



## MODEL A223800

### KEY FEATURES

- VPG 2238 option module
- SD-SDI/HD-SDI/3G-SDI (Level A/B)/6G-SDI/12G-SDI test application
- Support various industrial SDI standards
  - SMPTE 292M/SMPTE 274M/SMPTE 296M
  - SMPTE 425M-A/SMPTE 425M-B
  - SMPTE ST-2081-10/SMPTE ST-2082-10/
  - SMPTE ST-2082-12
- Video payload identification instant edit function (SMPTE 352M)
- Square division and sample interleave mode setting function
- RGB/ITU-R BT.601/ITU-R BT.709/ITU-R BT.2020 color space
- 8/10/12 bits color depth
- 4 Port 12G-SDI Output
- Synchronous output for multiple signal modules
- HDR (High Dynamic Range) function
- Scrolling function
- ESD protection support
- BMP file format support



## 12G-SDI SIGNAL MODULE MODEL A223800

To conform with the next generation of 12G-SDI standards and 8K SHV Super Hi-Vision (7680x4320) test requirements, Chroma released its A223800 12G-SDI Signal Module. With 4 SDI signal output connectors supporting a variety of industrial SDI standards, and with more than 240 standard SDI timing parameters, one single module is capable to support up to 8K high resolution testing. Simultaneous output from multiple modules can accommodate any SDI test and measurement projects.

### SD/HD/3G-SDI Serial Digital Interface

SDI (Serial Digital Interface) signal interface is standardized and announced by ITU-R BT.656 and the SMPTE (Society of Motion Picture and Television Engineers), it uses coaxial cables with a nominal impedance of 75 ohms for transmitting uncompressed digital component signals, and is widely adopted by the broadcasting industries.

SMPTE 259M is the first published standard which describes the transmission of analog signals such as NTSC and PAL through serial interfaces, usually known as SD-SDI, supporting 270 Mbps transmission rate.

As the High Definition of 1080i and 720p video standards are getting popular, the HD-SDI is published to support 1.485 Gbps data rate, as described in SMPTE 292M.

When the broadcasting and other video product vendors invested heavily in coaxial

cable and its hardware infrastructure, SMPTE announced SMPTE 424M standard to increase the bandwidth to 2.97 Gbps, known as 3G-SDI. It supports 1080p and higher resolution of the digital cinemas for a better image quality, and is also the most widely implemented standard over the last few years.

### 12G-SDI Serial Digital Interface

As the video industry moved from SD(480p), HD(720p) to the mainstream of FHD(1920x1080) and UHD(3840x2160), it is now moving into the future SHV(7680x4320) era. In various sport and big event broadcast, 12G-SDI interface plays a very important role.

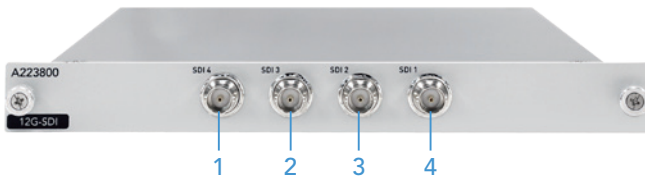
Chroma A223800 12G-SDI Signal Module is manufactured under SMPTE ST-2082 standards, supporting 12Gbps data rate and up to 12bit color depth with ITU-R BT.2020 Wide Color Gamut color space. The Video Payload Identification real-time editing function provides the end-user an even more flexible testing application.

### HDR (High Dynamic Range) Image

With the support to the High Dynamic Range image output, users can adjust HDR Metadata for HDR related testing from a various of built-in images such as gray scale, color bar, windows and many other patterns, for engineers to perform the Pre-Test before submitting for verification, ensuring that the product will meet the specifications.

