



4-Output PoH/PoE Power Injector VE44PB User Manual



www.aten.com

EMC Information

FEDERAL COMMUNICATIONS COMMISSION 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 communications. 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.

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

Warning: Operation of this equipment in a residential environment could cause radio interference.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) this device may not cause harmful interference, and
- (2) this device must accept any interference received, including interference that may cause undesired operation.

Suggestion: Shielded twisted pair (STP) cables must be used with the unit to ensure compliance with FCC & CE standards.

KCC Statement

유선 제품용 / A 급 기기 (업무용 방송 통신 기기)
이 기기는 업무용 (A 급) 전자파적합기기로서 판매자 또는 사용자는 이 점을 주의하시기 바라며, 가정 외의 지역에서 사용하는 것을 목적으로 합니다.

RoHS

This product is RoHS compliant.



User Information

Online Registration

Be sure to register your product at our online support center:

International	http://eservice.aten.com
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Telephone Support

For telephone support, call this number:

International	886-2-8692-6959
China	86-400-810-0-810
Japan	81-3-5615-5811
Korea	82-2-467-6789
North America	1-888-999-ATEN ext 4988 1-949-428-1111

User Notice

All information, documentation, and specifications contained in this manual are subject to change without prior notification by the manufacturer. The manufacturer makes no representations or warranties, either expressed or implied, with respect to the contents hereof and specifically disclaims any warranties as to merchantability or fitness for any particular purpose. Any of the manufacturer's software described in this manual is sold or licensed as *is*. Should the programs prove defective following their purchase, the buyer (and not the manufacturer, its distributor, or its dealer), assumes the entire cost of all necessary servicing, repair and any incidental or consequential damages resulting from any defect in the software.

The manufacturer of this system is not responsible for any radio and/or TV interference caused by unauthorized modifications to this device. It is the responsibility of the user to correct such interference.

The manufacturer is not responsible for any damage incurred in the operation of this system if the correct operational voltage setting was not selected prior to operation. PLEASE VERIFY THAT THE VOLTAGE SETTING IS CORRECT BEFORE USE.

Package Contents

- ◆ 1 VE44PB 4-Output PoH/PoE Power Injector
- ◆ 1 Mounting Kit
- ◆ 1 Power Cord Cable
- ◆ 1 User Instructions

Note: 1. Check to make sure that all the components are present and that nothing got damaged in shipping. If you encounter a problem, contact your dealer.

2. Read this manual thoroughly and follow the installation and operation procedures carefully to prevent any damage to the unit, and/or any of the devices connected to it.

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About this Manual

This user manual is provided to help you get the most from the VE44PB unit. It covers all aspects of installation, configuration, and operation. An overview of the information found in the manual is provided below.

Chapter 1, *Introduction* introduces you to the 4-Output PoH/PoE Power Injector. Its purpose, features, installation considerations, and panel components are presented and described.

Chapter 2, *Hardware Setup* describes the steps that are necessary to quickly and safely set up your installation.


An *Appendix* provides a list of safety instructions and precautions, contact information for ATEN technical support, product specifications, and other technical information.

Note:

- ◆ Read this manual thoroughly and follow the installation and operation procedures carefully to prevent any damage to the unit or any connected devices.
 - ◆ ATEN regularly updates its product documentation for new features and fixes. For an up-to-date VE44PB documentation, visit <http://www.aten.com/global/en/>
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Conventions

This manual uses the following conventions:

- | | |
|---|--|
| Monospaced | Indicates text that you should key in. |
| [] | Indicates keys you should press. For example, [Enter] means to press the Enter key. If keys need to be chorded, they appear together in the same bracket with a plus sign between them: [Ctrl+Alt]. |
| 1. | Numbered lists represent procedures with sequential steps. |
| ◆ | Bullet lists provide information, but do not involve sequential steps. |
| → | Indicates selecting the option (on a menu or dialog box, for example), that comes next. For example, Start → Run means to open the <i>Start</i> menu, and then select <i>Run</i> . |
|  | Indicates critical information. |

