KanexPro®

HDSC71D-4K

4K Multi-input 7x2 Presentation Scaler Switcher User Manual

v0.5

The KanexPro HDSC71D-4K is a 7-input, 2-mirrored (HDMI & HDBaseT) output presentation scaler-switcher engineered to support native 4K inputs and output for collaboration and presentation systems. It consists of 4xHDMI, 1xDisplayPort, 1xDVI-I & 1xVGA/YPbPr inputs for connecting digital sources and analog VGA based sources to dual 4K displays supporting resolutions to 3840x2160@30Hz. This HDCP compliant switcher provides built-in EDID management for faster output to displays and also support control via front – panel buttons, RS-232 and web based interface to work with any third-party control systems.

Just Click-to-Show me your content

The switcher includes two 4K-HDCLICKERs, which are HDMI based cable controllers designed to connect and fast-switch HDMI source devices. When connected to the presentation system just click-to-show the content instantly on to the 4K display. The HDSC71D-4K optimizes the way we do video collaboration and presentations. These 4K-HDCLICKERs product brings together people, space, and information to amplify collaboration, and help distributed teams accelerate innovation while displaying their content one at a time directly from laptops, DisplayPort and HDMI based devices.

Features

- 4K Multi-input 7x2 Presentation Scaler Switcher with HDBaseT
- Elite 4K scaling engine to support up-scaling & down-scaling
- Includes two 4K-HDCLICKERS for Click-to-Show me your content
- Accepts 4K input resolutions 3840x2160@30Hz
- Native 4K input / output scaling
- Independent Audio Switching
- Multiple Inputs: 4xHDMI, 1xDisplayPort, 1xDVI-I & 1xRGB/YPbPr
- Mirrored outputs: 1xHDMI & 1xHDBase-T with standard 48v PoC
- Smart Scaling – automatically responds to displays EDID and scales video to support the best resolution
- DisplayPort input resolution up to 3840x2160@60Hz
- Supports auto-scaling by auto-detecting EDID from display to scale optimized resolution
- Supports MHL inputs via HDMI
- Provides break away audio
- Unbalanced stereo analog & digital coax audio output
- Supports auto-selection of active HDMI audio (high priority) or external stereo audio
- Control via front panel buttons, IR, RS232 & LAN (Web)
- Integrates with table or wall cable connection boxes in conference applications
- Portable mountable enclosure
- Mounting hardware included
- 3 –Year KanexPro Warranty

CONTENTS

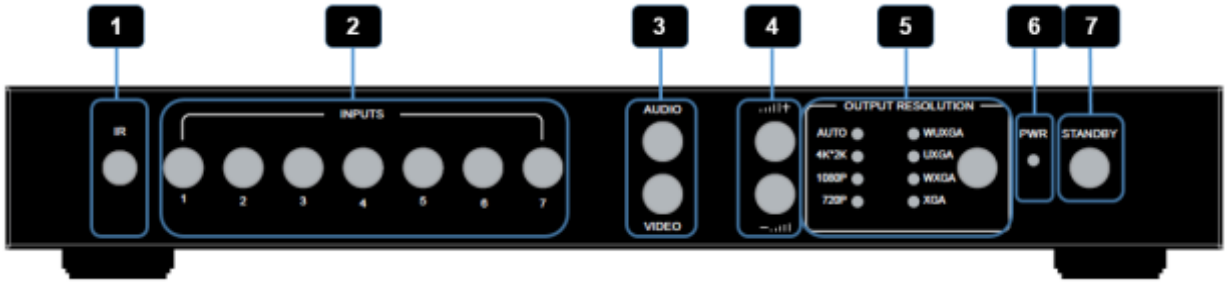
Version log:

Version	Revise time	Description
0.1	2014, Oct. 16th	Created
0.2	2014, Dec. 10th	Revised basis EDID management
0.4.3	2015, Mar, 2nd	Revised Series Commands
0.5	2015, Mar, 25th	Add series commands
0.51	2015, April. 3rd	Revised Series Commands Description
0.52	2015, April 21,	Upgrade new web control interface
0.53	2016, Jan 4th	Add the factory default setting by front buttons

Getting Started

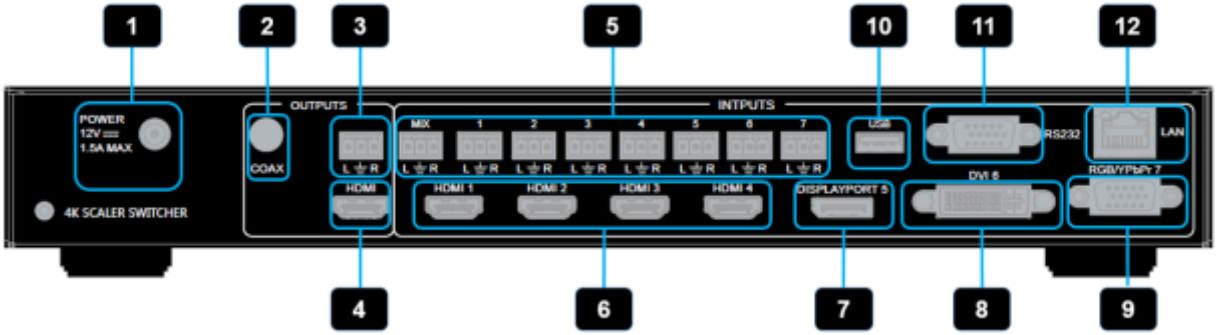
Panel Layout

Front Panel



ID	Name	Description
1	IR Receive Window	IR receive sensor, receives the IR signals from the IR remote.
2	Input Buttons and Indicator	Press the buttons 1~7 to select the corresponding video or audio input. The indicators mean the corresponding status of the video or audio input.
3	Video & Audio Selection Button and Indicator	Pressing this button, then the indicator lights up, meaning switching between Video & Audio Inputs.
4	Volume up & down button and Indicator	Press the buttons up (+) & down (-), to increase or decrease the volume of program audio output.
5	Output Resolution Button and Indicator	Selects the related resolutions, then the indicators light up.
6	Power Indicator	Indicates when the units has power.
7	Standby Button and Indicator	● Switches between standby and work mode. ● When this device is switched to the standby mode, the indicator lights up. ● When this device is switched to working mode, the indicator doesn't light up.

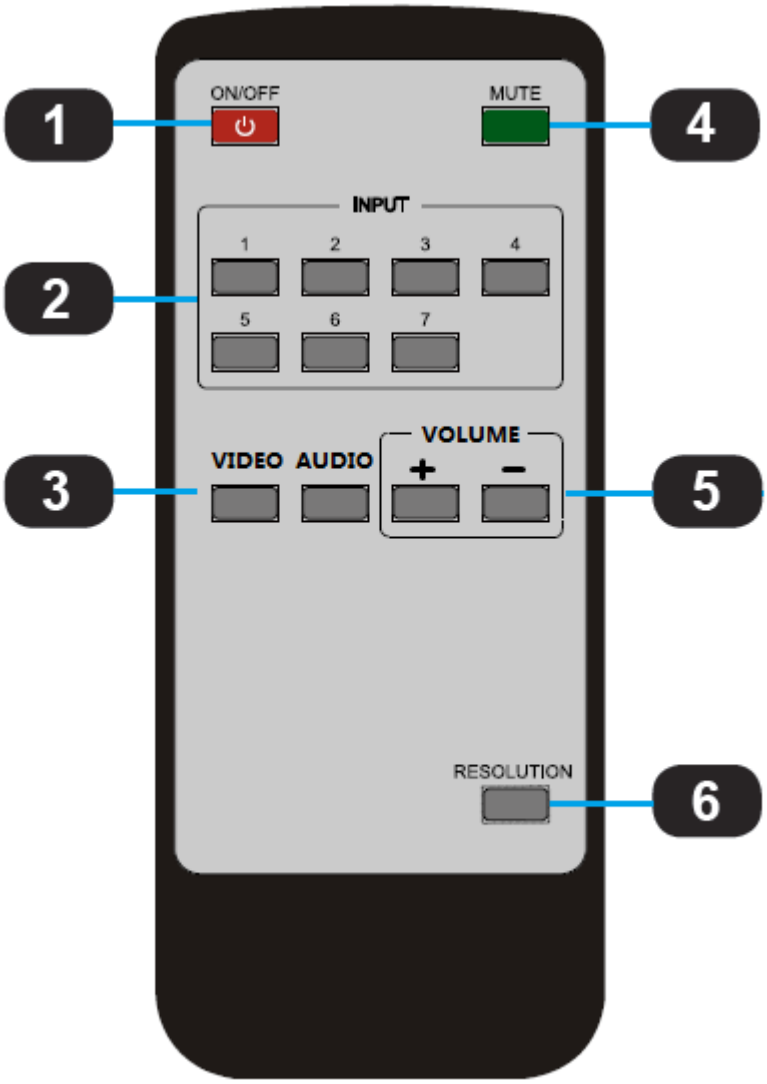
Rear Panel



ID	Name	Description
1	DC Power Connector	Connect the original AC-DC power adapter to this receptacle. Connect the included AC power cord to the original power adapter connect the plug to an accessary AC-DC power adapter.
2	Analog Audio Output	8 channel analog audio output, Connect a 3.5mm mini-stereo cable from this jack to the line in jack of a multimedia system.
3	Optical Output	Connect the optical output port to the digital audio input port of your amplifier.
4	HDMI Output	Connect an HDMI cable from this port to an HD or 4K display.
5	Analog Audio Input 1~7	7 channel stereo analog audio input, connect a 3.5mm mini-stereo cable from the line out jack on the audio source to this jack.
6	HDMI Input 1 ~ 4	Connect up to four Hi-Def sources to these inputs using HDMI cables.
7	DisplayPort Input 1 ~ 2	Connect up to two Hi-Def sources to these inputs using DisplayPort cables.
8	RGB/YPbPr Input	Connect to a Hi-Def sources using DB-15 cable or YPbPr-VGA cable.
9	IP Cont.	Connect an Ethernet cable between this jack and a LAN to use IP control. Refer to RS-232 and IP Configuration for more information on setting up IP control.
10	RS-232	Connect an RS-232 cable from this port to an RS-232 device. See RS-232 and IP Configuration for more information on setting up RS-232 control.

IR Remote Control Unit

Button layout



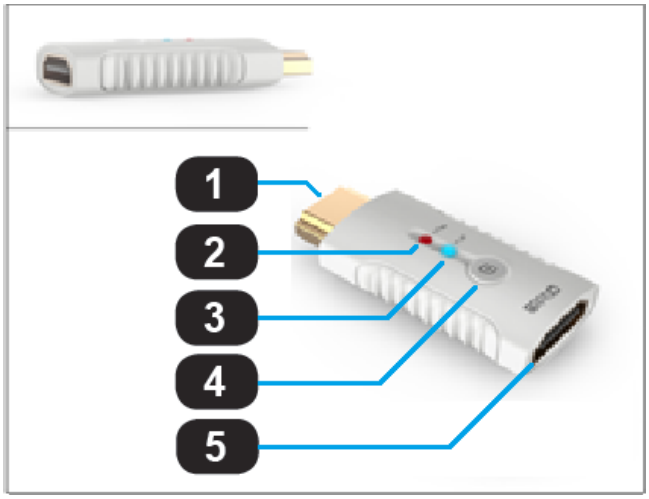
ID	Name	Description
1	Power	Press this button to power-ON or power-OFF the 4K Multi-format Presentation Scaler Switcher.
2	Input 1-7	Press "1-7" buttons to select the corresponding video input or audio input.
3	Video / Audio Select	Press Video button and press the "1-7" buttons to select the corresponding video input. Press Audio button and press the "1-7" buttons to select the corresponding audio input.

5	Volume Up & Down	Press this button to increase or decrease program audio output volume.
4	Mute	Press this button to Mute or UnMute the 4K Multi-format Presentation Scaler Switcher audio output.
6	Resolution	Press this button to change the 4K Multi-format Presentation Scaler Switcher HDMI output resolution.

Power Cord and Adapter

4K Multi-format Presentation Scaler Switcher adopts international standard 12V AC-DC power adopter.
Voltage: 12V, Max Current: 4A
Attention: For different country & area, different plug type will be included in the standard package.

HDMI/DP Cable Switcher



ID	Name	Description
1	HDMI/DP Output	Connect to 4k or Hi-Def HDMI/DP sources
2	Power Indicator	Indicates the power indicator.
3	Link Indicator	Indicates the connection status indicator.
4	Switch Button	Pressing this button takes you to your active input
5	HDMI/DP Input	Connects to the HDMI or DisplayPort ports of 4K Multi-format Presentation Scaler Switcher using the HDMI cables.

Installation

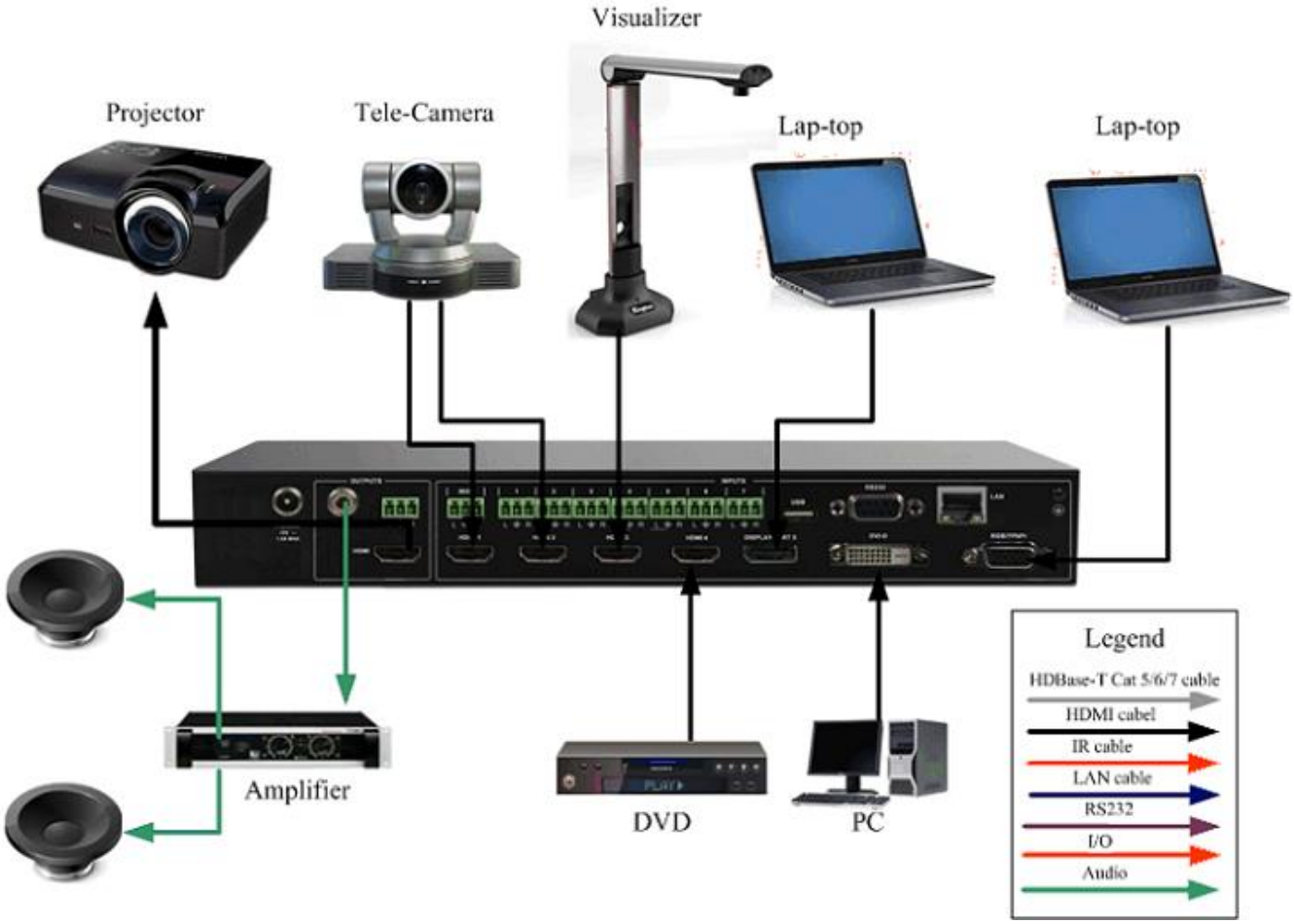
How to Connect the HDSC71D-4K

1. Connect up to four 4K or HD HDMI sources to the input ports (**HDMI 1** - **HDMI 4**), Connect one 4K or HD DisplayPort sources to the input ports (**DISPLAYPORT 5**), Connect on full-HD DVI source to the DVI-I input ports (**DVI 6**), Connect up to one Hi-Def VGA or YPbPr sources to the input ports (**RGB/YPbPr**) on the 4K Multi-format Presentation Scaler Switcher
2. Connect an 4K or HD display to the **HDMI Output** port on the 4K Multi-format Presentation Scaler Switcher
3. OPTIONAL: Connect up seven stereo analog audio sources to audio input ports (**1-7**) on the 4K Multi-format Presentation Scaler Switcher.
4. OPTIONAL: Connect the HDMI/DP input port of **HDMI/DP cable switcher** to the 4K or HD source device. Connects the HDMI/DP input port of 4K Multi-format Presentation Scaler Switcher to the HDMI/DP output port of HDMI/DP cable switcher using HDMI or DP cables.
5. OPTIONAL: Connect one 3.5mm **mini-stereo** cables from the jacks on the 4K Multi-format Presentation Scaler Switcher to the Line In jack of a multimedia system, or Connect a **coaxial** cables from the coaxial connector on the 4K Multi-format Presentation Scaler Switcher to the Coax Audio In of a multimedia system.
6. OPTIONAL: Connect an RS-232 cable from the **RS-232** port on the 4K Multi-format Presentation Scaler Switcher to the RS-232 connector on the serial controller.
7. OPTIONAL: Connect an Ethernet cable from the **LAN** port on the 4K Multi-format Presentation Scaler

Switcher to a Local Area Network (LAN).

8. Connect the AC power cord to the AC-DC **adopter** and connect the plug to an available electrical outlet.

Wiring Diagram



Operating

Standby Mode and Work Mode

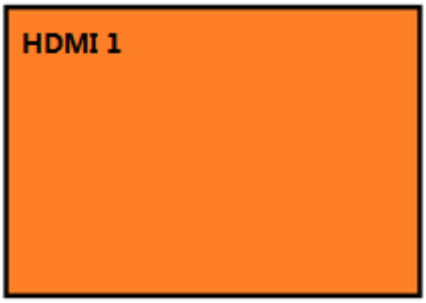
The **"PWR"** LED next to the Standby button, on the front panel, indicates the power state of the 4K Multi-format Presentation Scaler Switcher. This indicator will be red and remain illuminated as long as the power is being supplied to the 4K Multi-format Presentation Scaler Switcher. If this indicator does not illuminate, check the connection between the power receptacle on the 4K Multi-format Presentation Scaler Switcher and the AC outlet.

If the Standby mode is accessed, the Standby button indicator lights up until 4K Multi-format Presentation Scaler Switcher is waken up. When the normal work mode is accessed, the Standby indicator is off. There three methods to wake up the device: pressing Standby button, pressing ON/OFF button in the IR remote, or using LAN or RS232 commands.

Video Source Selection Switch

1) Use VIDEO button on the front panel or in the remote to set to video switch mode, Video button indicator lights up

2) HDMI output configures the HDMI 1 input, the window is shown as follows.



