



IP Based KVM Video Collaboration System

MANUAL

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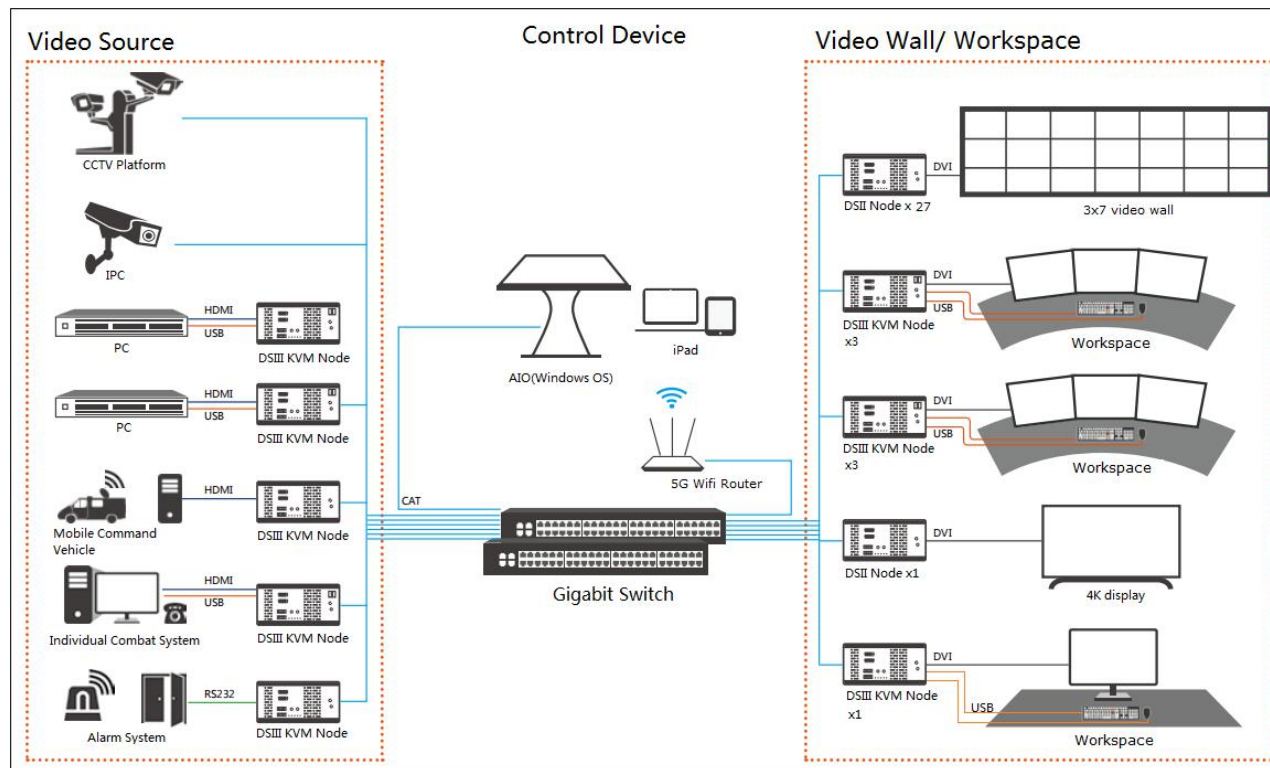
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INTRODUCTION

Overview

IP Based KVM Video Collaboration System is all-in-one solution for command control center and meeting room, which consist of encoding node, network switch and decoding node only, simply cabling node and network switch by UTP or Fiber.

Each codec node is built in all features of video wall controller, KVM/AV matrix, signal extender and central controller. It's flexible to be configured either a virtual video matrix, a KVM matrix, a video wall controller or a central controller over IP.

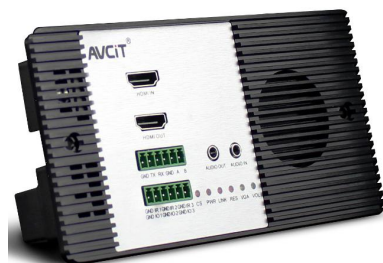


-Schematic 1.1-

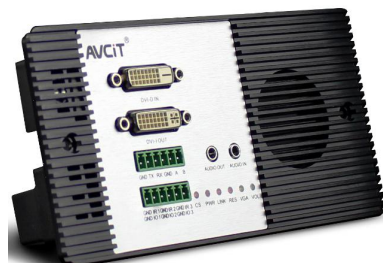
The system is based on standard network(1 gigabit), with distributed hardware architecture. Each node can calculate and process signal independently, no need central processing server.

2K Codec Node

There are two series node, including DSIII KVM Node (hereafter called DSIII), DSII Node(hereafter called DSII)



DSII-HH



DSII-DD/DSII-VD



DSIII Input (HDMI/DVI)



DSIII Output

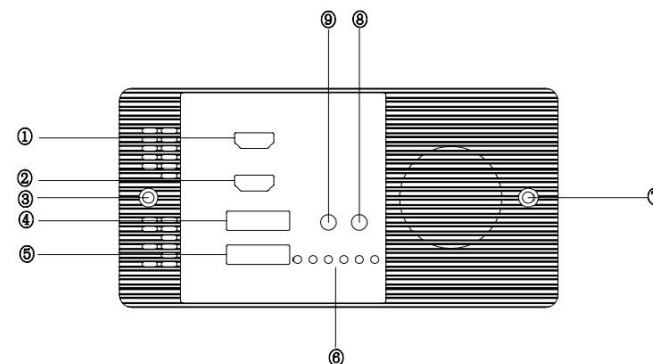
DSIII and DSII are encoder/decoder node of AVCIT's IP Based KVM Video Collaboration system.

DSIII is built-in KVM features, which is mainly configured as encoder for KVM source(HDMI + USB/ keyboard & Mouse) or decoder for monitor and K&M of Workspace Console;

While DSII is without K&M feature, mostly configured as encoder for normal HDMI/DVI source(DVD, HD Camera, Video Conference Endpoint) or as decoder for video wall/TV/Monitor.

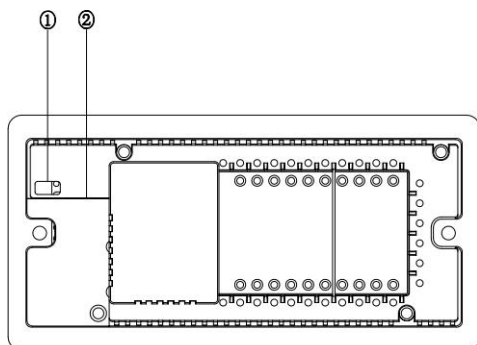
Note: DSII node has two video port - IN and OUT, please use "IN" port if it is configured as an input node, otherwise use "OUT" port

Interface Port (Front Panel) - DSII



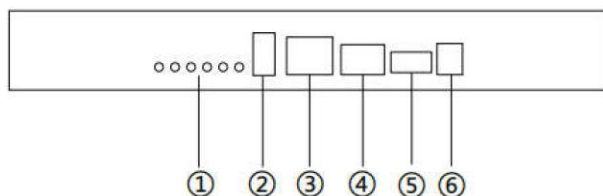
- ① Video input (HDMI/DVI-D/DVI-I)
- ② Video output (HDMI/DVI-D /DVI-I)
- ③ Screw hole for installation
- ④ 1 RS232 + 1 RS485
- ⑤ 3 IR/IO
- ⑥ LED indicating lamp
- ⑦ Screw hole for installation
- ⑧ Audio input(3.5 mm)
- ⑨ Audio input(3.5 mm)

Interface Port (Rear Panel)



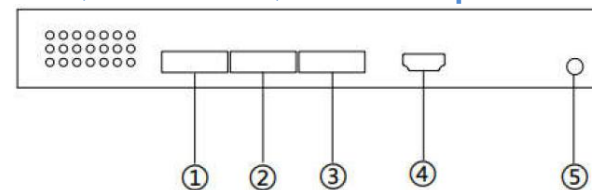
- ① + 5V 3A power port ② RJ45 (support PoE)

Interface Port (Front Panel) - DSIII Input



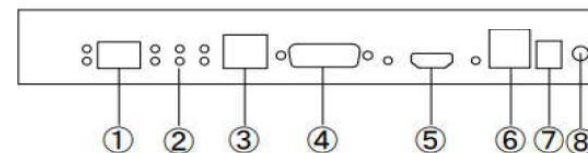
- ① LED indicating lamp ③ RJ45 (support PoE)
 ② USB 3.0 (works only for special firmware version)
 ④ Fiber port (works only for redundant version)
 ⑤ USB Host port ⑥ 5V 3A power port

Interface Port (Rear Panel) - DSIII Input



- ① IO/IR port ② RS232/RS485 port
 ③ Audio input/output port ④ HDMI/DVI input port
 ⑤ Ground connection

Interface Port (Front Panel) - DSIII Output

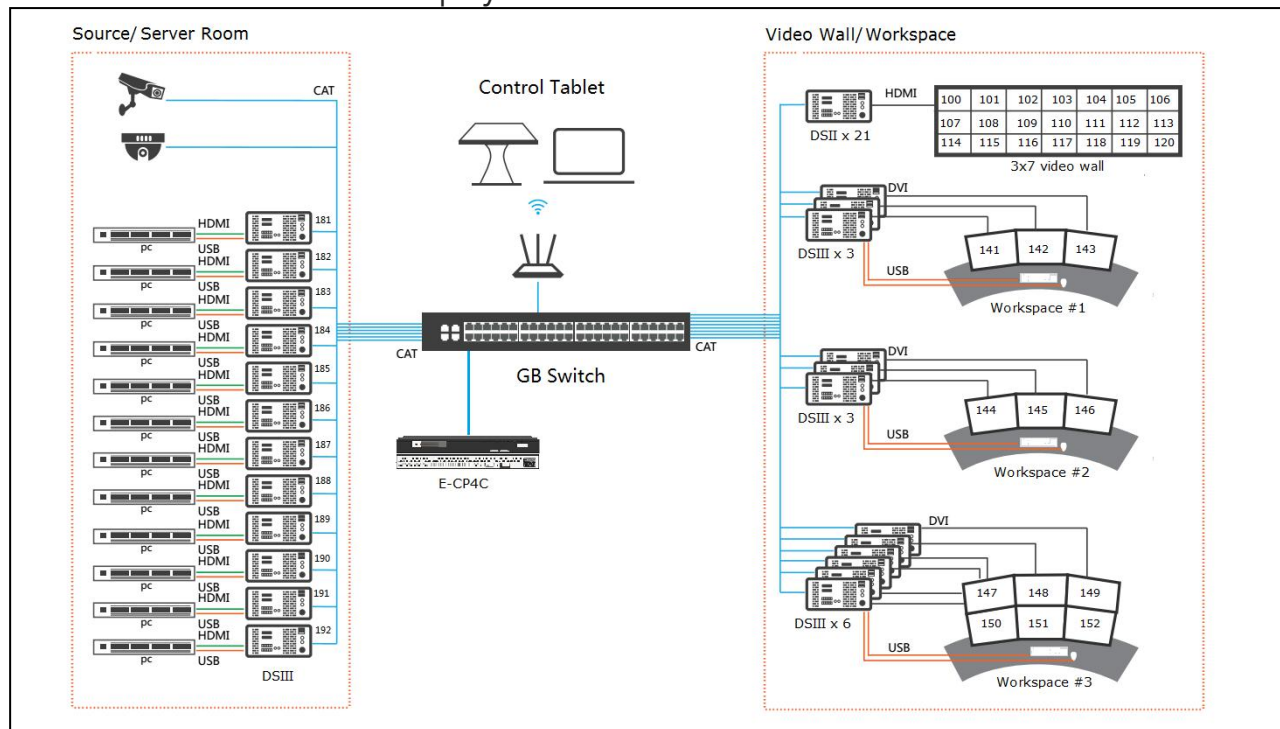


- ① Fiber Port (works only for redundant version)
 ② LED indicating lamp ③ RJ45 (support PoE)
 ④ DVI output port ⑤ HDMI output port
 ⑥ Dual USB port ⑦ 5V 3A power port
 ⑧ Ground connection

CONFIGURATION

Hardware Installation

Cabling the hardware according to system schematic, by CAT6e (at least) between node and Network Switch, HDMI/DVI cable between node and video source or display.



