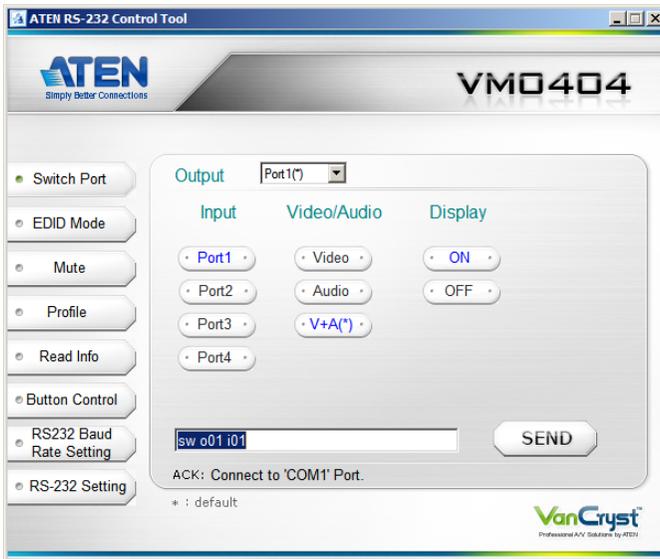**VM0404**

4x4 Video Matrix Switch with Audio

RS-232 Control Tool

User Manual

FCC Information

Warning: This is a class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

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.

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	●	○	○	○	○	○
机构部件	○	○	○	○	○	○

○: 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。

●: 表示符合欧盟的豁免条款，但该有毒有害物质至少在该部件的某一均质材料中的含量超出SJ/T 11363-2006的限量要求。

×: 表示该有毒有害物质至少在该部件的某一均质材料中的含量超出SJ/T 11363-2006的限量要求。

RS-232 Control Tool Operation

Overview

The VM0404 4x4 Video Matrix Switch with Audio has a built-in bi-directional RS-232 serial interface that allows system control through a high-end controller, PC, and/or home automation / home theater software package. The RS-232 Control Tool is an application used to send operational commands from your PC – to the VM0404 through a serial (RS-232) interface connection. RS-232 serial operations to and from the VM0404 installation can be managed via a Graphical User Interface (GUI) on systems that are running Windows. In order to use this Control Tool, two separate items of software must be installed on all of the PCs in your installation – .NET Framework 2.0 and the Control Tool AP. The procedure for installing and operating the RS-232 Control Tool is detailed in the following sections.

Before You Begin

.NET Framework 2.0

To install .NET Framework on your PC, do the following:

1. Download the executable file from the Microsoft Download Center online, and run it.

2. Follow the instructions on the screen. The installation applet will automatically detect the operating system and install the correct drivers

RS-232 Control Tool AP

To download the RS-232 Control AP in order to use the Browser GUI to manage the serial commands in your VM0404 installation, do the following:
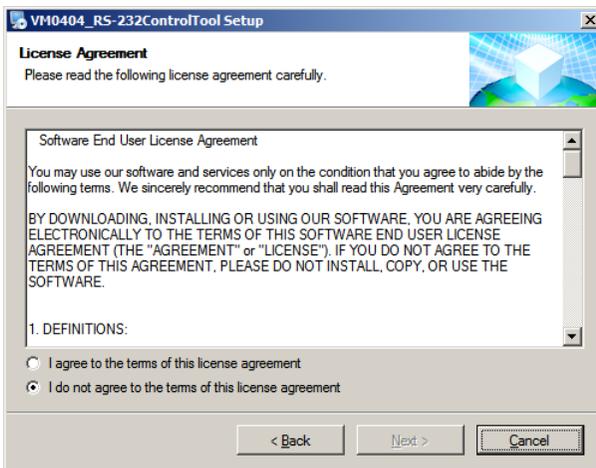
1. Download the RS-232 Control Tool AP from the ATEN website (www.aten.com).

