

## C3X VIDEO PROCESSOR

---

Website: [www.starviewint.com](http://www.starviewint.com) | Email: [sales@starviewint.com](mailto:sales@starviewint.com) | Tel: +65 31575338

# INTRODUCTION

---

The C3X is Starview's newest generation of video wall splicer, featuring excellent image quality and designed especially for fine-pitch LED screens. The C3X 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 C3X 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 C3X 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 C3X provides the 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 C3X 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 C3X 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 C3X 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 C3X supports online firmware update, allowing for easy hardware update on a PC.



Website: [www.starviewint.com](http://www.starviewint.com) | Email: [sales@starviewint.com](mailto:sales@starviewint.com) | Tel: +65 31575338

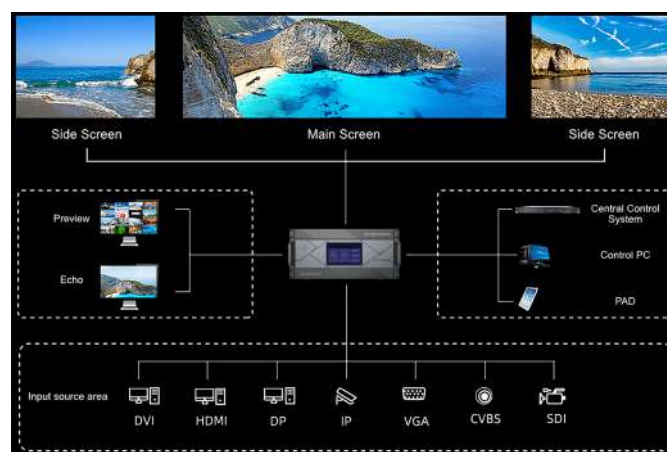
## MODULAR AND PLUG-IN DESIGN, FOR FLEXIBLE CONFIGURATION



- Two kinds of LED 4K sending cards
  - H\_20 x RJ45 sending card loads up to 13,000,000 pixels
  - H\_16 x 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 2Kx1K@60Hz
  - 2x 4Kx1K@60Hz
  - 1x 4Kx2K@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

## MULTI-SCREEN MANAGEMENT, FOR CENTRALIZED CONTROL

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



Website: [www.starviewint.com](http://www.starviewint.com) | Email: [sales@starviewint.com](mailto:sales@starviewint.com) | Tell: +65 31575338

## DIVERSE DISPLAY POSSIBILITIES, FOR RICHER VISUAL EXPERIENCE

- Multi-layer display
  - A single card supports 16x 2K layers, 8x DL layers or 4x 4K layers.
  - All layers support cross-connector output and the layer quantity is not reduced for crossconnector 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.
- 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
- 3D function
  - 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
  - Color adjustment
    - Input, output and layer color adjustable, including the brightness, contrast, saturation, hue and Gamma
  - Work with Starview's 3D emitter – EMT200 to enjoy the 3D visual effect.

## 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

- Auto monitoring and alarms
  - Supports hardware monitoring, such as fan rotation speed, module temperature and voltage, running status, and sends fault alarms if necessary.
  - Self-test for fault detection
  - Supports an optional power supply for higher system reliability.



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



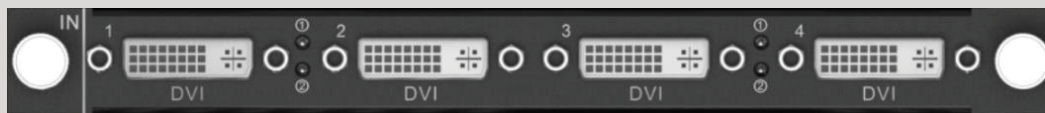
\* The picture shown is for illustration purpose only. Actual product may vary due to product enhancement.

