

5. API Control

Advanced Programming Interface ensures possibilities of controlling the unit by an external third party control system using IP or RS232 connection and command line. Available commands and their parameters depend on the API versions which could be different between different versions of firmware. The control command should be sent in ASCII code and its structure should be followed the next format guidance.

Port Settings

Serial Interface	IP Interface
Baud rate: 115200 (default), Data bits: 8bit, Stop bits: 1, Check bit: 0	IP Mode: Static, IP Address: 192.168.0.100 TCP/IP protocol port: 8000, Telnet port: 23

Legend

Variables: x,y,z, XXX are parameters
 Error Code description: E00 -> unknown command, E01 -> parameter out of range
 E02 -> input card does not support the EDID with this resolution

Command Code	Function Description	Example	Feedback	Default Setting
Power				
s power z!	Power on/off the device,z=0~1 (z=0 power off, z=1 power on)	s power 1!	power on System Initializing... Initialization Finished! FW version x.xx.xx	power on
r power!	Get current power state	r power!	power on/power off	
s reboot!	Reboot the device	s reboot!	reboot... System Initializing... Initialization Finished! FW version x.xx.xx	
System Setup				
help!	List all commands	help!		
r type!	Get device model	r type!	MVS2-4K-1616DN	
r status!	Get device current status	r status!	Get the unit all status: power, beep, lock, in/ out connection, video/ audio crosspoint, edid, scaler, network status	
r fw version!	Get firmware version	r fw version!	ctl-boot:v0.00.00 ctl-app:v1.00.01 rs02:v1.13 key-boot:v1.00.01 key-app:v1.00.01 in board 1:v1.00.01-1.08/ 1.08/1.08/1.08 in board 2:v1.00.01-1.08/ 1.08/1.08/1.08 in board 3: in board 4: out board 1: out board 2: out board 3: out board 4:v1.00.02	

Command Code	Function Description	Example	Feedback	Default
r inport x info!	Get the information of the x input port , x=0~16 (0=all input ports)	r inport 1 info!	get input 1 info: board is on line:1 board type:inboard_hdmi input index:1 input name:Input1 input 5v:0 edid:1080p, stereo audio 2.0 out resolution:0 mirror:0 audio mode:0 hdcp:0 input timing: hdmi:0 h_pixel:0 v_pixel:0 rate:0 scan:0 tmds:0 mcu version:V1.00.01-1.08 /1.08/1.08/1.08	
r output x info!	Get the information of the x output port , x=0~16 (0=all input ports)	r output 1 info!	get output 13 info: board is on line:1 board type:outboard_hdmi output index:13 output name:Output13 tv is on:1 edid: 0x00, 0xff, 0xff, 0xff, 0xff, 0xff, 0xff, 0x00, 0x52, 0x47, 0xce..... 0x00, 0x00, 0x00, 0x00, 0x00, 0x68 outResolution:1 hdcp:0 mute:1 mirror:0 inputTiming: hPixel:1920 vPixel:1080 rate:60 scan:1 tmds:148 mcu version:V1.00.02	
s input x name yyy!	Set input name x=1~16 yyy: name, length <= 16	s input 1 name xiaomi2!	set input 1 name:xiaomi2	
s output x name yyy!	Set output name x=1~16 yyy: name, length <= 16	s output 1 name xiaomiTV!	set output 1 name: xiaomiTV	

Command Code	Function Description	Example	Feedback	Default Setting
s reset!	Reset to factory defaults	s reset!	reset to factory defaults	Main control card: PTP; Delete the video wall; DHCP; 115200; The buzzer is on; Panel is not locked; LCD remains on 60s HDMI output card: 1. Output port name: Output1-16 2. u8Resolution: 1920x1080p60 3. MODE: HDMI 4. HDCP: ON <If supported> 5. Splicing: No splicing 6. Position :H: 16,16 7. Size: 0,0 8. Picture quality: 16,16,16 9. Mirror :0<No mirror> HDMI input card: 1. Audio :HDMI 2. Position: 16,16 3. Size: 0,0 4. EDID: Built-in V56
s beep z!	Enable/Disable buzzer function, z=0~1 (z=0 beep off, z=1 beep on)	s beep 1!	beep on beep off	beep on
r beep!	Get buzzer state	r beep!	beep on / beep off	
s lock z!	Lock/Unlock front panel button, z=0~1 (z=0 lock off, z=1 lock on)	s lock 1!	panel button lock on panel button lock off	panel button lock off
r lock!	Get panel button lock state	r lock!	panel button lock on/off	
s save preset z!	Save switch state between all output ports and the input port to preset z , z=1~64	s save preset 1!	save to preset 1	
s recall preset z!	Call saved preset z scenarios , z=1~64	s recall preset 1!	recall from preset 1	
s clear preset z!	Clear stored preset z scenarios, z=1~64	s clear preset 1!	clear preset 1	
s lcd on time z!	Set LCD screen remain on time, z=0~4 (0: off; 1: always; 2: 30s; 3: 60s; 4: 5m)	s lcd on time 2!	lcd on 30 seconds	lcd on 60 seconds
r lcd mode!	Get the backlight status of lcd screen	r lcd mode!	lcd always on	

