



NetVanta 1230 Series Hardware Installation Guide

1700594G1	NetVanta 1234
1700595G1	NetVanta 1234 PoE
1700598G1	NetVanta 1238
1700599G1	NetVanta 1238 PoE

Trademarks

Any brand names and product names included in this manual are trademarks, registered trademarks, or trade names of their respective holders.

To the Holder of the Manual

The contents of this manual are current as of the date of publication. ADTRAN reserves the right to change the contents without prior notice.

In no event will ADTRAN be liable for any special, incidental, or consequential damages or for commercial losses even if ADTRAN has been advised thereof as a result of issue of this publication.

Software Licensing Agreement

Each ADTRAN product contains a single license for ADTRAN-supplied software. Pursuant to the Licensing Agreement, you may: (a) use the software on the purchased ADTRAN device only and (b) keep a copy of the software for backup purposes. This Agreement covers all software installed on the system, as well as any software available on the ADTRAN website. In addition, certain ADTRAN systems may contain additional conditions for obtaining software upgrades.



Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.



901 Explorer Boulevard
P.O. Box 140000
Huntsville, AL 35814-4000
Phone: (256) 963-8000

Copyright © 2009 ADTRAN, Inc.
All Rights Reserved.
Printed in U.S.A.

Conventions



NOTE

Notes provide additional useful information.



CAUTION

Cautions signify information that could prevent service interruption or damage to the equipment.

WARNING

Warnings provide information that could prevent injury or endangerment to human life.

Safety Instructions

When using your telephone equipment, please follow these basic safety precautions to reduce the risk of fire, electrical shock, or personal injury:

1. Do not use this product near water, such as a bathtub, wash bowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool.
2. Avoid using a telephone (other than a cordless type) during an electrical storm. There is a remote risk of shock from lightning.
3. Do not use the telephone to report a gas leak in the vicinity of the leak.
4. Use only the power cord, power supply, and batteries indicated in the manual. Do not dispose of batteries in a fire. They may explode. Check with local codes for special disposal instructions.
5. The socket-outlet shall be installed near the equipment and shall be easily accessible.

If any of the following conditions occur, unplug the product from the electrical outlet and replace the part or contact your qualified service personnel:

1. The power cable, extension cable, or plug is damaged.
2. An object has fallen into the product.
3. The product has been exposed to water.
4. The product has been dropped or damaged.
5. The product does not operate correctly when you follow the operating instructions.



These units contain no user-serviceable parts. They should only be serviced by qualified service personnel.



*Additional safety guidelines, such as Waste Electrical and Electronic Equipment (WEEE) are given in the **NetVanta Safety and Regulatory Information** document on the AOS Documentation CD.*

Save These Important Safety Instructions

FCC Radio Frequency Interference Statement

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio frequencies. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Canadian Emissions Requirements

This digital apparatus does not exceed the Class A limits for radio noise emissions from digital apparatus as set out in the interference-causing equipment standard entitled “Digital Apparatus,” ICES-003 of the Department of Communications.

Cet appareil numérique respecte les limites de bruits radioélectriques applicables aux appareils numériques de Class A prescrites dans la norme sur le matériel brouilleur: “Appareils Numériques,” NMB-003 édictée par le ministre des Communications.

Service and Warranty

For information on the service and warranty of ADTRAN products, visit the ADTRAN website at <http://www.adtran.com/support>.

Table of Contents

Introduction	13
Physical Descriptions	13
NetVanta 1230 Series	13
Power over Ethernet	13
SFP Module Slots	13
Product Specifications	21
Unit Installation	22
Tools Required	22
Mounting Options	23
Supplying Power to the Unit	25
Appendix A. Connector Pin Definitions.	27

List of Figures

Figure 1.	NetVanta 1234 Front Panel Layout	15
Figure 2.	NetVanta 1234 Rear Panel Layout	16
Figure 3.	NetVanta 1234 PoE Front Panel Layout	16
Figure 4.	NetVanta 1234 PoE Rear Panel Layout	17
Figure 5.	NetVanta 1238 Front Panel Layout	17
Figure 6.	NetVanta 1238 Rear Panel Layout	18
Figure 7.	NetVanta 1238 PoE Front Panel Layout	18
Figure 8.	NetVanta 1238 PoE Rear Panel Layout	19
Figure 9.	Wallmount Installation	25

List of Tables

Table 1.	Front Panel LED Descriptions	20
Table A-1.	10/100Base-T Ethernet Port Pinouts	27
Table A-2.	SFP Slot Pinouts	27
Table A-3.	1000Base-T Gigabit Ethernet Port Pinouts	28

1. INTRODUCTION

The NetVanta 1230 Series includes the NetVanta 1234, NetVanta 1234 Power over Ethernet (PoE), NetVanta 1238, and NetVanta 1238 PoE.

