

VideoExcel100HD

Universal Format Converter & Frame Synchronizer with Real Time Noise Reduction and Image Enhancement

VXL100HD is the most powerful full-featured broadcast image processor within its price range. Key features which are optional cost upgrades on key competitor products are included as standard with Calibre's VXL-100HD.

Featuring true broadcast grade image processing using the award-winning Realta chip, optimized and especially configured by Calibre. Superb scaling with 1024-tap filter, 4-field per-pixel motion adaptive de-interlacing, outstanding per-pixel motion adaptive noise reduction and image enhancement techniques not only improve HD sources but make SD near-HD quality.

Digital and analog video inputs are provided. 3G-SDI, HD-SDI and SD-SDI are supported with automatic cable EQ. HDMI and DVI inputs provide compatibility with HDMI1.3 deep color and DVI sources.

For Composite and S-Video/YC a 10-bit video decoder is utilized with 4x over-sampling and selectable 3D comb filter for outstanding video image clarity. HD, ED and SD component video as YPbPr or RGBS is supported via 12-bit ADCs.

Proc-amp controls include luma gain/contrast, luma cutoff/black level, saturation, hue, R-Y, B-Y gains and cut-offs. Y, R-Y and B-Y adjustments have 10-bit granularity.

Trim, pan and tilt functions are also available to display a particular area as is custom aspect ratio control. Pre-defined aspect ratio conversion is of course provided including a progressive stretch for pseudo 16:9 from 4:3 source material.

Genlock to 3G-SDI, HD-SDI, SD-SDI, tri-level or bi-level sync or black & burst

Audio connectivity is standard, with support for 8 channels (4 pairs) of digital AES 48KHz audio via BNCs. Embedded audio via 3G-SDI, HD-SDI and SD-SDI is also provided as standard with support for audio embed and de-embed.

Audio delay is automatically corrected for video processing delays and further delay can be added, or video can be further delayed to advance audio.



- Stunning HD performance, near-HD from SD up-conversion capability
 - Converts SD to HD, HD to SD, HD to HD
 - Aspect Ratio Conversion & Pan/Zoom/Tilt/Trim
 - Converts SD to HD, HD to SD, HD to HD with powerful noise reduction
 - Superb true broadcast grade performance with 1024-tap scaling filter
 - Frame Synchronizer
 - Audio Embed and De-Embed, Audio Delay Correction
 - Digital and Analog inputs and outputs: 3G-SDI, DVI/HDMI and YPbPr
 - Flexible Proc-Amp Controls
 - Logo Insertion
 - 2D Detail Enhancement, Sharpness Control, Real-time Unsharp Mask
 - Post Production/Broadcast Grade Motion Adaptive SD & HD De-Interlacer with 3:2, 2:2 and Non-Standard/Variable Cadence Detection
 - Video, film and video over film processing with automatic content detection
 - Per Pixel Motion Adaptive Temporal/Film Noise Filtering HD & SD, MPEG2 Codec Mosquito and Block Noise Reduction for SD
 - Genlock to Digital or Analog house sync
 - Inputs and Outputs HD or SD SMPTE formats
-
- Outputs are available in 3G-SDI and DVI/HDMI digital formats, both of which can support up to 10-bit signal depth. Component analog YPbPr is also provided as standard.
 - System control is via a front-panel LCD menu controlled using rugged front panel keys with inbuilt status indication. Four user-programmable fast select keys are provided together with "live feed" indication via the Input status key.
 - An integral webserver provides remote control via TCP/IP, or integration with third-part control systems is possible via TCP/IP or RS232 using the inbuilt API.
 - A dual-redundant power supply is incorporated as standard to allow provision of two power feeds for critical applications.

