



AV Connectivity, Distribution
And Beyond....

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

Control Commands



SW-HBT-C6POE-8X8E/16X16E

HDMI HDBASET MODULAR MATRIX SWITCHER BI-DIRECTIONAL IR/RS232POE AND 4K2K SUPPORT



Model #: HDM-SWITCHPRO-VW4

Touchboards

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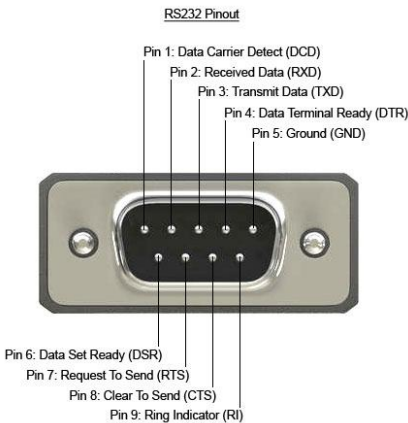
SECTION I: COMMAND PROTOCOL FORMAT (RS-232 SERIAL PORT)

I.1 SERIAL PORT SETTING:

Baud Rate: 19200bps
Data Bit: 8 bits
Parity: None
Flow Control: None
Stop Bit: 1

RS-232 Wiring (Cross Cable Connection)

| SW-HBT-C6POE-16X16E | | | Controller | |
|---------------------|------------|---|------------|------------|
| PIN | Definition | | PIN | Definition |
| 1 | NC | | 1 | NC |
| 2 | TxD | → | 2 | RxD |
| 3 | RxD | | 3 | TxD |
| 4 | NC | | 4 | NC |
| 5 | GND | ← | 5 | GND |
| 6 | NC | | 6 | NC |
| 7 | NC | | 7 | NC |
| 8 | NC | | 8 | NC |
| 9 | NC | | 9 | NC |



Modular Matrix Chassis CPU SECTION

- a. RS-232: Connect with D-Sub 9-pin cable from PC/Laptop device to RS-232 for control over the Matrix or the connected RS232 device(s) at the Rx.
- b. CONTROL: Connect to an active network line for LAN serving and Telnet/Web GUI control.
- c. IR OUT/IN: Reserved.
- d. SERVICE: This port is reserved for firmware update only.
- e. OUTPUT 0: Connect to DVI/HDMI (with DVI to HDMI adaptor) monitor/TV for local output monitoring.



1.2 TELNET SETTING:

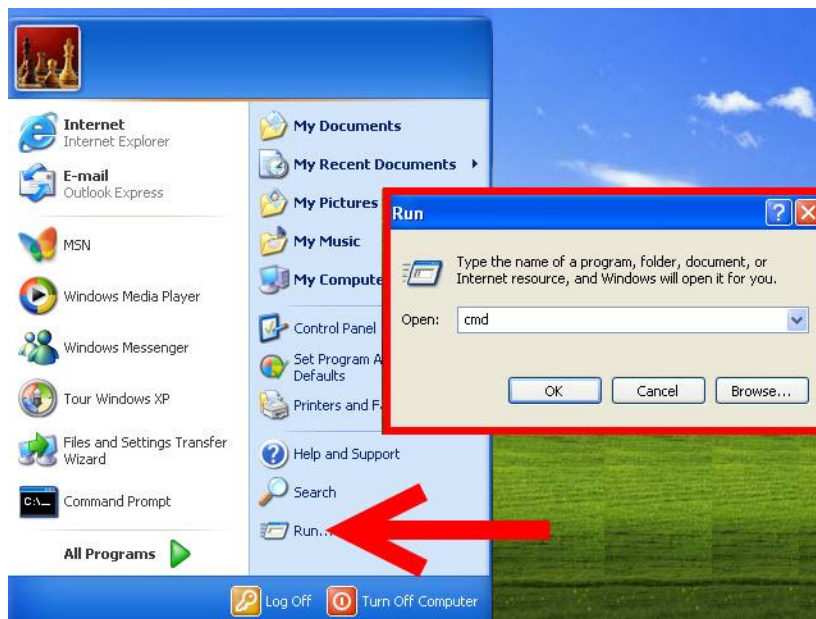
Using TCP/IP protocol, sent to Port 23 for Telnet communication.

The user can confirm from the OSD menu or through RS-232 command to check Telnet connection behavior.

To use the telnet control, please ensure that both the Matrix (via the 'LAN /CONTROL' port) and the PC/Laptop are connected to the active networks not directly connected.

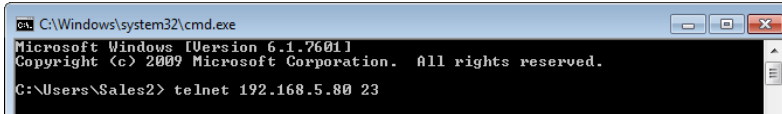
To access the telnet control in Windows 7, click on the 'Start' menu and type "cmd" in the Search field then press enter. Under Windows XP go to the 'Start' menu and click on "Run", type "cmd" with then press enter.

