



4-Port Dual View HDMI Switch
VS482
User Manual



www.aten.com

FCC Information

Federal Communication Commission Interference Statement

This equipment has been tested and found to comply with the limits for a Class B digital service, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. Any changes or modifications made to this equipment may void the user’s authority to operate this equipment. This equipment generates, uses, and can radiate radio frequency energy. If not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- ◆ Reorient or relocate the receiving antenna.
- ◆ Increase the separation between the equipment and receiver.
- ◆ Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- ◆ Consult the dealer or an experienced radio/TV technician for help.

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.

RoHS

This product is RoHS compliant.

SJ/T 11364-2006

The following contains information that relates to China.

部件名称	有毒有害物质或元素					
	铅	汞	镉	六价铬	多溴联苯	多溴二苯醚
电器部件	●	○	○	○	○	○
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- : 表示该有毒有害物质在该部件所有均质材料中的含量均在SJ/T 11363-2006规定的限量要求之下。
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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

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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 VS482 4-Port Dual View HDMI Switch package consists of:

- ♦ 1 VS482 4-Port Dual View HDMI Switch
- ♦ 1 IR Remote Control Unit
- ♦ 1 Power Adapter
- ♦ 1 User Instructions
- ♦ 1 Mounting kit

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 VS482 since this manual was printed. Please visit our website to download the most up-to-date version.

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About this Manual

This User Manual is provided to help you get the most from your VS482 system. It covers all aspects of installation, configuration and operation. An overview of the information found in the manual is provided below.

Introduction, introduces you to the VS482 system. Its purpose, features and benefits are presented, and its front and back panel components are described.

Hardware Setup, describes how to set up your VS482 installation. The necessary steps are provided.

Operation, explains the fundamental concepts involved in operating the VS482 via the front panel pushbuttons, remote controlled On-Screen Display (OSD), or through the RS-232 serial interface.

The Firmware Upgrade Utility, explains how to download the VS482's firmware and upgrade the device using the utility.

An Appendix, provides specifications and other technical information regarding the VS482.

Conventions

This manual uses the following conventions:

- | | |
|---|--|
| <code>Monospaced</code> | 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

With more and more HDMI devices entering the Home Theater market, the need for simultaneous access to different HDMI sources is becoming increasingly important. Now, the VS482 4-Port Dual View HDMI Switch offers an easy and affordable way to add HDMI capabilities to your home theater system by allowing you to switch easily between up to four HDMI sources that are connected to up to two HDMI displays.

The VS482 supports four HDMI input sources and two HDMI output displays. It is designed for two HDTV, audio/video receiver (AVR) or HD projector display applications. The VS482 complies with HDMI standards, and is designed to support 3D content, as well as featuring Audio Return Channel (ARC) functionality. The VS482 also offers fast switching and has OSD display controls for video, audio, system configuration and information.

With four HDMI input ports, the VS482 allows you to connect four HDMI devices (such as an HD camcorder, satellite box, HD-DVD player, hi-def Blu-ray player, home theater PC, stand-alone streaming media player, or gaming console) to two HDMI monitors, displays, projectors or TVs at the same time. The remote control and convenient front panel pushbuttons allow you to quickly and easily toggle between HDMI sources, while the front panel LEDs indicate the source device at a glance.

Furthermore, for complete system and install integration, RS-232 control is standard through the VS482's built-in bi-directional RS-232 serial remote port that allows the switch to be controlled through a Control Unit, PC, and/or home automation / home theater software package.

Features

- ♦ Allows up to four HDMI sources to be connected to two HDMI displays
- ♦ Easy and affordable way to add four HDMI inputs to your home theater system
- ♦ HDCP 1.2 compatible
- ♦ Supports HDMI (3D, Audio Return Channel and deep color)
- ♦ Audio Return Channel (ARC) function – connect an HDMI cable to the ARC port to send audio from your source device to your audio/video receiver
- ♦ Instant switching between HDMI input sources via front panel pushbuttons or through the RS-232 serial control port
- ♦ Features EDID Expert technology to set up different configurations via different EDID modes
- ♦ Allows users to view the HDMI input source port/device for easy selection
- ♦ On-Screen Display (OSD) for system configuration settings and information display
- ♦ Built-in bi-directional RS-232 serial control port for high-end system control

Note: The AP and GUI operation instructions can be downloaded from the ATEN website (www.aten.com).

- ♦ IR control signal extension – extend the reach of the IR controller by adding an IR receiver unit (IR receiver can be purchased separately)
- ♦ Consumer Electronics Control (CEC) allows interconnected HDMI devices to communicate and respond to one remote control
- ♦ Superior video quality – HDTV resolutions of 480p, 720p, 1080i, 1080p (1920x1080); VGA, SVGA, SXGA, UXGA, and WUXGA (1920 x 1200)
- ♦ Supports multi-channel audio 2/5.1/ 7.1
- ♦ Extracts audio from HDMI input signal that supports both optical and coaxial digital audio and one stereo audio output
- ♦ Rack mountable, all-metal casing
- ♦ Plug-and-play – no software installation required
- ♦ DDC compatible
- ♦ LED indication of HDMI source devices

Requirements

The following equipment is required for a complete VS482 installation:

Source Device

- ♦ HDMI Type A output connector(s)

Note: A DVI/HDMI adapter is required when connecting a DVI source device.

Display Device

- ♦ Up to 2 display devices or receivers with an HDMI Type A input connector

Cables

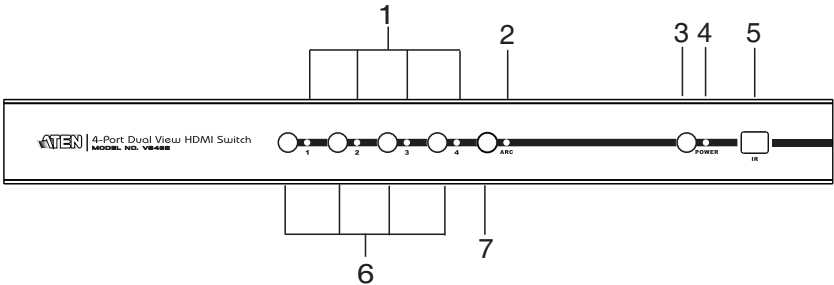
- ♦ 4 HDMI cables

Note: 1. 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.

