

7837CD2, 7837CD2-A4, 7837CD2-A8

Dual Composite Decoder



The 7837CD2 line of composite analog to serial digital video converters are dual broadcast quality video decoders. The 7837CD2-A4 and the 7837CD2-A8 versions offer four (two per decoded channel) or eight (four per decoded channel) high quality analog audio A/D converters. Advanced 3D adaptive comb filtering technology is utilized to eliminate moving artifacts introduced during the decoding process. This makes the 7837CD2 series ideal for use in applications where the signal is destined to enter compression systems. The 7837CD2 series utilizes 12 bit video ADCs for superior precision and image quality.

The 7837CD2 series is fully SNMP enabled when used in conjunction with a 7700FC frame controller card. With full SNMP capabilities, the 7837CD2 series can also be controlled by any SNMP enabled Evertz® control panel like the CP-2232E, CP-2116E-H or the CP-2232, amongst others. In addition to SNMP control, the 7837CD2 series can be controlled locally used its internal On-Screen-Display capabilities.

Features & Benefits

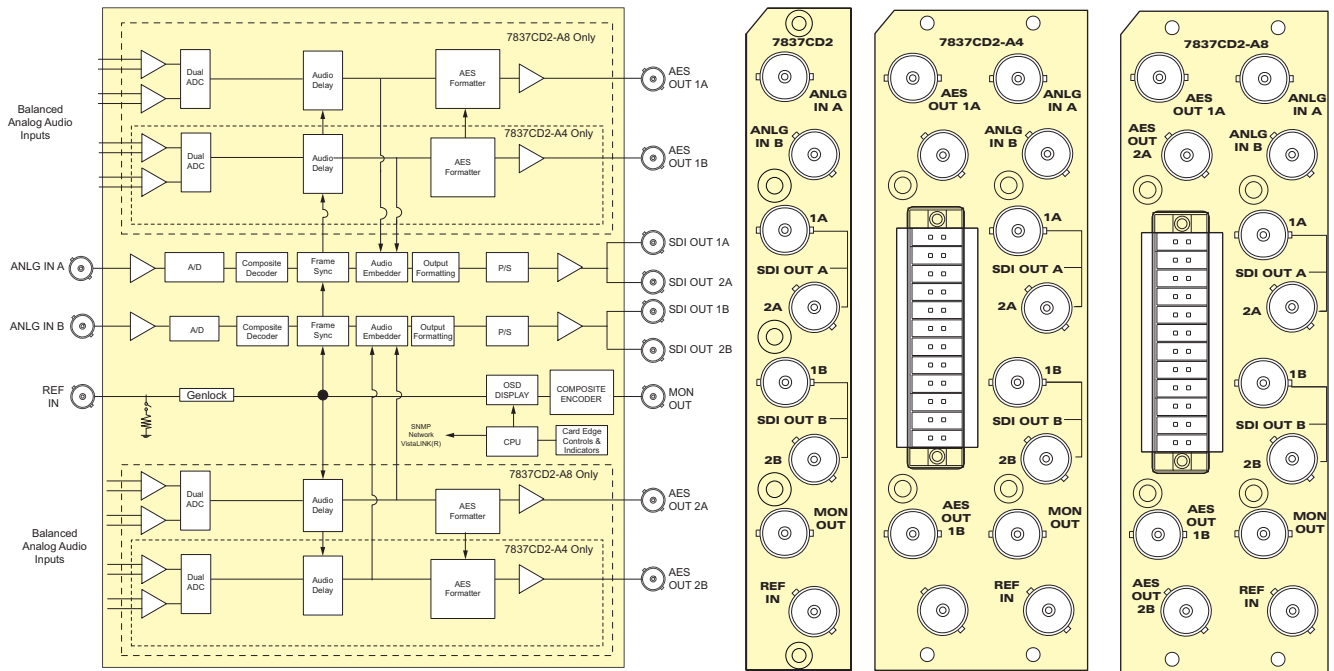
- One input BNC per channel
- 75Ω or Hi-Z input impedance (jumper configurable)
- Two SD-SDI outputs per channel without OSD text
- One composite analog video output with OSD text for card control
- One composite analog reference input (NTSC or PAL-B) on BNC with 75Ω or Hi-Z input impedance (jumper configurable). One time base for both channels
- Video frame synchronizer
- Infinitely variable output phase (27MHz clock increments)
- Freeze modes: black, freeze
- Comprehensive on screen display for module config

The Features of the Decoding Process:

- 12 bit sampling of input analog video
- Advanced 3D adaptive video decoding
- Mode for support of non-time base corrected signals
- User configurable luma detail enhancement
- User selectable noise reduction
- Chroma AGC available, if desired
- User adjustable input video processing functions: black level, gain, hue, and saturation

The Features of “-A4” and “-A8” Option:

- Four balanced analog audio inputs (two stereo pair) on 7837CD2-A4
- Eight balanced analog audio inputs (four stereo pair) on 7837CD2-A8
- High impedance inputs (user supplies termination resistors for other impedances)
- Analog audio levels are software selectable (separate controls for coarse/fine)
- Audio delay tracks video delay
- Additional audio delay up to 2.5 seconds
- Audio advance of up to one frame
- Two channels (1/2 group) of audio is multiplexed onto each of the outgoing digital video signals (7837CD2-A4)
- Two channels (one full group) of audio is multiplexed onto each of the outgoing digital video signals (7837CD2-A8)
- Two unbalanced AES audio outputs using BNC connectors (7837CD2-A4)
- Four unbalanced AES audio outputs using BNC connectors (7837CD2-A8)