This hardware installation guide lists the NetVanta 1230 units' specifications, describes the physical characteristics of the units, introduces basic functionality, and provides installation instructions.



In this document, the term NetVanta 1230 means all of the units collectively. If a statement only applies to one particular switch, the text refers to that switch individually.

2. PHYSICAL DESCRIPTIONS

NetVanta 1230 Series

The NetVanta 1230 and NetVanta 1230 PoE Series are managed switches housed in 1U-high rack-mountable metal enclosures that include a universal AC power supply. The front panels contain 24 (NetVanta 1234 Series) or 48 (NetVanta 1238 Series) 10/100Base-T Ethernet interfaces and four 10/100/1000Base-T Gigabit Ethernet interfaces all accessed via standard RJ-45 connectors. Two industry standard small form-factor pluggable (SFP) slots (supporting industry standard SFP modules) are available for high-speed uplink via fiber. NetVanta 1230 units run the ADTRAN Operating System (AOS), and are managed through an EIA-232 **CONSOLE** port (DB-9) located on either the front or rear panel, Telnet session, or Web-based graphical user interface (GUI). The NetVanta 1230 is RoHS compliant.

Power over Ethernet

The NetVanta 1230 Series PoE switches provide the same basic functionality as the standard product. PoE provides the ability to detect attached powered devices (PDs), and deliver 48 VDC to the PD via existing CAT 5 cabling. The PoE switches are fully compliant with the IEEE 802.3af PoE standard. By default, the PoE switches discover and provide power to IEEE-compliant PDs. NetVanta 1230 Series PoE switches support legacy PoE.

SFP Module Slots

The NetVanta 1230 Series devices support two SFP slots that accept a number of industry standard SFP modules. The SFP modules provide Gigabit Ethernet fiber connectivity for high-speed uplinks or switch stacking. The following modules are available for purchase (both of these modules require fiber optic cable with LC connectors):

- 1200480E1 1000Base-SX Multi-Mode SFP Module
- 1200481E1 1000Base-LX Single-Mode SFP Module

This section includes a list of features, a list of shipping contents, and a description of the unit's front and rear panel designs. For additional information, refer to the following sections:

- *Product Specifications* on page 21
- *Mounting Options* on page 23
- *Supplying Power to the Unit* on page 25

For information on switch configuration for a specific application, refer to the quick configuration documents provided on the *AOS Documentation* CD shipped with your base unit. For details on the command line interface (CLI), refer to the *AOS Command Reference Guide* (also included on your CD).

NetVanta 1230 Series Shipping Contents

Each NetVanta 1230 units are shipped in their own cardboard shipping carton. Open each carton carefully, and avoid deep penetration into the carton with sharp objects.

After unpacking the unit, inspect it for possible shipping damage. If the equipment has been damaged in transit, immediately file a claim with the carrier and contact ADTRAN Customer Service (refer to the *Repair and Replacement* section of the *Support* page on the ADTRAN website at <http://www.adtran.com/support>).

Domestic shipments of the NetVanta 1230 Series include the following items:

- NetVanta 1230 Series base unit
- AOS documentation bundle
- Rackmount brackets
- A detachable power cable with a grounded, three-prong plug

International shipments of the NetVanta 1230 Series include the following items:

- NetVanta 1230 Series base unit
- AOS documentation bundle
- Rackmount brackets
- All necessary power cords

NetVanta 1234 Front Panel Design

The NetVanta 1234 front panel is shown below. *Table 1* on page 20 describes all of the LEDs, and *Appendix A* on page 27 shows the connector pinouts.

