VWC-H49

Video Processor User Manual

Seamless Matrix Switcher
4 Window Multiviewer
LCD and LED Video Wall Controller



⚠Warning

- Do not expose this device to Rain, Moisture, and Dripping
- Only use accessories specified by the manufacture
- Unplug this device during Lightning Storms
- The manual is for reference only, maybe updated without further notice

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1. System description

1.1. Introduction

The Video Processor is a high-performance HDMI 2.0 video signal processor.

It can be used as a video wall splicing processor or as a seamless switching matrix switcher with 4 inputs and 9 outputs.

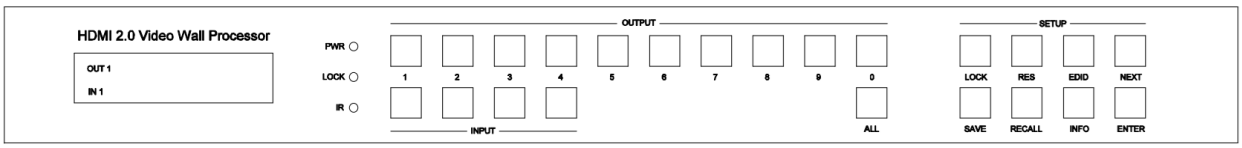
All outputs can work on multiview mode with a maximum of 4 windows.

1.2. Features

1) Support seamless switching between different input source
2) Comprehensive splicing display function with bezel compensation
3) Support two synchronization mode for all output ports: General synchronization mode and Sync delay mode
4) Supports 180° rotation
5) Free multiview up to 4 windows with all outputs
6) 4 Inputs and 9 Outputs：HDMI 2.0, up to 3840x2160/4096x2160@60Hz resolution
7) Support Auto and User Define output resolution, can be flexibly applied to the display of LED wall
8) Support one break away audio extractor and switcher
9) Provide multiple control ports: front panel buttons, remote control, RS232, network and WebGui control

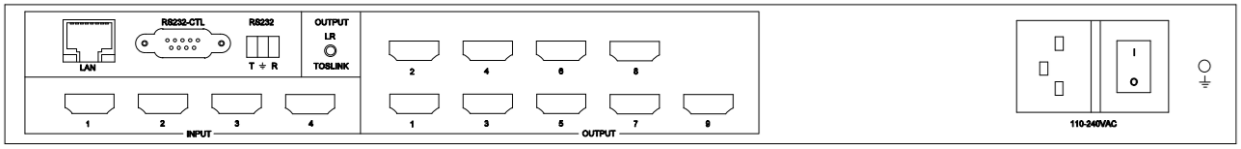
2. Panel Layout

2.1 Front view



1) LCM display screen: displays the routing status of each channel in the matrix. Used together with front buttons, it can set and view some parameters
2) OUT SELECT: 1, 2...9, ALL
3) IN SELECT: 1, 2, 3, 4
   Press OUTPUT m +INPUT n +ENTER, switch input n to output m
4) ALL button: Press ALL + INPUT n +ENTER, switch input n to all output ports
5) Lock button : Hold this button more than 3 seconds, all the fronts buttons will be locked and will not work. Hold it more than 3 seconds again, unlock
6) Press buttons RES + OUTPUT m + NEXT + ENTER with guide of front LCM screen display, to change output resolution of OUTPUT m
7) Press buttons EDID + INPUT n + NEXT + ENTER with guide of front LCM screen display, to change the EDID mode of INPUT n
8) SAVE button : Press SAVE+ OUTPUT m +ENTER, save current routing and screen layout to scene m
9) RECALL button: Press RECALL+ OUTPUT m +ENTER, load scene m for current displaying
10) INFO button: Continuously press INFO button, front LCD panel will loop display IR ON/OFF,RS232 Baud Rate and IP parameters etc,.
11) IR: IR receiver, can be disabled by RS232 command

2.2 Rear view



1) LAN control（TCP/IP or Web Control）
   IP address: 192.168.0.247, Submask: 255.255.255.0, Gateway: 192.168.0.1, Baud Rate: 9600, NetPort: 23
   Web login account : admin, password : admin
2) RS232-CTL
   Baud Rate: 9600
3) RS232-Phoenix:
   Baud Rate: 9600
   T: Main Unit -> PC, G: Ground, R: Main Unit <- PC
4) Inputs and outputs
   4 HDMI inputs,9 HDMI outputs,1 LR/Toslink (Spdif-Optical) audio output
   Note: The audio output can be switched among IN1,IN2,IN3,IN4 via RS232 command or PC Tool

3. Typical application cases

1) General Seamless Matrix Switcher, 4 inputs, 9 outputs. Users can also set multiview output as needed



2) One View video Wall processor: 2x3, 3x3,etc.



