



The 7736CE2 series of modules are broadcast quality component serial digital to composite analog video converters with an extensive list of advanced features.

The 7736CE2-A4 and 7736CE2-A8 versions offer respectively four (two per encoding channel) or eight (four per encoding channel) high quality audio digital to analog converters that can be driven from discrete AES inputs or audio embedded within the video input signal. The module features a clean

(asynchronous) and a fast (synchronous) input video lock modes to handle upstream switches. In addition, control of card is via an On-Screen Display or remotely via VistaLINK®.

►Features & Benefits

- Two component serial digital inputs (525 or 625)
- One composite analog video output per channel WITHOUT OSD text
- Internal processing to maintain 10 bit digital video quality
- 12 bit output video digital to analog conversion
- One monitoring quality video output with OSD for card configuration
- User adjustable output video processing functions: black level (brightness), gain (contrast), hue, and saturation
- User selectable luminance and chrominance filters for different applications (i.e. broadcast vs. studio)
- User selectable horizontal blanking interval width (narrow or normal)
- One composite analog reference input (NTSC or PAL-B) on BNC 75Ω or Hi-Z, (jumper configurable) input impedance
- Video Frame synchronizer (with +S option)
- Infinitely variable output phase
- Freeze modes: black, freeze
- Input video lock mode: clean or fast
- Adjustable free running frequency. Both channels must be free running to be able to adjust frequency
- A comprehensive on screen display for module config

The Features of "-A4" and the "-A8" Options:

7736CE2-A4 (per video channel)

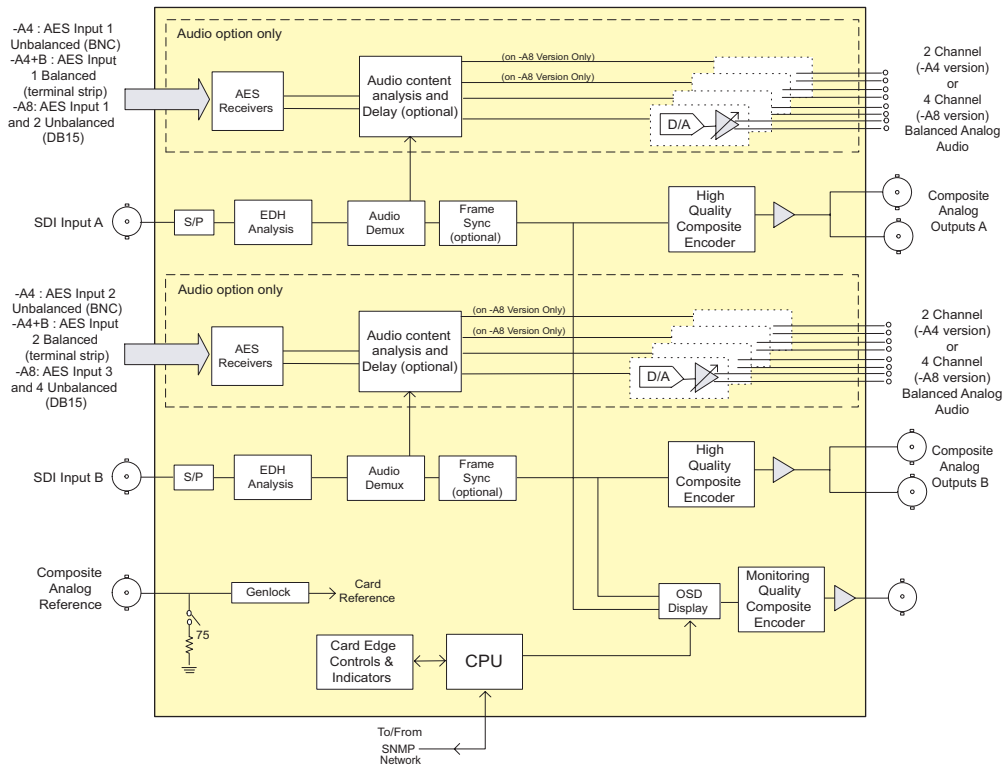
- One half group (2 channels) of synchronous 20-bit audio may be de-multiplexed from the incoming digital video
- 1 unbalanced (or balanced) AES audio input (up to 48kHz, 24 bits) on BNC (or terminal strip for balanced audio)
- 2 high quality 24-bit audio channels are converted to balanced analog on 2 removable barrier strips

7736CE2-A8 (per video channel)

- One full group (4 channels) of synchronous 20-bit audio may de-multiplexed from the incoming digital video
- 2 unbalanced AES audio input (48kHz, 24 bits) supplied via 15dB
- 4 high quality 24-bit audio channels are converted to balanced analog on 2 removable barrier strips

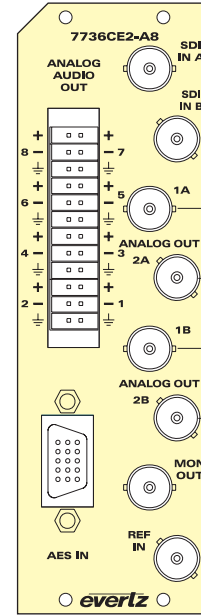
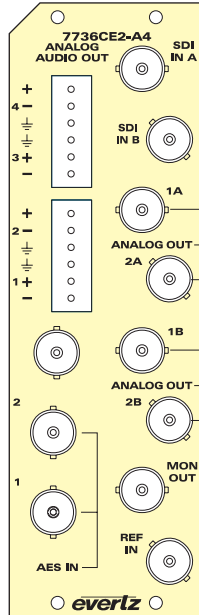
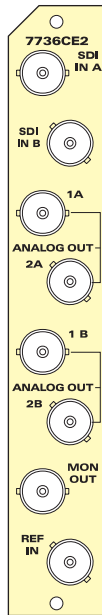
7736CE2-A4 and 7736CE2-A8