-Schematic 1.2-

Remark: number is the abbreviation of each node's IP address, for example: 181 means 192.168.1.181;

- Check Node's working status by LED Lamp:

When system is powered on, please check the condition of indicating lamp as below:

DSIII Input Node(Encoder)			DSIII Output Node (Decoder)		
LED	Indication	Status Analysis	LED	Indication	Status Analysis
PWR	Power	Keep lighting: normal	PWR	Power	Keep lighting:normal
RES	Reset	Keep blinking: normal	RES	Reset	Keep blinking:normal
LINK	Network Connection	Blinking: connected Turn off: unconnected	LINK	Output Detecting	Keep blinking: normal Turn off: no signal output
FIBER	Fiber port (dedicated version only)	Blinking: fiber connected Turn off: unconnected	USB	USB	Keep lighting: there are operation by keyboard & mouse Turn off: no operation
USB	no		VGA	VGA	Keep lighting: support VGA output Turn off: don't support
Vi	Detect Input Signal	Keep blinking: signal input Turn off: no signal input	VOL	Audio	Dark: low volume Keep blinking: medium volume Keep lighting: loud volume
			CS	Video Wall Control	Keep lighting: support Turn off: don't support
			STATUS (Fiber)	Status	Keep lighting: powered Keep blinking: connected successfully
			LINK (Fiber)	Detect Output Signal	Keep lighting: powered Keep blinking: signal output normally

DSII Node		
LED	Indication	Status Analysis
PWR	Power	Configured as encoder: keep blinking Configured as decoder: keep lighting
RES	Reset	Keep blinking

LINK	Output Detecting	Configured as encoder: keep lighting if there is signal input Configured as decoder: keep blinking if there is signal output
VGA	VGA	Keep lighting: support VGA output Turn off: don't support
VOL	Audio	Dark: low volume Keep blinking: medium volume Keep lighting: loud volume
CS	Video Wall Control	Keep lighting: support Turn off: don't support

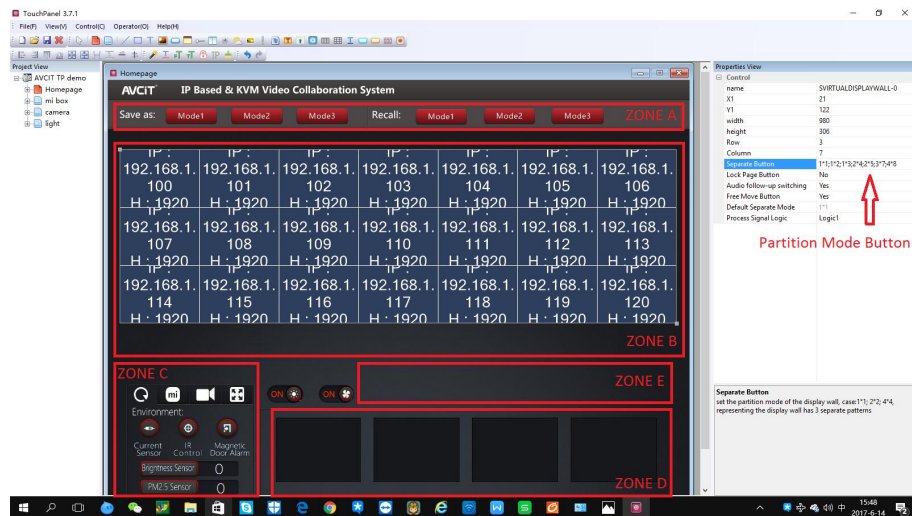
Software Introduction

- "TouchPanel 3.x.y" : Portable software to design UI
- "DSWorks"/"TP Read": Portable software to run UI on PC(Windows OS), it doesn't work without USB Dongle.
- "i-CTL" : Software to run UI on iPad(iOS), free to download at Apple APP Store.
- "FbsSysTools": Portable software to configure the system and monitor/revise IP, ID, resolution of node.

Video Wall Configuration

Design UI by software "TouchPanel 3.x.y"

Please check the software introduction at appendix I, design UI according to schematic example 1.2 (Page 6), as below:

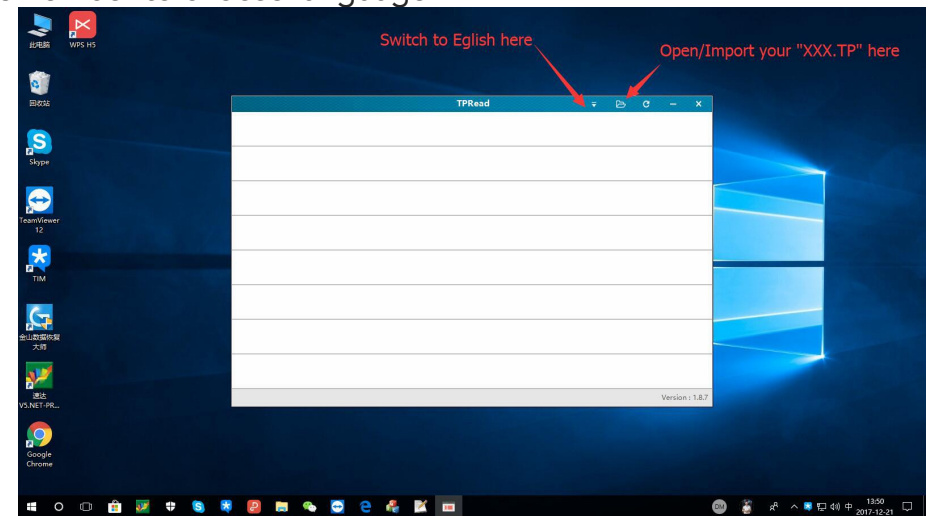


- Zone A: Buttons to save and recall preset of video wall layout;
- Zone B: Sync Video Wall, named video wall mirror, hereafter called VW Mirror
- Zone C: Buttons to control third party device via RS232/485,IO and IR.
- Zone D: Preview video content in real time
- Zone E: Create virtual partition on VW Mirror. Please select "Yes" of "Free Mode Button", for freely re-sizing video windows on VW Mirror.

Upload UI data pack(.tp file) to DSWorks (TPRead) and i-CTL

- Upload UI data pack to DSWorks (TPRead)

Open it when USB Dongle (sentinel key) plugged into "control PC", remember to choose language:



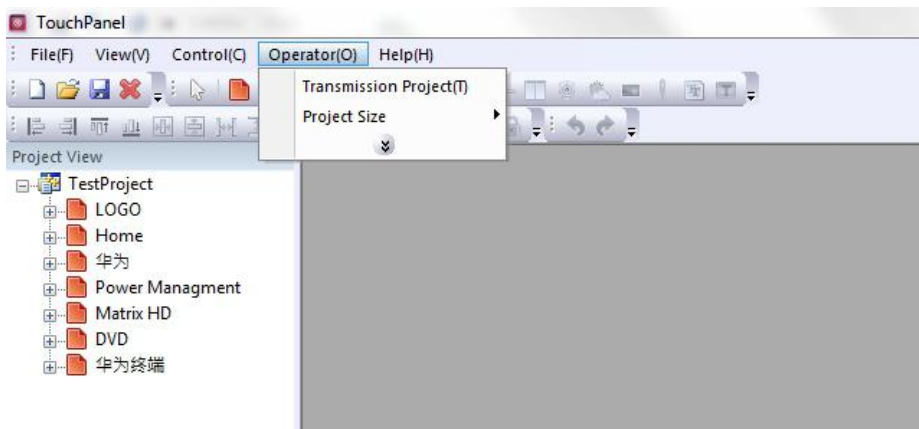
● Upload UI data pack to i-CTL

Following are 8 steps to import data pack to iOS devices:

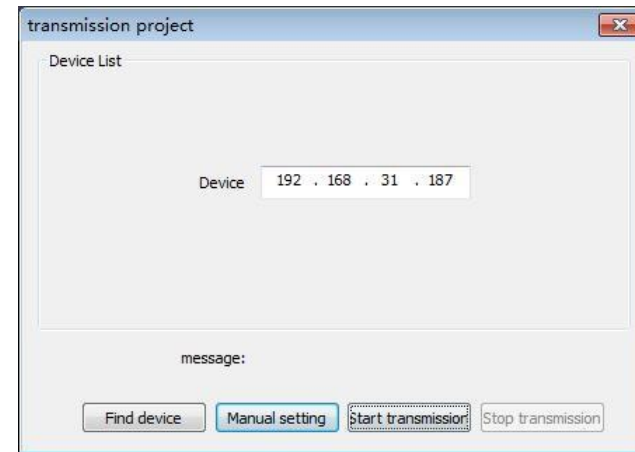
- ① Install i-CTL from iOS APP stores, connect iPad with same WIFI as the Computer opening software" Touch Panel 3.x.y"
- ② Touch "Transfer" button in the upper left corner, then iPad's IP will show up:



- ③ Open the ".tp file" by TouchPanel 3.x.y", then click Operator/Transmission Project(T)



- ④ Input iPad's IP address on "Manual setting" mode, then click "Start transmission".

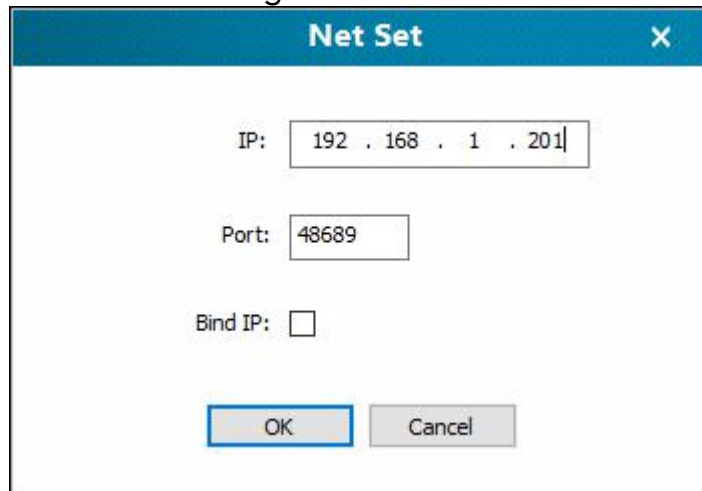


- ⑤ After transmission, click "Back" on iPad, then choose project name "Project name" to enter UI pages
- ⑥ Long press blank area of i-CTL UI, until you see the menu, choose top row,"web setting", input password "avcit"
- ⑦ Change the IP to be that of your E-CP4C central controller if you use a E-CP4C, IP of E-CP4C central controller is default 192.168.1.234
- ⑧ Set all port 8888 to be 48689, and use default ID

IP setting for DSWorks (TPread) and i-CTL

● DSWorks (TPread): please finish the setting as following step

- ① Connect "control PC" with Gigabit Switch by CAT cable or WIFI.
- ② Manually set "control PC" IP as same network segment with the system "192.168.1.x" but not conflict with any DSII/DSIII node's IP. EG: 192.168.1.201
- ③ Right click your mouse(when mouse over any blank area) on UI, Click " Manage Config.", then click "Net Set", to change the "IP" same with controlling PC "192.168.1.201"



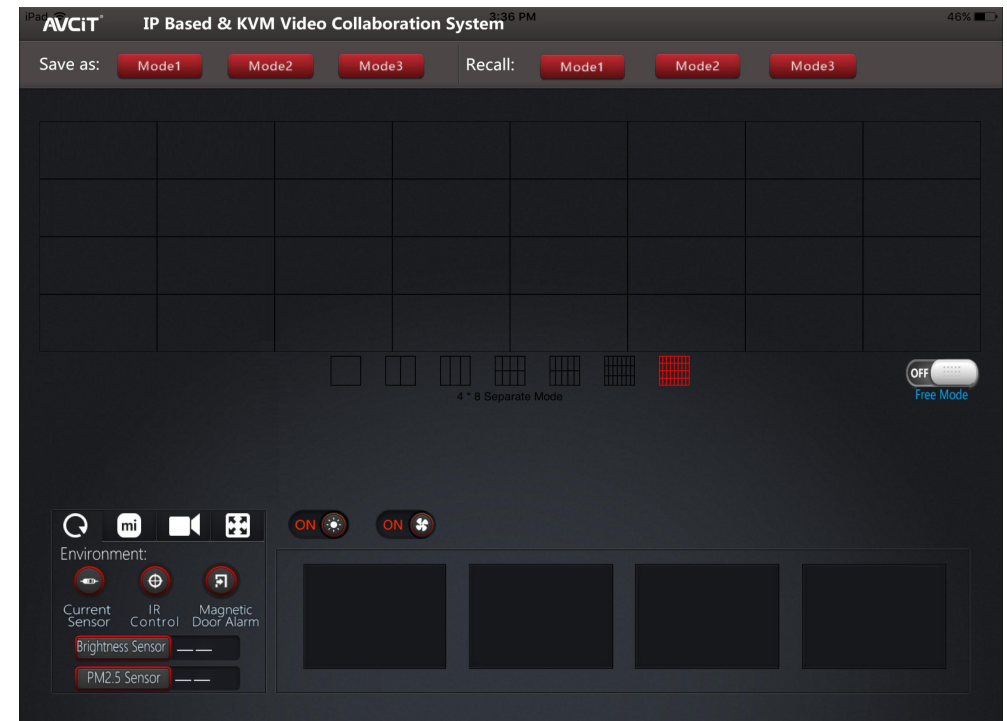
- ④ Do not change "Host IP", which works only if you have AVCIT central controller E-CP4C etc.