3) Two or more Video Wall processor and standalone outputs



Please note:
If one of output 1,2,3,4 or 5,6,7,8 is configured as multiview mode, then other three output will copy this output

4. Output resolution list

Hex Index	Output Resolution	Hex Index	Output Resolution
00	4096x2160p 60Hz	0C	1920x1080p30 Hz
01	4096x2160p 50Hz	0D	1680x1050p60 Hz
02	3840x2160p 60Hz	0E	1600x1200p60 Hz
03	3840x2160p 50Hz	0F	1360x768p60 Hz
04	3840x2160p 30Hz	10	1280x1024p60 Hz
05	3840x2160p 25Hz	11	1280x768p60 Hz
06	3440x1440p 60Hz	12	1280x720p60 Hz
07	2560x1600p 60Hz	13	1280x720p50 Hz
08	2560x1440p 60Hz	14	1024x768p60 Hz
09	1920x1200p 60Hz	15	USER
0A	1920x1080p 60Hz	16	AUTO
0B	1920x1080p 50Hz		

5. PC Tool user guide

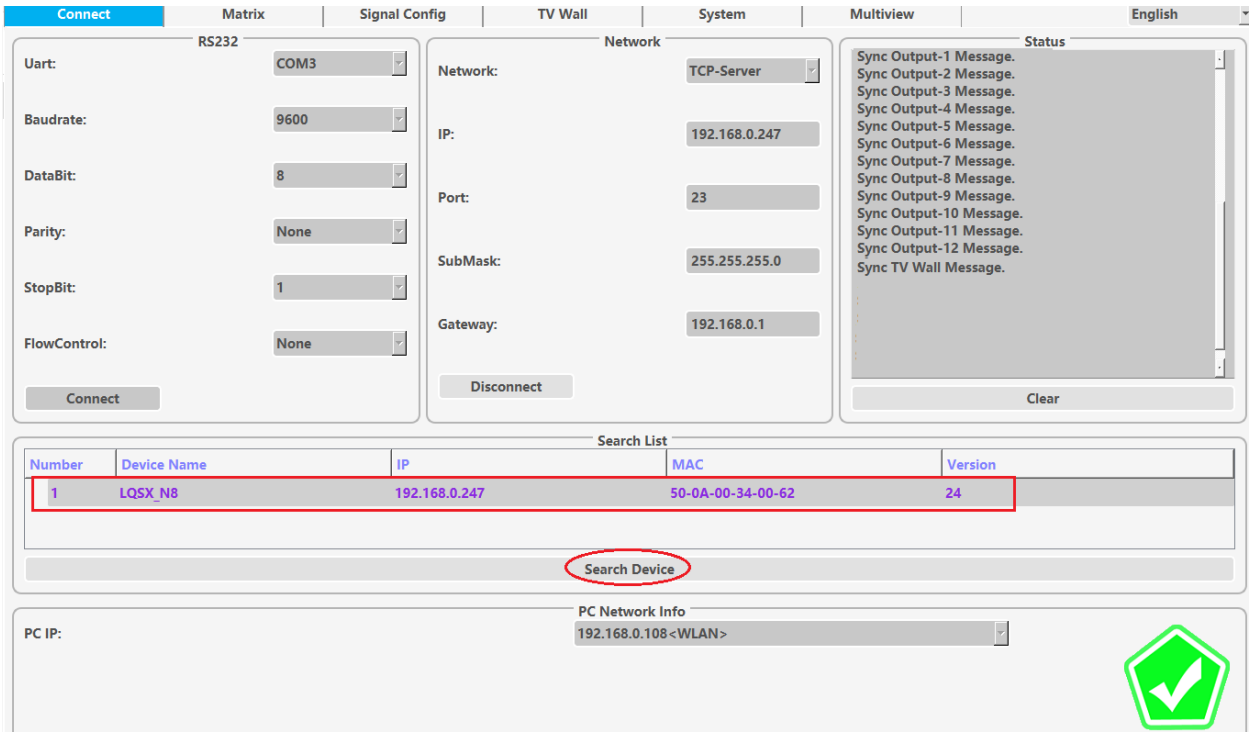
This PC tool is an installation free control software. It is divided into seven tabs according to different functions: Connect, Matrix, Signal, TV wall, System, and Multiview

