Product Review: ESE DV-230 Genlockable SD/HD Pattern Generator

By Steve Epstein

ESE's DV-230 can output any of these patterns in all of the formats listed.

Patterns:
Color Bars
Full Color Bars
S198M Check field
Border Lines
Noise
Gradient
Gray Levels
Red Levels
Green Levels
Blue Levels
White
Red
Green
Blue
15% Gray
25% Gray
Black
Target
V Lines
H Lines

Formats:
1080i29.97
1080i30
1080i25
1080p29.97
1080p30
1080p25
1080p23.98
1080p24
1080sF23.98
1080sF24
720p59.94
720p60
720p50
NTSC 525
PAL 625

The proper tools can make quick work of a problem situation, ask anyone that has struggled through a trouble situation without them. For video production and engineering, few things can take the place of a pattern generator. Regardless of the pattern, generators provide key signal reference information that can be used for cable/path identification, levels confirmation and verification of proper downstream equipment operation. Each of these capabilities can be invaluable when troubleshooting.

DV-230 basics

The DV-230 is capable of generating at least 20 video patterns in 15 different formats. Four HD/SD SDI outputs are available on the rear panel, as is a genlock input. A two-line LCD on the front panel provides local status and assistance when navigating through the menus. Menu navigation is simple with a cluster of 5 pushbuttons (up, down, right, left and Menu/Set). A front panel LED provides genlock status.

The unit is housed in a ruggedized black anodized desktop enclosure, is just over 7 inches deep. Optional brackets allow one or two units to be rack mounted in a single RU. Weighing in at only 2 pounds, the unit is light enough to put in your toolbox. Power is through a standard IEC 320 power cord. If needed, an optional UL approved 'wall wart' is available.

Power up and connection is simple and straightforward. Power, genlock and, if desired, a USB connection to a PC are all that is needed on the input side. The four outputs eliminate the need for a downstream distribution amplifier (DA) in most instances. For SD applications, a standard video/black bi-level signal can be used for genlock. For HD, tri-level sync is needed. To achieve a proper genlock, input and output frame rates must match. Upon genlock, the front panel indicator will illuminate.

DV-230 operation

Booting up, the front panel shows the current software. Setup is simply a matter of running through the menus or the software. Both are easy to use. Changes made on the software side are reflected on the front panel almost immediately, and vice versa once either Load Settings or Refresh Settings is clicked on the software side.

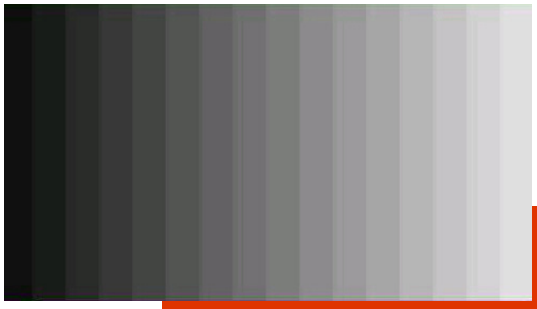
Because more can be displayed using the software, walking through the features is simpler using that model. Other than the firmware upgrade function, all features are also available on the front panel. The Video tab allows selection of the video format, video pattern and for some patterns, motion and luminance values. For motion, a moving square can be inverted, or the entire pattern can move. Luminance settings range from 0% to 100% in 10% increments. Also on the video tab are checkboxes for SMPTE 352, closed caption and embedded audio. Both audio group 1 and 2 can be set for either 500Hz or 1000Hz individually.

The Time Code tab allows selection of drop frame, or non-drop frame time code. Check boxes provide for DVITC insertion on SD signals (lines 10-18, selectable) and/or RP-188 insertion. A time code burn-in function can be enabled for white or black text, with or without a background. A clickable box allows for easy placement on the screen and fine tuning if needed. Time code defaults to 00:00:00:00 upon power up and can be reset if needed. The time code can also be preset if desired from either the front panel or the software. The Text Burn tab provides the same burn-in functionality for a multi-character user-defined text string. The number of characters varies based on video format and text size. A final tab allows for firmware updates to the unit. Functionality within the software provides for automatic updates whenever the software can check online.

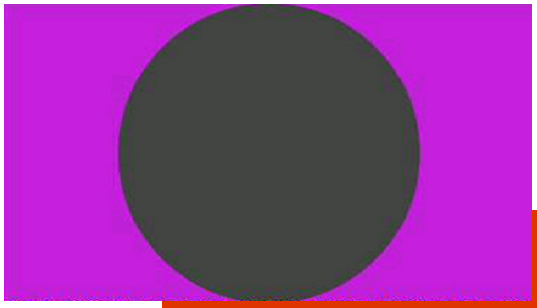
Pros and Cons

Overall, the unit does more than expected for a low-cost generator. As is typical for ESE, they have delivered a solid product with a lot of capability and few frills. In this case, the software/USB connection is one frill that is greatly appreciated. When viewed on a waveform/vectorscope the patterns are reasonable and useful. Most options I would like to see would add to the cost, although some are software based. For portable use, rounded corners or a rubber case would be nice, a network connection would be nice in fixed applications, and the ability to preset time code could come in handy once in a while.

Facilities and technicians come in a wide range of capabilities and budgets. For some the DV-230 could easily be the budget reference generator behind the facility, for others, this unit could be in every tech's toolbox as a quick verification tool during installation and setup.

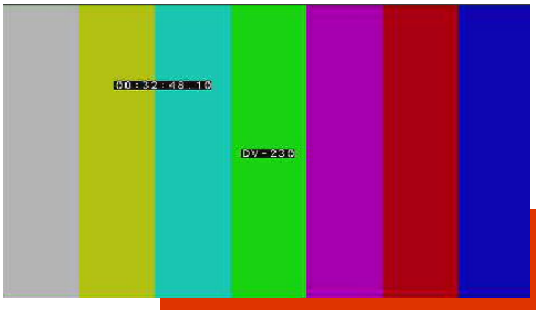


Grey Levels



Target

Color Bars



Full Colors with text and time code burn

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