



# **C5X VIDEO PROCESSOR**

Copyright © 2023 Starview Technologies Private Limited. All rights reserved.

Singapore Headquarters: 60 Kaki Bukit Place, #05-19 Eunos Techpark, Singapore 415979

Website: www.starviewtech.asia or www.starviewtech.net | Email: sales@starviewint.com | Tell: +65 31575338

#### INTRODUCTION



The C5X is Starview's newest generation of video wall splicer, featuring excellent image quality and designed especially for fine-pitch LED screens. The C5X can work as splicing processors that integrate both video processing and video control capabilities, or work as pure splicing processors. The whole unit adopts a modular and plug-in design, and allows for flexible configuration and hot swapping of input and output cards. Thanks to excellent features and stable performance, the C5X can be widely used in a variety of applications, such as energy and power, judicial departments and prisons, military command, water conservancy and hydrology, meteorologic earthquake prediction, enterprise management, metallurgy of steel, banking and finance, national defense, public security traffic management, exhibitions and presentations, production scheduling, radio and television, educational and scientific research, as well as stage rental applications.

Based on the powerful hardware FPGA system architecture, with a modular and plug-in design, the C5X features a stable and highly efficient pure hardware architecture, and provides a variety of connector modules for flexible and personalized configuration, allowing for easy maintenance and low failure rate. The C5X provides industry-standard input connectors, including HDMI, DVI, DP, VGA, CVBS, SDI and IP, and supports 10-bit video source input and processing, as well as 4K high-definition inputs and outputs. The C5X also provides two kinds of LED 4K sending cards, allowing for the backup between the OPT ports and Ethernet ports as well as ultra-long distance transmission. Moreover, the C5X supports multi-screen and multi-layer management, input and output EDID management and monitoring, input source renaming, BKG and OSD settings and more, bringing you a rich image construction experience.

In addition, the C5X adopts the B/S architecture and supports cross-platform, cross-system access and control without the need to install an application program. On a Windows, Mac, iOS, Android or Linux platform, online collaboration of multiple users is supported and the Web page response speed is very fast, which greatly improves on-site setup efficiency. What's more, the C5X supports online firmware update, allowing for easy hardware update on a PC.

#### **CERTIFICATIONS**

CE, FCC, IC, CB, UL

If the product does not have the relevant certifications required by the countries or regions where it is to be sold, please contact Starview to confirm or address the problem. Otherwise, the customer shall be responsible for the legal risks caused or Starview has the right to claim compensation.



### MODULAR AND PLUG-IN DESIGN, FREE COMBINATION AT YOUR WILL



- Two kinds of LED 4K sending cards
- $H_20 \times RJ45$  sending card loads up to 13,000,000 pixels.
- $H_16 \times RJ45 + 2x$  fiber sending card loads up to 10,400,000 pixels and provides two OPT ports that copy the outputs on Ethernet ports.
- Multi-capacity configuration on a single card slot
  - 4x 2K×1K@60Hz
  - 2x 4K×1K@60Hz
  - 2x 4K×2K@60Hz
  - 1x 4K×2K@60Hz

- Simple screen configuration using a single card and connector
- Online status monitoring of all input and output cards
- Hot-swappable input and output cards
- H\_2xRJ45 IP input card supports up to 100 IP camera inputs and input mosaic.
- Auto decryption of HDCP-encrypted sources
- Decimal frame rates supported
- HDR10 and HLG processing

#### MULTI-SCREEN MANAGEMENT FOR CENTRALIZED CONTROL

- Each screen can have its own output resolution.
- Output mosaic
- Adopts the frame synchronization technology, ensuring all the output connectors output the image synchronously. The image is complete and played smoothly, without any stuck, frame loss, tearing or piecing.
- LCD bezel compensation

- Irregular screen configuration
  - Supports irregular rectangle mosaic without any limitations
- Input source grouping management
- Eye saver mode
- Display the image in a warmer but less bright way to relieve eye strain.

