

# From HD to 8K,

## covers all video/audio testing needs



# 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.

### Features

#### Video test patterns

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.

#### Colorimetry switching

Choose from ITU-R BT.2020 or ITU-R BT.709 for 8K testing (except for custom test patterns).

#### Test pattern scrolling

Scroll test patterns horizontally, vertically, or diagonally.

#### Character display

Display time codes or payload IDs on test patterns if needed.

#### Output frame frequency switching

Choose from 59.94 Hz or 50 Hz.

#### Audio test signals

Choose from standard test signals, such as a 1 kHz signal, or custom WAV (linear PCM) files created on a computer.

#### Full-featured output

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.

#### Payload information multiplexing

Payload information can be multiplexed into output signals.

#### Reference signal outputs

Three lines are provided, for which either black burst (BB) or tri-level sync mode can be independently selected.

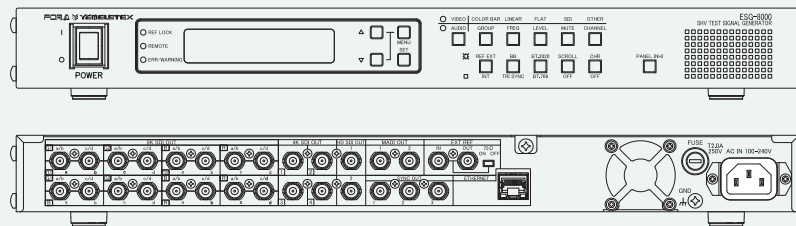
#### External control, SNMP monitoring

Control the unit via telnet, or monitor operation via SNMP.

# Specifications

Video outputs (FS-SHV mode)	8K	7680 x 4320/59.94p (50p) 3G-SDI (Level-A): BNC x16 (1 line), SMPTE ST 424-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 424-compliant 1.5G-SDI: BNC x16 (1 line), SMPTE ST 292-1-compliant
	4K	3840 x 2160/59.94i (50i) or 4096 x 2160/59.94p (50p) 3G-SDI (Level-A or -B): BNC x4 (1 line), SMPTE ST 424-compliant Square Division (SQD) and 2-Sample Interleave Division (2SI)-compliant
	HD	1920 x 1080/59.94i (50i) HD-SDI: BNC x1 (2 lines), SMPTE ST 292-1-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 299-1-compliant HD-SDI: BNC x4 (8 channels, 1 line), SMPTE ST 299-1-compliant
	4K	3G-SDI: BNC x2 (16 channels, 1 line), SMPTE ST 299-1-compliant
	HD	HD-SDI: BNC x1 (16 channels, 2 lines), SMPTE ST 299-1-compliant
	MADI	BNC x1 (32 channels, 2 lines), AES10-compliant
Reference input		Black burst: NTSC: 0.429 Vp-p/PAL: 0.45 Vp-p 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 240-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), Y STEP (5/10), 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) (Up to 10 frame test patterns created on a computer can be registered.)
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 CHECK: Register a custom WAV (linear PCM) file up to 30 sec.
	Audio level	-18 dBfs, -20 dBfs, -22 dBfs, Silence (Signal levels in registered audio files cannot be adjusted, except for Silence.)
	Audio mute	MUTE OFF, MUTE CH1-4, MUTE CH2-4, MUTE CH3-4, MUTE CH4
	Audio channel	ALL OFF, 1 ON, 1-2 ON, 1-3 ON, 1-4 ON Audio channels can be enabled or disabled using active channel data in audio control packets.
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

# External View



\*ESG-8000 is a joint development product with NHK, Japan



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