Calibre UK Ltd,
Cornwall House, Cornwall Terrace,
Bradford, West Yorkshire
BD8 7JS, England

T. +44 (0)1274 394125
F. +44 (0)1274 730960
E. broadcastsales@calibreuk.com
W. www.calibreuk.com

VideoExcel100HD

Universal Format Converter & Frame Synchronizer with Real Time Noise Reduction and Image Enhancement

Inputs

2x 3G-SDI with automatic cable EQ, (HD-SDI & SD-SDI compatible) with embedded audio capability for 3G, HD & SD
 1x HDMI1.3 with audio & deep color, HDCP compatible
 1x DVI-D, HDCP compatible
 2x Composite Video via BNC (NTSC/PAL/SECAM)
 1x S-Video via 2x BNC (NTSC/PAL/SECAM)
 1x Component video YPbPr
 4x AES 48KHz digital audio pairs via BNCs

Genlock

2x Dedicated genlock inputs:
 1x 3G-SDI (HD/SD compatible) with active loop-through
 1x Analog tri-level or bi-level sync or black & burst

Outputs

1x 3G-SDI (HD-SDI and SD-SDI compatible) with embedded audio capability for 3G, HD & SD
 1x DVI-D, HDCP compatible, HDMI1.3 deep color capable, dual-function output automatically switches between DVI, HDMI or HDMI1.3 depending on device connected to output
 1x Component Analog YPbPr
 4x AES 48KHz digital audio pairs via BNCs

NB: For non-HDCP input signals all outputs can be used simultaneously but if the input signal is HDCP encrypted then only the DVI/HDMI output is available due to HDCP licensing rules.

Input & Output Formats

480i, 576i, 720p50/59.94/60, 1080i50/59.94/60,
 1080p23.97/24/25/30/50/59.94/60, 1080sfp23.97/24/25,
 2Kp23.97/24/25/30/50/59.94/60

NB: Noise reduction and unsharp mask are available for SMPTE video formats except for 10802Kp50/59.94/60. Some functionality is only applicable to interlaced signals.

Control Ports

Front panel controls with character LCD display
 4 user configurable presets
 Programmable soft keys
 Webserver for remote control via TCP/IP
 API-based remote control via RS232 serial port or TCP/IP
 USB port for firmware update

Signal Paths

10-bit 3G/HD/SD-SDI
 10-bit ADCs for composite, S-Video
 12-bit ADCs for component video
 8/10/12-bit HDMI, 8-bit DVI support

All video buses are 10 bit, with internal processing up to 16 bit as required by each process.

Power

Dual Redundant integral PSUs, 100-240VAC 50/60Hz, power via 2x IEC connectors.
 Product can run on one or both PSUs.
 Front standby/on control key.
 Fan cooled for installation into equipment racks
 Separate PSU cooling for high reliability



Modes of Operation

- (1) Full image processing and filtering
- (2) Low latency mode with reduced processing

Mounting Information

Extremely rugged, professional 19" (2U) Rack case with carrying handles. All connectivity via industry standard connectors, no requirement for breakout cables.

Warranty

3-year return to base warranty covers parts and labor, shipping excluded.

Part Code

VXL100HD

VideoExcel model >	VXL75HD	VXL100HD	VXL150HD
3G-SDI Inputs, 2x, SD/HD/3G compatible		x	x
DVI/HDMI Inputs, 1xHDMI, 1xDVI	x	x	x
YPbPr/RGBS Input, 1x		x	x
Composite/YC Inputs, 1x with 3D Comb		x	x
VGA Analog/RGB Input, 1x via 5 BNCs	x		x
3G-SDI Genlock, with redlocked loop through	x	x	x
Bi/Tri-level Genlock, with active loop through	x	x	x
3G-SDI Output, 1x, SD/HD/3G compatible	x	x	x
DVI/HDMI Output, 1x	x	x	x
YPbPr Analog Output, 1x	x	x	x
Broadcast Grade Realta Processing	x	x	x
Flicker Reduction Filter for Graphics inputs when outputting interlaced formats	x		x
Low Latency Mode	x	x	x
Aspect Ratio Conversion	x	x	x
Trim		x	x
Pan/Zoom/Tilt	x	x	x
Logo Insertion	x	x	x
Closed Caption Support, HD CEA708 & SD CEA608			x
VITC Timecode Support with automatic delay			x
Dual-Redundant Power Supplies	x	x	x

Calibre UK Ltd,
 Cornwall House, Cornwall Terrace,
 Bradford, West Yorkshire
 BD8 7JS, England

T. +44 (0)1274 394125
 F. +44 (0)1274 730960
 E. broadcastsales@calibreuk.com
 W. www.calibreuk.com