Product Information

For information about all ATEN products and how they can help you connect without limits, visit ATEN on the Web or contact an ATEN Authorized Reseller. Visit ATEN on the Web for a list of locations and telephone numbers:

International	http://www.aten.com
North America	http://www.aten-usa.com

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Chapter 1

Introduction

Overview

The ATEN VE44PB is a 4-port power injector for remote power supply for up to four compatible ATEN PoH-powered or PoE-powered devices via Cat 5e/6/6a cables. Deploying the VE44PB in your Pro AV facilities eliminate the need for local power supplies of the connected devices. It supplies up to 15.4W of power per PSE port. Featuring HDBaseT connectivity, the VE44PB can extend HDMI connection over a long distance via Cat 6/6a cable's; meanwhile, still ensures unaffected video and image quality. Besides, the status LEDs on its front panel indicates an at-a-glance overview of the connected devices, allowing you to perform real-time monitoring and troubleshooting in the case of emergency.

With its compact and rack mountable design, the VE44PB can be flexibly installed anywhere between the transmitter and receiver that require remote PoH / PoE powering.

Features

- ◆ Supplies power for up to four ATEN Power-over-HDBaseT (PoH) / Power-over-Ethernet (PoE) compatible products over Cat 5e/6/6a cables
- ◆ HDBaseT connectivity – extends HDMI connection over a long distance via Cat 6/6a cable
- ◆ Offers a data rate up to 10.2 Gbps which is compatible with ATEN HDBaseT PoH PD products
 - ◆ Comptaible ATEN PoH-powred/PoE-powered models:
VE2812AT, VE2812AEUT/AUST, VE1812R, VE802R, VK108US, VK112EU, VK224, VK236, VK248, KE8952, or future ATEN PoH-powered/PoE-powered products which follow IEEE 802.3af standard
- ◆ Built-in 8KV/15KV ESD protection
- ◆ Plug-and-play without additional settings
- ◆ Rack-mountable
- ◆ Supplies up to 15.4W of power per PSE port
- ◆ Status LEDs to provide an at-a-glance overview of device status, improving real-time monitoring and troubleshooting
- ◆ Assured signal quality – usage of the VE44PB power injector does not affect the signal quality of the video, audio, bi-directional RS-232, and Ethernet transmission*

Note: The transmission distance maybe reduced to 80% of the original distance. See *Transmission Distance Reduction*, page 3.

Planning the Installation

Requirements

Prepare the following before installing the VE44PB unit:

- ◆ 1 Cat 5e/6/6a or ATEN 2L-2910 Cat 6 cable

Considerations

- ◆ To ensure video quality, ATEN recommends using a Cat 5e/6/6a cable.

Note: For best results, ATEN recommends using the ATEN 2L-2910 Cat 6 cable.

Transmission Distance Reduction

The transmission distance maybe reduced to 80% of the original distance when connecting the VE44PB unit with ATEN HDBaseT products using cable 2L-2910.

Mode	HDBaseT Class	Tx to Rx	Tx to VE44PB	VE44PB to Rx	Note
Standard (4Kx2K)	Class A	100 m	70 m	10 m	See <i>ATEN Class A Products</i> , page 3.
			10 m	70 m	
	Class B (Lite)	40 m	30 m	2 m	See <i>ATEN Class B Products</i> , page 4.
			2 m	30 m	
Long Reach (1080p)	Class A	150 m	100 m	50 m	N/A
			50 m	100 m	

ATEN Class A Products

ATEN Class A products include VE1812R, VE2812AT, VE2812AEUT, and VE2812AUST, visit our official web site for more details.