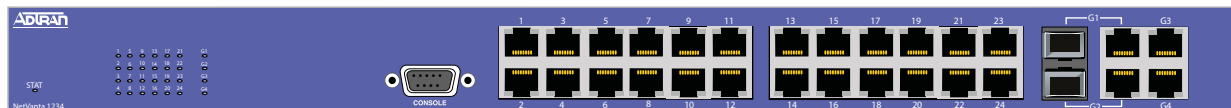


Figure 1. NetVanta 1234 Front Panel Layout

NetVanta 1234 Front Panel Features

Status LED

The **STAT** LED indicates the unit's status and is located to the lower left corner of the unit.

CONSOLE Interface

The **CONSOLE** interface is an EIA-232 serial port (DCE) that provides for local management and configuration (via a DB-9 female connector).



Connection directly to an external modem requires a cross-over cable.

10/100Base-T Ethernet Interfaces

The NetVanta 1234 front panel contains 24 10/100Base-T Ethernet interfaces (RJ-45). These interfaces are arranged in stacked pairs, with the numbers **1** through **24** screened directly above or below the corresponding port. Status LEDs numbered **1** through **24** are located in the LED bank on the left side of the unit.

10/100/1000Base-T Gigabit Ethernet Interfaces

The NetVanta 1234 front panel contains four 10/100/1000Base-T Gigabit Ethernet interfaces (RJ-45). These interfaces are arranged in two stacked pairs, with the numbers **G1** through **G4** screened directly above or below the corresponding port. Status LEDs numbered **G1** through **G4** are located in the LED bank on the left side of the unit.

SFP Slots

The NetVanta 1234 front panel contains two standard SFP slots for fiber connectivity. These interfaces, numbered **G1** and **G2**, are associated with the Gigabit Ethernet interfaces numbered **G1** and **G2** and share status LEDs. (Use either the RJ-45 connectors *or* the SFP slots. The fiber slots have precedence.)

NetVanta 1234 Rear Panel Design

The NetVanta 1234 rear panel is shown below.



Figure 2. NetVanta 1234 Rear Panel Layout

NetVanta 1234 Rear Panel Interfaces

Power Connection

The rear panel has a power input to the AC universal power supply. Please refer to *Supplying Power to the Unit* on page 25 for connection details.

NetVanta 1234 PoE Front Panel Design

The NetVanta 1234 PoE front panel is shown below. *Table 1* on page 20 describes all of the LEDs, and *Appendix A* on page 27 shows the connector pinouts.

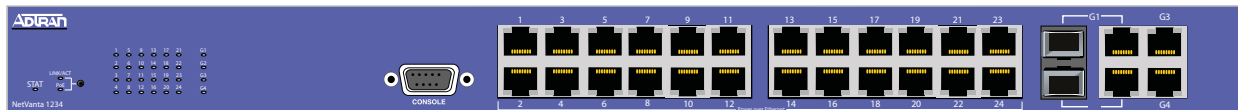


Figure 3. NetVanta 1234 PoE Front Panel Layout

NetVanta 1234 PoE Front Panel Features

Status LED

The **STAT** LED indicates the unit's status and the LEDs are located on the lower left corner of the unit.

Mode Selector Button

The mode selector button is used to select the type of activity displayed on the LEDs labeled **1** through **24**. If **LINK/ACT** is selected, the LEDs display the link status/activity of the ports. If **PoE** is selected, the LEDs display the status of PDs connected to the ports.

CONSOLE Interface

The **CONSOLE** interface is an EIA-232 serial port (DCE) that provides for local management and configuration (via a DB-9 female connector).



Connection directly to an external modem requires a cross-over cable.

10/100Base-T Ethernet Interfaces

The NetVanta 1234 PoE front panel contains 24 10/100Base-T Ethernet interfaces (RJ-45). These interfaces are arranged in stacked pairs, with the numbers **1** through **24** screened directly above or below the corresponding port. Status LEDs numbered **1** through **24** are located in the LED bank on the left side of the unit.

10/100/1000Base-T Gigabit Ethernet Interfaces

The NetVanta 1234 PoE front panel contains four 10/100/1000Base-T Gigabit Ethernet interfaces (RJ-45). These interfaces are arranged in two stacked pairs, with the numbers **G1** through **G4** screened directly above or below the corresponding port. Status LEDs numbered **G1** through **G4** are located in the LED bank on the left side of the unit.

