



NetVanta 1224R/1224STR

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, 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



All-in-One Network Access: Modular WAN Interface, Firewall, Ethernet Switch, IP Router, and Optional VPN

The NetVanta® 1000 Series from ADTRAN® is a standards-based, non-blocking Layer 2 switching solution available at a cost up to 50 percent less than competing switches. These devices are suitable for converged LAN/WAN access, interconnecting LAN devices, or for network segmentation. The NetVanta 1224R and 1224STR 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 and STR provide 24-port Ethernet and Fast Ethernet switching, with the STR offering an extra 1000Base-T/SFP Gigabit port 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.

Security

Rest assured, with the NetVanta 1224R and STR 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) for authentication with a RADIUS or RSA SecurID server. 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)

These 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. Together these interfaces allow you to administer and control your network in the best method that meets your needs. 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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All-in-One Network Access: Modular WAN Interface, Firewall, Ethernet Switch, IP Router, and Optional VPN

Product Specifications

Network Interfaces

24 Fast Ethernet Ports

- 10/100 Base-T
- Auto-Duplex
- Auto-Rate
- Auto-MDI/MDI-X

Gigabit Ethernet Port (1224STR)

- Two 10/100/1000Base-T ports for copper connectivity
- Two SFP slots for optical connectivity
- Auto-Duplex
- Auto-Rate
- Auto-MDI/MDI-X

NIM (Network Interface Modules)

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

DIM (Dial Backup Interface Modules)

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

Console Port

- DB-9

Switching Performance

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

Maximum Forwarding Bandwidth

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

Routing Performance

- 133 MHz Motorola MPC 866
- 32 MB DRAM
- 16 MB Flash
- 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

- BGP
- OSPF
- RIP (v1 and v2)
- GRE
- IGMP v2
- Frame Relay
- Multilink Frame Relay
- PPP
- PPPoE
- Multilink PPP
- HDLC
- PPP Dial Backup
- PAP and CHAP

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)

Link Aggregation

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

Class of Service (Switching-Layer 2)

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

Quality of Service (Routing-Layer 3)

- Low Latency Queuing
- Weighted Fair Queuing (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 Mode: Tunnel
- Encryption: DES, 3DES, and AES
- Diffie Hellman Group Support: Group 1: MODP 768, Group 2: MODP 1024
- Hash Algorithms: MD5-HMAC and SHA1-HMAC
- Authentication Mechanisms: XAUTH, X.509 Digital Certificates, Preshared Keys, Secure ID, DSS Signature
- Key Management: IKE (ISAKMP/Oakley)
- IKE Modes: Main, Aggressive, Perfect Forward Secrecy, Mode Configuration
- Dead Peer Detection
- NAT Traversal V2

Network Address Translation

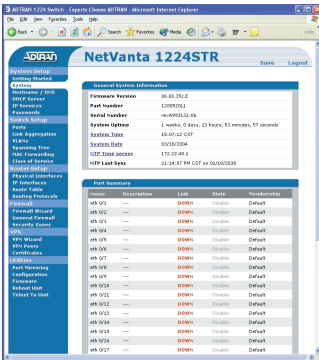
- Basic NAT (1:1) and NAPT (Many:1)
- NAT compatible SIP ALG

Secure Management

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

Network Access Control

- Port Authentication (802.1x)
- MAC-based Port Security





Administration

- Familiar Command Line Interface (CLI)
- Web-based GUI
- n-Command™ support
- SNMP v2
- SYSLOG Logging
- Email Alerts (SMTP)
- Policy Statistics

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, 7.8" D
- **Weight:** 7 lbs.
- **Power:** 25 Watts

Agency Approvals

- FCC Part 15 Class A
- CE Mark
- FCC Part 68
- C-tick
- UL 1950/CSA



NetVanta 1224R



NetVanta 1224STR



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

Backplane



Ordering Information

Equipment	Part #
NetVanta 1000 Series Chassis	
NetVanta 1224R	4200510L1
NetVanta 1224R with VPN	4200510L2
NetVanta 1224STR	4200520L1
NetVanta 1224STR with VPN	4200520L2
NetVanta 1224R Product Bundles	
NetVanta 1224R with 56k NIM	4200511L1
NetVanta 1224R with T1 NIM	4200512L1
NetVanta 1224R with T1+DSX NIM	4200513L1
NetVanta 1224R with Serial NIM	4200516L1
NetVanta 1224R with VPN and 56k NIM	4200511L2
NetVanta 1224R with VPN and T1 NIM	4200512L2
NetVanta 1224R with VPN and T1+DSX NIM	4200513L2
NetVanta 1224R with VPN and Serial NIM	4200516L2
NetVanta 1224STR Product Bundles	
NetVanta 1224STR with 56k NIM	4200521L1
NetVanta 1224STR with T1 NIM	4200522L1
NetVanta 1224STR with T1 + DSX-1 NIM	4200523L1
NetVanta 1224STR with Serial NIM	4200526L1
NetVanta 1224STR with ADSL NIM	5200529L1
NetVanta 1224STR with VPN and 56k NIM	4200521L2
NetVanta 1224STR with VPN and T1 NIM	4200522L2
NetVanta 1224STR with VPN and T1 + DSX-1 NIM	4200523L2
NetVanta 1224STR with VPN and Serial NIM	4200526L2
NetVanta 1224STR with VPN and ADSL NIM	4200529L2

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)	1200480L1
NetVanta 1000Base-LX SFP (LC Connectors)	1200481L1



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