ATEN Class B Products

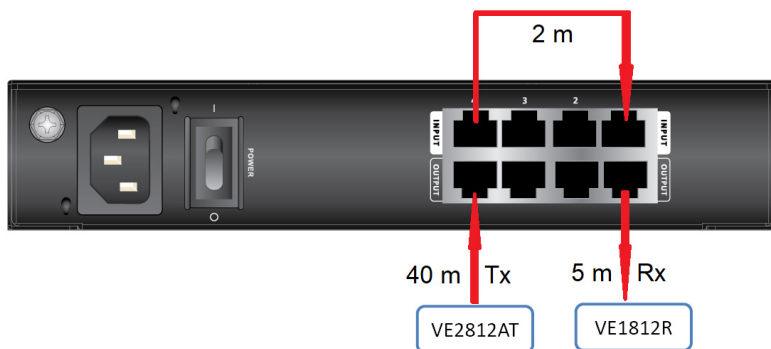
ATEN Class B product includes VE802R, visit our official web site for more details.



Cascading Connection

The transmission distance may be reduced to 50% of the original distance when cascading the VE44PB unit with ATEN HDBaseT Class A products using cable 2L-2910 at 2 m.

Cascading the VE44PB with 2L-2910 Cable at 2 m			
Mode	HDBasT Class	Tx to VE44PB	VE44PB to Rx
Standard (4Kx2K)	Class A	40 m	5 m
		5 m	40 m
Long Reach (1080p)	Class A	N/A	N/A
		N/A	N/A

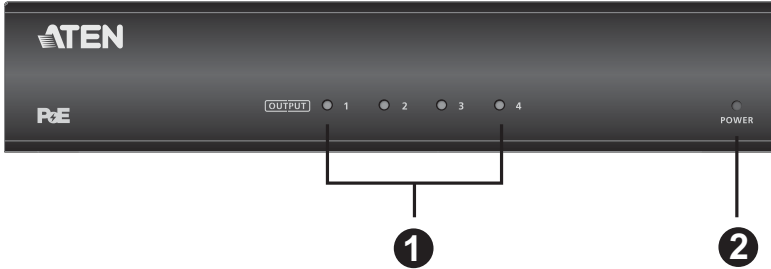


Compatible ATEN Video Receivers & Transmitters

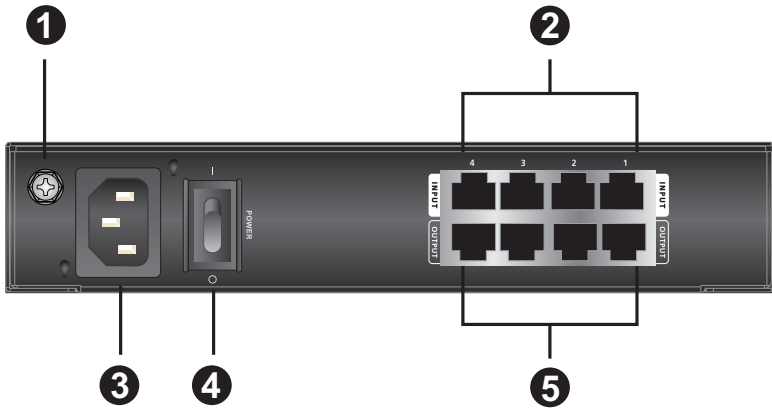
The VE44PB is designed to work with a wide range of ATEN HDBaseT video receivers, transmitters, and other ATEN products. Visit our official web site for more details.

Components

VE44PB Front View



No.	LED	Indication	Description
1	Output Status LED	Lights orange	The PoE connection is stable.
		Off	There is no PoE connection to the connected device.
2	Power LED	Lights green	The unit is receiving power.
		Off	There is no power supply to the unit.

VE44PB Rear View

No.	Component	Description
1	Grounding Terminal	The grounding wire used to ground the unit attaches here.
2	Input Connectors	Connects to a transmitter using an Ethernet cable. Note: For the signals to pass through, make sure to connect the transmitter and the receiver to the same Input and Output Connector pairs.
3	Power Socket	Connects to the Power Cord Cable.
4	Power Switch	Switch to turn on the unit.
5	Output Connectors	Connects to a PoH compatible receiver (PD) using an Ethernet cable. Note: For the signals to pass through, make sure to connect the receiver and the transmitter to the same Input and Output Connector pairs.

