### SPECIFICATIONS

#### SDI Tx Ports (4)

**Standards**

**Resolutions/Formats**
- Single Link: SDI, HD-SDI, 6G-SDI, 3G-SDI (Level A & B), 12G-SDI
- DL-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

**Gen-Lock**
- (1) Female Micro BNC Genlock (Black Burst [SD], Bi-Level [480p], Tri-Level [720, 1080p])

**Protocol**
- Serial Digital Interface

**Video Colorimetry**

**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

**Audio Formats**
- LPCM 2/32 Channels programmable sine wave: 33kHz, 48kHz; 24-bit

#### SDI Rx Ports (4)

**Standards**

**Resolutions/Formats**
- Single Link: SDI, HD-SDI, 3G-SDI (Level A & B), 12G-SDI
- DL-SDI
- QL-3G-SDI

**Connectors**
- (4) Female Micro BNC Rx Ports

**Gen-Lock**
- (1) Female Micro BNC Genlock (Black Burst, Tri-Level)

**Protocol**
- Serial Digital Interface

**Video Colorimetry**

**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

**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)

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### Key Features
- Run functional tests on next gen SDI monitors and source (outputs) at rates of: SD, HD-SDI, 6G-SDI, 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

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### Video Generation / Analysis

The 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.

### 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.

### 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.

### 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.

**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.

### 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.
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.

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.

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 Configuration
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.

ANCILLARY DATA

Ancillary Data
The 980 12G-SDI Video Generator / Analyzer 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.

Audio Monitoring
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.

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 quad link, 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.

Real Time View – Quad 3G-SDI
980 SDI Video Generator/Analyzer
Quad 3G-SDI source

Audio Monitoring
980 SDI Video Generator/Analyzer
Quad 3G-SDI source

Real Time View – 12G-SDI
980 SDI Video Generator/Analyzer
12G-SDI source

Audio Testing
980 SDI Video Generator/Analyzer
**Key Features**

- Run functional tests on next gen SDI monitors and source (outputs) at rates of: SD, HD-SDI, 3G-SDI, and 12G-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 fallback 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 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.

**Video Generation / Analysis**

The 980 12G-SDI Video Generator / Analyzer module generates supports standard video timings and test patterns—including support for SDI, HD-SDI, 3G-SDI, 6G-SDI, and 12G-SDI. The module’s four inputs ports can analyze single-link output, dual-link, or quad-link operation.

**Operation**

The 980 12G-SDI Video Generator / Analyzer module can be controlled through the 980 Manager 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.

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**SDI Tx Ports (4)**

**Standards**

- SMPTE: Single Link: SDI, HD-SDI, 6G-SDI, 3G-SDI (Level A & B), 12G-SDI
- DL-QL: SDI, HD-SDI, 6G-SDI, 3G-SDI, 12G-SDI
- QL: Single Link: SDI, HD-SDI, 6G-SDI, 3G-SDI, 12G-SDI

**Test Patterns**

- Over 300 test patterns.
- Pathological test patterns for PLL and equalization.

**Connectors**

- (4) Female Micro BNC T2 X 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 [720P, 1080i])

**Protocol**

- Serial Digital Interface

**Video Colorimetry**

- Video Max Data Rate: 12.00 Gbps
- Color Depths: 10, 12 bits
- Video Encoding: RGB, YCbCr, 4:2:2, 4:2:2:4, 4:4:4
- Video Sampling Modes: 4:4:4, 4:2:2, 4:2:2:4, 4:4:4
- Audio Formats: LPCM 2-32 Channels programmable sine wave: 33Hz, 48KHz, 24-bit

**SDI Rx Ports (4)**

**Standards**

- SMPTE: Single Link: SDI, HD-SDI, 3G-SDI (Level A & B), 12G-SDI
- DL-QL: SDI, HD-SDI, 6G-SDI, 3G-SDI, 12G-SDI
- QL: Single Link: SDI, HD-SDI, 6G-SDI, 3G-SDI, 12G-SDI

**Connectors**

- (4) Female Micro BNC Rx X 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**

- Video Max Data Rate: 12.00 Gbps
- Color Depths: 10, 12 bits
- Video Encoding: RGB, YCbCr, 4:2:2, 4:2:2:4, 4:4:4
- Video Sampling Modes: 4:4:4, 4:2:2, 4:2:2:4, 4:4:4

**Options**

- Sdi Analyzer (Receiver Ports): Analyzer function with input ports requires an option 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: 15.25 in. (38.7 cm); Depth: 6.29 in. (16.9 cm)
- 980R: Height: 6.25 in. (15.9 cm); Width: 15.25 in. (38.7 cm); Depth: 6.29 in. (16.9 cm)

**Command Line Control**

- Ethernet ( RJ-45) for external GUI and telnet

**Environmental**

- Operating Temp: 32 to 104 (F); 0 to 40 (C)

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**Specifications**

**Teledyne LeCroy**

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

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