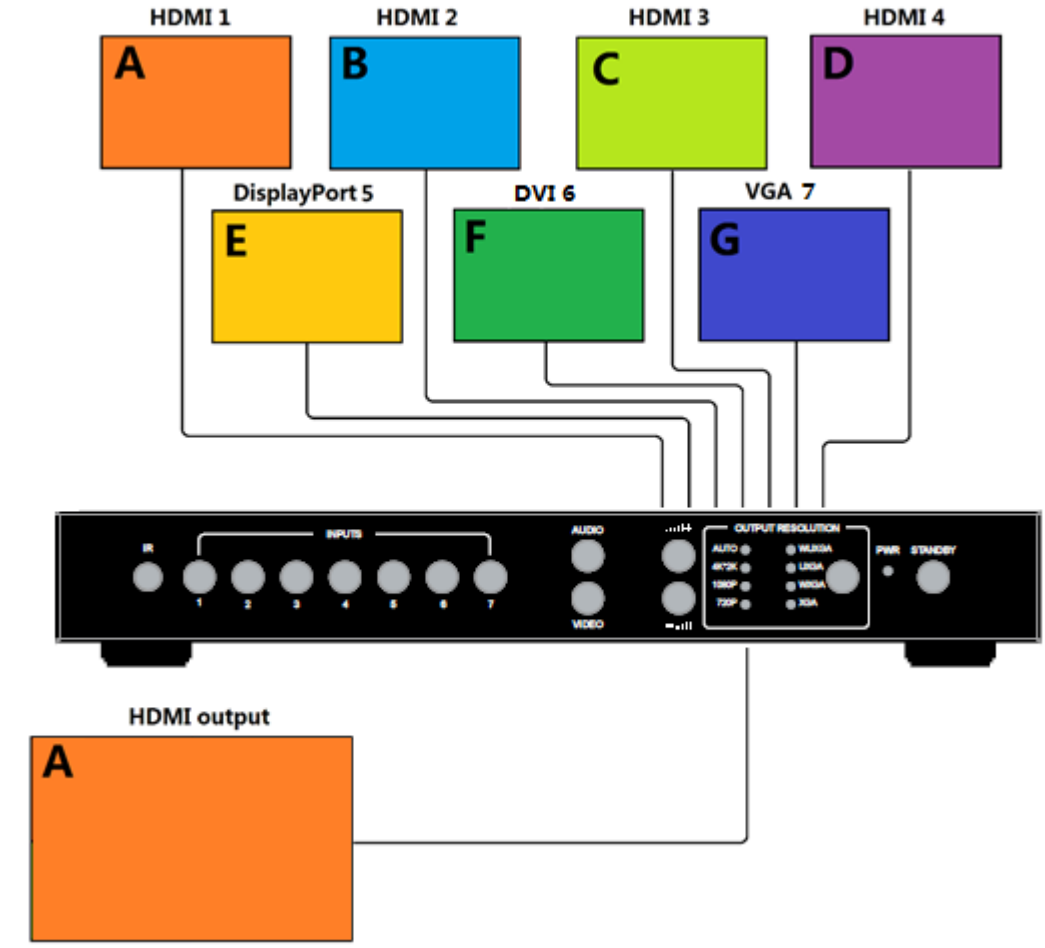
3) If you want to switch to the signal of DisplayPort5.

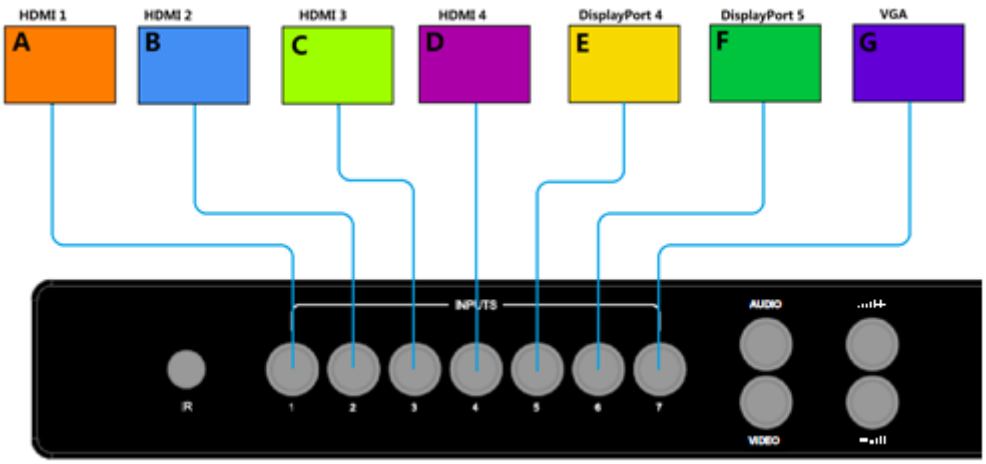
   Method 1: Directly press the INPUTS 5 button on the front panel or in the remote.

   Method 2: First press VIDEO button on the front panel or in the remote, the 1 button indicator on the panel turns solid on, 2~7 button indicators are blinking (If an indicator is solid on, it means the source currently selected; If an indicator is blinking, it means the source which can be selected), press the INPUTS 5 button on the front panel or in the remote.

4) The 5 button indicator lights up, the panel status is shown as follows.

5) HDMI output picture is changed to the signal of DisplayPort5.





Output Resolution

HDMI output resolutions support multiple modes with the indicator indication.

1) Auto

2) 4K x 2K（3840 x 2160 @30Hz）
3) 1080p(1920 x 1080 @ 60Hz)
4) 720p (1280 x 720 @ 60Hz)
5) WUXGA (1900 x 1200 @ 60Hz)
6) UXGA (1600 x 1200 @ 60HZ)
7) WXGA (1280 x 800 @ 60Hz)
8) XGA (1024 x 768 @60Hz)

Auto means that it outputs the HDMI resolutions based on the EDID information read from the display device.

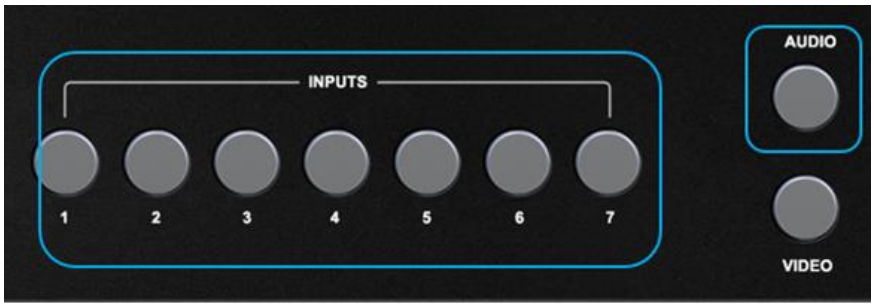
Operation method: Press the Resolution buttons on the panel or in the remote to switch between different HDMI output resolutions. The switching sequence is: Auto -> 4K x 2K -> 1080P -> 720P -> WUXGA -> UXGA -> WXGA -> XGA -> Auto. When a resolution is selected, the corresponding indicator lights up.

When selecting a resolution, HDMI output is switched to this resolution.

Audio Setting

Audio Input Select

When selecting the video input, the audio also has seven inputs. When the video input is selected as HDMI or DisplayPort, the audio can be input from HDMI or DP. If the HDMI or DP input has no audio, the audio input will be from the corresponding 3.5 mm screw terminals. For example, if the DVI signal is transmitted through DVI input, the audio can be input from the 3.5mm screw terminals of the audio input 1 (above the HDMI1 port). VGA video corresponds to the 3.5mm earphone jack of the audio output 7.



Operations for audio switching:

Method 1:

(1). Press “Audio Selection Button” (ID#3 in front buttons), the corresponding button backlit indicator lights up, which means the audio output is selected. The Inputs indicator of the corresponding audio source turns solid on, the other indicators blink.

(2). Press “Inputs Button” (ID#2 in front buttons), the audio is switched to this channel. At the same time, other inputs indicator are off.

(3). In the status mentioned in Step (2), if no further operation is performed within 5 seconds, it exists from this status.

Method 2:

(1). Press “Inputs Button” (ID#2 in front buttons), the corresponding indicator lights up, which means the audio input is selected. The “Audio Selection Button” and “Video Selection Button” blink to be ready for selecting.

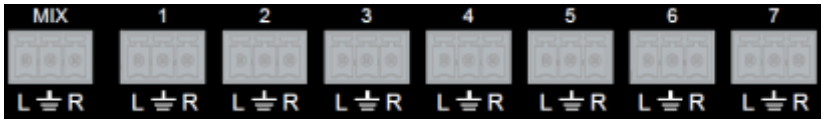
(2). Press “Audio Selection Button” (ID#3 in front buttons), the input selected audio in step#1 is switched to program audio output channel. The Input button and Audio Select button will blank once and be off.

(3). In the status mentioned in Step (2), if no further operation is performed within 5 seconds, it exists from this status.

Notes:

(1). Press audio button, the Inputs indicator of the corresponding audio source turns solid on, the other indicators blink. User can confirm the current audio selected channel

(2).



Audio Format	Channel		
	1	2	3
2.0	L	G	R

Audio Output Instructions

There are three methods of audio output:

(1).HDMI output

(2).Coax output

(3).Stereo output

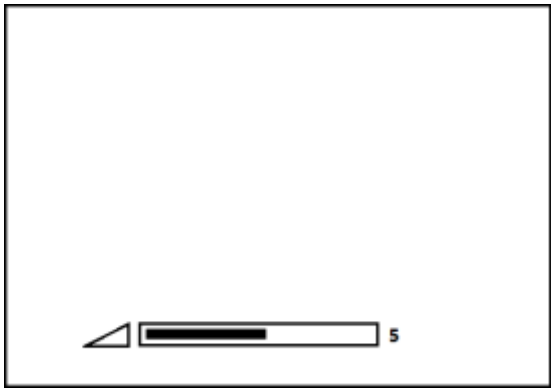
OSD Setting Instructions

1) Boot logo

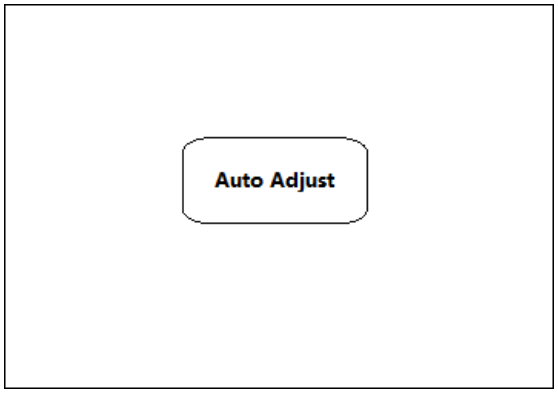
2) Each input source, the resolution of the input signal, No HDMI Cable, No HDMI Signal and HDMI/DisplayPort/VGA. The window is displayed as below:

3) Audio Mute indicates:

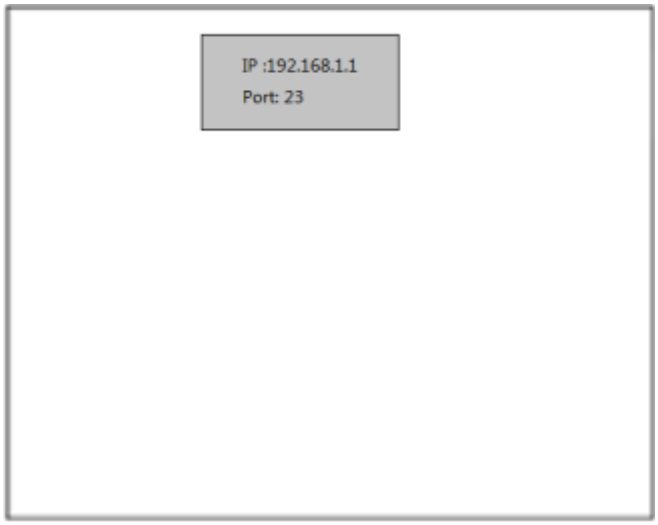
4) Volume adjustment:



5) VGA Auto Menu:



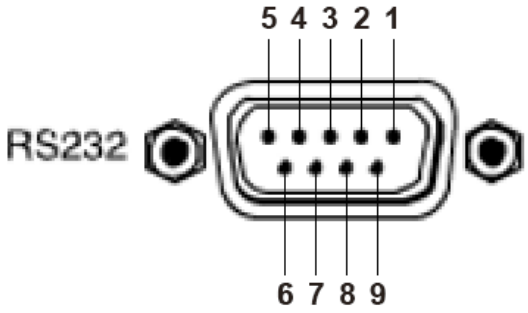
6） IP address is displayed:

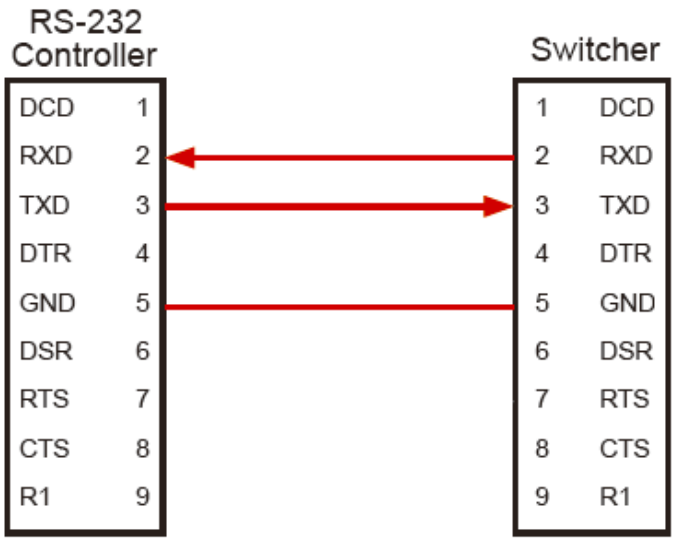


Advanced Settings

RS232 Setting

RS-232 port:





Connect to RXD, TXD, GND only

RS-232 Settings:

Description	Setting
Baud rate	9600
Data bits	8
Parity	None
Stop bits	1
Hardware flow control	None

Notes: For more information about serial command lines, see the chapter of commands.

IP Setting

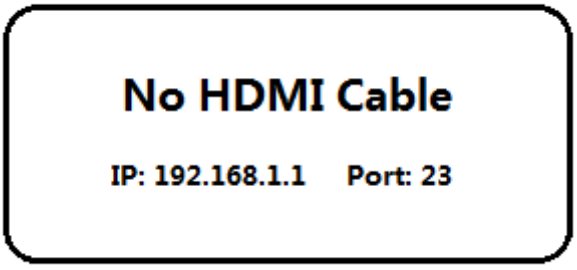
The HDSC71D-4K supports IP control, Telnet, UTP and so on. There are two methods to obtain the IP address.

1. Obtain the IP address and port number via the information from the on-screen display (OSD).
2. Obtain the IP address and port number via SmartGui.

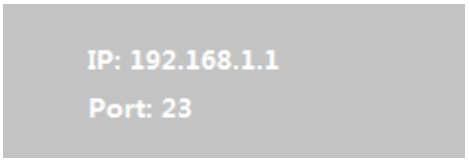
The following presents the two methods:

Obtain the IP address and port number via the information from the OSD.

IP address and port number can always be obtained from OSD. When there is no signal, the following OSD in the window is displayed:



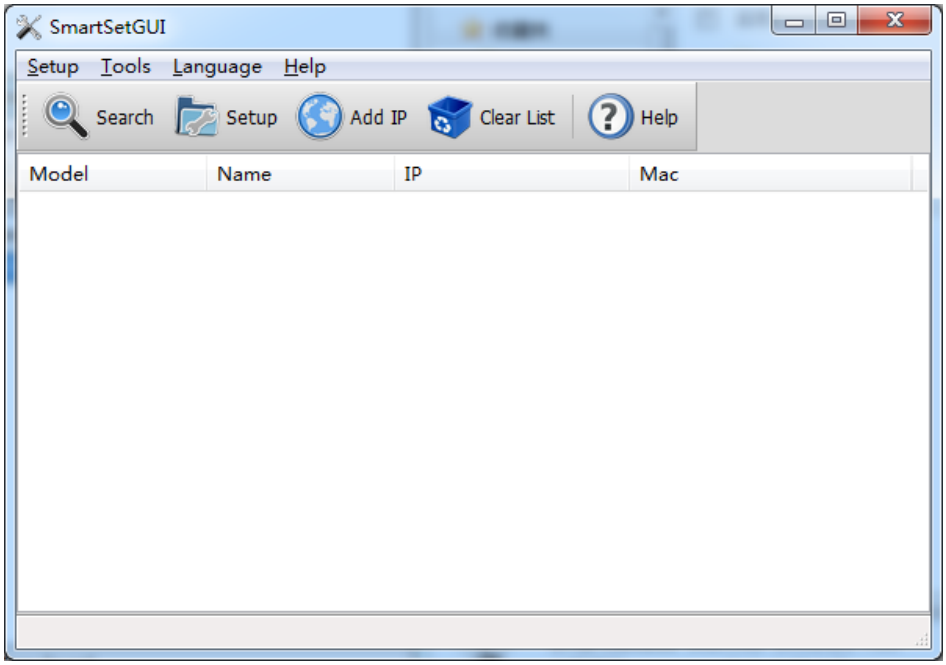
Or when the picture is displayed, the IP information is displayed in the area above the middle of the window.



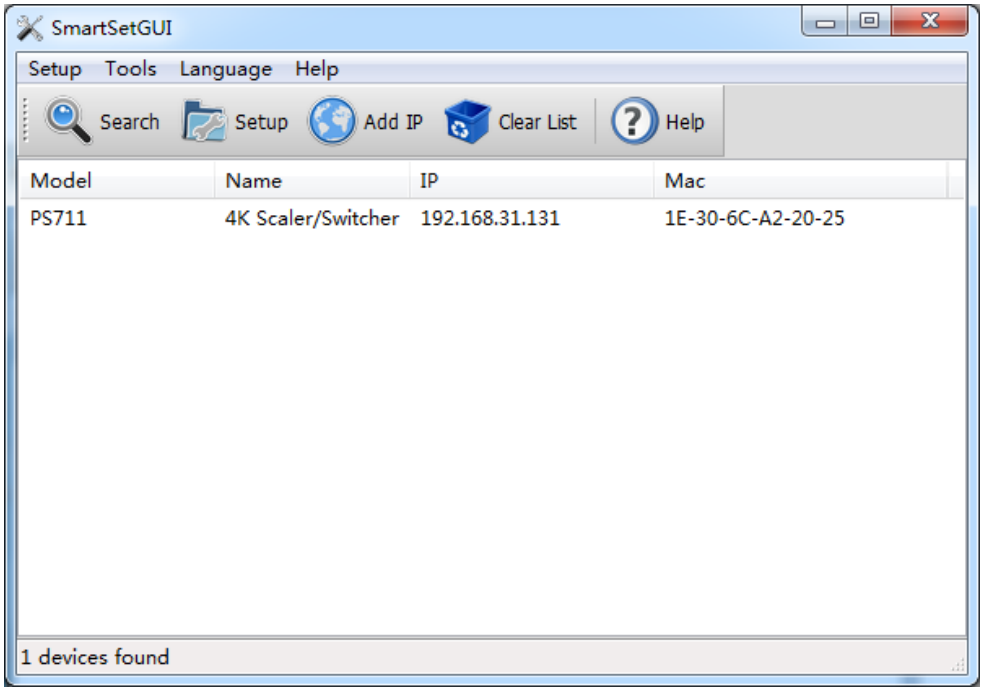
The IP address is 192.168.1.1 and the port number is 23.

Obtain the IP address and port number via SmartGui.

Start SmartGUI in the PC and the software interface is shown as follows.