SFP Slots

The NetVanta 1234 PoE front panel contains two standard SFP slots for fiber connectivity. These interfaces, numbered **G1** and **G2**, are associated with the Gigabit Ethernet interfaces numbered **G1** and **G2** and share status LEDs. (Use either the RJ-45 connectors *or* the SFP slots. The fiber slots have precedence.)

NetVanta 1234 PoE Rear Panel Design

The NetVanta 1234 rear panel is shown below.



Figure 4. NetVanta 1234 PoE Rear Panel Layout

NetVanta 1234 PoE Rear Panel Interfaces

Power Connection

The rear panel has a power input to the AC universal power supply. Please refer to *Supplying Power to the Unit* on page 25 for connection details.

NetVanta 1238 Front Panel Design

The NetVanta 1238 front panel is shown below. *Table 1* on page 20 describes all of the LEDs, and *Appendix A* on page 27 shows the connector pinouts.

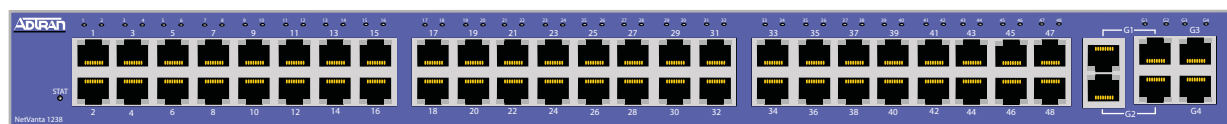


Figure 5. NetVanta 1238 Front Panel Layout

NetVanta 1238 Front Panel Features

Status LED

The **STAT** LED, which indicates the unit's status, is located to the lower left of the front panel adjacent to RJ-45 port 2.

10/100Base-T Ethernet Interfaces

The NetVanta 1238 front panel contains 48 10/100Base-T Ethernet interfaces (RJ-45). These interfaces are arranged in stacked pairs, with the numbers **1** through **48** screened directly above or below the corresponding port. Status LEDs for each stacked pair are located directly over the interfaces.

10/100/1000Base-T Gigabit Ethernet Interfaces

The NetVanta 1238 front panel contains four Gigabit Ethernet interfaces (RJ-45). These interfaces are labeled **G1** through **G4** and their status LEDs are located directly over the interfaces.

SFP Slots

The NetVanta 1238 front panel contains two standard SFP slots for fiber connectivity. These interfaces, numbered **G1** and **G2**, are associated with the Gigabit Ethernet interfaces numbered **G1** and **G2** and share status LEDs. (Use either the RJ-45 connectors *or* the SFP slots. The fiber slots have precedence.)

NetVanta 1238 Rear Panel Design

The NetVanta 1238 rear panel is shown below. Refer to *Appendix A* on page 27 for pinouts.



Figure 6. NetVanta 1238 Rear Panel Layout

NetVanta 1238 Rear Panel Interfaces

Power Connection

The rear panel has a power input to the AC universal power supply. Please refer to *Supplying Power to the Unit* on page 25 for connection details.

CONSOLE Interface

The **CONSOLE** interface is an EIA-232 serial port (DCE) that provides local management and configuration (via a DB-9 female connector).



Connection directly to an external modem requires a cross-over cable.

NetVanta 1238 PoE Front Panel Design

The NetVanta 1238 PoE front panel is shown below. *Table 1* on page 20 describes all of the LEDs, and *Appendix A* on page 27 shows the connector pinouts.

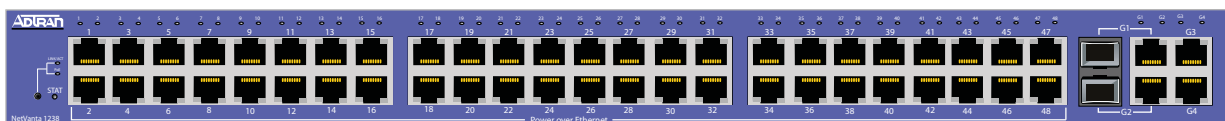


Figure 7. NetVanta 1238 PoE Front Panel Layout

NetVanta 1238 PoE Front Panel Features

Status LED

The **STAT** LED, which indicates the unit's status, is located to the lower left of the front panel adjacent to RJ-45 port 2.

Mode Selector Button

The mode selector button is used to select the type of activity displayed on the LEDs labeled **1** through **48**. If **LINK/ACT** is selected, the LEDs display the link status/activity of the ports. If **PoE** is selected, the LEDs display the status of PDs connected to the ports.