Website: [www.starviewint.com](http://www.starviewint.com) | Email: [sales@starviewint.com](mailto:sales@starviewint.com) | Tell: +65 31575338

## FRONT PANEL

### INPUT CARD

#### H\_4xDVI 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 2048×1152@60Hz and the minimum resolution of 800×600@60Hz.

- Custom resolutions:

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

Max. height: 2560 pixels (884×2560@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 3840×1080@60Hz and the minimum resolution of 800×600@60Hz.

- Custom resolutions:

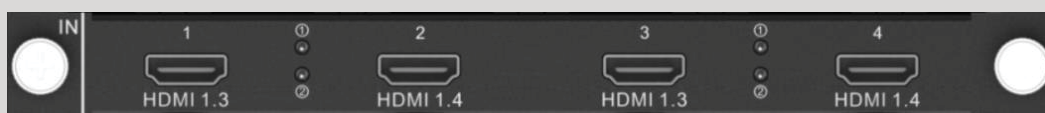
Max. width: 4096 pixels (4096×1124@60Hz)

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

Status LEDs:

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

#### H\_4xHDMI input card



Support for 10-bit input source

Does not support interlaced signal input.

Single link mode:

- 2x HDMI 1.3

- Each connector supports the maximum resolution of 2048×1152@60Hz, and the minimum resolution of 800×600@60Hz.

- Custom resolutions:

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

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

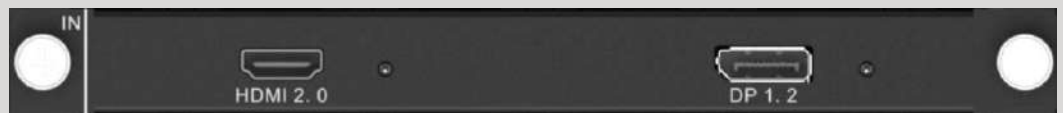
- HDCP 1.4 compliant

Website: [www.starviewint.com](http://www.starviewint.com) | Email: [sales@starviewint.com](mailto:sales@starviewint.com) | Tell: +65 31575338

Support for 10-bit input source  
Does not support interlaced signal input.  
Single link mode:

- 2x HDMI 1.4
- Each connector supports the maximum resolution of 2048×1152@60Hz, and the minimum resolution of 800×600@60Hz.
- Custom resolutions:  
Max. width: 2560 pixels (2560×972@60Hz)  
Max. height: 2560 pixels (884×2560@60Hz)
- HDCP 1.4 compliant

## H\_1xHDMI2.0+1xDP1.2 input card



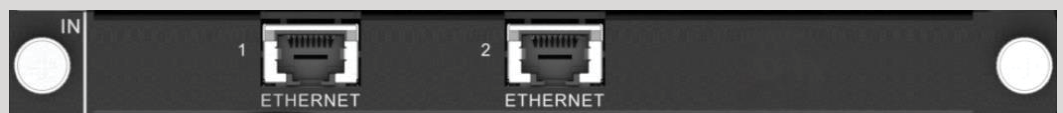
Only one connector can be used each time, which can be configured on the Web page. The default option is HDMI 2.0 connector.  
Does not support interlaced signal input.

- 1x HDMI 2.0
- Backward compatible with HDMI 1.4a and HDMI 1.3
- Supports the maximum resolution of 4096×2160@60Hz or 8192×1080@60Hz (forced).
- HDCP 2.2 compliant
- Custom resolutions:  
Max. width: 4092 pixels (4092 2261@60Hz)  
Max. height: 4095 pixels (2188 4095@60Hz)
- 1x DP 1.2
- Backward compatible with DP 1.1
- Supports the maximum resolution of 4096×2160@60Hz or 8192×1080@60Hz.
- HDCP 2.2 compliant
- Custom resolutions:  
Max. width: 8192 pixels (8192×1146@60Hz)  
Max. height: 4095 pixels (2188 4095@60Hz)

Status LEDs:

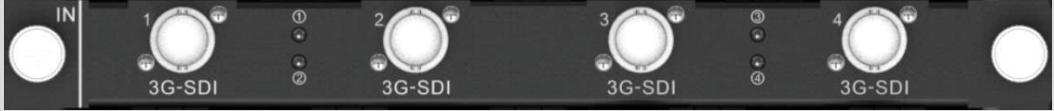
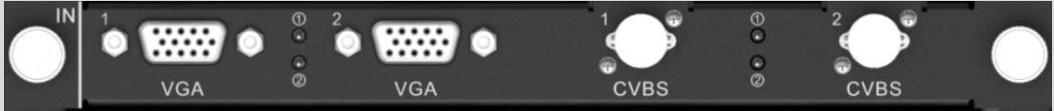

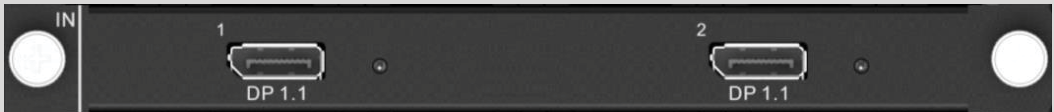
- On: The input source is accessed normally
- Off: No input source is accessed or the input source is abnormal

## H\_2xRJ45 IP input card



2x RJ45 Gigabit Ethernet ports  
Support for interlaced signal input

- Supported protocols: RTSP, GB28181 and ONVIF

	<ul style="list-style-type: none"> <li>Supported coding formats: H.264 and H.265</li> <li>Single card decoding capability:                             <ul style="list-style-type: none"> <li>-4x 3840×2160@30fps</li> <li>-16x 1920×1080@30fps</li> </ul> </li> <li>DHCP compliant</li> </ul>
H_4x3G SDI input card	 <p>4x 3G-SDI</p> <ul style="list-style-type: none"> <li>Backward compatible with HD-SDI and SD-SDI</li> <li>Supports ST-424 (3G), ST-292 (HD) and SMPTE 259 SD</li> <li>Each connector supports the maximum resolution of 1920×1080@60Hz</li> <li>Supports 1080i/576i/480i de-interlacing processing</li> </ul> <p>Status LEDs:</p> <ul style="list-style-type: none"> <li>On: The input source is accessed normally</li> <li>Off: No input source is accessed or the input source is abnormal</li> </ul>
H_2xCVBS+2xVGA input card	 <p>2x VGA</p> <ul style="list-style-type: none"> <li>Each connector supports the maximum resolution of 1920×1080@60Hz. 2xCVBS</li> <li>Supports PAL and NTSC</li> </ul> <p>Status LEDs:</p> <ul style="list-style-type: none"> <li>On: The input source is accessed normally</li> <li>Off: No input source is accessed or the input source is abnormal</li> </ul>
H_4xVGA input card	 <p>4x VGA</p> <ul style="list-style-type: none"> <li>Each connector supports the maximum resolution of 1920×1080@60Hz</li> </ul> <p>Status LEDs:</p> <ul style="list-style-type: none"> <li>On: The input source is accessed normally</li> <li>Off: No input source is accessed or the input source is abnormal</li> </ul>
H_2xDP1.1 input card	 <p>2x DP1.1</p>

Website: [www.starviewint.com](http://www.starviewint.com) | Email: [sales@starviewint.com](mailto:sales@starviewint.com) | Tell: +65 31575338



- Each connector supports the maximum resolution of 3840×1080@60Hz or 3840×2160@30Hz.
  - Custom resolutions:
    - Max. width: 4096 pixels (4096×1124@60Hz)
    - Max. height: 4095 pixels (1014×4095@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\_STD I/O card