Command Code	Function Description	Example	Feedback	Default Setting
r preset z!	Get preset z information, z=1~64	r preset 2!	preset 2 data: beep:1 lock:0 lcd work time:60s baudrate:115200 output 1 source: input 1 output 2 source: input 1 output 3 source: input 1 output 4 source: input 1 output 5 source: input 1 output 6 source: input 1 output 7 source: input 1 output 8 source: input 1 output 9 source: input 1 output 10 source: input 1 output 11 source: input 1 output 12 source: input 1 output 13 source: input 1 output 14 source: input 1 output 15 source: input 1 output 16 source: input 1 video wall name:111 video wall row:4 video wall col:4 the input of screen: 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 the output of screen: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 mosaic id:1 mosaic row:3 mosaic col:3 mosaic screen: 1 2 3 5 6 7 9 10 11	
s baud rate x!	Set the baud rate of the external serial port, z= (1:115200,2:57600,3:38400,4:19200,5:9600,6:4800)	s baud rate 1!	Baudrate:115200	115200
r baud rate!	Get the baud rate of the external serial port	r baud rate!	Baudrate:115200	
r activation!	Get the authorization status of the system	r activation!	activated permanently	activated permanently
Input and Output Setting				
s in x av out y,z,a, b...!	Set input x to output y, z, a, b... , x=1~16, y/z/a/b=0~16 (0=all output)	s in 1 av out 2,3,4,8!	input 1 -> output 2 3 4 8	ptp
r av out y!	Get output y signal status y=0~16 (0=all output)	r av out 0!	input 1 -> output 1 input 2 -> output 2 input 16 -> output 16	

Command Code	Function Description	Example	Feedback	Default Setting
r switch and mute!	Get all output switch and mute status	r switch and mute!	input 1 -> output 1 input 1 -> output 2 input 1 -> output 3 input 1 -> output 4 input 7 -> output 5 input 7 -> output 6 input 7 -> output 7 input 7 -> output 8 input 1 -> output 9 input 1 -> output 10 input 1 -> output 11 input 1 -> output 12 input 1 -> output 13 input 1 -> output 14 input 1 -> output 15 input 1 -> output 16 output 1 stream:off output 2 stream:off output 3 stream:off output 4 stream:off output 5 stream:off output 6 stream:off output 7 stream:off output 8 stream:off output 9 stream:off output 10 stream:off output 11 stream:off output 12 stream:off output 13 stream:off output 14 stream:off output 15 stream:off output 16 stream:off	
s ptp!	Set input and output to ptp mode	s ptp!	ptp	ptp
s input x audio mode y!	Set input x audio mode x: 0~16 (0=all input) y: 0-follow the video source, 1-insert	s input 1 audio mode 1!	set input 1 audio mode:insert	bypass
r input x audio mode!	Get input x audio mode x: 0~16 (0=all input)	r input 1 audio mode!	input 1 audio mode: bypass	
s output x mirror mode y!	Set output x mirror mode x: 0~16 (0=all output) y: 0~3, 0: OFF, 1: H_Mirror, 2: V_Mirror, 3: H+V_Mirror	s output 13 mirror mode 2!	set output 13 mirror mode: h+v_mirror	off
r output x mirror mode!	Get output mirror mode	r output 1 mirror mode!	output 1 mirror mode:off	
r output x picture info!	Get output x picture info x: 0~16 (0=all output)	r output 1 picture info!	output1 picture info: brightness=16 contrast=16 colortemp=16 sharpness=16	
s ir x!	Enable IR or not x: 0-disable 1-enable	s ir 1!	enable ir	disable
s output x out mode y!	When no signal in, set output x out mode x: 0~16 (0=all output) y: 0- "NO SIGNAL" image 1- no output signal	s output 1 out mode 1!	output 1 out mode 1	0