#### DIVERSE DISPLAY POSSIBILITIES FOR FLEXIBLE CONFIGURATION

- Multi-layer display
  - C5X: A single card supports 16x 2K layers, 8x DL layers or 4x 4K layers.
  - C5X Enhanced: A single card supports 10x 2K layers, 5x DL layers or 2x 4K layers.
  - All layers support cross-connector output and the layer quantity is not reduced for cross-connector output.
- High-definition scrolling text
  - Customize the scrolling text content, such as slogans or notification messages, and set the text style, scrolling direction and speed.
- Channel logo management
- Set a text or image logo for identifying the input source.

#### **FEATURES**



- Up to 2,000 presets
- Fade effect and seamless switching supported, less than 60ms preset switching duration.
- Scheduled playback of preset playlist
  - Set whether to add the presets to playlist, which is ideal for monitoring, exhibitions, presentations, and other applications.
- OSD settings on a single screen and adjustable OSD transparency
- BKG settings
  - BKG images do not occupy the layer resources. The max width and height of a BKG image is up to 15K and 8K respectively.
- Low latency
  - Reduce the latency from the input source to the receiving card to as low as I frame.

- Input source cropping and renaming after cropping
- Crop any input source image and form a new input source after cropping.
- HDR and 10-bit video processing, allowing for a more exquisite and clear image
  - Work with Starview's 3D emitter-EMT200 to enjoy the 3D visual effect.
- Color adjustment
  - Output connector color and screen color adjustable, including the brightness, contrast, saturation, hue and Gamma
- 3D function
- XR scenario control

### WEB-PAGE CONTROL, EASY, FRIENDLY AND CONVENIENT

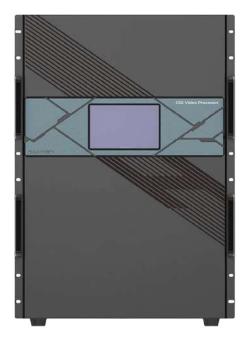
- Web control
  - Real-time response and 1000M/100M self-adaptive network control, allowing for multi-user collaboration
- Monitoring of inputs and outputs on Web page
- Firmware update on Web page
- Ark Visualized Management and Control Platform App control on pad device

## STATUS MONITORING AND REDUNDANT POWER SUPPLY FOR BETTER STABILITY AND RELIABILITY

- Self-test for fault detection
- Auto monitoring and alarms
  - Supports hardware monitoring, such as fan rotation speed, module temperature and voltage, running status, and sends fault alarms if necessary.
- Supports an optional power supply for higher system reliability.
- Backup design
  - Backup between devices
  - Backup between LED 4K sending cards

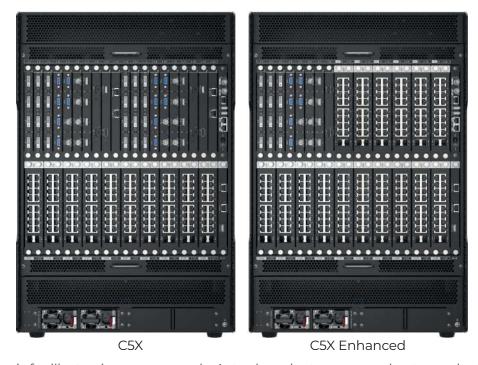


### **FRONT PANEL**



Name	Description
LCD screen	Touchscreen displays the menus, submenus and messages, as well as device status and monitoring information, and allows you to perform all the operations at your fingertips.

#### **REAR PANEL**



<sup>\*</sup>The picture shown is for illustration purpose only. Actual product may vary due to product enhancement.



### **INPUT CARD**

H\_4x DVI input card



Support for single link and dual link input modes, and 10-bit input source HDCP 1.4 compliant

Does not support interlaced signal input.

- Single link mode:
- Four DVI connectors are all used for input.
- -Each connector supports the maximum resolution of 2048 x 1152@60Hz and the minimum resolution of  $800 \times 600$ @60Hz.
- -Custom resolutions:

Max. width: 2560 pixels (2560 x 972@60Hz)

Max. height: 2560 pixels (884 x 2560@60Hz)

- Dual link mode:
- Connectors 2 and 4 are used for input, and connectors 1 and 3 are unavailable.
- Each connector supports the maximum resolution of 3840 x 1080@60Hz and the minimum resolution of  $800 \times 600@60$ Hz.
- Custom resolutions:

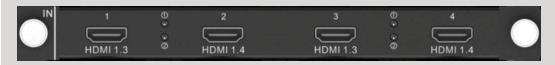
Max. width: 4096 pixels (4096 x 1124@60Hz)

Max. height: 4095 pixels (1014 x 4095@60Hz)

#### Status LEDs:

- On: The input source is accessed normally
- Off: No input source is accessed or the input source is abnormal

H\_4x HDMI input card



Support for 10-bit input source

Does not support interlaced signal input.