10/100Base-T Ethernet Interfaces

The NetVanta 1238 PoE front panel contains 48 10/100Base-T Ethernet interfaces (RJ-45). These interfaces are arranged in stacked pairs, with the numbers **1** through **48** screened directly above or below the corresponding port. Status LEDs for each stacked pair are located directly over the interfaces.

10/100/1000Base-T Gigabit Ethernet Interfaces

The NetVanta 1238 PoE front panel contains four Gigabit Ethernet interfaces (RJ-45). These interfaces are labeled **G1** through **G4** and their status LEDs are located directly over the interfaces.

SFP Slots

The NetVanta 1238 PoE front panel contains two standard SFP slots for fiber connectivity. These interfaces, numbered **G1** and **G2**, are associated with the Gigabit Ethernet interfaces numbered **G1** and **G2** and share status LEDs. (Use either the RJ-45 connectors *or* the SFP slots. The fiber slots have precedence.)

NetVanta 1238 PoE Rear Panel Design

The NetVanta 1238 PoE rear panel is shown below. Refer to *Appendix A* on page 27 for pinouts.



Figure 8. NetVanta 1238 PoE Rear Panel Layout

NetVanta 1238 PoE Rear Panel Interfaces

Power Connection

The rear panel has a power input to the AC universal power supply. Please refer to *Supplying Power to the Unit* on page 25 for connection details.

CONSOLE Interface

The **CONSOLE** interface is an EIA-232 serial port (DCE) that provides local management and configuration (via a DB-9 female connector).



Connection directly to an external modem requires a cross-over cable.

Table 1. Front Panel LED Descriptions

LED	Color	Indication
STAT	Off	Power is off.
	Green (flashing)	Power up is in progress.
	Green (solid)	Power is on, power up is complete.
LINK/ACT	Green (solid)	Link status/activity mode selected.
PoE	Green (solid)	PoE mode selected.
Port LED in Link/Activity Mode (1 - 24 NetVanta 1234) (1 - 48 NetVanta 1238)	Off	The port is not connected.
	Green (solid)	The link is up.
	Amber (flashing)	The link is up and activity (transmit or receive) has occurred on the port.
Port LED in Link/Activity Mode (G1 - G4)	Off	The port is not connected.
	Green (solid)	The link is up.
	Amber (flashing)	The link is up and activity (transmit or receive) has occurred on the port.
Port LED in PoE Mode (1 - 24 NetVanta 1234 PoE) (1 - 48 NetVanta 1238 PoE)	Off	Powered device is not connected.
	Green (solid)	Powered device is connected.
	Green (flashing)	The port has detected a PoE fault.



Ports G1 through G4 are always in LINK/ACT mode.

3. PRODUCT SPECIFICATIONS

	1234	1234 PoE	1238	1238 PoE
Physical Interfaces				
10/100Base-T Ethernet interfaces on the front panel	24	24	48	48
1000Base-T Gigabit Ethernet interfaces on the front panel	2	2	2	2
Combination 1000Base-T Gigabit Ethernet/SFP interfaces on the front panel (SFP slots for fiber connectivity/RJ-45 connectors for copper connectivity)	2	2	2	2
Integrated DB-9, EIA-232 console port (DCE) on the front panel of 1234s, rear panel of 1238s	1	1	1	1
Spanning Tree Support (802.1D and 802.1w)	✓	✓	✓	✓
Link Aggregation (802.3ad)	✓	✓	✓	✓
VLAN Support (802.1Q), up to 255 active VLANs	✓	✓	✓	✓
Priority QoS (802.1p)	✓	✓	✓	✓
Management				
Console	✓	✓	✓	✓
Telnet CLI	✓	✓	✓	✓
SSH CLI	✓	✓	✓	✓
SNMP V2	✓	✓	✓	✓
Port mirroring	✓	✓	✓	✓
Power: 100 to 240 VAC, 50/60 Hz	0.5 A	2.9 A	0.5 A	5.0 A
Mechanical Specifications				
Housing: 1U-high metal enclosure (1.72-inch H x 17.22-inch W x 7.8-inch D) (The 1234 PoE and 1238 PoE are 12.8-inches deep.)	✓	✓	✓	✓
10/100Base-T Ethernet: Ganged RJ-45 jacks	24	24	48	48
10/100/1000Base-T Ethernet: Standard RJ-45 jacks	4	4	4	4
10/100/1000Base-T Ethernet: SFP slots	2	2	2	2
Console Port: DB-9, female	✓	✓	✓	✓
Environmental Specifications				
AC Input Power: 100 to 240 VAC	✓	✓	✓	✓
Storage Temperature: -20°C to 70°C	✓	✓	✓	✓
Operating Temperature: 0°C to 50°C	✓	✓	✓	✓
Relative Humidity: Up to 95 percent, noncondensing	✓	✓	✓	✓

