



**VGA/DVI/HDMI over Cat 5 Extender Wall Plate
VE156 / VE606 / VE806**

User Manual



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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	86-10-5255-0110
Japan	81-3-5615-5811
Korea	82-2-467-6789
North America	1-888-999-ATEN ext 4988
United Kingdom	44-8-4481-58923

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

The VGA/DVI/HDMI over Cat 5 Extender Wall Plate package contains the following items:

- ◆ 1 VE156T / VE606T / VE806T VGA/DVI/HDMI over Cat 5 Extender Wall Plate
- ◆ 1 VE156R / VE606R / VE806R VGA/DVI/HDMI over Cat 5 Extender Wall Plate
- ◆ 1 Terminal Block Connector
- ◆ 1 Power Adapter
- ◆ 1 User Instructions*

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.

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.

* Features may have been added to the VE156 / VE606 / VE806 since this manual was published. Please visit our website to download the most up-to-date version.

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Manual Date: 2014-12-18

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About this Manual

This User Manual is provided to help you get the most from your system. 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 VE156 / VE606 / VE806 system. Its purpose, features and benefits are presented, and its front and back panel components are described.


Chapter 2, *Hardware Setup*, describes how to set up your installation. All necessary steps to prepare for operation are provided.

Chapter 3, *Basic Operation*, describes how to adjust the picture quality.

An Appendix, provides specifications and other technical information regarding the VE156 / VE606 / VE806.

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

Chapter 1

Introduction

Overview

The VGA/DVI/HDMI over Cat 5 Extender Wall Plate extends VGA/DVI/HDMI and audio signals up to 150 m (for VE156) / 60 m (for VE606 / VE806) using Cat 5e cables. It supports popular wide screen formats and ensures excellent video quality over long distance transmissions. The VE156 / VE606 / VE806, in combination with other ATEN devices such as VGA/DVI/HDMI extenders and MDS solutions, can further extend the distance or multiply A/V sources/displays.

The VE156 / VE606 / VE806 can be powered at either the Transmitter or Receiver side, and uses a second Cat 5e cable to transmit the power signal to the other unit. The compact wall plate design does away with bulky cables and allows a neat and convenient installation. It is an ideal solution for function rooms, museums and any environment that requires equipment or cabling to be kept hidden from public view.

Features

- ◆ Uses two Cat 5e cables to connect the local and remote units – one to transmit video and audio; and another for power*
- ◆ Remotely powered from either the Transmitter or Receiver side**
- ◆ Extends the distance between VGA/DVI/HDMI source and VGA/DVI/HDMI display
- ◆ Superior video quality – VE156: up to 1920 x 1200 @60Hz (30 m), 1280 x 1024 @ 60Hz (150m); VE606 / VE806: 1080p @ 60Hz (40m), 1080i @ 60Hz (60m)
- ◆ Adjustable Video Compensation Control – manually adjusts signal strength to compensate for distance (VE156)
- ◆ 8-segment equalization adjustment switch optimizes display quality (VE606 / VE806)
- ◆ Compatible with existing ATEN VGA/DVI/HDMI extenders – see page 18 for more information
- ◆ Supports wide screen formats
- ◆ Supports hot-plugging
- ◆ Decora type design is easily configurable to fit various wall plates
- ◆ HDMI (3D, Deep Color); HDCP compatible (VE806)
- ◆ LED indication of power sources / connection status
- ◆ Supports stereo audio
- ◆ Built-in 8KV/15KV ESD protection
- ◆ A neat and cleaner installation via easy wall-mounting
- ◆ Plug-and-play – no software installation required

Note: * The second Cat 5e cable connection is required to remotely power on either the Transmitter or Receiver. For VE606 / VE806, it is also required for real EDID Bypass and HDCP key authentication.

** A power adapter is provided with this package, and can be used at either the Transmitter or Receiver side, which in turn remotely powers the other unit. See *How to Supply Power*, page 9.

