

The 510DCDA-HD is a reclocking 1.5Gb/s digital video distribution amplifier and a high quality downconverter for HDTV signals. The 510DCDA-HD provides 5 reclocked DA outputs and 4 downconverted SDI or composite analog NTSC/PAL outputs (software selectable). Composite outputs are color frame locked to supplied reference. The 510DCDA-HD accepts all the popular international SMPTE 292M video formats.

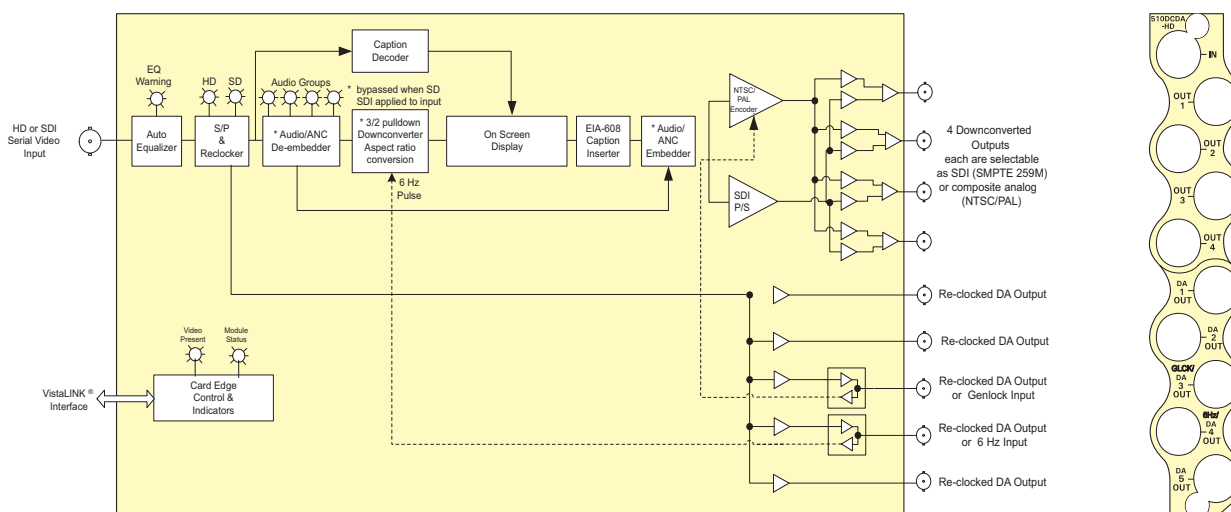
The 510DCDA-HD has color space conversion from ITU rec. 709 to ITU rec. 601, and will provide various downconverted formats such as 16:9 letterbox, 14:9 letterbox, 13:9 letterbox, 4:3 center crop, and 4:3 anamorphic squeeze.

The 510DCDA-HD supports Widescreen Signaling (WSS) on the output. The module has 10 bit processing and allows for selectable horizontal and vertical filters to control picture sharpness. It also de-embeds two groups of audio and re-embeds the audio on the SDI output in time with the video.

The 510DCDA-HD has a closed caption monitoring capability that decodes CEA-608 or CEA-708 captions that have been encoded into the VANC data space of an HD video input, or CEA-608 captions from a SD video input.

►Features & Benefits

- Serial digital 1.5 Gb/s HD input per SMPTE 292M
- Supports all popular SMPTE 292 formats
- Supports 270 Mb/s SD input in pass-through mode (auto sensing)
- 5 reclocked DA outputs (output follows input)
- 4 SDI or Composite Outputs (downconverted HD or reclocked SD)
- Color frame locked composite outputs to genlock reference
- Supports 16:9 letterbox, 14:9 letterbox, 13:9 letterbox, 4:3 center crop, and 4:3 anamorphic squeeze aspect ratio conversions.
- 1080p/23.98sF conversion to 525i/59.94 with 3:2 pulldown sequence
- HD to SD colour space conversion (ITU rec. 709 to ITU rec. 601)
- De-embeds Audio from HD video and embeds into SD video (2 groups)
- Software selection of composite or SDI output
- External genlock input
- Decodes and displays CEA-608 or CEA-708 captions
- Moves ANC data (e.g. captioning, timecode) from HD video to SD video
- Support for Widescreen Signaling (WSS) on outputs
- On-Screen aspect ratio marker
- VistaLINK® is available when modules are used with the 3RU 500FR-C frame and a 500FC VistaLINK® Frame Controller module in slot 1 of the frame using the Evertz VistaLINK® PRO or other third party SNMP manager software



►Specifications

Serial Video Input:

Standard: SMPTE 259M - Pass-through mode SMPTE 292M (1.5Gb/s), SMPTE 260M, 274M, 296M, 349M 1080i/60, 1080i/50, 1080i/50sF, 1080p/30sF, 1080p/25sF, 1080p/24sF, 1035i/60, 720p/60, 480p/60 and the 1/1.001 divisor versions where applicable software selectable or autodetect

Connector: BNC per IEC 61169-8 Annex A

Input Equalization: Automatic to 100m @ 1.5Gb/s with Belden 1694A or equivalent cable

Return Loss: > 15 dB up to 1.5GHz

Reclocked Serial Video DA Outputs:

Standard: Same as input (SMPTE 259M or SMPTE 292M)

Number of Outputs: 5 Per Card reclocked

Connector: BNC per IEC 61169-8 Annex A

Signal Level: 800mV nominal

DC Offset: 0V ±0.5V

Rise and Fall Time: 200ps nominal for HD 750ps nominal for SD

Overshoot: < 10% of amplitude

Return Loss: > 15dB at 1.5Gb/s

Jitter: < 0.2 UI

Downconverted Composite Analog Video Outputs:

Standards: Analog composite NTSC (SMPTE 170M) or Analog composite PAL (ITU-R BT 1700)

Number of Outputs: Up to 4 Per Card

Connectors: BNC per IEC 61169-8 Annex A

Signal Level: 1V p-p nominal

DC Offset: 0V ±0.1V

Return Loss: > 35dB up to 5MHz

Frequency Response: 0.2dB to 4MHz

Differential Phase: < 0.5° (< 0.3° typical)

Differential Gain: < 0.8% (< 0.5 % typical)

SNR: > 78dB to 5MHz (shallow ramp)

Impedance: 75Ω

Downconverted Serial Video Outputs:

Standard: SMPTE 259M-C (270Mb/s)

Number of Outputs: Up to 4 Per Card

Connector: BNC per IEC 61169-8 Annex A

Signal Level: 800mV nominal

DC Offset: 0V ±0.5V

Rise and Fall Time: 750ps nominal

Overshoot: < 10% of amplitude

Return Loss: > 15dB at 270Mb/s

Jitter: < 0.2 UI

Input to Output Processing Delay (HD Input Video):

Video Delay: Just less than 1 to 2 frames depending on input video format, processing mode and phase setting (refer to table 3 in manual) i.e. with 1080i/59.94 input the delay is < 1 Frame delay)

Audio Delay: Audio is delayed and re-embedded in time with the output picture

Electrical:

Voltage: +12V DC

Power: 10W

EMI/RFI: Complies with FCC Part 15 Class A EU EMC Directive

Physical:

Number of slots: 1

►Ordering Information

510DCDA-HD HD/SD Downconverter and Distribution Amplifier with Closed Caption Monitoring

Enclosures
500FR
S501FR

exponent
Compact High Density Distribution Frame
Standalone enclosure