2. If you wish to utilize the VS482's high-end serial controller function, you will also need to purchase an appropriate RS-232 cable. See *Installing the RS-232 Controller*, page 10.

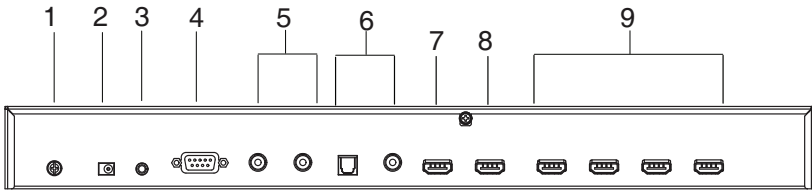
Components

Front View



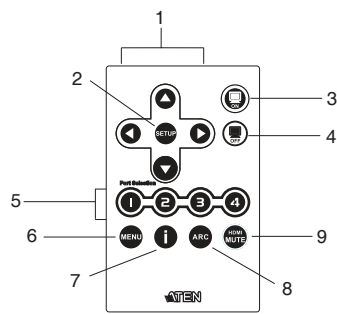
No.	Component	Description
1	Port LEDs	The SELECTED port's LED (bottom, green) lights up to indicate that the port is selected.
2	ARC LED	The LED (blue) lights up when the ARC function is enabled.
3	Power Pushbutton	Press this button to turn on / off the switch.
4	Power LED	♦ The LED (green) lights up when the switch is powered on. ♦ The LED (orange) lights up to indicate that the switch is in standby mode.
5	IR Receiver	This receives signals from the IR remote control.
6	Port Selection Pushbuttons	Pressing a port selection pushbutton routes the A/V source from the corresponding input port to the output port for display.
7	ARC button	Press this button to enable / disable the ARC function.

Rear View



No.	Component	Description
1	Grounding Terminal	The grounding wire (used to ground the unit) attaches here. Note: The grounding wire is not included in this package. Contact your dealer for more information.
2	Power Jack	The power adapter cable plugs in here.
3	IR Extender Port	Connect the IR Extender to this port. Note: The additional IR receiver can be purchased separately.
4	RS-232 Serial Port	This is the serial remote port for input source selection and high-end system control, including firmware upgrade.
5	Stereo Audio Ports	The red port is for the right audio channel, and the white port is for the left audio channel.
6	Digital Audio Ports	Connect the optical and coaxial audio cables to these ports.
7	HDMI Out (port 2)	The cable from the HDMI display or receiver device plugs in here.
8	HDMI Out (port 1) (ARC In)	◆ The cable from the HDMI display device or receiver plugs in here. ◆ Connect the ARC audio input connector or receiver to this port. The ARC audio can be transmitted back (to audio receivers) through this connectivity
9	HDMI In	The cables from the HDMI source devices can plug into any of four available ports.

IR Remote Control



No.	Component	Description
1	Up / Down / Left / Right Buttons	Press the Up / Down / Left / Right button to cycle through the OSD menu/selection.
2	Setup	Press this to confirm the selection on the OSD screen.
3	On	Press this to power on the display.
4	Off	Press this to power off the display.
5	Port Selection Buttons 1~4	Press a button to bring the focus directly to the source device attached to its associated port.
6	Menu	Press this to enable / disable the OSD menu.
7	Info button	Press this button to display information about the source device on the upper left side of the screen. The information can include: Source port number; Source port number + Source Type; or turned off.
8	ARC	Enable / Disable ARC function. See <i>ARC Commands</i> , page 23.
9	HDMI Mute	Enable / Disable audio for the output HDMI port. See <i>Switch Mode</i> , page 12.

Chapter 2

Hardware Setup

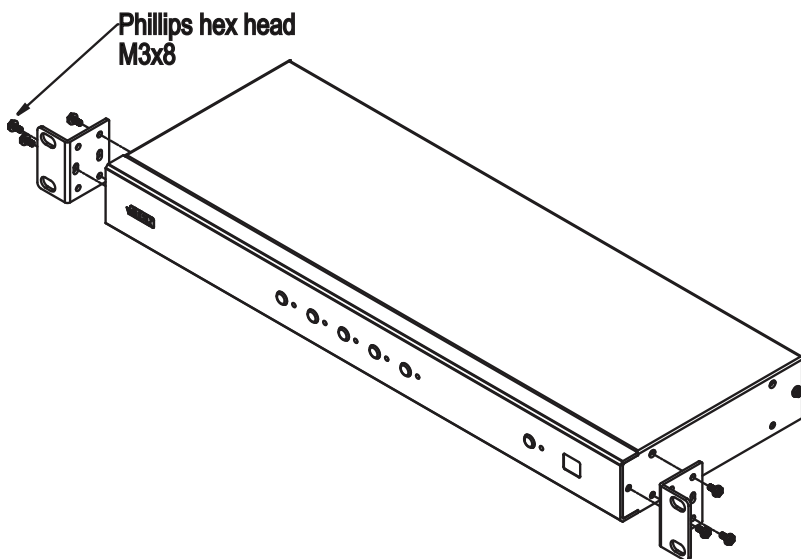


1. Important safety information regarding the placement of this device is provided on page 39. Please review it before proceeding.
2. Make sure that the power to all devices connected to the installation are turned off.
3. Make sure that all devices you will be installing are properly grounded.

