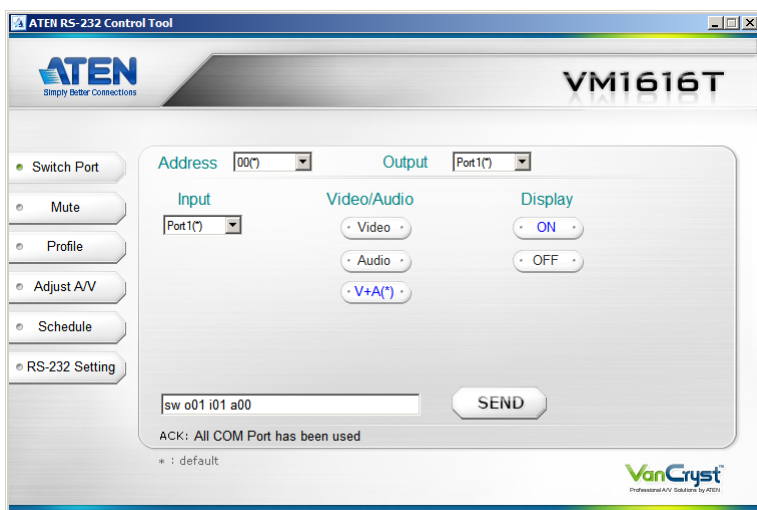# VM1616T 16x16 Cat5 A/V Matrix Switch
RS-232 Control Tool
V1.0.064
User Manual

FCC 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.

CE 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.

RoHS

This product is RoHS compliant.

Safety

This product has been classified as Information Technology Equipment.

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 VM1616T 16x16 Cat5 A/V Matrix Switch 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. RS-232 serial operations in a VM1616T 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. This procedure 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

Note: For Windows 7 64-bit systems, the following must be installed first:

> 1) Microsoft Office 64-bit Access Database software; and
>
> 2) Microsoft 64-bit ODBC and OLEDB driver.

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 VM1616T 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. Run the file to open the RS-232 Control Tool GUI.

GUI Main Page

The RS232 Control Tool is a convenient and intuitive method to manage the RS-232 commands in your VM1616T installation from one screen. To invoke the GUI, simply click on the icon in your file system. The interface appears, and opens on the Switch Port page by default, as below:
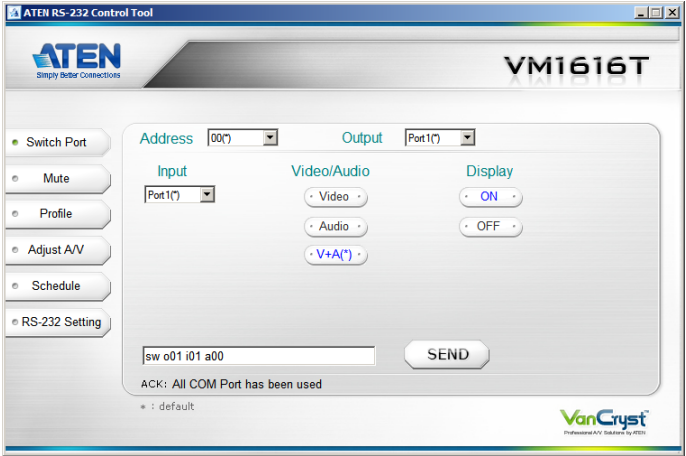
The various elements of the GUI are described in the following sections.

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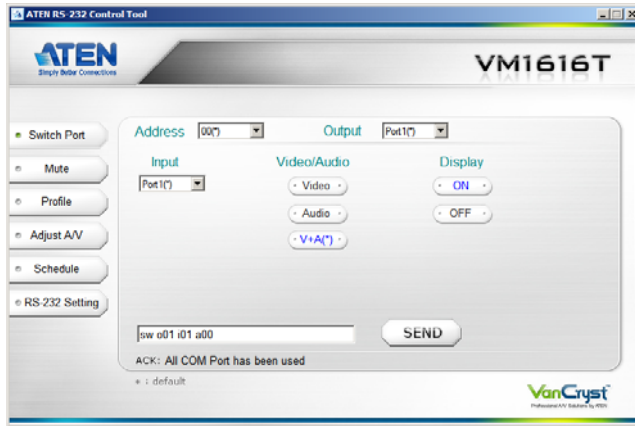
On the *Switch Port* page, the following actions are possible:

- Select the **Address** from the drop-down menu that corresponds to the Device Address you want to configure (options are 00-15 and *).

- Select the **Output** port from the drop-down menu (options are Ports 1–16 and default *).

- Select the **Input** port from the drop-down menu (options are Ports 1–16).

- Under **Video/Audio**, you can choose to switch video only, audio only or video+audio (default).

- Turn the **Display** On or Off.

- 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 + Input Command + Port number + Output Command + Port Number + Address + Device Number + Control + [Enter]

1. For example, to switch input port 02 (audio and video) to output port 05, type the following:

   sw i02 o05 [Enter]

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

   sw o03 video off [Enter]

3. In a setup with more than one VM1616T unit (cascade), you can switch from input port 02 (audio and video) to output port 05 on device 02 by typing the following:

   sw i02 o05 a02 [Enter]

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.