- ⑤ Check whether you can preview all video source

● i-CTL : please finish the setting as following step

Connect iPad with IP Based System via WIFI, then set IP manually by same network segment with the system "192.168.1.x" but not conflict with any DSII/DSIII node's IP

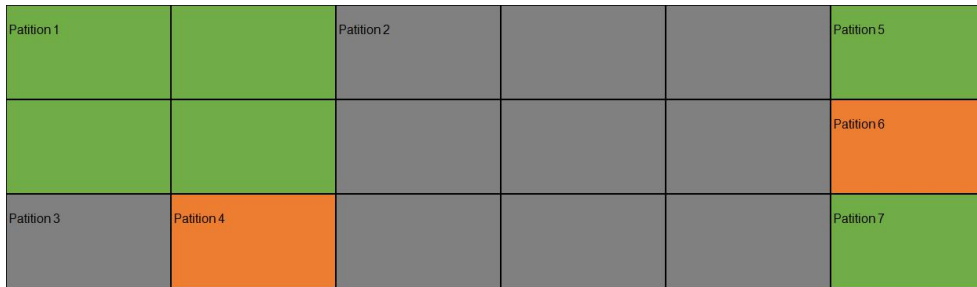
UI Overview on iPad Pro



How to make partition on video wall

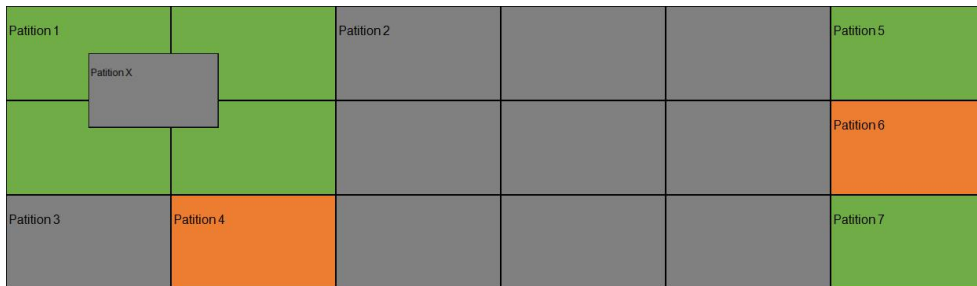
Easy to switch video and resize on UI by drag&drop.

- Close "free mode" button, and select "layout 3x7", then drag any video source from Zone D to 7 different area ON VWS mirror, i.e. following Partition 1-7, one by one.



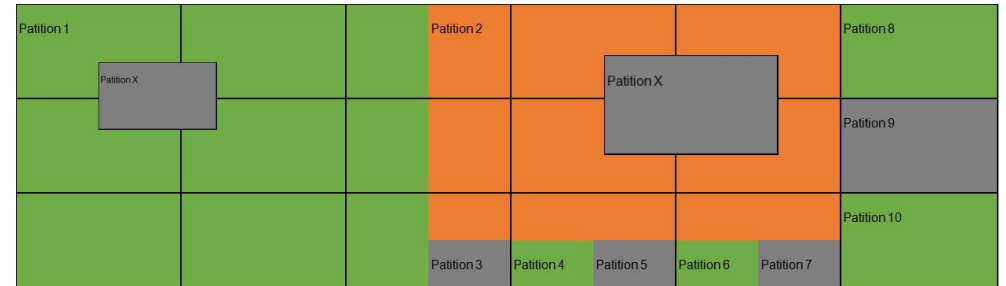
7x3 or other video wall, Mode 7x3, Partition option 4

- Open "free mode" button, then drag one more video source to "Partition 1", and resize it, so that you can have "Partition X" as following, Or even more Options for you.

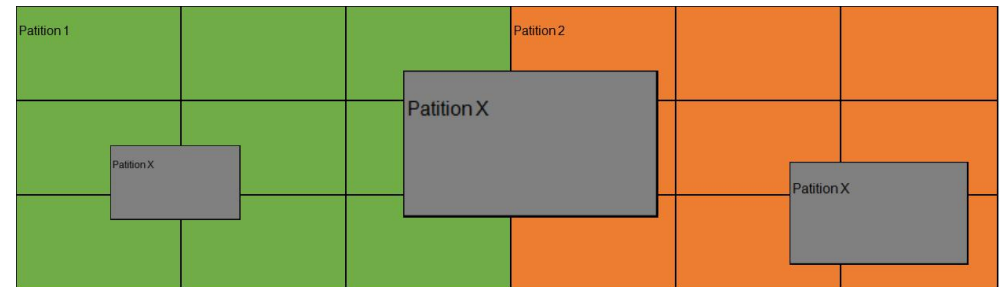


7x3 or other video wall, Mode 7x3, Partition option 4

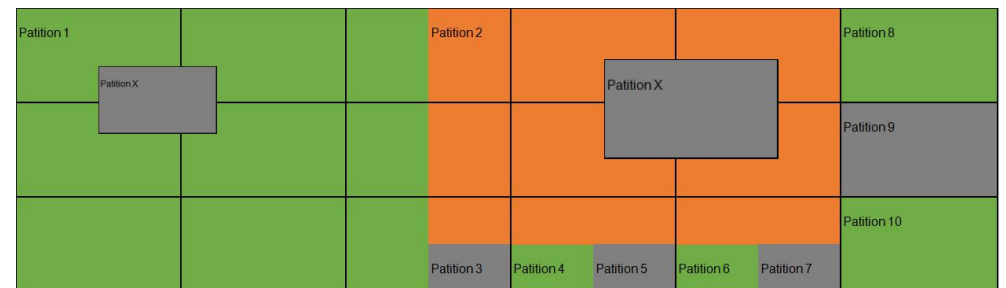
Make more layouts whatever you want:



7x3 or other video wall, Mode 7x3, Partition option 2



7x3 or other video wall, Mode 7x3, Partition option 3



7x3 or other video wall, Mode 7x3, Partition option 2

Note: The implementation and configuration is finished if you didn't purchase KVM Node with USB port.

KVM Matrix Configuration

KVM server setting

Open software “FbsSysTools”, choose any DSIII KVM Node as server by setting it to “High Priority”, as following:

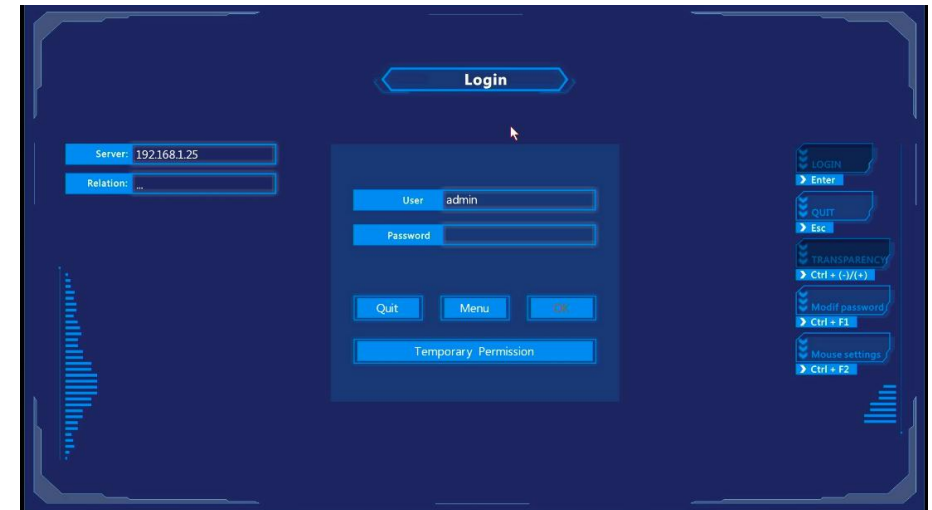
No.	Type	IP	ID	OS	MAC	Accession	Revision	AlpIdError	BvServer	Speed/Sp/dom(spe)	SRK
47	DSIII	192.168.1.120	63	200	1.1.1.1	0.11.120.1.97.23	V3403	V3403			1.0, D, 0
48	DSIII	192.168.1.124	64	200	1.1.1.1	0.11.120.1.97.24	V3403	V3403			1.0, D, 0
49	DSIII	192.168.1.124	64	200	1.1.1.1	0.11.120.1.97.24	V3403	V3403			1.0, D, 0
50	DSIII	192.168.1.141	kmv11	200	1.1.1.1	0.11.17.10.10.151	V3403	V3403			1.0, D, 0
51	DSIII	192.168.1.141	kmv11	200	1.1.1.1	0.11.17.10.10.151	V3403	V3403			1.0, D, 0
52	DSIII	192.168.1.142	kmv12	200	1.1.0	0.11.17.10.10.9	V3403	V3403			1.0, D, 0
53	DSIII	192.168.1.142	kmv12	200	1.1.0	0.11.17.10.10.9	V3403	V3403			1.0, D, 0
54	DSIII	192.168.1.143	kmv13	200	1.1.0	0.11.17.10.10.1	V3403	V3403			1.0, D, 0
55	DSIII	192.168.1.143	kmv13	200	1.1.0	0.11.17.10.10.1	V3403	V3403			1.0, D, 0
56	DSIII	192.168.1.144	kmv21	200	1.1.1	0.11.17.10.10.6	V3403	V3403			1.0, D, 0
57	DSIII	192.168.1.144	kmv21	200	1.1.1	0.11.17.10.10.6	V3403	V3403			1.0, D, 0
58	DSIII	192.168.1.146	kmv22	200	1.1.1	0.11.17.10.10.2	V3403	V3403			1.0, D, 0
59	DSIII	192.168.1.146	kmv22	200	1.1.1	0.11.17.10.10.2	V3403	V3403			1.0, D, 0
60	DSIII	192.168.1.147	kmv21	200	1.1.1	0.11.17.10.10.182	V3403	V3403			1.0, D, 0
61	DSIII	192.168.1.147	kmv21	200	1.1.1	0.11.17.10.10.182	V3403	V3403			1.0, D, 0
62	DSIII	192.168.1.148	kmv22	200	1.1.1	0.11.17.10.10.6	V3403	V3403			1.0, D, 0
63	DSIII	192.168.1.148	kmv22	200	1.1.1	0.11.17.10.10.6	V3403	V3403			1.0, D, 0
64	DSIII	192.168.1.149	kmv23	200	1.1.1	0.11.17.10.10.9	V3403	V3403			1.0, D, 0
65	DSIII	192.168.1.149	kmv23	200	1.1.1	0.11.17.10.10.9	V3403	V3403			1.0, D, 0
66	DSIII	192.168.1.150	kmv24	200	1.1.1	0.11.17.10.10.9	V3403	V3403			1.0, D, 0
67	DSIII	192.168.1.150	kmv24	200	1.1.1	0.11.17.10.10.9	V3403	V3403			1.0, D, 0
68	DSIII	192.168.1.151	kmv25	200	1.1.1	0.11.17.10.10.183	V3403	V3403			1.0, D, 0
69	DSIII	192.168.1.151	kmv25	200	1.1.1	0.11.17.10.10.183	V3403	V3403			1.0, D, 0
70	DSIII	192.168.1.152	kmv26	200	1.1.0	0.11.17.10.10.7	V3403	V3403			1.0, D, 0
71	DSIII	192.168.1.152	kmv26	200	1.1.0	0.11.17.10.10.7	V3403	V3403			1.0, D, 0
72	DSIII	192.168.1.180	1	200	1.1.1	0.11.120.1.97.5	V3403	V3403			1.0, D, 0
73	DSIII	192.168.1.180	1	200	1.1.1	0.11.120.1.97.5	V3403	V3403			1.0, D, 0
74	DSIII	192.168.1.181	2	200	1.1.1	0.11.120.1.97.6	V3403	V3403			1.0, D, 0
75	DSIII	192.168.1.181	2	200	1.1.1	0.11.120.1.97.6	V3403	V3403			1.0, D, 0
76	DSIII	192.168.1.182	3	200	1.1.1	0.11.120.1.97.9	V3403	V3403			1.0, D, 0
77	DSIII	192.168.1.182	3	200	1.1.1	0.11.120.1.97.9	V3403	V3403			1.0, D, 0
78	DSIII	192.168.1.183	4	200	1.1.0	0.11.120.1.97.10	V3403	V3403			1.0, D, 0
79	DSIII	192.168.1.183	4	200	1.1.0	0.11.120.1.97.10	V3403	V3403			1.0, D, 0
80	DSIII	192.168.1.184	6	200	1.1.1	0.11.120.1.97.11	V3403	V3403			1.0, D, 0
81	DSIII	192.168.1.184	6	200	1.1.1	0.11.120.1.97.11	V3403	V3403			1.0, D, 0
82	DSIII	192.168.1.188	8	200	1.1.0	0.11.120.12.24.31	V3432	V3432			1.0, D, 0
83	DSIII	192.168.1.188	8	200	1.1.0	0.11.120.12.24.31	V3432	V3432			1.0, D, 0
84	DSIII	192.168.1.189	7	200	1.1.0	0.11.120.12.6.38	V3432	V3432			1.0, D, 0
85	DSIII	192.168.1.189	7	200	1.1.0	0.11.120.12.6.38	V3432	V3432			1.0, D, 0

Remark 1: Connect the Laptop running “FbsSysTools” with Gigabit switch by UTP or Wifi

Log in/out

Double press “Ctrl” to login on OSD(on screen display menu)

User ID: admin; Password: admin



After login, move arrow key or mouse to enter “Menu”, you can see following “Permission Configuration” OSD