For HDMI 1.3 inputs:

- Four connectors are all used for input.
- Each connector supports the maximum resolution of 2048 x 1152@60Hz, and the minimum resolution of 800 x 600@60Hz.
- Custom resolutions:

Max. width: 2560 pixels (2560 x 972@60Hz)

Max. height: 2560 pixels (884 x 2560@60Hz)

HDCP 1.4 compliant

For HDMI 1.4 inputs:

• Two HDMI 1.4 connectors are used for input, but two HDMI 1.3 connectors are unavailable.



- Each connector supports the maximum resolution of 3840 x 1080@60Hz.
- Custom resolutions:

Max. width: 4096 pixels (4096 x 1124@60Hz)

Max. height: 4095 pixels (1014 x 4095@60Hz)

• HDCP 1.4 compliant

#### Status LEDs:

- On: The input source is accessed normally
- Off: No input source is accessed or the input source is abnormal

### H\_1x HDMI2.0 + 1x DP1.2 input card



#### Only one connector can be used each time

Set to use which connector on the Web page. The default option is HDMI 2.0 connector

Does not support interlaced signal input.

- 1x HDMI 2.0
- Backward compatible with HDMI 1.4a and HDMI 1.3
- -Supports the maximum resolution of 4096 x 2160@60Hz or 8192 x 1080@60Hz.
- HDCP 2.2 compliant
- Custom resolutions:

Max. width: 4092 pixels (4092 x 2261@60Hz)

Max. height: 4095 pixels (2188 x 4095@60Hz)

- 1x DP 1.2
- Backward compatible with DP 1.1
- Supports the maximum resolution of 4096 x 2160@60Hz or 8192 x 1080@60Hz.
- HDCP 2.2 compliant
- -Custom resolutions:

Max. width: 8192 pixels (8192 x 1146@60Hz)

Max. height: 4095 pixels (2188 x 4095@60Hz)

#### Status LEDs:

- On: The input source is accessed normally
- Off: No input source is accessed or the input source is abnormal

## H\_2x HDMI2.0 + 2x DP1.2 input card



#### This card can be installed into the slots from I-1 to I-8 only.

Two group of connectors are provided. Each group contains one HDMI 2.0 and one DP1.2.

#### Only one connector from each group can be used each time.

Set to use which connector on the Web page. The default option is HDMI 2.0.



Does not support interlaced signal input.

- 2x HDMI 2.0
- -Backward compatible with HDMI 1.4a and HDMI 1.3
- Supports the maximum resolution of 4096 x 2160@60Hz or 8192 x 1080@60Hz.
- -HDCP 2.2 compliant
- -Custom resolutions:

Max. width: 4092 pixels (4092 x 2261@60Hz)

Max. height: 4095 pixels (2188 x 4095@60Hz)

- 2x DP 1.2
- Backward compatible with DP 1.1
- -Supports the maximum resolution of 4096 x 2160@60Hz or 8192 x 1080@60Hz.
- HDCP 2.2 compliant
- -Custom resolutions:

Max. width: 8192 pixels (8192 x 1146@60Hz)

Max. height: 4095 pixels (2188 x 4095@60Hz)

#### Status LEDs:

- On: The input source is accessed normally
- Off: No input source is accessed or the input source is abnormal

## H\_2x RJ45 IP input card



#### 2x RJ45 Gigabit Ethernet ports

Support for interlaced signal input

- Supported protocols: RTSP, GB28181 and ONVIF
- Supported coding formats: H.264 and H.265
- Single card decoding capability:
- -4x 3840 x 2160@30fps
- -16x 1920 x 1080@30fps
- DHCP compliant

## H\_4x 3G SDI input card

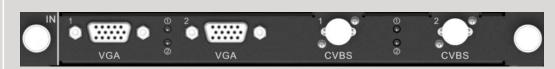


#### 4x 3G-SDI

- Backward compatible with HD-SDI and SD-SDI
- Supports ST-424 (3G), ST-292 (HD) and SMPTE 259 SD
- Each connector supports the maximum resolution of 1920 x 1080@60Hz
- Supports 1080i/576i/480i de-interlacing processing
- Does not support input resolution and bit depth settings Status LEDs:
- On: The input source is accessed normally
- Off: No input source is accessed or the input source is abnormal



## H\_2x CVBS + 2x VGA input card



#### 2x VGA

• Each connector supports the maximum resolution of 1920 x 1200@60Hz.