Command Code	Function Description	Example	Feedback	Default
s output x resolution y!	Set output x output format x: 0~16 (0=all output) y: resolution type , 2K DVIU 0-1920x1200p@60, 1-1920x1080p@60, 2-1600x1200p@60, 3-1680x1050p@60, 4-1360x768p@60, 5-1280x1024p@60, 6-1280x720p@60, 7-1024x768p@60, 8-1920x1080p@30, 9-720x576_cvbs_ntsc, 10-720x480_cvbs_pal, 11-1920x1080_YPbPr, 12-1280x720_YPbPr, 13-1920x1080p@50, 14-1920x1080p@25, 15-1920x1080p@24, 16-1280x800p@60, 17-1280x720p@50; 2K SDI 0-1920x1080p@60, 1-1920x1080p@50, 2-1920x1080p@30, 3-1920x1080p@25, 4-1920x1080p@24, 5-1920x1080i@60, 6-1920x1080i@50, 7-1280x720p@60, 8-1280x720p@50, 9-1280x720p@30, 10-1280x720p@25, 11-720x480i@60, 12-720x576i@50; Other 2K cards: 0-1920x1200p@60, 1-1920x1080p@60, 2-1600x1200p@60, 3-1680x1050p@60, 4-1360x768p@60, 5-1280x1024p@60, 6-1280x720p@60, 7-1024x768p@60, 8-1920x1080p@30, 9-1920x1080p@50, 10-1920x1080p@25, 11-1920x1080p@24, 12-1280x800p@60, 13-1280x720p@50; 4K card: 0-4096x2160p@60, 1-4096x2160p@50, 2-3840x2160p@60, 3-3840x2160p@50, 4-3840x2160p@30, 5-1920x1080p@60, 6-1920x1080p@50, 7-1920x1080i@60, 8-1920x1080i@50, 9-1920x1200p@60, 10-1360x768p@60, 11-1280x800p@60, 12-1280x720p@60, 13-1280x720p@50, 14-1024x768p@60, 15-720x480i@60, 16-720x576i@50, 17-2560x1440p@60, 18-4096x2160p@30, 19-4096x2160p@25, 20-4096x2160p@24, 21-3840x2160p@25, 22-3840x2160p@24, 23-1920x1080p@30, 24-1920x1080p@25, 25-1920x1080p@24, 26-1600x1200p@60, 27-1680x1050p@60, 28-1280x1024p@60	s output 13 resolution 8!	set output 13 resolution: 1920x1080p@30	1920x1080@60