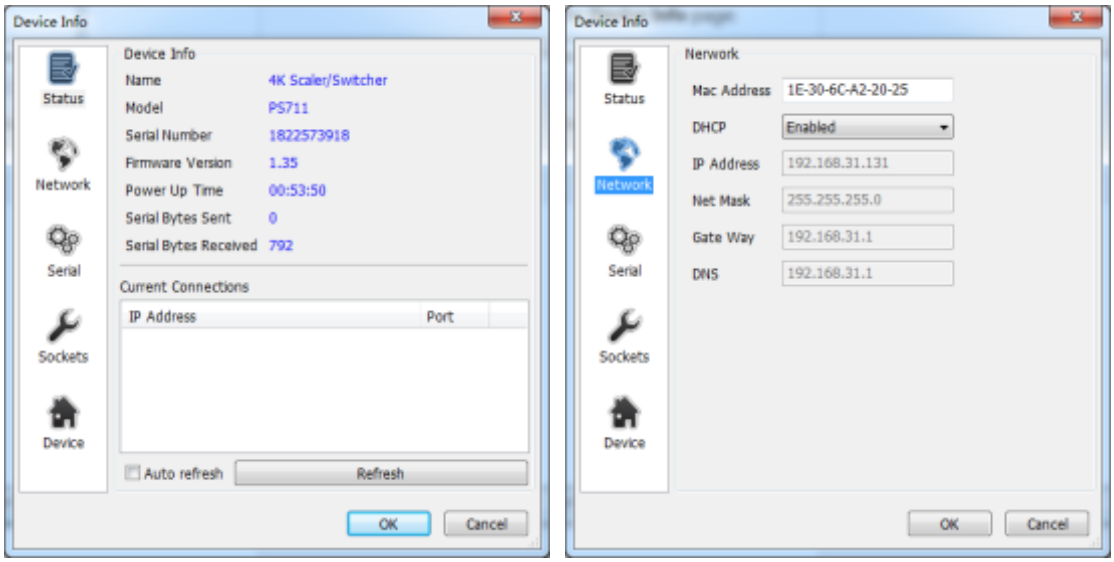


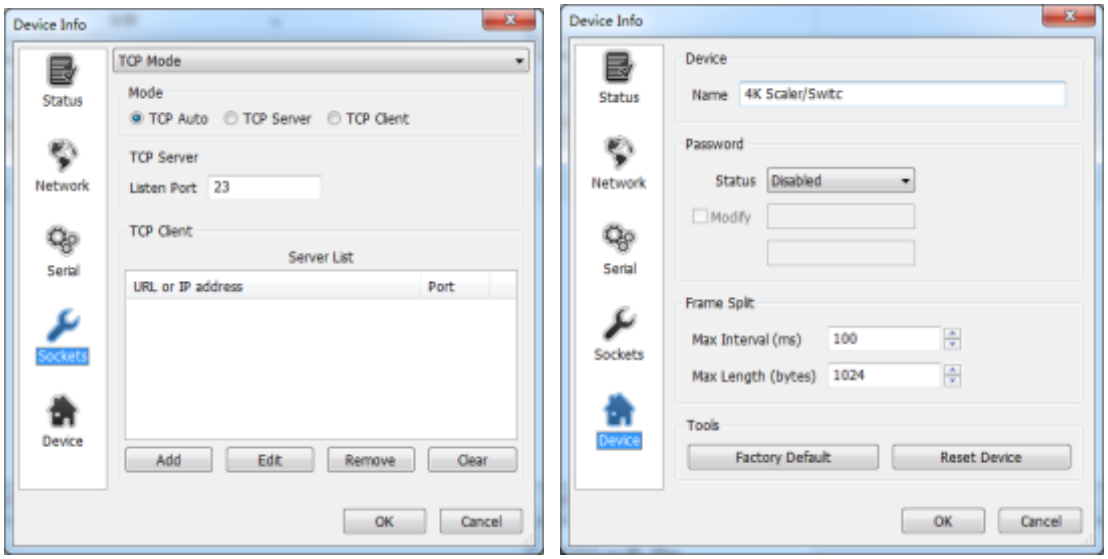
Make sure that PC and HDSC71D-4K are in the same network segment. Click **Search**, the following device list is shown.



Select the device, and click **Setup**. The IP information is obtained from the **Device Info** page:

IP：192.168.3.7 Port：23





Command List

The HDSC71D-4K can be controlled or operated through the commands from RS232 or IP.

The command contains two parts: General Control and Advanced Control.

Command head: ATM
Length: <=255
Command: xxxxxxx
Read/Write: W/R
Parameter data : xx (N byte)

General Control

Function	Item	Command	Feedback	Description
Video Set				
Video input select	**Select input #1**	ATM 0A VDO_IPT W 1 1		Video input of Window 1 is set to 1.
	Select input #2	ATM 0A VDO_IPT W 1 2		Video input of Window 1 is set to 2.
	Select input #3	ATM 0A VDO_IPT W 1 3		Video input of Window 1 is set to 3.
	Select input #4	ATM 0A VDO_IPT W 1 4		Video input of Window 1 is set to 4.
	Select input #5	ATM 0A VDO_IPT W 1 5		Video input of Window 1 is set to 5.
	Select input #6	ATM 0A VDO_IPT W 1 6		Video input of Window 1 is set to 6.
	Select input #7	ATM 0A VDO_IPT W 1 7		Video input of Window 1 is set to 7.
	Select input #2	ATM 0A VDO_IPT W 4 2		Video input of Window 4 is set to 2.
	Select input #3	ATM 0A VDO_IPT W 4 3		Video input of Window 4 is set to 3.
	Select input #4	ATM 0A VDO_IPT W 4 4		Video input of Window 4 is set to 4.
	Select input #5	ATM 0A VDO_IPT W 4 5		Video input of Window 4 is set to 5.
	Select input #6	ATM 0A VDO_IPT W 4 6		Video input of Window 4 is set to 6.
	Select input #7	ATM 0A VDO_IPT W 4 7		Video input of Window 4 is set to 7.

Audio Set:				
Audio input select:	**Select input #1**	ATM 09 ADO_IPT W 1		Audio output is set to audio input 1
	Select input #2	ATM 09 ADO_IPT W 2		Audio output is set to audio input 2
	Select input #3	ATM 09 ADO_IPT W 3		Audio output is set to audio input 3
	Select input #4	ATM 09 ADO_IPT W 4		Audio output is set to audio input 4
	Select input #5	ATM 09 ADO_IPT W 5		Audio output is set to audio input 5
	Select input #6	ATM 09 ADO_IPT W 6		Audio output is set to audio input 6
	Select input #7	ATM 09 ADO_IPT W 7		Audio output is set to audio input 7
Audio Input Config:	**Select ext. audio on input #1**	ATM 0A AUD_MOD W 1 1		ATM 0A AUD_MOD W M N M: input number; N: 0/1, 0-HDMI auto audio, 1-external audio E.g. This item is "Set external audio on input No. 1"
	Select ext. audio on input #2	ATM 0A AUD_MOD W 2 1		Set external audio on input No. 2
	Select ext. audio on input #3	ATM 0A AUD_MOD W 3 1		Set external audio on input No. 3
	Select ext. audio on input #4	ATM 0A AUD_MOD W 4 1		Set external audio on input No. 4
	Select ext. audio on input #5	ATM 0A AUD_MOD W 5 1		Set external audio on input No. 5
	Select ext. audio on input #6	ATM 0A AUD_MOD W 6 1		Set external audio on input No. 6

Get Audio Input Conifg State:	**Check audio set on input #1**	ATM 09 AUD_MOD R 1		ATM 09 AUD_MOD R M M: input number; N: 0/1, 0-HDMI auto audio, 1-external audio E.g. This item is "Check audio input configuration set on input No. 1"
	Check audio set on input #2	ATM 09 AUD_MOD R 2		Check audio input configuration set on input No. 2
	Check audio set on input #3	ATM 09 AUD_MOD R 3		Check audio input configuration set on input No. 3
	Check audio set on input #4	ATM 09 AUD_MOD R 4		Check audio input configuration set on input No. 4
	Check audio set on input #5	ATM 09 AUD_MOD R 5		Check audio input configuration set on input No. 5
	Check audio set on input #6	ATM 09 AUD_MOD R 6		Check audio input configuration set on input No. 6
Audio volume control :	**Set audio Mute**	ATM 09 VOL_CRL W 0		Set the program audio to MUTE
	Set audio volume value at "1"	ATM 09 VOL_CRL W 1		Set program audio output volume value at 1
	Set audio volume value at "2"	ATM 09 VOL_CRL W 2		Set program audio output volume value at 2
	Set audio volume value at "3"	ATM 09 VOL_CRL W 3		Set program audio output volume value at 3
	Set audio volume value at "4"	ATM 09 VOL_CRL W 4		Set program audio output volume value at 4
	Set audio volume value at "5"	ATM 09 VOL_CRL W 5		Set program audio output volume value at 5
	Set audio volume value at "6"	ATM 09 VOL_CRL W 6		Set program audio output volume value at 6
	Set audio volume value at "7"	ATM 09 VOL_CRL W 7		Set program audio output volume value at 7
	Set audio volume value at "8"	ATM 09 VOL_CRL W 8		Set program audio output volume value at 8
	Set audio volume value at "9"	ATM 09 VOL_CRL W 9		Set program audio output volume value at 9
	Set audio volume value at "10"	ATM 09 VOL_CRL W A		Set program audio output volume value at 10
	Increase audio volume by one value	ATM 09 VOL_CRL W E		Increase program audio output by a increment of 1 value
	Decrease audio volume by one value	ATM 09 VOL_CRL W F		Decrease program audio output by a increment of 1 value

Ratio Set

Output Ratio Set	Set input image as “NORMAL” ratio	ATM 0A WIN_RAT W 1 1		Set input image as the original aspect ratio
	Set input image as “FULL” ratio	ATM 0A WIN_RAT W 1 2		Set input image to fill the entire window
	Set input image as “16:9” ratio	ATM 0A WIN_RAT W 1 2		Set input image as the 16:9 aspect ratio
	Set input image as “16:9” ratio	ATM 0A WIN_RAT W 1 4		Set input image as the 4:3 aspect ratio

Timing Set				
Output Timing:	**AUTO**	ATM 09 OPT_TIM W 1		Set the HDMI output as AUTO, outputting the resolutions based on the EDID information of the display device.
	4Kx2K@30Hz UHD	ATM 09 OPT_TIM W 2		Sets the HDMI output resolution as 4Kx2K@30Hz UHD
	1920X1080@60Hz 1080P FHD	ATM 09 OPT_TIM W 3		Sets the HDMI output resolution as 1920X1080@60Hz 1080P FHD
	1280X720@60Hz 720P	ATM 09 OPT_TIM W 4		Sets the HDMI output resolution as 1280X720@60Hz 720P
	1920X1200@60Hz WUXGA	ATM 09 OPT_TIM W 5		Sets the HDMI output resolution as 1920X1200@60Hz WUXGA
	1600X1200@60Hz UXGA	ATM 09 OPT_TIM W 6		Sets the HDMI output resolution as 1600X1200@60Hz UXGA
	1280X800@60Hz WXGA	ATM 09 OPT_TIM W 7		Sets the HDMI output resolution as 1280X800@60Hz WXGA
	1024X768@60Hz XGA	ATM 09 OPT_TIM W 8		Sets the HDMI output resolution as 1024X768@60Hz XGA

Advanced Control

Function	Item	Command		Description
Power control：	**Set unit to be waked up**	ATM 09 POW_CRL W O		When it's Power Off, set the device to power on. （please note it’s hex “0”, not letter “O”）
	Set unit to power-saving standby	ATM 09 POW_CRL W F		When it's Power On, set the device to stand by.

Power saving	**Set duration time before “power-saving” as 0m**	ATM 0A POW_SAV W 00		Set Power Saving disable

	Set duration time before "power-saving" as 5m	ATM 0A POW_SAV W 05		Set the duration time before automatically go into Power Saving status as 5 minutes.
	Set duration time before "power-saving" as 10m	ATM 0A POW_SAV W 0A		Set the duration time before automatically go into Power Saving status as 10 minutes.
	Set duration time before "power-saving" as 15m	ATM 0A POW_SAV W 0F		Set the duration time before automatically go into Power Saving status as 15 minutes.
	Set duration time before "power-saving" as 30m	ATM 0A POW_SAV W 1E		Set the duration time before automatically go into Power Saving status as 30 minutes.
	Set duration time before "power-saving" as 60m	ATM 0A POW_SAV W 3C		Set the duration time before automatically go into Power Saving status as 60 minutes.

Audio Mute:	**Set audio mute "ON"**	ATM 09 AUD_MUT W 0		Set the audio output as mute
	Set audio mute "OFF"	ATM 09 AUD_MUT W F		Cancel the mute setting for the audio output

Audio delay:	**Set audio delay time as 0ms**	ATM 09 AUD_DLY W 0		Set the time-delay of audio output as Off.
	Set audio delay time as 40ms	ATM 09 AUD_DLY W 1		Set the time-delay of audio output as 1 step (40ms)
	Set audio delay time as 80ms	ATM 09 AUD_DLY W 2		Set the time-delay of audio output as 2 step (80ms)
	Set audio delay time as 120ms	ATM 09 AUD_DLY W 3		Set the time-delay of audio output as 3 step (120ms)
	Set audio delay time as 160ms	ATM 09 AUD_DLY W 4		Set the time-delay of audio output as 4 step (160ms)
	Set audio delay time as 200ms	ATM 09 AUD_DLY W 5		Set the time-delay of audio output as 5 step (200ms)
	Set audio delay time as 240ms	ATM 09 AUD_DLY W 6		Set the time-delay of audio output as 6 step (240ms)
	Set audio delay time as 280ms	ATM 09 AUD_DLY W 7		Set the time-delay of audio output as 7 step (300ms)
	Set audio delay time as 320ms	ATM 09 AUD_DLY W 8		Set the time-delay of audio output as 8 step (340ms)
	Set audio delay time as 360ms	ATM 09 AUD_DLY W 9		Set the time-delay of audio output as 9 step (380ms)
	Set audio delay time as 400ms	ATM 09 AUD_DLY W A		Set the time-delay of audio output as 10 step (400ms)

VGA input Auto Position:	**AUTO-adjust on VGA input**	ATM 08 VGA_AUT W		When it's VGA, it adjusts image position automatically.

HDMI output audio control	**HDMI Output audio Mute / Unmute**	ATM 09 AUD_OPT W 1		Mute/Unmute HDMI embedded audio. 0: Mute, 1: Unmute

Restore Default Setting	**Restore unit to default factory set**	ATM 08 RST_SET W		Reset to factory default settings.

Set Baud Rate:	**9600**	ATM 09 BAU_RAT W 1		Set the window baud rate as 9600
	14400	ATM 09 BAU_RAT W 2		Set the window baud rate as 14400
	19200	ATM 09 BAU_RAT W 3		Set the window baud rate as 19200
	38400	ATM 09 BAU_RAT W 4		Set the window baud rate as 38400
	56000	ATM 09 BAU_RAT W 5		Set the window baud rate as 56000
	57600	ATM 09 BAU_RAT W 6		Set the window baud rate as 57600
	115200	ATM 09 BAU_RAT W 7		Set the window baud rate as 115200

HDCP	**Enable HDCP on HDMI output**	ATM 0A HDO_HDP W 1 0		Enable the HDCP “Switch-ON” on the HDMI output port
	Disable HDCP on HDMI output	ATM 0A HDO_HDP W 1 F		Disable the HDCP “Switch-ON” on the HDMI output port
	Enable HDCP on HDBase-T output	ATM 0A HDO_HDP W 2 0		Enable the HDCP “Switch-ON” on the HDBase-T output port
	Disable HDCP on HDBase-T output	ATM 0A HDO_HDP W 2 F		Disable the HDCP “Switch-ON” on the HDBase-T output port
	Check HDCP status on HDMI output	ATM 08 HDO_HDP R		Read/Check the HDCP switch status on the HDMI output port

Timing output Read EDID：	**Check the HDMI output timing**	ATM 09 HDO_EDI W 1		Read/Check the timing of HDMI output port
	Check the HDBT output timing	ATM 09 HDO_EDI W 2		Read/Check the timing of HDBase-T output port

Others	**Get SW Version:**	ATM 08 CSW_VER W		Read/Check the software version
	enable input HDCP KEY	ATM 09 IPT_DCP W 1		Enable the HDMI input HDCP “Switch-ON”
	Set input HDMI/DP	ATM 09 AUD_OPT W 1		Set the HDMI/DP embedded audio to “MUTE”

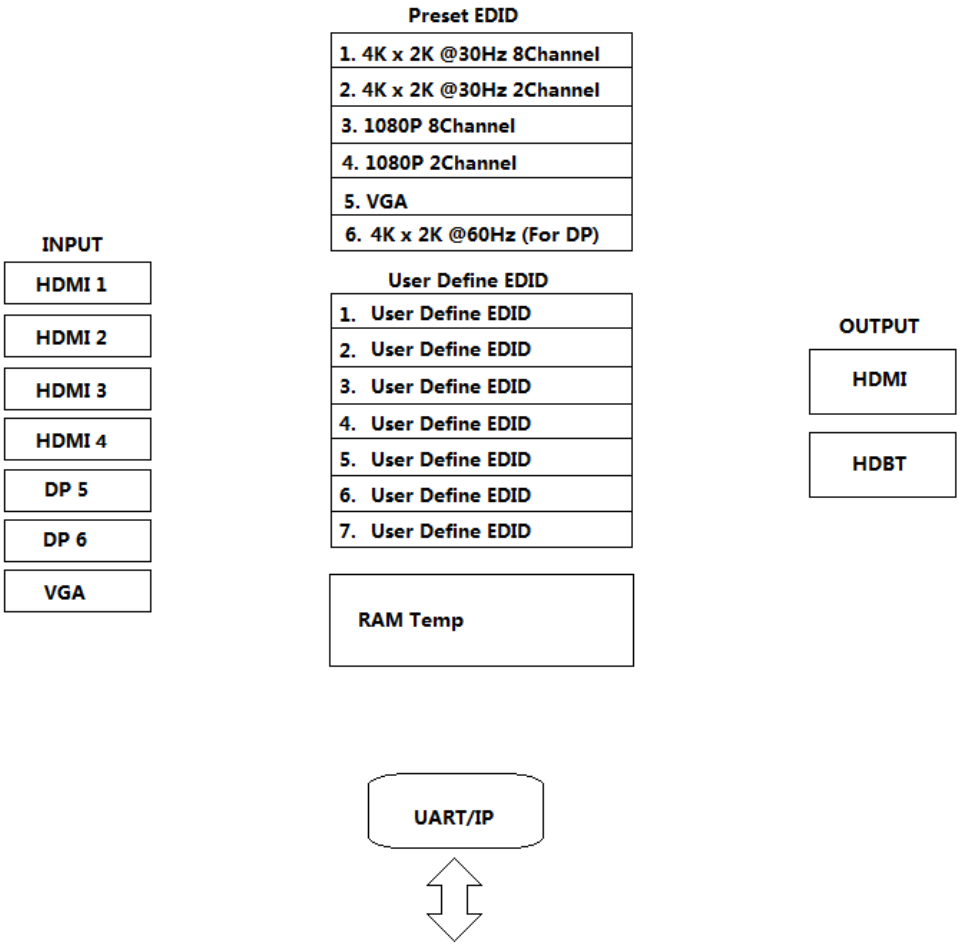
	embedded audio to "MUTE"			
	Activate system update by USB disk	ATM 09 SYS_UPT W 1		Start the upgrading progress through USB connected with upgrading file stored inside

Basis EDID Management

The EDID management including two level methods, Basic EDID Management and Advance EDID Management.

