

quantumdata™ 980 12G-SDI Video Generator / Analyzer Module Testing up to 12G-SDI



Key Features

- Run functional tests on next gen SDI monitors and source (outputs) at rates of: SD, HD-SDI, 3G-SDI, 6G-SDI, and 12G-SDI; Dual link HD-SDI; Quad link 3G-SDI
- View incoming video, video metadata and Ancillary data in real time
- Select between genlock signals: bi-level black-burst for SD or tri-level for HD with fall back to no reference if genlock signal absent
- Extensive test pattern library with over 300 images including pathological tests for PLL and equalization
- Supports programmable LPCM sine wave audio from 2 channels to 16 channels independently operating on all four outputs
- View incoming audio streams and audio channel status bits
- Choose between rack mountable 980R platform and 980B desktop platform with large color touch screen

The Teledyne LeCroy quantumdata 980 12G-SDI Video Generator / Analyzer module generates and analyzes serial digital interface (SDI) signals used in connection with state-of-the art professional video products. The four 12G-capable output ports can be configured for single-link output, dual-link, or quad-link operation. A genlock input is available for aligning SDI output(s) to an external analog SD black burst or HD tri-level sync reference signal. The module's four inputs ports can analyze single-link output, dual-link, or quad-link operation.

Video Generation / Analysis

The 980 12G-SDI Video Generator / Analyzer module supports video and audio functional testing next gen broadcast monitors and sources at formats up to 12G-SDI.

The 980 12G-SDI Video Generator / Analyzer module supports standard video timings and test patterns—including support for SDI, HD-SDI, 3G-SDI, 6G-SDI, 12G-SDI, Dual link HD-SDI, Quad link 3G-SDI formats to test next gen broadcast monitors and source devices. The module offers a programmable LPCM audio sine wave generator enabling you to set the amplitude, frequency, sampling rate and bit depth.

Operation

The 980 12G-SDI Video Generator / Analyzer module can be controlled through the 980 Manager GUI graphical user interface. You can use either the embedded 980 GUI Manager via the touch screen monitor or you can use the external 980 GUI Manager from a PC.

The 980 12G-SDI Video Generator / Analyzer module can be equipped in the either the 980B or 980R Advanced Test Platform.

TESTING OF NEXT-GEN BROADCAST MONITORS

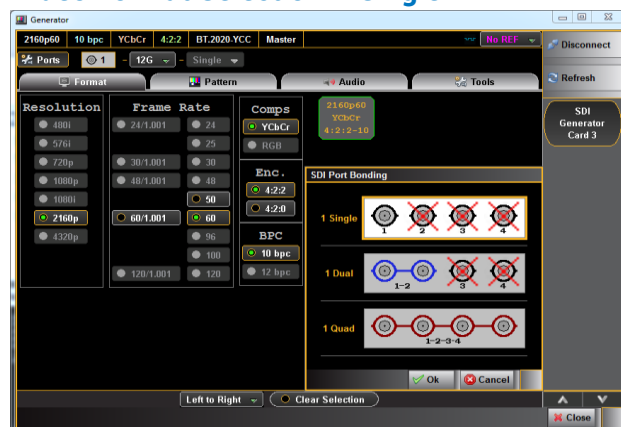
Video Format Selection

The 980 12G-SDI Video Generator module offers 12G-SDI-capable output ports which can be aggregated to achieve a variety of next-gen video resolutions. Support for ultra high definition formats with quad link 3G-SDI, 12G-SDI are available at 60Hz and 120Hz frame rates.

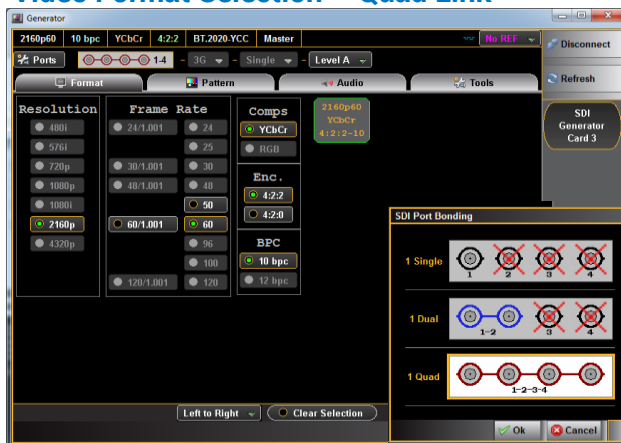
Audio Testing

The 980 12G-SDI Video Generator module offers a programmable LPCM audio sine wave generator enabling you to set the amplitude, frequency, sampling rate and bit depth. Audio format, channel selection can be specified where applicable. Two (2) and 32 audio is supported.