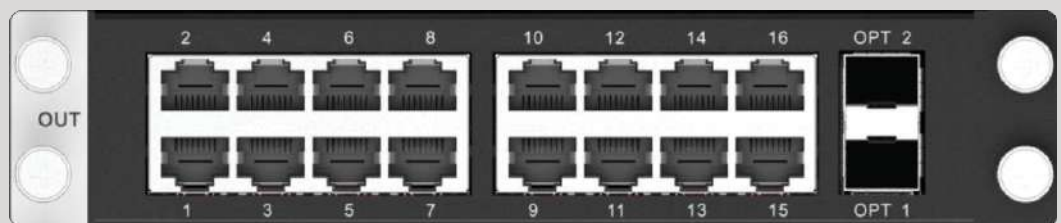
### 2x COM

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

- 1x ETHERNET
  - Control the device that is 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
- 3x RELAY OUT
  - Connect to the relay to control the power on and off the connected device.
  - Voltage: 30 VDC, current: 3A at maximum
- 3x IR OUT
  - Programmable infrared control supported

## OUTPUT CARD

### H\_16xRJ45+2xfiber sending card

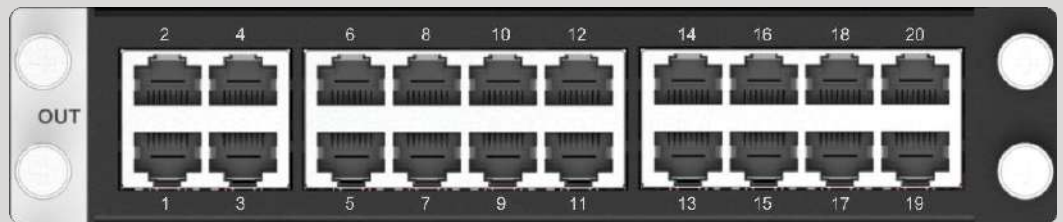


LED 4K sending card can load up to 10,400,000 pixels (max. width: 10,240 pixels, max. height: 10,240 pixels).

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.

H\_20xRJ45  
sendingcard

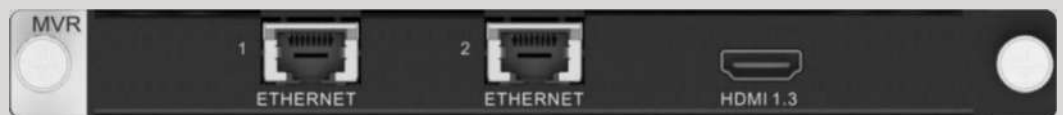


LED 4K sending card can load up to 13,000,000 pixels (max. width: 10,752 pixels, max. height: 10,752 pixels).

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\_2xRJ45+1xHDMI1.3  
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.