Basic EDID management:

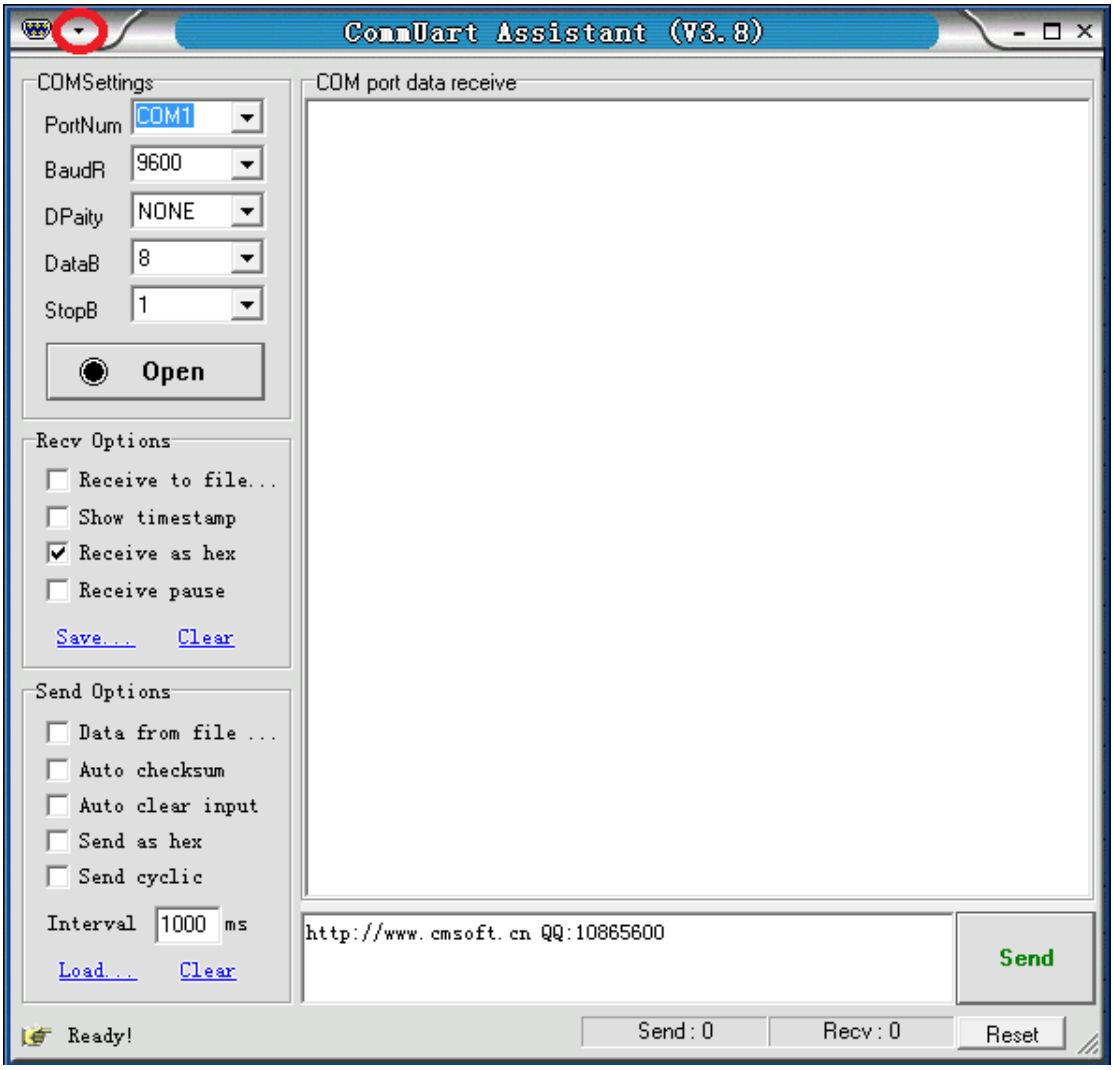
Inner EDID procedure schematic diagram ：



Software introduction

Please run the software “UartAssist”. Which is opened with main interface as below:

Attention: Main software menu is pull down menu, as below. If user want to change the language(语言), please change the language option to be Chinese or English.



Copy the EDID of output to assign it to the EDID of input:

Send：ATM 09 EDI_CPY N M

N：1, 2 (output No. 1-2)

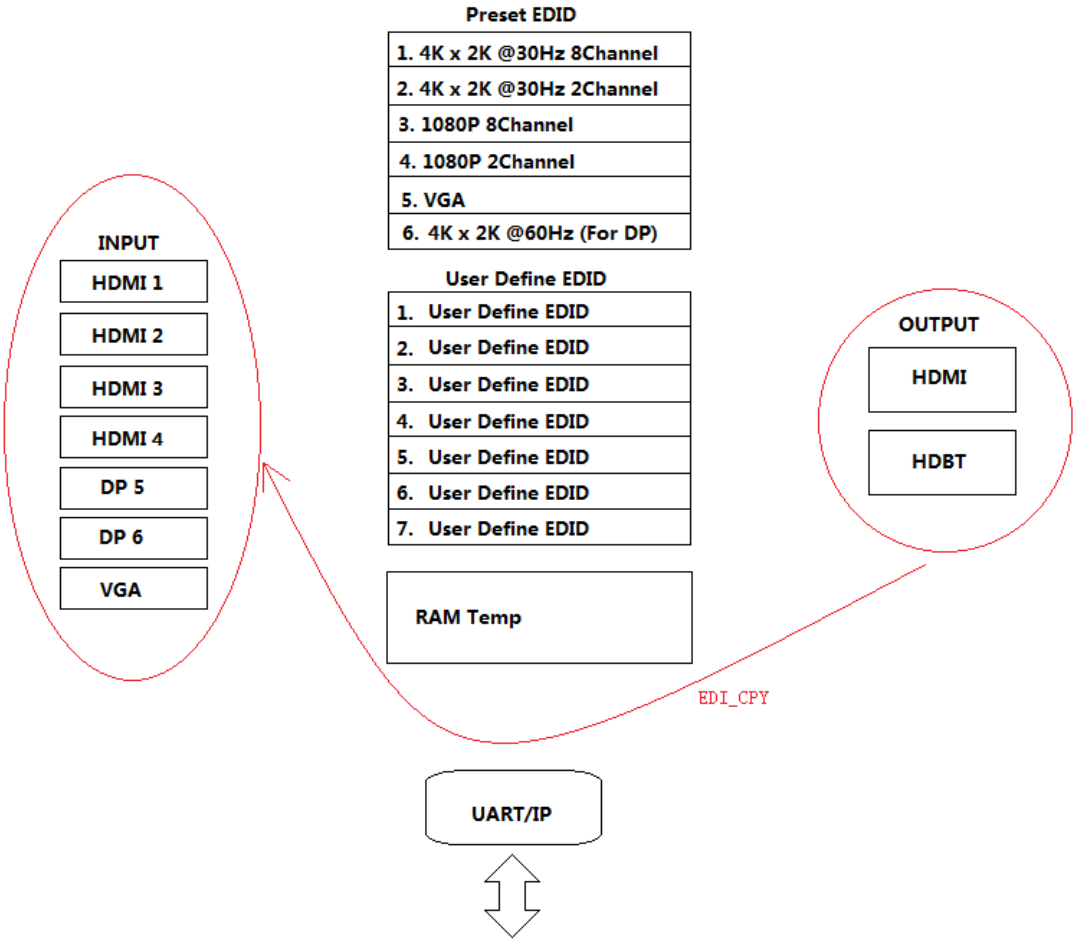
M： 1, 2, 3, 4, 5, 6, 7 (input No. 1-7)

Feedback：09 EDI_CPY N M

Example: Copy the output port No.1, of which EDID from connected display device to assign to the input port No. 1

Send：ATM 09 EDI_CPY 1 1

Feedback： 09 EDI_CPY 1 1



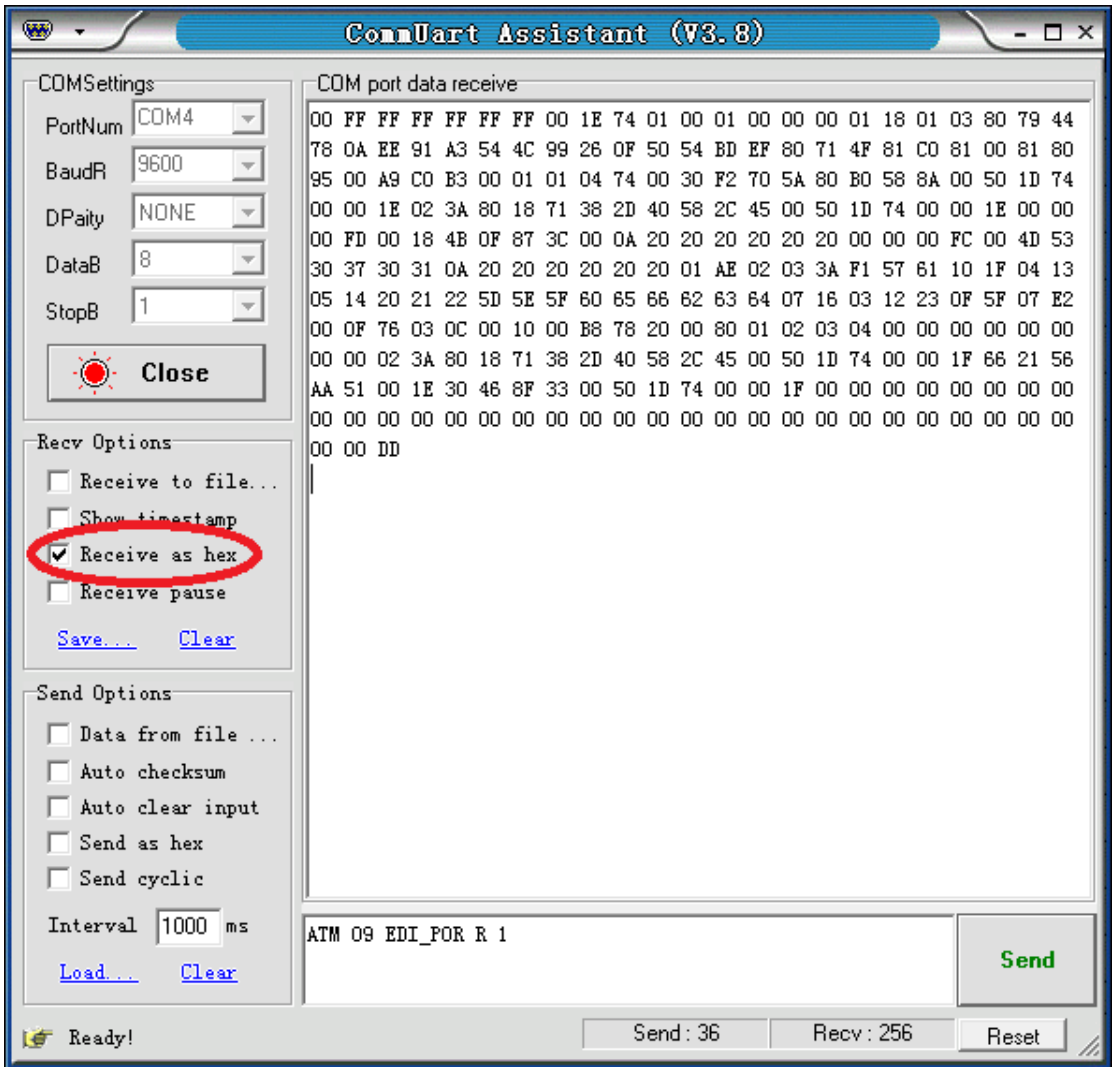
Read the EDID data：

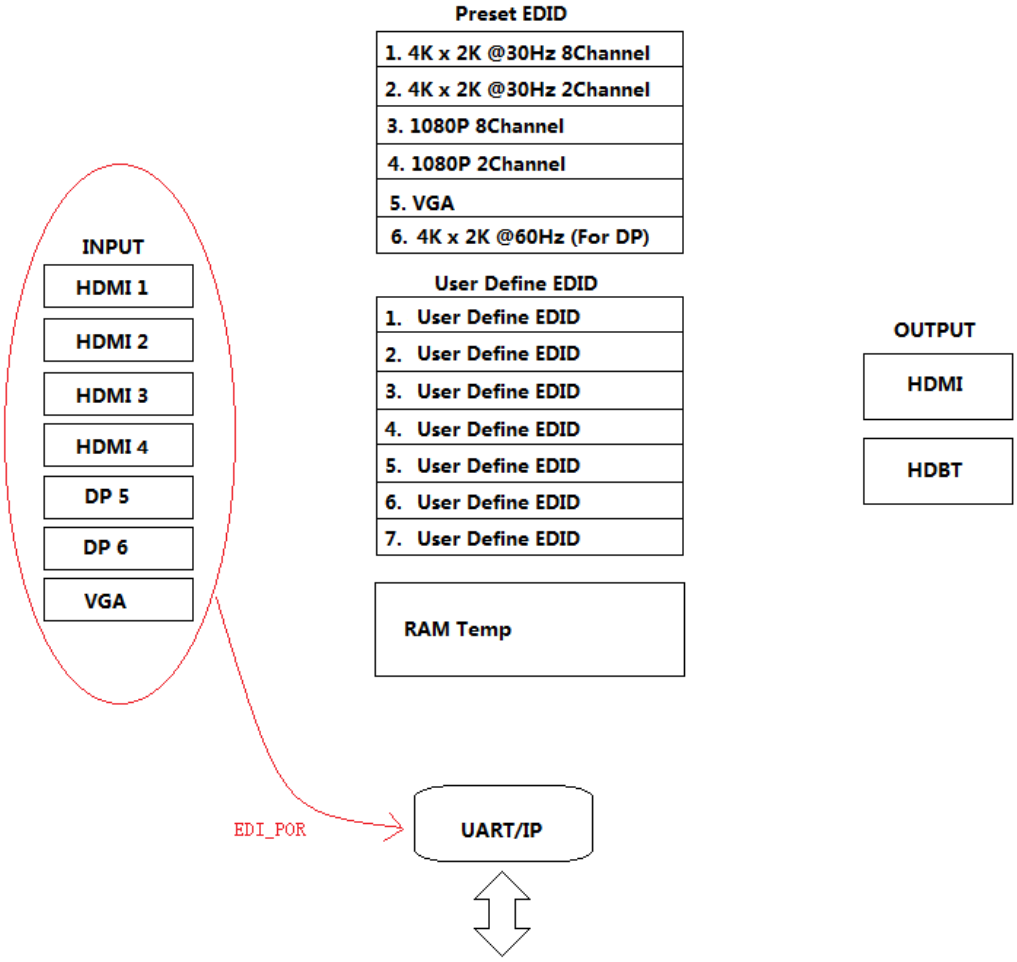
Send： ATM 09 EDI_POR R M

M：1，2，3，4，5，6，7 (input No. 1-7)

Feedback：(receive the EDID data as below)

00 FF FF FF FF FF FF 00 1E 74 01 00 01 00 00 00 01 18 01 03 80 79 44 78 0A EE 91 A3 54 4C 99 26 0F 50 54 BD EF 80 71 4F 81 C0 81 00 81 80 95 00 A9 C0 B3 00 01 01 04 74 00 30 F2 70 5A 80 B0 58 8A 00 50 1D 74 00 00 1E 02 3A 80 18 71 38 2D 40 58 2C 45 00 50 1D 74 00 00 1E 00 00 00 FD 00 18 4B 0F 87 3C 00 0A 20 20 20 20 20 20 00 00 00 FC 00 4D 53 30 37 30 31 0A 20 20 20 20 20 20 01 AE 02 03 3A F1 57 61 10 1F 04 13 05 14 20 21 22 5D 5E 5F 60 65 66 62 63 64 07 16 03 12 23 0F 5F 07 E2 00 0F 76 03 0C 00 10 00 B8 78 20 00 80 01 02 03 04 00 00 00 00 00 00 00 00 02 3A 80 18 71 38 2D 40 58 2C 45 00 50 1D 74 00 00 1F 66 21 56 AA 51 00 1E 30 46 8F 33 00 50 1D 74 00 00 1F 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 DD


ComUart Assistant (V3.8)
COMSettings
PortNum COM4
BaudR 9600
DPaity NONE
DataB 8
StopB 1
Close
Recv Options
Receive to file...
Show timestamp
Receive as hex
Receive pause
Save...
Clear
Send Options
Data from file ...
Auto checksum
Auto clear input
Send as hex
Send cyclic
Interval 1000 ms
Load...
Clear
COM port data receive
00 FF FF FF FF FF FF 00 1E 74 01 00 01 00 00 00 01 18 01 03 80 79 44
78 0A EE 91 A3 54 4C 99 26 0F 50 54 BD EF 80 71 4F 81 C0 81 00 81 80
95 00 A9 C0 B3 00 01 01 04 74 00 30 F2 70 5A 80 B0 58 8A 00 50 1D 74
00 00 1E 02 3A 80 18 71 38 2D 40 58 2C 45 00 50 1D 74 00 00 1E 00 00
00 FD 00 18 4B 0F 87 3C 00 0A 20 20 20 20 20 20 00 00 00 FC 00 4D 53
30 37 30 31 0A 20 20 20 20 20 20 01 AE 02 03 3A F1 57 61 10 1F 04 13
05 14 20 21 22 5D 5E 5F 60 65 66 62 63 64 07 16 03 12 23 0F 5F 07 E2
00 0F 76 03 0C 00 10 00 B8 78 20 00 80 01 02 03 04 00 00 00 00 00 00
00 00 02 3A 80 18 71 38 2D 40 58 2C 45 00 50 1D 74 00 00 1F 66 21 56
AA 51 00 1E 30 46 8F 33 00 50 1D 74 00 00 1F 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 DD
ATM 09 EDI_POR R 1
Send
Ready!
Send : 36
Recv : 256
Reset



Assign the inner EDID to appointed port：

Inner EDID consists of two parts, Preset EDID and User Define EDID

Assign preset EDID to certain port：

Send： ATM 0B EDI_POR W M C N

M:1，2，3，4，5，6，7 (input No. 1-7)

N: 1, 2, 3, 4, 5, 6 (Inner preset EDID value No. 1-6)

Preset EDID
1. 4K x 2K @30Hz 8Channel
2. 4K x 2K @30Hz 2Channel
3. 1080P 8Channel
4. 1080P 2Channel
5. VGA
6. 4K x 2K @60Hz (For DP)

Feedback：0B EDI_POR W M C N

Assign user define EDID to certain input port:

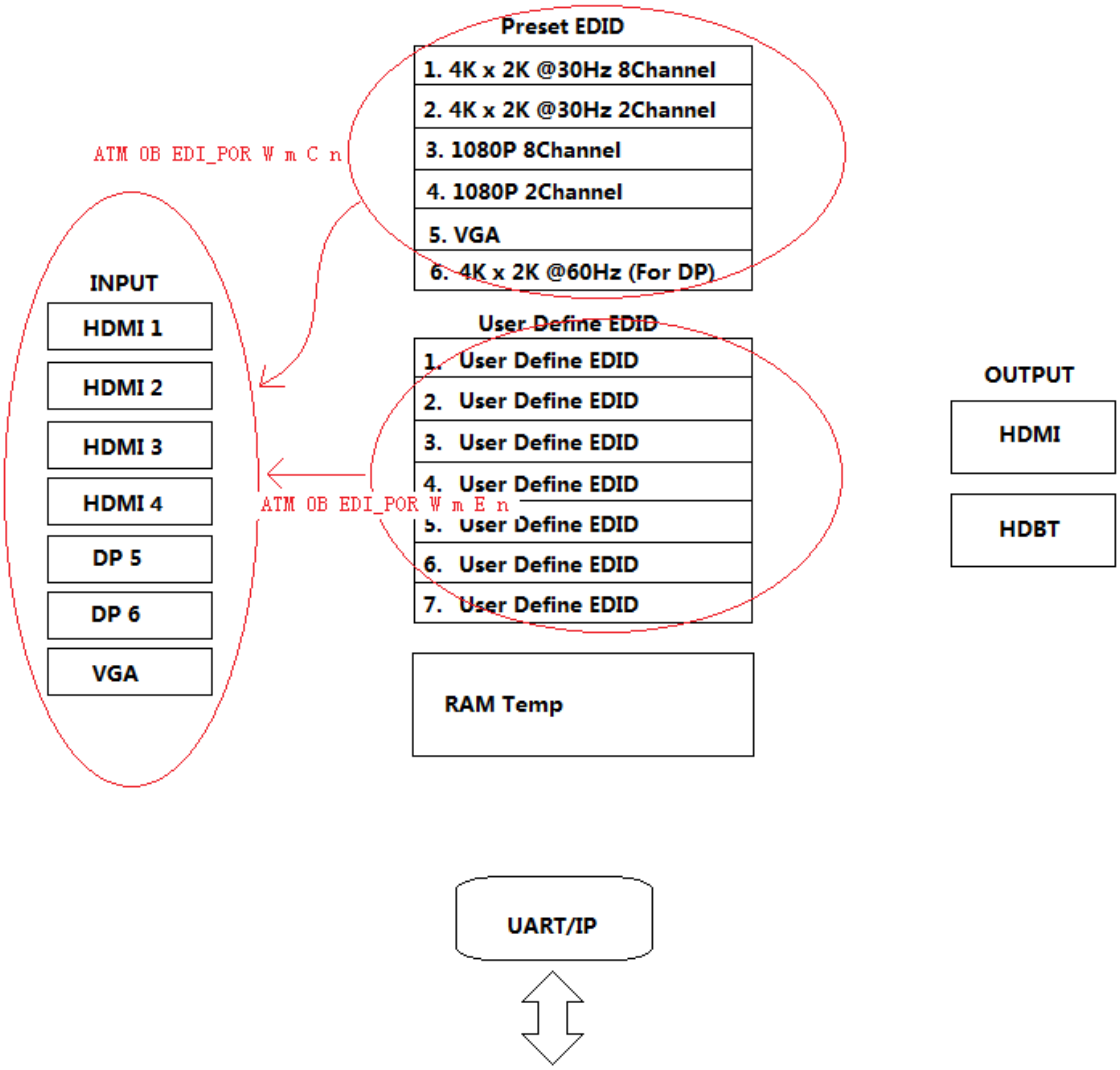
Send： ATM 0B EDI_POR W M E N

M: 1, 2, 3, 4, 5, 6, 7 (input port No. 1-7)

