Manuals+ — User Manuals Simplified.

ADDER Secure KVM Switch API User Manual
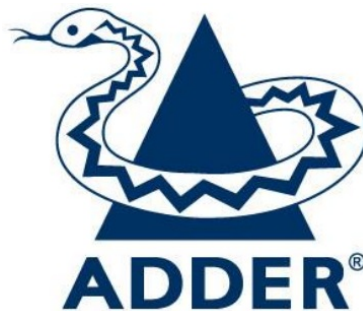
User Manual
Secure KVM Switch API
Adder Technology Limited
Part No. MAN-000022
Release 1.0

Contents

Introduction

This guide explains how to use RS-232 to remotely control an Adder Secure KVM switch (AVS-2114, AVS-2214,

AVS-4114, AVS-4214), Flexi-switch (AVS-4128), and multi-viewer (AVS-1124).
To control a switch using RS232, the user needs to connect a controlling device to the switch's RCU port. The controlling device can be a PC or any custom device with RS-232 capability.
Remote controlling means performing actions that users could otherwise do only using the front panel, including:

- Switching channels
- Audio hold
- Selecting channels to display on left and right monitors (AVS-4128 only
- Switching KM control between left and right channels (AVS-4128 only)
- Selecting preset layouts and updating window parameters (AVS-1124 only)

Installation

This procedure shows how to connect a switch to a remote-control device. A suitable RS232 cable will be required with an RJ12 connector to plug into the RCU port with the pinout shown below:
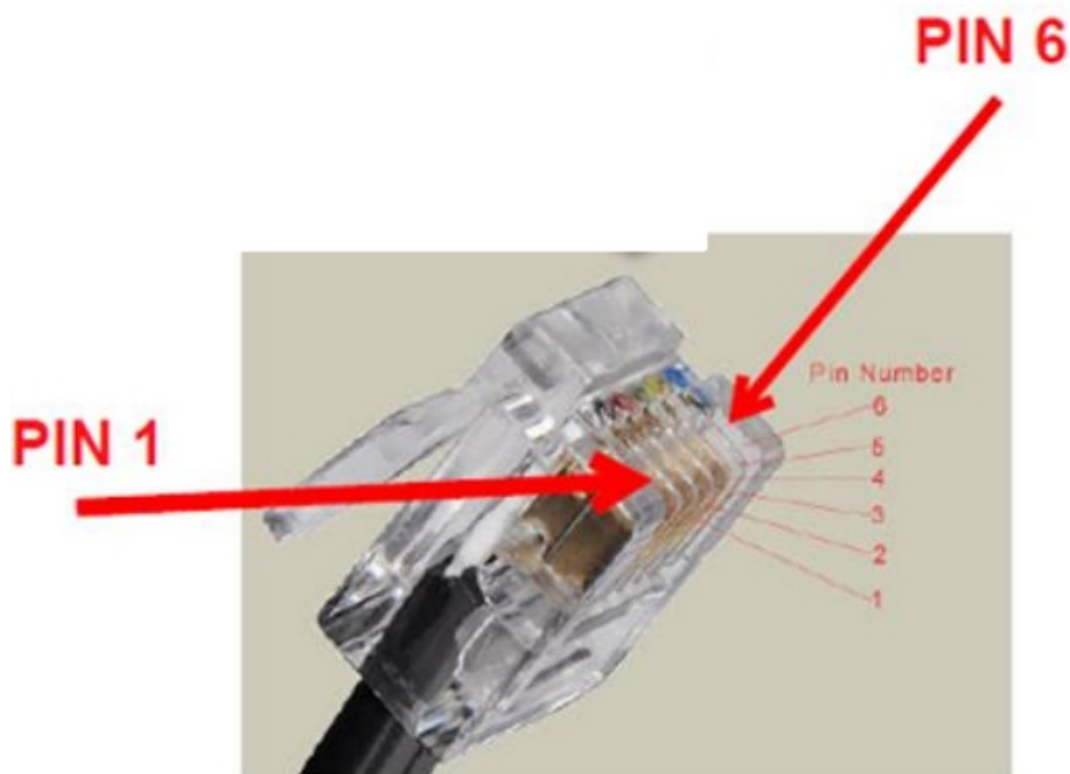
Pinout for the RDU port:

- Pin 1: 5V
- Pin 2: Not connected
- Pin 3: Not Connected
- Pin 4: GND
- Pin 5: RX
- Pin 6: TX

Few modern PCs have an RS232 port, so it may be necessary to use a USB or Ethernet adapter.

