Multi-Rate SDI 4K Test Signal Generator
ESG-4100

Features

Ready for a range of audio and video testing of 12G-SDI systems

Versatile 4K output
- Can produce any combination of Square Division (SQD) / 2-Sample Interleave (2SI) signals, and 3840 x 2160p/4196 x 2160p resolution. (12G mode can be used only with 2SI)

Video test patterns/Flash function
- Standard test patterns include color bars, ramp, step, white, black, pathological, crosshatch, multi-burst, and noise. Up to 10 custom register test patterns are created using a PC interface. Flash function allows White or Black signals to be inserted into video.

HDR/Resolution test chart
- PQ and HLG (Gray scale, Color bar) test charts and ZONE Mono-scope resolution test chart are available as optional accessories.

Payload ID editing
- Specify the color space and bit depth of HDR information in the payload of included or custom patterns. Four-byte payload data of your choice can also be specified.

Colorimetry switching
- Choose from ITU-R BT.2020 or ITU-R BT.709 for 4K testing (except for custom-made user test patterns.)

Test pattern scrolling
- Scrolling test patterns can be selected horizontally, vertically, horizontally and vertically at the same time, sequenced, or in random fashion.

Character display
- Display time codes or channel numbers on test patterns as necessary. Alphanumeric characters can be scrolled.

Logos
- Logos (PNG format) created on a PC can be displayed on test patterns and scrolled (excluding USER patterns).

Audio test signals
- Outputs standard test signals (1 kHz, etc.) Test signals can be customized by registering 10 computer-generated WAV (linear PCM) files (30 seconds, 32 channels).

External control, SNMP monitoring
- Control the unit via Telnet or monitor operation via SNMP.

Two-line output
- One line (SG-1) for 4K and HD output is provided as standard.
- Can support two-line output (SG-1, SG-2) with option. SG-1 and SG-2 independently configurable.

As Standard (One-Line Output)

| 4K | 12G mode at 60p/59.94p/50p | 12G-SDI lines to 8 outputs and Quad Link 3G-SDI lines to 2 outputs |
| 3G mode at 60p/59.94p/50p | Quad Link 3G-SDI lines to 4 outputs |
| 3G mode at 30p/29.98p/25p/24p/23.97p | Dual Link 3G-SDI lines to 8 outputs |
| 1.5G mode at 30p/29.98p/25p/24p/23.97p | Quad Link HD-SDI lines to 4 outputs |
| HD | 60p/59.94p/50p | 3G-SDI lines to 7 outputs |
| 60/59.94/50/30p/30PsF/29.97/29.97PsF/25p/25PsF/24p/24PsF/23.98/23.98PsF | HD-SDI lines to 7 outputs |

With Option (Two-Line Output)

| 4K | 12G mode at 60p/59.94p/50p | 12G-SDI lines to 4 outputs and Quad Link 3G-SDI to 1 output) x2 lines |
| 3G mode at 60p/59.94p/50p | (Quad Link 3G-SDI lines to 2 outputs) x2 lines |
| 3G mode at 30p/29.98p/25p/24p/23.97p | (Dual Link 3G-SDI lines to 4 outputs) x2 lines |
| 1.5G mode at 30p/29.98p/25p/24p/23.97p | (Quad Link HD-SDI lines to 2 outputs) x2 lines |
| HD | 60p/59.94p/50p | One 3G-SDI line to 4 outputs and another 3G-SDI line to 3 outputs |
| 60/59.94/50/30p/30PsF/29.97/29.97PsF/25p/25PsF/24p/24PsF/23.98/23.98PsF | One HD-SDI line to 4 outputs and another HD-SDI line to 3 outputs |
### Video formats

- **4K (SDI EMBEDDED)**
- **16 ch**, SMPTE ST 299-1-compliant
- **HD (SDI EMBEDDED)**
- **16 ch**, SMPTE ST 299-1-compliant

### Accessories

- AC cord, Rack mount brackets, CD-ROM (Operation manuals, Frame pattern registration software, SNMP MIB files)

### Specifications

#### Audio output

- **48 kHz, 24-bit, 32 channels (AES3-compliant)**

#### Reference output

- **BB: NTSC: 0.429 Vp-p/PAL: 0.45 Vp-p, SMPTE ST 170-compliant**

#### Audio channel

- **ALL OFF: 1 ON, 1 to 2 ON, 3 to 4 ON**

#### Reference input

- **BB: NTSC: 0.429 Vp-p/PAL: 0.45 Vp-p, SMPTE ST 170-compliant**

#### Cooling fans

- To be replaced every 5 years

#### Audio level

- **0 dBFS, -6 dBFS, -12 dBFS, -18 dBFS, -20 dBFS, 22 dBFS, -24 dBFS, STEP, MUTE**

### Reference input

- **BB: NTSC: 0.429 Vp-p/PAL: 0.45 Vp-p, SMPTE ST 170-compliant**

### Audio mute

- **MUTE OFF, MUTE CH4 to 4, MUTE CH2 to 4, MUTE CH3 to 4, MUTE CH4**

### Audio test signals

- **Multiplexing groups**: Off, 1, 1, 2, 1+2, 1+2+3 (Can specify audio packets to multiplex into the four lines of SDI output.)

### Audio level

- **400 Hz, 800 Hz, 1 kHz, 2 kHz, 4 kHz, 6 kHz, 8 kHz, 10 kHz, 12 kHz, User (1-10)**

### Dimensions/weight

- **430 (W) x 44 (H) x 450 (D) mm / 6 kg**

### Payment/consumption

- **100 W AC to 240 V AC/10%, 50/60 Hz / Max. 80 W (at 100 V AC)**

### Accessories

- **AC cord, Rack mount brackets, CD-ROM (Operation manuals, Frame pattern registration software, SNMP MIB files)**

### Options

- **ESG-41S2**: SG-2 option
- **ESG-4CHDR**: HDR test chart
- **ESG-4CRES**: Resolution chart

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*1: In 12G mode  *2: Optional  *3: 8 ch when set to 4096 horizontal resolution

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Design and specifications subject to change without notice. 1905NPD