



TECHNICAL SUPPORT NOTE

Using the GUI to Configure a NetVanta 1224R/STR for Internet Access using an Ethernet Port (Cable or DSL modem)

Featuring ADTRAN OS and the Web GUI

Introduction

This Technical Support Note shows how to configure the NetVanta 1224R/STR for an Internet connection using an ethernet port. In this scenario, you will usually have a separate cable or DSL modem that will handle the WAN protocol and then provide ethernet to a port on the NetVanta.

Overview

Configuring the NetVanta 1224R/STR requires an understanding of the VLAN interface model. VLAN interfaces are used to create directly connected networks on the unit. Ports can then be defined as members of those VLANs. We will utilize VLAN interfaces to create a WAN and LAN segment for the 1224R. Next, we will add a default route and use the Firewall Wizard to setup basic Internet connection sharing (NAPT).

Step 1 – Logging into the unit.

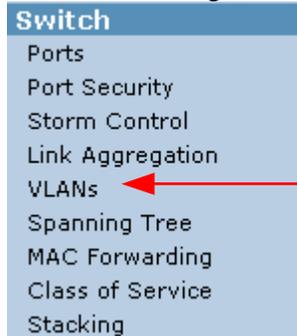
The unit will come from the factory with an IP address of 10.10.10.1 on the default VLAN 1 interface. Set the IP address on your workstation to 10.10.10.2 with a subnet mask of 255.255.255.0 and a default gateway of 10.10.10.1. In this example, we will use the first port as our Internet access port. Make sure you have an ethernet cable attached from your workstation to any other free port on the unit. Open a web browser such as Microsoft Internet Explorer and type in 10.10.10.1 for the URL. You will be prompted for a username and password for which you should enter “admin” and “password” respectively since this is the factory default. After successfully entering the username and password, the main GUI page will be displayed.

The screenshot displays the web GUI for a NetVanta 1224STR. The top navigation bar includes the ADTRAN logo, the device name 'NetVanta 1224STR', and 'Save' and 'Logout' buttons. A left-hand menu lists various configuration sections: System (Getting Started, System Summary, Physical Interfaces, Passwords, IP Services, DHCP Server, Hostname / DNS, LLDP), Switch (Ports, Port Security, Storm Control, Link Aggregation, VLANs, Spanning Tree, MAC Forwarding, Class of Service, Stacking), and Router / Bridge (Default Gateway, Routing, Route Table). The main content area is divided into two sections: 'General System Information' and 'Port Summary'. The 'General System Information' section lists: Firmware Version (08.02.00.E), Part Number (1200520L1), Serial Number (LBADTN0413AA287), System Uptime (0 days, 0 hours, 5 minutes, 24 seconds), System Time (19:44:52 UTC), System Date (03/16/2005), and NTP Time Server (Not Configured). The 'Port Summary' section shows a table of interface status.

Name	Description	Link	State	Membership
eth 0/1	---	DOWN	Disable	Default
eth 0/2	---	DOWN	Disable	Default
eth 0/3	---	DOWN	Disable	Default

Step 2 – Setting up the Private VLAN Interface

Click the “VLANs” link to setup the IP addresses for the unit. In the following diagrams, we will change the default IP address to 192.168.1.254. Note: When you submit the default IP address change, you will need to change your workstation IP address to match up with the new subnet and reconnect to the NetVanta using the new IP address. For example, after making the IP address change, set your workstation IP address to 192.168.1.1.



You will see the default VLAN listed with the 10.10.10.1 IP address. You can click this VLAN and change the private IP address to the private IP address you have chosen.

The screenshot shows the NetVanta 1224STR web interface. The top navigation bar includes the ADTRAN logo, the device name 'NetVanta 1224STR', and 'Save' and 'Logout' buttons. The left sidebar contains a menu with categories: System, Switch, and Router / Bridge. The 'VLANs' link under the Switch category is highlighted. The main content area is titled 'VLAN Configuration' and contains instructions, an 'Add New VLAN' button, and a table for existing VLANs.

