

DVG-5000 3D Digital Video Generator



NEW Features

- * 33 3D Signal Formats
- * Advanced Motion Patterns
- * Dual 10-bit / 8-bit Pattern Rendering
- * Deep Color
- * AVI Inframe Control
- * HDMI® Output

- * Professional Display Calibration
- * Video Processing Engineers and Display Designers
- * Video Reviewers & Evaluation Engineers
- * Manufacturing Test

The new DVG-5000 Motion Patterns reaffirm AccuPel's commitment to video processing engineers, product designers, and professional reviewers

“Video without motion is simply a collection of still pictures. The ability to optimize video processing to display motion is the essence of video quality.” Greg Rogers - AccuPel Video Engineer/Designer, Widescreen Review Technical Editor

For more than a decade AccuPel Video Generators have been a favorite of Professional Display Calibrators, Product Designers, and Home Theater Enthusiasts because of their unexcelled video signal quality and easy to use Front Panel, IR Remote Control, and Computer Interfaces.

NEW 3D Option – 33 3D Signal Formats

The DVG-5000 provides all HDMI® 1.4a mandatory 50 Hz and 60 Hz 3D structure-formats, and 20 optional 3D structure-format combinations. All standard test patterns are available in all 33 3D structure-formats. Left eye & right eye blanking is provided, and the 3D Inframe can be disabled to view the left and right eye test pattern frames without 3D display processing. A special interactive 3D Crosstalk pattern easily determines left-right and right-left crosstalk as an equivalent signal level or as display gamma-corrected percent luminance.

NEW Dual-Native 10-bit / 8-bit Digital Video Resolution

The DVG-5000 brings AccuPel's Dual-Native 10-bit / 8-bit pattern rendering to digital video signals for the first time. For Deep Color RGB and YCbCr 4:4:4 signals, and YCbCr 4:2:2 20-bit signals, patterns are rendering using 10-bit accurate digital signal components. For older non-Deep Color and YCbCr 4:2:2 16-bit output standards that can't transport 10-bit digital component video, the Dual-Native pattern rendering produces separate 8-bit accurate digital component video to avoid rounding 10-bit values to 8-bit values which would produce LSB errors.

Unlike most generators that use pixel clock synthesizers, the DVG-5000 has three precision oscillators to provide individual low-jitter pixel clocks for standard-definition, 60 Hz-related high-definition, and 59.94 Hz-related high-definition video formats.

NEW Motion Patterns Option - for Video Engineers & Professional Product Evaluators

Video without motion is simply a collection of still pictures. Static test patterns are essential for calibrating basic display parameters, but real-world video performance depends on how display technologies and video processing algorithms handle motion. That was always true when deinterlacing 480i, 576i, or 1080i interlaced video formats, or when scaling any progressive video format during motion. But it is now critically important and problematical with the introduction of smooth motion frame interpolation technologies that have become ubiquitous on flat panel displays and video projectors.

The Circular and Hyperbolic Zone Plates reveal the effects of linear and non-linear processing on spatial frequency response at user selectable motion rates and angles. The Horizontal and Vertical Wedge patterns can be used to easily measure the effect of motion on discernable display resolution. Cursors on the moving patterns can be used to make precise measurements of deinterlacing, scaling, and frame interpolation effects on horizontal, vertical, and radial spatial frequency response and resolution in lines per picture width or height, TVL, cycles per picture width or height, and percent of Nyquist frequency.

Moving Detail Discs with horizontal and vertical stripes, squares, and checker patterns show the effect of motion processing, deinterlacing, and detail enhancement algorithms on detail differentiation. Cosine Balls reveal motion induced contouring and other non-linear processing effects.

Motion patterns are available in all SD and HD formats, frame packing 3D formats, and RGB color. Interlaced formats can also be selected with 3-2 and 2-2 pull-down film cadences.

DVG-5000 Features & Characteristics

Video Formats (Standard)

1080i	59.94, 60, 50
1080p	59.94, 60, 50 23.98, 24, 23.98sf, 24sf, 25 29.97, 30, 47.95, 48
720p	59.94, 60, 50
480i/p	59.94
576i/p	50

3D Structure-Formats (Option)

Frame Packing

1080p	23.98, 24, 25, 29.97, 30
720p	59.94, 60, 50

Side-by-Side (Half)

1080i	59.94, 60, 50
1080p	59.94, 60, 50 23.98, 24, 25, 29.97, 30
720p	59.94, 60, 50