Mouse/Display Matrix Configuration

Press F2 to enter Mouse/Display Matrix OSD



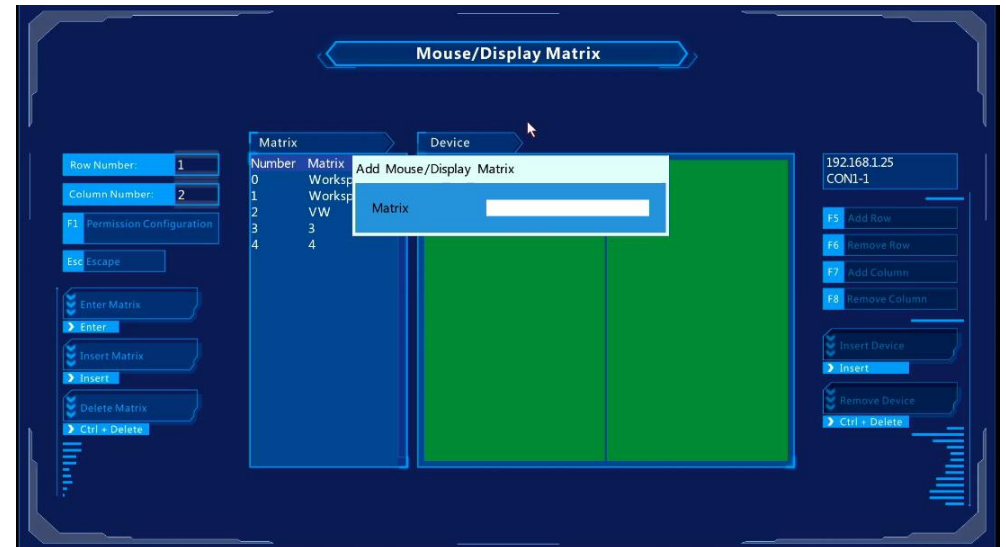
Video wall matrix configuration

Configuring matrix/group for video wall, so that PC's content can be pushed to video wall by hotkey of Keyboard & Mouse at Workspace Console

Take this "3x7 video wall" as example (IP address refer 1.2 schematic)

IP : 192.168.1.100 H : 1920 V : 1080	IP : 192.168.1.101 H : 1920 V : 1080	IP : 192.168.1.102 H : 1920 V : 1080	IP : 192.168.1.103 H : 1920 V : 1080	IP : 192.168.1.104 H : 1920 V : 1080	IP : 192.168.1.105 H : 1920 V : 1080	IP : 192.168.1.106 H : 1920 V : 1080
IP : 192.168.1.107 H : 1920 V : 1080	IP : 192.168.1.108 H : 1920 V : 1080	IP : 192.168.1.109 H : 1920 V : 1080	IP : 192.168.1.110 H : 1920 V : 1080	IP : 192.168.1.111 H : 1920 V : 1080	IP : 192.168.1.112 H : 1920 V : 1080	IP : 192.168.1.113 H : 1920 V : 1080
IP : 192.168.1.114 H : 1920 V : 1080	IP : 192.168.1.115 H : 1920 V : 1080	IP : 192.168.1.116 H : 1920 V : 1080	IP : 192.168.1.117 H : 1920 V : 1080	IP : 192.168.1.118 H : 1920 V : 1080	IP : 192.168.1.119 H : 1920 V : 1080	IP : 192.168.1.120 H : 1920 V : 1080

- ① Press "Insert" to add display matrix, named as "VWS"



- ② Enter "VWS", then use following function key to create 3x7 VW matrix mirror

F5 Add row
F7 Add Column

F6 Remove row
F8 Remove Column

- ③ Move arrow key to left and top grid (21 in total), press "Insert"

to choose the node with IP 192.168.1.100 from device list, and press "Enter".

- ④ Insert other 20 node IP of rest screens in order according to installation, as follows
 192.168.1.100, 192.168.1.101,192.168.1.106
 192.168.1.107, 192.168.1.108,192.168.1.113
 192.168.1.114, 192.168.1.115,192.168.1.120

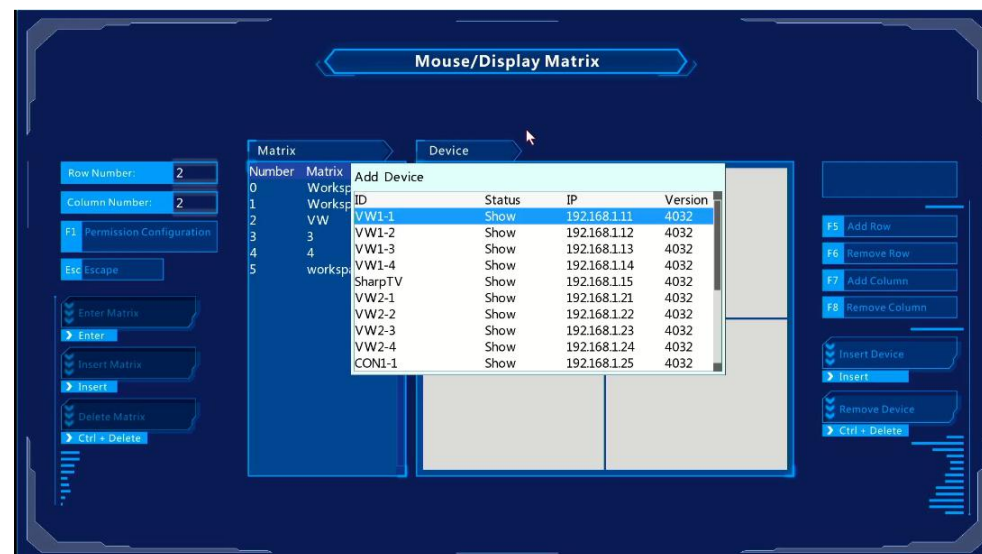
- ⑤ Then press "Esc" to quit "VWS" matrix.

Mouse Matrix Configuration

Create KVM (Keyboard, Video, Mouse) matrix for Workspace Console, so that user can cross monitor switching by mouse between multiple monitors.

Take "Workspace 3" as example (refer schematic 1.2 - page 6), six monitors is configured as 2x3 layout:

- ① At "Mouse/Display Matrix" OSD, press "Insert" to add mouse matrix, named as "Workspace3"
- ② Enter "KVM3", then create 2X3 KVM matrix by following key:
 F5 Add row F6 Remove row
 F7 Add Column F8 Remove Column
- ③ Move arrow key to left and top grid (six in total), press "Insert" to choose the KVM node with IP 192.168.1.147 from device list, and press "Enter"



- ④ Make sure six IP are in correct order as follows (according to physical installation of decoder nodes)

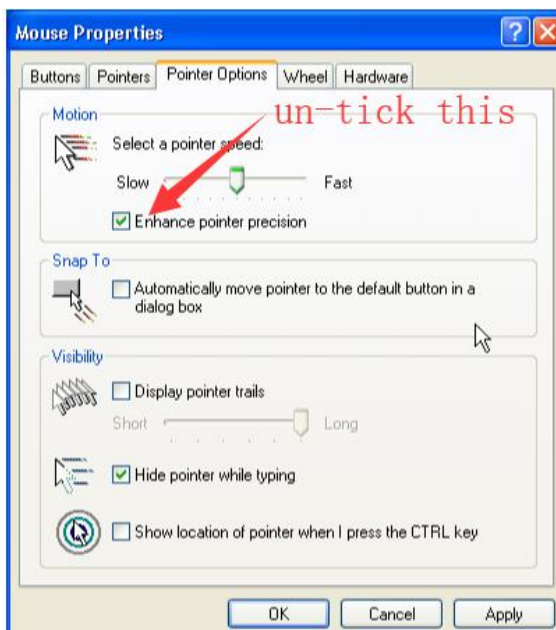
192.168.1.147	192.168.1.148	192.168.1.149
192.168.1.150	192.168.1.151	192.168.1.152

- ⑤ Then press "Esc" to quit "KVM3" matrix.

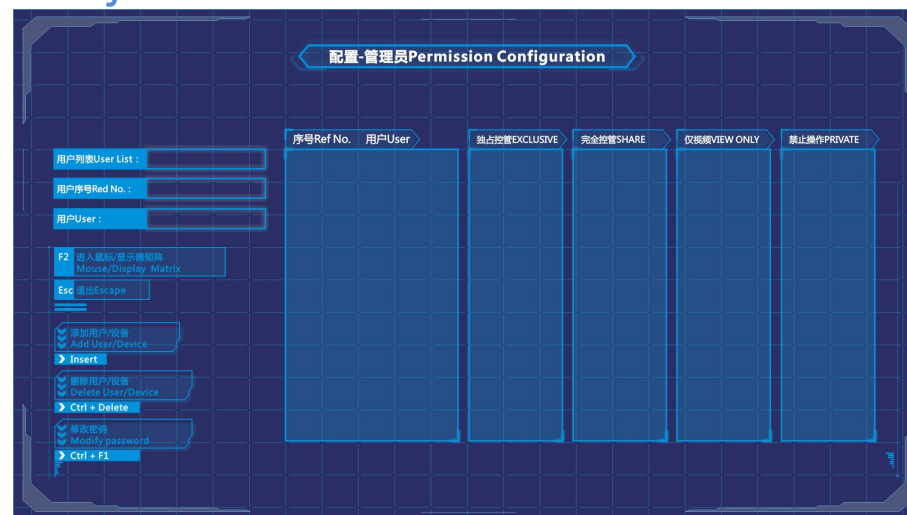
Mouse Configuration

● Configure **HID mode for KVM encoder node by FbsSysTool**, so that the two mouse cursor is synchronous.[Refer Page 31]

- ① Get access the PC by double click "Ctrl", then check whether two mouse cursor are overlapped (PC's mouse cursor and KVM System's mouse cursor)
- ② If two mouse cursor are not overlapped, please configure HID mode for PC's encoder node by FbsSysTool.(please refer Page...)
- ③ Configure mouse speed of PC, enter "Mouse Properties" windows, then untick "Enhance pointer precision" as below:



Create User Account and Configure Access Permission to every PC



Access Permission introduction

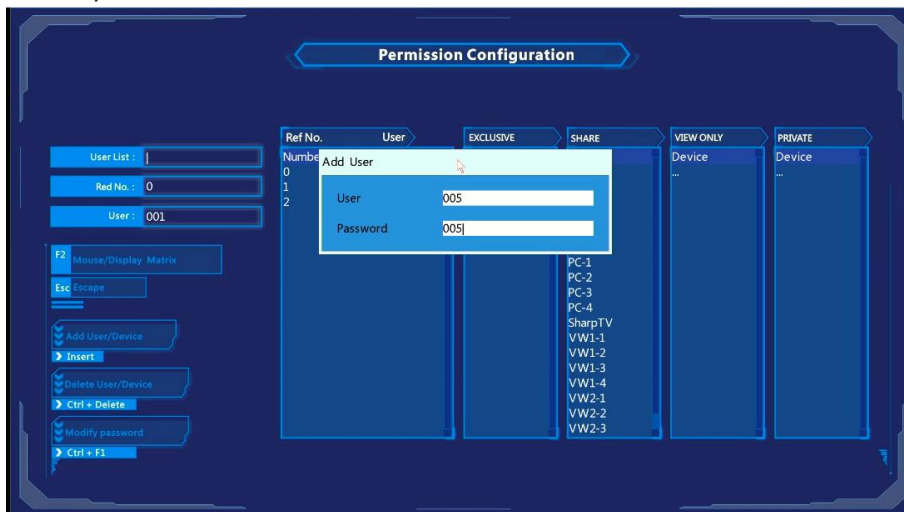
- **EXCLUSIVE:** The user can view and control the chosen computer. Once user access Exclusive computer, the others will lose view and control. [Remark: press "Shift + Enter" key on "GET" OSD]
- **SHARE:** The user can view and control the chosen computer, which allow users with same permission, to view and control computer simultaneously .[Note: press "Enter" key to get it on "GET" OSD]
- **VIEW ONLY:** The user can view the chosen computer only but cannot control it. [Note: press "SPACE" key to get it on "GET" OSD]
- **PRIVATE:** The computer is forbidden to be accessed. The chosen computer won't be showed on "GET" OSD.