ID	Name	VLAN Type	IP Address	Mask
1	Default	Static	10.10.10.1	255.255.255.0

Change the IP address to 192.168.1.254. After changing the default VLAN interface IP address, be sure to change your workstation IP address to match this network. For example, you could use 192.168.1.1 as your workstation IP address with a default gateway of 192.168.1.254.

The screenshot shows the NetVanta 1224STR configuration interface. The left sidebar contains a navigation menu with categories: System, Switch, VLANs, Router / Bridge, Firewall, VPN, and Utilities. The main content area is titled "VLAN Configuration for 'Default'" and includes the following sections:

- VLAN Configuration:** Includes fields for Enabled (checked), VLAN Name (Default), VLAN ID (1), VLAN Type (Static), and VLAN Interface (checked).
- VLAN Interface Configuration:** Includes fields for Description, Enabled (checked), MAC Address (00 : A0 : C8 : 0E : BE : A9), and Interface Mode (IP routing).
- IP Settings:** Includes Address Type (Static), IP Address (192 . 168 . 1 . 254), Subnet Mask (255 . 255 . 255 . 0), and Dynamic DNS (<disabled>).
- Secondary IP Settings:** Includes a table for IP Address and Mask, and a button to "Add a new Secondary IP Address".

Red arrows point to the IP address field in the IP Settings section and the Apply button at the bottom of the page.

Step 3 – Add a New VLAN for the Public Subnet (Port)

The public VLAN will be configured in one of three different modes, (A) IP Routing with a Static IP, (B) IP Routing using DHCP, or (C) PPPoE. DHCP is normally used when connected to a cable modem and PPPoE is often used when connected to a DSL modem set in pass-through or bridge mode. The following pages will show an example of each different scenario. We will use VLAN 100 for the public VLAN and 100.100.100.2/30 as the public IP address when a static IP address is used. When a static IP address is used, we need to make sure that a static default route is entered on the “Route Table” page. Add a new VLAN by clicking the “VLAN” link and then clicking the “Add a New VLAN” button.

The screenshot shows the NetVanta 1224STR web interface. The left sidebar contains a navigation menu with categories: System, Switch, VLANs, and Router / Bridge. The main content area is titled 'VLAN Configuration' and contains instructions on how to create or edit a VLAN. Below the instructions is a section for 'Add New VLAN' with a button labeled 'Add New VLAN' and a red arrow pointing to it. Below that is a section for 'Modify/Delete a VLAN' with a table listing existing VLANs.

ID	Name	VLAN Type	IP Address	Mask
<u>1</u>	<u>Default</u>	Static	10.10.10.1	255.255.255.0

(Option A) – IP Routing with a Static IP Configuration. The IP address 100.100.100.2 is used as an example. The IP address information should have been provided to you by your Internet Service Provider (ISP).

The screenshot displays the NetVanta 1224STR web interface. The top navigation bar includes the ADTRAN logo, the device name 'NetVanta 1224STR', and 'Save' and 'Logout' buttons. A left-hand sidebar contains a menu with categories: System, Switch, Router / Bridge, Firewall, VPN, and Utilities. The main content area is titled 'VLANs > New Vlan' and shows the 'VLAN Configuration for "VLAN100"'. This configuration page includes sections for general settings, VLAN Interface Configuration, IP Settings, and Secondary IP Settings. The IP address is set to 100.100.100.2 with a subnet mask of 255.255.255.252.