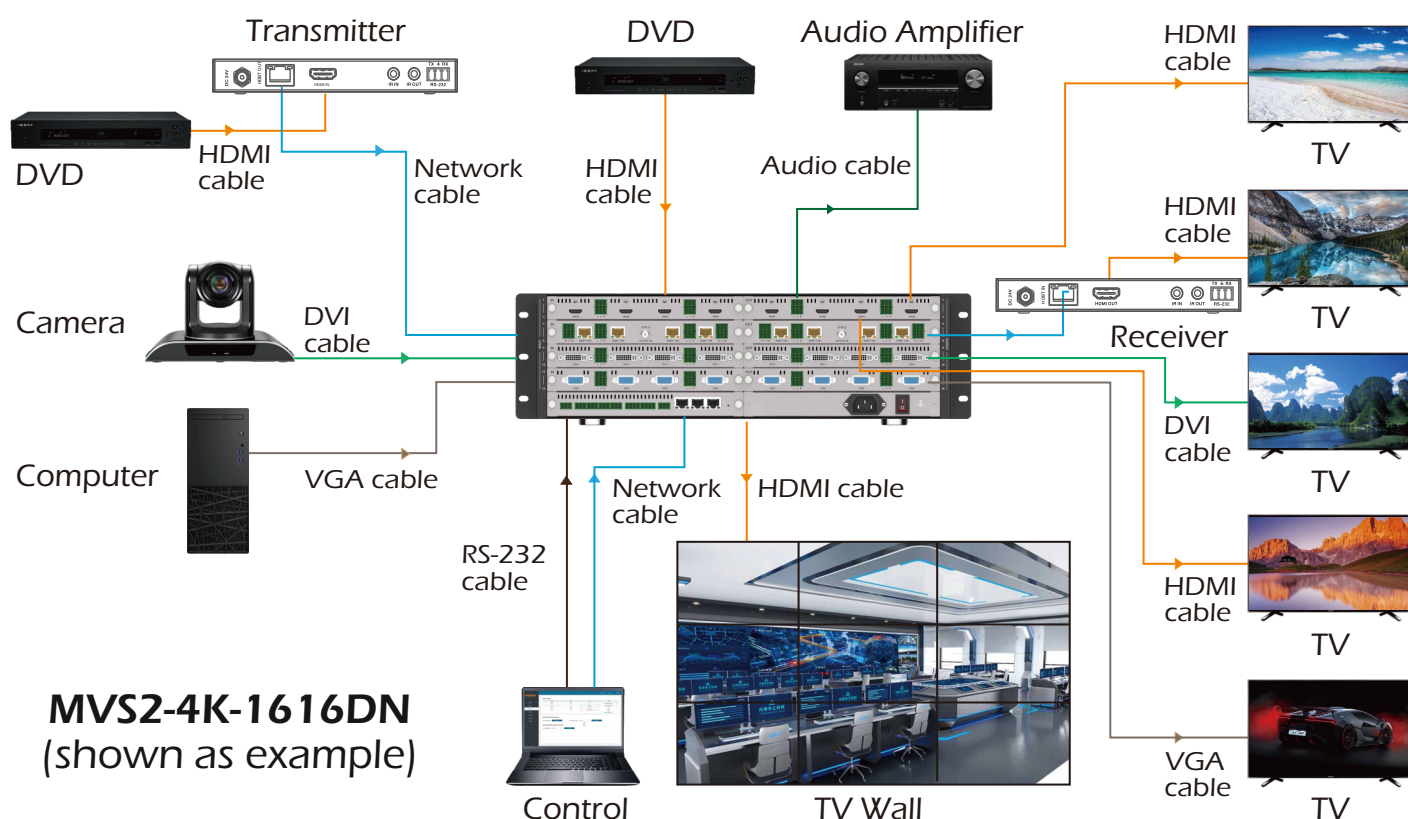
Command Code	Function Description	Example	Feedback	Default
r output x resolution!	Get output x output format x: 0~16 (0=all output)	r output 1 resolution!	output 1 resolution: 1920x1200p@60	
r vw info!	Get video wall information	r vw info!	get video wall info: name:111 col:4 row:4 output: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 input: 1 1 1 1 7 7 7 7 1 1 1 1 1 1 1 1 screen is mosaiced: 0 0 0 0 2 2 2 2 0 0 0 0 0 0 0 0 mosaic total number is:1 mosaic ld:2 mosaic row:2 mosaic col:2 mosaic screen: 5 6 7 8	
create vw row x col y name z!	Create video wall x: the row of video wall, 1~16 y: the col of video wall, 1~16 z: the name of video wall, name length <= 32	create vw row 4 col 4 name video wall 1!	create video wall success	
s screen x source y!	Set input y to screen x (switch the signal source) x: the screen of video wall, 1 <= x && x <= row*col y: input source 1~16	s screen 1 source 1!	set screen 1 source: input 1	
s screen x output y!	Set output y to screen x (switch the screen output) x: the screen of video wall, 1 <= x && x <= row*col y: output 1~16	s screen 1 output 1!	set screen 1 output: 1	
s mosiac x col y row z!	Create mosaic x: mosaic id, 1~8 y: mosaic col, 1<= y <= video wall col z: mosaic row, 1<= z <= video wall row	s mosiac 1 col 2 row 2!	set mosaic success	
s mosaic x window y screen z!	Match the mosaic window with screen x: mosaic id, 1~8 y: mosaic window, 1<= y <= (mosaic col * mosaic row) z: screen id, 1<= z <= (video wall col * video wall row)	s mosaic 1 window 1 screen 8!	set mosaic window success	