Create new user account

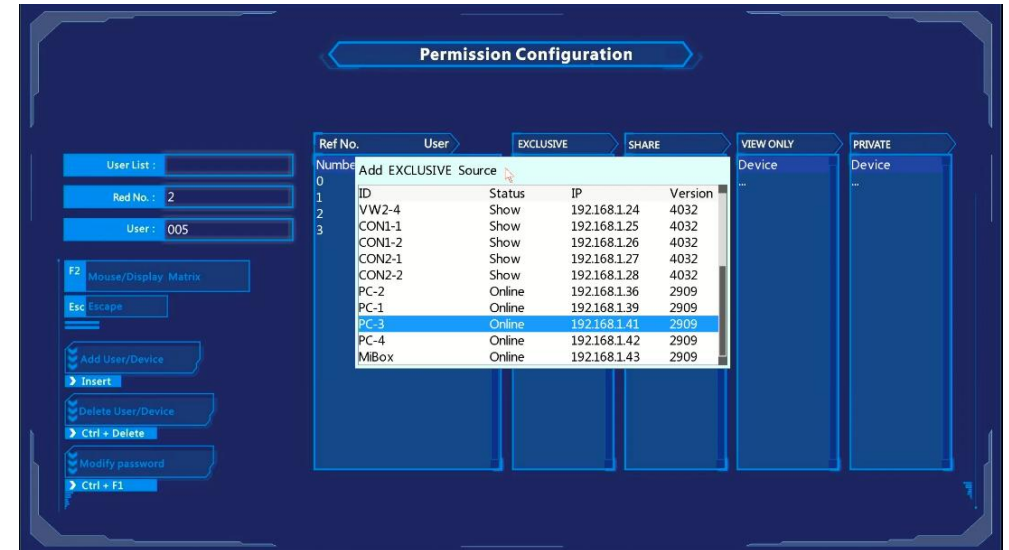
- ① Double press "Ctrl", then press "Windows" key and click "Menu" to enter "Permission Configuration" OSD menu



- ② Press "Insert" to create User account and password, such as "005", "005"



- ③ Press "Enter" key or move arrow key to right side, to set permission level for each input Source and each display



- ④ Press "Enter" or "Insert" at any permission list to show all device list, identified by ID or IP
- ⑤ Select the correct IP and press "Enter" to confirm
- ⑥ Press "Esc" to escape

Remark: Every KVM Source/channel should be granted with only one of 4 Permission level, EXCLUSIVE, SHARE, VIEW ONLY or PRIVATE. It's not available to grant IP by 2 permission to same user.

Create user group

If same permission for other user account is required, we can duplicate the created account easily.

Move mouse cursor to user 005, right click and choose "Duplicating User", then re-name it and revise password.



Congrats!

After setting above, it's ready to use.

OPERATIONS

Hot Key Introduction

Once you finish the VWS partition and KVM Matrix Configuration, you can get access video source by "GET" OSD, "KVM Control Panel" OSD and push video source to video wall or other monitor by "PUSH" OSD.

"GET" OSD

After log in, double press "Ctrl" to enter "GET" OSD, then move arrow key, press "enter" to get access the server/PC



- Device: The list of all video source
- Priority List: The source list with high priority for getting access. It's easier for user to get access the frequently-used source by

adding them at the list (choose the source at device list, press F3)

- Function Key introduction:

F1: Re-Numbering a source/display in Priority list

F2: Re-name source/display in Priority list

F3: Add current source into Priority list

F4: Remove current source from Priority list

F5: Refresh

Esc: Escape

"KVM Control Panel" OSD

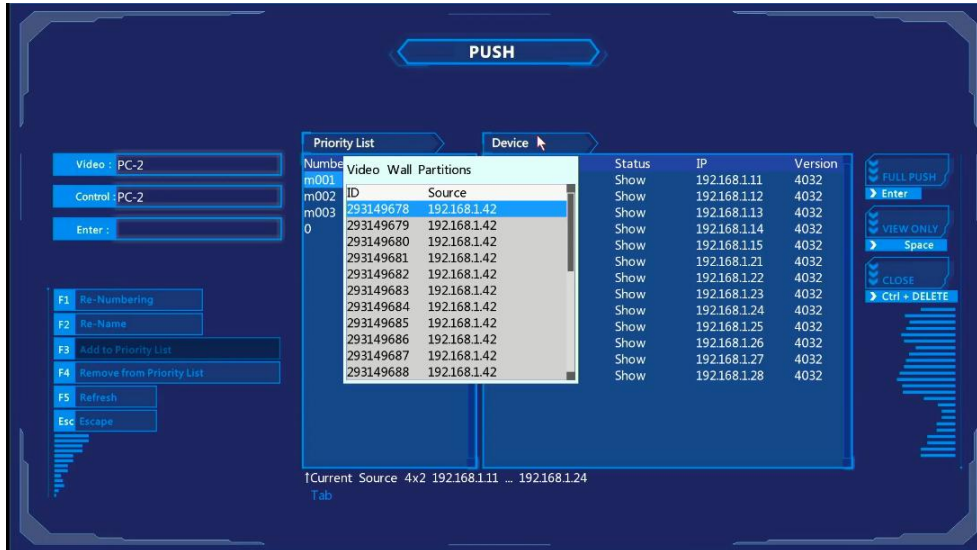
Double press "Ctrl" again to enter " KVM Control Panel" OSD,



- Device list: all the source content can be previewed in real time.

"PUSH" OSD

Double press "Shift" to show OSD



- If push source content to video wall, move cursor to video wall matrix "VWS" at Priority list by "Enter", move arrow key to choose

partition, the chosen one will light by red box on video wall, then press "enter" to push. Same operation to push video to monitor of Workspace.

- Function Key introduction

F1: Re-Numbering a source/display in Priority list

F2: Re-name source/display in Priority list

F3: Add current source into Priority list

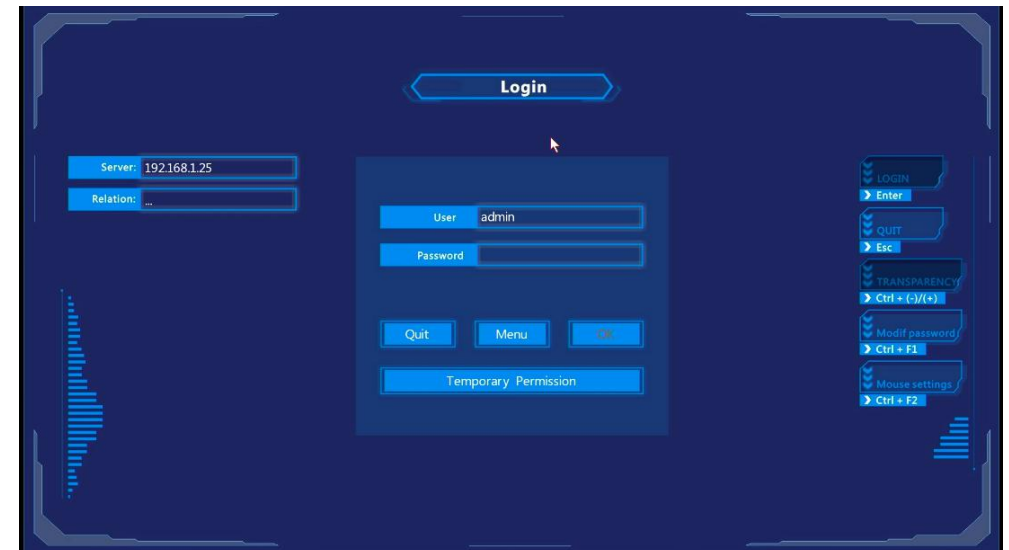
F4: Remove current source from Priority list

F5: Refresh

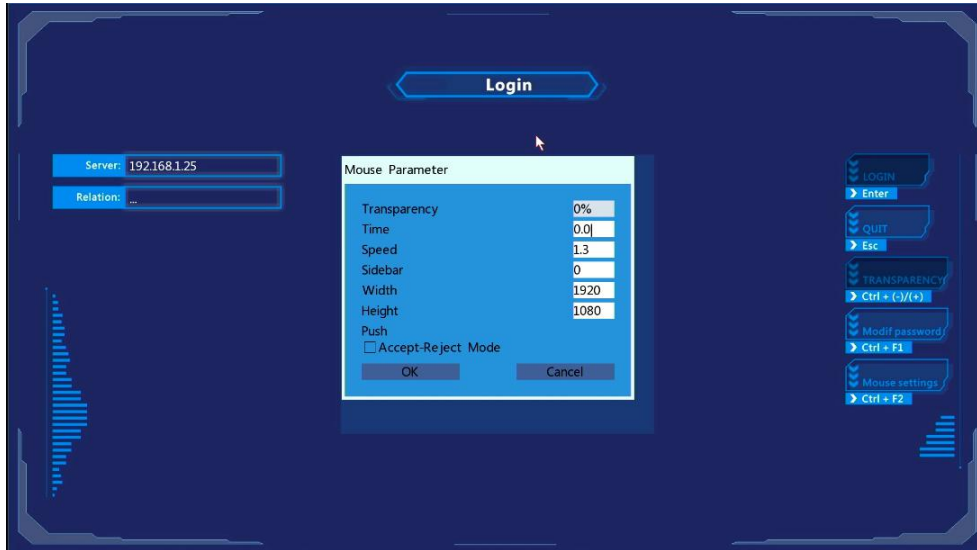
Esc: Escape

Mouse Setting

After login, press "Windows" Key to enter "Login" OSD



Then press "Ctrl" + "F2" to show "Mouse Parameter" windows.



Time:

- "0" hidden KVM System's mouse cursor
- "1" show KVM System's mouse cursor, need to hide computer's mouse cursor.

Sidebar: setting according to gap between two monitors, normally set as 200

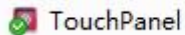
Width and Height: according to resolution of monitor

MORE INFORMATION

Appendix I —“Touch Panel 3.x.y”

Brief introduction

“Touch Panel” is developed by AVCiT for designing Graphic User Interface



Demo Video: click this link to download it via google drive: <https://drive.google.com/open?id=1cDZHMZPCxw1MRAfEysYJqxXfpSkn73x9>

● Icon Overview



● “Page”

Create new .tp file

● “Select”

Icon cursor “select” is very important when you can not open the properties of such area.

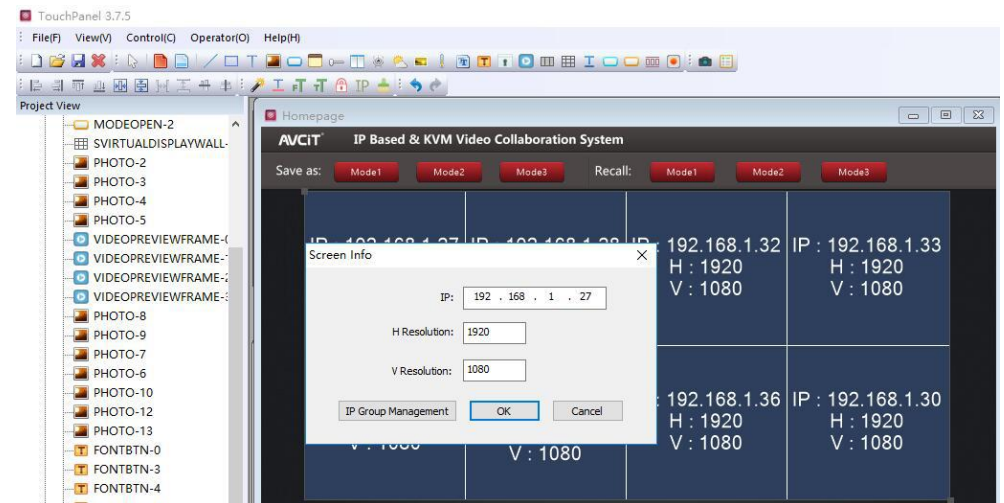
● “Synchronous Display Wall”

Create “Sync Display Wall” as video wall mirror.

How to create “Sync Display Wall”, hereafter called “Sync VW”:

Click icon and drag, set the “Row” , “Column” and “Separate Button” according to Video Wall and partition mode;

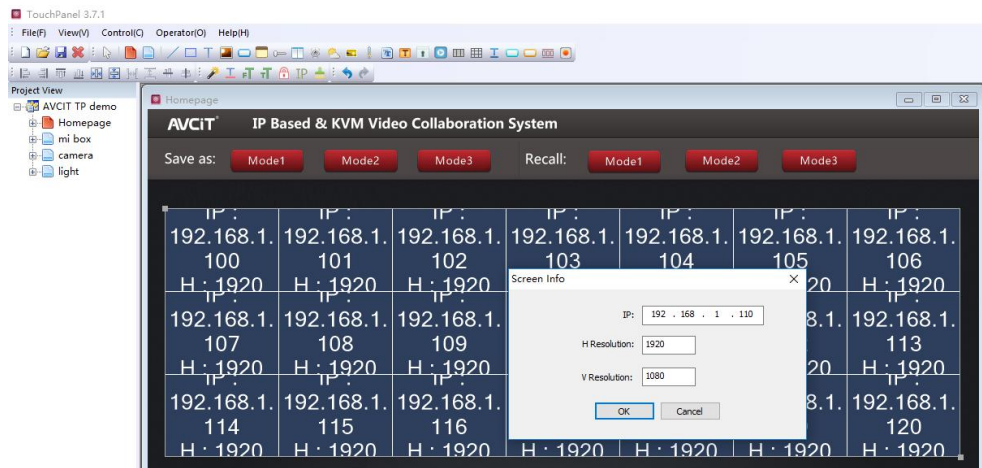
Then click “Select” icon, and double click any screen of “Sync VW” to revise IP and resolution according to related node and screen/projector/sending card of LED cabinet.



For example: 7x3 video, IP from 192.168.1.100 to 192.168.1.120.
and connect with video wall as following order:

192.168.1.100, 192.168.1.101,192.168.1.106
192.168.1.107, 192.168.1.108,192.168.1.113
192.168.1.114, 192.168.1.115,192.168.1.120

21 IP should be inputted as following:



● "Slider"

Control volume/dimming, i.e. define the slider as IP 192.168.1.17

Volume Control

if you drag any video source over the slider, the audio will be separated/de-embedded to node with IP 192.168.1.17. you can connect this node to amplifier and speaker, and try the build-in volume controller feature.