VLAN Configuration for "VLAN100"	
Use this dialog to modify the VLAN configuration. If a VLAN name is not entered, one will be generated.	
Enabled: <input checked="" type="checkbox"/>	Enable or disable this VLAN
VLAN Name: <input type="text" value="VLAN100"/>	Up to 32 alphanumeric characters.
VLAN ID: <input type="text" value="100"/>	VLAN ID is any number in the range 1-4094.
VLAN Interface: <input checked="" type="checkbox"/>	Select this to configure this VLAN as an IP interface
VLAN Interface Configuration	
Description: <input type="text" value="Public"/>	Optional descriptive label for this port. Up to 80 alphanumeric characters.
Enabled: <input checked="" type="checkbox"/>	Enable or disable this VLAN interface
MAC Address: <input type="text" value="00"/> : <input type="text" value="A0"/> : <input type="text" value="C8"/> : <input type="text" value="0E"/> : <input type="text" value="BE"/> : <input type="text" value="A9"/>	Media Access Control address for this interface
Interface Mode: <input type="text" value="IP routing"/>	Select an interface mode
IP Settings	
Address Type: <input type="text" value="Static"/>	
IP Address: <input type="text" value="100"/> . <input type="text" value="100"/> . <input type="text" value="100"/> . <input type="text" value="2"/>	Enter the IP address for this numbered interface
Subnet Mask: <input type="text" value="255"/> . <input type="text" value="255"/> . <input type="text" value="255"/> . <input type="text" value="252"/>	Enter the Subnet Mask for this numbered interface
Dynamic DNS: <input type="text" value="<disabled>"/>	Dynamic DNS is used to register this interface's IP address with a DNS Name.
Secondary IP Settings	
<input type="text" value=""/>	Mask
Add a new Secondary IP Address	
<input type="button" value="Reset"/> <input type="button" value="Apply"/>	

(Option B) – IP Routing Using DHCP. This is a typical cable modem setup.

The screenshot displays the NetVanta 1224STR web interface. The top navigation bar includes the ADTRAN logo, the device name "NetVanta 1224STR", and "Save" and "Logout" buttons. A breadcrumb trail shows "VLANs > New Vlan".

The left sidebar contains a menu with the following categories and items:

- System**
 - Getting Started
 - System Summary
 - Physical Interfaces
 - Passwords
 - IP Services
 - DHCP Server
 - Hostname / DNS
 - LLDP
- Switch**
 - Ports
 - Port Security
 - Storm Control
 - Link Aggregation
- VLANs**
 - Spanning Tree
 - MAC Forwarding
 - Class of Service
 - Stacking
- Router / Bridge**
 - Default Gateway
 - Routing
 - Route Table
 - IP Interfaces
 - QOS Maps
 - Bridging
- Firewall**
 - Firewall Wizard
 - General Firewall
 - Security Zones
- VPN**
 - VPN Wizard
 - VPN Peers
 - Certificates
- Utilities**
 - Port Mirroring
 - Configuration
 - Firmware
 - Reboot Unit
 - Telnet To Unit

The main content area is titled "VLAN Configuration for 'VLAN100'". It includes a descriptive text: "Use this dialog to modify the VLAN configuration. If a VLAN name is not entered, one will be generated." The configuration fields are as follows:

- Enabled:** *Enable or disable this VLAN*
- VLAN Name:** *Up to 32 alphanumeric characters.*
- VLAN ID:** *VLAN ID is any number in the range 1-4094.*
- VLAN Interface:** *Select this to configure this VLAN as an IP interface*

The "VLAN Interface Configuration" section includes:

- Description:** *Optional descriptive label for this port. Up to 80 alphanumeric characters.*
- Enabled:** *Enable or disable this VLAN interface*
- MAC Address:** : : : : : *Media Access Control address for this interface*
- Interface Mode:** *Select an interface mode*

The "IP Settings" section includes:

- Address Type:** *Dynamic DNS is used to register this interface's IP address with a DNS Name.*
- Dynamic DNS:**

The "Secondary IP Settings" section includes:

- IP Address** **Mask**
- [Add a new Secondary IP Address](#)

At the bottom of the configuration area are "Reset" and "Apply" buttons.

(Option C) – PPPoE (ADSL modem set to pass-through mode)

Set the Interface Mode to PPPoE and click “Apply”. Clicking “Apply” will open a new page to set PPPoE specific settings.

ADIRAN **NetVanta 1224STR** Save Logout

VLANs > New Vlan

VLAN Configuration for "VLAN100"

Use this dialog to modify the VLAN configuration. If a VLAN name is not entered, one will be generated.

