EV4171
serial digital component waveform monitor

The EV4171 is designed for installations with a mix of analogue and digital component signals. Relative amplitude, timing and signal linearity between analogue and digital paths can easily be ascertained on a conventional CRT display format.

DISPLAY

CRT: 10 x 8cm flat faced, P31 (GH) phosphor, accelerating potential 12kV.
Display controls: Intensity, Focus and Scale illumination on front panel, trace alignment on front panel, astigmatism set internally.
Display modes: A, B, or C selected: each channel individually displayed at the sweep selected.
ABC selected (Line or field):
Sweep speed 1: ABC superimposed
Sweep speed 2: AB parade
Sweep speed 3: ABC parade.
Bowtie: Channels A minus B and A minus C displayed for relative timing and amplitude checks.
B/C Sweep displayed, vector display formed from B signal horizontally & C signal vertically.

SIGNAL CONNECTIONS

Y, Pr, Pb on inputs A, B, & C with RGB outputs for out of gamut monitoring. Two switchable serial digital inputs with reclocked output.
75 ohm BNC sockets on rear panel allow loop-through (bridging) connections to the A, B and C input amplifiers. Return loss better than 40dB in each case. Crosstalk>54dB to 60MHz.

SYNCHRONISATION

SYNC front panel switch allows selection of an internal or external source. Internal sync from displayed A channel. External reference may be composite, black and burst or mixed sync signals with sync amplitude between 150mV and 4V. Syncs circuits are substantially unaffected by S.I.S. signals and operate cleanly in the presence of superimposed hum signals up to 0.7V pk-pk.

SWEEP RATES

Vertical: 3, 2, 1 fields (internal switch selects 50/60Hz operation).
Horizontal: 3, 2, 1 lines
Two-position magnifier: x 5 increases 1 line sweep rate to 1us/div.
x 50 increases 1 line sweep rate to l00ns/div. Accuracy ±3% over centre 8 divisions.

DC RESTORER

Each input individually restored. Offset of B and C signals is front panel selectable to set the baseline levels of colour difference signals as required. Black level changes <1% for 10% to 90% APL variation, <2% for presence or absence of colour burst. 50Hz attenuation <10%.

VERTICAL AMPLIFIER

Sensitivity: 1V composite video gives 100% (140 IRE) display. Increased to 200mV full scale using x 5 gain switch.
Frequency response (1V range):
Component input - FLAT filter: 25Hz to 8MHz +1%/-3%
Serial digital input - FLAT filter: Y - ±0.5dB to 5.5MHz, Pr/Pb ±0.5dB to 2.2MHz.
Transient response: <2% overshoot on 1T pulse (100ns h.a.d.) Sin² pulse
LF tilt <1% on 50Hz square wave.
LP filter: Low pass filter similar to IEEE standard 205.
LIN filter: Bandpass amplifier centred on 500kHz gives 1.5us h.a.d. spikes from staircase test waveforms for line time non-linearity checks.
RGB Waveform Display

CALIBRATOR

Calibrated shift voltages may be applied on alternate timebase sweeps to enable precise amplitude checks. Set to 700mV and 525mV ±1%.

INTERNAL ILLUMINATED GRATICULE

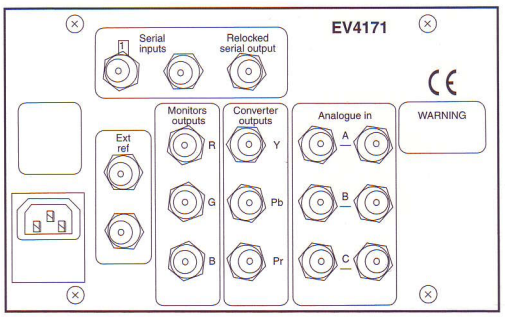
Dual scaling : 0 to 100% in 10% increments and -43 to +110 IRE units in 10 unit increments. 2%/2 IRE subdivisions around the 100 line assist in amplitude assessment.
The graticule has scaling for both 700mV and 525mV signals, together with their half-amplitude references. This simplifies operation with 75% and 100% saturation colour bar test signals. Similarly the vector scaling includes dual reference points.

SPECIFICATIONS

Power requirements: 97V to 130V or 195V to 260V, 50Hz to 60Hz, internally selected, @ 40W.
Operating temperature: 0°C to 45°C.

WEIGHT & MEASUREMENTS

Height: 132mm, Width: 216mm, Depth: 433mm, Weight: 8kg approx



REAR

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Electronic Visuals Limited
25 Boundary Way Woking
Surrey England GU21 5DH
Tel: +44 [0] 1483 771663
Fax: +44 [0] 1483 750358
Email: info@electronic-visuals.com
Web site: www.electronic-visuals.com