Dimming Control

you need to order E-CP4C or E-CP4C PRO controller, use DMX512 or I/O,RS232 PORT to control lamp and LED.



● "Video Display Frame"

Create preview frame for single video sources from AVCIT node or IP camera, need to write Node's IP and RTSP Stream URLs.

RTSP Stream URLs of video sources from AVCIT DSII/DSIII node:

`rtsp://192.168.1.41:2554/352;rtsp://192.168.1.41:554/1080`

RTSP Stream URLs of video sources from IP camera, depending on the IP camera brand:

Hikvision IP camera:

`rtsp://admin:password@192.168.1.41/h264/ch1/sub/av_stream;rtsp://admin:password@192.168.1.41/h264/ch1/main/av_stream`

Samsung IP camera:

rtsp://admin:password@192.168.0.41:554/profile2/media.smp;rtsp://admin:password@192.168.0.41:554/profile3/media.smp

TP-LINK IP camera:

rtsp://admin:password@192.168.0.41:554/id=0;rtsp://admin:password@192.168.0.41:554/id=1

● "Video Preview"

Create preview frame, which can detecting IP automatically, no need to write RTSP streaming. Allow to set row and column. (perfect choice when video source is less than 10)

While we better use "Scroll Video Preview" if there are more than 10 video source.

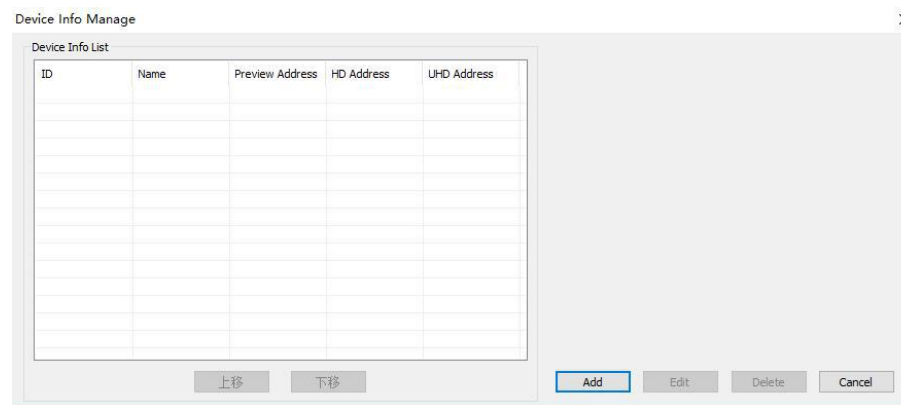
● "Scroll Video Preview"

Create preview frame, which can detecting IP automatically in order what you set, perfect choice to make multiple preview pages if there are more than 10 video source.

Remard: decoding capacity of iPad Pro(12.9" 64GB version) is max. 15 video, while computer with intel i5 can decoding 15-16 video.

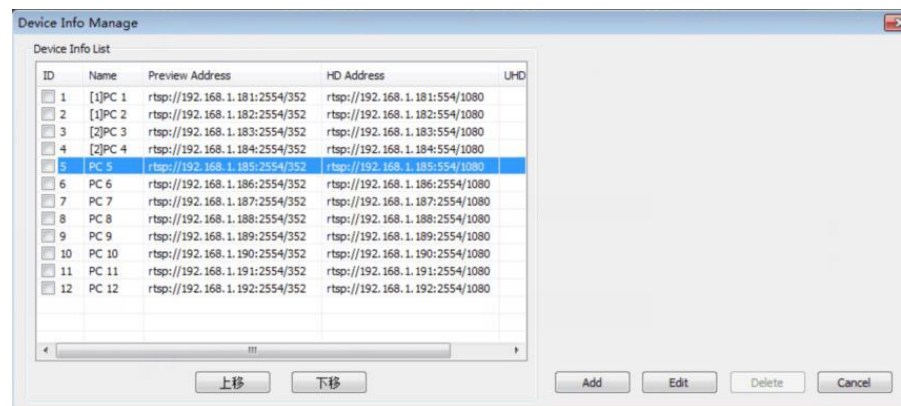
How to create "Scroll Video Preview" frame:

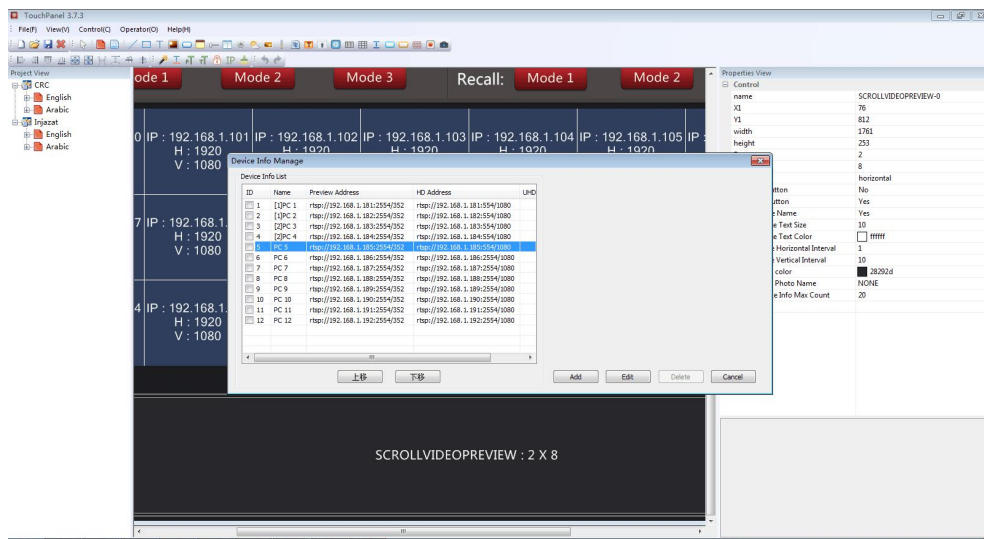
Click the icon and drag on empty area, choose "select" icon, then double-click "Scroll Video Preview" frame, "Device info Manage" pops up, then "ADD", to write the correct IP and RTSP streaming format.



How to create grouping for "Scroll Video Preview" frame:

Simply add [1] before "name", following PC 1,2,3,4 is group 1, they will scroll together





● Preset Save/Recall

Scenario save and recall, all video wall layout can be saved and recall

● Web-camera

IP camera preview, we usually do it by "Video Display Frame" frame

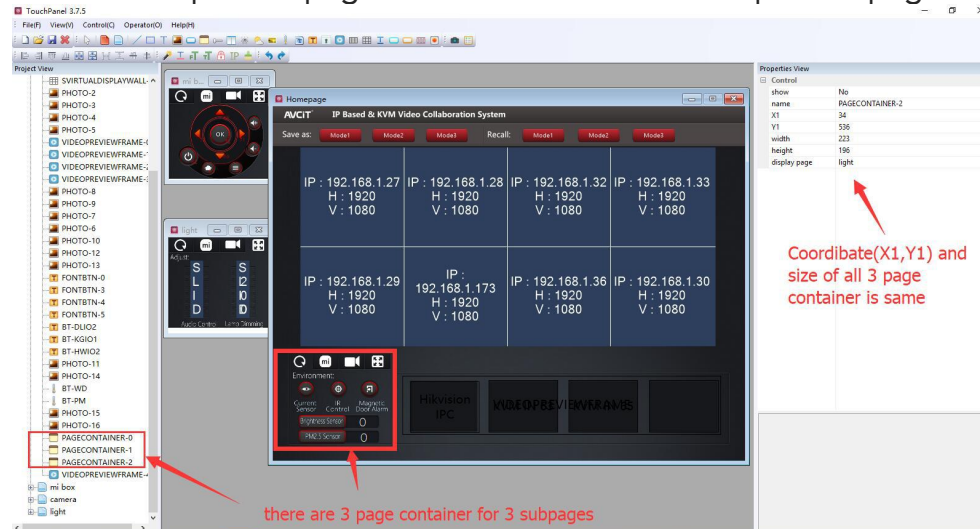
● Sensor

For environment detection, display and re-action these are useful when your system have sensors(of course you need AVCIT E-CP4C controller) such as temperature, brightness, air pollution, humidity, alarming system etc.

The status of these devices will be display here. Some reaction can be preset to be activated once something happened. Such as alarming is detected, or the value of temperature reach or exceed

● "Pagecontainer and subpage"

Create multiple sub page and switch between multiple sub page



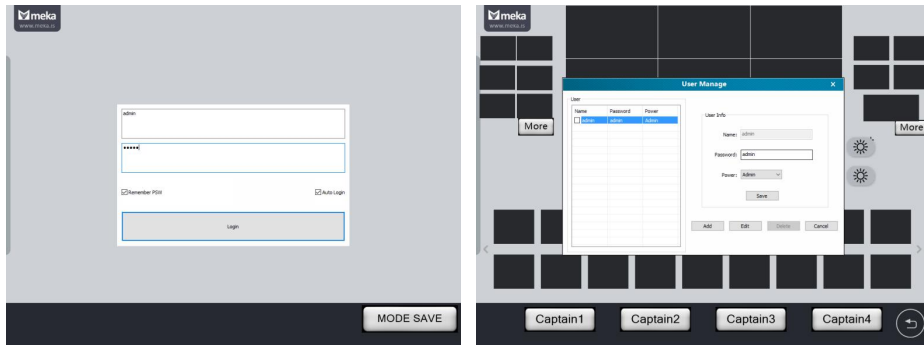
● "Picker and slider photo": not usually used

● "log in"

Create password and different user with different permission.

Function of "login" of i-CTL and TPread is slightly different, following is UI of login in TPread

Once you add "login" icon, you need to enter password, default admin ID and password is admin, you can or right click(or long press blank area, at i-CTL), select "user manage" to change password, and create new user ID.



● "Recording"

This for project that AVCIT's IP based playback system was involved, but this system is not open to oversea market in this stage

● "E8platform and RVS platform"


This icon is available from "Touch Panel" version 3.7.5, both are interface to integrate surveillance system or AI system(face identification), e.g. Hikvision DS-B20 system and YITU AI system.

This is mission critical for police and military, because they have a comprehensive surveillance and AI system, with thousand of cameras located all around the city. Several installation is already deployed in China.

Appendix II——“FbsSysTool”

Brief Introduction

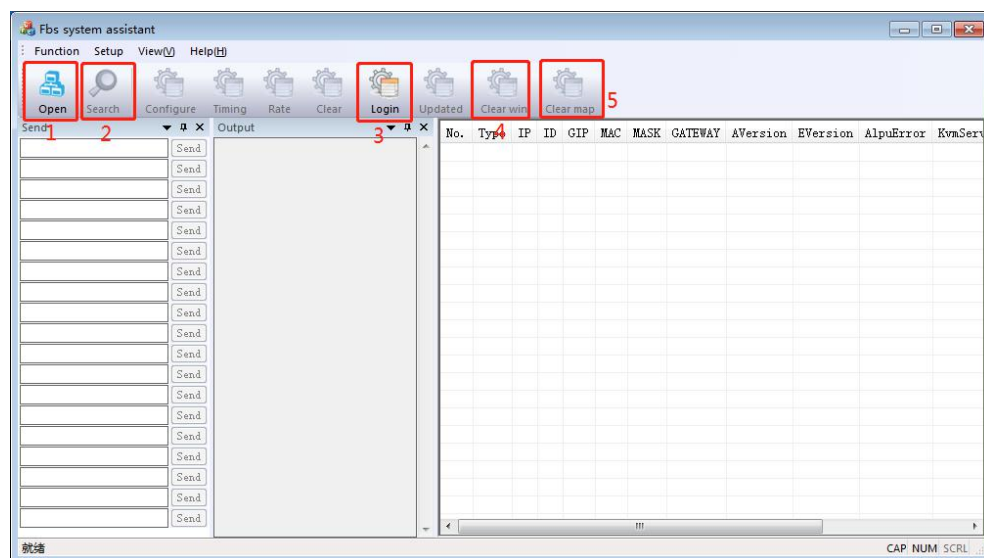
FbsSysTool is developed by AVCiT for system configuration, including: revise Node's ID, IP, resolution and other parameter setting.

 FbsSysTools-1.41.18.423_english

Login ID: user01

Password: 4940497299

● Overview



1 —— Connect the laptop with AVCiT system's network, please click exact IP address if your PC connecting with two network.



2 —— Click here to search all online node or refresh.

3 —— Login ID: user01 ; Password: 4940497299

4 —— Clear all online node information

5 —— Delete the background picture uploaded to node.