Requirements

Console

- ◆ A display with an HDB-15 Male connector (for VE156)
- ◆ A display with an DVI Male connector (for VE606)
- ◆ A display with an HDMI Male connector (for VE806)
- ◆ Speakers (optional)

Computer

- ◆ Video source with an HDB-15 Male connector (for VE156)
- ◆ Video source with an DVI Male connector (for VE606)
- ◆ Video source with an HDMI Male connector (for VE806)
- ◆ Audio port (optional)

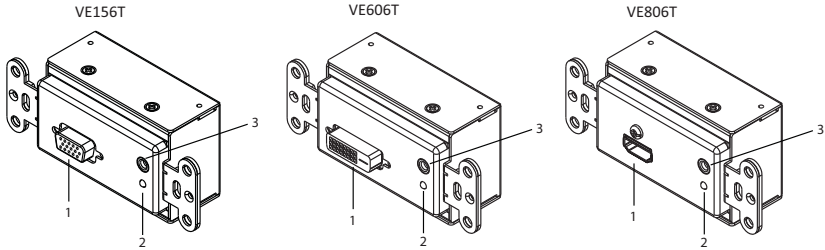
Cables

- ◆ Cat 5e cables
- ◆ VGA / DVI / HDMI cable(s)
- ◆ Audio cable (optional)

Note: No cables are included in this package. It is strongly recommended that you purchase high-quality cables of the required lengths to ensure the quality of the audio and video display. Contact your dealer for more information about the correct cable sets.

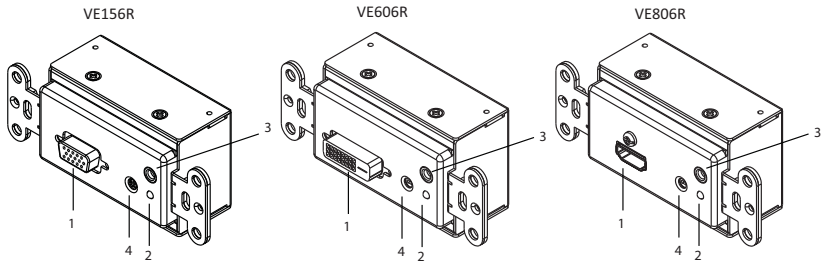
Components

Front View (Transmitter)



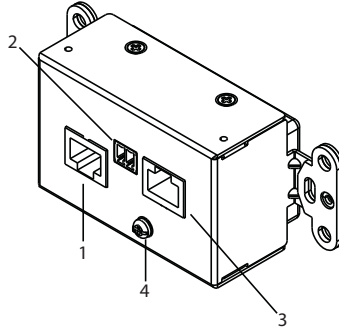
No.	Component	Description
1	Video IN Port	The cable from your VGA / DVI / HDMI source device is plugged in here.
2	Power LED	The Power LED lights green to indicate that the unit is receiving power.
3	Audio IN Port	The cable from your audio source device is plugged in here.

Front View (Receiver)



No.	Component	Description
1	Video OUT Port	The cable from your VGA / DVI / HDMI monitor plugs in here.
2	Power/Link LED	The Power LED lights green to indicate that the unit is receiving power. The Link LED lights orange to indicate that the connection to the Transmitter unit has been established.
3	Audio OUT Port	The cable from your speakers plugs in here.
4	Manual Gain Control (VE156) / EQ Switch (VE606 / VE806)	Use this knob to adjust the video quality by turning to the right or left until you obtain the desired picture quality. See <i>Picture Adjustment</i> , page 14 for more details.

Rear View (Transmitter / Receiver)



No.	Component	Description
1	Line IN/OUT (VE156) TMD5 Port (VE606 / VE806)	The Cat 5e cable that connects the Transmitter and Receiver units plugs in here. The Cat 5e connection between these ports transmits video and audio signals. For VE156: <ul style="list-style-type: none"> ◆ Transmitter (Line OUT) ◆ Receiver (Line IN)
2	Power (Terminal block)	The power adapter wires (+9V and GND) plug in here. See <i>How to Supply Power</i> , page 9 for the steps on how to connect the terminal block to a power source.
3	Power Port (VE156) DDC Port (VE606 / VE806)	Use a Cat 5e cable to connect the Transmitter and Receiver units through this port. The second Cat 5e cable connection transmits the power signal to either the Transmitter or Receiver when only one of the units is supplied power via the Terminal Block. For VE606 / VE806, in addition to transmitting the power signal, the second Cat 5e cable is used for real EDID Bypass and HDCP key authentication.
4	Grounding Terminal	The grounding wire is attached here. Note: The grounding wire is not included in this package.

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Chapter 2

Hardware Setup



1. Important safety information regarding the placement of this device is provided on page 15. Please review it before proceeding.
2. Make sure that the power to all devices connected to the installation is turned off. You must unplug the power cords of any computers that have the Keyboard Power On function.