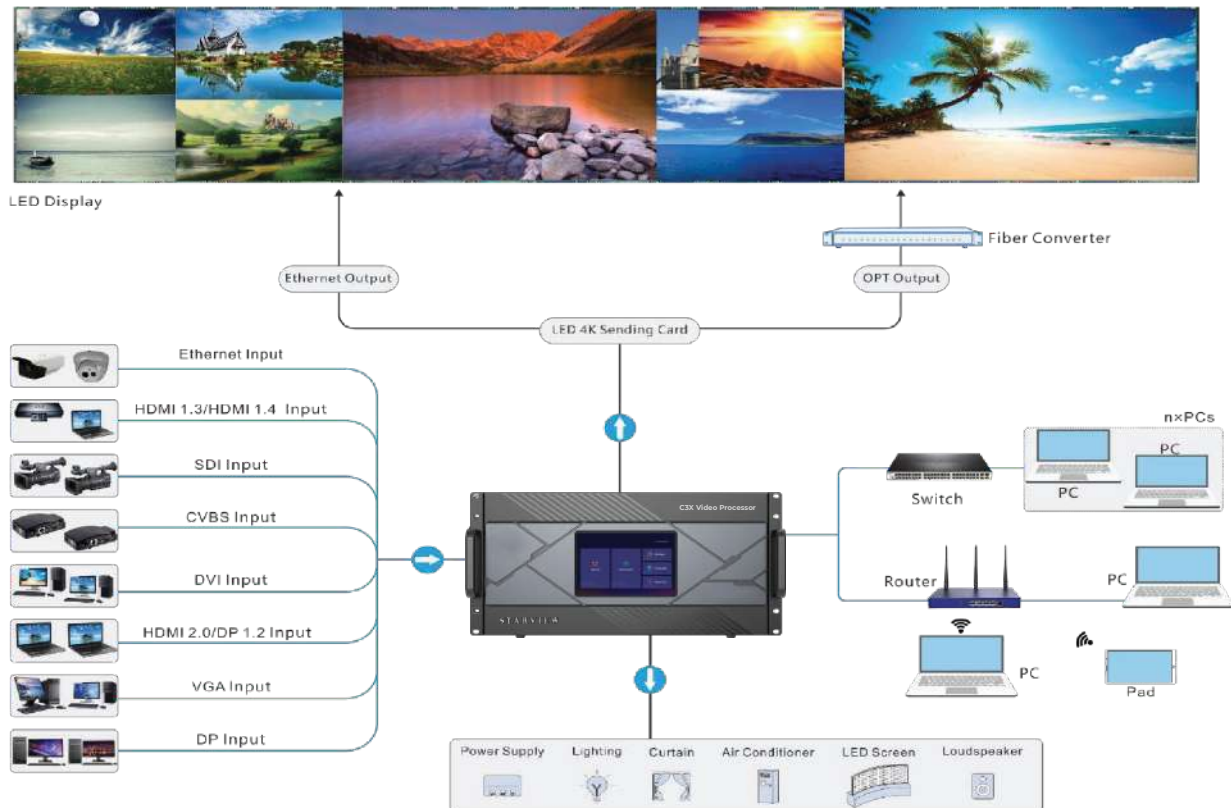
## H\_CONTROL CARD



Website: [www.starviewint.com](http://www.starviewint.com) | Email: [sales@starviewint.com](mailto:sales@starviewint.com) | Tell: +65 31575338

GENLOCK	<p>Supports bi-level and tri-level.</p> <ul style="list-style-type: none"> <li>• IN: Accept the Genlock signal</li> <li>• LOOP: Loop the Genlock signal</li> </ul>
ETHERNET	<p>A Gigabit Ethernet port</p> <ul style="list-style-type: none"> <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>
USB 1 & USB 2	<p>2x USB 2.0</p> <ul style="list-style-type: none"> <li>• Update the device program.</li> <li>• Import or export the device configuration parameters.</li> </ul>
COM	<p>A serial port that adopts RS232 serial protocol Support for central control system</p> <ul style="list-style-type: none"> <li>• IN: Accept the signal from the central control system.</li> <li>• OUT: Loop the signal.</li> </ul>
POWER SWITCH	<ul style="list-style-type: none"> <li>• – / ON: Power on the device.</li> <li>• O / OFF: Power off the device</li> </ul>

# APPLICATIONS



Website: [www.starviewint.com](http://www.starviewint.com) | Email: [sales@starviewint.com](mailto:sales@starviewint.com) | Tel: +65 31575338

Chassis		5U
Max. Input Cards		10
Max. Input Channels		40
Max. Output Cards		3
Max. Loading Capacity (LED 4K sending card)		39,000,000 pixels
Max. Layers		48
Operating Environment	Temperature	0°C to 45°C
	Humidity	0% to 80%, non-condensing
Electrical Specifications	Power connector	100–240V~, 50/60Hz, 10A–5A Note: The C3X comes with a single power supply. A redundant power supply is optional
	Power consumption	400 W
Physical Specifications	Dimensions	482.6 mm × 532.8 mm × 228.2 mm
	Net weight	25 kg
	Gross weight	28 kg
Packing Information	Packing box	780 mm × 615 mm × 345 mm
	Accessories	1x Power cord 1x RJ45 Ethernet cable 1x Grounding cable 1x Quick Start Guide 1x Certificate of Approval 1x Safety Manual 1x Custom Letter