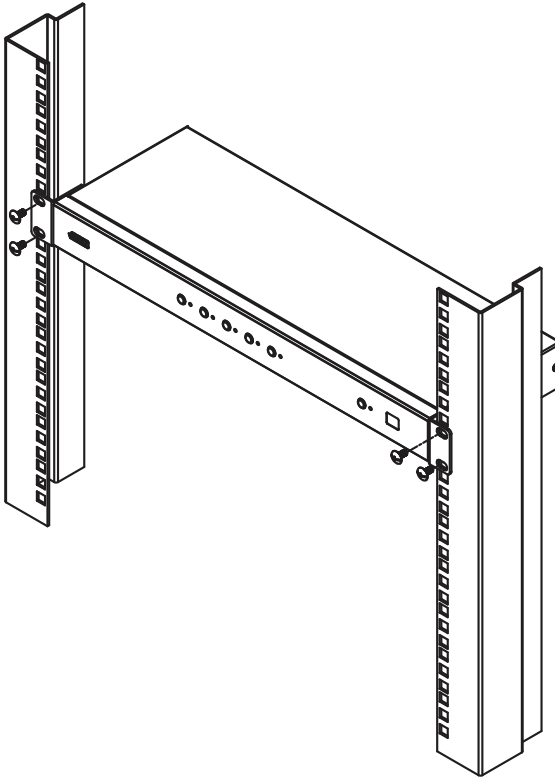
Rack Mounting

For convenience and flexibility, the VS482 can be mounted on system racks. To rack mount a unit do the following:

1. Using the screws provided in the Mounting Kit, screw the mounting bracket into the side of the unit as show in the diagram below:



2. Screw the bracket into any convenient location on the rack.



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

Grounding

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

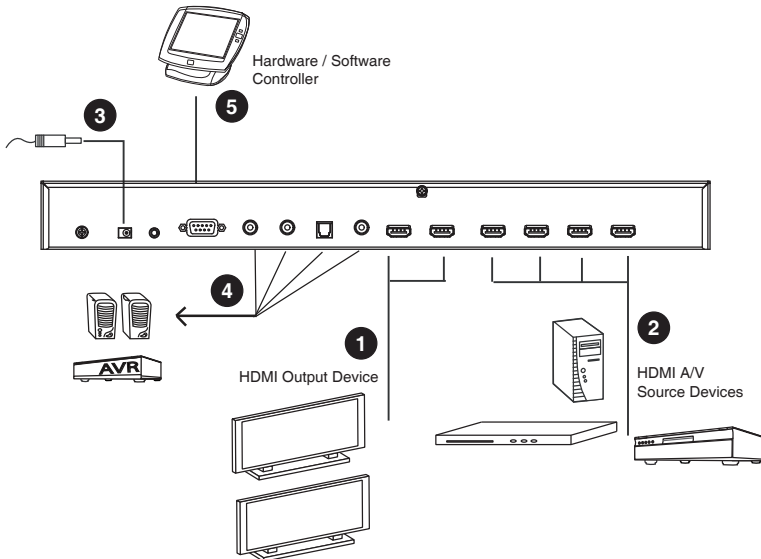
1. Use a grounding wire to ground the VS482 by connecting one end of the wire to the grounding terminal, and the other end of the wire to a suitable grounded object.
2. Make sure that the computer(s)/device(s) that the VS482 connects to are properly grounded.

Installation

Installation of the VS482 is simply a matter of plugging in the appropriate cables.

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

1. Use an HDMI cable to connect the HDMI input port on the video display device to the HDMI output port on the rear of the VS482.
2. Use HDMI cables to connect the HDMI output ports on the source device(s) to the HDMI input ports on the VS482.
3. Plug the provided power adapter into an appropriate AC power source; plug the power adapter cable into the Power Jack on the VS482.
4. Connect your audio devices (such as speakers or AVRs) to the Stereo Audio Ports or Digital Audio Ports.
5. (Optional) To edit the VS482 system settings through the RS-232 port, connect the hardware / software controller here.



This completes the basic installation of the 4-Port Dual View HDMI Switch. You may now power on the display and source devices.

Installing the RS-232 Controller

In order to use the RS-232 serial interface to attach a high-end controller (such as a PC) to the VS482, use a serial cable such as a modem cable. The end connecting to the VS482 should have a 9-pin male connector. Connect this to the serial interface on the rear of the VS482. Refer to number **5** on the previous diagram.

Note: To configure the controller serial port, see page 15.

Chapter 3

Operation

Overview

The 4-Port Dual View HDMI Switch offers easy and flexible source device selection with either the front panel pushbuttons, with the remote control, or through the RS-232 serial interface.

-
- Note:** 1. Whenever the VS482 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.
2. The VS482 takes about 10-20 seconds to boot up the system and apply the system configuration when first powered on.
-

Manual Selection

To select a source device, press the pushbutton that corresponds to the port to which it is connected.

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

Remote Control Selection

To select a source device with the remote control, press the number button that corresponds to the port to which it is connected.

See *IR Remote Control*, page 6 for more details.

Note: Aim the remote control unit at the IR receiver located on the front panel of the VS482. For optimum performance, make sure there is a clear line-of-sight between the remote control unit and the IR receiver.

Switch Mode

You can choose how the VS482 behaves when a new input source is connected. There are three Switch Modes as follows:

- ♦ **Default** – The switch behaves normally without automatic switching operation.
- ♦ **Next** – Switch priority is placed on the next port that has a new source connected to it (default).
- ♦ **Auto** – Places priority on a selected port so that when a source is connected to the said port, the VS482 automatically switches to it, and the port can not be changed until the source is unplugged or auto switching is disabled.

In addition, the **Go To** function, which can be turned On or Off via RS-232 commands, enables the VS482 to switch to the next port with a powered on source device when the current input source is off.