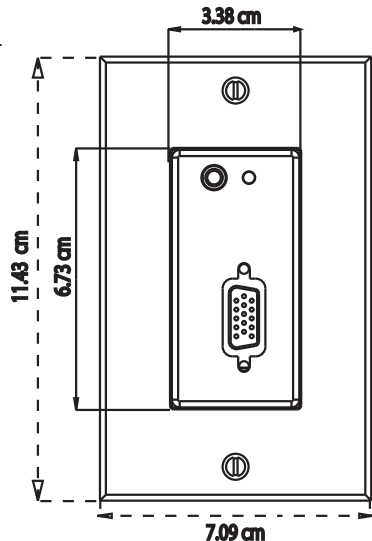
Overview

For convenience and flexibility, the VE156 / VE606 / VE806 can be mounted on the wall, ceiling, floor or any surface of your preference.

The dimensions of the VE156 / VE606 / VE806 are made to fit both a standard one-gang wall box and a single-gang mud ring, which can be purchased at a hardware store.

For a neat finish, use a decora face plate as a cover. The image on the right shows the VE156 / VE606 / VE806 fitted with a decora face plate with a rectangular opening that fits the unit's dimensions (6.73 cm length x 3.38cm width).

After mounting the VE156 / VE606 / VE806, you can proceed to the Hardware Installation on page 12.



Note: This chapter uses the VE156 panels for illustrating the installation steps.

Before Mounting

In order to mount the VE156 / VE606 / VE806, you first need to purchase: a standard single-gang Decora Face Plate, and either one of the following:

- ◆ Single-gang Mud Ring
- ◆ One-gang Wall Box

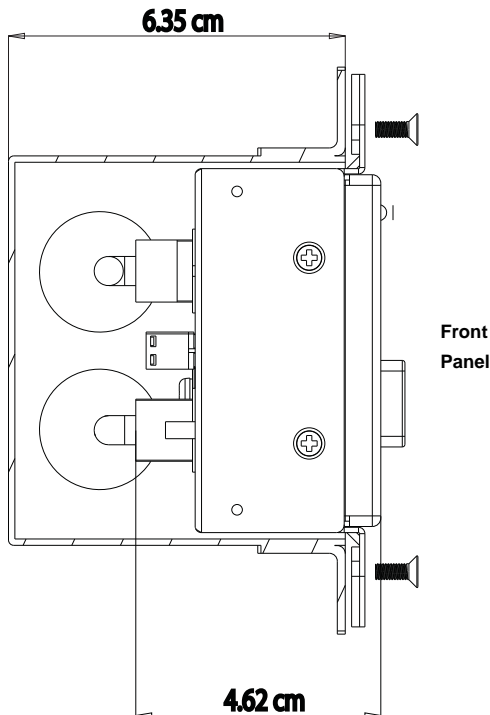
Note: The VE156 / VE606 / VE806 package does not include a mounting kit.

Prepare two installation sites (for the Transmitter and Receiver units) with the proper dimensions (see image below) to accommodate the Mud Ring or Wall Box.

Make sure proper cabling (unit-to-unit via Cat 5e; unit-to-power) can be supplied to both sites.

Wall Box Dimensions

The installation site or wall box should have a minimum depth measurement of 6.35 cm, as shown in the figure below.



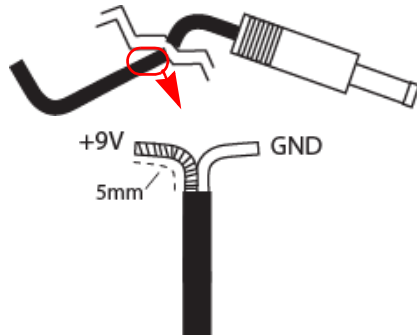
How to Supply Power

One pair of Power Adapter and Terminal Block Connector is provided in this package, and can be used on either the Transmitter or Receiver side. The second Cat 5e cable connection transmits the power signal.

Note: To supply power to each unit separately, you must purchase another set of power adapter (within a voltage range of +9V~12V) and terminal block connector. In this case, there is no need to connect the second Cat 5e cable.