4. The **Address** and **Device** commands are only available for RS-422 and RS-485.

5. The hexadecimal code for [Enter] is 0D0A.

Possible Values

The following table shows the possible values for switch commands:

Command	Description
sw	Switch command

Input Command	Description
i	Input command

Input Port Number	Description
xx	01-16 port (default is 01)
l1	Local input port

Output Command	Description
o	Output command

Output Port Number	Description
yy	01-16 port (default is 01)
l1	Local output port
*	All output ports

Address	Description
a	Device address

Device Number	Description
zz	00-15 (default is 00)
*	All devices

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

Enter	Description
[Enter]	Enter and send out the command **Note:** The hexadecimal code for [Enter] is 0D0A.

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

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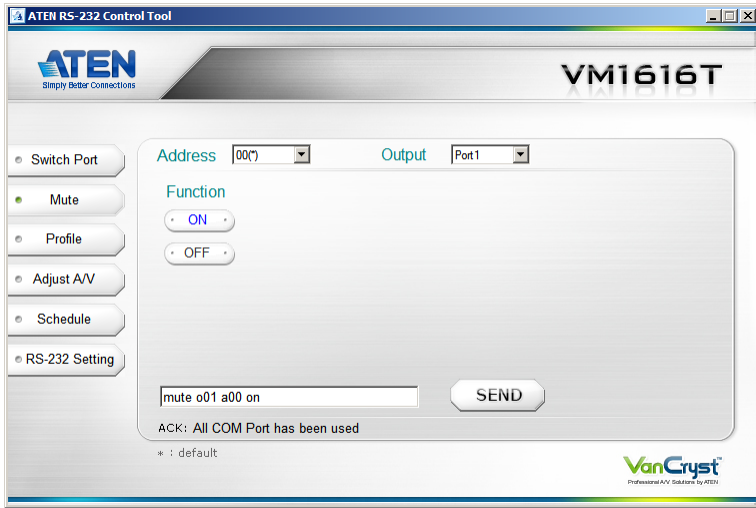
On the Mute page, the following actions are possible:

- Select an **Address** from the drop-down menu.
- 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

Mute Commands
The formula for Mute commands is as follows:

Mute Command + Output Command + Port Number + Address + Device Number + Control + [Enter]

1. For example, to mute output port 05, type the following:

   mute o05 on [Enter]

2. In a setup with more than one VM1616T unit (cascade), and you want to turn on audio at output port 05 on device 02, type the following:

   mute o05 a02 off [Enter]

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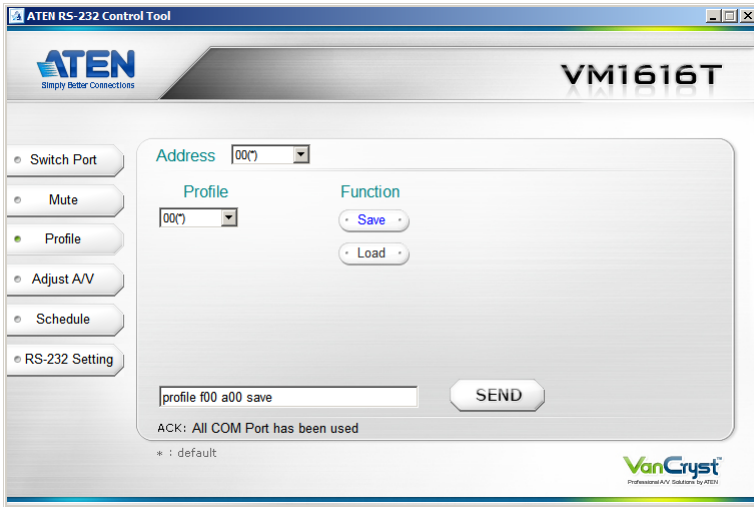
On the Profile page, the following actions are possible:

- Select an **Address** from the drop-down menu.
- Select a **Profile** number from the drop-down menu (options are 00–31; the default is 00)
- Click **Save** to save the current profile as the selected number.
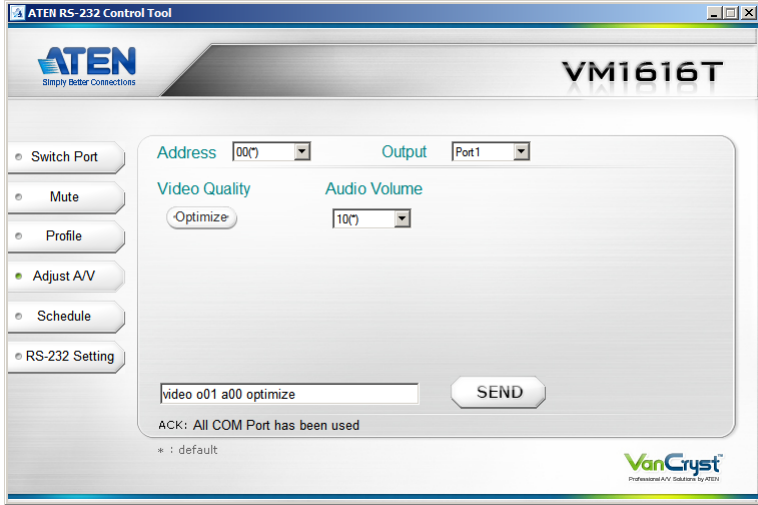- Click **Load** to load the saved profile.