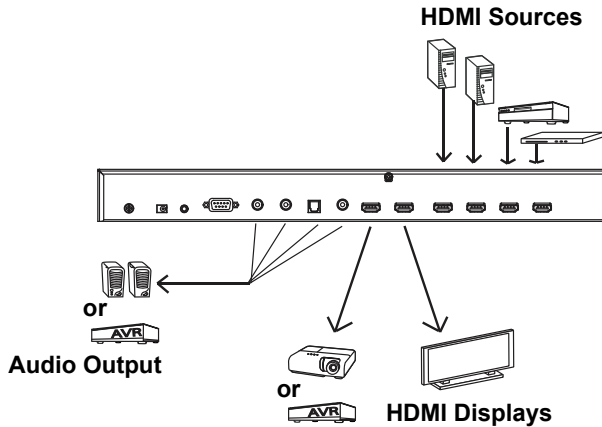
Refer to *Switch Mode Commands*, page 18 for more details.

Audio Return Channel (ARC)

Audio Return Channel (ARC) allows an HDMI source device that receives content via air waves (such as a TV or STB connected to a satellite antenna) to send audio “upstream” to your HDMI display devices using only one HDMI cable.

Initial Setup

The VS482 supports dual HDMI output for dual view, such as two HDTV or audio/video receiver (AVR) applications, as shown in the following diagram.



The audio/video coming from the HDMI sources (Blu-ray, DVD, etc.) are received by the VS482 and then passed on to the HDMI displays (TV, projector or AVR).

However if the HDMI audio or video is coming from the TV (through a satellite antenna or STB), you can enable ARC so that audio is sent to the AVR/ HDMI receiver through the HDMI cable or the device(s) connected to the audio output port(s). See p. 14 for the diagram.

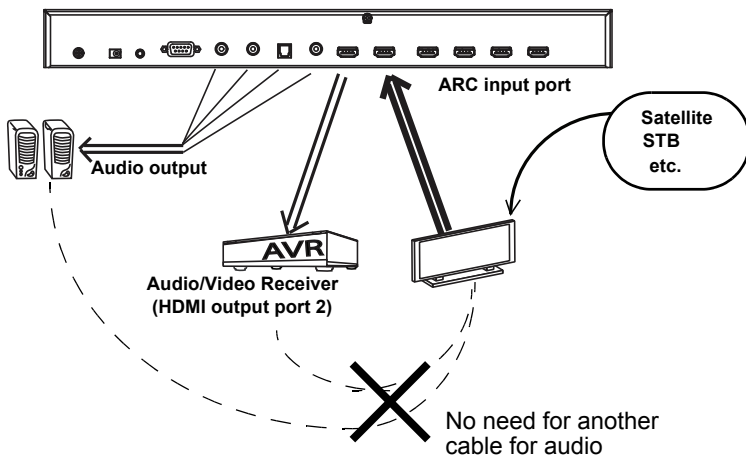
-
- Note:**
1. Without ARC, you must connect another cable, specifically for passing audio, from the TV to the AVR or the device(s) connected to the audio output port(s).
 2. The ARC function requires HDTV built-in ARC function and connect to the correct HDMI output port. Check your HDTV's user manual for this information.
-

Enabling ARC

With ARC enabled, the TV can act as the HDMI source and send audio “upstream” to the AVR or speakers connected to the HDMI output ports of the VS482.

Note: The HDMI output port 1 is also the ARC input port, depending on whether the ARC feature is enabled or disabled. See *ARC Commands*, page 23 for more information.

In the following diagram, audio from the TV goes to the VS482 through the ARC Input port, and is then passed on to the AVR via the HDMI cable or the audio devices connected to the HDMI output ports. A user can also connect to an audio device (receiver) using an optical or coaxial audio connector.



Note: 1. The scenario above works only if the TV supports HDMI and have ARC enabled.

2. The ARC LED (blue) lights up to indicate that the ARC function is enabled. There is no audio output if your HDTV does not support ARC function or if the ARC function is not enabled.
-

RS-232 Serial Interface

The VS482's built-in bi-directional RS-232 serial interface allows system control through a high-end controller, PC, and/or home automation / home theater software package.

Configuring the Serial Port

The controller's serial port should be configured as follows:

Baud Rate	19200
Data Bits	8
Parity	None
Stop Bits	1
Flow Control	None

Standby/Power Commands

The Standby/Power feature enables the VS482 to enter power saving mode.

The formula for Standby/Power commands is as follows:

Standby + Control command [Enter]

For example, to disable the Standby/Power feature, input the following:

standby off [Enter]

The following tables show the possible values for the **Control** string:

Command	Description
standby	Standby/Power command

Control	Description
on	Turn on power saving mode
off	Turn off power saving mode

The following table shows the available command list:

Command	Control	Enter	Description
standby	on	[Enter]	Power saving mode on
standby	off	[Enter]	Power saving mode off

Switch Port Commands

These actions can also be performed by keying the command into the text box, and clicking **Send**.

The formula for Switch commands is as follows:

Switch Command + Input Command + Port number [Enter]

1. For example, to switch input port to port 02, type the following:

sw i02 [Enter]

2. To switch to the next port, input the following:

sw + [Enter]

3. To turn off video output on port 03, type the following:

sw o03 off [Enter]

The following tables show the possible values and formats for the Input command, Port Number and Control:

Command	Description
sw	Switch command

Input Command	Description
i	Input command

Port number	Description
xx	01-04 port (default is 01)

Control	Description
on	Turn on the display
off	Turn off the display
+	Next Port
-	Previous Port

The following table shows the available command list:

Command	Input	Port	Control	Enter	Description
sw	i	xx		[Enter]	Switch Input Port
sw			on	[Enter]	Turn on (Display out)
			off	[Enter]	Turn off (No output)
sw			+	[Enter]	Switch to the next input
			-	[Enter]	Switch to the previous input

-
- Note:** 1. Each command string can be separated with a space.
2. The **Port Number** command string can be skipped, and the default value will be used.
-

Switch Mode Commands

See *Switch Mode*, page 12 for more information about the Switch Mode feature.

In addition, the **Go To** function enables the VS482 to switch to the next port with a powered on source device when the current input source is off.