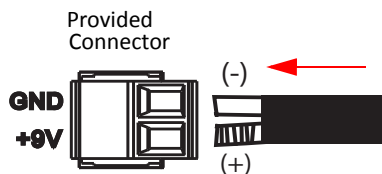
The provided Power Adapter and Terminal Block Connector must be combined. You can then use the modified power adapter to connect – first, to the terminal block on either the VE156T / VE606T / VE806T or VE156R / VE606R / VE806R rear panel; and then, to a power outlet to supply power to your VE156 / VE606 / VE806. Follow the steps described below:

1. Cut off the connector end of the power adapter.
2. Strip 5mm (0.5 cm) off the insulation cover of the Power Adapter cable to expose two wires: a **+9V** wire and a **GND** (grounding) wire.



The exposed wires must constantly be separated from each other to prevent any unexpected damage (including short-circuits, electric shocks, and so on.)

3. Insert the exposed **+9V** wire and **GND** wire tightly into the provided 2-pin Terminal Block Connector. The connector is properly labeled – the **+9V** and **GND** wires should be plugged into the correct holes.

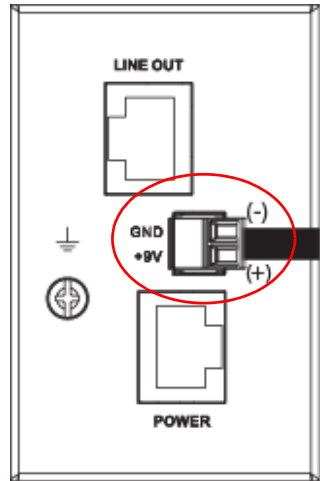


(Continues on next page.)

Note: The device can be damaged if incorrectly paired wires are inserted into the terminal block. A voltmeter is one of the tools used to measure an exposed wire's polarity (i.e., +9V or GND).

4. Connect and snap the Terminal Block Connector into the 2-pin Terminal Block located on either the Transmitter or Receiver unit's rear panel.
5. Connect the other end of the power adapter to a power socket.

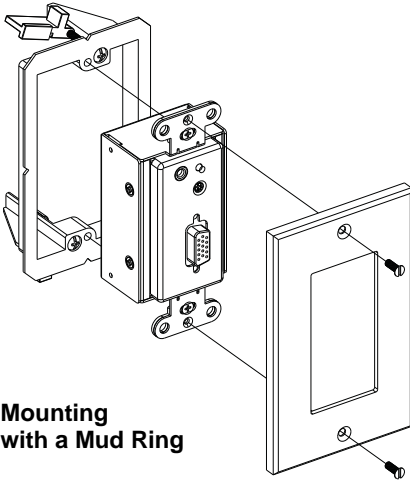
Note: If you wish to use another external power supply, ensure that it stays within a voltage range of +9V~12V.



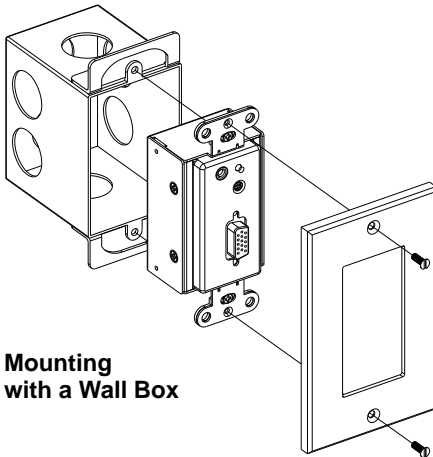
Wall Mounting

At this point, the site(s) for wall-mounting the VE156 / VE606 / VE806 should be ready. Note that there are cable connections to be made at the rear panel of the units – see *Hardware Installation*.

1. Screw the Mud Ring or the Wall Box to the installation site (wall, ceiling, and so on).
2. Attach the VE156 / VE606 / VE806 unit to the Mud Ring or Wall Box. Screw the units accordingly.



**Mounting
with a Mud Ring**



**Mounting
with a Wall Box**

3. After making the necessary unit-to-unit Cat 5e cable connections, as well as the terminal block connection (optional), attach the Decora Face Plate to secure and cover the VE156 / VE606 / VE806.