N: 1, 2, 3, 4, 5, 6, 7 (uploaded user define EDID No.1-7)

Feedback：0B EDI_POR W M E N

User Define EDID
1. User Define EDID
2. User Define EDID
3. User Define EDID
4. User Define EDID
5. User Define EDID
6. User Define EDID
7. User Define EDID



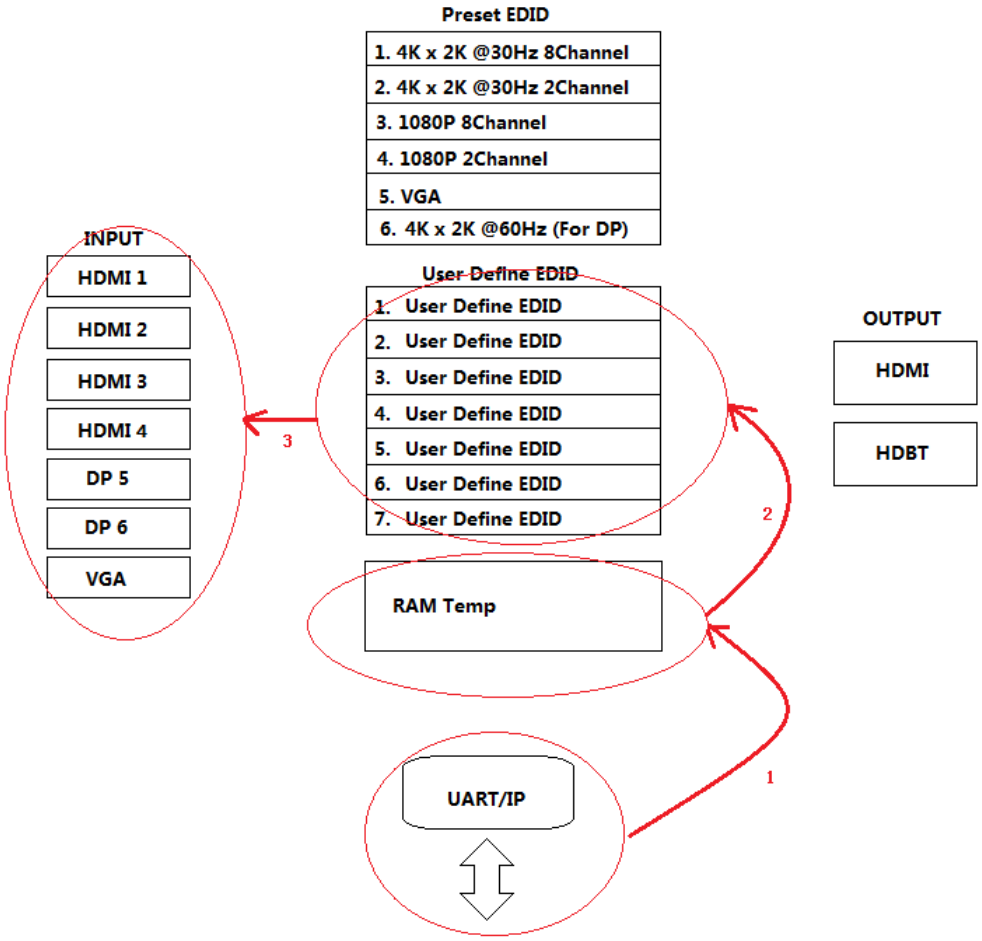
Upload EDID by RS232, LAN：

Steps：1. Upload EDID to TEMP RAM

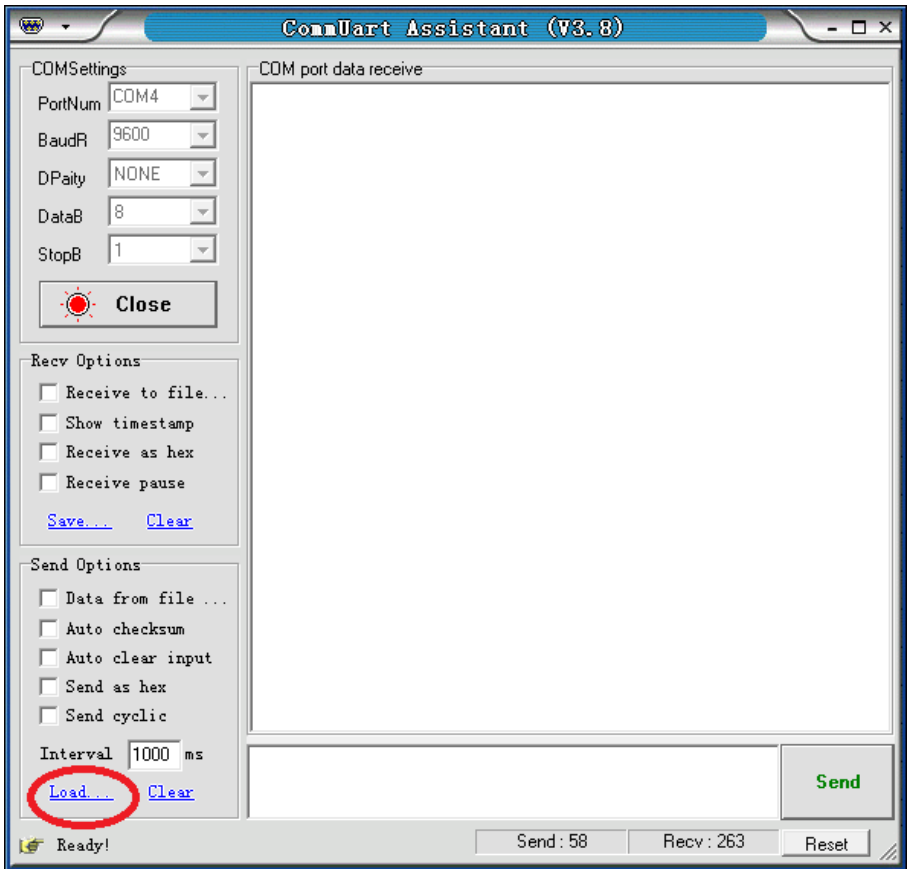
Steps：2. Copy TEMP RAM EDID to the user define EDID

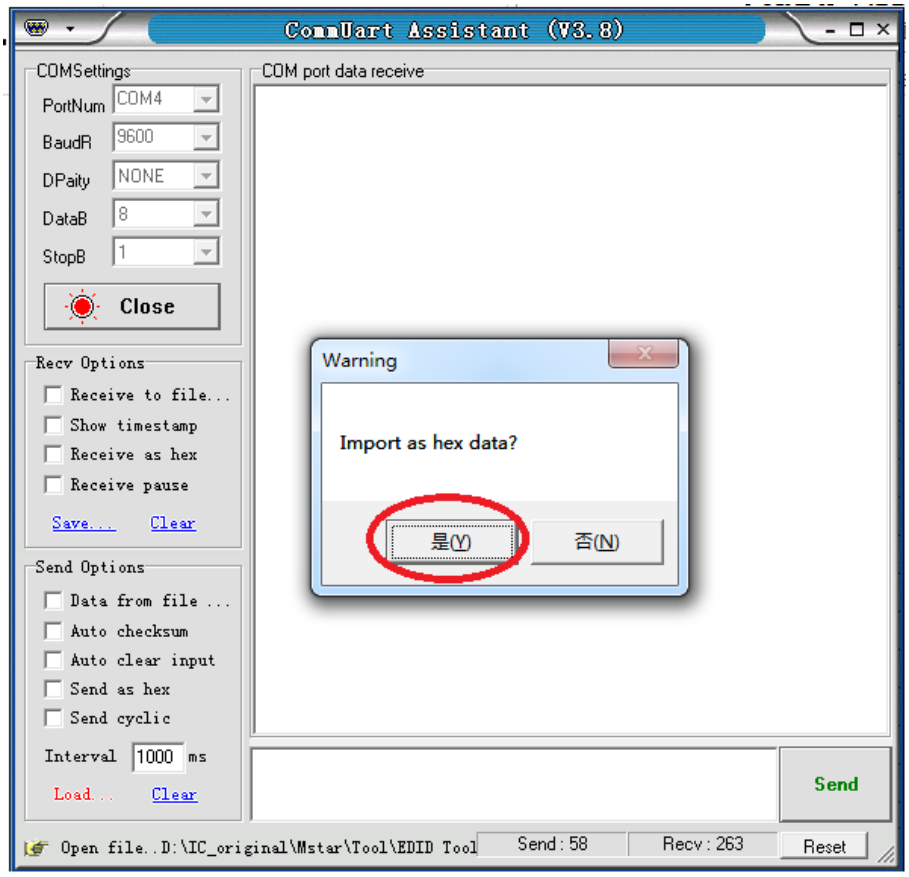
Steps：3. Assign user define EDID to the input

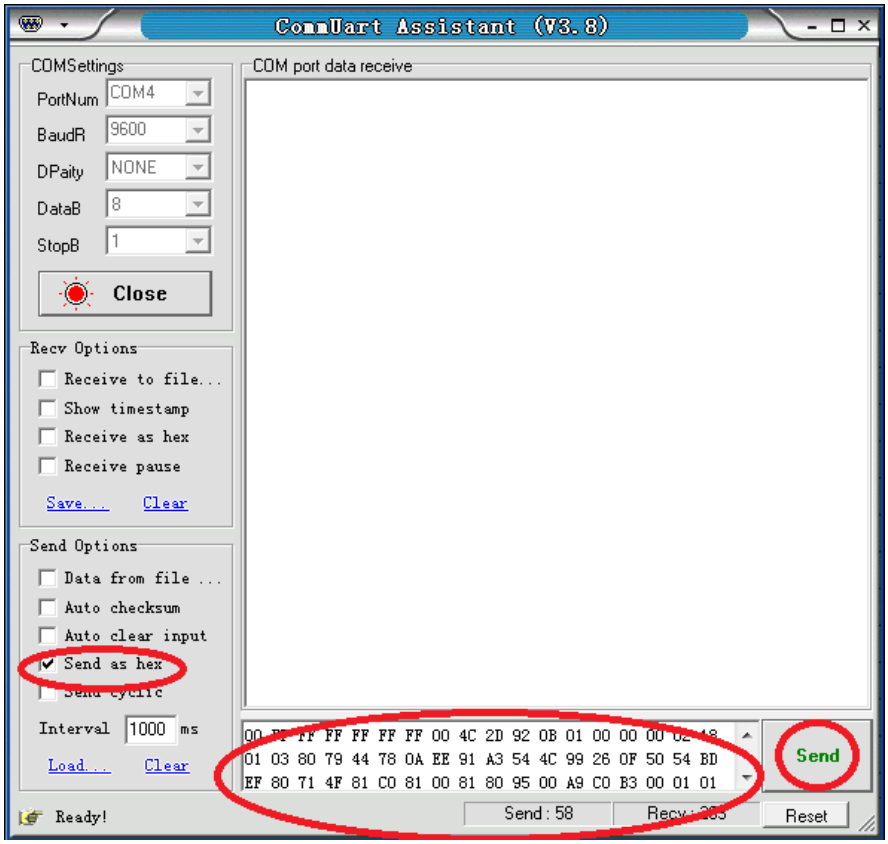
The whole EDID upload process procedure diagram is as below:


Preset EDID
1. 4K x 2K @30Hz 8Channel
2. 4K x 2K @30Hz 2Channel
3. 1080P 8Channel
4. 1080P 2Channel
5. VGA
6. 4K x 2K @60Hz (For DP)
INPUT
HDMI 1
HDMI 2
HDMI 3
HDMI 4
DP 5
DP 6
VGA
User Define EDID
1. User Define EDID
2. User Define EDID
3. User Define EDID
4. User Define EDID
5. User Define EDID
6. User Define EDID
7. User Define EDID
OUTPUT
HDMI
HDBT
RAM Temp
UART/IP
1
2
3

Step1：Upload EDID to TEMP RAM




ComUart Assistant (V3.8)
COMSettings
PortNum COM4
BaudR 9600
DPaity NONE
DataB 8
StopB 1
Close
Recv Options
Receive to file...
Show timestamp
Receive as hex
Receive pause
Save... Clear
Send Options
Data from file ...
Auto checksum
Auto clear input
Send as hex
Send cyclic
Interval 1000 ms
Load... Clear
COM port data receive
Warning
Import as hex data?
是(Y)
否(N)
Send
Open file..D:\IC_original\Mstar\Tool\EDID Tool
Send : 58
Recv : 263
Reset


ComUart Assistant (V3.8)
COMSettings
PortNum COM4
BaudR 9600
DPaity NONE
DataB 8
StopB 1
Close
Recv Options
Receive to file...
Show timestamp
Receive as hex
Receive pause
Save... Clear
Send Options
Data from file ...
Auto checksum
Auto clear input
Send as hex
Interval 1000 ms
Load... Clear
COM port data receive
01 03 80 79 44 78 0A EE 91 A3 54 4C 99 26 0F 50 54 BD
EF 80 71 4F 81 C0 81 00 81 80 95 00 A9 C0 B3 00 01 01
Send
Ready!
Send : 58
Reset

After Step 1 upload, Feedback：EDID 256B

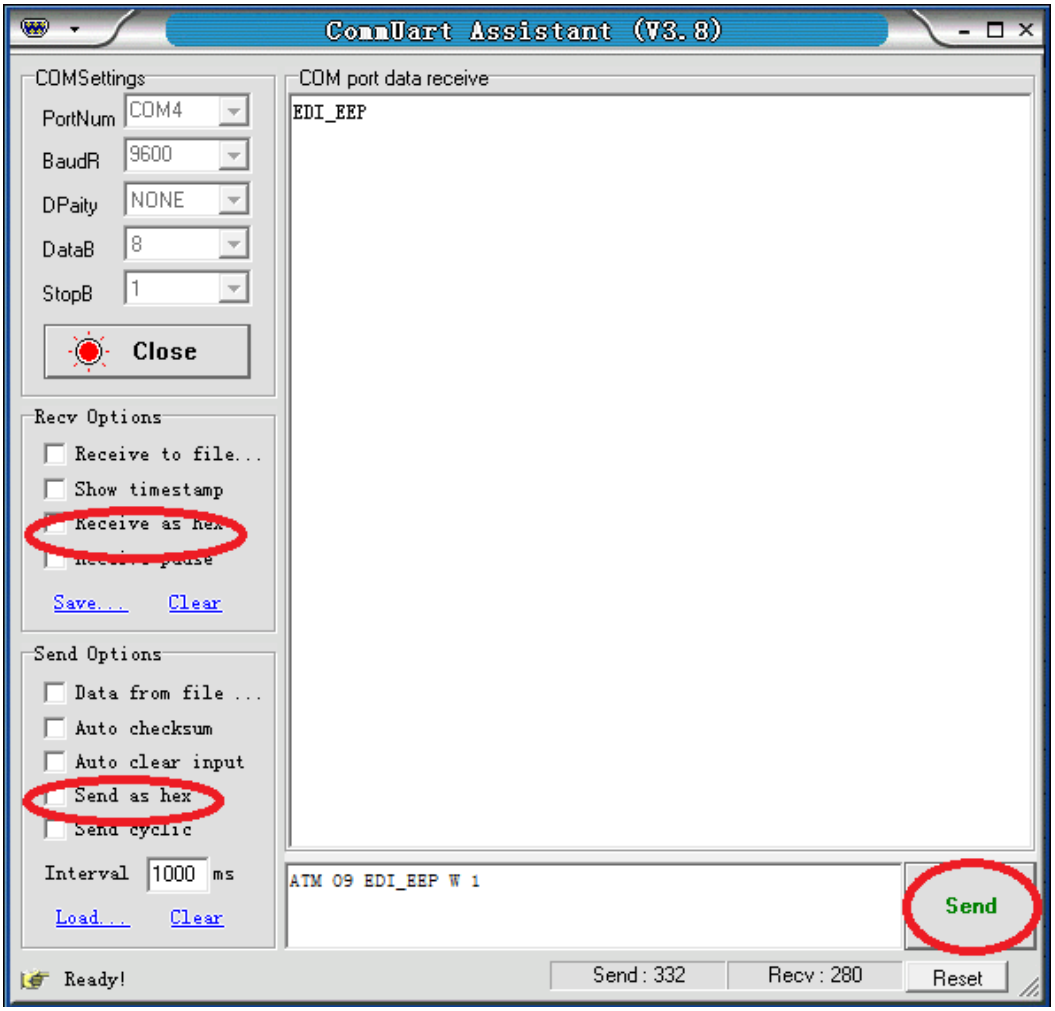
Setp2：Copy TEMP RAM EDID to the user define EDID。

Send：ATM 09 EDI_EEP W M

M: 1,2,3,4,5,6,7 (uploaded user define EDID No.1-7)

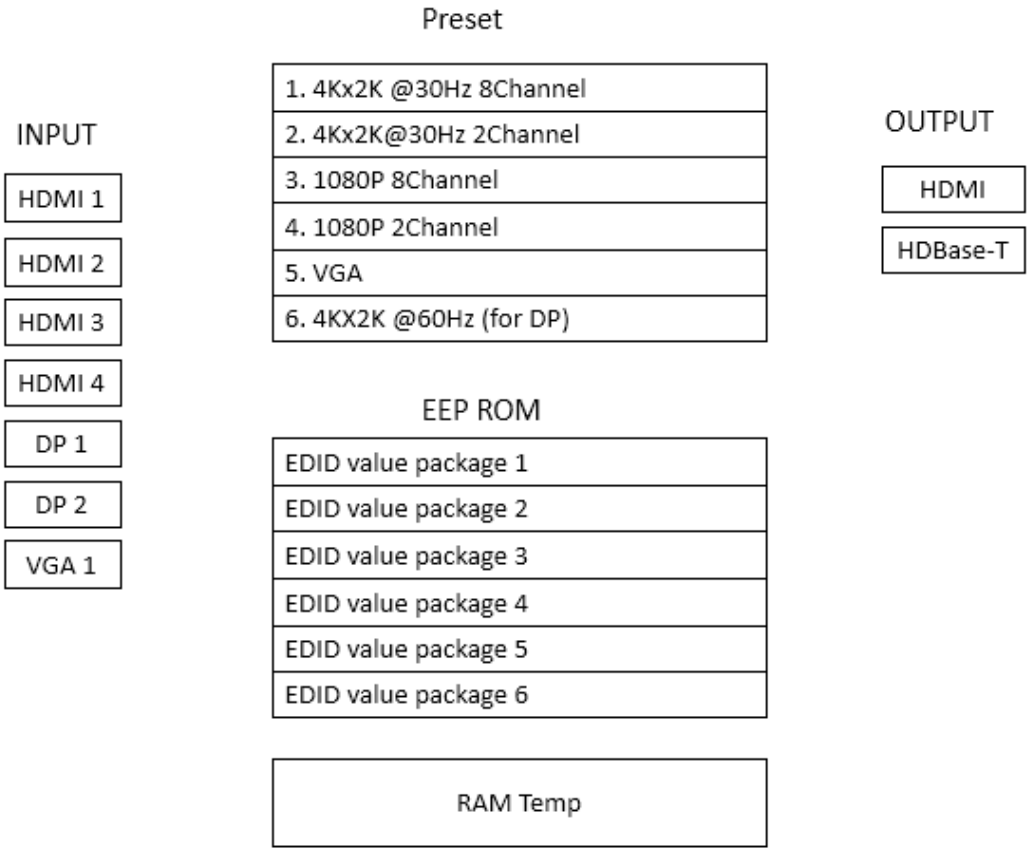
Feedback： 09 EDI_EEP W M

Notice：Please don't click the "send as hex", as below



Advanced EDID management

HDSC71D-4K 's advanced EDID management contains EDID assign, EDID upload and Download and EDID commands for managing the EDID from the seven input ports.