Under Mac OS X, go to Go→Applications→Utilities→Terminal See below for reference.



In the CMD window proceed to type "telnet", then the IP address of the unit and "23", then hit enter/return.

Note: The IP address of the Matrix can be displayed on the device's LCM monitor by pressing the Menu button twice.



```
C:\Windows\system32\cmd.exe
Microsoft Windows [Version 6.1.7601]
Copyright (c) 2009 Microsoft Corporation. All rights reserved.

C:\Users\Sales2> telnet 192.168.5.80 23
```

After connecting to the Matrix Switcher via IP address. Type "HELP" to preview the list of commands available.



```
Telnet 192.168.5.139

Welcome to Avenview Matrix Telnet

telnet-> help

      P0 : Power Off
      P1 : Power On
      RESET : System Reset to 0111,0212,0313,0414,0515....
      0xx1xx(x:01~8) : Output 0~8 set to Input 1~8
      ALLOUT xx(x:01~8) : All Output set to Input 1~8
      MUTE xx(x:0~8) : Video mute command at output interface
      UNMUTE xx(x:0~8) : Video unmute command at output interface
      MUTEALL : Mute all outputs
      UNMUTEALL : Unmute all outputs
      SHOWMUTE : Show mute status of all output(0=not muted,1=muted)
      RDMUTE xx(x:0~8) : Read MUTE Status at Output
      HPDLOW xx(x:01~8) : Pull the Hot-Plug-Detect signal to 'LOW'
      HPDHIGH xx(x:01~8) : Pull the Hot-Plug-Detect signal to 'HIGH'
      HPDLOW ALL : Set All Input HPD to Low
      HPDHIGH ALL : Set All Input HPD to High
      SHOWHPD : Report ALL Input Hot-Plug-Detect signal status
      STATUSHPD x(x:1~8) : Show HPD status of input(x)
      SHOWTEMP : Show temperature sensor values y1, y2
      STATUSIN xx(x:01~8) : Report Input connection status
      STATUSOUT xx(x:0~8) : Report Output connection status
      STATUSALL : Report ALL Output connection status
      STATUSIEDID : Report ALL Input EDID mode&port
      SETEDIDMODE ii nn(ii:01~8 nn:1~3) : Set EDID mode(nn) to Input(ii)
      SETEDIDMODE ALL nn (nn=1~3) : The EDID mode(nn) of All Input(ii)
      SETEDIDPORT ii pp(ii:01~8 pp:01~8) : Set EDID Assigned Port(pp) to Input(ii)
      SETEDIDPORT ALL nn (pp=01~8) : The EDID of All Imports is assigned to Output
      pp
      ACTIVE : Report I/O active channels
      INDETECT : Input channels detect indicator
      OUTDETECT : Output channels detect indicator
      IPCONFIG : Display the current IP config
      SETIP <IP> <SubNet> <GW> : Setting IP.SbuNet.GateWay(Static IP)
      RSTIP : IP Configuration Was Reset To Factory Defaults(DHCP)
      SETIPADDR <IP> : Setting IP address
      SETSNMASK <SubNet> : Setting subnet mask
      SETGWADDR <GW> : Setting gateway IP address
      R
```

Type "IPCONFIG" To confirm all IP configurations.

To **RESET** the IP ADDRESS; type "RSTIP" /To **SET** a STATIC IP, type"SETIP"
(For a full list of commands, see Section 1.3).

Note: Commands will not be executed unless followed by a carriage return. Commands are case-insensitive. If the IP is changed then the IP Address required for Telnet access will also change accordingly.



1.3 RS 232 & TELNET COMMANDS:

All commands will be not executed unless followed with a carriage return (0x0D) and commands are case sensitive

| Command | Description |
|------------|--|
| P1 | Power on. |
| P0 | Power off. |
| Oxly | Output (x:0~16) set to input (y:1~16). |
| ALLOUT x | All output set to input (x:01~16). |
| ACTIVE | Report I/O active channels. |
| INDETECT | Input channels detect indicator. |
| OUTDETECT | Output channels detect indicator. |
| PORTSTATUS | Report all output connection status. |
| HDCPON x | Setting input port(x:01~16) HDCP on. |
| HDCPOFF x | Setting input port (x:01~16) HDCP off. |
| HDCPONALL | Setting all input port HDCP on. |
| HDCPOFFALL | Setting all Input port HDCP off. |
| HDCPSTATUS | Show HDCP status of all output(0=HDCP disable,1=enable). |
| MUTEO x | Video mute command at output (x:0~16) interface. |
| UNMUTEO x | Video unmute command at output (x:0~16) interface. |
| MUTEI x | Video mute command at input (x:0~16)interface. |
| UNMUTEO x | Video unmute command at output (x:0~16) interface. |
| UNMUTEI x | Video unmute command at input (x:0~16) interface. |
| MUTEALL | Mute all outputs. |
| UNMUTEALL | Unmute all outputs. |
| MUTESTATUS | Show mute status of all output(0=not muted,1=muted). |