Hardware Installation

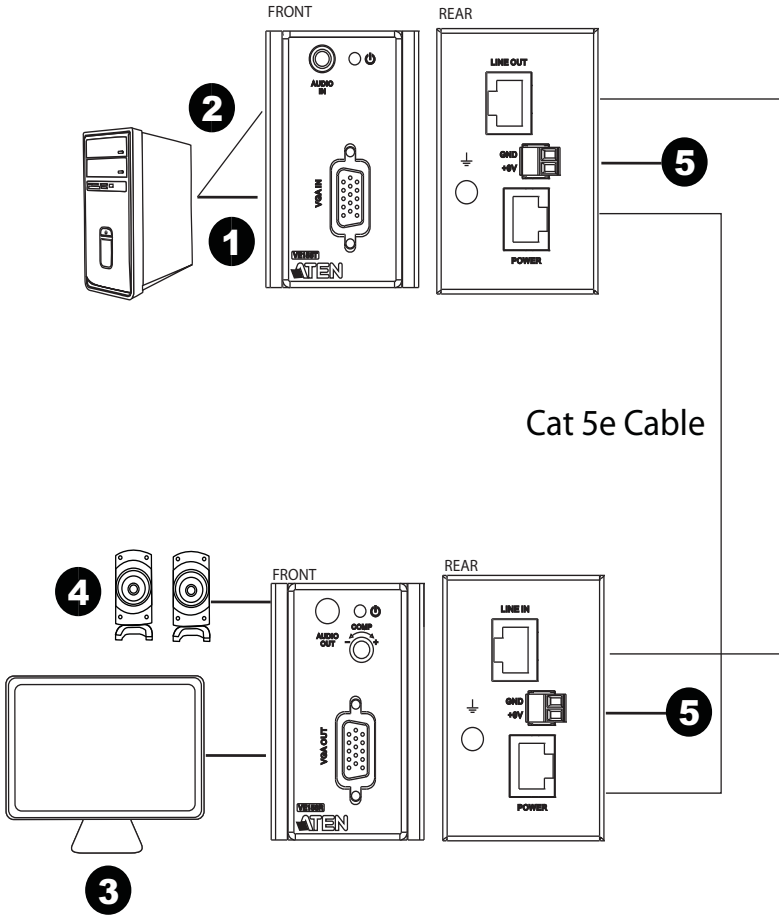
After mounting the VE156 / VE606 / VE806 Transmitter and Receiver units, you can conveniently connect the VE156 / VE606 / VE806 decora face plate installation to your input/output equipment. Refer to the installation diagram on the following page (the numbers in the diagrams correspond to the steps below), and do the following:

1. Connect the **Video IN** Port on the VE156T / VE606T / VE806T (Transmitter) to the **Video OUT** port on your video source device.
2. Connect one end of the audio cable to the **Audio IN** port of the VE156T / VE606T / VE806T and connect the other end to the **Audio OUT** port of the source device.
3. Connect the **Video OUT** port on the VE156R / VE606R / VE806R (Receiver) to the **Video IN** port on your video display device using the VGA/DVI/HDMI cable that came with your display device.
4. Connect your speakers to the **Audio OUT** port on the VE156R / VE606R / VE806R.
5. Connect the Transmitter or Receiver to a power outlet using the provided terminal block connector / power adapter – see *How to Supply Power*, page 9.
6. Connect one end of the Cat 5e cable to the **Line OUT** port (VE156T) / **TMDS** port (VE606T / VE806T) on the Transmitter unit. Connect the other end of the Cat 5e cable to the **Line IN** port (VE156R) / **TMDS** port (VE606R / VE806R) on the Receiver unit.
7. (Optional) Use a second Cat 5e cable to connect the **Power** ports (VE156T / VE156R) / **DDC** ports (VE606T / VE606R / VE806T / VE806R).

Note: 1. A second Cat 5e cable connection is required only if you need to transmit power to either Transmitter or Receiver.

2. For VE606 / VE806, in addition to the above, a second Cat 5e cable is only required if you need to use real EDID Bypass and HDCP key authentication.
-

8. Power on your source and display devices.



Chapter 3

Basic Operation

Overview

This chapter describes the **Manual Gain Control / EQ** switch located on the front panel of the Remote Unit that adjusts the VGA / DVI / HDMI display to obtain the best video quality.

Picture Adjustment

The quality of the video signal can decrease with distance. To adjust the video quality, do the following:

- ◆ **VE156** – Use the Manual Gain Control switch by turning the knob clockwise to increase the video signal, or turning the knob counter-clockwise to decrease the video signal – until you obtain the desired picture quality.
- ◆ **VE606 / VE806** – Use the EQ switch to adjust the equalization strength and improve a blinking image.

The Equalization values range from 0-7 where:

- ◆ 7: strongest equalization
- ◆ 0: weakest equalization

Safety Instructions

General

- ◆ Read all of these instructions. Save them for future reference.
- ◆ Follow all warnings and instructions marked on the device.
- ◆ This product is for indoor use only.
- ◆ 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 un-interruptible 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.