Chapter 2

Hardware Setup



1. Please review the safety information regarding the placement of this device in *Safety Instructions*, page 15.
2. Do not power on the VE44PB until all the necessary hardware is connected.

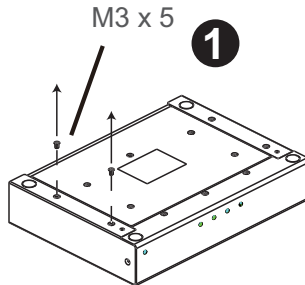
Mounting the VE44PB Unit

You can mount the VE44PB to the wall or on a rack.

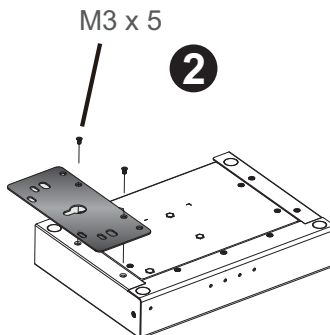
Attaching the Bracket

To attach the bracket on your VE44PB, follow the steps below.

1. Unscrew the screws from the side shown in the diagram below.



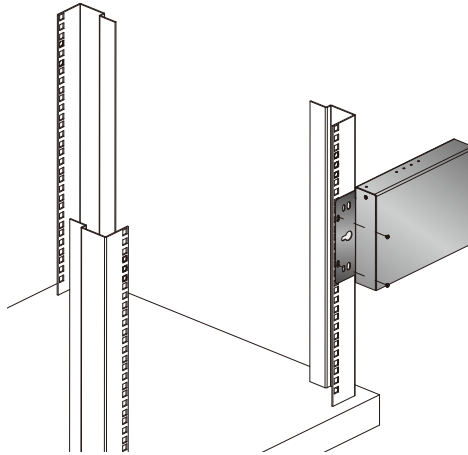
2. Use the screws from step 1 to screw the mounting bracket on the bottom of the VE44PB.



Rack Mounting

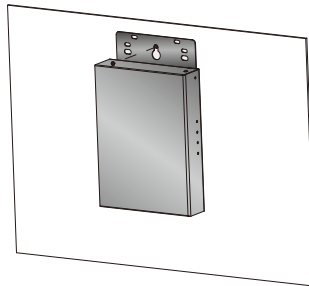
Screw the bracket into any convenient location on the rack.

Note: These screws are not provided. We recommend that you use M5 x 12 Philips Type I cross, recessed type screws.



Wall Mounting

Use the center hole to screw the bracket onto a secure wall surface.



Optional Rack Mounting

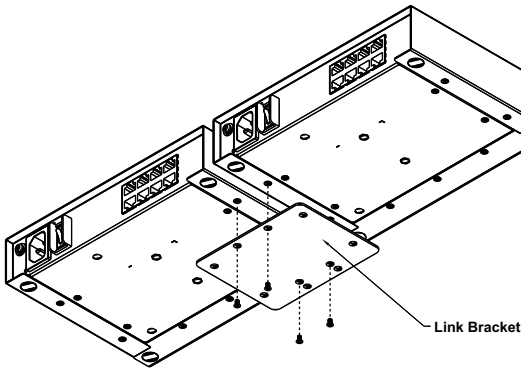
Other than the standard rack and wall mountings, two other rack mounting options are available for VE44PB. These are shown in the following table:

Bracket Type
Dual Rack Mount Kit – 2X-021G
Single Rack Mount Kit – 2X-031G

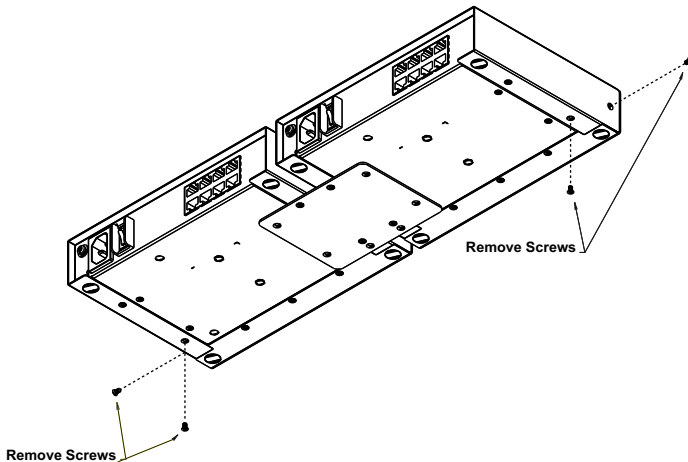
Dual Rack Mount Kit

To install the dual rack mount kit, follow the steps below.

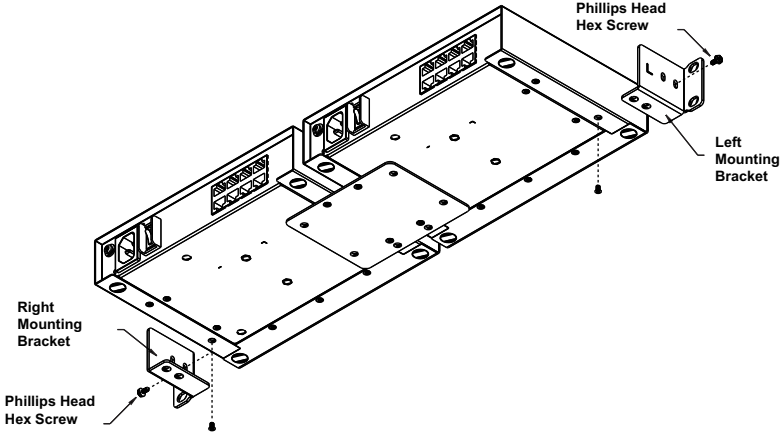
1. Remove four screws from the VE44PB units and then use the same screws to secure the units together with the link bracket.



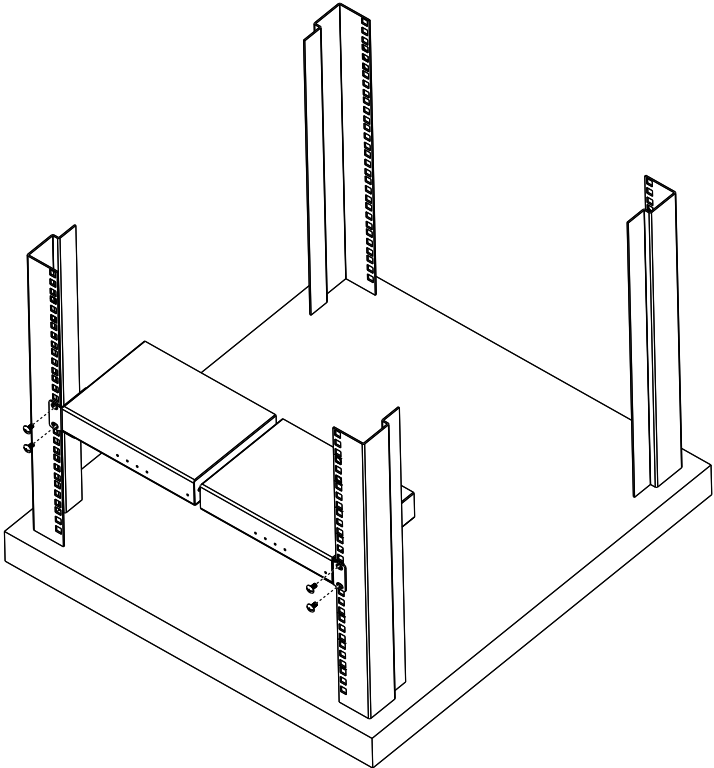
2. Remove the bottom and side screws from each VE44PB unit.