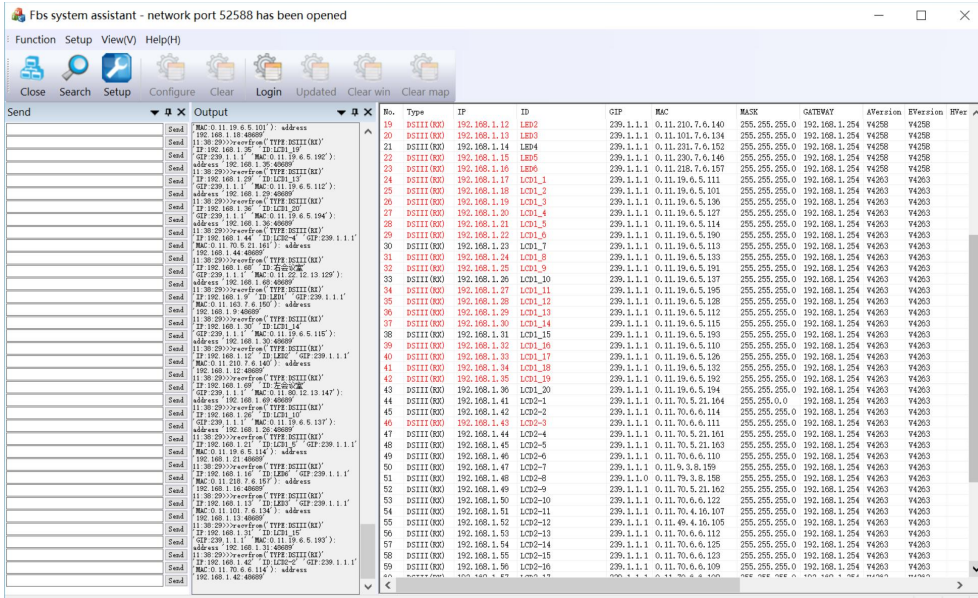
- **Tips to check whether the node is on-line or whether there are IP conflict or MAC address conflict.**

Check whether there are RED items (the FbsSysTool should be 1.73 at least)

If there are RED items:

1. Check whether the node is powered on via LED lamp and can be Ping
2. If node is on-line, check whether there is IP conflict
3. If no IP conflict, check whether there is MAC conflict

RED items as picture below:



● Tips to revise node's ID and IP

It's important to revise node's ID and IP for more convenient management and maintenance in future, Please revise them according to physical installation, and avoid IP conflict.

Example to rename ID:

“PC-1, PC-2 PC-n” or “Workstation-1, ... Workstation-n” for input source

VW1-1, VW1-2 ... VW 3-3 for video wall

Workspace1-1, Workspace1-2.... for workspace console

Double click IP, then input new address and press “Enter” to confirm

7	DSIII (RX)	192.168.1.186	7号电脑2	239.1.1.1	0.11.245.98.117.148	255.255.0.0	192.168.1.1	V4032	
8	DSIII (RX)	192.168.11.111	屏1-1	239.1.1.1	0.11.92.41.155.25	255.255.0.0	192.168.1.1		
9	DSIII (RX)	192.168.11.112	屏1-2	239.1.1.1	0.11.70.254.91.23	255.255.0.0	192.168.1.1		
10	DSIII (RX)	192.168.11.113	屏1-3	239.1.1.1	0.11.70.254.91.8	255.255.0.0	192.168.1.1		

Double click ID, then input new name and press “Enter” to confirm.

8	DSIII (RX)	192.168.11.111	屏1-1	239.1.1.1	0.11.92.41.155.25	255.255.0.0	192.168.1.1		
9	DSIII (RX)	192.168.11.112	屏1-2	239.1.1.1	0.11.70.254.91.23	255.255.0.0	192.168.1.1		
10	DSIII (RX)	192.168.11.113	屏1-3	239.1.1.1	0.11.70.254.91.8	255.255.0.0	192.168.1.1		
11	DSIII (RX)	192.168.11.114	屏1-4	239.1.1.1	0.11.70.254.92.27	255.255.0.0	192.168.1.1		

● Tips to detect speed mode of UTP Cable

The UTP Cable should work by 1 G rate.

Right click “Speed/Up/Down(bps)” Zone of any node items, then click Open monitor.

IP	ID	GIP	MAC	MASK	GATEWAY	AVersion	EVersion	AlpuError	KvmServer	Speed/Up/down(bps)	SDK
192.168.168.110	会议室PC输入	239.1.1.1	0.11.120.8.21.39	255.255.0.0	192.168.1.1						
192.168.1.141	主坐席1	239.1.1.1	0.11.248.6.12.80	255.255.0.0	192.168.1.1	V4032	V4032				1.0.6.3
192.168.1.142	主坐席2	239.1.1.1	0.11.160.6.12.81	255.255.0.0	192.168.1.1	V4032	V4032				1.0.6.3
192.168.1.143	主坐席3	239.1.1.0	0.11.124.7.19.82	255.255.0.0	192.168.1.1	V4032	V4032				1.0.6.3
192.168.1.144	主坐席4	239.1.1.0	0.11.2.6.12.83	255.255.0.0	192.168.1.1	V4032	V4032				1.0.6.3
192.168.1.145	主坐席5	239.1.1.1	0.11.72.7.12.84	255.255.0.0	192.168.1.1	V4032	V4032				1.0.6.3
192.168.1.146	主坐席6	239.1.1.1	0.11.13.7.12.85	255.255.0.0	192.168.1.1	V4032	V4032				1.0.6.3
192.168.1.186	7号电脑2	239.1.1.1	0.11.245.98.117.148	255.255.0.0	192.168.1.1	V4032	V4032	1369			1.0.4.0
192.168.11.111	屏1-1	239.1.1.1	0.11.92.41.155.25	255.255.0.0	192.168.1.1						
192.168.11.112	屏1-2	239.1.1.1	0.11.70.254.91.23	255.255.0.0	192.168.1.1						
192.168.11.113	屏1-3	239.1.1.1	0.11.70.254.91.8	255.255.0.0	192.168.1.1						
192.168.11.114	屏1-4	239.1.1.1	0.11.70.254.92.27	255.255.0.0	192.168.1.1						
192.168.11.115	屏1-5	239.1.1.0	0.11.70.254.91.34	255.255.0.0	192.168.1.1						
192.168.11.116	屏1-6	239.1.1.1	0.11.70.254.91.38	255.255.0.0	192.168.1.1						
192.168.11.117	屏1-7	239.1.1.1	0.11.70.254.91.7	255.255.0.0	192.168.1.1						
192.168.11.121	屏2-1	239.1.1.1	0.11.70.254.91.28	255.255.0.0	192.168.1.1						
192.168.11.122	屏2-2	239.1.1.1	0.11.70.254.91.30	255.255.0.0	192.168.1.1						
192.168.11.123	屏2-3	239.1.1.1	0.11.70.254.91.11	255.255.0.0	192.168.1.1						
192.168.11.124	屏2-4	239.1.1.1	0.11.70.254.91.12	255.255.0.0	192.168.1.1						
192.168.11.125	屏2-5	239.1.1.0	0.11.70.254.91.5	255.255.0.0	192.168.1.1						
192.168.11.127	屏2-7	239.1.1.1	0.11.70.254.91.27	255.255.0.0	192.168.1.1						

255.255.255.0	192.168.1.254	V4263	V4263							1G ↑ 18.3K ↓ 17.4K	1.0.
255.255.255.0	192.168.1.254	V4263	V4263							1G ↑ 16.7K ↓ 16.9K	1.0.
255.255.255.0	192.168.1.254	V4263	V4263							1G ↑ 18.5K ↓ 17.2K	1.0.
255.255.255.0	192.168.1.254	V4263	V4263							1G ↑ 6.3K ↓ 16.9K	1.0.
255.255.255.0	192.168.1.254	V4263	V4263							1G ↑ 16.2K ↓ 16.7K	1.0.
255.255.255.0	192.168.1.254	V4263	V4263							1G ↑ 18.2K ↓ 16.7K	1.0.
255.255.255.0	192.168.1.254	V4263	V4263							1G ↑ 17.3K ↓ 17.3K	1.0.
255.255.255.0	192.168.1.254	V4263	V4263							1G ↑ 16.4K ↓ 17.2K	1.0.
255.255.255.0	192.168.1.254	V4263	V4263							1G ↑ 7.3K ↓ 17.1K	1.0.
255.255.255.0	192.168.1.254	V4263	V4263							1G ↑ 17.2K ↓ 17.2K	1.0.
255.255.255.0	192.168.1.254	V4263	V4263							1G ↑ 17.2K ↓ 16.9K	1.0.

UTP cable speed monitoring
if it's 100M, please remake the RJ45 connector

IP	ID	GIP	MAC	MASK	GATEWAY	AVersion	EVersion	AlpuError	KvmServer	Speed/Up/down(bps)	SDK
192.168.11.115	屏1-5	239.1.1.0	0.11.70.254.91.34	255.255.0.0	192.168.1.1						
192.168.11.116	屏1-6	239.1.1.1	0.11.70.254.91.35	255.255.0.0	192.168.1.1						
192.168.11.117	屏1-7	239.1.1.1	0.11.70.254.91.7	255.255.0.0	192.168.1.1						
192.168.11.121	屏2-1	239.1.1.1	0.11.70.254.91.28	255.255.0.0	192.168.1.1						
192.168.11.122	屏2-2	239.1.1.1	0.11.70.254.91.30	255.255.0.0	192.168.1.1						
192.168.11.123	屏2-3	239.1.1.1	0.11.70.254.91.11	255.255.0.0	192.168.1.1						
192.168.11.124	屏2-4	239.1.1.1	0.11.70.254.91.12	255.255.0.0	192.168.1.1						
192.168.11.125	屏2-5	239.1.1.0	0.11.70.254.91.4	255.255.0.0	192.168.1.1						
192.168.11.126	屏2-6	239.1.1.1	0.11.70.254.91.29	255.255.0.0	192.168.1.1						
192.168.11.127	屏2-7	239.1.1.1	0.11.70.254.91.27	255.255.0.0	192.168.1.1						
192.168.11.131	屏3-1	239.1.1.1	0.11.70.254.92.29	255.255.0.0	192.168.1.1						
192.168.11.132	屏3-2	239.1.1.1	0.11.70.254.91.31	255.255.0.0	192.168.1.1						
192.168.11.133	屏3-3	239.1.1.0	0.11.70.254.91.19	255.255.0.0	192.168.1.1						
192.168.11.134	屏3-4	239.1.1.1	0.11.70.254.91.32	255.255.0.0	192.168.1.1						
192.168.11.135	屏3-5	239.1.1.1	0.11.70.254.91.61	255.255.0.0	192.168.1.1						
192.168.11.136	屏3-6	239.1.1.0	0.11.70.254.91.35	255.255.0.0	192.168.1.1						
192.168.11.137	屏3-7	239.1.1.0	0.11.70.254.91.43	255.255.0.0	192.168.1.1						
192.168.108.111	kvm1	239.1.1.0	0.11.132.6.12.80	255.255.0.0	192.168.1.1						
192.168.108.112	kvm12	239.1.1.1	0.11.37.6.12.80	255.255.0.0	192.168.1.1						
192.168.108.113	kvm13	239.1.1.1	0.11.230.6.12.80	255.255.0.0	192.168.1.1						
192.168.108.114	kvm14	239.1.1.1	0.11.174.6.12.80	255.255.0.0	192.168.1.1						
192.168.1.151	1号电脑-4K	239.1.1.1	0.11.115.107.8.3	255.255.0.0	192.168.1.1	V2911	V2911			10 ↑ 9.4M ↓ 29.8K 1.0.0	
192.168.1.152	2号电脑-4K	239.1.1.1	0.11.115.106.8.4	255.255.0.0	192.168.1.1	V2911	V2911			10 ↑ 43.7M ↓ 40.9K 1.0.0	
192.168.1.154	4号1号PC-4K	239.1.1.1	0.11.115.106.8.5	255.255.0.0	192.168.1.1	V2911	V2911			10 ↑ 46.2M ↓ 69.0K 1.0.0	
192.168.1.131	2x2屏1	239.1.1.1	0.11.245.98.118.21	255.255.0.0	192.168.1.1	V4032	V4032			10 ↑ 12.8K ↓ 6.2M 1.0.0	
192.168.1.132	2x2屏2	239.1.1.1	0.11.245.98.118.22	255.255.0.0	192.168.1.1	V4032	V4032			10 ↑ 13.1K ↓ 6.1M 1.0.0	
192.168.1.133	2x2屏3	239.1.1.1	0.11.245.98.118.23	255.255.0.0	192.168.1.1	V4032	V4032			100M ↑ 12.3K ↓ 6.1M 1.0.0	
192.168.1.134	2x2屏4	239.1.1.1	0.11.245.98.118.24	255.255.0.0	192.168.1.1	V4032	V4032			10 ↑ 12.8K ↓ 5.9M 1.0.0	
192.168.1.155	5号电脑-1080	239.1.1.1	0.11.69.2.102.215	255.255.0.0	192.168.1.1	V4025	V4025			10 ↑ 13.5M ↓ 1.6M 1.0.0	
192.168.1.156	6号电脑-1080	239.1.1.1	0.11.203.16.251.243	255.255.0.0	192.168.1.1	V4025	V4025			10 ↑ 9.2M ↓ 16.5K 1.0.0	
192.168.1.157	7号电脑-1080	239.1.1.1	0.11.138.158.206.16	255.255.0.0	192.168.1.1	V4025	V4025			10 ↑ 21.4M ↓ 1.6M 1.0.0	
192.168.1.158	8号电脑-1080	239.1.1.1	0.11.91.48.171.51	255.255.0.0	192.168.1.1	V4025	V4025			10 ↑ 135.4K ↓ 10.6K 1.0.0	
192.168.1.159	9号电脑-1080	239.1.1.1	0.11.3.127.161.208	255.255.0.0	192.168.1.1	V4025	V4025			10 ↑ 80.8K ↓ 11.2K 1.0.0	
192.168.1.160	10号电脑-1080	239.1.1.1	0.11.200.11.244.233	255.255.0.0	192.168.1.1	V4025	V4025			10 ↑ 1.7M ↓ 16.2K 1.0.0	
192.168.1.161	11号电脑-1080	239.1.1.1	0.11.180.158.120.68	255.255.0.0	192.168.1.1	V4025	V4025			10 ↑ 22.9K ↓ 11.1K 1.0.0	
192.168.1.162	12号电脑-1080	239.1.1.1	0.11.87.38.155.28	255.255.0.0	192.168.1.1	V4025	V4025			10 ↑ 12.9M ↓ 18.2K 1.0.0	
192.168.168.140	会议显示单元	239.1.1.1	0.11.249.107.131.167	255.255.0.0	192.168.1.1						
192.168.168.141	会议显示单元	239.1.1.1	0.11.245.98.118.300	255.255.0.0	192.168.1.1						

● Tips to set KVM's priority (KVM Server)

It's required only for the system with KVM function. (Skip it if you didn't purchase KVM Node)

Right click "KvmServer" Zone to choose High Priority for any DSIII KVM Node

Remark: do not set same priority for multiple nodes.