The formula for Switch Mode commands is as follows:

Switch Command + Input Command + Port Number + Control + [Enter]

1. For example, to enable auto switching for port 02, type the following:
swmode i02 auto [Enter]
2. To enable the auto switch next mode, type the following:
swmode next [Enter]
3. To turn auto switching off, type the following:
swmode default [Enter]
4. To enable the Go To function, type the following:
swmode goto on [Enter]

The following tables show the possible values and formats for the Input command, Port Number and Control:

Command	Description
swmode	Switch Mode command

Input Command	Description
i	Input command

Port number	Description
xx	01-04 port (default is 01)

Control	Description
default	No automatic switching operation
next	Priority is placed on the next port that has a new source connected to it (default)
auto	Priority is placed on a selected port
goto on	Switch to the next port with a powered on source device when the current input source is off
goto off	Disable Go To function

The following table shows the available command list:

Command	Input	Port	Control	Enter	Description
swmode	i	xx	default	[Enter]	Use Default switch mode
			next	[Enter]	Use Next switch mode
			auto	[Enter]	Use Auto switch mode
swmode			goto on	[Enter]	Enable Go To function
			goto off	[Enter]	Disable Go To function

EDID Commands

Extended Display Identification Data (EDID) is a data format that contains a display's basic information and is used to communicate with the video source/system. You can set up which EDID mode the VS482 uses with the following command:

EDID Command + Control (port1 / auto / default) [Enter]

For example, to use the Port1 EDID setting, type the following:

edid port1 [enter]

The following tables show the possible values and formats for the **Control** command:

Command	Description
edid	Enable EDID selection

Control	Description
port1	Implement the EDID of the connected display to Port 1, and pass it to the video source
auto	Implement the EDID of all connected displays. The VS482 uses the best resolution for all displays (default).
default	Implements ATEN's default EDID

The following table shows the available command list:

Command	Control	Enter	Description
edid	port1	[Enter]	The EDID from Port 1 is passed to the video source
edid	auto	[Enter]	The VS482 implements the EDID of all connected displays and uses the best resolution for all displays (default)
edid	default	[Enter]	ATEN's default EDID is passed to the video source

CEC Commands

Consumer Electronics Control (CEC) allows interconnected HDMI devices to communicate and respond to one remote control. The formula for CEC mode selection commands is as follows:

CEC Command + Control (Off / Auto / Port1) [Enter]

For example, to use the Port1 CEC setting, type the following:

cec port1 [enter]

The following tables show the possible values and formats for the **Control** command:

Command	Description
cec	Enable CEC selection

Control	Description
off	Disable CEC (default)
auto	Apply the video source's CEC to all display output
port1	Apply the video source's CEC only to port 1

The following table shows the available command list:

Command	Control	Enter	Description
cec	off	[Enter]	CEC off (default)
cec	auto	[Enter]	Connect the video source's CEC with all display output
cec	port1	[Enter]	Apply the video source's CEC only to port 1

Mute Commands

Enable or disable audio coming from the output port(s) using the following command:

Mute Command + Control (On / Off) [Enter]

For example, to mute the audio, type the following:

mute on [enter]

The following tables show the possible values and formats for the **Control** command:

Command	Description
mute	Enable / Disable audio of HDMI output port

Control	Description
on	Mute on; audio from HDMI output port is disabled
off	Mute off; audio output enabled (default)

Note: Each command string can be separated with a space.

The following table shows the available command list:

Command	Control	Enter	Description
mute	on	[Enter]	Mute on (no audio)
mute	off	[Enter]	Mute off (audio out)

ARC Commands

Audio Return Channel (ARC) allows a source device (TV, STB, etc.) to send audio “upstream” to an audio/video receiver using only one HDMI cable. The formula for enabling/disabling ARC is as follows:

ARC Command + Control (On / Off) [Enter]

For example, to enable ARC, type the following:

arc on [enter]

The following tables show the possible values and formats for the **Control** command:

Command	Description
arc	Enable / Disable ARC

Control	Description
on	ARC on; output audio passes from HDMI output port 1 to HDMI output port
off	ARC is disabled (default)

The following table shows the available command list:

Command	Control	Enter	Description
arc	on	[Enter]	ARC on
arc	off	[Enter]	ARC off

Echo

The Echo function lets the VS482 perform front panel and IR control operations, but not commands received through the RS-232 interface.

The formula for the Echo command is as follows:

Echo Command + Control (on/off) + [Enter]

For example, to enable the Echo function, type the following:

echo on [enter]

The following tables show the possible values and formats for the **Control** command:

Command	Description
echo	Enable / Disable Echo function

Control	Description
on	Echo function on
off	Echo function off (default)

The following table shows the available command list:

Command	Control	Enter	Description
echo	on	[Enter]	Echo on
echo	off	[Enter]	Echo off

Reset

You can reset the VS482 to default factory settings. The formula for the Reset command is as follows:

Reset Command [Enter]

The following tables show the possible values and formats for the **Control** command:

Command	Description
reset	Reset the device settings

The following table shows the available command list:

Command	Enter	Description
reset	[Enter]	Reset the device settings

Baud Rate Setting

You can select the RS-232 Baud Rate you want the VS482 to use. Options are 9600, 19200 (default) 38400 and 115200.

The formula for Baud Rate setting command is as follows:

Baud Command + Control [Enter]

For example, to select 38400 as your baud rate, type the following:

baud 38400 [enter]

The following tables show the possible values and formats for the **Control** command:

Command	Description
baud	Sets the RS-232 baud rate

Control	Description
9600	Use 9600 baud rate
19200	Use 19200 baud rate
38400	Use 38400 baud rate
115200	Use 115200 baud rate

The following table shows the available command list:

Command	Control	Enter	Description
baud	9600 / 19200 / 38400 / 115200	[Enter]	Sets the RS-232 baud rate

Verification

After entering a command, a verification message appears at the end of the command line as follows:

- ♦ **Command OK** - indicates that the command is correct and successfully performed by the switch
- ♦ **Command incorrect** - indicates that the command has the wrong format and/or values.