Operation

Configuring Example Using the PuTTY open-source serial console utility. This procedure demonstrates how to switch channels via RS-232 using a remote control Windows PC.
Pre-configuration

1. Install PuTTY on the remote computer.

2. Connect a serial cable from the PC's USB port to the switch's RCU port.

3. Run the PuTTY utility.

4. Configure the Serial, Terminal, and Session settings, as per figures 1 to 3
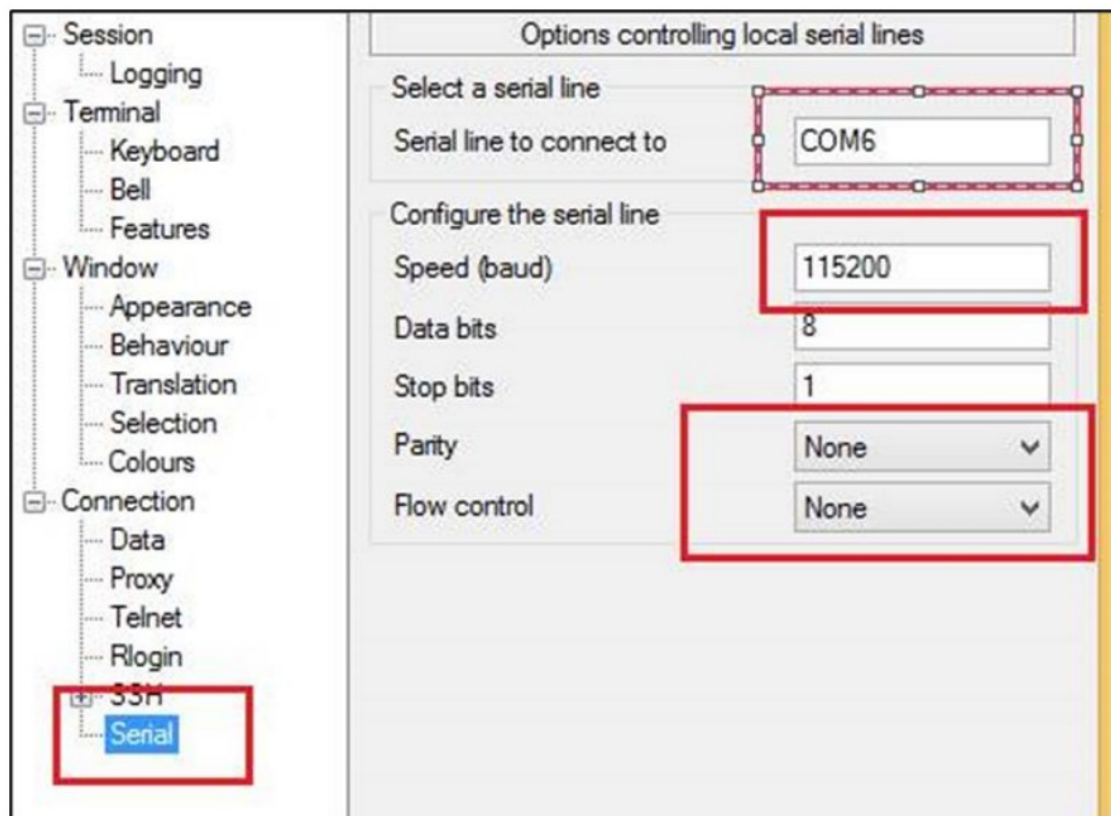

Figure 1: PuTTY Serial Settings
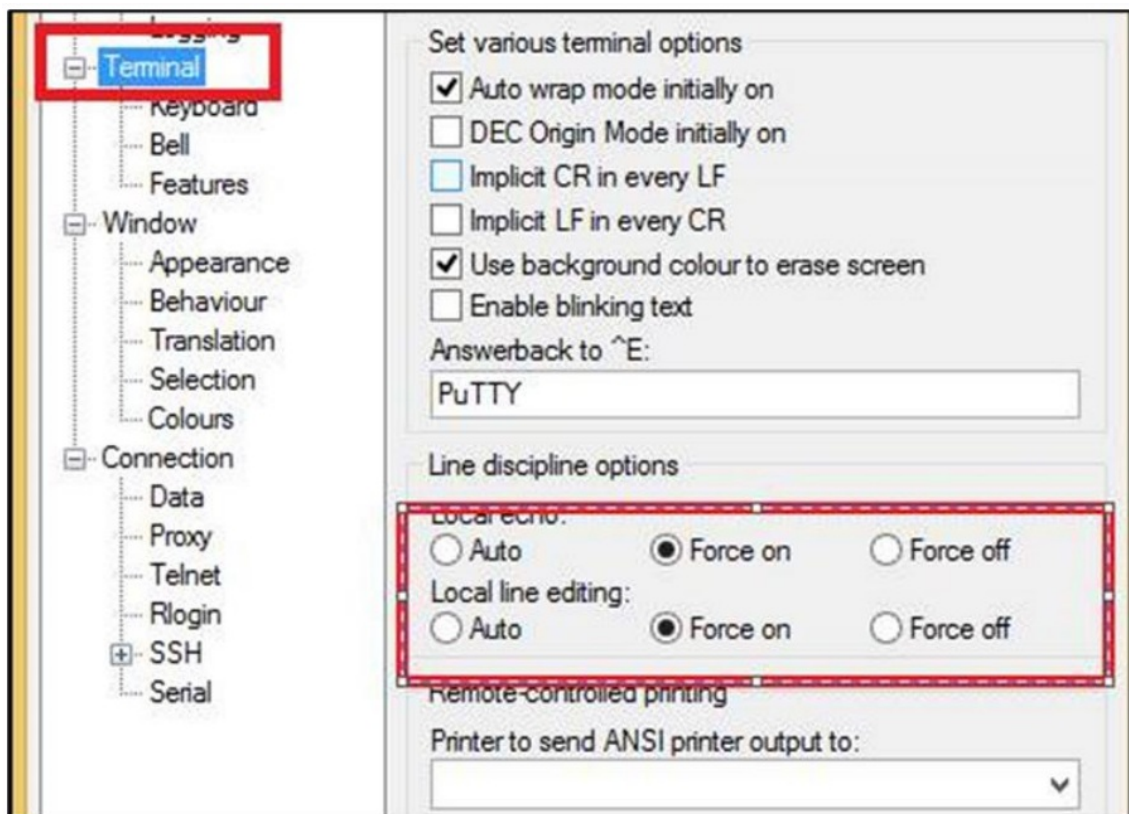
Figure 2: PuTTY Terminal Settings

