

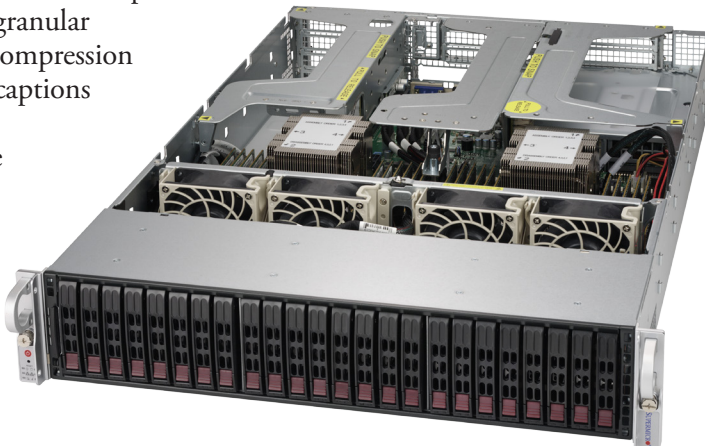
## Broadcast Quality Encoders with RIST ECP Transport

The DenzCast SDI to MPEG Broadcast Quality Encoder is a low latency contribution encoder which can also fulfill professional remote monitoring needs. They feature 1u and 2u form factors, up to sixteen 3Gbps SDI inputs, and a wide variety of highly customizable MPEG/TS output choices.

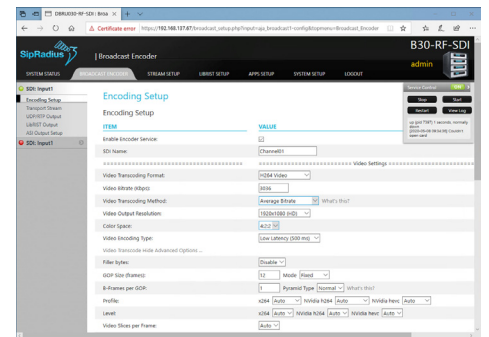
- SDI acquisition up to 1080p using reliable, brand name capture hardware.
- Low latency encoding using a proven, reliable engine and powerful hardware platform.
- Wide range of control over encoder output characteristics, such as allowing for very high bitrates, faithful color encoding, metadata, multiple audio channels, granular control of compression options, etc.
- Ability to simultaneously output multiple streams from a single input having different encoder settings, for example, relatively low bitrate highly compressed stream for barebones confidence monitoring, to a very high bitrate, best-quality stream for near real time analysis.
- Ability to time-synchronize multiple streams from multiple sources when paired with our own DenzCoder line.
- Wide range of output formats, from udp/rtp/rtsp to HLS; even the ability to route output directly to RIST error correction protocol tunnels(s), including routing different quality outputs to different tunnels, or multiple quality outputs to the same tunnel. This can provide secure and accurate transmission to a small group of engineers. (For RIST distribution to larger groups, see our DenzPipe RIST Relay Server).
- Complements the (50 free licenses) RIST enabled player. *Note: the technologists behind Denz TV include the primary author of the RIST extension to be included in the next release of the world's most popular PC and mobile video player, vlc.*

With its high video quality and ability to move high bitrate streams over a low latency error correction protocol, DenzCast meets and surpasses professional broadcasters' needs for remote monitoring. It provides assurance of proper audio/video synchronization via its realtime processing for very low latency encoding.

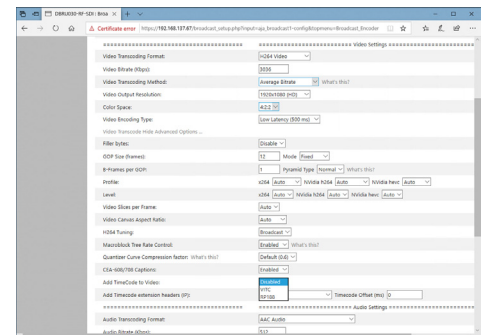
Advanced transcoding options for both video and audio, including support for up to eight audio tracks, advanced compression options (h.264, h.265), granular control over image and compression quality, management of captions and timecodes, as well as other features, means the equipment will handle every custom situation, but not at the expense of usability.



