# 3-Port True 4K HDMI Switch
# VS381B User Manual

# 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.

**Achtung:** Der Gebrauch dieses Geräts in Wohnumgebung kann Funkstörungen verursachen.

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 |

## 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 VS381B 3-Port True 4K HDMI Switch
- 1 USB to DC power cable
- 1 IR remote control
- 1 IR receiver
- 1 user instructions*

**Note:**
- Make sure that all the components are present and in good order. If anything is missing or was damaged in shipping, 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.

# Contents

# About this Manual

This User Manual is provided to help you get the most from your VS381B 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 VS381B 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 VS381B installation and all necessary steps are provided.

**Chapter 3, Operation,** explains the fundamental concepts involved in operating the VS381B via the front panel pushbuttons, remote control, and auto switching.

**An Appendix,** provides specifications and other technical information regarding the VS381B.

# 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 *Start* menu, and then select *Run*. |
| ⚠ | 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 VS381B 3-Port True 4K HDMI Switch with Auto Switching allows you to switch 3 HDMI input sources to an HDMI display. It supports video resolutions up to True 4K (4096 x 2160 @ 60Hz 4:4:4), data rates up to 18 Gbps, HDR, 3D, Deep Color, and HD lossless audio formats. Furthermore, the VS381B offers switching methods between HDMI sources by front panel pushbuttons and IR remote control, enabling users to effortlessly select a desired input.

Featuring above functionalities provides you a practical solution for auditorium, home theater, meeting rooms, trade shows, shopping centers, and more.

# Features

- Allows up to 3 HDMI input sources to be transmitted to 1 HDMI output display
- Supports True 4K resolution video 4096 x 2160 / 3840 x 2160 @60Hz (4:4:4) up to 5m input / output
- Auto switching mode for auto port selection
- Quick and easy switching between HDMI sources via front panel pushbuttons or IR remote control
- HDMI 2.0; HDCP 2.2 compatible
- Supports 7.1 audio channel of LPCM, Dolby True HD and DTS-HD Master Audio
- Supports IR extension using a IR extension cable
- Plug-and-play – no software installation required

# Requirements

The following equipment is required for a complete VS381B installation:

## Source Device

◆ HDMI Type A output connector(s)

## Display Device

◆ Display device with an HDMI Type A input connector
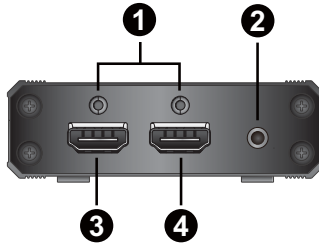
## Cables

◆ 3 HDMI cables

**Note:** No cables are included in this package. We strongly recommend that you purchase high-quality cables of appropriate length since this will affect the quality of the audio and video display. Contact your dealer to purchase the correct cable sets.

# Components

## VS381B Front View



| No. | Component | Description |
|-----|-----------|-------------|
| 1 | Cable Lock Screw for ATEN LockPro<sup>TM</sup> | A universal HDMI cable lock that provides the easiest way to secure an HDMI cable to most HDMI devices. |
| 2 | IR receiver | This receives signals from the IR remote control. |
| 3 | HDMI input port 1 | Connects to the HDMI Out port on the source device. |
| 4 | HDMI input port 2 | Connects to the HDMI Out port on the source device. |

## VS381B Rear View



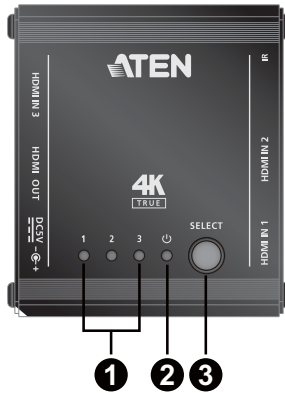| No. | Component | Description |
|---|---|---|
| 1 | Cable Lock Screw for ATEN LockPro$^{TM}$ | A universal HDMI cable lock that provides the easiest way to secure a HDMI cable to most HDMI devices. |
| 2 | power jack | The power adapter cable plugs in here.<br>**Note:** We strongly recommend to use USB vis USB to DC cable as the main power source for the VS381B, as the power supply from HDMI connection maybe insufficient for the device to fully operate. |
| 3 | HDMI input port 3 | Connects to the HDMI Out port on the source device. |
| 4 | HDMI output port | Connects to an HDMI-enabled display device. |