Powering Off and Restarting

If you power off the VS482, follows these steps before powering it on again:

1. Power off the attached devices.
2. Unplug the power adapter cable from the VS482.
3. Wait 10 seconds, and then plug the power adapter cable back in.
4. After the VS482 is powered on, power on the attached devices.

OSD Menu

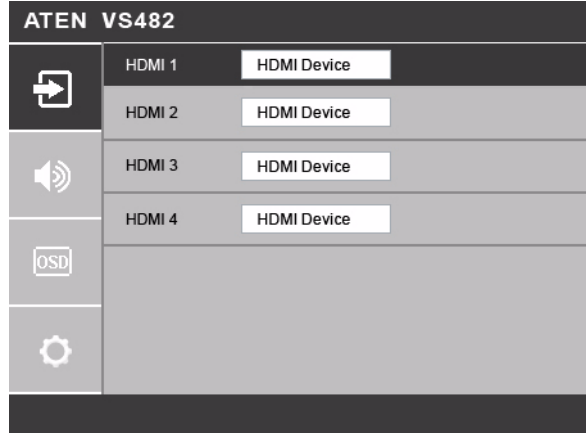
Use the **MENU** pushbutton on the remote control to view the OSD menu and cycle through the options in the order shown in the table below. See *IR Remote Control*, page 6 for details on how to use the remote control.

Menu Page	Sub-Menu Page(s)	
Input Setting 	HDMI 1	HDMI device / Blu-ray player / DVD player / Game Console / Set Top Box / Portable Device / PC
	HDMI 2	HDMI device / Blu-ray player / DVD player / Game Console / Set Top Box / Portable Device / PC
	HDMI 3	HDMI device / Blu-ray player / DVD player / Game Console / Set Top Box / Portable Device / PC
	HDMI 4	HDMI device / Blu-ray player / DVD player / Game Console / Set Top Box / Portable Device / PC
Audio Setting 	ARC	Disable / Enable
	Audio Channel	AUTO / Stereo / 5.1 Channel / 7.1 Channel
	HDMI Audio Output	On / Off
OSD Setting 	Message Display Mode	Channel / Full / Off
	Transparency	0 ~100 (default is 75)
System Setting 	EDID	Auto / Port1 / Default
	CEC	Off / Auto / Port1
	Reset to Default	On / Off
	Version	Version Number

- Note:** 1. The highlighted texts indicate the VS482's default setting.
2. The OSD function is disabled while 3D content is being displayed. Switch to 2D content or a different input port to enable the OSD.

Input Setting Menu

Use this screen to select the video source device(s) for the HDMI input port(s).



1. Use the drop-down menu to select a video source device for HDMI 1 input port. Options are as follows.

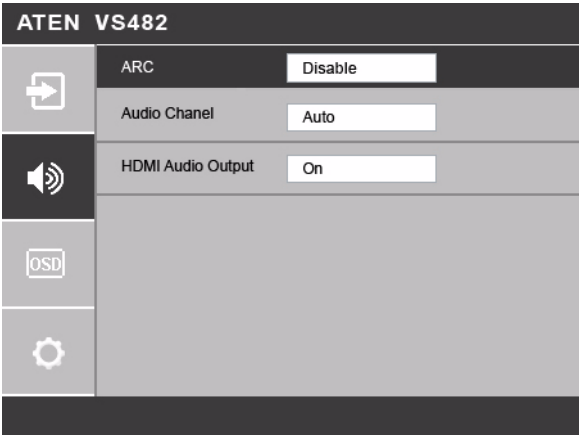
HDMI Device
Blu-ray Player
DVD Player
Game Console
Set Top Box
Portable Device
PC

Note: The default value **HDMI Device** does not point to any device. It means there is no video source selected for that HDMI input port.

2. Do the same for HDMI 2 to HDMI 4 input ports.

Audio Setting

Use this screen to configure the VS482 audio settings.



1. Use the drop-down menu to **Enable** or **Disable** ARC on the VS482.
See *Audio Return Channel (ARC)*, page 13 for more details on this feature.

Disable
Enable

2. Use the drop-down menu to select which audio channel receiver the VS482 uses. The default value is **Auto**.

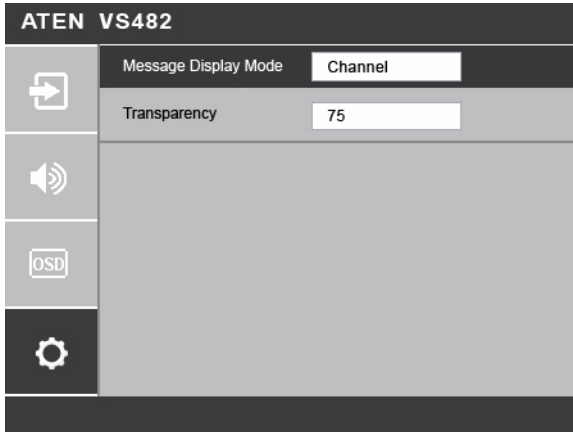
Auto
Stereo
5.1 Channel
7.1 Channel

3. Use the drop-down menu to turn on/off the audio coming from the HDMI output port(s). Select **On** to enable audio from the active HDMI output port, and select **Off** to disable it.

On
Off

OSD Setting

Use this screen to configure the VS482 OSD settings.



1. Use the drop-down menu to select which display mode the VS482 uses to display information in the upper left corner of the screen. Options are as follows.