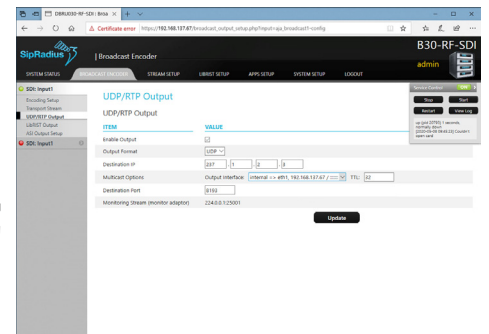
### Encoder Configuration Options



- Configuration provides easy access to the most often used encoding options such as compression protocol (h.264/265), video and audio bitrates, etc. Advanced options are hidden, but accessible at a click.



- Advanced encoding/transcoding options provide granular control of compression, image and audio output options.

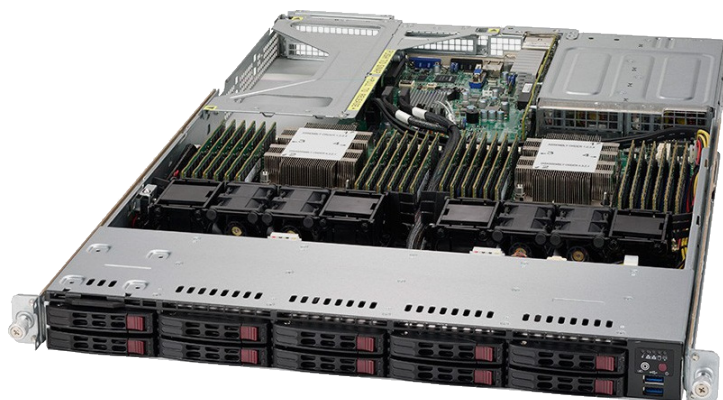


- Two types of output (udp/rtp and RIST) provide sophisticated formatting and routing options. You may send the encoded stream directly out to viewers via RIST, or process as a secondary stream (not shown) where the output can be processed and routed as desired.

# System Overview DenzCast Encoder

## Capture

- HD SDI Uncompressed 10-bit 4:4:4 (bi-directional)  
1u form factor: up to two cards times four ports each  
2u form factor: up to four cards times four ports each
- 16 channel audio
- 720p50, 720p59.94, 720p60, 1080p23.98, 1080p24, 1080p25, 1080p29.97, 1080p30, 1080p50, 1080p59, 1080p59.94, 1080p60, 1080PsF23.98, 1080PsF24, 1080PsF25, 1080PsF29.97, 1080PsF30 1080i50, 1080i59.94, 1080i60
- SMPTE 259M, SMPTE 292M, SMPTE 296M, SMPTE 372M, SMPTE 425M, ITU-R BT.656 and ITU-R BT.601.
- RP 188/SMPTE 12M-2 and closed captioning.
- Television standard sample rate of 48 kHz and 24 bit
- 8, 10, 12-bit RGB 4:4:4 in all modes up to 1080p30 and 8, 10-bit YUV 4:2:2 in all modes. 12-bit RGB 4:4:4 only supported in playback.
- 8, 10, 12-bit RGB 4:4:4 in all modes up to 1080p30 and 8, 10-bit YUV 4:2:2 in all modes. 12-bit RGB 4:4:4 only supported in playback.
- REC 601, REC 709 Color Spaces



## Encoding

- h.264/h.265 transcoding
- 4:2:2 or 4:2:0 output.
- Latency 100ms (real time); 500ms (low); 2000ms (best quality)
- Advanced video transcoding options for GOP size, b-frames, x264/x265 profile/compression levels, slices/frame, canvas aspect ratio, macroblock, quantizer, CEA-608/708 captions, VITC/RP188 timecodes,
- AAC, MPEG2 and AC3 audio transcoding
- Audio transcoding up to 8 tracks with audio track mapping control
- Audio profile controls (low complexity, w/spectral band, w/parametric
- adtm/latm audio formats
- Many additional encoding options configurable by outputting internally (to the local adapter) and processing output as a udp/rtp input stream, then configuring one or more custom outputs.

## Hardware

- Dual Socket P (LGA 3647) 2nd Gen Intel® Xeon® Scalable Processors
- Supports up to 28 Cores
- Up 6TB Memory total
- Intel® C621 chipset
- 6 Gbps SATA 3
- 4 RJ45 10 Gbps LAN (*can be bonded; plus 1 IPMI*)

## Power/Physical

- 750W (1u)/1000W (2u) Redundant Power Supplies
- Dimensions: 437 x 43 x 724 mm (1u form factor). 437 x 89 x 723 mm (2u form factor)



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