2. Save the file to a convenient location.

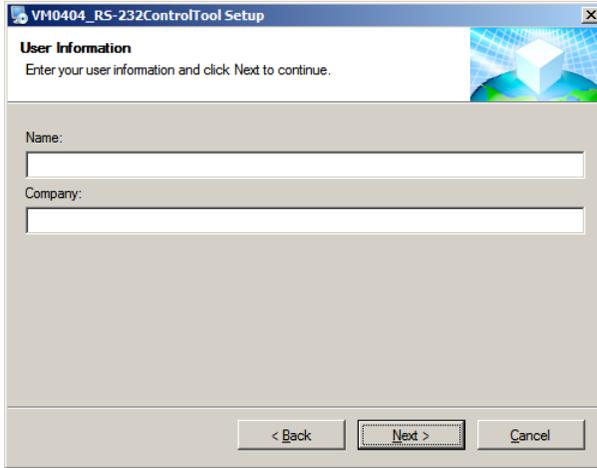3. Double click the file to run setup. The Welcome screen appears:

Click **Next**.

4. The License Agreement appears:

If you agree with the License Agreement, select *I agree with the terms of this license agreement,* and click **Next**.
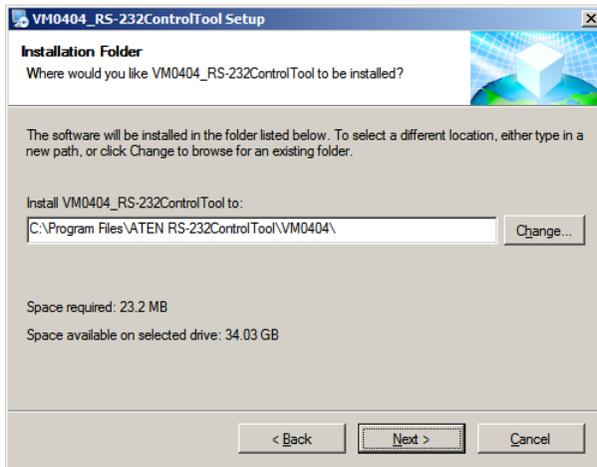
5. The User Information screen appears:

Fill in your *Name* and *Company*, then click **Next**.

6. When the Installation Folder screen appears, you can select where you want to install the program by clicking **Change**, or use the default installation location provided, then click **Next**.
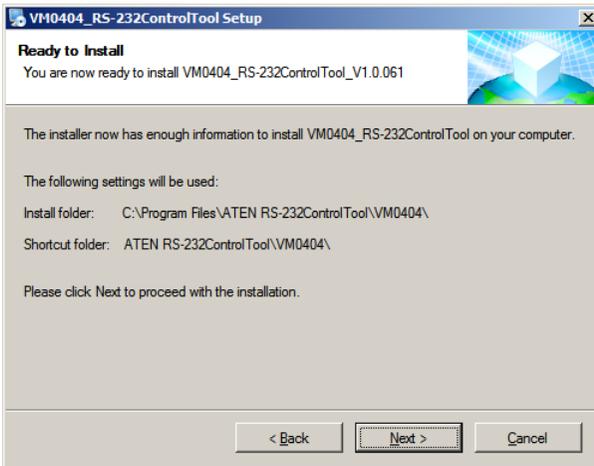
7. On the Shortcut Folder screen, type in or use the drop-down menu to enter the folder where you want to install the shortcuts.
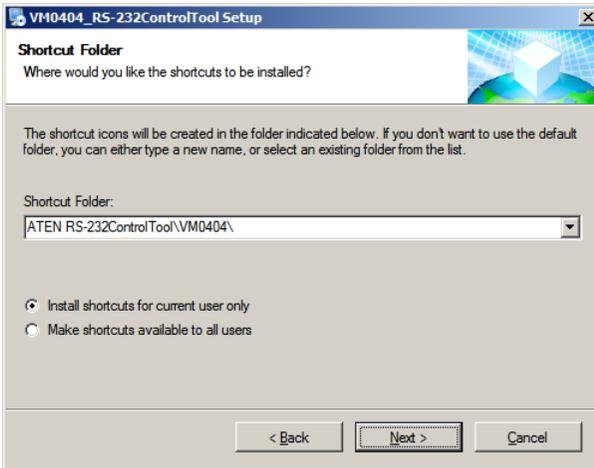
Then select *Install shortcuts for current user only*, or *Make shortcuts available to all users*, and click **Next**.