Top-and-Bottom

1080p	59.94, 60, 50 23.98, 24, 25, 29.97, 30
720p	59.94, 60, 50

Standard & 3D Output Signals

YCbCr	4:2:2, 4:4:4
RGB	Video, PC*

Black-Reference White (0%-100%)
16-235, 109% maximum signal levels
* Black-Reference White 0-255

Standards

ITU-R	BT.709, BT.601
SMPTE	274M, 296M
CEA	861E

Native Video Pattern Rendering

Selectable	10-bit or 8-bit for each Y/Cb/Cr/R/G/B Component
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YCbCr 4:2:2 Signal Output

Selectable	8-bit or 10-bit for each Y/Cb/Cr Component
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Deep Color Signal Output

Selectable	24-bit, 30-bit, 36-bit
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User Interfaces

Standalone	Front Panel Control OSD Menus 41-button IR Remote
Computer	USB (PC/Mac/Linux) ChromaPure™ Compatible

Pattern & Feature Updates

USB	Windows or Mac OS X
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3D Signal Option

33 3D Structure-Formats
All Standard Patterns in All 3D Formats
Motion Option (Frame Packing only)
Left Eye – Right Eye Blanking
3D Inframe Control
Interactive 3D Crosstalk Pattern

Motion Patterns Option

70 Motion Patterns
Circular Zone Plates
Hyperbolic Zone Plates
H & V Linear Frequency Sweeps
H & V Resolution Wedges
H & V Detail Discs Slices & Stripes
Detail Discs Squares & Checkers
Cosine Balls
Selectable H & V Motion Rates
Interlaced Cadences (1-1, 2-2, 3-2)
Active Frequency/Resolution Cursors
Horizontal, Vertical, Radial
Selectable OSD Cursor Units
Lines/PW, Lines/PH
TVL
Cycles/PW, Cycles/PH
% Nyquist Frequency

Additional Features

Color Gating - R, G, B, Y, Cb, Cr
User Color, Grayscale, Checkerboards
CIE xyY OSD Color Gamut Values
AVI Inframe User Control
YCbCr Signal Encoding Reversal
YCbCr 4:2:2 Decimation Filter Control
Edge Bandwidth Filter Control
User-defined Pattern Lists
OSD Menus – IR Remote Control

Rear Panel Connectors

HDMI® (223 MHz max pixel rate)
USB
Power

Power

+6 volts DC Regulated Input
Deluxe AC Adapter (included)
100-240 VAC 50/60 Hz
Interchangeable Power Cords

Size (Anodized Aluminum Case)

H x W x D 1.85" x 6.5" x 4.35" w/feet
Weight 15 oz.

Accessories (Included)

Standard Version
AC Power Adapter
Custom IR Remote Control
Deluxe Version with 3D Option
AC Power Adapter
Custom IR Remote Control
Hard-shell Carrying Case
USB Cable
HDMI Cable

Patterns (Standard)

Color 75 Group

75% Color Bars, Tri-Split Color Bars
75% Color Windows –
Red, Green, Blue, Yellow, Cyan,
Magenta, Gray
75% Color Fields –
Red, Green, Blue, Yellow, Cyan,
Magenta, Gray
User-defined Color Window
User-defined Color Field

Color 100 Group

100% Color Bars, Tri-Split Color Bars
100% Color Windows –
Red, Green, Blue, Yellow, Cyan,
Magenta, Gray
100% Color Fields –
Red, Green, Blue, Yellow, Cyan,
Magenta, Gray
User-defined Color Window
User-defined Color Field

Special Group

Overscan, Inverse Overscan,
Crosshatch, Inverse Crosshatch,
Needle Pulses, Color Pixel Multiburst,
Luma Pixel Multiburst, Crosshair,
Sharpness, 100% Checkerboard,
100% Inverse Checkerboard,
User-defined Checkerboard,
User-defined Inverse Checkerboard,
Linearity Ramps (8-bit & 10-bit)

PLUGE Group

0% APL, 25% APL, 50% APL with
98%/102% PLUGE
25%, 50%, 75%, 100% Window,
100% Window with 98%/100% PLUGE
50%/100% Window with PLUGE
Precision 11-21d PLUGE

Gray Scale Group

10-Step Vertical & Split-V Grayscale
1%-10% in 1% steps
10-100% in 10% steps
100%-109% in 0.9% steps
10-Step Horizontal Grayscale
1%-10% in 1% steps
10-100% in 10% steps
100%-109% in 0.9% steps
Windows with PLUGE
1%-10% in 1% steps
10-100% in 10% steps
100%-109% in 0.9% steps
User-defined Grayscale Window

Gray Field Group

Fields 0%, 25%, 50%, 75%, 100%
Fields 10% – 100% in 10% steps
User-defined Gray Field