

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

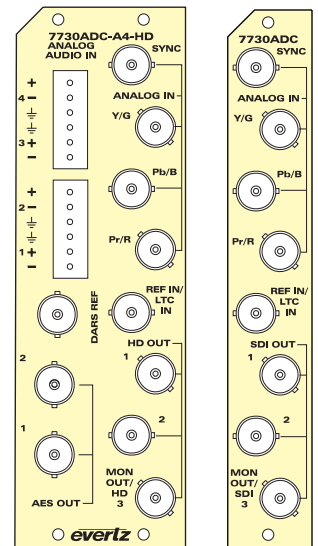
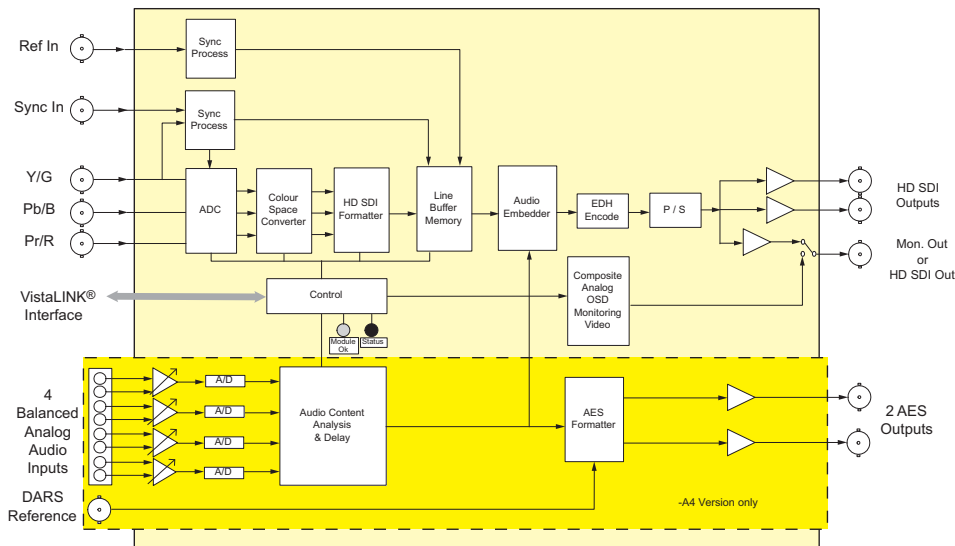
The Features of all 7730ADC-HDs are:

- 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 bar graphs
- 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 bar graph 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:

- Four balanced analog audio inputs on two 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 five seconds
- One group (four channels of audio) is multiplexed on the outgoing digital video
- Two unbalanced AES audio outputs delayed equivalently to the embedded audiodelay
- 75Ω coaxial (unbalanced) DARS reference input on BNC
- Loss of video modes: pass audio, mute audio



The Complete Solution Provider



7730ADC-HD, 7730ADC-A4-HD

HD Component Analog Video to HD SDI Converter



Specifications

Analog Video Input:

Standard: SMPTE ST 274, ST 296 (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: ± 75 ppm from nominal

Input level control range: $> \pm 15\%$

Black level control range: $> \pm 10$ IRE

Input Impedance: 75 Ω

Return Loss: > 30 dB to 30MHz

Reference Video Input:

Standard: Tri-level sync, analog SMPTE ST 274, ST 296 NTSC (SMPTE ST 170), PAL (ITU624-4)

Number of Inputs: 1

Connector: BNC per IEC 61169-8 Annex A

Signal Level: 1V nominal

Freq. Lock Range: ± 75 ppm from nominal

Input Impedance: 75 Ω or High impedance (jumper selectable)

Return Loss: > 35 dB to 10MHz

Monitoring Analog Video Output:

Standard: NTSC, SMPTE ST 170 PAL, ITU624-4

Number of Outputs: 1

Connector: BNC per IEC 61169-8 Annex A

Signal Level: 1V nominal

Output Impedance: 75 Ω

Return Loss: > 30 dB to 10MHz

Serial Video Output:

Standard: ST 292-1 (ST 274, ST 296)

Number of Outputs: 2+1

Connector: BNC per IEC 61169-8 Annex A

Signal Level: 800mV nominal

DC Offset: 0V ± 0.5 V

Rise and Fall Time: 180ps nominal

Overshoot: $< 10\%$ of amplitude

Return Loss: > 13 dB to 1.5GHz

Embedded Audio: ST 299-1

Video Performance (HD SDI outputs only):

Freq. Response: (Y, Pb, Pr input) $< \pm 0.05$ dB to 30MHz

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 μ s

Maximum Delay: 1 line plus 0.5 μ s

Analog Audio Input(-A4 only):

Number of Inputs: 4

Type: Balanced analog audio

Connector: Removable terminal strip

Input Impedance: 20k Ω minimum (differential)

Sampling Frequency: 48kHz

Signal Level: 0dB FS \Rightarrow 18 or 24dBu (jumper selectable)

Level Control Range: ± 10 dB

Freq. Response: ± 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:

Non-audio versions: 1

Audio versions (-A4): 2

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

7730ADC-HD	HD Component Analog Video to HD SDI Converter
7730ADC-A4-HD	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

+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

S7701FR Standalone Enclosure