8. At the Ready to Install screen, confirm your settings. Click **Back** if you need to make changes, or click **Next** to begin the installation.

9. When the installation has completed successfully, the following screen appears:
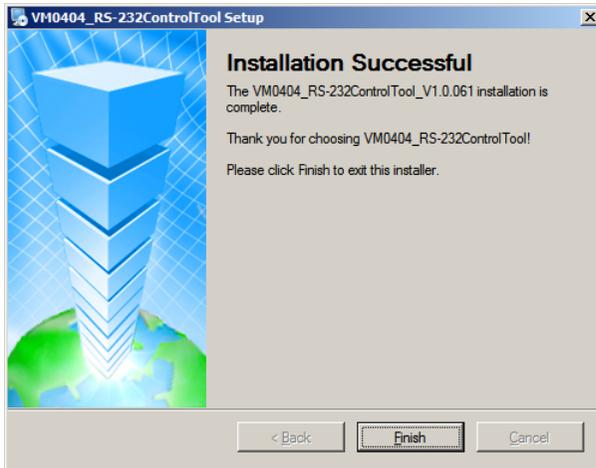
Click **Finish**. You are now ready to use the RS-232 Control Tool.

GUI Main Page

The RS-232 Control Tool is a convenient and intuitive application to send RS-232 commands to your VM0404. For detailed information about the function of each RS-232 command, see the VM0404's user manual. To invoke the GUI, simply click the RS-232 Control Tool shortcut. The interface opens on the *Switch Port* page by default, as shown below:
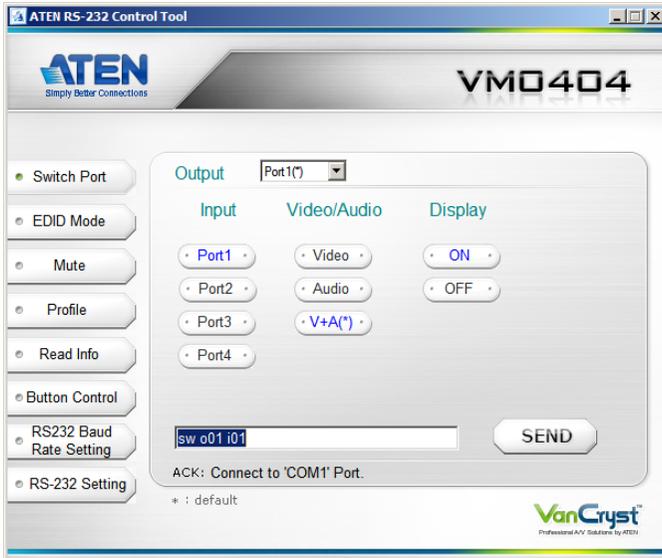
The various elements of the GUI are described in the proceeding sections.

Switch Port
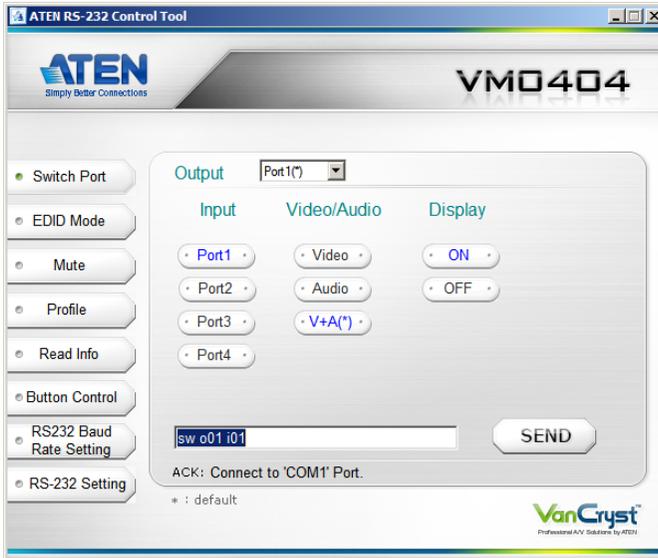
On the *Switch Port* page, the following actions are possible:

- Select the **Output** port from the drop-down menu (options are Ports 1–4 and default *).
- Select the **Input** port (options are Port1–Port4).
- Under *Video/Audio:*
  - Select **Video** to switch the video source for the selected *Output* port to the selected *Input* port.
  - Select **Audio** to switch the audio source for the selected *Output* port to the selected *Input* port.
  - Select **V+A(*)** to switch the video and audio source for the selected *Output* port to the selected *Input* port.
- Turn the **Display** On or Off.
- Select your commands or use the text box to manually enter the command.
- Click **Send** to send the command.

Switch Port Commands

These actions can also be performed by keying the command into the text box, and clicking **Send**. The formula for Switch Port commands is as follows:

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

1. For example, to switch output port 02 (audio and video) to input port 04, type the following:

   sw o02 i04 [Enter]

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

   sw o03 off [Enter]

3. To switch output port 02 (video only) to input port 03, type the following:

   sw o02 i03 video [Enter]

The following table shows the possible values for switch commands:

Command	Description	
sw	Switch command	

Output Command	Description	
o	Output command	

Output Port Number	Description	
yy	01-04 port (default is 01)	
l1	Local output port	
*	All output ports	

Input Command	Description	
i	Input command	

Input Port Number	Description	
xx	01-04 port (default is 01)	
l1	Local input port	

Control	Description	
on	Turn on	
off	Turn off	
+	Next port	
-	Previous port	
video	Switch video only	blank = video+audio
audio	Switch audio only	

Enter	Description	
[Enter]	Enter and send out the command	

Switch Port Command Table:

Cmd	Out	N2	In	N1	C1	C2	Description
sw	o	yy *	i	xx	video audio		Switch Output Port xx to Input Port yy (xx:01~04, yy:01~04, *)
sw	o	yy *			video audio	on off	Turn on Output Port yy Turn off Output Port yy (yy:01~04, *)
sw	o	yy *			video audio	+ -	Switch Next Input to Output Port yy Switch Previous Input to Output Port yy (yy:01~04, *)

After commands are sent, acknowledge messages are returned as follows:

Ack	Description
Command OK	Command is correct and function executed
Command Incorrect	Unavailable command or parameters

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.

3. The **Audio** or **Video** command string can be skipped, and both values will be used.

EDID Mode
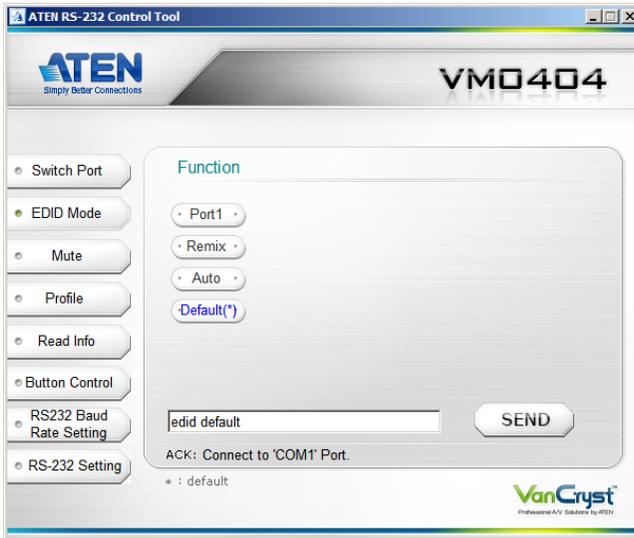
On the *EDID Mode* page, the following actions are possible:

- ◆ Click **Port 1** to implement the EDID of the connected display to Port 1 to all video sources.