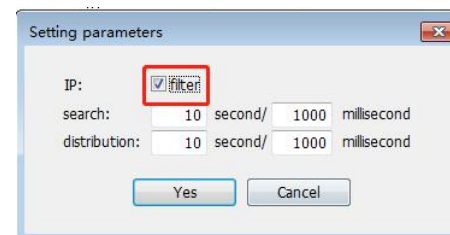
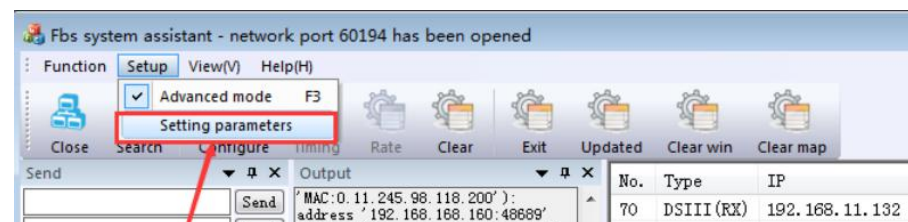
● Tips to filter double IP

Sometimes there will be double or triple IP for each node, as following

88	DSIII(RX)	192.168.168.111	kvm1	239.1.1.0	0.11.132.6.12.80	255.255.0.0	192.168.1.1				
89	DSIII(RX)	192.168.168.111	kvm1	239.1.1.0	0.11.132.6.12.80	255.255.0.0	192.168.1.1				
90	DSIII(RX)	192.168.168.112	kvm12	239.1.1.1	0.11.37.6.12.80	255.255.0.0	192.168.1.1				
91	DSIII(RX)	192.168.168.112	kvm12	239.1.1.1	0.11.37.6.12.80	255.255.0.0	192.168.1.1				
92	DSIII(RX)	192.168.168.112	kvm12	239.1.1.1	0.11.37.6.12.80	255.255.0.0	192.168.1.1				
93	DSIII(RX)	192.168.168.113	kvm13	239.1.1.1	0.11.230.6.12.80	255.255.0.0	192.168.1.1				
94	DSIII(RX)	192.168.168.113	kvm13	239.1.1.1	0.11.230.6.12.80	255.255.0.0	192.168.1.1				
95	DSIII(RX)	192.168.168.113	kvm13	239.1.1.1	0.11.230.6.12.80	255.255.0.0	192.168.1.1				
96	DSIII(RX)	192.168.168.114	kvm14	239.1.1.1	0.11.174.6.12.80	255.255.0.0	192.168.1.1				
97	DSIII(RX)	192.168.168.114	kvm14	239.1.1.1	0.11.174.6.12.80	255.255.0.0	192.168.1.1				
98	DSIII(RX)	192.168.168.114	kvm14	239.1.1.1	0.11.174.6.12.80	255.255.0.0	192.168.1.1				

Click "Setup" to enter setting parameters windows, then check "filter" and click Yes.

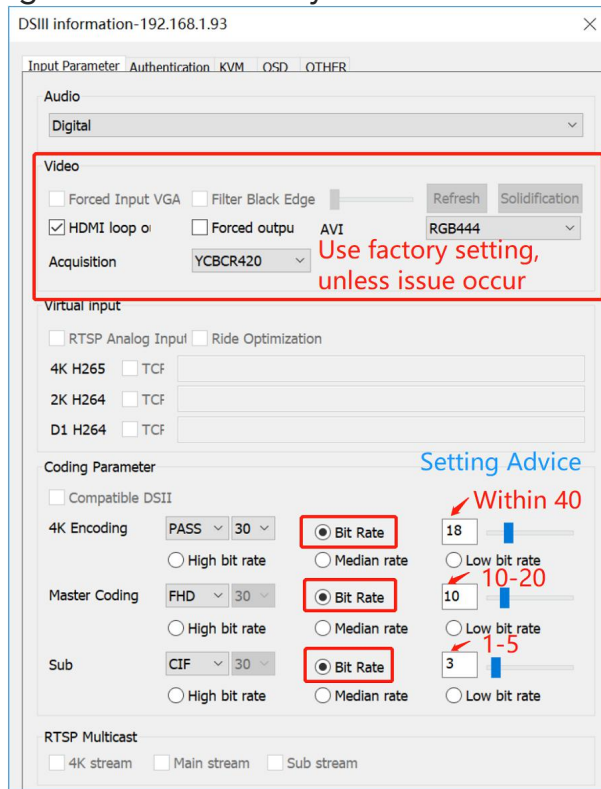
Then refresh all by clicking Search.



- **Tips to configure encoder node**

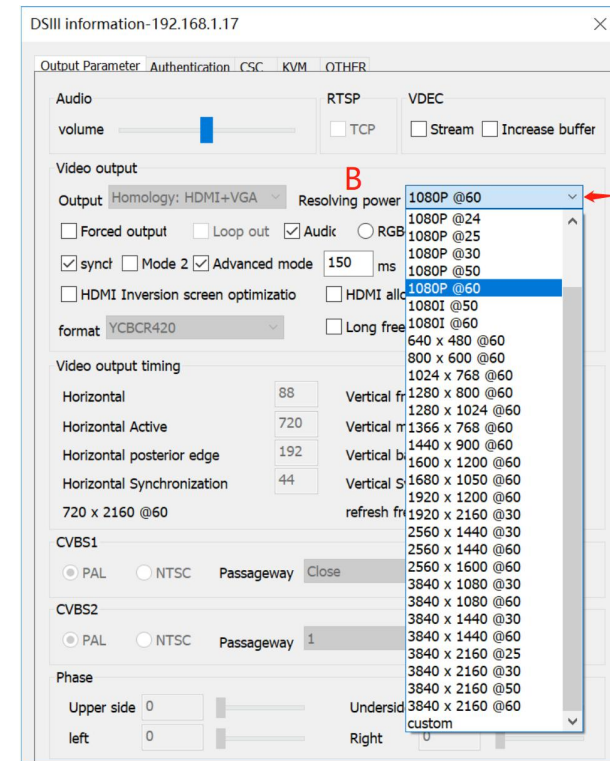
Double click node's No. to show its basic information.

Please configure bitrate for every encoder node as below:



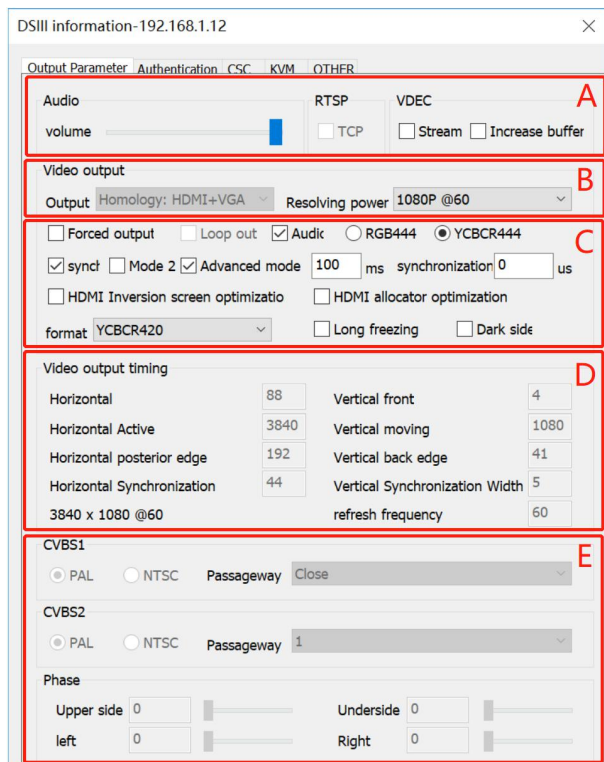
- **Tips to revise node's output resolution, bit rate and other setting**

Double click node's No. to show its basic information. **Please do not** revise any parameter if the system works in good performance.



Configure decoder node's output resolution as above, according to monitor/screen's resolution

Feature Zone introduction:



A — Volume is used to adjust audio input, no need to set other parts.

B — Configure output resolution

Output mode should be "Homology: HDMI+VGA", Please make sure

R.P. is same with your display/monitor's resolution.

C — If your display can receive DVI signal only, please tick "For Output to

DVI", for every node connecting with video wall display.

(Otherwise, the display will display with pink or yellow color

normally)

Synchronization Time (advance mode) : normally set as 100-150 ms

(for video wall screen only, not for workspace's monitor)

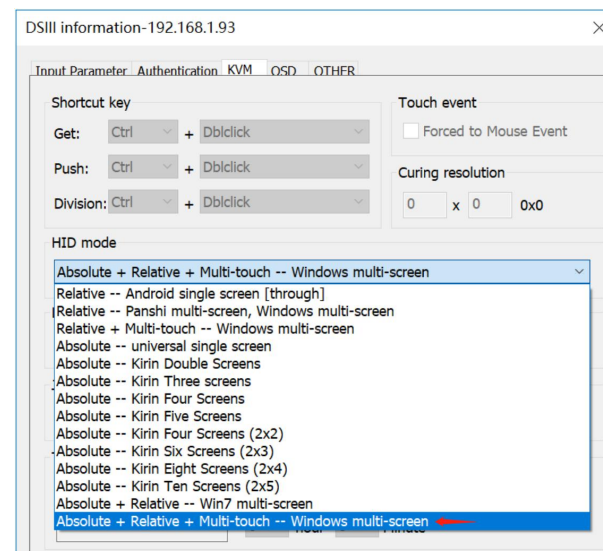
D — Configure for the monitor/display with irregular resolution

E — Factory setting, no need to revise anything normally.

● Setting HID Mode for DSIII KVM Encoder Node

Remark: no need set if two mouse cursor are overlapped.

Normally, "Windows Multi-Screen" is first option, otherwise, please try other mode until two mouse cursor are overlapped. Please plug out the Keyboard & Mouse connected with Workspace's node and plug in again, after changing mode.



● Tips to configure USB Matrix system

Skip this if you didn't purchase USB Matrix System

DSIII information-192.168.1.12

Output Parameter Authentication CSC KVM OTHER

Shortcut key
 Get: Ctrl + Dblclick
 Push: Shift + Dblclick
 Division: Alt + Dblclick

Touch event
☐ Forced to Mouse Event

Curing resolution
 0 x 0 0x0

HID mode
 Relative -- Android single screen [through]

Linkage USB
 TXID 0 RXID 11 IP 192.168.1.108 PORT 8888

Journal
 IP 0.0.0.0 PORT 23456

Timed restart
☐ Open Note: No ticks are allowed unless
 255.255.255.255 0 hour 0 Minute

TXID — Port ID of USB Matrix, connecting with CPU-USB Node (configure for the node connecting with relative PC only)

RXID — Port ID of USB Matrix, connecting with CON-USB Node (configure for the node of workspace required to uplink PC's CPU-USB Node)

IP — USB Matrix's IP address, factory setting is 192.168.1.234

PORT — 8888

● Tips to remark input source

The remark/description of input source, so that operator can recognize the source immediately.

DSII PLUS information-192.168.1.160

Basic parameter Authentication CSC KVM OSD

Main stream
☐ ID ☐ DATE ☐ Written words

Sub bitstream
☐ ID ☐ DATE ☐ Written words

Size: 32 Color: Black POS: x 64, y 64, w 320, h 320
 Tran: 0 Back: Black

Written words:

ID — If selecting it, the remark will show the name of Node's ID

DATE — If selecting it, the remark will show the date.

Written Words — If selecting, the remark will show what you wrote below.

POS — adjust position of remark.

END

Thank you for choosing AVCIT, if any question, please contact concerning sales or email to support@avcit.com