## VS381B Top View



| No. | Component | Description |
|-----|-----------|-------------|
| 1 | port LEDs (Green) | The selected port's LED lights green to indicate that the port is selected. |
| 2 | power LED (Green) | The LED lights green to indicate the unit is receiving power and powered on. |
| 3 | port selection pushbutton | Press to switch among the HDMI sources connected to HDMI Input Port 1, 2, and 3. |

## IR Remote Control
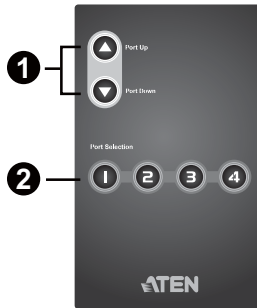


| No. | Component | Description |
|-----|-----------|-------------|
| 1 | port up / port down buttons | Press the Port Up / Port Down buttons to cycle through the HDMI sources connected to HDMI Input Port 1, 2, and 3. |
| 2 | port selection pushbuttons 1 - 3 | Press a button to bring the focus directly to the source device attached to its associated port. **Note:** Port Selection Pushbutton 4 is not functional. |

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# Chapter 2
# Hardware Setup

⚠️ 1. Important safety information regarding the placement of this device is provided on page 13. Please review it before proceeding.

2. Make sure that the power to all devices connected to the installation are turned off.

3. Make sure that all devices you will be installing are properly grounded.

## Installation

Installation of the VS381B is simply a matter of plugging in the appropriate cables.

### VS381B Installation

To install the switch, refer to the installation diagram below as you perform the following steps:

1. Use HDMO cables to connect HDMI source devices to the HDMI input ports on the VS381B. Optionally secure the cables with Cable Lock Screw for ATEN LockPro<sup>TM</sup>.

2. Use an HDMI cable to connect an HDMI-enabled display to the HDMI output port on the VS381B. Optionally secure the cables with Cable Lock Screw for ATEN LockPro<sup>TM</sup>.

3. (Optional) To control the VS381B using an IR remote control, connect the IR receiver to the IR receiver port.

4. Supply power to the VS381B using the USB to DC power cord.

5. Power on the display and source devices.

**②**

**HDMI output device**

or

**①**

**HDMI input device**

**④**

**USB to DC power cord**

rear view

front view

**③**

**IR receiver**

**HDMI input device**

**①**
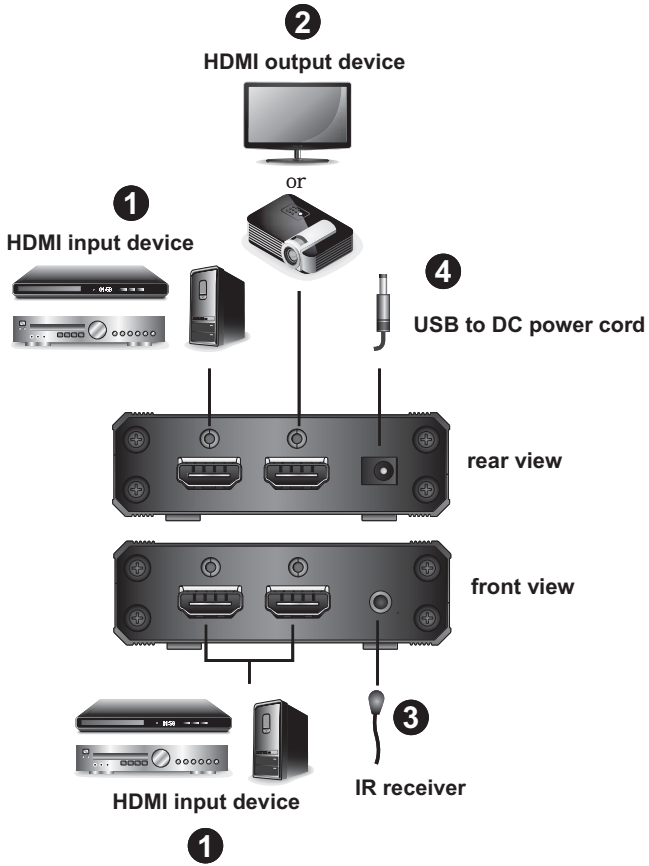
# Operation

## Overview

The 3-Port True 4K HDMI Switch offers easy and flexible source device selection with either the front panel pushbuttons, and remote control.

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**Note:**

- ◆ Whenever the VS381B is powered on and there is no video input source connected, it automatically selects Port 1 as the active port (i.e., the Port 1 LED lights up). You may choose one of the methods outlined below to select a different port as your active port.
- ◆ The VS381B takes about 10-20 seconds to boot up and apply system configuration settings when first powered on.