#### 2x CVBS

Supports PAL and NTSC

#### Status LEDs:

- On: The input source is accessed normally
- Off: No input source is accessed or the input source is abnormal

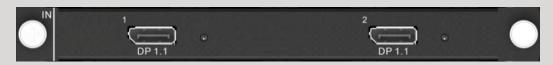
## H\_4x VGA input card



#### 4x VGA

- Each connector supports the maximum resolution of 1920 x 1200@60Hz Status LEDs:
- On: The input source is accessed normally
- Off: No input source is accessed or the input source is abnormal

## H\_2x DP1.1 input card



#### 2x DP1.1

- Each connector supports the maximum resolution of 3840 x 1080@60Hz or 3840 x 2160@30Hz.
- Custom resolutions:
- Max. width: 3840 pixels (3840 x 1124@60Hz)
- Max. height: 4095 pixels (1014 x 4095@60Hz)
- Supports 8-bit and 10-bit inputs.
- Does not support interlaced signal input.
- HDCP 1.3 compliant

#### Status LEDs:

- On: The input source is accessed normally
- Off: No input source is accessed or the input source is abnormal

## H\_1xDP1.2 input card



#### 1x DP1.2

• Backward compatible with DP 1.1



- $\bullet$  Each connector supports the maximum resolution of 4096 x 2160@60Hz or 8192 x 1080@60Hz
- Custom resolutions:
- Max. width: 8192 pixels (8192 x 1146@60Hz)
- Max. height: 4095 pixels (2188 x 4095@60Hz)
- HDCP 2.2 compliant

#### Status I FDs:

- On: The input source is accessed normally
- Off: No input source is accessed or the input source is abnormal

#### H\_STD I/O card



#### 2x COM

Programmable RS422/RS485/RS23 ports that are used to control the devices that adopt RS422/RS485/RS232 protocol.

-COM port pins are shown as below:







- Pin wirings are shown as below:

PIN	1	2	3	4	5	6	7	8	9
RS-232	——RXD —TXD —— GND ————								
RS-422	RXDTXD+ GND RXD+TXD-								
RS-485	——— А ————В								

- 1x ETHERNET
- -Control the device connected to this card.
- -10/100Mbps self-adaptive.
- -TCP/IP protocol and UDP/IP protocol supported.
- 3x I/O
- -Trigger the execution of the function requirements via programming.
- -Input and output modes supported.
- Pins 1, 2 and 3 can be set to either the input or output, and pin G is the common grounding pin for pins 1, 2 and 3.
- 3x RELAY OUT
- -Connect to the relay to control the power on and off the connected device.
- -Voltage: 30 VDC, current: 3A at maximum.
- Six pins are divided into three groups, which can be connected or disconnected via programming.



- 3x IR OUT
- Programmable infrared control supported.
- Pins 1, 2 and 3 are used for infrared emission, and pin G is the common grounding pin for pins 1, 2 and 3.

## H\_1x 12G SDI input card

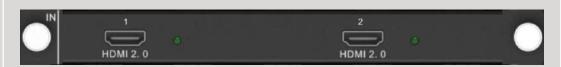


- 1x 12G-SDI IN
- Backward compatible with 6G-SDI, 3G-SDI, HD-SDI and SD-SDI
- Supports ST-2082-1 (12G), ST-2081-1 (6G), ST-424 (3G), ST-292 (HD) and SMPTE 259 SD.
- Each connector supports the maximum resolution of 4096×2160@60Hz.
- Supports 1080i/576i/480i de-interlacing processing.
- Does not support input resolution and bit depth settings.
- 1x 12G-SDI LOOP
- Loop out the 12G-SDI signal.