4. UNIT INSTALLATION

The instructions and guidelines provided in this section cover hardware installation topics, such as mounting options, supplying power to the unit, and installing option cards. These instructions are presented as follows:

- *Mounting Options* on page 23
- *Supplying Power to the Unit* on page 25

For information on configuring a specific application, refer to the quick configuration documents provided on the *AOS Documentation CD*, or the *AOS Command Reference Guide* (also included on your CD).

WARNING

To prevent electrical shock, do not install equipment in a wet location or during a lightning storm.

Tools Required

The customer-provided tools required for the hardware installation of the NetVanta are:

- Ethernet cables
- Phillips-head screwdriver (rack-mounted applications only)

NOTE


*To access the CLI of the NetVanta, you will also need a VT100 terminal or PC with terminal emulation software and a console port cable. Instructions on how to access the CLI are given in the *AOS Command Reference Guide* (provided on the *AOS Documentation CD*).*

Mounting Options


The unit may be installed in rackmount or tabletop configurations. The following sections provide step-by-step instructions for rack mounting and tabletop installation.

Rack Mounting the NetVanta

The NetVanta is a 1U-high, rack-mountable unit that can be installed into a 19-inch equipment rack. The following steps guide you in mounting the NetVanta into a rack.


 CAUTION	<ul style="list-style-type: none"> • <i>If installed in a closed or multi-unit rack assembly, the operating ambient temperature of the rack environment may be greater than room ambient temperature. Therefore, consideration should be given to installing the equipment in an environment compatible with the maximum ambient temperature specified by the manufacturer.</i> • <i>Installation of the equipment in a rack should be such that the amount of air flow required for safe operation of the equipment is not compromised.</i> • <i>Be careful not to compromise the stability of the equipment mounting rack when installing this product.</i> • <i>Consideration should be given to the connection of the equipment to the supply circuit and the effect that overloading the circuit might have on overcurrent protection and supply wiring. Appropriate consideration of equipment nameplate ratings should be used when addressing this concern.</i> • <i>Reliable grounding of rack-mounted equipment should be maintained. Particular attention should be given to supply connections other than direct connections to the branch circuit (e.g., use of power strips).</i>
---	--

Instructions for Rack Mounting the NetVanta	
Step	Action
1	Securely fasten the mounting brackets to the NetVanta using the screws provided.
2	To allow proper grounding, scrape the paint from the rack around the mounting holes where the NetVanta will be positioned.
3	Position the NetVanta in a stationary equipment rack. This unit occupies 1U of space.
4	Have an assistant hold the unit in position as you install two mounting bolts through the unit's brackets and into the equipment rack using a #2 Phillips-head screwdriver.
5	Apply power to the unit (refer to <i>Supplying Power to the Unit</i> on page 25).

 CAUTION	<p><i>To avoid damaging the unit, use only the screws included in the shipment when attaching mounting ears to the chassis.</i></p>
---	---


Tabletop Installation of the NetVanta

Install the NetVanta on a sturdy, level tabletop or shelf that can support at least 9.35 lbs (4.24 kg). Before installing the NetVanta on a horizontal surface, attach the included rubber feet to the bottom of each corner of the unit. The rubber feet cushion the unit, protect the casing from scratches and prevent it from scratching other surfaces. Allow enough space for ventilation between the NetVanta and other objects in the vicinity.

 <p>CAUTION</p>	<p><i>Make sure there is adequate ventilation around the NetVanta unit to properly dissipate heat. Leave at least 4 inches (10 cm) of space at the front and rear of the NetVanta for ventilation.</i></p>
---	--

Wall Mounting the NetVanta

By following these instructions exactly, the NetVanta can be safely mounted to the wall.