Save / Load Profile Commands

The formula for Save/Load Profile commands is as follows:

Command + Profile + Number + Address + Number + Control + [Enter]

1. For example, to save the current connection configuration to profile 12, type the following:

   profile f12 save [Enter]

2. To load profile 12, type the following:

   profile f12 load [Enter]

Adjust A/V

On the Read page, the following actions are possible:

* Select an **Address** from the drop-down menu.
* Select an **Output** port from the drop-down menu.
* Click **Optimize** to adjust the video quality.
* Select the **Volume** from the drop-down menu (options are 00-15).
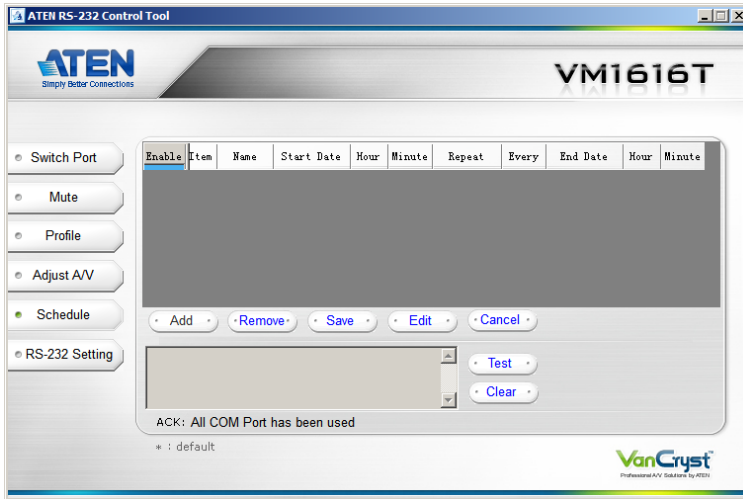
Adjust A/V Commands

The formula for the Read command is as follows:

Command + Output + Number + Address + Number + Control + [Enter]

For example, to optimize video quality for output port 02, type the following:

video o02 optimize [Enter]

Schedule

On the Schedule page, the following actions are possible:

◆ To add a schedule, click **Add** and give the entry a name (click the space under the *Name* column).

Edit the schedule accordingly – including the Start Date / End Date, the time (hour and minute) and the frequency for performing the operation.

Enter the command to be perfomed in the alloted box. Click **Test** to preview the command. Delete the content of this box by clicking **Clear**.

◆ Check **Enable** to have the VM1616T perform the entry as scheduled.

◆ Click **Save** to store the entry and have the VM1616T perform the command as scheduled. Until the entry has been saved, clicking **Cancel** removes it from the table.

◆ When an entry has been saved, it cannot be edited until you click **Edit**. Click **Remove** to delete the entry from the table.

Note: The Schedule function is only available in the VM1616T RS-232 Control AP.

RS-232 Setting
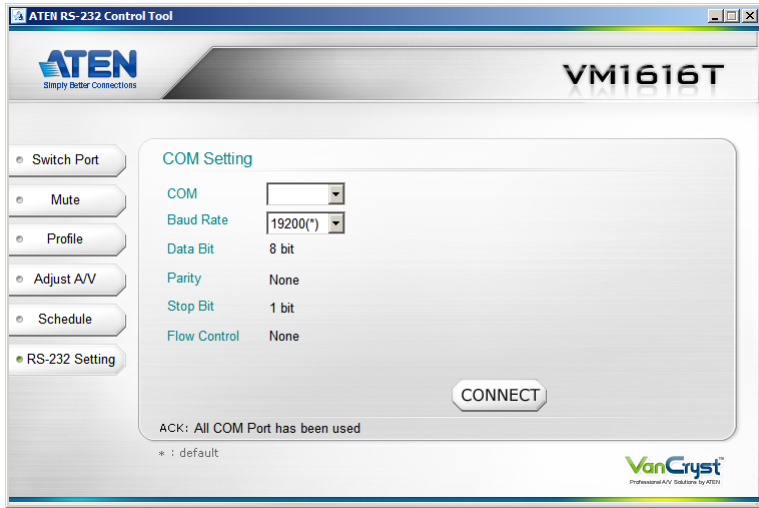
The controller's serial port should be configured as follows:

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

To select the serial port, do the following:

◆ Select a port from the drop-down menu and click **CONNECT**.

If the port has been selected, the Acknowledgment message will read:

Opened 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.

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