Enabled:	<input checked="" type="checkbox"/>	Enable or disable this VLAN
VLAN Name:	<input type="text" value="VLAN100"/>	Up to 32 alphanumeric characters.
VLAN ID:	<input type="text" value="100"/>	VLAN ID is any number in the range 1-4094.
VLAN Interface:	<input checked="" type="checkbox"/>	Select this to configure this VLAN as an IP interface

VLAN Interface Configuration

Description:	<input type="text" value="Public"/>	Optional descriptive label for this port. Up to 80 alphanumeric characters.
Enabled:	<input checked="" type="checkbox"/>	Enable or disable this VLAN interface
MAC Address:	<input type="text" value="00"/> : <input type="text" value="A0"/> : <input type="text" value="C8"/> : <input type="text" value="DE"/> : <input type="text" value="BE"/> : <input type="text" value="A9"/>	Media Access Control address for this interface
Interface Mode:	<input type="text" value="PPPoE"/>	Select an interface mode

IP Settings

Address Type:	<input type="text" value="DHCP"/>	
Dynamic DNS:	<input type="text" value="<disabled>"/>	Dynamic DNS is used to register this interface's IP address with a DNS Name.

Secondary IP Settings

IP Address	Mask
<input type="text" value="Add a new Secondary IP Address"/>	

Reset Apply

(Option C) – PPPoE specific settings

A username and password are required for PPPoE. Service Name and AC Name are rarely used but should be entered if provided by the ISP. Peer Authentication type should almost always be set to “None”. Also, PPPoE should be set for “Negotiated” IP address unless the ISP has specified a static IP address. Whenever a static IP address is used, you will need to complete the optional step 4, which shows how to configure a static default route.

The screenshot shows the NetVanta 1224STR web interface. The breadcrumb trail is VLANs > "VLAN100" > PPPoE Config. The page title is "PPPoE Configuration for 'ppp 2'". The left sidebar contains a navigation menu with categories: System, Switch, Router / Bridge, Firewall, VPN, and Utilities. The main content area is titled "Basic configuration for the PPP interface." and includes the following settings:

- Description:** PPPoE Interface (Description label optional)
- Enabled:** (Disabling this port causes data flow to stop for this interface only)
- MTU:** 1500 (Maximum Transmit Unit (Range 64-1520 bytes))
- Authentication Settings:**
 - Sent Username:** myUsername (Enter the Username to send to the remote peer. (Required))
 - Sent Password:** myPassword (Enter the Password to send to the remote peer. (Required))
 - Service Name:** (If your provider does not require a Service Name, leave it blank.)
 - AC Name:** (If your providers does not require an AC Name, leave it blank.)
 - Peer Authentication Type:** None (Authentication type used when authenticating remote peers)
 - Peer Username:** (Peer Username is required when the remote peer must authenticate to this unit.)
 - Peer Password:** (Password received from the remote peer.)
- IP Settings:**
 - Address Type:** Negotiated
 - Default Route:** (Add a default route to the route table.)
 - Dynamic DNS:** <disabled> (Dynamic DNS is used to register this interface's IP address with a DNS Name.)
- Secondary IP Settings:**
 - IP Address: _____ Mask: _____
 - [Add a new Secondary IP Address](#)

Buttons for "Reset" and "Apply" are located at the bottom of the configuration area.

Step 4 – Adding a Default Route when using a Static IP Address

This step is not required when learning a default route dynamically as in step 3 (option B) when we used DHCP. You need to add a static default route when using IP Routing with a static IP address or PPPoE with a static IP address. Click the “Route Table” link and then add a static default route by specifying the destination network and subnet mask as 0.0.0.0. In our example, the static IP address assigned to us by our ISP is 100.100.100.2 and the default route gateway IP address set below is 100.100.100.1.