| | |
|----------------------|---|
| HPDL x | Pull the input(x:01~16) Hot-Plug-Detect signal to 'LOW'. |
| HPDH x | Pull the input(x:01~16) Hot-Plug-Detect signal to 'HIGH'. |
| HPDLALL | Set all input HPD to Low. |
| HPDHALL | Set all input HPD to High. |
| HPDSTATUS | Report all input Hot-Plug-Detect signal status. |
| EDIDMODE x y | Set EDID mode(y:1~2) to Input(x:01~16). |
| EDIDMODEALL x | The EDID mode(x:1~2) of All Input. |
| EDIDPORT x y | Set EDID Assigned Port(y:01~16) to Input(x:01~16). |
| EDIDPORTALL x | The EDID of All Inports is assigned to Output (x:01~16). |
| EDIDSTATUS | Report all input EDID mode&port. |
| UART x "str" | Write UART string to output port(x:01~16). |
| UARTBAUD x y | Setting output port(x:01~16) UART baud rate(y). |
| STATUSUART | Show output port UART baud rate. |
| TEMPSTATUS | Show temperature sensor values y1, y2. |
| SETIPADDR | Setting IP address<x.x.x.x>. |
| SETSNMASK | Setting subnet mask<x.x.x.x>. |
| SETGWADDR | Setting gateway IP address<x.x.x.x>. |
| IPCONFIG | Display the current IP config. |
| RSTIP | IP Configuration Was Reset To Factory Defaults(DHCP). |
| BUZZER x | Buzzer Mute(0),UnMute(1). |
| REBOOT | System reboot. |
| SAVETO x | Save as Preset x(1~10). |
| RECALLTO x | Recall Preset x(1~10). |

| | |
|----------------|---|
| RESET | System Reset to O1I1,O2I2,O3I3,O4I4,O5I5.... |
| VERSION | Display controller firmware version. |



I.4 WEB GUI Control:

All commands will be not executed unless followed with a carriage return (0x0D) and commands are case sensitive

With a PC/Laptop connected to the same active LAN network as the Matrix switcher, click on a web browser and type device's IP address on the web address entry bar. The browser will display the device's status, control and User setting pages.

The screenshot shows the 'Status' tab of the Avenview MATRIX-1616 web interface. The browser address bar shows '192.168.5.139/index.shtml'. The page features the Avenview logo and the model name 'MATRIX-1616'. Below the navigation tabs (Status, Control, User Setting), the 'Power Status' section shows 'Power Status: ON'. The 'IP Status' section lists: IP Address: 192.168.5.139, NetMask Address: 255.255.255.0, GateWay Address: 192.168.5.254, MAC Address: 82-E0-FA-A3-E0-8A, Http Port Number: 80, and Telnet Port Number: 23. The 'Matrix Status' section displays a table of 16 ports:

| | | | | | | | |
|-----------------|---------------|-----------------|---------------|-----------------|---------------|-----------------|---------------|
| OutPut Port 01: | InPut Port 1 | OutPut Port 02: | InPut Port 2 | OutPut Port 03: | InPut Port 3 | OutPut Port 04: | InPut Port 4 |
| OutPut Port 05: | InPut Port 5 | OutPut Port 06: | InPut Port 6 | OutPut Port 07: | InPut Port 7 | OutPut Port 08: | InPut Port 8 |
| OutPut Port 09: | InPut Port 9 | OutPut Port 10: | InPut Port 10 | OutPut Port 11: | InPut Port 11 | OutPut Port 12: | InPut Port 12 |
| OutPut Port 13: | InPut Port 13 | OutPut Port 14: | InPut Port 14 | OutPut Port 15: | InPut Port 15 | OutPut Port 16: | InPut Port 16 |

The 'User Setting' TAB allows the user to reset the IP configuration. The system will require a reboot to the device once any of the settings are changed within this TAB. The IP address needed to access the Web GUI control will also need to be changed accordingly on the web address entry bar.