- User selects either the de-embedded audio or the input AES audio
- Audio delay tracks the video delay with the (+S option)
- Low impedance outputs (66Ω)
- Analog audio output levels are adjustable
- Additional audio delay of up to 2.5 seconds
- Audio advance of up to 1 frame, depending on video delay
- Loss of video modes: pass audio, mute audio



7736CE2, 7736CE2-A4, 7736CE2-A8

Dual Composite Encoder



Specifications

Serial Video Input:

Standard: SMPTE 259M-C - 525 or 625 line component
 Number of Inputs: 2
 Connector: BNC per IEC 61169-8 Annex A
 Return Loss: > 15dB to 270MHz
 Embedded Audio: SMPTE 272M-A
 Freq Lock Range: ± 75 ppm from nominal
 Lock up time on a hot switch: None or 7 frames (based on lock mode)

Analog Broadcast Video Output:

Standard: NTSC, SMPTE 170M PAL, ITU624-4
 Number of Inputs: 2 per input video
 Connector: BNC per IEC 61169-8 Annex A
 Signal Level: 1V nominal
 Output Impedance: 75 Ω
 DC Offset: 0V ± 50 mV
 Return Loss: > 45dB to 10MHz
 Freq Response: < ± 0.1 dB to 4MHz (response will depend on selected filtering)

Differential Phase: < 0.5° (< 0.3° typical)
 Differential Gain: < 0.5% (< 0.3% typical)
 SNR: > 75dB (both channels black video, 100kHz to 5MHz)

Output Level Control Range: $\pm 10\%$

Black Level Control Range: ± 7.5 IRE

Chroma Level Control Range: $\pm 10\%$

Hue control range: $\pm 15^\circ$ (NTSC only)

Minimum Delay: 3 μ s

Maximum Delay: 1 frame + 3 μ s (+S option only)

Reference Video Input:

Standard: NTSC, SMPTE 170M PAL, ITU624-4
 Number of Inputs: 1
 Connector: BNC per IEC 61169-8 Annex A
 Signal Level: 1V nominal (0.5V to 1.5V)
 Freq Lock Range: ± 75 ppm from nominal
 Input Impedance: 75 Ω or High impedance (jumper selectable)
 Return Loss: > 25dB to 10MHz
 Max Subcarrier Jitter: < 3°
 Free-Running Frequency Control Range: > ± 10 ppm (> ± 270 Hz)

Analog Monitoring 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 Ω
 Return Loss: > 35dB to 10MHz

Analog Audio Outputs (-A4 and -A8 only):

Number of Outputs: 4 (2 per video channel) 7736CE2-A4
 8 (4 per video channel) 7736CE2-A8
 Type: Balanced analog audio
 Connector: Two 6-pin removable terminal strips 7736CE2-A4
 Single 16 pin removable terminal strip, 7736CE2-A8

Output Impedance: 66 Ω balanced
 Sampling Frequency: 48kHz

Signal Level: 0dBFS \rightarrow 12 to 25dBu (user-settable)

Freq Response: < ± 0.05 dB (20Hz to 20kHz)

Dynamic range: 24 bits when AES inputs selected, 20 bits when embedded audio selected

THD+N: < 0.001% (> 100dB) @ 1kHz, -1dBFS

Crosstalk: < -105dB (20Hz to 20kHz)

DC Offset: ± 30 mV

SNR: > 110dB "A" Weighting

Inter-Channel Phase Error: < $\pm 1^\circ$ (20Hz to 20kHz)

Unbalanced AES Audio Inputs (-A4 and -A8 only):

Number of Inputs: 2 for 7736CE2-A4
 4 for 7736CE2-A8
 Input Standard: SMPTE 276M, single ended synchronous or asynchronous PCM AES
 Connectors: BNC per IEC 61169-8 Annex A (7736CE2A-4)
 15dB (7736CE2A-A8)
 Resolution: Up to 24 bits
 Input Sampling Rate: 32kHz to 48kHz
 Minimum I/O Delay: 3.5ms

Balanced AES Audio Inputs (-A4 only):

Number of Inputs: 2
 Input Standard: AES3-1992, balanced synchronous or asynchronous PCM AES
 Connectors: One 6-pin removable terminal strip
 Impedance: 110 Ω
 Resolution: Up to 24 bits
 Sampling Rate: 32kHz to 48kHz
 Input Level: 2V to 7V p-p
 Minimum I/O Delay: 3.5ms

Electrical:

Voltage: +12V DC
 Power: 10.2W (7736CE2)
 17.75W (7736CE2-A4)
 18W (7736CE2-A8)
 EMI/RFI: Complies with FCC Part 15, Class A
 EU EMC directive

Physical (number of slots):

350FR: 2
 7700FR-C: 2
 7800FR: 2



►Ordering Information

7736CE2	Dual Composite Encoder
7736CE2-A4	Dual Composite Encoder with 4 analog outputs
7736CE2-A8	Dual Composite Encoder with 8 analog outputs

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

+S Optional Frame Synchronizer

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