

DL-860

HD/SD Video Legalizer



Harris Corporation is the world leader in serial digital video gamut correction and legalization, and now provides a powerful new tool to eliminate the guesswork of legalizing your high-definition and standard-definition signals.

The DL-860 Serial Digital Legalizer offers the ultimate solution to the complex world of HD and SD signals. All popular HD and SD formats are accepted, with complete flexibility for legalization of HD-SDI or SD-SDI inputs. The DL-860 output format tracks the input format, and can be legalized to HD, SD, RGB, and/or Encoded color space. CRC values are monitored and recalculated to ensure proper output values. Input EQ added to the incoming video is displayed on the front panel. The instrument has a selection to pass or blank all ancillary data without any alteration except CRC correction.

All of the DL-860 legalization limits are variable, allowing for many custom configurations to the HD Clips, SD Clips, Encoded gamut and RGB gamut limits. Also available is an optional HD-SDI/SD-SDI monitoring output with on screen gamut error indications.

Direct access and operation of the DL-860 is straightforward, from the backlit front panel LCD display to the LED status indications, function selection buttons, and knob for easy menu navigation. All

operational parameters, including the selectable bypass function, are also supported via Ethernet using the embedded Web server interface. The DL-860 also supports the Leitch CCS Navigator™ control and monitoring software, and the NUCLEUS™ user-customizable control panel.

A user-selectable alarm mask limits the gamut alarm and range indication to a selected picture area, and ignores errors that fall outside the mask. The alarm mask area

may be set to the clean aperture (automatically follows input standard) or customized by line or pixel.

The DL-860 can retain 20 presets with alpha numeric names up to 10 characters on the LCD front panel display, or an unlimited number of characters using CCS Navigator™.

FEATURES

- Instantaneous pixel-by-pixel evaluation and correction
- Adjustable Encoded Clip softness
- Fully-adjustable RGB and Encoded limits
- Fully-adjustable HD and SD Clip levels
- Corrects for HD and SD color space
- Blank or pass ancillary data
- Adjustable alarm mask
- Harris standard front-panel EQ display
- CRC monitoring with error indication, recalculation and insertion
- CCS™ compatible for use with CCS Navigator™ software and NUCLEUS™ customizable control panel
- GPI control



OPTIONS

- Preview output with indications of gamut errors in video data
- Software key option for Proc Amp controls

DL-860 Specifications

VIDEO	
Input Formats:	SMPTE 259M-C, SMPTE 292M, SMPTE296M, and SMPTE274M Including: 525 59.94 Hz, 625 50Hz, 1080i 60/59.94/50 Hz, 1080p 30/29.97/25/24/23.98 Hz, 1080sf 30/25/29.97 Hz, 720p 60/59.94/50/30/29.97/29.97 Hz
Connector:	BNC 75 ohms, terminating in 75 ohms
Return Loss:	HD-SDI: +/-10 dB, 5 MHz to 1.5 GHz SD-SDI: +/-18 dB, 5 MHz - 270 MHz
Data Format:	HD-SDI: 10-bit 1.5 Gb/s, 4:2:2 component 16:9 aspect ratio, at 75 MHz luminance sample rate SD-SDI: 10-bit 270 Mb/s, 4:2:2 component, 4:3 aspect ratio, at 13.5 MHz luminance sample rate
Internal Processing:	16-bit, 4:4:4 component processing
Equalization:	HD-SDI: Up to 60m of Belden 8281 SD-SDI: Up to 250m of Belden 8281
Video Output:	Format follows input
Connector:	Three BNC 75 ohms, female, Output 1 relay bypass connected to Input
Output Impedance:	75 ohms
Output Level:	800 mV p-p ±10% into 75 ohms
Return Loss:	HD-SDI: +/- 10 dB, 5 MHz to 1.5 GHz SD-SDI: +/-18 dB, 5 MHz to 270 MHz
Level:	800 mV, p-p @10%
CRC:	Fully supported, per SMPTE 292M
Ancillary Data:	User selection to pass or blank. When selected to pass, all ancillary data in vertical and horizontal blanking intervals is passed without modification except for CRC recalculation.
Passive Bypass:	The primary output is passively connected to the input during power loss.
Electronic to Electronic Bypass:	All values pass through from input to output with CRC recalculation
Throughput Delay:	TBD
EDH:	SD-SDI: Fully supported, per SMPT ERP-165

CONTROL	
Remote:	RJ-45 female, Ethernet port 10/100 Base-T Web browser interface
GPI:	15-pin High Density D-sub Selection for HD, SD, RGB and Encoded Legalization enable or disable Bypass on or off Selectable status indication of Input Data Range Error, By-pass Status, HD Gamut Alarm, RGB Gamut Alarm, Encoded Gamut Alarm, and SD Gamut Alarm

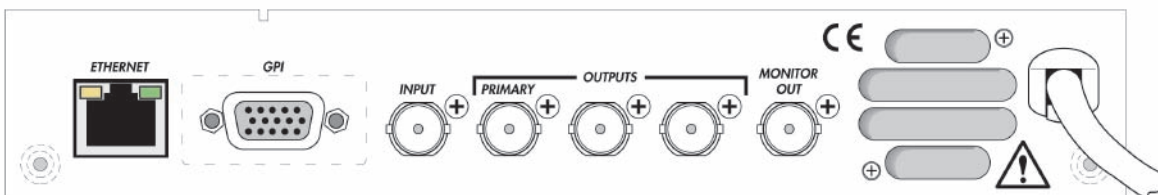
ADJUSTMENTS	
Encoded:	Luma Lower Clip, Luma Upper Clip, Composite Lower, Composite Upper, Chroma Amplitude, NTSC Setup Level Encoded Clip Softness, Vector Clip
RGB:	RGB Maximum, RGB Minimum
HD and SD:	Y Lower Clip, Y Upper Clip, CB Lower Clip, CB Upper Clip, CR Lower Clip, CR Upper Clip, Gamut Alarm Mask

MECHANICAL	
Height:	1.6" (4.1 cm)
Width:	8.3" (21.1 cm)
Depth:	17" (43.2 cm)
Weight :	9 lb. (4.1 kg)

POWER REQUIREMENTS	
Power Input:	90 to 264 VAC 50/60 Hz
Power Consumption:	50 VA

ENVIRONMENTAL	
Operating Temperature:	0°C to 40°C
Storage Temperature:	-20°C to 70°C
Humidity:	0 to 90%, non-condensing
Operating Altitude:	To 10,000 feet (3,050 meters) above sea level

OPTIONS	
860OPT-GMO:	SD-SDI or HD-SDI Gamut Monitoring Output. Shows gamut indications on screen. Factory installation required.
860OPT-DL:	HD/SD Proc Amp software key option
DRT-3:	Dual Rackmount Tray
BLK-3:	Blank filler panel for either side
Standard Accessories:	Operator's Manual Power Cord



DL-860 Back Panel

For more information please visit www.broadcast.harris.com/legalizers

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