ADIRAN NetVanta 1224STR Save Logout

System
Getting Started
System Summary
Physical Interfaces
Passwords
IP Services
DHCP Server
Hostname / DNS
LLDP

Switch
Ports
Port Security
Storm Control
Link Aggregation
VLANs
Spanning Tree
MAC Forwarding
Class of Service
Stacking

Router / Bridge
Default Gateway
Routing
Route Table
IP Interfaces
QOS Maps
Bridging

Firewall

Add a Static Route to the Route Table

Static Routes are often required to reach networks that are not learned via a dynamic routing protocol. Enter the appropriate information below to add a static route or click on a route below to use it as a template for a new route.

Destination Address: . . . *Enter the network to add to the route table.*

Destination Mask: . . . *Enter the appropriate mask for this network.*

Gateway:

Address . . . *Enter the gateway address to reach this network.*
- OR -
 Interface *Select the interface to be used as the gateway.*

Administrative Distance (optional): *The Distance metric for this network. (Optional parameter)*

View/Delete Static Route

Click on the name of a route to use it as a template for a new route.

Destination	Mask	Next Hop	Dist	Type
There are no entries in the route table.				

Step 5 – Assign an Ethernet Port to be a member of the Public VLAN

In the example below, we are setting the first Ethernet port as a member of VLAN 100 and setting it to “edgeport” mode to allow this port to come up immediately. This port should be plugged into your Internet connection. Make sure your workstation is not plugged into this port and remember to click the “Apply” button. Also, it is probably a good idea after making this change to click the “Save” button to save the configuration in nonvolatile memory.

ADIRAN **NetVanta 1224STR** [Save](#) [Logout](#)

System
Getting Started
System Summary
Physical Interfaces
Passwords
IP Services
DHCP Server
Hostname / DNS
LLDP

Switch
Ports
Port Security
Storm Control
Link Aggregation
VLANs
Spanning Tree
MAC Forwarding
Class of Service
Stacking

Router / Bridge
Default Gateway
Routing
Route Table
IP Interfaces
QOS Maps
Bridging

Firewall
Firewall Wizard
General Firewall

Switch Ports Configuration

Make changes to one or more port's settings and click Apply. Click on the name of the port to configure additional port settings and view port statistics.

[Select All](#) [Deselect All](#) [Reset](#) [Apply](#)

Port	Edge Port Mode	Membership	Speed/Duplex	Status	STP
Template Line	<Select>	<Select>	<Select>		
eth 0/1	<input checked="" type="checkbox"/> Enabled	Vlan 100(VLAN100)	Auto	100/Full	Forwarding
eth 0/2	<input type="checkbox"/> Disabled	vlan 1(Default)	Auto	100/Full	Forwarding
eth 0/3	<input type="checkbox"/> Disabled	vlan 1(Default)	Auto	Down	---
eth 0/4	<input type="checkbox"/> Disabled	vlan 1(Default)	Auto	Down	---
eth 0/5	<input type="checkbox"/> Disabled	vlan 1(Default)	Auto	Down	---
eth 0/6	<input type="checkbox"/> Disabled	vlan 1(Default)	Auto	Down	---
eth 0/7	<input type="checkbox"/> Disabled	vlan 1(Default)	Auto	Down	---
eth 0/8	<input type="checkbox"/> Disabled	vlan 1(Default)	Auto	Down	---
eth 0/9	<input type="checkbox"/> Disabled	vlan 1(Default)	Auto	Down	---
eth 0/10	<input type="checkbox"/> Disabled	vlan 1(Default)	Auto	Down	---

Step 6 – Using the Firewall Wizard to Setup Internet Connection Sharing (NAPT)