The initial login password is: 111111

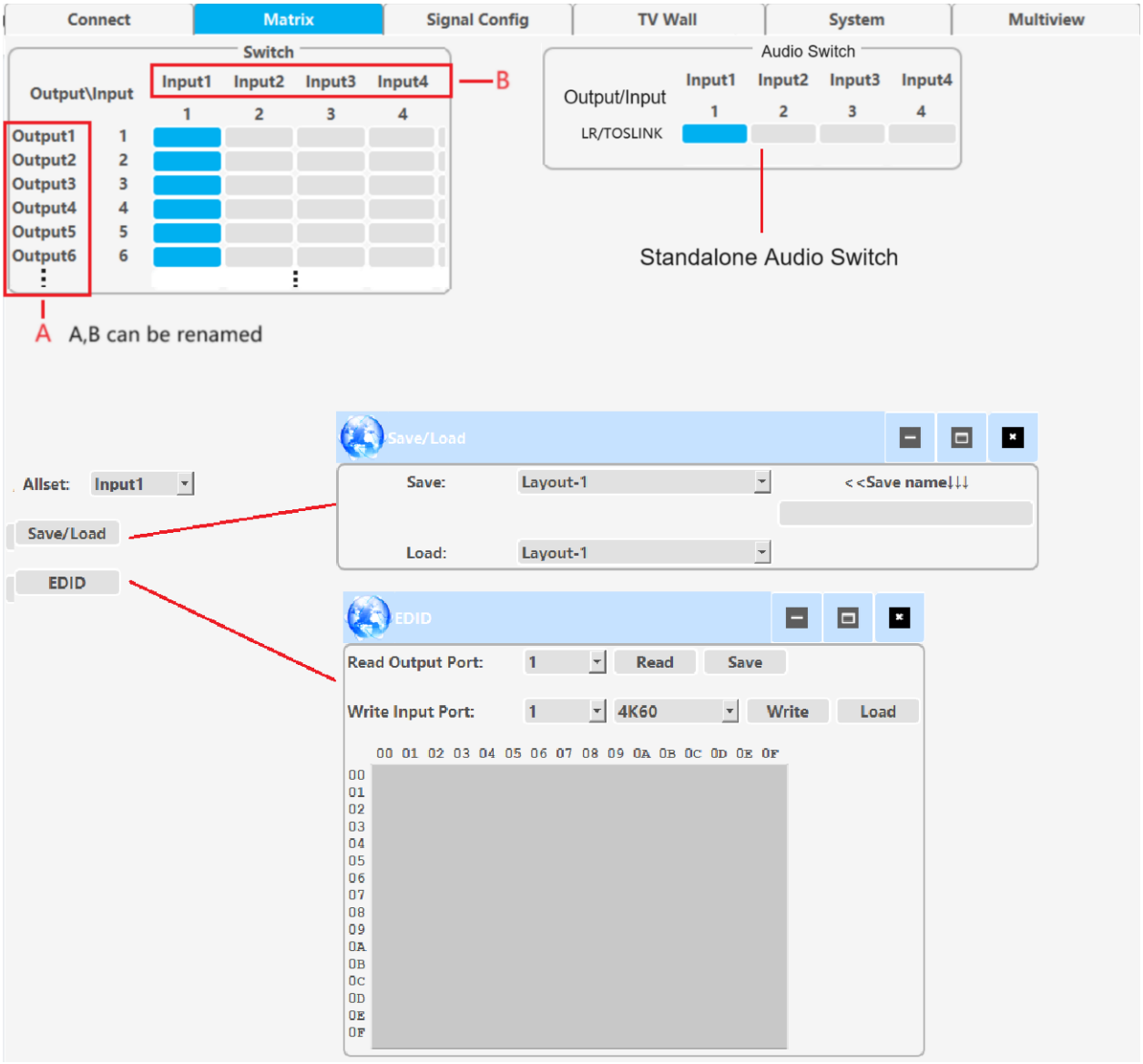
6.1 Connect tab

Please note:

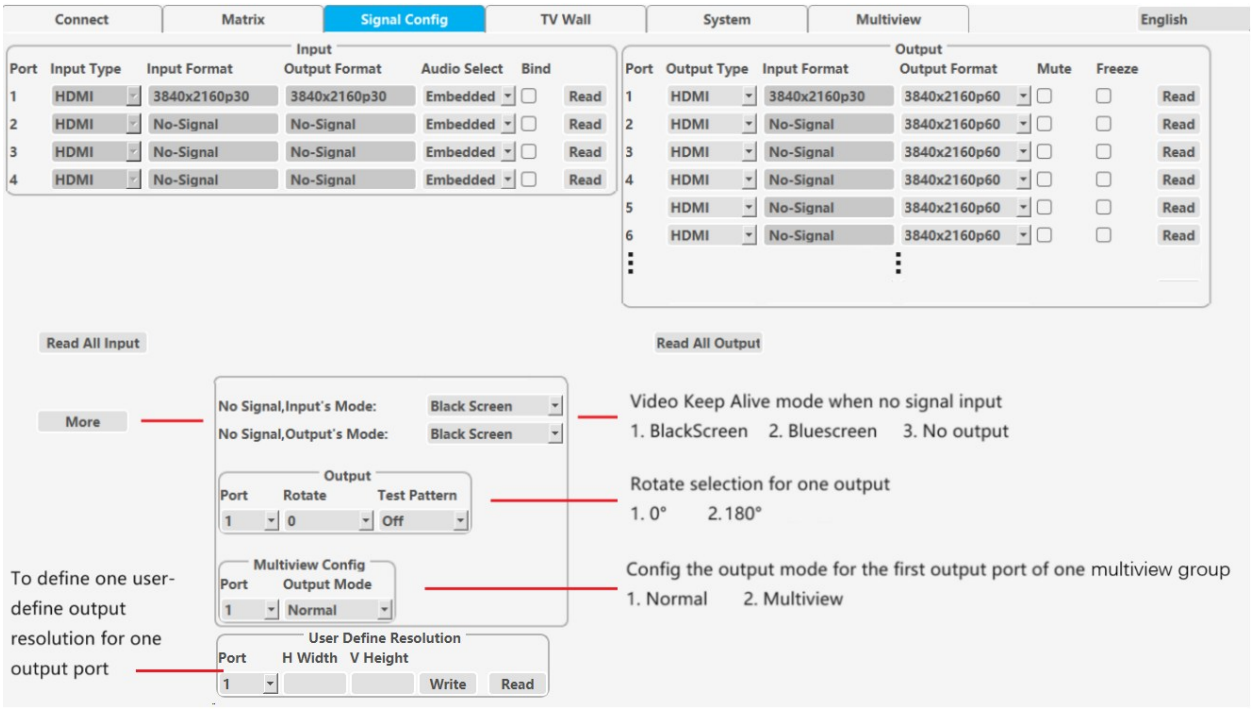
1. Use serial cable (straight line) or Ethernet cable
2. When using a serial port connection, the network port connection must be disconnected, and vice versa
3. When connecting through the network port, you must first search for and select the device before connecting


Connect
Matrix
Signal Config
TV Wall
System
Multiview
English
RS232
Uart:
COM3
Baudrate:
9600
DataBit:
8
Parity:
None
StopBit:
1
FlowControl:
None
Connect
Network
Network:
TCP-Server
IP:
192.168.0.247
Port:
23
SubMask:
255.255.255.0
Gateway:
192.168.0.1
Disconnect
Status
Sync Output-1 Message.
Sync Output-2 Message.
Sync Output-3 Message.
Sync Output-4 Message.
Sync Output-5 Message.
Sync Output-6 Message.
Sync Output-7 Message.
Sync Output-8 Message.
Sync Output-9 Message.
Sync Output-10 Message.
Sync Output-11 Message.
Sync Output-12 Message.
Sync TV Wall Message.
Clear
Search List
Number
Device Name
IP
MAC
Version
1
LQSX_N8
192.168.0.247
50-0A-00-34-00-62
24
Search Device
PC Network Info
PC IP:
192.168.0.108<WLAN>

