



Control Your Video

**VIDEO WALLS VIDEO PROCESSORS  
VIDEO MATRIX SWITCHES  
EXTENDERS SPLITTERS WIRELESS  
CABLES & ACCESSORIES**

## API GUIDE

Model: XXX-AVXWALL-PLUS



**4K Multi Input FPGA Video Processor**

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# I. INTRODUCTION

The **AVXWALL+** 4K Modular Video Wall Processor is the second generation of the Avenview modular video wall series. The modular AVX series hardware-based processors represent a range of FPGA modular chassis, with hot swappable Input /Output cards available in various media connections.

In addition to the on-screen display, iPad and PC software, all of the features of the AVXWALL+ can be configured through the command-line interface over RS-232 or Telnet to automate the switching of high definition video and high fidelity audio to multiple screens. This document outlines the steps and materials needed to configure your AVXWALL+ through the Telnet or RS-232 command-line interface and the commands needed to control the videowall output.

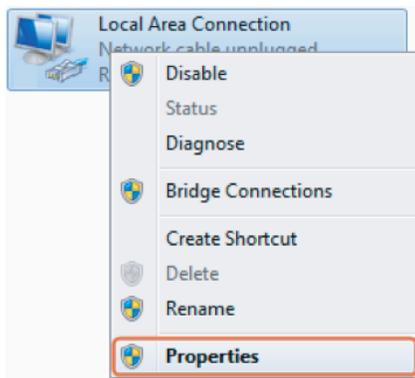
## I.1 SETTING A STATIC IP ON YOUR COMPUTER

Before logging in to the AVXWALL+ via the Controller software or TELNET, ensure that your computer or controller and AVXWALL+ are on the same network segment.

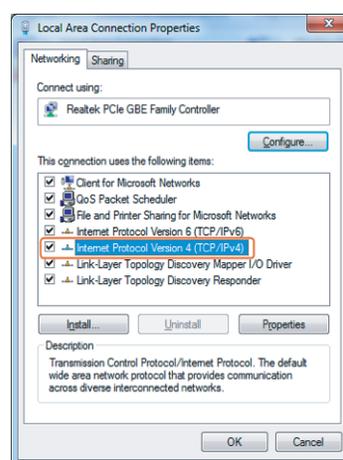
The default IP address of the AVXWALL+ is 192.168.1.65, port 2000.

Set your IP address in the 192.168.1.x range with a subnet mask of 255.255.255.0. To do this on a Windows PC, follow the instructions below:

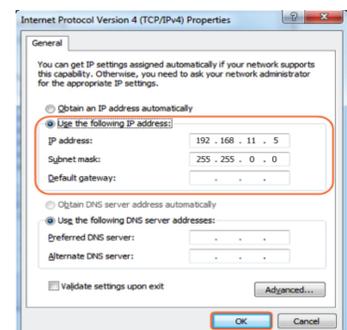
1. Click **Start** menu, go to **Control Panel > Network and Sharing Center > Change Adapter Settings > Local Area Connection**. Right click and choose **Properties**.



2. Select **Internet Protocol Version 4 (TCP/IP)** then click **Properties**



3. Check **Use the following IP address**, for the IP address enter **192.168.1.x** (if unsure use 192.168.1.5) Enter subnet mask number **255.255.255.0** Click **OK**, then click **OK** again.