EDID Assign

The HDSC71D-4K has built in six groups of fixed EDID and seven groups of user-defined EDID. These groups of EDID can be assigned to each input port.

The current six groups of embedded EDID

1. 4K_8CH
2. 4K_2CH
3. 1080P_2CH

4. 1080P_8CH
5. VGA
6. 4K@60Hz (for DP)

Therefore, the data for assigning EDID has two groups of commands:

1. Copy Built-in EDID to Port M: ATM 0B EDI_POR W M C N

   Copy the preset EDID N data in the program to the port M.

2. Copy EEPROM EDID to Port M: ATM 0B EDI_POR W M E N

   Copy the EDID data of the EEPROM N to the port M.

   For example:

   Send：ATM 0B EDI_POR W 1 C 1

   Feedback：0B EDI_POR W 1 C 1

   Send：ATM 0B EDI_POR W 2 E 2

   Feedback：0B EDI_POR W 2 E 2

EDID upload and Download

There is only one method for EDID uploading. The steps are shown as follows.

1. Send the 256 or 128 bytes of EDID data in hexadecimal format to the switcher via the serial or LAN ports, the switcher checks the data based on the format of EDID after receiving the data, and it responds EDID_256 or EDID_128 if no errors.
2. Send the following command to store the received EDID data in the EEPROM.

Write EDID (EEPROM)： ATM 09 EDI_EEP W n

For example:

Send：ATM 09 EDI_EEP W 1

Feedback：09 EDI_EEP W 1

3. Copy the EDID data to the related ports via the EDID assigning method.

There are two methods to download the EDID data. One is to read the EDID data from the seven groups of data in the EEPROM. The other is to directly read the EDID data from the ports.

1. Read from the seven groups of data in the EEPROM.

Read EDID(EEPROM)： ATM 09 EDI_EEP R n

For example:

Send：ATM 09 EDI_EEP R 1

Feedback：09 EDI_EEP R 1

2. Read the EDID data from the seven ports.

Read EDID from Port： ATM 09 EDI_POR R m

For example:

Send：ATM 09 EDI_POR R 1

Feedback：09 EDI_POR R 1

256 bytes of EDID data will be sent back to the controller via RS232 or LAN ports.

EDID Names

There is a management method for EDID names. You can name the uploaded seven groups of EDID data in the EERPOM. They are EDID names write and read.

1. EDID Names Write

Write EDID name (EEPROM): ATM 13 EDI_NAE W n XXXXXXXXXX

Interior EDID n names write, the maximum length is 10 bytes. (If the names are less than 10 bytes, use the spaces). The characters include 'A'～'Z', 'a'～'z'，'0'～'9','_'，'-'。

For example:

Send：ATM 13 EDI_NAE W 1 4K_8CH---1

Feedback：13 EDI_NAE W 1 4K_8CH---1

2. EDID Names Read

Read EDID Name (EEPROM)： ATM 09 EDI_NAE R n

Interior EDID n names read

For example:

Send：ATM 09 EDI_NAE R 1

Feedback：4K_8CH---1

EDID commands list

Function	Items	Command	Feedback	Description
	1	ATM 13 EDI_NAE W 1 4K2K_8CH_1	13 EDI_NAE W 1 4K2K_8CH_1	Interior EDID 1 name write

Write EDID Name (EEPROM)	2	ATM 13 EDI_NAE W 2 4K2K_8CH_2	13 EDI_NAE W 2 4K2K_8CH_2	Interior EDID 2 name write
	3	ATM 13 EDI_NAE W 3 4K2K_8CH_3	13 EDI_NAE W 3 4K2K_8CH_3	Interior EDID 3 name write
	4	ATM 13 EDI_NAE W 4 4K2K_8CH_4	13 EDI_NAE W 4 4K2K_8CH_4	Interior EDID 4 name write
	5	ATM 13 EDI_NAE W 5 4K2K_8CH_5	13 EDI_NAE W 5 4K2K_8CH_5	Interior EDID 5 name write
	6	ATM 13 EDI_NAE W 6 4K2K_8CH_6	13 EDI_NAE W 6 4K2K_8CH_6	Interior EDID 6 name write
	7	ATM 13 EDI_NAE W 7 4K2K_8CH_7	EDI_NAE W 7 4K2K_8CH_7	Interior EDID 7 name write

Read EDID Name (EEPROM)	1	ATM 09 EDI_NAE R 1	09 EDI_NAE R 1	Interior EDID 1 name read
	2	ATM 09 EDI_NAE R 2	09 EDI_NAE R 2	Interior EDID 2 name read
	3	ATM 09 EDI_NAE R 3	09 EDI_NAE R 3	Interior EDID 3 name read
	4	ATM 09 EDI_NAE R 4	09 EDI_NAE R 4	Interior EDID 4 name read
	5	ATM 09 EDI_NAE R 5	09 EDI_NAE R 5	Interior EDID 5 name read
	6	ATM 09 EDI_NAE R 6	09 EDI_NAE R 6	Interior EDID 6 name read
	7	ATM 09 EDI_NAE R 7	09 EDI_NAE R 7	Interior EDID 7 name read

Write EDID (EEPROM)	1	ATM 09 EDI_EEP W 1	09 EDI_EEP W 1	Write EDID of the RAM into the EERPOM 1
	2	ATM 09 EDI_EEP W 2	09 EDI_EEP W 2	Write EDID of the RAM into the EERPOM 2
	3	ATM 09 EDI_EEP W 3	09 EDI_EEP W 3	Write EDID of the RAM into the EERPOM 3
	4	ATM 09 EDI_EEP W 4	09 EDI_EEP W 4	Write EDID of the RAM into the EERPOM 4
	5	ATM 09 EDI_EEP W 5	09 EDI_EEP W 5	Write EDID of the RAM into the EERPOM 5
	6	ATM 09 EDI_EEP W 6	09 EDI_EEP W 6	Write EDID of the RAM into the EERPOM 6
	7	ATM 09 EDI_EEP W 7	09 EDI_EEP W 7	Write EDID of the RAM into the EERPOM 7

Read EDID (EEPROM)	1	ATM 09 EDI_EEP R 1		Read EDID of the EEPROM 1
	2	ATM 09 EDI_EEP R 2		Read EDID of the EEPROM 2
	3	ATM 09 EDI_EEP R 3		Read EDID of the EEPROM 3
	4	ATM 09 EDI_EEP R 4		Read EDID of the EEPROM 4
	5	ATM 09 EDI_EEP R 5		Read EDID of the EEPROM 5
	6	ATM 09 EDI_EEP R 6		Read EDID of the EEPROM 6
	7	ATM 09 EDI_EEP R 7		Read EDID of the EEPROM 7

Copy Preset EDID to Port_1	1	ATM 0B EDI_POR W 1 C 1	0B EDI_POR W 1 C 1	Copy the preset EDID 1 in the program to port 1
	2	ATM 0B EDI_POR W 1 C 2	0B EDI_POR W 1 C 2	Copy the preset EDID 2 in the program to port 1
	3	ATM 0B EDI_POR W 1 C 3	0B EDI_POR W 1 C 3	Copy the preset EDID 3 in the program to port 1
	4	ATM 0B EDI_POR W 1 C 4	0B EDI_POR W 1 C 4	Copy the preset EDID 4 in the program to port 1
	5	ATM 0B EDI_POR W 1 C 5	0B EDI_POR W 1 C 5	Copy the preset EDID 5 in the program to port 1
	6	ATM 0B EDI_POR W 1 C 6	0B EDI_POR W 1 C 6	Copy the preset EDID 6 in the program to port 1

Copy EEPROM EDID to Port_1	1	ATM 0B EDI_POR W 1 E 1	0B EDI_POR W 1 E 1	Copy the EDID of the EEPROM 1 to port 1
	2	ATM 0B EDI_POR W 1 E 2	0B EDI_POR W 1 E 2	Copy the EDID of the EEPROM 2 to port 1
	3	ATM 0B EDI_POR W 1 E 3	0B EDI_POR W 1 E 3	Copy the EDID of the EEPROM 3 to port 1
	4	ATM 0B EDI_POR W 1 E 4	0B EDI_POR W 1 E 4	Copy the EDID of the EEPROM 4 to port 1
	5	ATM 0B EDI_POR W 1 E 5	0B EDI_POR W 1 E 5	Copy the EDID of the EEPROM 5 to port 1
	6	ATM 0B EDI_POR W 1 E 6	0B EDI_POR W 1 E 6	Copy the EDID of the EEPROM 6 to port 1
	7	ATM 0B EDI_POR W 1 E 7	0B EDI_POR W 1 E 7	Copy the EDID of the EEPROM 7 to port 1

Copy Preset EDID to Port_2	1	ATM 0B EDI_POR W 2 C 1	0B EDI_POR W 2 C 1	Copy the preset EDID 1 in the program to port 2
	2	ATM 0B EDI_POR W 2 C 2	0B EDI_POR W 2 C 2	Copy the preset EDID 2 in the program to port 2
	3	ATM 0B EDI_POR W 2 C 3	0B EDI_POR W 2 C 3	Copy the preset EDID 3 in the program to port 2
	4	ATM 0B EDI_POR W 2 C 4	0B EDI_POR W 2 C 4	Copy the preset EDID 4 in the program to port 2
	5	ATM 0B EDI_POR W 2 C 5	0B EDI_POR W 2 C 5	Copy the preset EDID 5 in the program to port 2
	6	ATM 0B EDI_POR W 2 C 6	0B EDI_POR W 2 C 6	Copy the preset EDID 6 in the program to port 2

Copy EEPROM	1	ATM 0B EDI_POR W 2 E 1	0B EDI_POR W 2 E 1	Copy the EDID of the EEPROM 1 to port 2

EDID to Port_2	2	ATM 0B EDI_POR W 2 E 2	0B EDI_POR W 2 E 2	Copy the EDID of the EEPROM 2 to port 2
	3	ATM 0B EDI_POR W 2 E 3	0B EDI_POR W 2 E 3	Copy the EDID of the EEPROM 3 to port 2
	4	ATM 0B EDI_POR W 2 E 4	0B EDI_POR W 2 E 4	Copy the EDID of the EEPROM 4 to port 2
	5	ATM 0B EDI_POR W 2 E 5	0B EDI_POR W 2 E 5	Copy the EDID of the EEPROM 5 to port 2
	6	ATM 0B EDI_POR W 2 E 6	0B EDI_POR W 2 E 6	Copy the EDID of the EEPROM 6 to port 2
	7	ATM 0B EDI_POR W 2 E 7	0B EDI_POR W 2 E 7	Copy the EDID of the EEPROM 7 to port 2

Copy Preset EDID to Port_3	1	ATM 0B EDI_POR W 3 C 1	0B EDI_POR W 3 C 1	Copy the preset EDID 1 in the program to port 3
	2	ATM 0B EDI_POR W 3 C 2	0B EDI_POR W 3 C 2	Copy the preset EDID 2 in the program to port 3
	3	ATM 0B EDI_POR W 3 C 3	0B EDI_POR W 3 C 3	Copy the preset EDID 3 in the program to port 3
	4	ATM 0B EDI_POR W 3 C 4	0B EDI_POR W 3 C 4	Copy the preset EDID 4 in the program to port 3
	5	ATM 0B EDI_POR W 3 C 5	0B EDI_POR W 3 C 5	Copy the preset EDID 5 in the program to port 3
	6	ATM 0B EDI_POR W 3 C 6	0B EDI_POR W 3 C 6	Copy the preset EDID 6 in the program to port 3

Copy EEPROM EDID to Port_3	1	ATM 0B EDI_POR W 3 E 1	0B EDI_POR W 3 E 1	Copy the EDID of the EEPROM 1 to port 3
	2	ATM 0B EDI_POR W 3 E 2	0B EDI_POR W 3 E 2	Copy the EDID of the EEPROM 2 to port 3
	3	ATM 0B EDI_POR W 3 E 3	0B EDI_POR W 3 E 3	Copy the EDID of the EEPROM 3 to port 3
	4	ATM 0B EDI_POR W 3 E 4	0B EDI_POR W 3 E 4	Copy the EDID of the EEPROM 4 to port 3
	5	ATM 0B EDI_POR W 3 E 5	0B EDI_POR W 3 E 5	Copy the EDID of the EEPROM 5 to port 3
	6	ATM 0B EDI_POR W 3 E 6	0B EDI_POR W 3 E 6	Copy the EDID of the EEPROM 6 to port 3
	7	ATM 0B EDI_POR W 3 E 7	0B EDI_POR W 3 E 7	Copy the EDID of the EEPROM 7 to port 3
Copy Preset	1	ATM 0B EDI_POR W 4 C 1	0B EDI_POR W 4 C 1	Copy the preset EDID 1 in the program to port 4

EDID to Port_4	2	ATM 0B EDI_POR W 4 C 2	0B EDI_POR W 4 C 2	Copy the preset EDID 2 in the program to port 4
	3	ATM 0B EDI_POR W 4 C 3	0B EDI_POR W 4 C 3	Copy the preset EDID 3 in the program to port 4
	4	ATM 0B EDI_POR W 4 C 4	0B EDI_POR W 4 C 4	Copy the preset EDID 4 in the program to port 4
	5	ATM 0B EDI_POR W 4 C 5	0B EDI_POR W 4 C 5	Copy the preset EDID 5 in the program to port 4
	6	ATM 0B EDI_POR W 4 C 6	0B EDI_POR W 4 C 6	Copy the preset EDID 6 in the program to port 4

Copy EEPROM EDID to Port_4	1	ATM 0B EDI_POR W 4 E 1	0B EDI_POR W 4 E 1	Copy the EDID in the EEPROM 1 to port 4
	2	ATM 0B EDI_POR W 4 E 2	0B EDI_POR W 4 E 2	Copy the EDID in the EEPROM 2 to port 4
	3	ATM 0B EDI_POR W 4 E 3	0B EDI_POR W 4 E 3	Copy the EDID in the EEPROM 3 to port 4
	4	ATM 0B EDI_POR W 4 E 4	0B EDI_POR W 4 E 4	Copy the EDID in the EEPROM 4 to port 4
	5	ATM 0B EDI_POR W 4 E 5	0B EDI_POR W 4 E 5	Copy the EDID in the EEPROM 5 to port 4
	6	ATM 0B EDI_POR W 4 E 6	0B EDI_POR W 4 E 6	Copy the EDID in the EEPROM 6 to port 4
	7	ATM 0B EDI_POR W 4 E 7	0B EDI_POR W 4 E 7	Copy the EDID in the EEPROM 7 to port 4

Copy Preset EDID to Port_5	1	ATM 0B EDI_POR W 5 C 1	0B EDI_POR W 5 C 1	Copy the preset EDID 1 in the program to port 5
	2	ATM 0B EDI_POR W 5 C 2	0B EDI_POR W 5 C 2	Copy the preset EDID 2 in the program to port 5
	3	ATM 0B EDI_POR W 5 C 3	0B EDI_POR W 5 C 3	Copy the preset EDID 3 in the program to port 5
	4	ATM 0B EDI_POR W 5 C 4	0B EDI_POR W 5 C 4	Copy the preset EDID 4 in the program to port 5
	5	ATM 0B EDI_POR W 5 C 5	0B EDI_POR W 5 C 5	Copy the preset EDID 5 in the program to port 5
	6	ATM 0B EDI_POR W 5 C 6	0B EDI_POR W 5 C 6	Copy the preset EDID 6 in the program to port 5

Copy EEPROM EDID to Port_5	1	ATM 0B EDI_POR W 5 E 1	0B EDI_POR W 5 E 1	Copy the EDID of the EEPROM 1 to port 5
	2	ATM 0B EDI_POR W 5 E 2	0B EDI_POR W 5 E 2	Copy the EDID of the EEPROM 2 to port 5

	3	ATM 0B EDI_POR W 5 E 3	0B EDI_POR W 5 E 3	Copy the EDID of the EEPROM 3 to port 5
	4	ATM 0B EDI_POR W 5 E 4	0B EDI_POR W 5 E 4	Copy the EDID of the EEPROM 4 to port 5
	5	ATM 0B EDI_POR W 5 E 5	0B EDI_POR W 5 E 5	Copy the EDID of the EEPROM 5 to port 5
	6	ATM 0B EDI_POR W 5 E 6	0B EDI_POR W 5 E 6	Copy the EDID of the EEPROM 6 to port 5
	7	ATM 0B EDI_POR W 5 E 7	0B EDI_POR W 5 E 7	Copy the EDID of the EEPROM 7 to port 5
Copy Preset EDID to Port_6	1	ATM 0B EDI_POR W 6 C 1	0B EDI_POR W 6 C 1	Copy the preset EDID 1 in the program to port 6
	2	ATM 0B EDI_POR W 6 C 2	0B EDI_POR W 6 C 2	Copy the preset EDID 2 in the program to port 6
	3	ATM 0B EDI_POR W 6 C 3	0B EDI_POR W 6 C 3	Copy the preset EDID 3 in the program to port 6
	4	ATM 0B EDI_POR W 6 C 4	0B EDI_POR W 6 C 4	Copy the preset EDID 4 in the program to port 6
	5	ATM 0B EDI_POR W 6 C 5	0B EDI_POR W 6 C 5	Copy the preset EDID 5 in the program to port 6
	6	ATM 0B EDI_POR W 6 C 5	0B EDI_POR W 6 C 6	Copy the preset EDID 6 in the program to port 6
Copy EEPROM EDID to Port_6	1	ATM 0B EDI_POR W 6 E 1	0B EDI_POR W 6 E 1	Copy the EDID of the EEPROM 1 to port 6
	2	ATM 0B EDI_POR W 6 E 2	0B EDI_POR W 6 E 2	Copy the EDID of the EEPROM 2 to port 6
	3	ATM 0B EDI_POR W 6 E 3	0B EDI_POR W 6 E 3	Copy the EDID of the EEPROM 3 to port 6
	4	ATM 0B EDI_POR W 6 E 4	0B EDI_POR W 6 E 4	Copy the EDID of the EEPROM 4 to port 6
	5	ATM 0B EDI_POR W 6 E 5	0B EDI_POR W 6 E 5	Copy the EDID of the EEPROM 5 to port 6
	6	ATM 0B EDI_POR W 6 E 6	0B EDI_POR W 6 E 6	Copy the EDID of the EEPROM 6 to port 6
	7	ATM 0B EDI_POR W 6 E 7	0B EDI_POR W 6 E 7	Copy the EDID of the EEPROM 7 to port 6
Copy Preset EDID to Port_7	1	ATM 0B EDI_POR W 7 C 1	0B EDI_POR W 7 C 1	Copy the preset EDID 1 in the program to port 7
	2	ATM 0B EDI_POR W 7 C 2	0B EDI_POR W 7 C 2	Copy the preset EDID 2 in the program to port 7