3. Use the screws from step 2 to install the left and right mounting brackets.



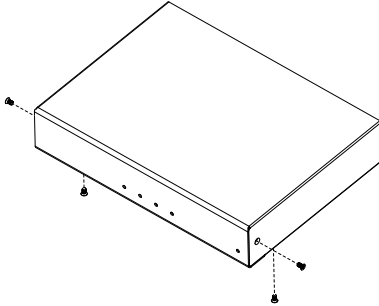
4. Screw the mounting brackets to the rack.



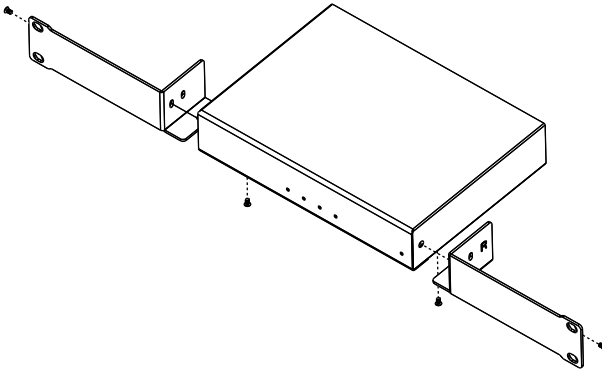
Single Rack Mount Kit

To install the single rack mount kit, follow the steps below.

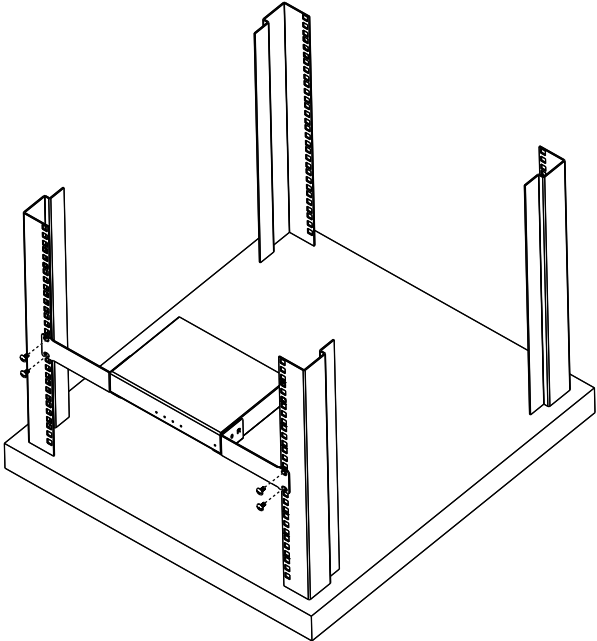
1. Remove the bottom and side screw from the VE44PB.



2. Use the screws from step 1 to install the right and left mounting brackets.

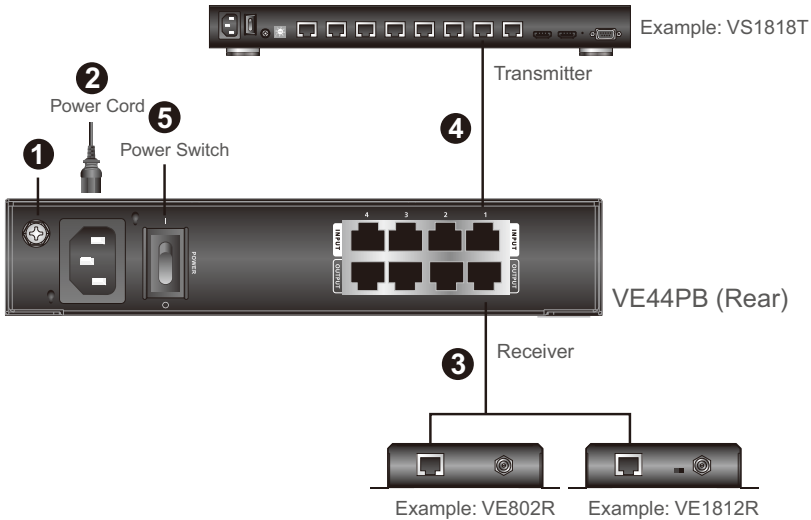


3. Screw the mounting brackets to the rack.



Connecting the VE44PB Unit

Follow the steps below to connect the VE44PB.