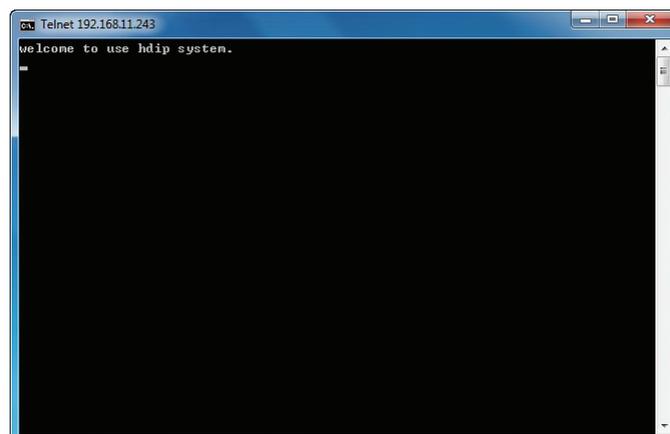
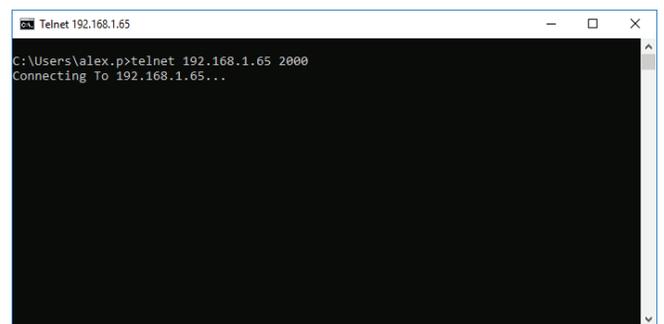
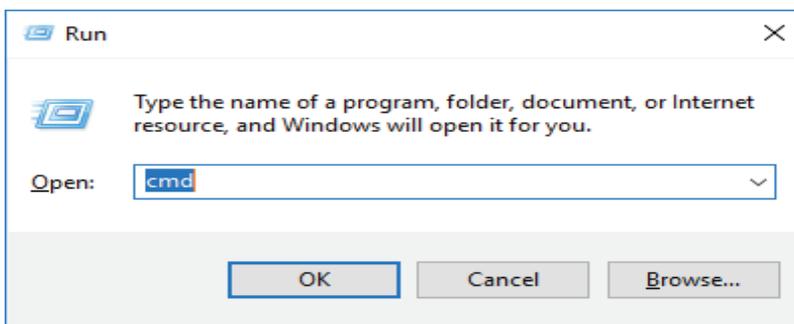
## 1.2 ENABLING TELNET CLIENT

You will need a Telnet client before logging in to the keypad. Make sure that the Telnet Client is enabled or you can download the terminal emulator program 'putty' from [putty.org](http://putty.org). By default the Telnet Client is disabled in Windows 7. Follow these instruction to enable the Telnet Client.

1. Choose Start > Control Panel > Programs.
2. In Programs and Features, click Turn Windows features on or off.
3. In Windows Features dialog box, select Telnet Client check box.

## 1.3 LOGGING INTO YOUR AVXWALL+ VIA TELNET

1. Click Start > Run
2. In the Run dialog box, enter cmd then click OK.
3. Enter telnet 192.168.1.65 2000 or the IP of the unit and port if it's been changed, and then press Enter.
4. The welcome screen will appear as shown. API commands as listed in this document can now be used to control and manage your AVXWALL+



## 1.4 LOGGING INTO YOUR AVXWALL+ VIA RS232

The AVXWALL+ can be controlled through its RS232 serial interface. A serial port or a USB to serial adaptor is needed to use this control method. You will need to know the COM port of the serial interface you will use.

1. Go to the Control Panel > Device Manager
2. Scroll down to the "Ports (COM & LPT)" section and note the COM # of your serial device
3. A "Terminal Emulator" program will need to be installed. Putty is a free application that includes a terminal emulator
4. Using your serial application, open the COM port with the following settings:  
Serial Line: <Your COM number>  
Speed: 9600  
Data bits: 8  
Stop bits: 1  
Parity: None  
Flow Control: None
5. The welcome screen will appear as it did via Telnet

## 1.5 TERMS AND DEFINITIONS

Terminology	Description
Window	A section of the video wall dedicated to a single source.
Channel	Any one of the video inputs to the AVXWALL+.
Screen	A collection of TVs or LED pannels arranged in a videowall.
Scene	A specific collection of windows, channels and screens. The configuration of your AVXWALL+. Can be saved and recalled.