Video Format Selection – Single Link



Video Format Selection – Quad Link



Audio Testing



Payload ID Configuration



Test Setup for Display/Monitor Test – Single Link

980 SDI Video Generator module



Broadcast Monitor



Test Setup for Display/Monitor Test – Dual/Quad Link

980 SDI Video Generator module



Broadcast Monitor



Genlock

The 980 12G-SDI Video Generator module can be synced to a genlock input. The module supports high definition tri-level sync for high definition formats and analog black burst for standard definition formats.

Payload ID Editor

The 980 12G-SDI Video Generator module provides a Payload ID editor utility that enables you to run disruptive tests on a monitor by selecting invalid PID attributes and transmitting out the SDI video stream.

ANALYSIS OF NEXT-GEN BROADCAST SOURCES

Real Time Video Monitoring

The 980 12G-SDI Video Generator / Analyzer module enables you to view the incoming video and video metadata in real time HD dual link, quad link 3G and single link up to 12G. The SDI analyzer audio detects the incoming format.

Audio Testing

The 980 12G-SDI Video Generator / Analyzer module enables you to view the audio stream in the ancillary data packets, view the channel status bits, monitor the volume levels per channel and monitor the audio using an external audio test instrument through the 980's SPDIF output.

Test Setup for Display/Monitor Test – Single Link

12G-SDI source



980 SDI Video Generator/Analyzer



Test Setup for Display/Monitor Test – Dual/Quad Link

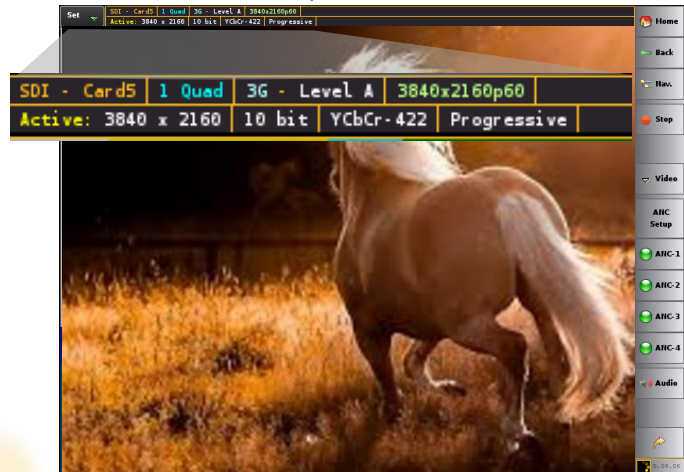
Quad 3G-SDI source



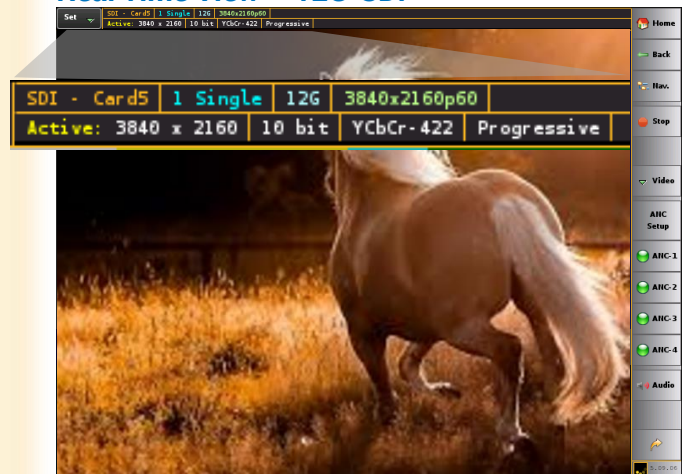
980 SDI Video Generator/Analyzer



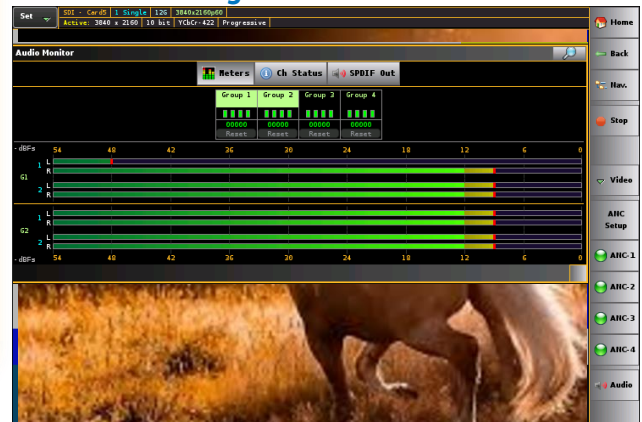
Real Time View – Quad 3G-SDI



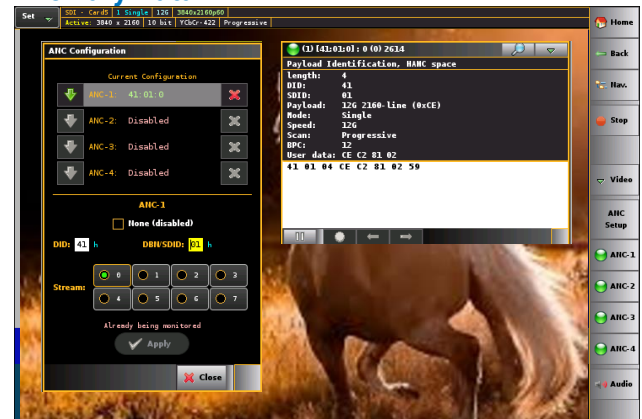
Real Time View – 12G-SDI



Audio Monitoring



Ancillary Data



Ancillary Data

The 980 12G-SDI Video Generator / Analyzers module analyzer function displays the ancillary data streams from the incoming SDI source stream. You can view the ancillary data for a variety of ancillary data types.

SPECIFICATIONS

SDI Tx Ports (4)

Standards	SMPTE: 295M, 292M, 372M, 424M, ST-2081, ST-2082
