

# 7730ADC-HD, 7730ADC-A4-HD

## HD Component Analog Video to HD SDI Converter



The 7730ADC-HD line of component analog video to serial digital converters are broadcast quality high definition A to Ds with an extensive list of additional features. High quality analog to digital conversion of audio or AES inputs can be packaged with the video to create an A to D with audio embedder.

In addition, Evertz® fault monitoring processing will analyze and report video and audio problems via an On-Screen Display, or remotely via VistaLINK® SNMP.

### Features & Benefits

#### The Features of the A to D process

- 10 bit, 74.25MHz (/1.001) sampling of input video
- Internal processing to maintain 10-bit digital video quality
- Y, Pb, Pr or G, B, R input support
- Black level clamp on all components
- User-adjustable input video processing functions: black level control on all components, gain control on all components, inter-channel delay and picture position control in 13.5ns increments
- Sync on green or separate sync input

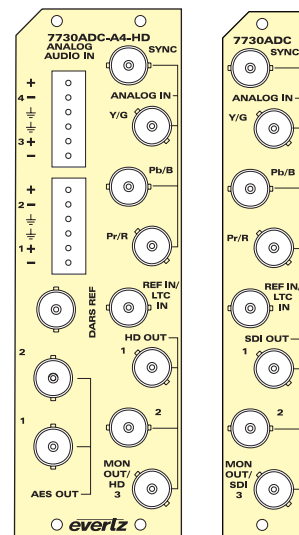
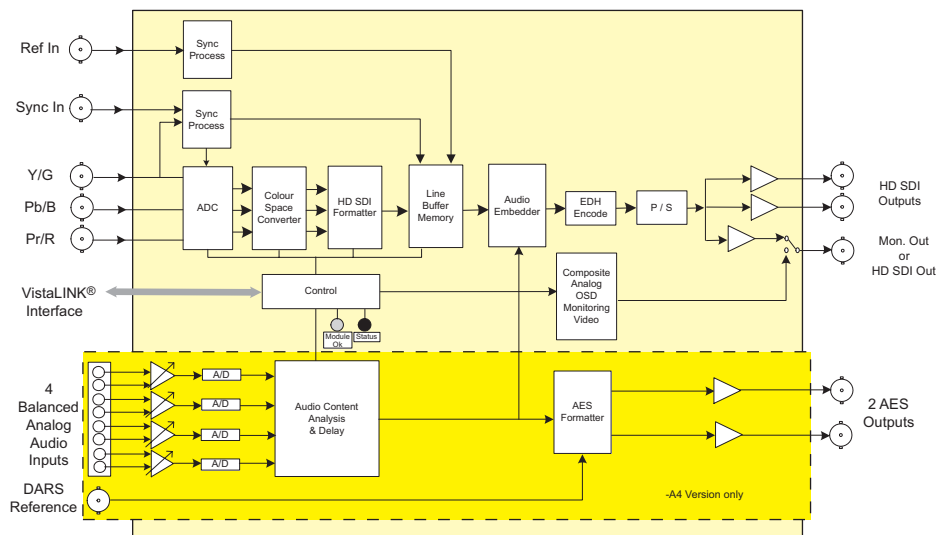
#### The Features of all 7730ADC-HDs are:

- Three input BNCs for Y, Pb, Pr or G, B, R input
- One sync input BNC for separate sync
- Two HD SDI 74.25 or 74.176Mb/s component digital video output without OSD text or audio bargraphs
- One combination output that can either be an extra HD SDI output or composite analog video output
- When configured as a composite analog output it will be a clean output (no picture) and have the OSD text and bargraph graphics for monitoring
- One line video synchronizer

- Variable output phase (in clock increments)
- Loss of video modes: black, pass
- A comprehensive on-screen display is available to configure the various features of the module
- VistaLINK®-capable for remote monitoring and control via SNMP (using VistaLINK® PRO) when installed in 7800FR frame with 7700FC VistaLINK® Frame Controller

#### The Features of "-A4" option are:

- 4 balanced analog audio inputs on 2 removable barrier strips
- High impedance inputs (user supplies termination resistors for other impedances)
- Analog audio input levels are adjustable
- Jumpers set coarse input levels, fine input levels are set by software control
- Audio delay of up to 5 seconds
- One group (4 channels of audio) is multiplexed on the outgoing digital video
- 2 unbalanced AES audio outputs delayed equivalently to the embedded audio delay
- 75Ω coaxial (unbalanced) DARS reference input on BNC
- Loss of video modes: pass audio, mute audio





### ► Specifications

#### Analog Video Input:

Standard: SMPTE 274M, 296M (analog), 1080i/59.94, 720p/59.94, 1080i/50  
 Input formats: GBR or YPbPr  
 Number of Inputs: 1  
 Connector: BNC per IEC 61169-8 Annex A  
 Signal Level: 1V nominal  
 Freq. Lock Range:  $\pm 75$ ppm from nominal  
 Input level control range:  $> \pm 15\%$   
 Black level control range:  $> \pm 10$  IRE  
 Input Impedance: 75 $\Omega$   
 Return Loss:  $> 30$ dB to 30MHz