## 2. API COMMANDS FOR AVXWALL+

### 2.1 Open a Window

Instruction Format	<open,screen_id,W_ID,SourceCh,src_hstart,src_hsize, src_vstart,src_vsize,x0,y0,xl,yl,border_color,border_width>	
Function	Create a new window on the specified video-wall	
Parameter	screen_id	Screen ID: 0,1,2,3
	W_ID	Window ID, this parameter could be 0, and not be used
	SourceCh	The input channel which used as the signal source of the window, from 1 to N.
	src_hstart	The horizontal starting pixel of the signal source
	src_hsize	The horizontal ending pixel of the signal source . If the value is 0, means the original horizontal size of the signal source, and the src_hstart is unused
	src_vstart	The vertical starting pixel of the signal source
	src_vsize	The vertical ending pixel of the signal source . If the value is 0, means the original vertical size of the signal source, and the src_vstart is unused
	x0	The horizontal starting pixel of the window on video-wall
	y0	The vertical starting pixel of the window on video-wall
	xl	The horizontal ending pixel of the window on video-wall
	yl	The vertical ending pixel of the window on video-wall
	border_color	The border color of windows, formatted as : color= ((R&0xff)<<16)   ((G&0xff)<<8)   (B&0xff) Or color=Rx256x256 + Gx256 + B if R:100,G:120,B:150, then color= 1677752470
border_width	0-15	
Return Value	Success returns <win_id>, else returns <error>	
Example	To create a window with ID 0 on video-wall 1, using input channel 13 as the source, and with no cropping. Send : <open,1,0,13,0,0,0,0,100,100,800,800,34,4> Returns : <0>	



## 2. API COMMANDS FOR AVXWALL+ (CONT)

### 2.2 Close a Window

Instruction Format	<shutl,screen_id,W_ID>	
Function	Close a window on the specified video-wall	
Parameter	screen_id	Screen ID: 0,1,2,3
	W_ID	Window ID, this parameter could be 0, and not be used
Return Value	Success returns <ok>, else returns <error>	
Example	To close a window with id 2 on wido wall 1 Send : <shutl,2,1 > Return : <0	

### 2.3 Move a Window

Instruction Format	<move,screen_id,W_ID x0,y0,xl,yl >	
Function	Move a window	
Parameter	screen_id	Screen ID: 0,1,2,3
	W_ID	Window ID, this parameter could be 0, and not be used
	x0	The horizontal starting pixel of the window on video-wall
	y0	The vertical starting pixel of the window on video-wall
	xl	The horizontal ending pixel of the window on video-wall
	yl	The vertical ending pixel of the window on video-wall
Return Value	Success returns <ok>, else returns <error>	
Example	To move window 2 on video wall 1 (with a resolution of 1080p) to screen 1. Send : <move,1,2,0,0,1919,1079 > Return : <ok>	

### 2.4 Close All Windows

Instruction Format	<rset,screen_id>	
Function	Close all windows on a given screen	
Parameter	screen_id	Screen ID: 0,1,2,3
Return Value	Success returns <ok>, else returns <error>	
Example	To clear screen with ID 1. Send : <rset,1 > Return : <ok>	



## 2. API COMMANDS FOR AVXWALL+ (CONT)

### 2.5 Save a Scene

Instruction Format	<sceneI,w,screen_id,presset_id,scene_name,scene_group>	
Function	Save the configuration of a specified video wall	
Parameter	screen_id	Screen ID: 0,1,2,3
	presset_id	Preset ID: 1..99
	scene_name	Screen name
	scene_group	Screen group name
Return Value	Success returns <ok>, else returns <error>	
Example	<p>To save the screen on Video Wall I with ID I2, name s and group name g.</p> <p>Send : &lt;sceneI,w,I,I2,s,g&gt;</p> <p>Return : &lt;ok&gt;</p>	

### 2.6 Load a Scene

Instruction Format	<sceneI,r,screen_id,scene_id>	
Function	Load the configuration of a specified video wall	
Parameter	screen_id	Screen ID: 0,1,2,3
	scene_id	Scene ID
Return Value	Success returns <ok>, else returns <error>	
Example	<p>To load scene I2 on Video Wall I</p> <p>Send : &lt;sceneI,r,I,I2 &gt;</p> <p>Return : &lt;ok&gt;</p>	

### 2.7 Quick Reference

Open Window	<open,screen_id,W_ID,SourceCh,src_hstart,src_hsize, src_vstart,src_vsize,x0,y0,xl,yI,border_color,border_v
Close Window	<shutI,screen_id,W_ID>
Move Window	<move,screen_id,W_ID x0,y0,xl,yI >
Close All Windows	<rset,screen_id>
Save Scene	<sceneI,w,screen_id,presset_id,scene_name,scene_group>
Load Scene	<sceneI,r,screen_id,scene_id>



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