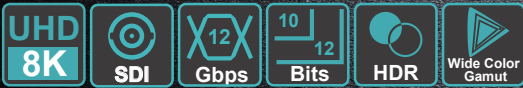
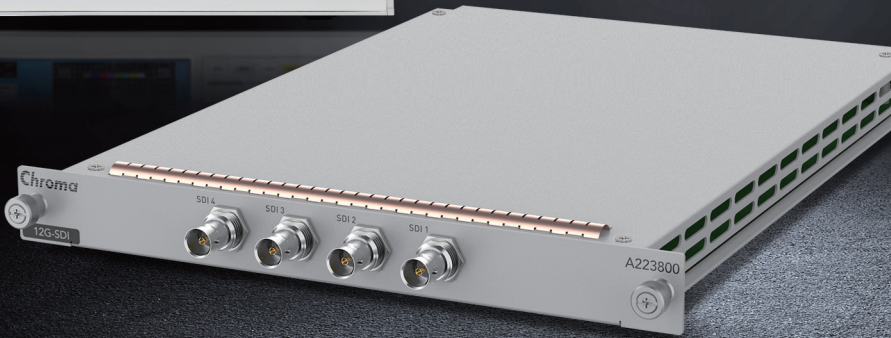


MODEL A223800

KEY FEATURES

- Option module for 2238 Video Pattern Generator
- SD-SDI/HD-SDI/3G-SDI (Level A/B)/6G-SDI/12G-SDI test applications
- Supports various industrial SDI standards:
 - SMPTE 259M/SMPTE 425M-A/SMPTE 425M-B/SMPTE ST-425-3/SMPTE ST-425-5/SMPTE ST-2082-10/SMPTE ST-2082-11/SMPTE ST-2082-12/SMPTE ST-2081-10/SMPTE ST-2081-11/SMPTE ST-2081-12/SMPTE 274M SMPTE 296M/SMPTE 372M
- Video Payload Identification real-time edit function (SMPTE 352M)
- Square Division and Sample Interleave modes
- Swing Level adjustment function
- RGB/ITU-R BT.601/ITU-R BT.709/ITU-R BT.2020 color space
- 10/12 bits color depth
- Four 12G-SDI output ports support 8K resolution testing
- Max. quad-module synchronization
- HDR (High Dynamic Range) function
- Screen Scroll function
- ESD protection
- BMP file format



12G-SDI SIGNAL MODULE MODEL A223800

Chroma A223800 12G-SDI Signal Module is designed to meet the latest 12G-SDI standards and 8K Ultra HD (7680x4320) test requirements. The module features four SDI signal output connectors that support multiple industrial SDI standards and over 240 standard SDI timing parameters, enabling it to handle high-resolution testing up to 8K. Its ability to output signals simultaneously from multiple modules makes it an ideal choice for any SDI test and measurement project.

12G Serial Digital Interface

The SDI (Serial Digital Interface) signal interface was standardized by the SMPTE (Society of Motion Picture and Television Engineers) and the ITU-R BT.656. These standards use coaxial cables with a nominal impedance of 75 ohms for transmitting uncompressed digital component signals, and are widely adopted by the broadcasting industry. As the video industry transitions from SD (480p) and HD (720p) to mainstream FHD (1920x1080), 4K (3840x2160), and prepares to enter the future 8K UHD (7680x4320) era, the 12G-SDI interface plays a vital role in broadcasting large events and sports. The A223800 module supports various SDI industry standard outputs (SD-SDI/HD-SDI/3GSDI (Level A/B)/6G-SDI/12G-SDI, etc.) with more than 240 built-in standards, providing customers with a comprehensive SDI standard test solution.

Square Division and Sample Interleave Modes

The built-in Square Division and Sample Interleave modes allow users to divide the screen for split-screen testing. With a single SDI module, up to four screens can be displayed simultaneously, while up to four SDI modules can display 16 screens at the same time, providing a wide range of testing applications."

Time Code Function

The A223800 is compliant with the SMPTE 12M standard and has a built-in time code function that supports both Linear Time Code (LTC) and Vertical Interval Time Code (VITC) modes, enabling users to calculate the video's length and relative position when editing video.

Video Payload Identification Real-time Editing

Chroma A223800 12G-SDI signal module was manufactured in accordance with the SMPTE ST-2082 standard and supports 12Gbps data rates. It also features a Video Payload Identification real-time editing function, which offers 4 Byte values for users to conveniently set up their own tests and edit video and pattern IDs.

Wide Color Gamut

Chroma A223800 supports a wide variety of gamut outputs, including the basic gamut space and Wide Color Gamut options such as RGB, ITU-R BT.601, ITU-R BT.709, and ITU-R BT.2020. With support for YCbCr 4:4:4/4:2:2 pixel encoding and 10/12 bits color depth, the A223800 provides an extensive selection of color settings that enable more natural color reproduction at higher resolutions.