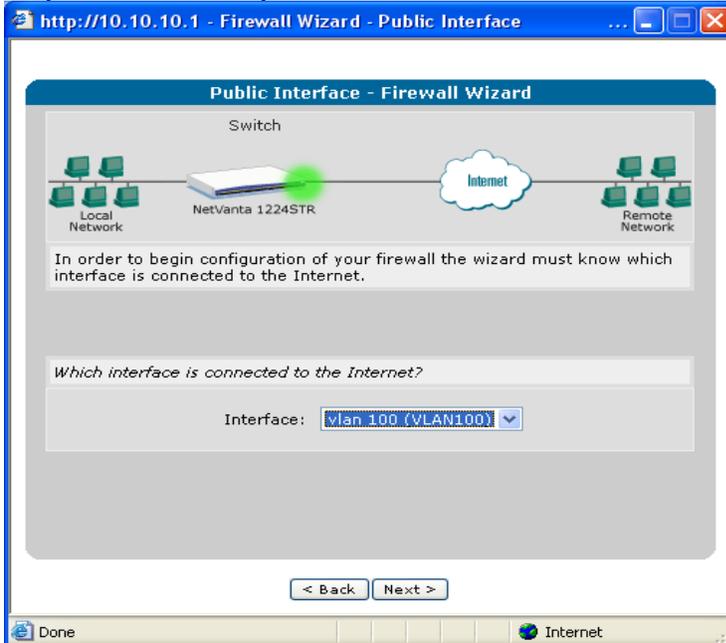
We will use the Firewall Wizard to setup the “Security Zones” on the router. You can also setup some basic port forwarding using this wizard. Note: You only want to use this wizard for the initial configuration. All future firewall settings should be added using the “Security Zones” link.

Firewall
Firewall Wizard
General Firewall
Security Zones

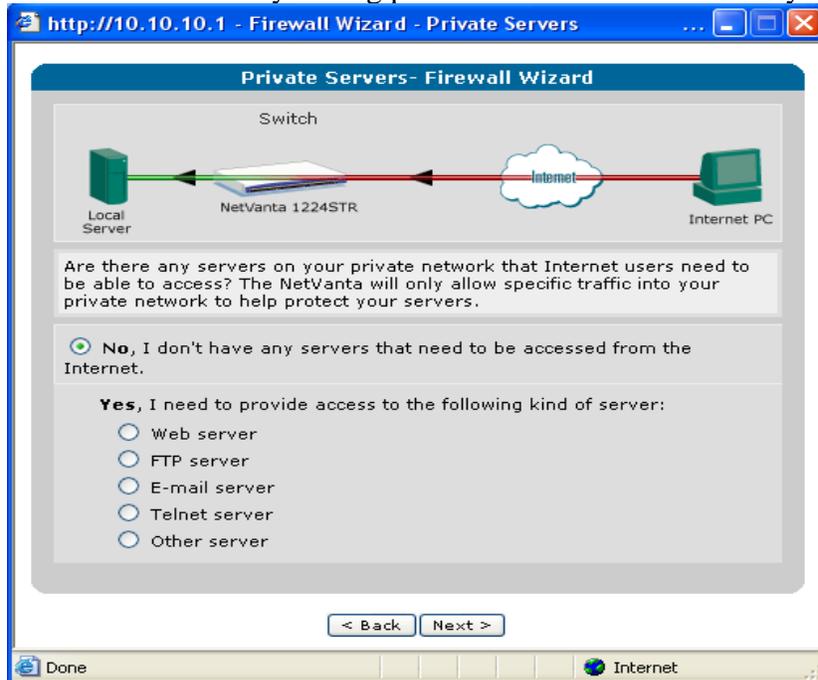
Step 6-1. The first wizard page is just a warning that this will overwrite any previous firewall settings.