1. Ground the VE44PB by connecting one end of a grounding wire to the grounding terminal and the other end to a suitable grounded object.

Note: Do not omit this step. Proper grounding helps to prevent damage to the unit from power surges or static electricity.

2. Supply the VE44PB with AC power using the Power Cord.
3. Based on the installation diagram, connect a PoH compatible receiver (PD) to the Output Connect 1 using an Ethernet cable. The VE1812R and VE802R are used as an example.
4. Connect a transmitter to Input Connector 1. In the illustrated example, the VE44PB adds PoH into HDBaseT signal coming from the VS1818T to power on the connected receivers. Repeat step 3 and 4 to connect more transmitters and receivers.

Important! For the signals to pass through, make sure to connect the transmitter and the receiver to the same Input and Output Connector pairs (e.g. Input Connector 2 and Output Connector 2).

5. Turn on the Power Switch.
6. Power on the devices connected to the Input Connectors.

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Safety Instructions

General

- ◆ This product is for indoor use only.
- ◆ Read all of these instructions. Save them for future reference.
- ◆ Follow all warnings and instructions marked on the device.
- ◆ Do not place the device on any unstable surface (cart, stand, table, etc.). If the device falls, serious damage will result.
- ◆ Do not use the device near water.
- ◆ Do not place the device near, or over, radiators or heat registers.
- ◆ The device cabinet is provided with slots and openings to allow for adequate ventilation. To ensure reliable operation, and to protect against overheating, these openings must never be blocked or covered.
- ◆ The device should never be placed on a soft surface (bed, sofa, rug, etc.) as this will block its ventilation openings. Likewise, the device should not be placed in a built in enclosure unless adequate ventilation has been provided.
- ◆ Never spill liquid of any kind on the device.
- ◆ Unplug the device from the wall outlet before cleaning. Do not use liquid or aerosol cleaners. Use a damp cloth for cleaning.
- ◆ The device should be operated from the type of power source indicated on the marking label. If you are not sure of the type of power available, consult your dealer or local power company.
- ◆ The device is designed for IT power distribution systems with 230V phase-to-phase voltage.
- ◆ To prevent damage to your installation it is important that all devices are properly grounded.
- ◆ The device is equipped with a 3-wire grounding type plug. This is a safety feature. If you are unable to insert the plug into the outlet, contact your electrician to replace your obsolete outlet. Do not attempt to defeat the purpose of the grounding-type plug. Always follow your local/national wiring codes.
- ◆ Do not allow anything to rest on the power cord or cables. Route the power cord and cables so that they cannot be stepped on or tripped over.

- ◆ If an extension cord is used with this device make sure that the total of the ampere ratings of all products used on this cord does not exceed the extension cord ampere rating. Make sure that the total of all products plugged into the wall outlet does not exceed 15 amperes.
- ◆ To help protect your system from sudden, transient increases and decreases in electrical power, use a surge suppressor, line conditioner, or uninterruptible power supply (UPS).
- ◆ Position system cables and power cables carefully; Be sure that nothing rests on any cables.
- ◆ Never push objects of any kind into or through cabinet slots. They may touch dangerous voltage points or short out parts resulting in a risk of fire or electrical shock.
- ◆ Do not attempt to service the device yourself. Refer all servicing to qualified service personnel.
- ◆ If the following conditions occur, unplug the device from the wall outlet and bring it to qualified service personnel for repair.
 - ◆ The power cord or plug has become damaged or frayed.
 - ◆ Liquid has been spilled into the device.
 - ◆ The device has been exposed to rain or water.
 - ◆ The device has been dropped, or the cabinet has been damaged.
 - ◆ The device exhibits a distinct change in performance, indicating a need for service.
 - ◆ The device does not operate normally when the operating instructions are followed.
- ◆ Only adjust those controls that are covered in the operating instructions. Improper adjustment of other controls may result in damage that will require extensive work by a qualified technician to repair.