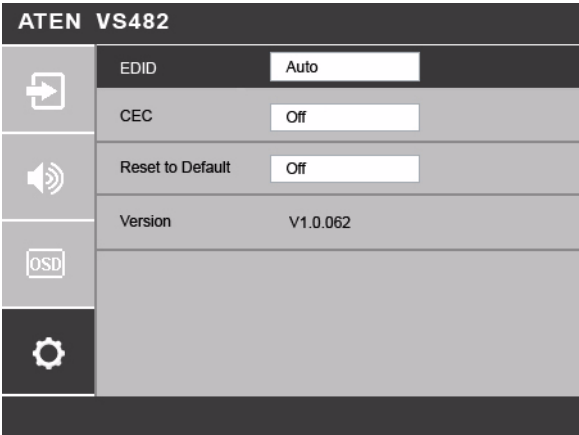
Channel
Full
Off

- ♦ **Channel** - This shows the source port number.
 - ♦ **Full** - This shows the source port number and source type. See *Input Setting Menu*, page 28 for the list of source types.
 - ♦ **Off** - There is no information shown.
2. Select the visibility of the OSD menu when it is invoked. Press the menu button to enter the adjustment menu. Press the up/down button to select increase/decrease the value then press the setup button to adjust. The value 100 shows a fully visible and opaque OSD menu. The default value is **75**.

Note: The **Transparency** value must be divisible by 5 (i.e., 5, 10, 15, 20... and so on).

System Setting

Use this screen to configure the VS482 system settings.



1. Use the drop-down menu to set up which EDID mode the VS482 uses.
See *Verification*, page 26 for more details.

Auto
Port 1
Default

2. Use the drop-down menu to select how the video source’s CEC is applied.
See *Verification*, page 26 for more details.

Off
Auto
Port 1

3. Set this to **On** to have the VS482 return to default settings when it is reset.
Otherwise, select **Off**.

On
Off

4. This read-only field shows the firmware version of the VS482.

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Chapter 4

The Firmware Upgrade Utility

Introduction

The purpose of the Windows-based Firmware Upgrade Utility is to provide an easy process for upgrading the VS482. The program comes as part of a Firmware Upgrade Package that is specific for each device.

As new firmware versions become available, new firmware upgrade packages are posted on our website. Check the website regularly to find the latest information and packages.

Downloading the Firmware Upgrade Package

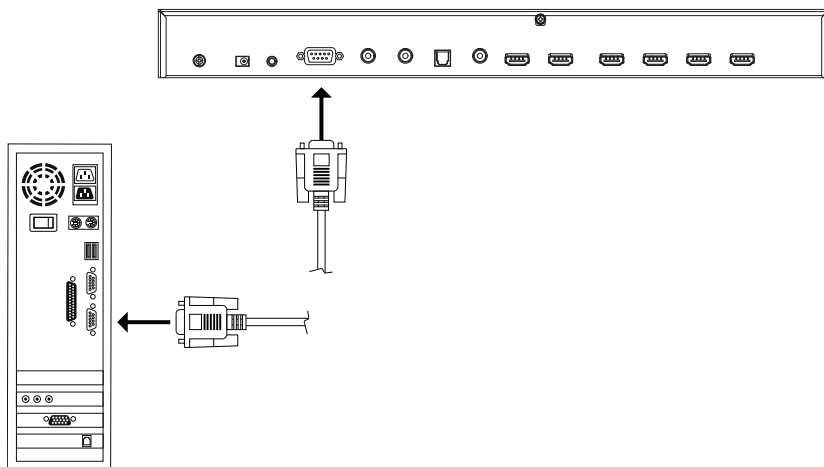
To download the firmware upgrade package:

1. On our Website go to: *Download - Firmware* and choose the device model, or from the VS482 product page under the *Resources* tab, select *Firmware*. A list of available firmware upgrade packages appears.
2. Choose the firmware upgrade package that you wish to install (usually the most recent) and download it to your computer.

Preparation

To prepare for the firmware upgrade, do the following:

1. Use an RS-232 cable to connect a COM port on your computer to the *RS-232 Serial Port* of your VS482.



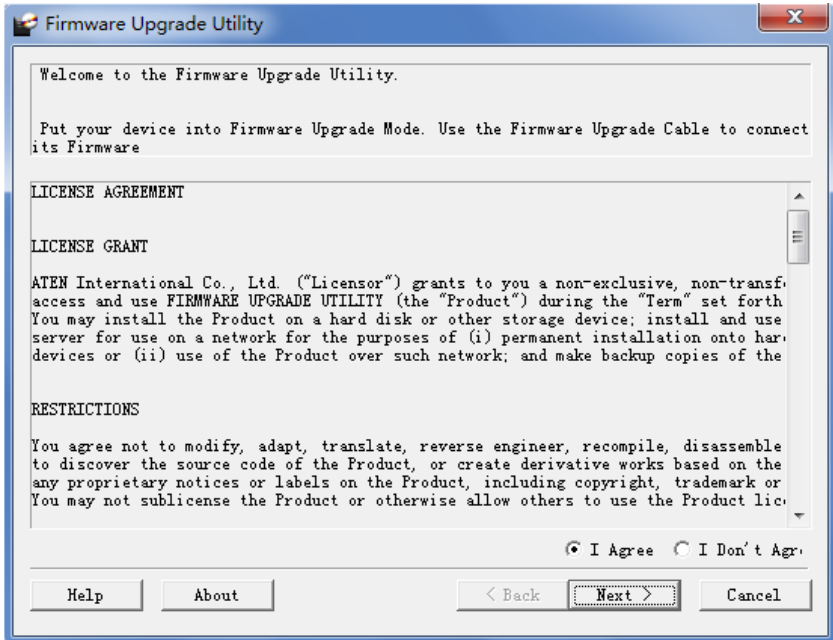
2. Unplug the VS482's power adapter.
3. Hold-down front panel pushbutton 1 and plug the power adapter into the VS482 to power the unit.
4. If successful, the port 1 LED will start flashing and you can start the upgrade process as explained on the next page.

Starting the Upgrade

To upgrade the firmware:

1. Run the downloaded firmware upgrade package file either by double-clicking the file icon, or by opening a command line and entering the full path to it.