Command Code	Function Description	Example	Feedback	Default
delete mosaic x!	Delete mosaic x: mosaic id, 1~8	delete mosaic 1!	delete mosaic 1 success	
s sync mode x!	Set mosaic sync mode x: 0-no sync, 1-sync	s sync mode 1!	set sync mode 1	0
s hdmi y stream z!	Set output y stream on/off, y=0~16 (0=all output) z=0~1 (0: disable, 1: enable)	s hdmi 1 stream 1 !	output 1 stream:on	enable
r hdmi y stream!	Get output y stream status, y=0~16 (0=all output)	r hdmi 1 stream!	output 1 stream:off	
EDID				
s edid in x from y!	Set input x EDID from default EDID y, x=0~16 (0=all input), y=1~36 1, 1080p, Stereo Audio 2.0 2, 1080p, Dolby/DTS 5.1 3, 1080p, HD Audio 7.1 4, 080i, Stereo Audio 2.0 5, 1080i, Dolby/DTS 5.1 6, 1080i, HD Audio 7.1 7, 4K2K30_444, Stereo Audio 2.0 8, 4K2K30_444, Dolby/DTS 5.1 9, 4K2K30_444, HD Audio 7.1 10, 4K2K60_420, Stereo Audio 2.0 11, 4K2K60_420, Dolby/DTS 5.1 12, 4K2K60_420, HD Audio 7.1 13, 4K2K60_444, Stereo Audio 2.0 14, 4K2K60_444, Dolby/DTS 5.1 15, 4K2K60_444, HD Audio 7.1 16, 4K2K60_444, Stereo Audio 2.0 HDR 17, 4K2K60_444, Dolby/DTS 5.1 HDR 18, 4K2K60_444, HD Audio 7.1 HDR 19, USER1 20, USER2 21, copy from hdmi output 1 22, copy from hdmi output 2 23, copy from hdmi output 3 24, copy from hdmi output 4 25, copy from hdmi output 5 26, copy from hdmi output 6 27, copy from hdmi output 7 28, copy from hdmi output 8 29, copy from hdmi output 9 30, copy from hdmi output 10 31, copy from hdmi output 11 32, copy from hdmi output 12 33, copy from hdmi output 13 34, copy from hdmi output 14 35, copy from hdmi output 15 36, copy from hdmi output 16	s edid in 1 from 1!	input 1 edid: 1080p, stereo audio 2.0	1080p, Stereo Audio 2.0
r edid in x!	Get EDID status of the input x , x=0~16 (0=all input)	r edid in x!	input 1 edid: 1080p, stereo audio 2.0	

Command Code	Function Description	Example	Feedback	Default
s edid userx yy!	Set user defined EDID x: 1~2 yy: EDID data	s edid user 1 00ffffffffffff...!	user1 edid setting ok!	
r edid userx!	Get user defined EDID x: 1~2	r edid user 1!	user1 edid data: 0x00, 0xff, 0xff, 0xff, 0xff, 0xff, 0xff, 0x00, 0x20, 0x83, 0x10..... 0x21, 0x00, 0x00, 0x9e 0x00, 0x21	
r edid data hdmi y!	Get the EDID data of TV connected to the hdmi output y port , y=1~16	r edid data hdmi 1!	edid : 00 ff ff ff ff ff ff 00	
Network Setting				
r ipconfig!	Get the current IP configuration	r ipconfig!	ip mode:dhcp ip address:192.168.0.200 subnet mask:255.255.255.0 gateway:192.168.0.1 mac address:ff-ff-ff-ff-ff-ff tcp/ip port=8000 telnet port=23	
r mac addr!	Get network MAC address	r mac addr!	mac address:ff-ff-ff-ff-ff-ff	
s ip mode z!	Set network IP mode to static IP or DHCP, z=0~1 (z=0 Static, z=1 DHCP)	s ip mode 1!	set ip mode:dhcp (please use "s net reboot!" command to apply new config!)	dhcp
r ip mode!	Get network IP mode	r ip mode!	ip mode:dhcp	
s ip addr xxx.xxx. xxx.xxx!	Set network IP address	s ip addr 192. 168.8.180!	set ip address:192.168.8. 180 (please use "s net reboot!" command to apply new config!)	
r ip addr!	Get network IP address	r ip addr!	ip address:192.168.8.180	
s subnet xxx.xxx. xxx.xxx!	Set network subnet mask	s subnet 255. 255.255.0!	set subnet mask:255.255. 255.0 (please use "s net reboot!" command to apply new config!)	
r subnet!	Get network subnet mask	r subnet!	subnet mask:255.255.255.0	
s gateway xxx. xxx.xxx.xxx!	Set network gateway	s gateway 192.168.8.1!	set gateway:192.168.8.1 (please use "s net reboot!" command to apply new config!)	
r gateway!	Get network gateway	r gateway!	Gateway:192.168.1.1	
s tcp/ip port x!	Set network TCP/IP port (x=1~65535)	s tcp/ip port 8000!	Set tcp/ip port:8000	8000
r tcp/ip port!	Get network TCP/IP port	r tcp/ip port!	tcp/ip port:8000	
s telnet port x!	Set network telnet port (x=1~65535)	s telnet port 23!	set telnet port:23	23
r telnet port!	Get network telnet port	r telnet port!	telnet port:23	

Command Code	Function Description	Example	Feedback	Default
s net reboot!	Reboot network modules	s net reboot!	network reboot ... search for ip,please wait ...! search for ip,please wait ...! ip mode:dhcp ip address:192.168.0.200 subnet mask:255.255.255.0 gateway:192.168.0.1 mac address:ff-ff-ff-ff-ff-ff tcp/ip port=8000 telnet port=23	

6. Connection Scheme



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