#### Status LEDs:

- On: The input source is accessed normally
- Off: No input source is accessed or the input source is abnormal

## H\_2x HDMI2.0 input card



### This card can be installed into the slots from I-1 to I-8 only.

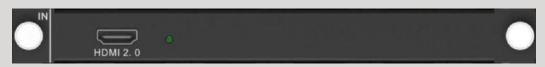
#### 2x HDMI 2.0

- Backward compatible with HDMI 1.4 and HDMI 1.3
- Each connector supports the maximum resolution of 3840 x 2160@60Hz
- Two 4K inputs can be connected at the same time
- HDCP 2.2 compliant
- Custom resolutions:
- Max. width: 4092 pixels (4092 x 2261@60Hz)
- -Max. height: 4095 pixels (2188 x 4095@60Hz)

#### Status LEDs:

- On: The input source is accessed normally
- Off: No input source is accessed or the input source is abnormal

## H\_2x HDMI2.0 input card



#### 1x HDMI 2.0

- Backward compatible with HDMI 1.4 and HDMI 1.3
- Each connector supports the maximum resolution of 3840 x 2160@60Hz



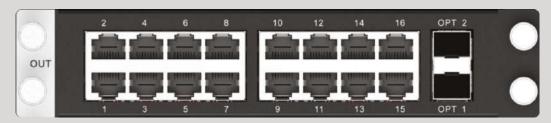
- HDCP 2.2 compliant
- Custom resolutions:
- Max. width: 4092 pixels (4092 x 2261@60Hz)
- -Max. height: 4095 pixels (2188 x 4095@60Hz)

#### Status LEDs:

- On: The input source is accessed normally
- Off: No input source is accessed or the input source is abnormal

### **OUTPUT CARD**

H\_16x RJ45 + 2x fiber sending card



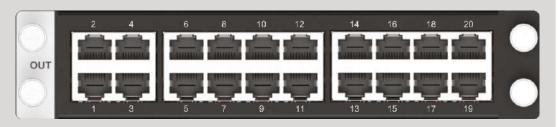
LED 4K sending card can load up to 10,400,000 pixels (max. width: 10,240 pixels, max. height: 10,240 pixels).

#### This card occupies two slots

- 16x RJ45 Gigabit Ethernet outputs
- Bit depth: 8-bit
- A single Ethernet port loads up to 650,000 pixels.
- Bit depth: 10-bit
- A single Ethernet port loads up to 320,000 pixels.
- -Backup between Ethernet ports
- 2x OPT outputs
- -Support both SMF and MMF transmission. In SMF mode, the maximum transmission distance reaches up to 10 km.
- -OPT 1 copies and outputs the data on Ethernet ports 1 8.
- -OPT 2 copies and outputs the data on Ethernet ports 9 16.

**Note:** For the optical module connected to the OPT port, you need to order or purchase separately.

H\_20x RJ45 sendingcard



LED 4K sending card can load up to 13,000,000 pixels (max. width: 10,752 pixels, max. height: 10,752 pixels).

This card occupies two slots



• 20x RJ45 Gigabit Ethernet outputs

- Bit depth: 8-bit

A single Ethernet port loads up to 650,000 pixels.

-Bit depth: 10-bit

A single Ethernet port loads up to 320,000 pixels

• Backup between Ethernet ports

## H\_2x RJ45 + 1x HDMI1.3 preview card



• 2x RJ45 Gigabit Ethernet outputs

Connect to the network for monitoring the inputs and outputs.

• 1x HDMI 1.3

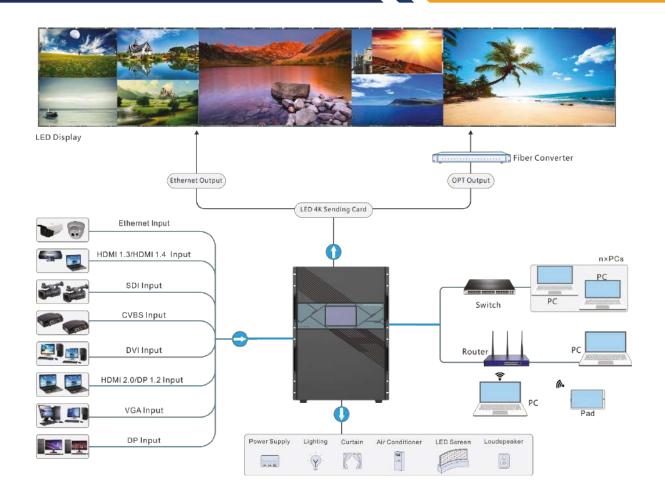
Connect to a monitor for displaying the monitoring information.