Figure 3: PuTTY Session Settings
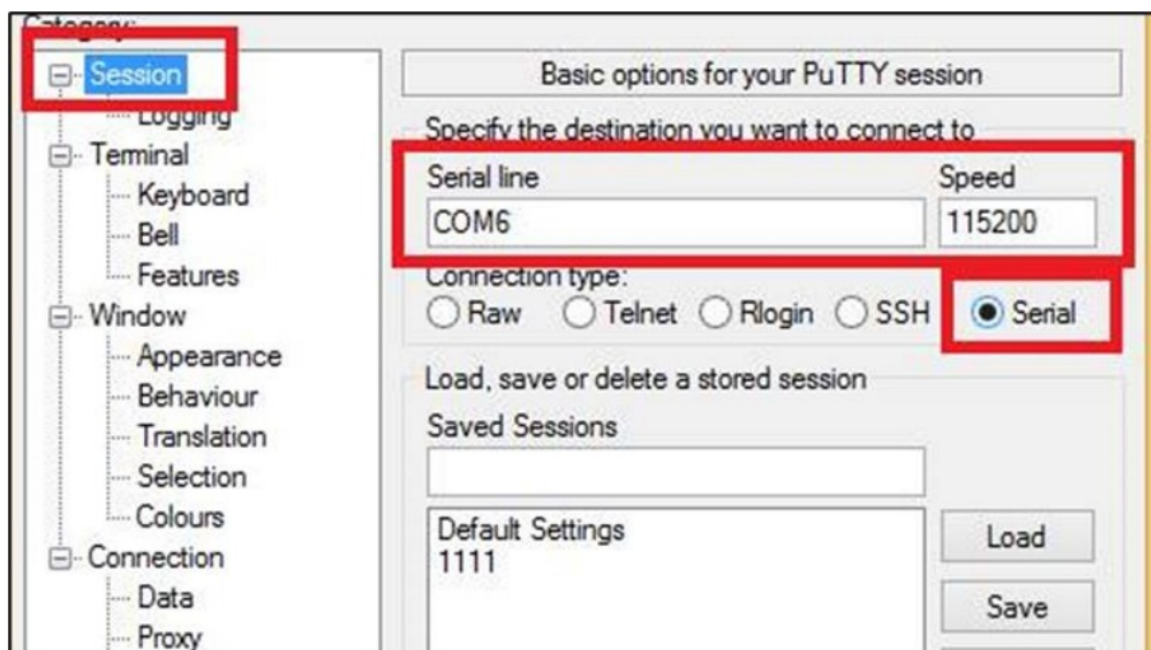
Note: At this point, the device starts sending Keep-Alive events, every five seconds.
Keep-Alive events are transmitted by the switch periodically to communicate the current configuration. For example, to switch a KVM to Channel 4, the user types: #AFP_ALIVE F7 Then, every five seconds, the device sends the following keep-alive event: 00@alive fffffff7 as shown in Figure 4.
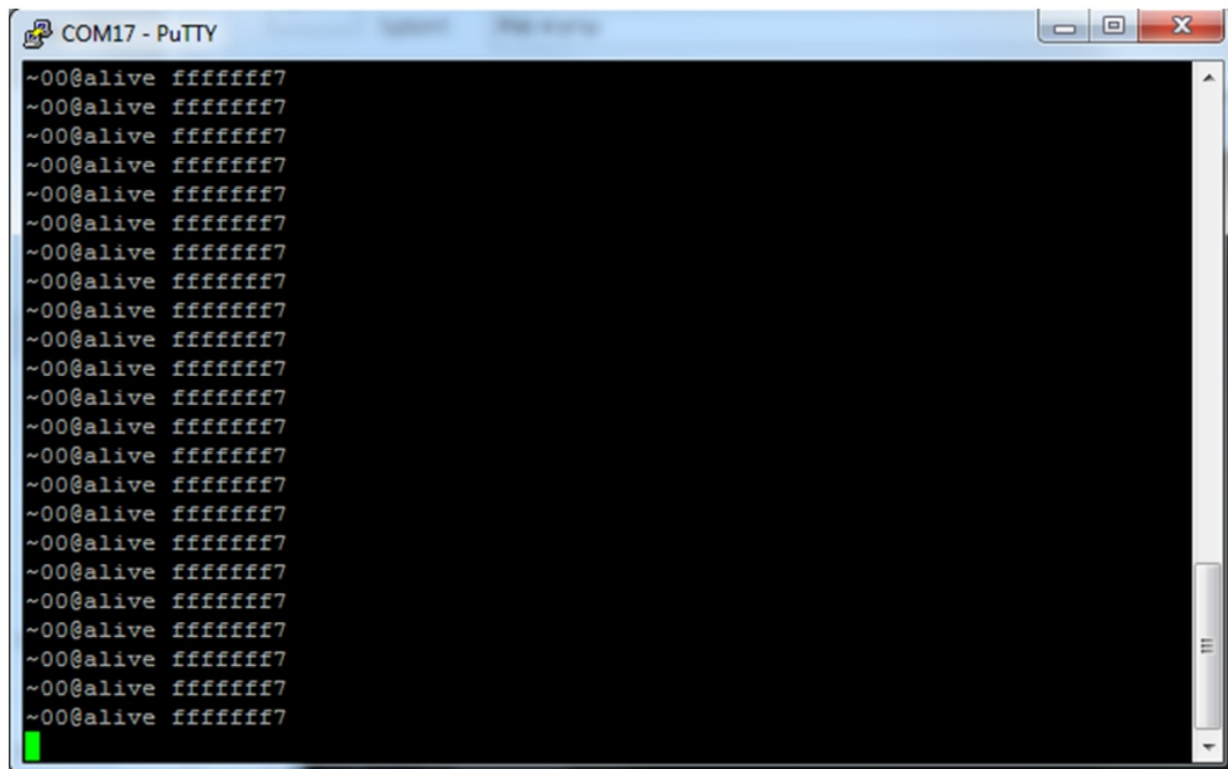
Figure 4: Keep-Alive Events

The interval time of keep-alive events can be changed, using the #ANATA command followed by a time period operand in units of 0.1 seconds Thus:

- #ANATA 1 gives an interval of 0.1 seconds
- #ANATA 30 gives an interval of 3 seconds

KVM Switches
To switch channels, enter the #AFP-ALIVE command followed by a channel number operand. For example, to switch to channel 3, enter:
#AFP_ALIVE FB

Channel #	Operand
1	FE
2	FD
3	FB
4	F7
5	EF
6	DF
7	BF
8	7F

Figure 5: KVM Switch Channel Operands

To toggle the audio hold button, enter the command #AUDFREEZE 1
Flexi-Switch

To switch channels, enter the #AFP-ALIVE command followed by a left/right side and channel number operand. For example, to switch to channel 3 on the left monitor, enter:

Left Side		Right Side	
Channel #	Operand	Channel #	Operand
1	FFFE	1	JEFF
2	FFFD	2	PDF
3	FFFB	3	FBFF
4	FFF7	4	F7FF
5	FFEF	5	JEFF
6	FFDF	6	DFFF
7	FFBF	7	BFFF
8	FF7F	8	7FFF

Figure 6: Flexi-switch Channel Operands
Other commands:

- Toggle the audio hold button: #AUDFREEZE 1
- Toggle KM focus between left and right sides
- Left: #AFP_ALIVE FEFFFF
- Right: #AFP_ALIVE FDFFFF

Multi-Viewer

Command Structure The command structure is comprised of the following 4 fields: <pre-amble> <command> <operand1> <operand2>

Where:

- There is a space between each field
- The pre-amble is either #ANATL or #ANATR, where:
  - o #ANATL equals the key sequence Left CTRL | Left CTRL
  - o #ANATR equals the key sequence Right CTRL | Right CTRL
- Commands require 0, 1 or 2 operands
- Command success: Upon successful command execution, the device returns the output: command + OK
- Command failure: Upon failure, the device returns the output: command + Error Message
- To initiate a new serial connection, enter #ANATF 1

Command-List
The command is a translation of the keyboard hotkey listed in an Appendix of the Multi-Viewer User Manual (MAN-000007).
Example translations are:

Description	Hotkey	API Command
Load preset #3	Left Ctrl | Left Ctrl | F3	#ANATL F3
Switch to channel #4	Left Ctrl | Left Ctrl | 4	#ANATL 4
Maximize active channel to full screen	Left Ctrl | Left Ctrl | F	#ANATL F

Figure 7: Example commands

The most common commands are likely to be loading a preset and positioning and resizing windows on the display. The general format of the command to move and resize a window is: **#ANATL F11 END <Channel> <Operation> <Location>**
Where:
<Channel> is 1 to 4
<Operation> is:

1. Window top-left X location (0 to 100%)
2. Window top-left Y location (0 to 100%)
3. Window X extent as a percentage of total X width
4. Window Y extent as a percentage of total Y height
5. X offset (the location of the window compared to the full image size when bigger).
6. Y offset (the location of the window compared to the full image size when bigger).
7. X scaling as a percentage
8. Y scaling as a percentage

<Percent> is a 4 digit number in increments of 0.01%
Note that where dual monitors are used in Extend mode, the percentages relate to the total display size. For example, to set the window for channel 1 to occupy the 4th quadrant:

Description	API Command
Set the window top left X position at the half display	#ANATL F11 END 115000
Set the window top left X position at the half display	#ANATL F11 END 125000
Set window X extent to half screen	#ANATL F11 END 135000
Set window Y extent to half screen	#ANATL F11 END 145000

Figure 8: Set Channel 1 to 4th quadrant (single monitor)
Note that the commands change slightly when using dual side by side monitors:

Description	API Command
Set the window top left X position at the half display	#ANATL F11 END 1 1 5000
Set the window top left X position at the half display	#ANATL F11 END 1 2 5000
Set window X extent to half screen	#ANATL F11 END 1 3 5000
Set window Y extent to half screen	#ANATL F11 END 1 4 5000

Figure 9: Set Channel 1 to 4th quadrant of the left monitor

There is one command that doesn't adhere to the aforementioned pattern, Audio Hold. To toggle the audio hold button, enter the command:

#AUDFREEZE 1

MAN-000022

Documents / Resources

ADDER Secure KVM Switch API [pdf] User Manual
Secure KVM Switch API