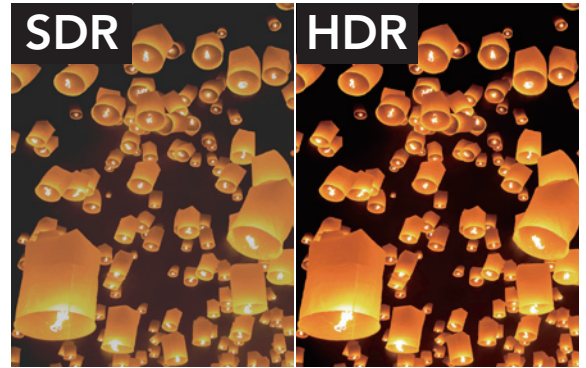
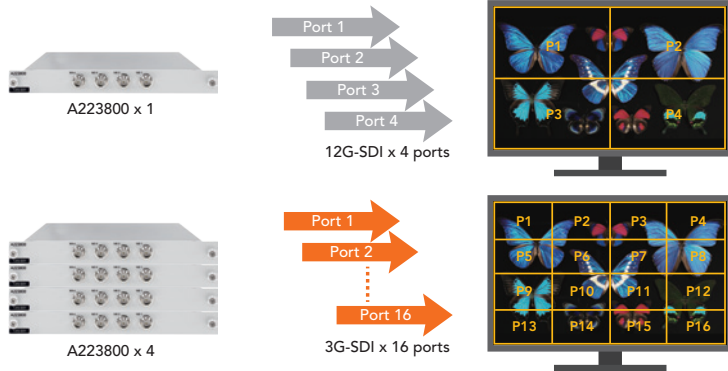


## PANEL DESCRIPTION



1. SDI Port 4
2. SDI Port 3
3. SDI Port 2
4. SDI Port 1

## 12G-SDI APPLICATIONS



### Support Multiple Mapping Format

- One module output 8K resolution (12G-SDI x 4 ports)
- Four modules output 8K resolution (3G-SDI x16 ports)

### HDR (High Dynamic Range)

- HDR 10 / HLG format
- HDR Metadata user define

## SPECIFICATIONS

A223800 12G-SDI SIGNAL MODULE	
Standard	SD-SDI/HD-SDI/3G-SDI (Level A/B)/6G-SDI/12G-SDI
Max Data Rate	12 Gbps
Sampling Mode	RGB 4:4:4 / YCbCr 4:4:4 or 4:2:2 or 4:2:0
Color Depth	8 / 10 / 12 bits
Color Space	RGB/ITU-R BT.601/ITU-R BT.709/ITU-R BT.2020
Output Impedance	75 ohm
Connectors	BNC x 4 ports

TIMING LIST			
Output Format	Bit Rate	Standard	Video Format
SD-SDI	270 Mbps	SMPTE 259M	NTSC 720x480/59.94i
			PAL 720x576/50i
HD-SDI	1.485 Gbps	SMPTE 274M	1920x1080p 30/29.97/25/24/23.97
			1920x1080i 60/59.94/50
		SMPTE 296M	720p 60/59.94/50/30/29.97/25/24/23.97
			1920x1080i 60/59.94/50/48/47.95/30/29.97/25/24/23.98
3G-SDI	2.97 Gbps	SMPTE 425M-A 1920x1080p 60/59.94/50/48/47.95/30/29.97/25/24/23.98	
		SMPTE 425M-B 2048x1080i 60/59.94/50/48/47.95/30/29.97/25/24/23.98	
6G-SDI	6 Gbps	SMPTE ST-2081-10	3840x2160p 30/29.97/25/24/23.98
12G-SDI	12 Gbps	SMPTE ST-2082-10	3840x2160p 60/59.94/50/48/47.95/30/29.97/25/24/23.98
			4096x2160p 60/59.94/50/30/29.97/25/24/23.97
12G-SDI	12 Gbps	SMPTE ST-2082-12	7680x4320p 60/59.94/50/30/29.97/25/24/23.97

\* All specifications are subject to change without notice.



### Wide Color Gamut

- BT.709/BT.2020 color space
- Color depth 8/10/12 bits support

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