Rack Mounting

- ◆ Before working on the rack, make sure that the stabilizers are secured to the rack, extended to the floor, and that the full weight of the rack rests on the floor. Install front and side stabilizers on a single rack or front stabilizers for joined multiple racks before working on the rack.
- ◆ Always load the rack from the bottom up, and load the heaviest item in the rack first.
- ◆ Make sure that the rack is level and stable before extending a device from the rack.
- ◆ Use caution when pressing the device rail release latches and sliding a device into or out of a rack; the slide rails can pinch your fingers.
- ◆ After a device is inserted into the rack, carefully extend the rail into a locking position, and then slide the device into the rack.
- ◆ Do not overload the AC supply branch circuit that provides power to the rack. The total rack load should not exceed 80 percent of the branch circuit rating.
- ◆ Make sure that all equipment used on the rack – including power strips and other electrical connectors – is properly grounded.
- ◆ Ensure that proper airflow is provided to devices in the rack.
- ◆ Ensure that the operating ambient temperature of the rack environment does not exceed the maximum ambient temperature specified for the equipment by the manufacturer.
- ◆ Do not step on or stand on any device when servicing other devices in a rack.

Technical Support

International

- ◆ For online technical support – including troubleshooting, documentation, and software updates: <http://support.aten.com>
- ◆ For telephone support, see *Telephone Support*, page iii:

North America

Email Support		support@aten-usa.com
Online Technical Support	Troubleshooting Documentation Software Updates	http://www.aten-usa.com/support
Telephone Support		1-888-999-ATEN ext 4988

When you contact us, please have the following information ready beforehand:

- ◆ Product model number, serial number, and date of purchase
- ◆ Your computer configuration, including operating system, revision level, expansion cards, and software
- ◆ Any error messages displayed at the time the error occurred
- ◆ The sequence of operations that led up to the error
- ◆ Any other information you feel may be of help

Specifications

Function	VE44PB
Video	
Max. Data Rate	10.2 Gbps Per Port (Support HDBaseT PoH PD Ready Models)
Connectors	
Input	4 x RJ-45 Female
Output	4 x RJ-45 Female (with PoH/PoE PSE)
Power	1 x 3-Prong AC Socket
Switches	
Power	1 x On/Off Switch
Power	
Maximum Input Power Rating	100 - 240 VAC; 50 - 60Hz
Power Consumption	AC 110V; 1.2W AC 220V; 1.1W
Environmental	
Operating Temperature	0 - 40°C
Storage Temperature	-20 - 60°C
Humidity	0 - 80% RH, Non-Condensing
Physical Properties	
Housing	Metal
Weight	1.23 Kg (2.71 lb)
Dimensions (L x W x H)	21.5 x 16.12 x 4.18 cm (8.46 x 6.35 x 1.65 in.)

Limited Warranty

ATEN warrants its hardware in the country of purchase against flaws in materials and workmanship for a Warranty Period of two [2] years (warranty period may vary in certain regions/countries) commencing on the date of original purchase. This warranty period includes the LCD panel of ATEN LCD KVM switches. Select products are warranted for an additional year (see *A+ Warranty* for further details). Cables and accessories are not covered by the Standard Warranty.

What is covered by the Limited Hardware Warranty

ATEN will provide a repair service, without charge, during the Warranty Period. If a product is defective, ATEN will, at its discretion, have the option to (1) repair said product with new or repaired components, or (2) replace the entire product with an identical product or with a similar product which fulfills the same function as the defective product. Replaced products assume the warranty of the original product for the remaining period or a period of 90 days, whichever is longer. When the products or components are replaced, the replacing articles shall become customer property and the replaced articles shall become the property of ATEN.

To learn more about our warranty policies, please visit our website:
<http://www.aten.com/global/en/legal/policies/warranty-policy>