	3	ATM 0B EDI_POR W 7 C 3	0B EDI_POR W 7 C 3	Copy the preset EDID 3 in the program to port 7
	4	ATM 0B EDI_POR W 7 C 4	0B EDI_POR W 7 C 4	Copy the preset EDID 4 in the program to port 7
	5	ATM 0B EDI_POR W 7 C 5	0B EDI_POR W 7 C 5	Copy the preset EDID 5 in the program to port 7
	6	ATM 0B EDI_POR W 7 C 6	0B EDI_POR W 7 C 6	Copy the preset EDID 6 in the program to port 7

Copy EEPROM EDID to Port_7	1	ATM 0B EDI_POR W 7 E 1	0B EDI_POR W 7 E 1	Copy the EDID of the EEPROM 1 to port 7
	2	ATM 0B EDI_POR W 7 E 2	0B EDI_POR W 7 E 2	Copy the EDID of the EEPROM 2 to port 7
	3	ATM 0B EDI_POR W 7 E 3	0B EDI_POR W 7 E 3	Copy the EDID of the EEPROM 3 to port 7
	4	ATM 0B EDI_POR W 7 E 4	0B EDI_POR W 7 E 4	Copy the EDID of the EEPROM 4 to port 7
	5	ATM 0B EDI_POR W 7 E 5	0B EDI_POR W 7 E 5	Copy the EDID of the EEPROM 5 to port 7
	6	ATM 0B EDI_POR W 7 E 6	0B EDI_POR W 7 E 6	Copy the EDID of the EEPROM 6 to port 7
	7	ATM 0B EDI_POR W 7 E 7	0B EDI_POR W 7 E 7	Copy the EDID of the EEPROM 7 to port 7

Read EDID from Port	**Read EDID of input#1**	ATM 09 EDI_POR R 1	09 EDI_POR R 1	Read EDID from input port 1
	Read EDID of input#2	ATM 09 EDI_POR R 2	09 EDI_POR R 2	Read EDID from input port 2
	Read EDID of input#3	ATM 09 EDI_POR R 3	09 EDI_POR R 3	Read EDID from input port 3
	Read EDID of input#4	ATM 09 EDI_POR R 4	09 EDI_POR R 4	Read EDID from input port 4
	Read EDID of input#5	ATM 09 EDI_POR R 5	09 EDI_POR R 5	Read EDID from input port 5
	Read EDID of input#6	ATM 09 EDI_POR R 6	09 EDI_POR R 6	Read EDID from input port 6
	Read EDID of input#7	ATM 09 EDI_POR R 7	09 EDI_POR R 7	Read EDID from input port 7

EDID copy	**Copy EDID from output#1 To Input#1**	ATM 09 EDI_CPY 1 1	09 EDI_CPY 1 1	copy the EDID of output 1 and assigned it onto the input 1

	Copy EDID from output#1 To Input#1	ATM 09 EDI_CPY 1 2	09 EDI_CPY 1 2	copy the EDID of output 1 and assigned it onto the input 2
	Copy EDID from output#1 To Input#1	ATM 09 EDI_CPY 1 3	09 EDI_CPY 1 3	copy the EDID of output 1 and assigned it onto the input 3
	Copy EDID from output#1 To Input#1	ATM 09 EDI_CPY 1 4	09 EDI_CPY 1 4	copy the EDID of output 1 and assigned it onto the input 4
	Copy EDID from output#1 To Input#1	ATM 09 EDI_CPY 1 5	09 EDI_CPY 1 5	copy the EDID of output 1 and assigned it onto the input 5
	Copy EDID from output#1 To Input#1	ATM 09 EDI_CPY 1 6	09 EDI_CPY 1 6	copy the EDID of output 1 and assigned it onto the input 6
	Copy EDID from output#1 To Input#1	ATM 09 EDI_CPY 1 7	09 EDI_CPY 1 7	copy the EDID of output 1 and assigned it onto the input 7

WEB Setting

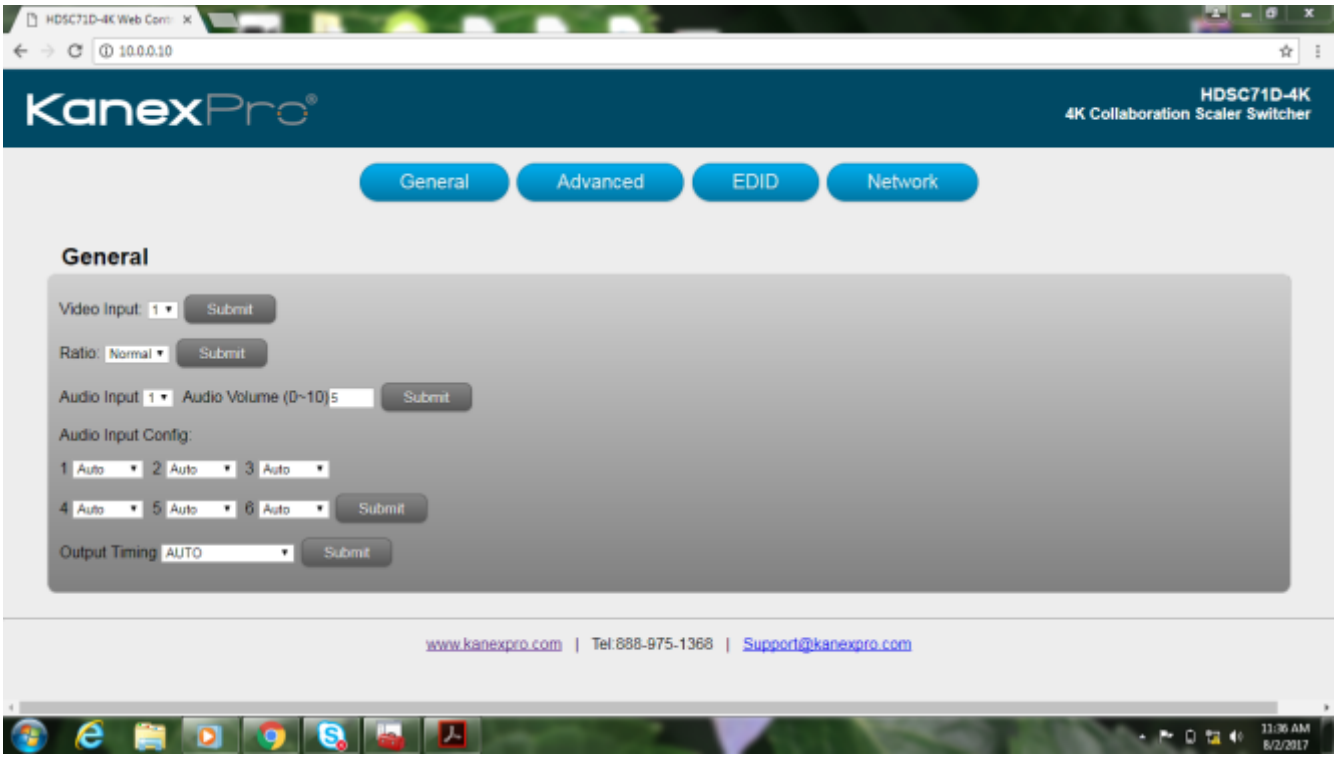
The HDSC71D-4K can be controlled via Web browser, which contains General Settings and Advanced Settings. After the cables are connected, the IP address is obtained and the IP address is entered in the Web browser, it can be controlled. For more information about how to obtain the IP address, see the chapter IP Setting above.

For example, the obtained IP address is 192.168.3.5 and port number is 23.

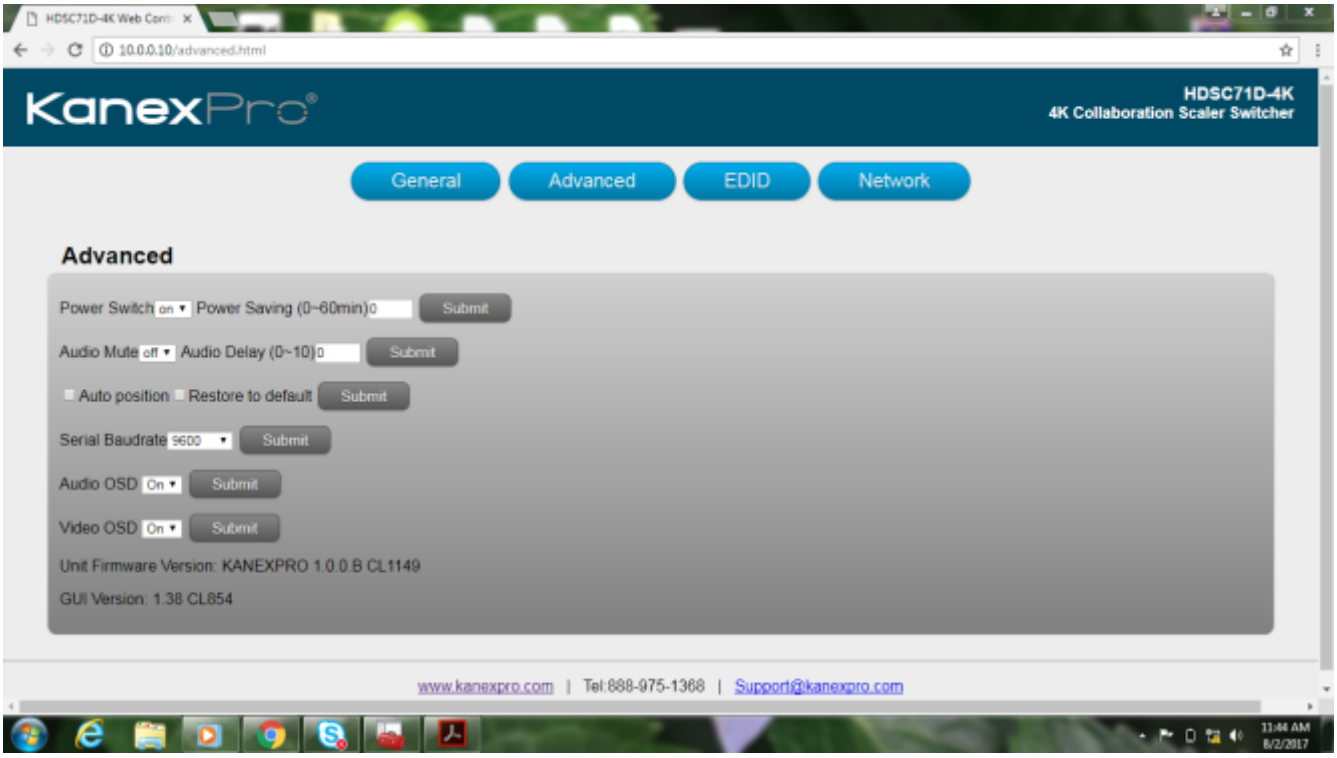
Input http://192.168.31.131 in the address bar of the web browser.

Click **General** and **Advanced** to access their pages.

General Settings



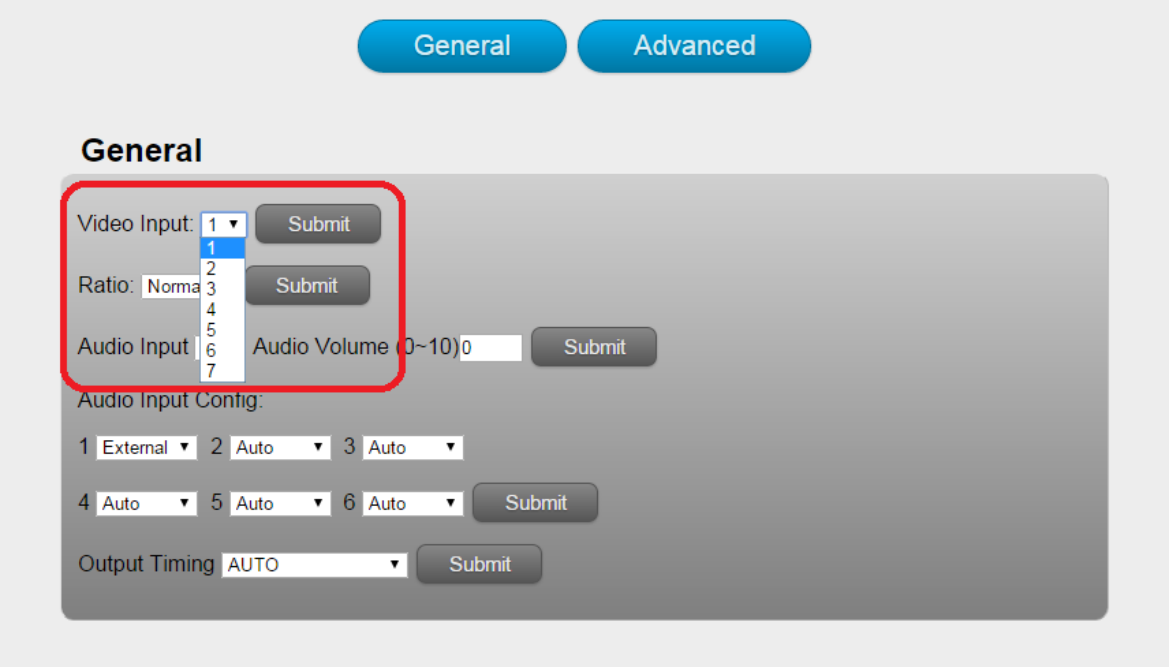
Advanced:



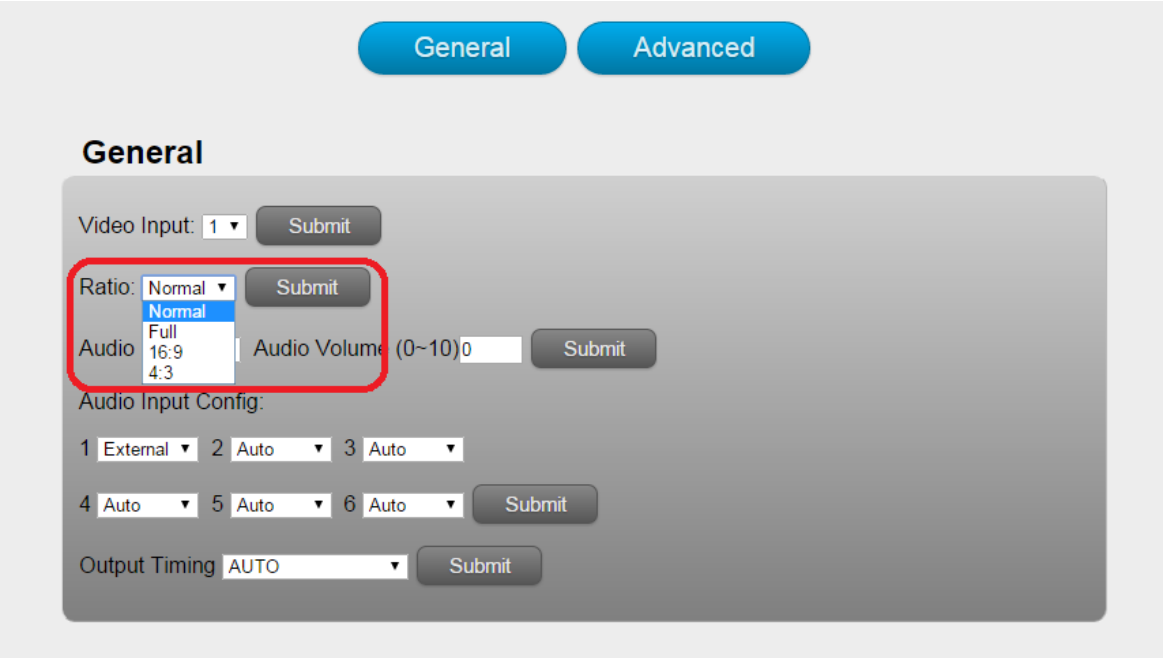
Contains the following options.

1. Video Input
2. Ration
3. Audio Input Selection
4. Audio Volume Setting
5. Audio Input Config:
6. Output Timing Setting

Video Input Selection



Video selection ranges from 1 to 7, corresponding to the seven video inputs. Select the related parameters, and click **Submit** to make the changes take effect.



Normal: Set the picture as the original aspect ratio

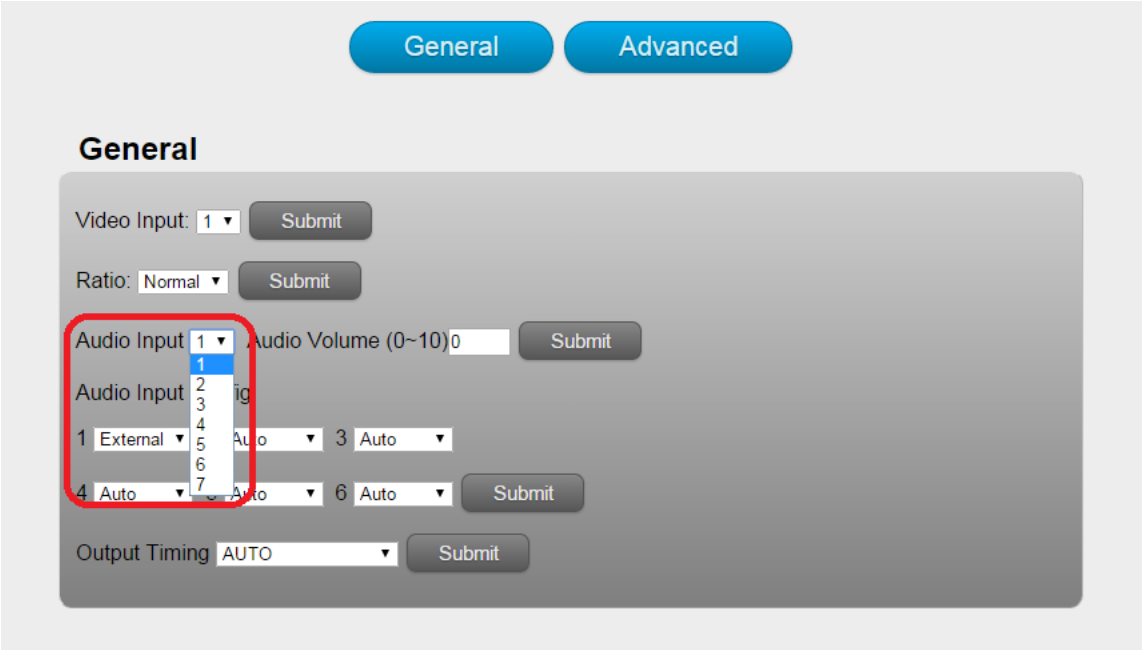
Full: Set the picture to fill the entire window

16:9: Set the picture as the 16:9 aspect ratio

4:3: Set the picture as the 4:3 aspect ratio

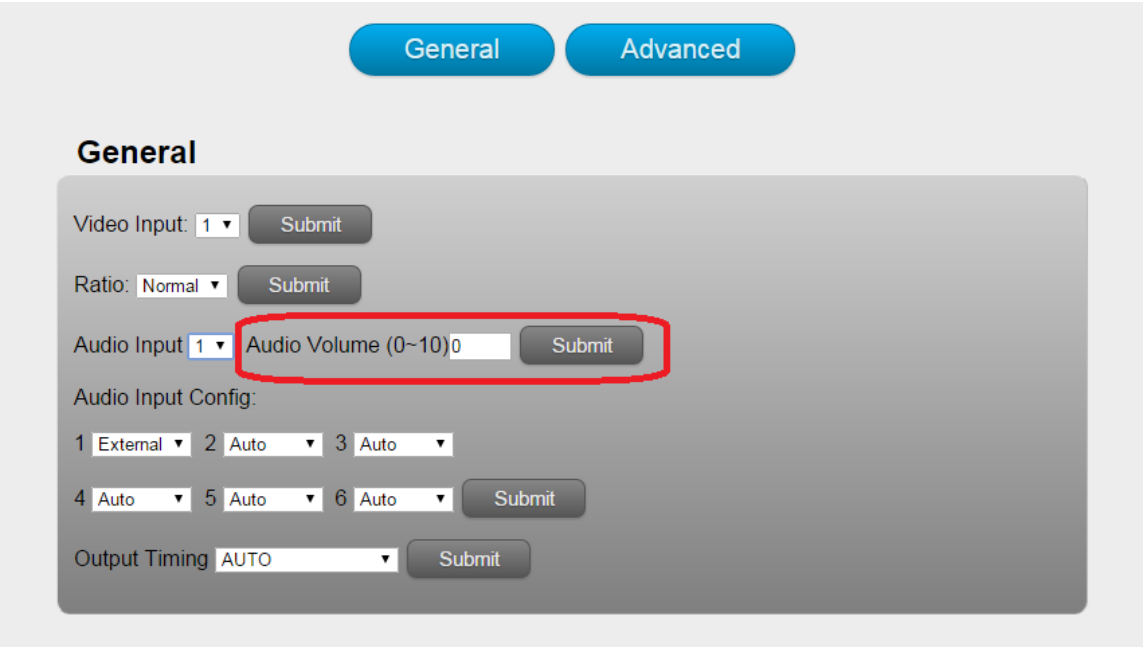
Select the related parameters, and click **Submit** to make the changes take effect.