#### Reference Video Input:

Standard: Tri-level sync, analog SMPTE 274M, 296M NTSC (SMPTE 170M), PAL (ITU624-4)  
 Number of Inputs: 1  
 Connector: BNC per IEC 61169-8 Annex A  
 Signal Level: 1V nominal  
 Freq. Lock Range:  $\pm 75$ ppm from nominal  
 Input Impedance: 75 $\Omega$  or High impedance (jumper selectable)  
 Return Loss:  $> 35$ dB to 10MHz

#### Monitoring Analog Video Output:

Standard: NTSC, SMPTE 170M PAL, ITU624-4  
 Number of Outputs: 1  
 Connector: BNC per IEC 61169-8 Annex A  
 Signal Level: 1V nominal  
 Output Impedance: 75 $\Omega$   
 Return Loss:  $> 30$ dB to 10MHz

#### Serial Video Output:

Standard: SMPTE 292M (274M, 296M)  
 Number of Outputs: 2+1  
 Connector: BNC per IEC 61169-8 Annex A  
 Signal Level: 800mV nominal  
 DC Offset: 0V  $\pm 0.5$ V  
 Rise and Fall Time: 180ps nominal  
 Overshoot:  $< 10\%$  of amplitude  
 Return Loss:  $> 13$ dB to 1.5GHz  
 Embedded Audio: SMPTE 299M

#### Video Performance (HD SDI outputs only):

Freq. Response: (Y, Pb, Pr input)  
 Y:  $< \pm 0.05$ dB to 30MHz  
 Cb, Cr:  $< \pm 0.05$ dB to 15MHz  
 Inter-channel Delay:  $< \pm 5$ ns  
 Minimum Delay: 0.5 $\mu$ s  
 Maximum Delay: 1 line plus 0.5 $\mu$ s

#### Analog Audio Input(-A4 only):

Number of Inputs: 4  
 Type: Balanced analog audio  
 Connector: Removable terminal strip  
 Input Impedance: 20k $\Omega$  minimum (differential)  
 Sampling Frequency: 48kHz  
 Signal Level: 0dB FS  $\Rightarrow$  18 or 24dBu (jumper selectable)  
 Level Control Range:  $\pm 10$ dB  
 Freq. Response:  $\pm 0.1$ dB (20Hz to 20kHz) (broadcast quality)  
 SNR: 100dB with input at -0.5dBFS  
 THD+N:  $< 0.001\%$  ( $> 100$ dB) @ 1kHz, -0.5dB FS (rev 2)  $< 0.001\%$  ( $> 100$ dB) @ 20Hz to 20kHz, -0.5dB FS (input video locked to genlock video)  
 CMRR:  $> 100$ dB @ 1kHz

#### AES Outputs (-A4 only):

Number of Outputs: 2  
 Output Standard: SMPTE 276M, single ended synchronous AES 48kHz  
 Connectors: BNC per IEC 61169-8 Annex A  
 Resolution: 24 bits  
 Sampling Rate: Synchronous 48kHz  
 User Bits: Transferred to output in a non-real-time, non-block-contiguous manner  
 Minimum I/O Delay: 2.1ms  
 Maximum I/O Delay: 5 seconds

#### Electrical:

Voltage: +12V DC  
 Power: 14W ADC + 9W (-A4 option) = 23W  
 EMI/RFI: Complies with FCC Part 15, Class A EU EMC Directive

#### Physical (number of slots):

350FR, 7700FR-C, 7800FR: 1 for non-audio versions  
 7701FR, 7701FR: 2 for audio versions (-A4) :

#### Stand Alone Enclosure:

Dimensions: 14" L x 4.5" W x 1.9" H (355mm L x 114mm W x 48mm H)  
 Weight: Approx. 1.5lbs (0.7kg)

### ► Ordering Information

<b>7730ADC-HD</b>	HD Component Analog Video to HD SDI Converter
<b>7730ADC-A4-HD</b>	HD Component Analog Video to HD SDI Converter with a four-channel Analog Audio converter/embedder

**Ordering Options** Rear Plate must be specified at time of order  
 Eg: Model +3RU

**Rear Plate Suffix**  
**+3RU** 3RU Rear Plate for use with 350FR, 7700FR-C or 7800FR Multiframe  
**+1RU** 1RU Rear Plate for use with 7701FR Multiframe  
**+SA** Standalone Enclosure Rear Plate

#### Enclosures

**350FR** 3RU Portable Multiframe which holds up to 7 single slot modules  
**7700FR-C** 3RU Multiframe which holds up to 15 single slot modules  
**7800FR** 3RU Multiframe which holds up to 15 single slot modules  
**7801FR** 1RU Multiframe which holds up to 4 single or 2 dual slot modules  
**7701FR** 1RU Multiframe which holds up to 3 single or dual slot modules  
**S7701FR** Standalone Enclosure