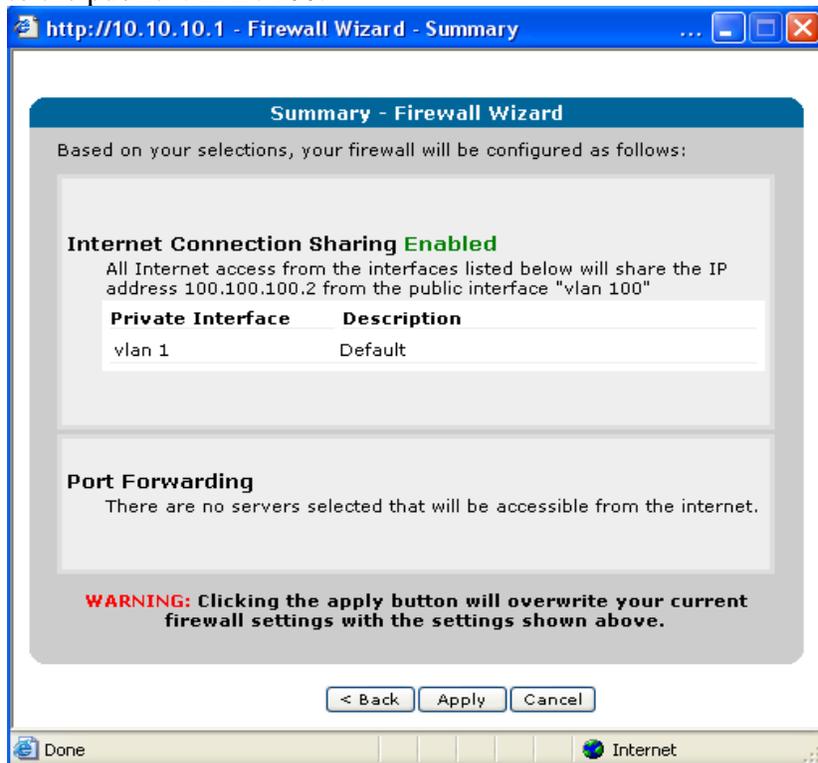
Step 6-2. Select the public VLAN interface. In our example, this is VLAN 100.



Step 6-3. This step will allow you to setup some basic port forwarding. Port forwarding can be done at a later date by adding policies to the “Public” Security Zone.



Step 6-4. The final step is to confirm that the default VLAN 1 will share the IP address applied to the public VLAN 100.



Step 7 – Save Your Changes

The basic configuration should be complete after using the Firewall Wizard. Be sure to click “Save” after you make any configuration changes. This will ensure that the configuration will be maintained in the unit by storing it in the NVRAM.

The screenshot shows the ADTRAN NetVanta 1224STR web GUI. The top navigation bar includes the ADTRAN logo, the device name "NetVanta 1224STR", and "Save" and "Logout" buttons. A red arrow points to the "Save" button. The left sidebar contains a menu with categories: System, Switch, Router / Bridge, and Firewall. The main content area is divided into two sections: "General System Information" and "Port Summary".

General System Information

Firmware Version	08.02.00.E
Part Number	1200520L1
Serial Number	LBADTN0413AA287
System Uptime	0 days, 6 hours, 44 minutes, 57 seconds
System Time	15:40:10 UTC
System Date	03/17/2005
NTP Time Server	(Not Configured)

Port Summary

Status for the NetVanta's interfaces.

Name	Description	Link	State	Membership
eth 0/1	---	UP	Forward	VLAN100
eth 0/2	---	UP	Forward	Default
eth 0/3	---	DOWN	Disable	Default
eth 0/4	---	DOWN	Disable	Default
eth 0/5	---	DOWN	Disable	Default
eth 0/6	---	DOWN	Disable	Default
eth 0/7	---	DOWN	Disable	Default

Step 8 – Consult Additional Documentation

Additional Documentation is available at www.adtran.com using the “Service/Support” link or doing a search for “ADTRAN OS Web GUI”. There you can find an introduction document for each menu. If you experience any problems with your ADTRAN product, please contact Technical Support at 888-423-8726.

DISCLAIMER

ADTRAN provides the foregoing application description solely for the reader's consideration and study, and without any representation or suggestion that the foregoing application is or may be free from claims of third parties for infringement of intellectual property rights, including but not limited to, direct and contributory infringement as well as for active inducement to infringe. In addition, the reader's attention is drawn to the following disclaimer with regard to the reader's use of the foregoing material in products and/or systems. That is:

ADTRAN SPECIFICALLY DISCLAIMS ALL WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING BUT NOT LIMITED TO, MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. IN NO EVENT SHALL ADTRAN BE LIABLE FOR ANY LOSS OR DAMAGE, AND FOR PERSONAL INJURY, INCLUDING BUT NOT LIMITED TO, COMPENSATORY, SPECIAL, INCIDENTAL, CONSEQUENTIAL, OR OTHER DAMAGES.