Audio Input



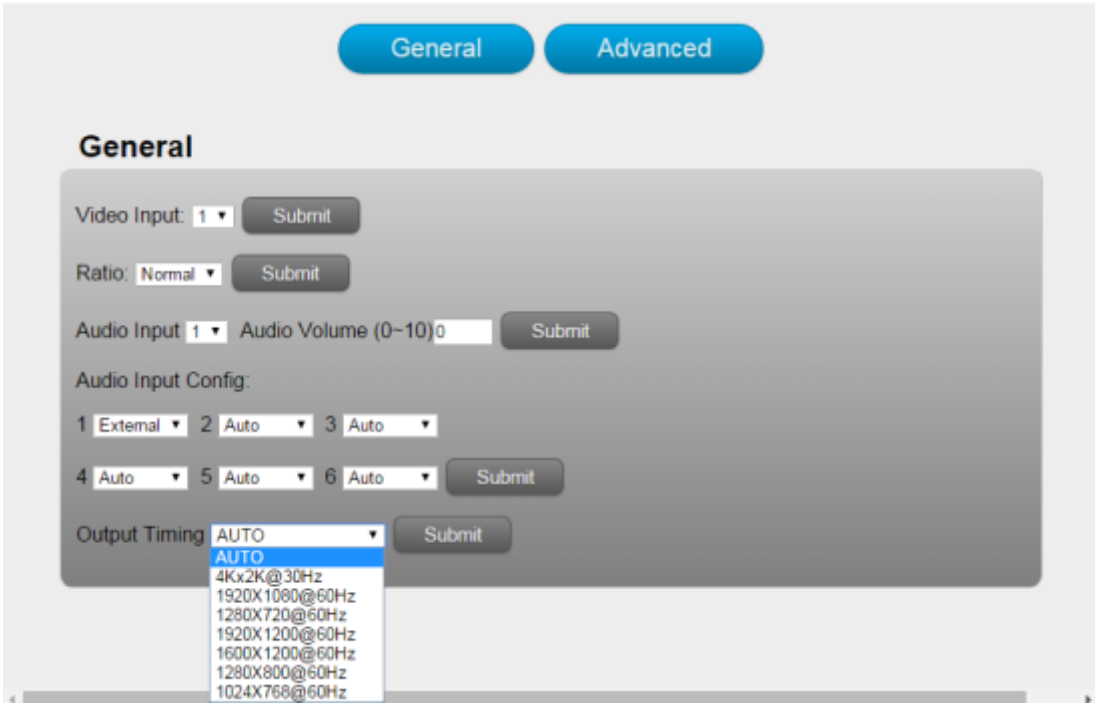
Audio input selection ranges from 1 to 7, corresponding to the seven audio inputs. Select the related parameters, and click **Submit** to make the changes take effect.

Audio Volume:



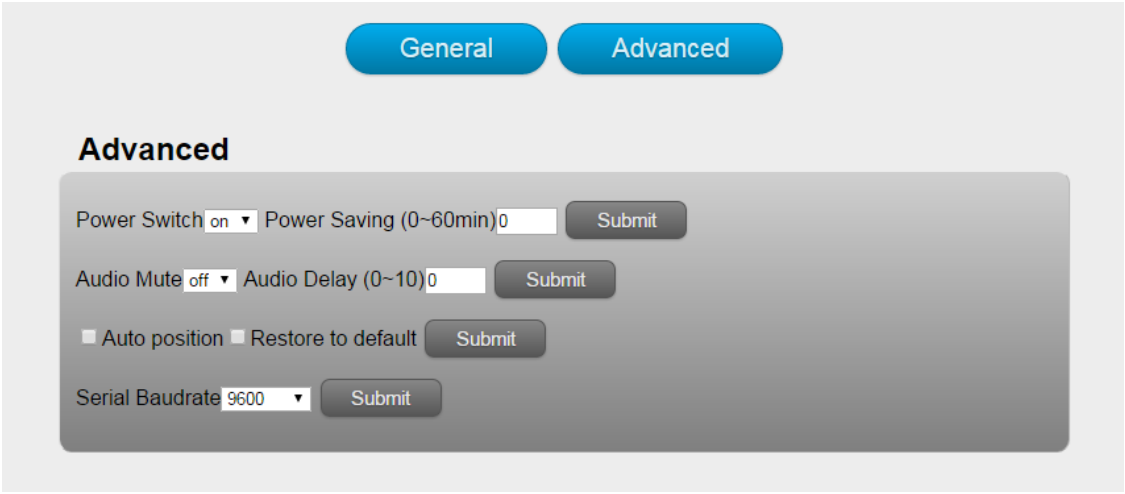
Output volume ranges from 0 to 10. 0 is mute, and 10 is the maximum volume. Select the related parameters, and click **Submit** to make the changes take effect.

Output Timing:



HDMI output resolution selection: AUTO (auto adjustment of the output resolution based on the EDID of the display device), 4Kx2K@30Hz, 1920x1080@60Hz, 1280x720@60Hz, 1920x1200@60Hz, 1600x1200@60Hz, 1280x800@60Hz, 1024x768@60Hz. Select the related parameters, and click **Submit** to make the changes take effect.

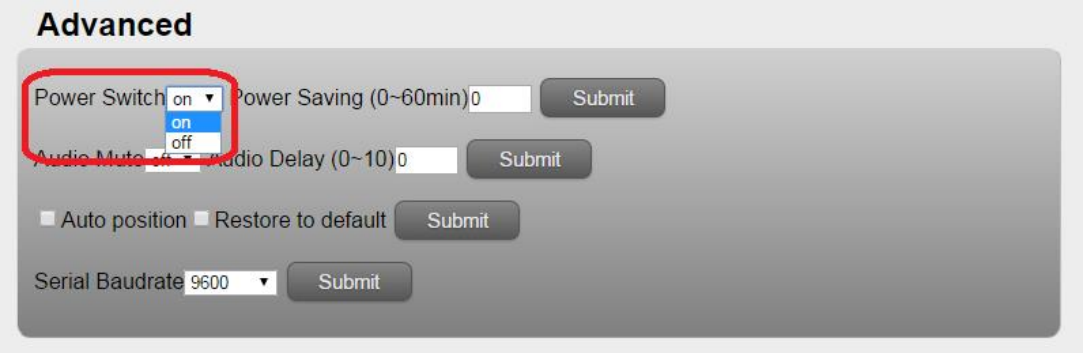
Advanced Settings



Contain the following options:

1. Power Switch Selection
2. Power Saving Selection
3. Audio Mute Selection
4. Audio Delay Selection
5. Auto Position Setting
6. Restore to default Setting
7. Serial Baud rate Setting

Power Switch Selection



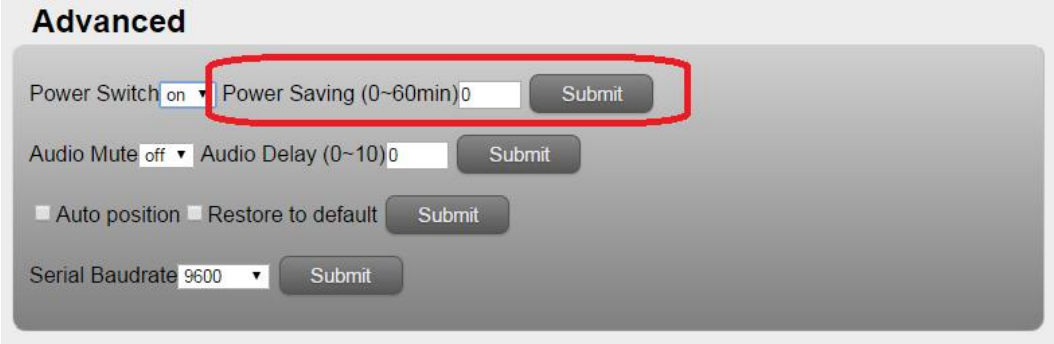
HDSC71D-4K power management:

ON: When it's Power Off, set the device to power on.

When it's Power On, set the device to stand by.

Select the related parameters, and click **Submit** to make the changes take effect.

Power Saving Selection



To save power, when no signal is input in all the windows, it enters the status of auto setting the standby time. Time options range from 0 min to 60 min. It's recommended that you use 0 min, 5 min, 10 min, 15 min, 30 min and 60 min. 0 is off, meaning turning off this function.

Select the related parameters, and click **Submit** to make the changes take effect.

Audio Mute Selection

Audio output mute setting. OFF is turning off mute, outputting the audio normally. On is enabling the mute without outputting the audio. At the same time, OSD prompts the related icons.

Select the related parameters, and click **Submit** to make the changes take effect.

Audio Delay Selection

Audio output time-delay selection: 0～10. 0 is turning off the time-delay function. Select the related parameters, and click **Submit** to make the changes take effect.

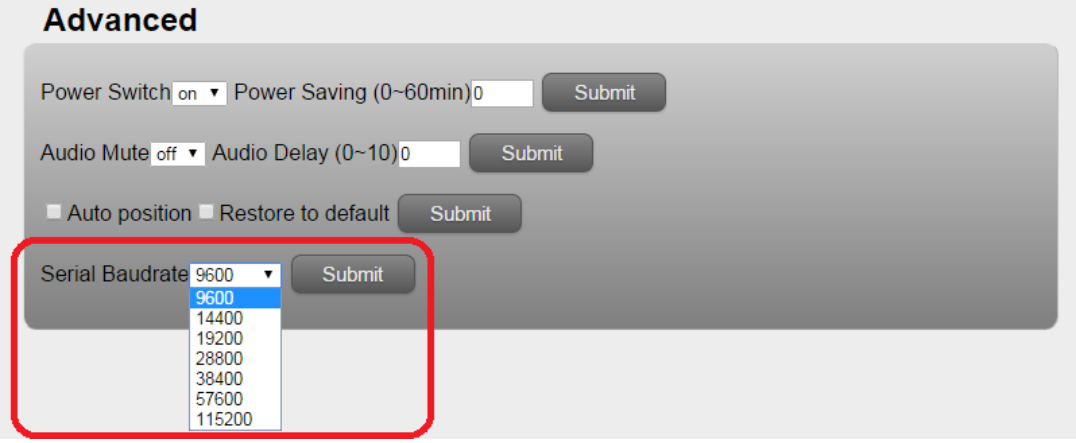
Auto Position Setting

When VGA is input, perform this function to automatically adjust the VGA picture. Adjustment parameters contain Horizontal Position, Vertical Position, Clock and Phase. At the same time, OSD prompts the related information (Auto Adjust). Click **Submit** to perform the settings.

Restore to default Setting

Restore to the factory default, and click **Submit** to perform the settings.

Serial Baud Rate Setting



Serial Baud Rate setting. It's recommended that you use 9600. Select the related parameters, and click **Submit** to make the changes take effect.

Other

Factory Reset Button

The switcher can be set to factory default by the front panel button. The method is

1) Press and hold the input 5 button on the front panel
2) Press the “Standby” button to wake the unit from standby mode.
3) You’ll see all the front panel button LEDs blink to indicate the unit is being set to factory default.

F/W Update

HDSC71D-4K can be updated through a USB drive as follows.

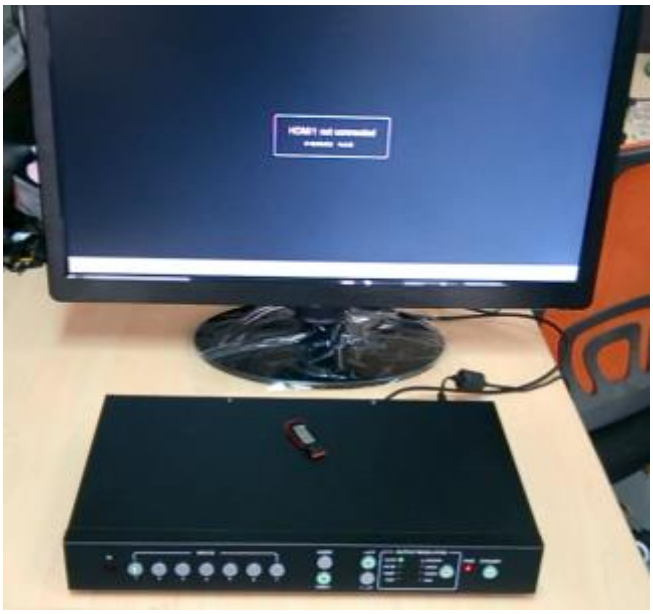
1) Copy the updating file “MERGE.bin” to the root directory of the USB drive.

2) Connect the USB drive to the USB port on the rear of the device.

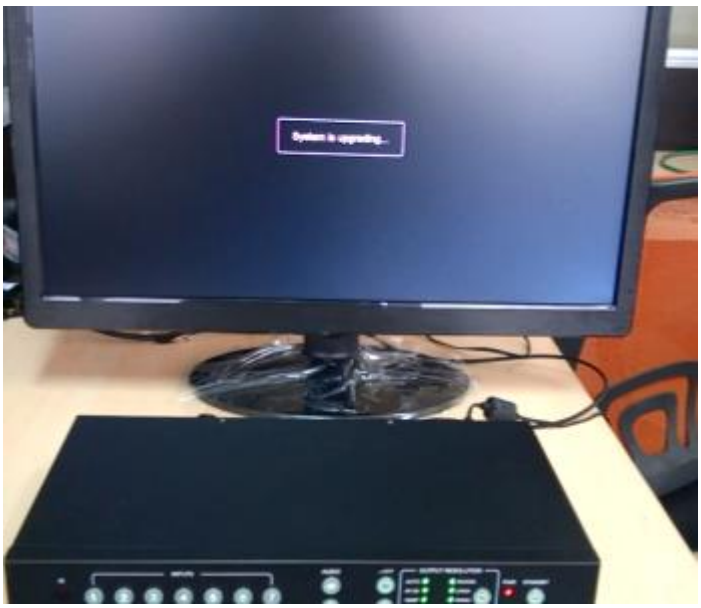
Attention: The USB port can only support maximum 500ma. Please use a small power U-disk as upgrading USB drive.

3) Connect a HDMI display to the switcher

4) Turn on the switcher. The display device displays the HDMI output signal after normal boot of the device, as below:



5) Press and hold the INPUTS 1 button for more than five seconds, "System is upgrading..."is displayed in the display device, at the same time, all buttons indicators on the front panel blink, as below:



Attention: The unit can't be power-off until the upgrading progress is finished. Or, the unit firmware will be corrupted.

6) After updating, "Upgrading is successful, system will reboot" is displayed in the display device. After seconds, the unit will reboot.

7) The unit reboots automatically.

8) Till now, the whole upgrading progress is finished.

Electrical Parameters

Specifications

Supported Formats	
Resolutions (max.)	• 3840x2160 @30Hz(4K x 2K @30Hz)

Electrical	
Screen layout Select Buttons	• 4 x Tact-type, green backlight
Video Select Buttons	• 4 x Tact-type, green backlight
Inputs Select Buttons	• 7 x Tact-type, green backlight
Audio Select Button	• 1 x Tact-type, green backlight
Output Resolution Select Button	• 1 x Tact-type, green backlight
On / Standby Button	• 1 x Tact-type, green backlight
Output Resolution Indicators	• 8 x LED, green
Power Indicator	• 1 x LED, red

Connectors	
Video Input	• 4 x HDMI Type A 19-pin, female, • 2 x DisplayPort (Full Size) 20-pin, female, • 1 x VGA DB-15 15-pin, female,
Video Output	• 1 x HDMI Type A 19-pin, female
Audio Input	• 7 x 3.5mm mini-stereo
Audio Output	• 4 x 3.5mm mini-stereo • 1 x Optical
RS-232	• 1 x DB-9, female
IP Control(LAN)	• 1 x RJ-45
USB(Reserve)	• Type A 4-pin, female
AC Power	• 1 x 110~240V AC 3-pin

Operational	
Power Input	• 110~240V AC
Power Consumption	• 15W (max.)

Physical	
Dimensions (W x H x D)	• 12.6" x 1.7" x 7.3" (321mm x 43.5mm x 185mm)
Unit Weight	• 3.3 lbs (1.5 kg)

• 11) After-sales Service

1) If there appear some problems when running HDSC71D-4K, please check and deal with the problems reference to this user manual. Any transport costs are borne by the users during the warranty.

2) You can email to our after-sales department or make a call, please tell us the following information about your cases.

- Product version and name.
- Detailed failure situations.
- The formation of the cases.

3) We offer products for all three-year warranty, which starts from the first day you, buy this product (The purchase invoice shall prevail).

4) Any problem is same with one of the following cases listed; we will not offer warranty service but offer for charge.

- Beyond the warranty.
- Damage due to incorrectly usage, keeping or repairing.
- Damage due to device assembly operations by the maintenance company non-assigned.
- No certificate or invoice as the proof of warranty.
- The product model showed on the warranty card does not match with the model of the product for repairing or had been altered.
- Damage caused by force majeure.

5) This document is just a user manual released with the product, not a quality guarantee. Any corrections or new function introductions added, we will update this document without further notice.

Remarks: For any questions or problems, please try to get help from your local distributor or call us at (888)975-1368, email: support@kanexpro.com

• Warranty

A. LIMITED WARRANTY

KanexPro ™ warrants that (a) its products (the "Product") will perform greatly in agreement with the accompanying written materials for a period of 36 months (3 full year) from the date

of receipt and (b) that the product will be free from defects in materials and workmanship under normal use and service for a period of 3 years.

B. CUSTOMER REMEDIES

KanexPro entire liability and Customer's exclusive remedy shall be, at KanexPro option, either return of the price paid for the product, or repair or replacement of the Product that does not meet this Limited Warranty and which is returned to KanexPro with a copy of customers' receipt. This Limited Warranty is void if failure of the Product has resulted from accident, abuse, or misapplication. Any replacement Product will be warranted for the remainder of the original warranty period of 1 year, whichever is longer.

C. NO OTHER WARRANTIES

To the maximum extent permitted by applicable law, KanexPro disclaims all other warranties, either express or implied, including, but not limited to implied warranties of merchantability and fitness for a particular purpose, with regard to the product and any related written materials. This limited warranty gives customers specific legal rights. Customers may have other rights depending on the jurisdiction.

D. NO LIABILITY FOR DAMAGES

To the maximum extent permitted by applicable law, in no event shall KanexPro be liable for any damages whatsoever (including without limitation, special, incidental, consequential, or indirect damages for personal injury, loss of business profits, business interruption, loss of business information, or any other pecuniary loss) arising out of the use of or inability to use this product, even if KanexPro has been advised of the possibility of such damages.

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