Resolutions/Formats	Single Link: SDI, HD-SDI, 6G-SDI, 3G-SDI (Level A & B), 12G-SDI DL-HD-SDI QL-QL-3G-SDI
Test patterns	Over 300 test patterns. Pathological test patterns for PLL and equalization.
Connectors	(4) Female Micro BNC Tx Ports Note: Only one port (Port 1) active for single link configuration.
Gen-Lock	(1) Female Micro BNC Genlock (Black Burst [SD], Bi-Level [480p], Tri-Level [720, 1080])
Protocol	Serial Digital Interface
Video Colorimetry	ITU-R BT.601-5, ITU-R BT.709-5, ITU-R BT.2020
Video Max Data Rate	12.00 Gbps
Color Depths	10, 12 bits
Video Encoding	RGB, YCbCr
Video Sampling Modes	4:4:4, 4:2:2, 4:2:2:4, 4:4:4:4
Audio Formats	LPCM 2-32 Channels programmable sine wave: 32kHz, 48kHz; 24-bit

SDI Rx Ports (4)

Standards	SMPTE: 295M, 292M, 372M, 424M, ST-2081, ST-2082
Resolutions/Formats	Single Link: SDI, HD-SDI, 3G-SDI (Level A & B), 12G-SDI DL-HD-SDI QL-QL-3G-SDI
Connectors	(4) Female Micro BNC Rx Ports Note: Only one port (Port 1) active for single link configuration.
Gen-Lock	(1) Female Micro BNC Genlock (Black Burst, Tri-Level)
Protocol	Serial Digital Interface
Video Colorimetry	ITU-R BT.601-5, ITU-R BT.709-5, ITU-R BT.2020
Video Max Data Rate	12.00 Gbps
Color Depths	10, 12 bits
Video Encoding	RGB, YCbCr
Video Sampling Modes	4:4:4, 4:2:2, 4:2:2:4, 4:4:4:4

Options

SDI Analyzer (Receiver Ports)	Analyzer function with input ports requires an optional license.
-------------------------------	--

980B/980R Test Platform

Embedded Display	980B: 15" diagonal; Resolution: 1024 (H) x 768 (V); 24 bit RGB color. 980R: 7" diagonal; Resolution: 800 (H) x 480 (V); 24 bit RGB color.
Power	90-264 VAC, 47-63Hz
Weight	23.76 LBS; 10.78 Kg
Size	980B: Height: 15.25 in. (38.7 cm); Width: 14.57 in. (36.5 cm); Depth: 6.29 in. (15.9 cm) 980R: Height: 6.29 in. (15.9 cm); Width: 15.25 in. (38.7 cm); Depth: 14.57 in. (36.5 cm)
Command Line Control	Ethernet (RJ-45) for external GUI and telnet
Environmental	Operating Temp: 32 to 104 (F); 0 to 40 (C)



1-800-909-7211
teledynelecroy.com



Local sales offices are located throughout the world.
Visit our website to find the most convenient location.