ESG-8000
8K/4K/HD Test Signal Generator

Full range of test patterns, extensive outputs
Test signal generator compatible with YCbCr 4:2:2 10-bit FS-SHV (Super Hi-Vision Full Resolution) signals. Also produces DG-SHV (Super Hi-Vision Dual Green) signals.

<table>
<thead>
<tr>
<th>Features</th>
<th>Description</th>
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<tbody>
<tr>
<td><strong>Video test patterns</strong></td>
<td>Standard test patterns include color bars, ramp, steps, white, black, pathological, crosshatch, multiburst, and noise. Up to 10 custom test patterns created on a computer can be registered.</td>
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<tr>
<td><strong>Colorimetry switching</strong></td>
<td>Choose from ITU-R BT.2020 or ITU-R BT.709 for 8K testing (except for custom test patterns).</td>
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<tr>
<td><strong>Test pattern scrolling</strong></td>
<td>Scroll test patterns horizontally, vertically, or diagonally.</td>
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<tr>
<td><strong>Character display</strong></td>
<td>Display time codes or payload IDs on test patterns if needed.</td>
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<tr>
<td><strong>Output frame frequency switching</strong></td>
<td>Choose from 59.94 Hz or 50 Hz.</td>
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<tr>
<td><strong>Audio test signals</strong></td>
<td>Choose from standard test signals, such as a 1 kHz signal, or custom WAV (linear PCM) files created on a computer.</td>
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<tr>
<td><strong>Full-featured output</strong></td>
<td>For 8K video output in DG mode, choose from one line (1.5G-SDI: 16 channels) or two (3G-SDI: 8 channels). In FS mode, one line (3G-SDI: 16 channels) is provided. Choose from one or two lines for 4K or HD video output. Audio is embedded in HD, 4K, or 8K output. Also supports MADI signals.</td>
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<tr>
<td><strong>Payload information multiplexing</strong></td>
<td>Payload information can be multiplexed into output signals.</td>
</tr>
<tr>
<td><strong>Reference signal outputs</strong></td>
<td>Three lines are provided, for which either black burst (BB) or tri-level sync mode can be independently selected.</td>
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<td><strong>External control, SNMP monitoring</strong></td>
<td>Control the unit via telnet, or monitor operation via SNMP.</td>
</tr>
</tbody>
</table>
**Specifications**

- **Video outputs (FS-SHV mode)** 8K
  - 7680 x 4320/59.94p (50p)
  - 3G-SDI (Level-A): BNC x16 (1 line), SMPTE ST 242-compliant
  - Square Division (SQD) supported

- **Video outputs (DG-SHV mode)** 8K
  - 7680 x 4320/59.94p (50p)
  - Switches the following SDI output:
    - 3G-SDI (Level-B): BNC x8 (2 lines), SMPTE ST 242-compliant
    - 1.5G-SDI: BNC x16 (1 line), SMPTE ST 242-compliant
  - Square Division (SQD) supported

- **Video outputs (HD-SHV mode)**
  - 1920 x 1080/59.94i (50i)
  - HD-SDI: BNC x1 (2 lines), SMPTE ST 242-compliant
  - Square Division (SQD) supported

- **Audio formats**
  - 48 kHz, 24-bit, 32 channels (AES3-compliant)
  - Audio output
    - 8K 3G-SDI: BNC x2 (16 channels, 2 lines), SMPTE ST 242-compliant
    - HD 3G-SDI: BNC x4 (8 channels, 1 line), SMPTE ST 242-compliant
    - 4K 3G-SDI: BNC x2 (16 channels, 1 line), SMPTE ST 242-compliant
    - HD-SDI: BNC x1 (16 channels, 2 lines), SMPTE ST 242-compliant
    - MADI: BNC x1 (32 channels, 2 lines), AES10-compliant

- **Reference input**
  - Tri-level sync: 0.6 Vp-p
  - 75Ω, BNC x1 with loop-through

- **Reference output**
  - BNC x3 (tri-level sync or black burst available for each)
  - Formats:
    - HD reference: Tri-level sync, SMPTE ST 242-compliant
    - SD reference: Black burst, SMPTE ST 170-compliant

- **LTC output**
  - BNC x1
  - SMPTE ST 12-1/ST 12-2-compliant time code

- **Interface**
  - Ethernet: 10/100BASE-TX, RJ-45 x1

- **Video output patterns**
  - COLOR BAR group
    - Full color bar (100%/75%), SQD full color bar (100%/75%), multi-format color bar (100%/75%), SQD multi-format color bar (100%/75%)
  - LINEAR group
    - Y RAMP (UP/DOWN), G STEP (5/10), B STEP (5/10), R STEP (5/10)
  - FLAT group
    - White (100%/50%), black (100%/50%), red (100%/50%), blue (100%/50%), green (100%/50%)
  - SDI group
    - EQ, PLL, pathological
  - OTHER group
    - Crosshatch (NOR/REV), multiburst, noise, user (1-10)
  - Audio test signals
    - Multiplexing groups
      - Off, 1, 1+2, 1+2+3, 1+2+3+4 (Can specify audio packets to multiplex into the four lines of SDI output.)
  - Audio frequency
    - 400 Hz, 800 Hz, 1 kHz, 2 kHz, 3 kHz, 4 kHz, 6 kHz, 8 kHz, 10 kHz, 12 kHz, CHECK
  - Audio level
    - -18 dBfs, -20 dBfs, -22 dBfs, Silence
  - Temperature/humidity
    - 5°C to 40°C (10% to 80% (no condensation)
  - Power/consumption
    - 100 VAC to 240 VAC ±10%, 50/60 Hz / max. 80 W (at 100 VAC)
  - Dimensions/weight
    - 430 (W) x 44 (H) x 450 (D) mm / 6 kg

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