 <p>CAUTION</p>	<ul style="list-style-type: none"> • <i>NetVanta units are to be installed only by qualified service personnel.</i> • <i>To avoid damaging the unit, use only the screws included in the shipment when attaching mounting ears to the chassis.</i> • <i>When wall mounting the NetVanta, care must be taken not to damage the power cord. Do not attach the power cord to the building surface or run it through walls, ceilings, floors, or openings in the building structure.</i> • <i>The socket-outlet must be installed near the equipment and must be easily accessible.</i>
---	---

Instructions for Wall Mounting the NetVanta	
Step	Action
1	<p>Remove the mounting brackets. For a non-PoE 1234 installation, rotate them 90 degrees and reattach the mounting brackets to the chassis as shown in Figure 9 on page 25. For all other products, attach the specially designed wallmount brackets (P/N 1700506G1) as shown in Figure 9.</p> <p>Note: <i>The NetVanta 1234 non-PoE brackets have two slots rather than a single keyhole to mount to the wall.</i></p>
2	<p>Decide on a location for the NetVanta. The NetVanta 1230 Series is mounted with the front panel facing down as shown in Figure 9 on page 25. Keep in mind that the unit needs to be mounted in a position that allows viewing of the LEDs.</p>
3	<p>Prepare the mounting surface by attaching a board (typically plywood, 3/4-inch to 1-inch thick) to a wall stud.</p> <p>Important! <i>Mounting to a stud ensures stability. Using sheetrock anchors may not provide sufficient long-term stability.</i></p>
4	<p>Have an assistant hold the unit in position as you install one screw for each bracket, positioned to allow the bracket keyhole to slide over the screw head (see Figure 9 on page 25).</p>
5	<p>Proceed to the steps given in <i>Supplying Power to the Unit</i> on page 25.</p>

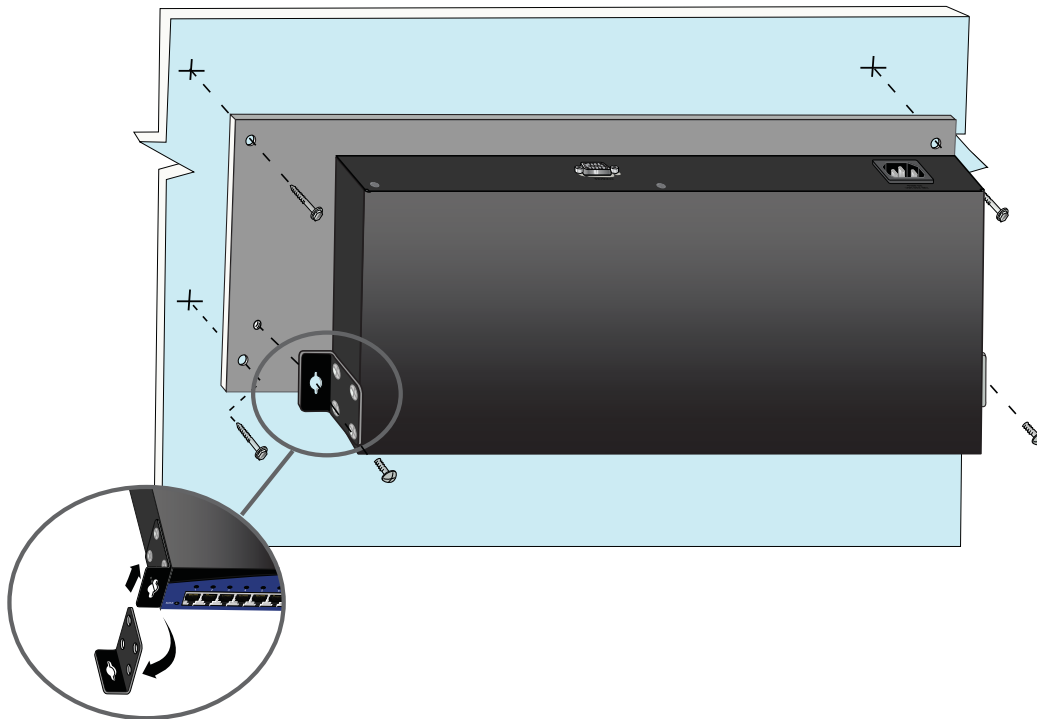


Figure 9. Wallmount Installation

Supplying Power to the Unit

The NetVanta 1230 Series units come equipped with an auto-sensing 100 to 240 VAC, 50/60 Hz power supply for connecting to a properly grounded power receptacle. (A detachable power cable with a grounded, three-prong plug comes with the shipment.) To power these units, plug one end of the power cable into the power connector of the NetVanta and the other end to an appropriate AC power source.