6.2 Matrix switch tab

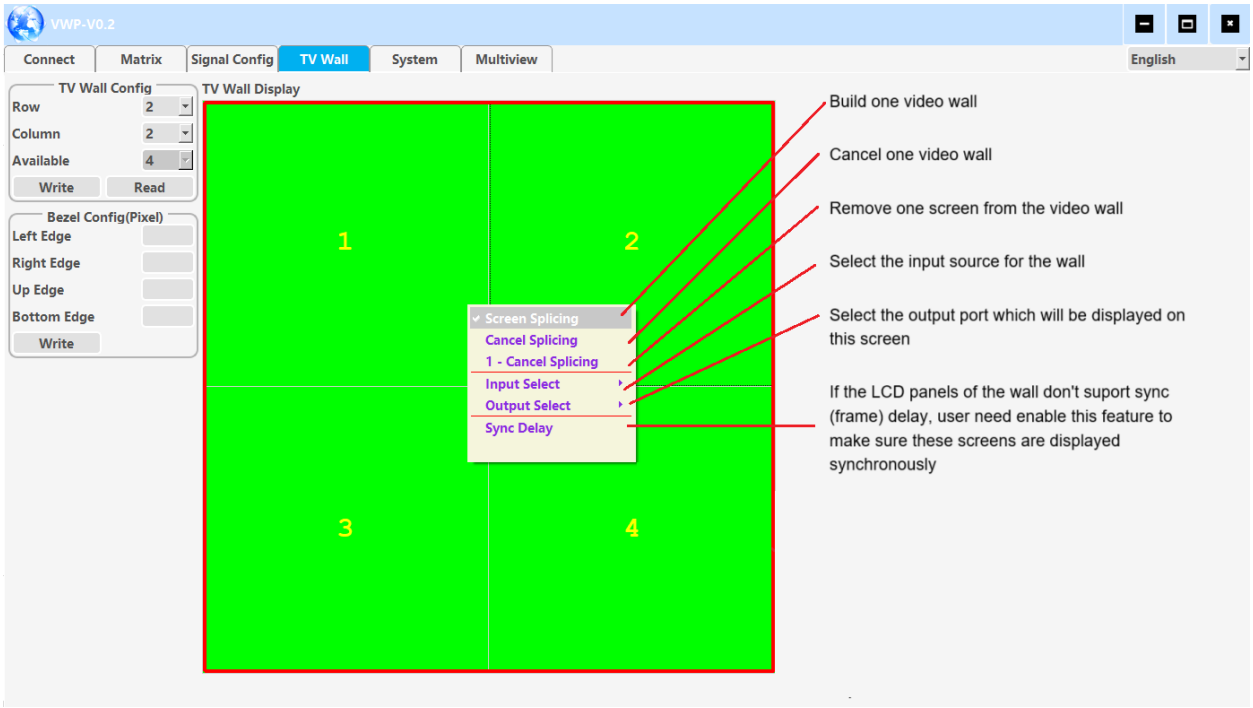


6.3 Signal config tab

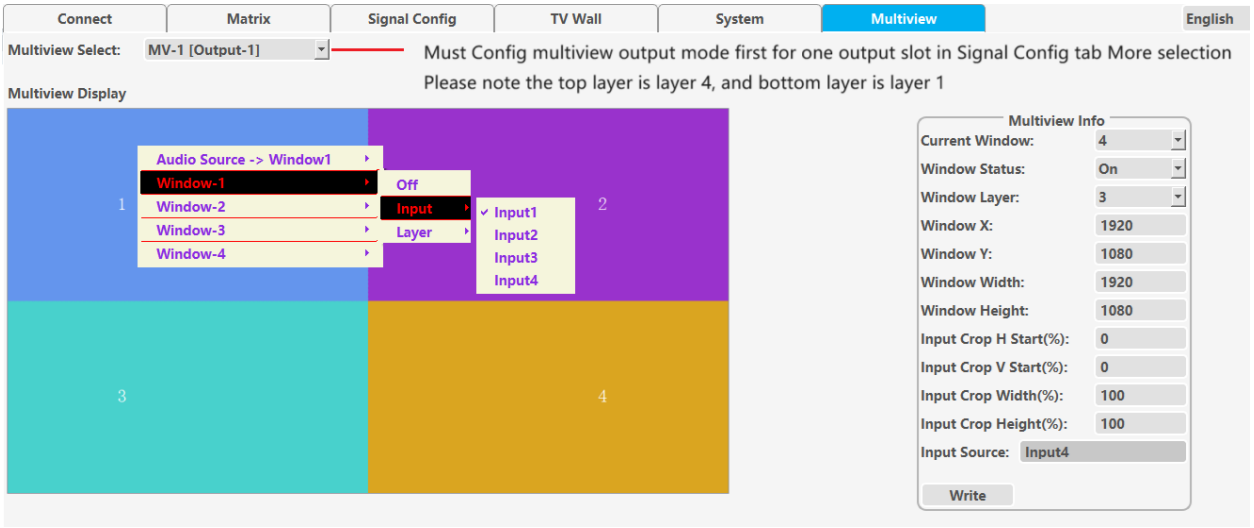


6.4 TV wall tab

This tab set the splicing wall parameters: layout, bezel compensation, input/output settings, etc

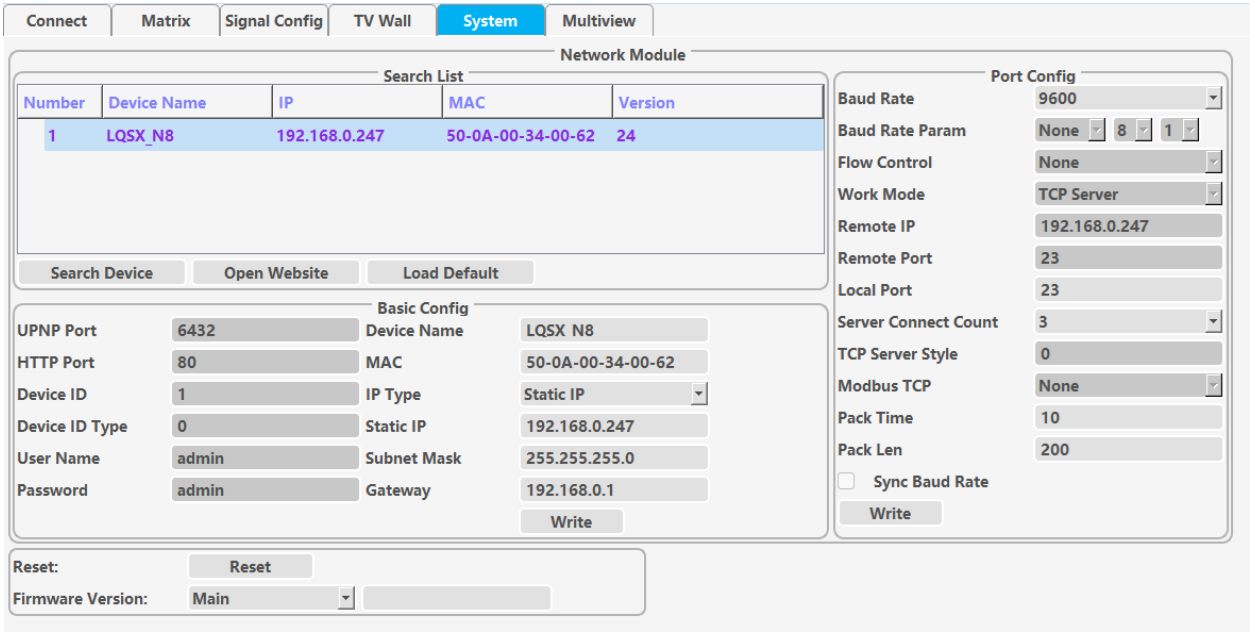


6.5 Multiview tab



6.6 System tab

This tab sets network parameters, resets, reads software versions, etc



6. How to set pixel to pixel display with LED panel/sender card

Step 1, connect input cable between source and one input port of the matrix switcher.

Step 2, connect output cable between LED panel/sender card and one output port of the matrix switcher.

Step 3, read the EDID of LED panel/sender card with PC Tool and download this EDID to the input port of the matrix switcher.

