

# VideoExcel150HD

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

**VXL150HD** is a true broadcast grade universal format converter, computer graphics to video scan converter and frame synchronizer with powerful noise reduction, image enhancement and aspect ratio conversion capabilities. Key features which are optional cost upgrades on key competitor products are included as standard with Calibre's VXL150HD.

Featuring true broadcast grade image processing using the award-winning Realta chip, optimized and especially configured by Calibre. Superb scaling with 1024-tap filters, 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.

Closed Caption support is provided including conversion between HD CEA708 and SD CEA608 formats. VITC Embedded Timecode is supported and includes automatic delay correction.

In scan conversion mode a flicker reduction filter for interlaced outputs from computer graphics inputs is provided which operates independently of the scaling filters.

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 enable display of a particular area as is custom aspect ratio control. Pre-defined aspect ratio conversion is 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
- Scan Converts Computer VESA or CEA graphics with flicker reduction
- Aspect Ratio Conversion & Pan/Zoom/Tilt/Trim
- Superb true broadcast grade performance with 1024-tap scaling filter
- Closed Caption support, HD CEA708 & SD CEA608 formats
- VITC Embedded Timecode support with automatic delay correction
- Converts SMPTE, CEA and VESA video or computer input formats
- Frame Synchronizer
- Logo Insertion
- Audio Embed and De-Embed, Audio Delay Correction
- Flexible Proc-Amp Controls
- Inputs: 3G-SDI, YPbPr, DVI, HDMI, Composite, S-Video and RGBHV/VGA
- Outputs: 3G-SDI, YPbPr, DVI/HDMI
- 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

- 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.

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## VideoExcel150HD

### Universal Format Converter & Scan 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 HDMI with audio & deep color, HDCP compatible
- 1x DVI-D, HDCP compatible
- 1x VGA Analog graphics via 5 BNCs, supports RGBHV & RGsB
- 2x Composite Video via BNC (NTSC/PAL/SECAM)
- 1x S-Video via 2x BNC (NTSC/PAL/SECAM)
- 1x Component video YPbPr via BNCs
- 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, HDMI deep color capable, dual-function output automatically switches between DVI or HDMI 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.*

#### CLOSED CAPTION & TIMECODE SUPPORT

- Composite, S-Video & YPbPr inputs - CC & VITC for SD only
- YPbPr output - CC support only
- 3G/HD/SD-SDI inputs & output - CC & VITC support, HD & SD

#### VIDEO 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 only except for 1080/2Kp50/59.94/60 and not computer modes. Some functionality only applicable to interlaced signals.*

#### COMPUTER GRAPHICS INPUT FORMATS

- 640x480, 800x600, 852x480, 853x480, 1024x600, 1024x768, 1280x720, 1280x768, 1280x800, 1360x768, 1365x768, 1366x768, 1368x768, 1400x768, 1440x900, 1600x900, 1366x1024, 1400x1050, 1680x1050, 1600x1200, 1920x1080, 1920x1200, 2048x1080

#### Control

- Front panel controls with character LCD display and programmable soft keys.
- 4 user configurable presets
- 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 & VGA video
- 8/10/12-bit HDMI, 8-bit DVI support
- All video buses are 10 bit, internal processing up to 16 bit as required by each process.*

#### Modes of Operation

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

#### Power

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

#### 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 No:

VXL150HD



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

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