**Note:** The monitoring of the first output card on the C5X enhanced version is unavailable.

### **H\_CONTROL CARD**

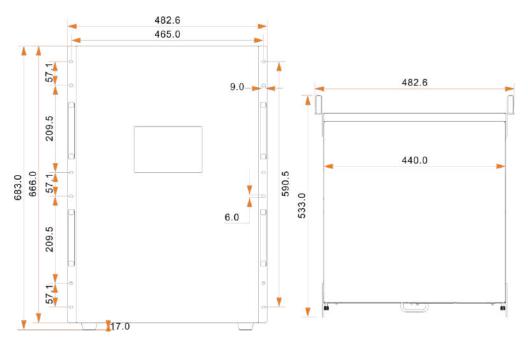
0	O O OFF O OFF O OFF
GENLOCK	Supports bi-level and tri-level.  IN: Accept the Genlock signal  LOOP: Loop the Genlock signal
ETHERNET	<ul> <li>A Gigabit Ethernet port</li> <li>Connect to the control PC for communication.</li> <li>Connect to the router, switch or PC.</li> <li>For Web control and Software screen configuration.</li> </ul>
USB1&USB2	<ul> <li>2x USB 2.0</li> <li>Update the device program.</li> <li>Import or export the device configuration parameters.</li> <li>Note: The monitoring of the first output card on the C5X enhanced version is unavailable.</li> </ul>
СОМ	A serial port that adopts RS232 serial protocol Support for central control system  IN: Accept the signal from the central control system.  OUT: Loop the signal.  Note: The COM port cannot be connected to the network (router or switch) or LED cabinet (receiving card).
POWER SWITCH	<ul><li>-/ON: Power on the device.</li><li>O/OFF: Power off the device</li></ul>





### **DIMENSIONS**





Tolerance: ±0.5 Unit: mm



Chassis		C5X	C5X Enhanced			
Rack Unit		15U				
Max. Input Cards		30				
Max. Input Channe	Is	120				
Max. Output Cards		10 16				
Max. Loading Capacity (LED 4K sending card)		130 million pixels	208 million pixels			
Max. Layers		160				
Power Electrical connector Specifications		100 - 240V~, 50/60Hz, 10A - 5A  Note:  - The C5X comes with dual power supplies. Connect both power connectors when you use the device.  - Two redundant power supplies are optional.				
	Power consumption	900 W				
Operating Temperature		0°C to 45°C				
Environment	Humidity	0% to 8 <b>Widea, Processon Specification</b>				
Storage	Temperature	–10°C to +60°C				
Environment	Humidity	0% to 95% RH, non-condensing				
	Dimensions	482.6 mm x 683.0 mm x 533.0 mm				
Physical Specifications	Net weight	61.8 kg				
	Gross weight	75.5 kg				
	Packing box	775 mm x 675 mm x 845 mm				
Packing Information	Accessories	2x Power cords 1x RJ45 Ethernet cable 1x Grounding cable 1x HDMI cable 1x Quick Start Guide 1x Certificate of Approval 1x Safety Manual 1x Custom Letter				