Step 4, set the output resolution of this output port as USER or AUTO. When set USER, need configure the user define resolution first, and make the user defined resolution to match the physical resolution of the LED panel unit completely.

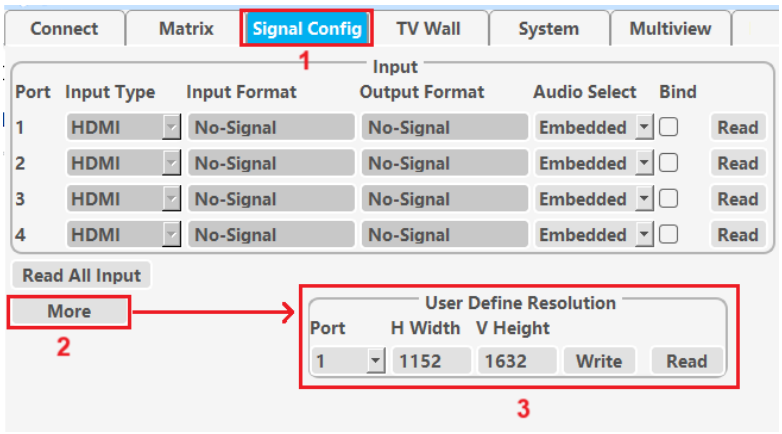
7. How to fit with a LED wall with different physical size panel units -MultiPanel

Sometimes we may encounter situations where the width or height of the LED splicing panel units are different.
In this case, in addition to setting up the relevant splicing operations normally firstly, then we also need to make the following configurations

LED Wall

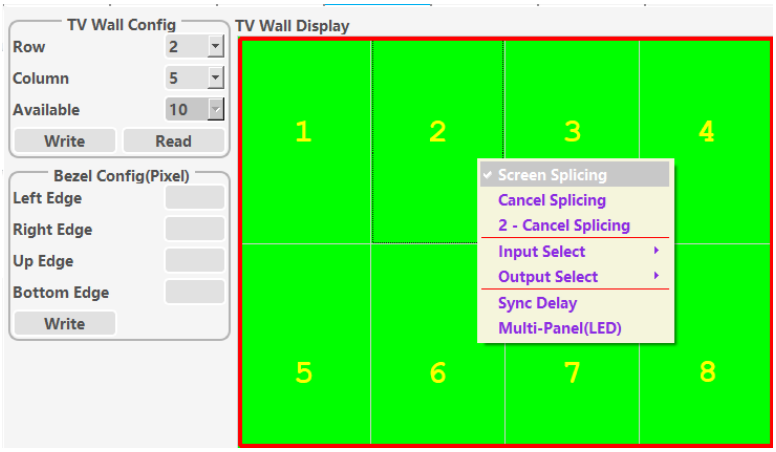
1152x1632 Panel 1 Out 1	1152x1632 Panel 2 Out 2	1152x1632 Panel 3 Out 3	576x1632 Panel 5 Out 5
1152x1440 Panel 6 Out 6	1152x1440 Panel 7 Out 7	1152x1440 Panel 8 Out 8	576x1440 Panel 10 Out 10

A. Set user define output resolution to the physical display resolution of the corresponding LED panel for each output port which displayed on this LED wall



B. Turn to TV Wall Tab and press alt Q on PC keyboard

C. Press right button of the mouse, then appears the interface as below, and click MultiPanel, then system will automatically fit the different panels



D. If user want to exit MultiPanel function, he need cancel this video wall, then system will automatically exit MultiPanel function

E. Please note MultiPanel function is not included in scene save or recall

8. Specification

Band Width	594MHz (18Gbps), HDMI 2.0, HDCP2,2
Audio Format	LPCM 2.0
Input ports	4 HDMI
Output ports	9 HDMI, 1 Mini Toslink port
Power Supply	110-240VAC
Power Consumption	55W Max
Operating Temperature	0 to +40°C (+32 to +104 °F)
Operating Humidity	10 to 70 % RH (non-condensing)
ESD	Air: ± 8KV, Contact: ± 4KV,
Dimensions	L430 x W220 x H44 mm
Mass	5kg

9. Package Contents

Item	Quantity
Main Unit	1
AC Power Cord	1
USB to RS232 cable	1
1 meter RJ45 cable	1
Remoter	1