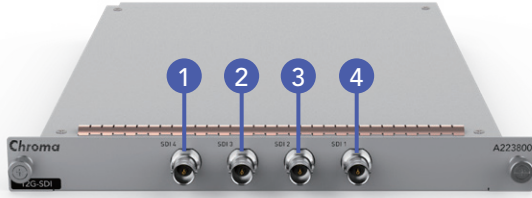
HDR (High Dynamic Range)

HDR output greatly enhances brightness range and color levels, closely approaching real image quality as seen by the human eye. HDR test items cover the factors that most affect the consumer's visual perception, such as brightness, contrast, color, sharpness, and moving image. The A223800 supports HLG, SDR-TV and PQ, and comes with a pre-installed library of test charts for HDR standards and specifications, including grayscale, color bars, and a variety of window shapes.



Chroma

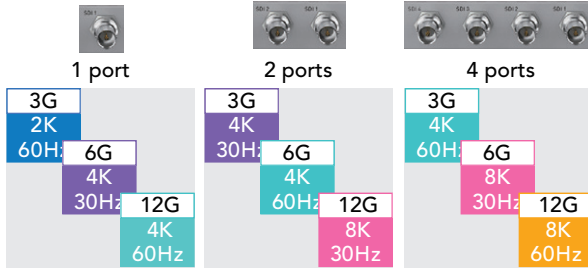
PANEL DESCRIPTION



SDI SIGNAL MODULE

- 1. SDI 4
- 2. SDI 3
- 3. SDI 2
- 4. SDI 1

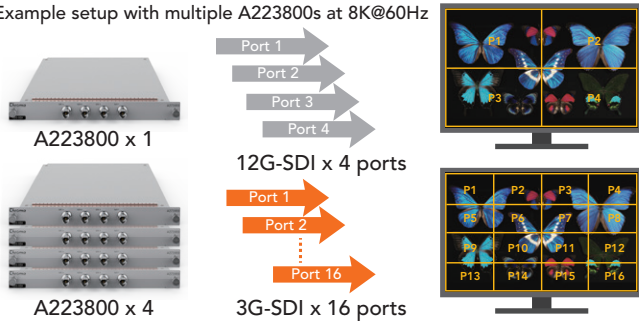
12G-SDI APPLICATIONS



HDR (High Dynamic Range) Function

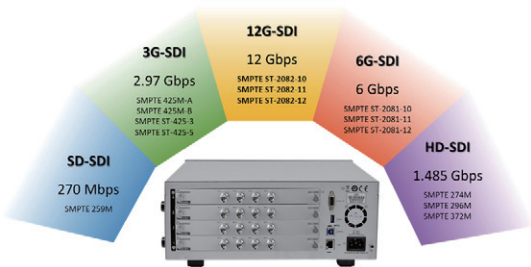
- 12G-SDI (4 Ports) supports up to 8Kx4K@60Hz
- 12G-SDI (1 Port) supports up to 4Kx2k@60Hz

Example setup with multiple A223800s at 8K@60Hz



Square Division and Sample Interleave Modes

- A single SDI module can perform 4-window split-screen testing
- Four modules together can split the screen into up to 16 windows



Full Range of SDI Specification Formats

- Various SDI standard signal output formats (SD-SDI/HD-SDI/3G-SDI (Level A/B)/6G-SDI/12G-SDI)
- Over 240 standard SDI timing parameters

SPECIFICATIONS

12G-SDI Signal Module A223800	
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
Color Depth	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
Swing Level	400mVpp / 800mVpp
Swing Adjustment	-2%/-1%/0%/1%/2%/3%/4%/5%/6%/7%
Audio	8CH, 24bit, 48KHz

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
3G-SDI	2.97 Gbps	SMPTE 425M-A SMPTE 425M-B	720p	60/59.94/50/30/29.97/25/24/23.97
			1920x1080i 2048x1080i 2048x1080p	60/59.94/50/48/47.95/30/29.97/25/24/23.98
6G-SDI	6 Gbps	SMPTE ST-2081-10	3840x2160p 4096x2160p	30/29.97/25/24/23.98
			1920x1080i 1920x1080p	60/59.94/50/48/47.95/30/29.97/25/24/3.98
12G-SDI	12 Gbps	SMPTE ST-2082-10 SMPTE ST-2082-12	3840x2160p 4096x2160p	60/59.94/50/48/47.95/30/29.97/25/24/3.98
			7680x4320p	30/29.97/25/24/23.97

* All specifications are subject to change without notice.

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