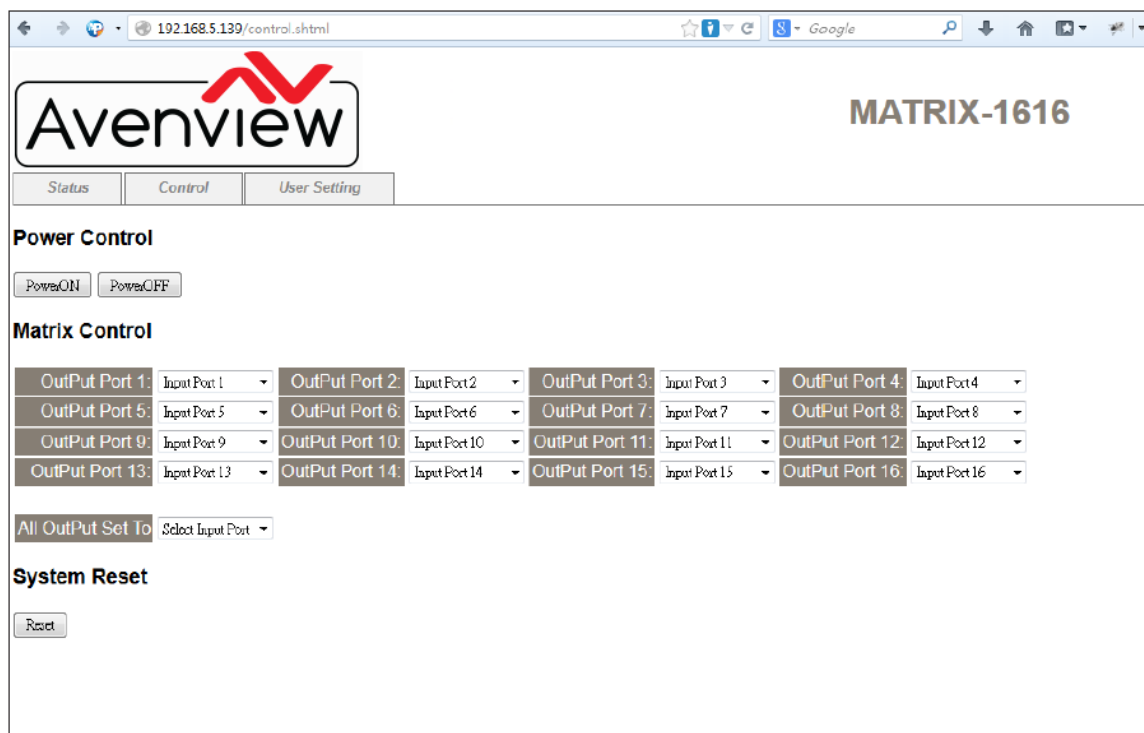
The screenshot shows the 'User Setting' tab of the Avenview MATRIX-1616 web interface. The browser address bar shows '192.168.5.139/user.shtml'. The page features the Avenview logo and the model name 'MATRIX-1616'. Below the navigation tabs (Status, Control, User Setting), the 'IP Address Selection' section contains a form with the following fields:

| | |
|--------------------|---------------|
| Address Type: | Static IP |
| Static IP Address: | 192.168.5.139 |
| Subnet Mask: | 255.255.255.0 |
| Default Gateway: | 192.168.5.254 |

Below the form is an 'Update Settings' button.



Click on the 'Control' TAB to toggle power ON/OFF, Input/Output ports, EDID and reset mode.



The screenshot displays the Avenview MATRIX-1616 web interface. The browser address bar shows '192.168.5.139/control.shtml'. The page features the Avenview logo and the model name 'MATRIX-1616'. Below the header, there are three tabs: 'Status', 'Control' (which is active), and 'User Setting'. The 'Control' tab is divided into three sections: 'Power Control', 'Matrix Control', and 'System Reset'. The 'Power Control' section has 'PowerON' and 'PowerOFF' buttons. The 'Matrix Control' section contains a grid of 16 'OutPut Port' labels, each paired with an 'Input Port' dropdown menu. The 'System Reset' section has a 'Reset' button.

| Power Control | |
|---------------|----------|
| PowerON | PowerOFF |

| Matrix Control | | | |
|-------------------------------|-------------------------------|-------------------------------|-------------------------------|
| OutPut Port 1: Input Port 1 | OutPut Port 2: Input Port 2 | OutPut Port 3: Input Port 3 | OutPut Port 4: Input Port 4 |
| OutPut Port 5: Input Port 5 | OutPut Port 6: Input Port 6 | OutPut Port 7: Input Port 7 | OutPut Port 8: Input Port 8 |
| OutPut Port 9: Input Port 9 | OutPut Port 10: Input Port 10 | OutPut Port 11: Input Port 11 | OutPut Port 12: Input Port 12 |
| OutPut Port 13: Input Port 13 | OutPut Port 14: Input Port 14 | OutPut Port 15: Input Port 15 | OutPut Port 16: Input Port 16 |

All OutPut Set To: Select Input Port

| System Reset |
|--------------|
| Reset |





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