NetVanta 1224STR

All-in-One Network Access: 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, 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

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 1224STR is a unique, all-in-one access platform that combines a 24-port Ethernet switch, an IP access router, a modular WAN interface with built-in NTU, a stateful inspection firewall, and the option for Virtual Private Networking (VPN), all in a single 1U chassis. The NetVanta 1224STR provides 24-port Ethernet, Fast Ethernet switching, and 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 E1/FE1, E1/FE1 with G.703, ADSL, SHDSL, Serial, T1/FT1, T1/FT1 with DSX-1, Dual T1, or a 56/64K 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 1224STR your network is protected. It comes standard with a stateful inspection firewall to stop intruders and common Denial of Service (DoS) attacks. NetVanta 1224STR also offers 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, it offers a VPN upgrade supporting up to 500 IPSec tunnels using DES, 3DES, or AES encryption.

Quality of Service (QoS)

This switch-router supports 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, Weighted Fair Queuing (WFQ), and Class-based WFQ provides 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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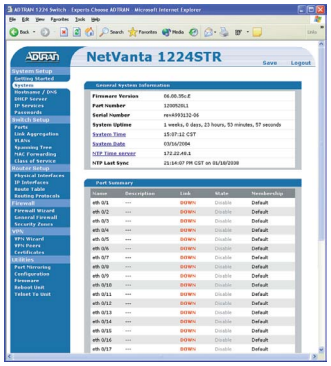


NetVanta 1224STR Web-GUI

Product Specifications

Network Interfaces

Network Interface Modules (NIMs)

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

Dial Backup Interface Modules (DIMs)

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

24 Fast Ethernet Ports

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

Gigabit Ethernet Port

- A single 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: 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

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)

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
- Strict Priority Queuing

Quality of Service (Routing-Layer 3)

- 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

Back Panel

Optional VPN Continued

- **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), NAPT (Many:1), and Port Translation
- NAT compatible SIP ALG

Secure Management

- Multilevel 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
- SNTP Client/Server

Diagnostics

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

Environment

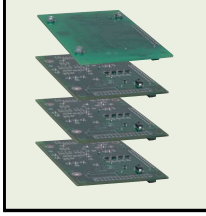
- **Operating Temperature:** 0° to 50 °C (32° to 122 °F)
- **Storage Temperature:** -20° to 70 °C (-4° to 158 °F)
- **Relative Humidity:** Up to 95%, non-condensing

Physical

- **Chassis:** 1U, 19" rackmountable metal enclosure
- **Dimensions:** 4.4cm H, 44cm W, 20.5cm D
- **Weight:** 3.19 kg
- **AC Power:** 100–250 VAC, 50/60 Hz
- **Power Dissipation:** 25 watts (85 BTUs/hour)

Agency Approvals

- FCC Part 15 Class A
- C-tick
- CE Mark
- UL1950/CSA
- FCC Part 68
- RoHS

NetVanta Network Interface Modules (NIMs)		
	E1/FE1 NIM	Terminates a full E1 or fractional E1
	E1/FE1 + G.703 NIM	Offers full E1 or fractional E1 interface, plus additonal G.703 interface to drop-off voice traffic to a PBX
	ADSL NIM	Supports ADSL (Annex B), including ADSL2 and ADSL2+ at rates up to 25 Mbps
	Serial Interface NIM	Supports a V.35, EIA-530, or X.21 (V.11) interface for synchronous operations up to 4 Mbps
	T1/FT1 NIM	Terminates a full T1 or a fractional T1
	T1/FT1 + DSX-1 NIM	Offers full T1 or fractional T1 interface, plus addtional DSX-1 interface to drop-off voice traffic to a PBX
	Dual T1/FT1 NIM	Terminates two individual T1s/FT1s or two T1s aggregated together
	56/64 kbps NIM	A WAN interface for single 56k or 64k Digital Data System (DDS) network
NetVanta Dial Backup Interface Modules (DIMs)		
	ISDN BRI "S/T" Interface DIM	Restoral via Euro-ISDN at 64 kbps
	ISDN BRI "U" Interface DIM	Restoral via the PSTN at 64 kbps
	Analog DIM	V.90 restoral and remote dial-in configuration and management
	Serial DIM	Restoral via an external modem

Ordering Information

Equipment	Part #
NetVanta 1224STR	4200520E1#IN
NetVanta 1224STR with VPN	4200520E2#IN
Connectors	
NetVanta 1000Base-SX SFP (LC Connectors)	1200480E1
NetVanta 1000Base-LX SFP (LC Connectors)	1200481E1

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ADTRAN is an ISO 9001, ISO 14001, and a TL 9000 certified supplier.

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