Use only approved power cable(s). If you have not been provided with a power cable for your system, purchase a power cable that is approved for use in your country. The power cable must be rated for the product and for the voltage and current marked on the product's electrical ratings label. The voltage and current rating of the cable should be greater than the ratings marked on the product.

WARNING

To help prevent electric shock, plug the system and peripheral power cables into properly grounded electrical outlets. These cables are equipped with three-prong plugs to help ensure proper grounding. Do not use adapter plugs or remove the grounding prong from a cable. If you must use an extension cable, use a 3-wire cable with properly grounded plugs.

After the NetVanta is powered on, the LED indicators will flash momentarily. This flashing represents a reset of the system.

Your NetVanta is now ready to be configured and connected to the network. For more information on configuration for a specific application, refer to the quick configuration documents provided on the *AOS Documentation CD*. For details on the CLI, refer to the *AOS Command Reference Guide* (also included on your CD).

APPENDIX A. CONNECTOR PIN DEFINITIONS

The following tables provide the pin assignments for the base unit.

Base Unit Pinouts

Table A-1. 10/100Base-T Ethernet Port Pinouts

Pin	Name	Description
1	TX1	Transmit Positive
2	TX2	Transmit Negative
3	RX1	Receive Positive
4, 5	—	Unused
6	RX2	Receive Negative
7, 8	—	Unused

Table A-2. SFP Slot Pinouts

Pin	Name	Pin	Name
1	RX_LOS	11	RGND
2	RGND	12	RX_DAT-
3	RGND	13	RX_DAT+
4	MOD_DEF(0)	14	RGND
5	MOD_DEF(1)	15	VddR
6	MOD_DEF(2)	16	VddT
7	TX_DISABLE	17	TGND
8	TGND	18	TX_DAT+
9	TGND	19	TX_DAT-
10	TX_FAULT	20	TGND

Table A-3. 1000Base-T Gigabit Ethernet Port Pinouts

Pin	Name	Description
1	TRD0+	Transmit/Receive Positive
2	TRD0-	Transmit/Receive Negative
3	TRD1+	Transmit/Receive Positive
4	TRD2+	Transmit/Receive Positive
5	TRD2-	Transmit/Receive Negative
6	TRD1-	Transmit/Receive Negative
7	TRD3+	Transmit/Receive Positive
8	TRD3-	Transmit/Receive Negative

Index

Numerics

- 1000Base-LX single-mode SFP module 13
- 1000Base-SX multi-mode SFP module 13

A

- ADTRAN operating system 13

C

- command line interface 22
- console port description 13

I

- installation
 - rack mounting instructions 23
 - wall mounting instructions 24
- installing the unit 22

L

- LEDs
 - description of 20
 - LINK/ACT 20
 - PoE 20
 - port in Link/Activity mode 20
 - port in PoE mode 20
 - STAT 20
- LINK/ACT LED 20

M

- mounting options 23

N

- NetVanta 1230
 - brief description 13
- NetVanta 1234
 - front panel 15
 - rear panel 16
- NetVanta 1234 PoE
 - front panel 16
 - rear panel 17

- NetVanta 1238
 - front panel 17
 - rear panel 18
- NetVanta 1238 PoE
 - front panel 18
 - rear panel 19

P

- pinouts
 - 10/100Base-T ports 27
 - 1000Base-T ports 28
 - SFP slots 27
- PoE LED 20
- port LED in link/activity mode 20
- port LED in PoE mode 20
- power
 - supplying to unit 25
- Power over Ethernet 13
- product specifications 21
 - physical interfaces 21

R

- rack mounting instructions 23

S

- safety instructions 4
- service 5
- SFP module descriptions 13
- shipping contents 14
- specifications 21
- STAT LED 20

T

- tools required for installation 22

W

- wall mounting instructions 24
- warranty 5