Input Connector	Color Depth		Max. Input Resolution
HDMI 2.0	8-bit	RGB 4:4:4	
		YCbCr 4:4:4	4096 x 2160@60Hz 8192 x 1080@60Hz
		YCbCr 4:2:2	. 0.52 x . 666 (g. 66
		YCbCr 4:2:0	4096 x 2160@60Hz
	10-bit	RGB 4:4:4	4096 x 2160@30Hz
		YCbCr 4:4:4	4096 x 1080@60Hz
		YCbCr 4:2:2	(005 0750 0 50 U
		YCbCr 4:2:0	4096 x 2160@60Hz
	12-bit	RGB 4:4:4	4096 x 2160@30Hz
		YCbCr 4:4:4	4096 x 1080@60Hz
		YCbCr 4:2:2	/000 x 3100@00H=
		YCbCr 4:2:0	4096 x 2160@60Hz
DP 1.2	8-bit	RGB 4:4:4	
		YCbCr 4:4:4	4096 x 2160@60Hz 8192 x 1080@60Hz
		YCbCr 4:2:2	- 0.52 × 1000 (g. 001.12
		YCbCr 4:2:0	Not supported
	10-bit	RGB 4:4:4	4096 x 2160@30Hz
		YCbCr 4:4:4	4096 x 1080@60Hz
		YCbCr 4:2:2	4096 x 2160@60Hz
		YCbCr 4:2:0	Not supported
	12-bit	RGB 4:4:4	4096 x 2160@30Hz
		YCbCr 4:4:4	4096 x 1080@60Hz
		YCbCr 4:2:2	4096 x 2160@60Hz
		YCbCr 4:2:0	Not supported

## **VIDEO SOURCE FEATURES**



HDMI 1.4 DP 1.1	8-bit	RGB 4:4:4	
		YCbCr 4:4:4	4096 x 1080@60Hz
		YCbCr 4:2:2	
		YCbCr 4:2:0	Not supported
	10-bit	RGB 4:4:4	20/0 v 11E2@COU-
		YCbCr 4:4:4	2048 x 1152@60Hz
		YCbCr 4:2:2	4096 x 1080@60Hz
		YCbCr 4:2:0	Not supported
	12-bit	RGB 4:4:4	20/0 / 11/2@COLL=
		YCbCr 4:4:4	2048 x 1152@60Hz
		YCbCr 4:2:2	4096 x 1080@60Hz
		YCbCr 4:2:0	Not supported
HDMI 1.3	8-bit	RGB 4:4:4	
		YCbCr 4:4:4	2048 x 1152@60Hz
		YCbCr 4:2:2	
		YCbCr 4:2:0	Not supported
	10-bit	RGB 4:4:4	
		YCbCr 4:4:4	2048 x 1152@60Hz
		YCbCr 4:2:2	
		YCbCr 4:2:0	Not supported
	12-bit	RGB 4:4:4	
		YCbCr 4:4:4	2048 x 1152@60Hz
		YCbCr 4:2:2	
		YCbCr 4:2:0	Not supported
SL-DVI	8-bit	RGB 4:4:4	2048 x 1152@60Hz

### **VIDEO SOURCE FEATURES**



DL-DVI	8-bit	RGB 4:4:4	3840 x 1080@60Hz		
VGA; CVBS	-	RGB 4:4:4	1920 x 1080@60Hz		
3G-SDI	- Supports up to 1920×1080@60Hz video inputs Input resolution and bit depth settings are not allowed Supports ST-424 (3G) and ST-292 (HD).				
12G-SDI	- Supports up to 4096×2160@60Hz video inputs Input resolution and bit depth settings are not allowed Supports ST-2082-1 (12G), ST-2081-1 (6G), ST-424 (3G) and ST-292 (HD)				

#### Corporate offices

#### STARVIEW TECHNOLOGIES PTE LTD Singapore Headquarters

60 Kaki Bukit Place #05-19 Eunos Techpark Singapore 415979

Tel: +65 3157 5338 Fax: +65 3112 8181

### Worldwide offices

## Vietnam Hanoi Office

R10, 33th Floor,C2 Building, D'Capitale, 119 Tran Duy Hung Street, Trung Hoa – Cau Giay, Hanoi

#C9-16, Block A, Sky Center Building, #10 Pho Quang Street, Tan Binh District, Ho Chi Minh City

Danang Office
Add: Suite 607, Floor 6th Altara Suites
by Ri-yaz 120 Vo Nguyen Giap, Phuoc My, Son Tra, Danang

Tel: (024) 66661268 Hotline: 19008695 Sale Contact: 0866.207.855

### Representatives

#### NGITECH PTY LTD

Level 40 140 Williams Street Melbourne VIC 3000

Tel: +61 455 225 908

Australia

Brazil

Tel: +55 11 9-8244-7630

**Germany** Tel: +49 172 946 69 39

France - Benelux - Africa Tel: +33 782 702 214

Southern, Eastern Europe & Middle East Operations Tel: +420 602 66 75 66













