1202863L1
Dual T1 NIM	1200872L1
E1/FE1 NIM	1200868L1
E1/FE1 with G.703 NIM	1200878L1
ADSL NIM	1200869L1
Serial NIM	1200866L1
X.35 Serial Interface Cable	1200873L1
X.21 Serial Interface Cable	1200874L1

NetVanta 1000 Dial Backup Interface Modules (DIMs)

Analog Modem DIM	1200864L1
ISDN BRI-U DIM	1200865L1
ISDN BRI-S/T DIM	1200875L1

NetVanta 1000 Series SFP Modules

NetVanta 1000Base-SX SFP (LC Connectors)	1200480E1
NetVanta 1000Base-LX SFP (LC Connectors)	1200481E1





ADTRAN, Inc.

Attn: Enterprise Networks
901 Explorer Boulevard
Huntsville, AL 35806

P.O. Box 140000
Huntsville, AL 35814-4000

256 963-8000 voice
256 963-8699 fax

General Information

800 9ADTRAN
info@adtran.com
www.adtran.com

Pre-Sales

Technical Support

800 615-1176 toll-free
application.engineer@adtran.com
www.adtran.com/support

Where to Buy

877 280-8416 toll-free
channel.sales@adtran.com
www.adtran.com/where2buy

Post-Sales

Technical Support

888 423-8726
support@adtran.com
www.adtran.com/support

**ACES Installation &
Maintenance Service**

888 874-ACES
aces@adtran.com
www.adtran.com/support

International Inquiries

256 963 8000 voice
256 963-6300 fax
international@adtran.com
www.adtran.com/international

**For the regional office
nearest you, visit:**

www.adtran.com/regional



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