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## Manual Port Selection

To select an HDMI source device, press the port selection pushbutton on the front panel to cycle through the HDMI sources connected to HDMI input port 1, 2, and 3.

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**Note:** The port LED (green) light indicates which port is currently selected.

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## Remote Control Selection

To select a source device with the remote control, press the number button that corresponds to the port the HDMI device is connected to. The corresponding port LED lights up.

See *IR Remote Control*, page 7 for more details.

Alternatively, you may also cycle through the available source devices by pushing the port up and port down buttons on the IR remote control.

- ◆ Use the port up button to select the next available port in ascending order (from HDMI input port 1 to HDMI input port 3).
- ◆ Use the port down button to select the next available port in descending order (from HDMI input port 3 to HDMI input port 1).

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**Note:** Aim the remote control at the IR receiver located on the front panel of the VS381B. For optimum performance, make sure there is a clear line-of-sight between the remote control unit and the IR receiver.

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# Auto Input Switching

The VS381B supports auto input switching, each time when the HDMI input source is plugged or unplugged, the VS381B prioritizes and outputs an HDMI input source to the connected HDMI-enabled monitor accordingly.

## Adding an HDMI source

The VS381B prioritizes and outputs the latest detected HDMI input source transmission to the connected HDMI-enabled monitor.

## Removing an HDMI Source

The VS381B automatically switches and outputs to the next available HDMI input source transmission to the connected HDMI-enabled monitor. The rotation sequence is HDM input port 1 to HDM input port 2 to HDM input port 3 to HDM input port 1.

The rotation sequence cycles through HDMI input port 1 to HDMI input port 3.

For example, HDMI input source connected to HDMI input port 1 will be displayed when the HDMI input source connected to HDMI input port 3 is removed.

# Powering Off and Restarting

If you power off the VS381B, follows these steps before powering it on again:

1. Power off the attached devices.

2. Unplug the power adapter cable from the VS381B.

3. Wait 10 seconds, and then plug the power adapter cable back in.

4. After the VS381B is powered on, power on the attached devices.

# Appendix

## 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.

- To prevent damage to your installation it is important that all devices are properly grounded.

- The device is equipped with a DC adapter. This is a safety feature.

- 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.
  - 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://support.aten.com

- For telephone support, see *Telephone Support*, page iv:

## 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 | | VS381B |
|---|---|---|
| **LEDs** | Input | 3 x HDMI-In (Green) |
| | Power | 1 x Power LED (Green) |
| **Pushbuttons** | Select | 1 x Pushbutton (Input Selection) |
| **Audio** | Input | 3 x HDMI Type A Female (Black) |
| | Output | 1 x HDMI Type A Female (Black) |
| **Video Input** | Interfaces | 3 x HDMI Type A Female (Black) |
| | Impedance | 100 Ω |
| | Max. Distance | Up to 4096 x 2160 / 3840 x 2160 @60Hz (4:4:4) at Max. 5 m |
| **Video Output** | Interfaces | 1 x HDMI Type A Female (Black) |
| | Impedance | 100 Ω |
| | Max. Distance | Up to 4096 x 2160 / 3840 x 2160 @60Hz 4:4:4 at Max. 5 m |
| **Video** | Max. Data Rate | 18 Gbps (6Gbps Per Lane) |
| | Max. Pixel Clock | 600 MHz |
| | Compliance | HDMI 2.0 (3D, Deep Color, 4K, HDR10, Dolby Vision) HDCP 2.2 |
| | Max. Resolution | 4096 x 2160 / 3840 x 2160 @60Hz (4:4:4) |
| **Control** | IR | 1 x Mini Stereo Jack Female (Black) / Max. Distance at 5 m |
| **Connector** | Power | 1 x DC Jack<br>**Note:** We strongly recommend to use USB vis USB to DC cable as the main power source for the VS381B, as the power supply from HDMI connection maybe insufficient for the device to fully operate. |
| **Power Consumption** | | |
| **Environment** | Operating Temperature | 0–40ºC |
| | Storage Temperature | -20–60ºC |
| | Humidity | 0–80% RH, Non-condensing |
| **Physical Properties** | Housing | Metal |
| | Weight | 0.15 kg (0.33 lb) |
| | Dimensions (L x W x H) | 7.16 x 7.90 x 2.55 cm (2.82 x 3.11 x 1.0 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 detective, 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/