Website: [www.starviewint.com](http://www.starviewint.com) | Email: [sales@starviewint.com](mailto:sales@starviewint.com) | Tel: +65 31575338



Storage Environment	Temperature	-10°C to +60°C
	Humidity	0% to 95%, non-condensing
Certifications		CCC

## VIDEO SOURCE FEATURES

Input Connector	Color Depth		Max. Input Resolution
HDMI 2.0	8-bit	RGB 4:4:4	4096×2160@60Hz 8192×1080@60Hz
		YCbCr 4:4:4	
		YCbCr 4:2:2	
		YCbCr 4:2:0	
	10-bit	RGB 4:4:4	4096×2160@30Hz 4096×1080@60Hz
		YCbCr 4:4:4	
		YCbCr 4:2:2	4096×2160@60Hz
		YCbCr 4:2:0	
	12-bit	RGB 4:4:4	4096×2160@30Hz 4096×1080@60Hz
		YCbCr 4:4:4	
		YCbCr 4:2:2	4096×2160@60Hz
		YCbCr 4:2:0	
DP 1.2	8-bit	RGB 4:4:4	4096×2160@60Hz 8192×1080@60Hz
		YCbCr 4:4:4	
		YCbCr 4:2:2	
		YCbCr 4:2:0	Not supported

Website: [www.starviewint.com](http://www.starviewint.com) | Email: [sales@starviewint.com](mailto:sales@starviewint.com) | Tel: +65 31575338

	10-bit	RGB 4:4:4	4096×2160@30Hz
		YCbCr 4:4:4	4096×1080@60Hz
		YCbCr 4:2:2	4096×2160@60Hz
		YCbCr 4:2:0	Not supported
	12-bit	RGB 4:4:4	4096×2160@30Hz
		YCbCr 4:4:4	4096×1080@60Hz
		YCbCr 4:2:2	4096×2160@60Hz
		YCbCr 4:2:0	Not supported
HDMI 1.4a DP 1.1	8-bit	RGB 4:4:4	4096×1080@60Hz
		YCbCr 4:4:4	
		YCbCr 4:2:2	
		YCbCr 4:2:0	Not supported
	10-bit	RGB 4:4:4	2048×1152@60Hz 4096×1080@60Hz
		YCbCr 4:4:4	
		YCbCr 4:2:2	
		YCbCr 4:2:0	Not supported
	12-bit	RGB 4:4:4	2048×1152@60Hz
		YCbCr 4:4:4	4096×1080@60Hz
		YCbCr 4:2:2	
		YCbCr 4:2:0	Not supported
HDMI 1.3	8-bit	RGB 4:4:4	2048×1152@60Hz
		YCbCr 4:4:4	
		YCbCr 4:2:2	
		YCbCr 4:2:0	Not supported

Website: [www.starviewint.com](http://www.starviewint.com) | Email: [sales@starviewint.com](mailto:sales@starviewint.com) | Tel: +65 31575338

	10-bit	RGB 4:4:4	2048×1152@60Hz
		YCbCr 4:4:4	
		YCbCr 4:2:2	
		YCbCr 4:2:0	Not supported
	12-bit	RGB 4:4:4	2048×1152@60Hz
		YCbCr 4:4:4	
		YCbCr 4:2:2	
		YCbCr 4:2:0	Not supported
SL-DVI	8-bit	RGB 4:4:4	2048×1152@60Hz
DL-DVI	8-bit	RGB 4:4:4	3840×1080@60Hz
VGA CVB S	-	RGB 4:4:4	1920×1080@60Hz
3G-SDI	<ul style="list-style-type: none"> <li>• Supports up to 1920×1080@60Hz video inputs.</li> <li>• Input resolution and bit depth settings are not allowed.</li> <li>• Supports ST-424 (3G) and ST-292 (HD).</li> </ul>		



## Corporate offices

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

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

## Representatives

**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