The Complete Solution Provider



7837CD2, 7837CD2-A4, 7837CD2-A8

Dual Composite Decoder

Specifications

Analog Video Input:

Standard: NTSC, SMPTE ST 170, PAL, ITU624-4
 Number of Inputs: 1 per channel
 Connector: 1 BNC per IEC 61169-8 Annex A
 Signal Level: 1V nominal
 Frequency Lock Range: +/-50 ppm from nominal
 Input level control range: >+/-4dB
 Black level control range: >+/-5 IRE
 Chroma level control range: >+/-20%
 Hue control range: +/-20 degrees (NTSC only)
 Input Impedance: 75Ω or High impedance (jumper selectable)
 Return Loss: >35dB to 5 MHz

Reference Video Input:

Standard: NTSC, SMPTE ST 170 PAL, ITU624-4
 Number of Inputs: 1
 Connector: 1 BNC per IEC 61169-8 Annex A
 Signal Level: 1V nominal
 Frequency Lock Range: +/-50 ppm from nominal
 Input Impedance: 75Ω or High impedance (jumper selectable)
 Return Loss: >35dB to 5 MHz

Analog Monitoring Video Output:

Standard: NTSC, SMPTE ST 170 PAL, ITU624-4
 Number of Outputs: 1
 Connector: 1 BNC per IEC 61169-8 Annex A
 Signal Level: 1V nominal
 Output Impedance: 75Ω
 Return Loss: >35dB to 5 MHz

Serial Video Output:

Standard: SMPTE ST 259-C - 525 or 625 line.
 Number of Outputs: 4 (2 per channel)
 Connector: 1 BNC per IEC 61169-8 Annex A
 Signal Level: 800mV nominal
 DC Offset: 0V +/-0.5V
 Rise and Fall Time: 900ps nominal
 Overshoot: <10% of amplitude
 Return Loss: >15dB to 270MHz
 Jitter: <0.20 UI (all outputs)
 Embedded Audio: SMPTE ST 272-A

Decoder Performance (SDI outputs only):

Frequency Response: <+/- 0.1dB (100kHz to 4.2MHz)
 Differential Gain: <+/-0.5% typical
 Differential Phase: <+/-0.5 degrees typical
 Noise Floor: <-60dB rms (black video VBI lines, 15kHz to 5MHz)
 C/L Gain: <+/-0.5%
 C/L Delay: <+/-9ns
 Minimum Delay: 4.5 lines
 Maximum Delay: 1 frame + 4.5 lines
 Inter-channel crosstalk: Within noise floor measurement

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

Number of Inputs: 4 (2 per video channel) 7837CD2-A4
 8 (4 per video channel) 7837CD2-A8
 Type: Balanced analog audio
 Input Impedance: 20kΩ minimum (differential)
 Sampling Frequency: 48kHz
 Signal Level: 0dB FS => 18 or 24dBu (Software selectable)
 Level Control Range: +/- 10dB
 Frequency Response: +/- 0.1dB (20Hz to 20kHz) (broadcast quality)
 SNR: 100 dB

THD+N: <0.001% (>100dB) @ 1kHz, -0.5 dB FS
 <0.001% (>100dB) @ 20Hz to 20kHz,
 -0.5 dB FS (input video locked to genlock video)
 CMRR: >90dB @ 1kHz

AES Audio Outputs:

Number of Outputs: 2 (1 per channel) 7837CD2-A4
 4 (2 per channel) 7837CD2-A8
 Output Standard: SMPTE 276M, single ended synchronous AES
 Connectors: BNC per IEC 61169-8 Annex A
 Resolution: 24 bits
 Sampling Rate: Synchronous 48kHz
 Minimum I/O Delay: 2.9ms
 Maximum I/O Delay: 2.5 seconds

Electrical:

Voltage: +12VDC
 Power: 17 Watts 7837CD2
 21 Watt 7837CD2-A4
 21 Watts 7837CD2-A8
 EMI/RFI: Complies with FCC Part 15, Class A EU EMC directive

Physical (number of slots):

7700FR-C: 2 for 7837CD2
 3 for 7837CD2-A4/A8
 7800FR: 1 for 7837CD2
 2 for 7837CD2-A4/A8

Ordering Information

7837CD2	Dual Composite Decoder
7837CD2-A4	Dual Composite Decoder with 4 analog inputs
7837CD2-A8	Dual Composite Decoder with 8 analog inputs

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

Rear Plate Suffix
+3RU 3RU Rear Plate for use with 7700FR-C or 7800FR Multiframe
+1RU 1RU Rear Plate for use with 7801FR

Enclosures

7700FR-C 3RU Multiframe which holds up to 15 single slot modules
7800FR 3RU Multiframe which holds up to 15 single slot modules
7800FR-QT 3RU Multiframe which holds up to 15 single slot modules
7801FR 1RU Multiframe which holds up to 4 single or 2 dual slot modules