- ◆ Click **Remix** to implement remix mode – this applies a mix of EDIDs from connected displays according to each connection when the VM0404 is powered on or immediately after pressing **Enter** to select the Remix option.

- ◆ Click **Auto** to have the VM0404 apply an automatically selected EDID to each video source.

- ◆ Click **Default(*)** to implement ATEN's default EDID.

- ◆ Select the command or use the text box to manually enter the command.

- ◆ Click **Send** to send the command.

EDID Command

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 VM0404 uses with the following command:

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

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

edid port1 [enter]

Mute
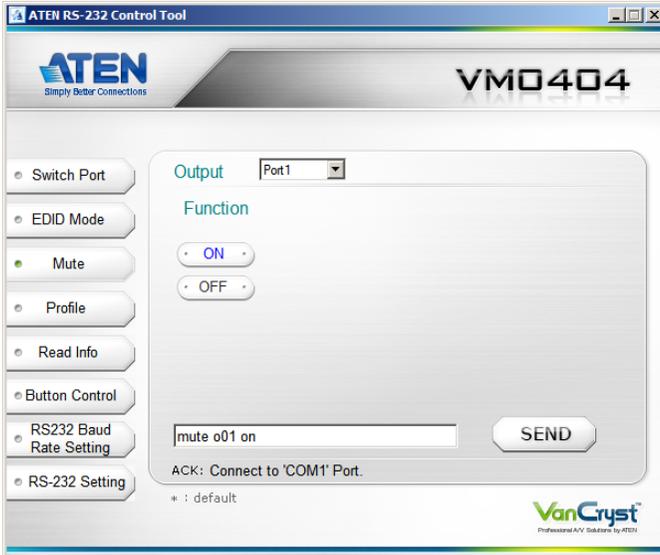
On the *Mute* page, the following actions are possible:

◆ Select an **Output** port from the drop-down menu.

◆ Click **ON** to mute the selected port.

◆ Click **OFF** to enable the audio of the selected port.

◆ Select the command or use the text box to manually enter the command.

◆ Click **Send** to send the command.
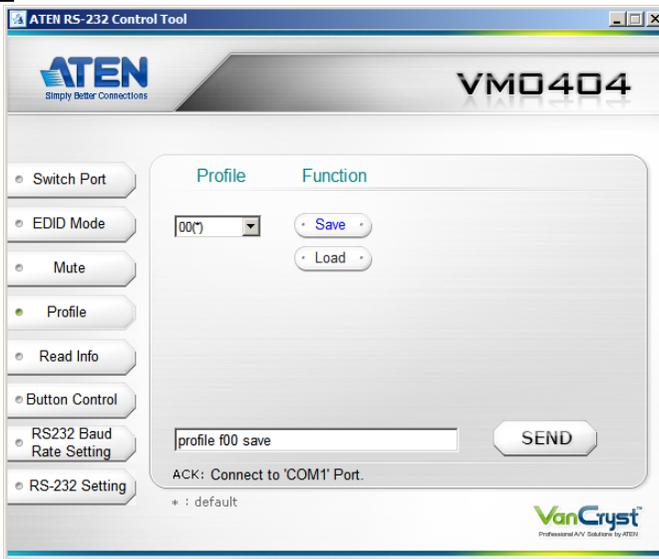
Mute Command

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

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

For example, to mute the audio for output port 04, type the following:

mute o04 on [enter]

Profile

On the *Profile* page, the following actions are possible:

* Select a **Profile** from the drop-down menu.
* Click **Save** to store the current connection configuration to the active profile.
* Select **Load** to have the VM0404 use a saved profile.
* Select the command or use the text box to manually enter the command.
* Click **Send** to send the command.

Profile Command

The formula for the Save/Load Profile command is as follows:

Command + Profile + Control (Save / Load) + [Enter]

For example, to save the current configuration to profile 7, type the following:

profile f07 save [enter]

Read Info

On the *Read Info* page, the following actions are possible:

◆ Click **Version** to view the current firmware version.