The *Firmware Upgrade Utility* welcome screen appears:



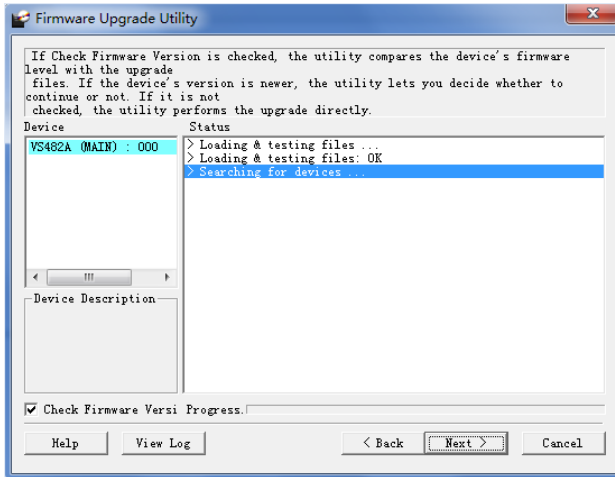
Note: The screens shown in this section are for reference only. The wording and layout of the actual screens put up by the *Firmware Upgrade Utility* may vary slightly from these examples.

2. Read and *Agree* to the License Agreement (click the **I Agree** radio button).

(Continues on next page.)

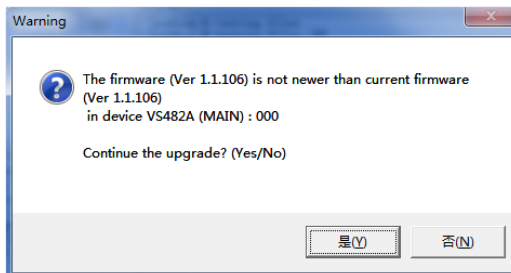
(Continued from previous page.)

3. Click **Next** to continue. The *Firmware Upgrade Utility* main screen appears. The devices capable of being upgraded are listed in the *Device List* panel:



4. Click **Next** to perform the upgrade. The Port LEDs 1, 3, and 4 will flash while the upgrade is in process.

If you enabled *Check Firmware Version*, the Utility compares the device's firmware level with that of the upgrade files. If it finds that the device's version is higher than the upgrade version, it brings up a dialog box informing you of the situation and gives you the option to continue or cancel.

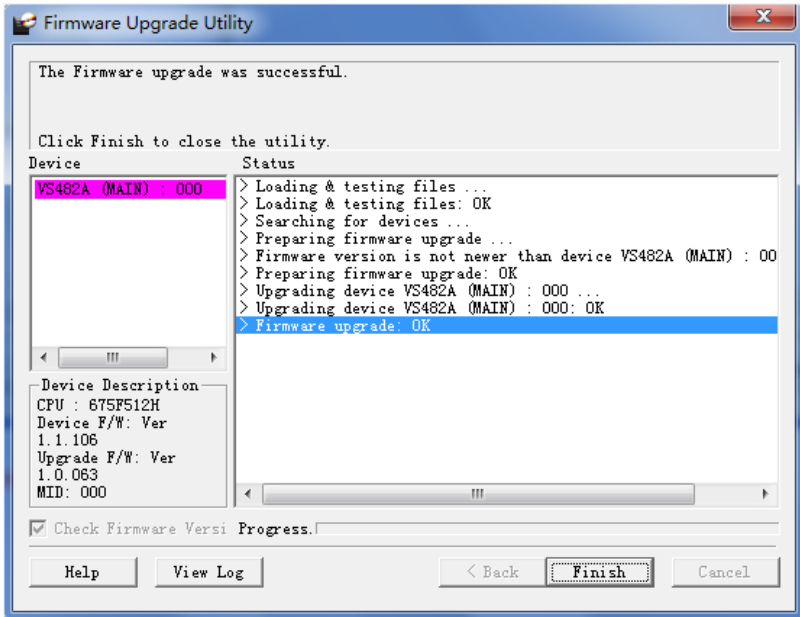


If you didn't enable *Check Firmware Version*, the Utility installs the upgrade files without checking whether they are a higher level, or not.

Status messages appear in the *Status Messages* panel, and the progress toward completion is shown on the *Progress* bar.

Upgrade Succeeded

After the upgrade has completed, all port LEDs will stop flashing and a screen appears to inform you that the procedure was successful:



Click **Finish** to close the *Firmware Upgrade Utility*.

Upgrade Failed

If the *Upgrade Succeeded* screen doesn't appear, it means that the upgrade failed to complete successfully. See the next section, *Firmware Upgrade Recovery*, for how to proceed.

Firmware Upgrade Recovery

There are three conditions that call for firmware upgrade recovery:

- ♦ When a firmware upgrade is manually aborted.
- ♦ When the mainboard firmware upgrade fails.
- ♦ When the I/O firmware upgrade fails.

To perform a firmware upgrade recovery, do the following:

1. Power off the device.
2. Connect the RS-232 cable to the *RS-232 Serial Port*.
3. Repeat the upgrade procedure.

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 DC adapter. This is a safety feature.
- ♦ 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.
 - ♦ 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://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.

Specifications

Function			VS482
Display Connections			2
Connectors	Device	HDMI In	4 x HDMI Type A Female (Black)
	Display	HDMI Out	2 x HDMI Type A Female (Black)
	Optical Audio		1 x Toslink (Black)
	Coaxial Audio		1 x RCA (Orange)
	Stereo Audio		2 x RCA (Red / White)
	RS-232 Port		1 x DB-9 Female (Black)
	Power		1 x DC Jack
	IR Extension Port		1 x 3.5mm phone jack
Switches	Port Switch		4
	ARC Selection		1
	Power Button		1
LEDs	Selected		4 (Green)
	ARC Selected		1 (Blue)
	Power		1 (Green / Orange)
IR Control			1
Video			HDTV resolutions of 480p, 720p, 1080i, 1080p (1920x1080); WUXGA (1920 x 1200)
Power Consumption			DC 5.3V, 6.95W
Environment	Operating Temp.		0–50°C
	Storage Temp.		-20–60°C
	Humidity		0–80% RH, Non-condensing
Physical Properties	Housing		Metal
	Weight		2.16 Kg
	Dimensions (L x W x H)		43.72 x 15.86 x 5.54 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.