Technical Support

International

- ◆ For online technical support – including troubleshooting, documentation, and software updates: **<http://eservice.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.

Supported ATEN Products

The VE156 / VE606 / VE806 Transmitter and Receiver can each be used separately with other VGA/DVI/HDMI extenders, as follows:

VE156	VE022	VE170	VS1204T	VS1208T
VE606	VE600A			
VE806	VE800A		VS1804T	VS1808T
VE806R	VB802			

Specifications

Function		VE156T	VE156R
Connectors	Video In	1 x HDB-15 Female (Blue)	N/A
	Video Out	N/A	1 x HDB-15 Female (Blue)
	Audio In	1 x 3.5mm Stereo Jack (Green)	N/A
	Audio Out	N/A	1 x 3.5mm Stereo Jack (Green)
	Power	1 x RJ-45 Female (Silver)	
	Power	1 x Terminal Block (Green)	
	Line In	N/A	1 x RJ-45 Female (Silver)
	Line Out	1 x RJ-45 Female (Silver)	N/A
LED	Power	1 (Green)	
	Link	N/A	1 (Amber)
Switch	Manual Gain Control	N/A	1 x Knob
Video		1920 x 1200 @ 60 Hz (30 m) 1280 x 1024 @ 60 Hz (150 m)	
Power Consumption		DC 9V, 3.2W	
Environment	Operating Temp.	0–50°C	
	Storage Temp.	-20–60°C	
	Humidity	0–80% RH, Non-condensing	
Physical Properties	Housing	Metal	
	Weight	0.17 kg	
	Dimensions (L x W x H)	10.41 x 4.40 x 4.40 cm	

Function		VE606T	VE606R
Connectors	Video In	1 x DVI-D Female (White)	N/A
	Video Out	N/A	1 x DVI-D Female (White)
	Audio In	1 x 3.5mm Stereo Jack (Green)	N/A
	Audio Out	N/A	1 x 3.5mm Stereo Jack (Green)
	DDC	1 x RJ-45 Female (Silver)	
	Power	1 x Terminal Block (Green)	
	TMD5	1 x RJ-45 Female (Silver)	
LED	Power / Link	1 (Green / Amber)	
Switch	EQ Switch	N/A	1 x Knob
Video		1080p @ 60 Hz (40m) 1080i @ 60 Hz (60m)	
Power Consumption		DC 9V, 2.9W	
Environment	Operating Temp.	0–50°C	
	Storage Temp.	-20–60°C	
	Humidity	0–80% RH, Non-condensing	
Physical Properties	Housing	Metal	
	Weight	0.17 kg	
	Dimensions (L x W x H)	10.41 x 4.40 x 4.34 cm	

Function		VE806T	VE806R
Connectors	Video In	1 x HDMI Type A Female (Black)	N/A
	Video Out	N/A	1 x HDMI Type A Female (Black)
	Audio In	1 x 3.5mm Stereo Jack (Green)	N/A
	Audio Out	N/A	1 x 3.5mm Stereo Jack (Green)
	DDC	1 x RJ-45 Female (Silver)	
	Power	1 x Terminal Block (Green)	
	TMDS	1 x RJ-45 Female (Silver)	
LED	Power / Link	1 (Green / Amber)	
Switch	EQ Switch	N/A	1 x Knob
Video		1080p @ 60 Hz (40m) 1080i @ 60 Hz (60m)	
Power Consumption		DC 9V, 2.9W	
Environment	Operating Temp.	0–50°C	
	Storage Temp.	-20–60°C	
	Humidity	0–80% RH, Non-condensing	
Physical Properties	Housing	Metal	
	Weight	0.17 kg	
	Dimensions (L x W x H)	10.41 x 4.40 x 4.00 cm	

Limited Warranty

IN NO EVENT SHALL THE DIRECT VENDOR'S LIABILITY EXCEED THE PRICE PAID FOR THE PRODUCT FROM DIRECT, INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES RESULTING FROM THE USE OF THE PRODUCT, DISK, OR ITS DOCUMENTATION.

The direct vendor makes no warranty or representation, expressed, implied, or statutory with respect to the contents or use of this documentation, and especially disclaims its quality, performance, merchantability, or fitness for any particular purpose.

The direct vendor also reserves the right to revise or update the device or documentation without obligation to notify any individual or entity of such revisions, or update. For further inquiries, please contact your direct vendor.