◆ Select your commands or use the text box to manually enter the command.

◆ Click **Send** to send the command.

Read Info Command

View information from the device using the following command:

Read Command + Control (version) [Enter]

For example, to read the firmware version of the VM0404, type the following:

read version [enter]

Button Control

On the *Button Control* page, the following actions are possible:

- Click **ON** to enable the panel button function.
- Click **OFF** to disable the panel button function.
- Select your commands or use the text box to manually enter the command.
- Click **Send** to send the command.
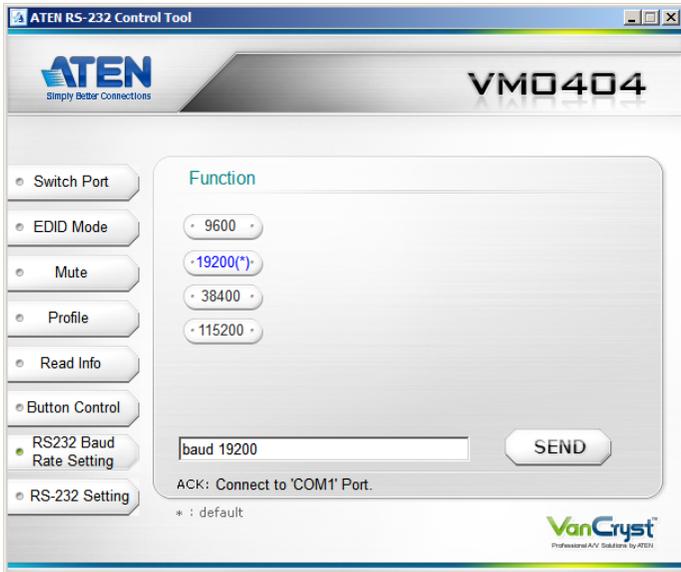
Button Control Command

The formula for the Button Control command is as follows:

> **Command + Control + [Enter]**

For example, to enable the panel button function, type the following:

> **button on [enter]**

RS-232 Baud Rate Setting

On the *Baud Rate Setting* page, the following actions are possible:

 ◆ Select the RS-232 Baud Rate you want the VM0404 to use. Options are 9600, 19200 (default), 38400 and 115200.

 ◆ Select your commands or use the text box to manually enter the command.

 ◆ Click **Send** to send the command.
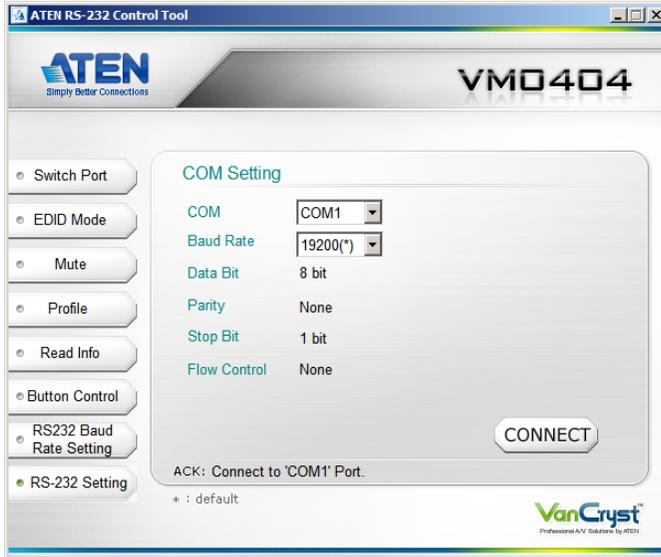
Baud Rate Setting Command

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]

RS-232 Setting

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

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

To select the serial port, do the following:

◆ Select the port and baud rate from the drop-down menus and click **CONNECT**.

If the port connection exists, the *Acknowledgment* message reads as follows:

Open port 'COM1' successfully.

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.