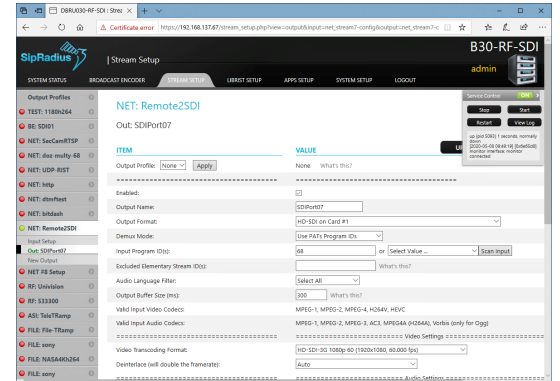


## Broadcast Quality Decoders with RIST ECP Transport

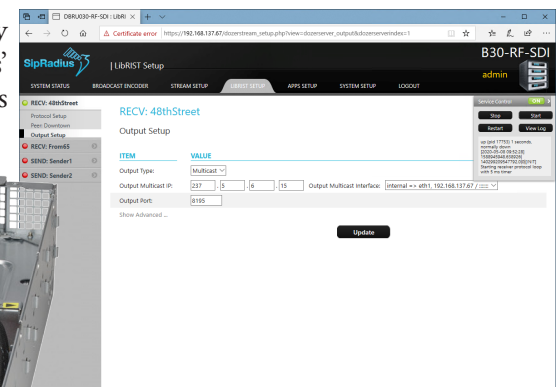
The DenzCast MPEG to SDI Broadcast Quality Decoder is uniquely positioned to ingest streams from the public Internet using the RIST error correcting protocol and decode them to SDI for incorporation with other content into broadcast quality programming. In 1u and 2u form factors, with up to sixteen 3Gbps SDI outputs, it provides for:

- Faster transport and perfect reproduction of the remote program content using the new RIST protocol. Specially designed to optimally use small buffers, RIST adds delay based only upon a small number of multiple round trip times, low enough to make live remotes feasible... and of *perfect quality*.
- Once the stream has entered the local network, minimal latency in decoding to SDI ensures broadcast engineers can work with the content in near real time.
- DenzCast uses a proven, reliable engine and powerful hardware platform.
- It provides a wide range of control over input characteristics, such as allowing for very high bitrates, faithful color encoding, metadata, multiple audio channels, granular control of compression options, etc.
- Its ability to simultaneously output to both SDI and to relay to other networks (such as to a remote control room) provides maximum flexibility in workflow planning.
- It also provides an ability to time-synchronize multiple streams from multiple sources when paired with our own DenzCoder line.
- Whether for remote content producers, remote engineers, or for other remote monitoring purposes, DenzCast also complements a (50-license free) RIST enabled player/encoder which means true end-to-end, low latency, error corrected transport for every part of the stream's route.

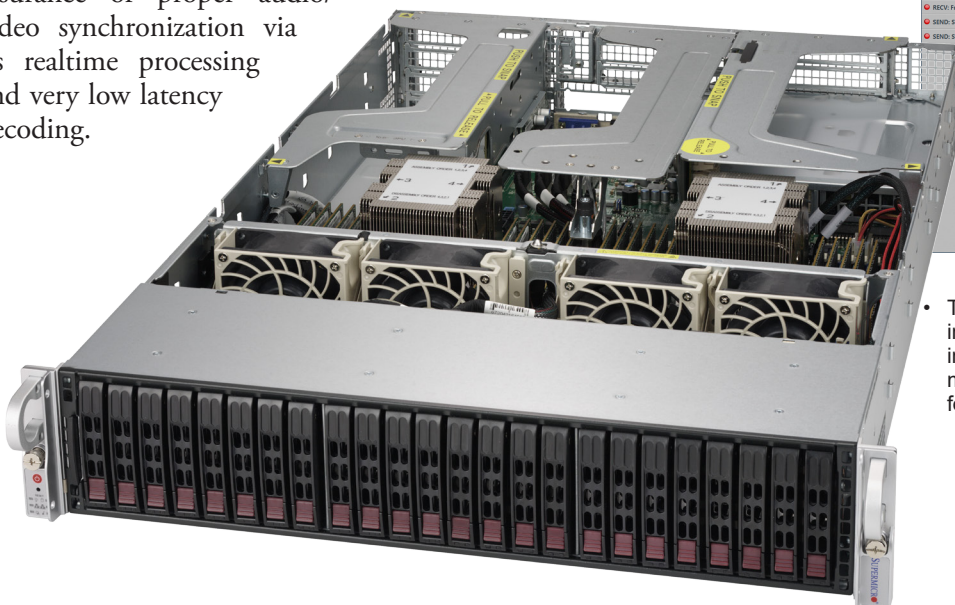
With its high video quality and ability move and decode streams via a low latency error correction protocol, DenzCast meets and surpasses professional broadcasters' needs for bringing remote streams to centralized equipment. It provides assurance of proper audio/video synchronization via its realtime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



- SDI output formatting and configuration provides a wide range of advanced options and controls that can be implemented quickly for fast acquisition as well as meticulously fine-tuned for the most demanding



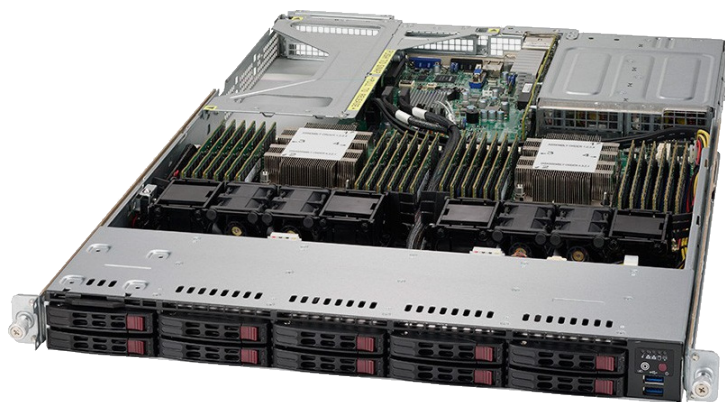
- The libRIST output options can forward the original incoming stream not only to the decoder but to its own internal monitor, to other local network hosts for other monitoring purposes, or even to itself for transcoding for other purposes.



# System Overview DenzCast Decoder

## SDI Output

- 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



## RIST & Decoding

- Denz.TV coordinates and cooperates with the original creator and principal maintainer of libRIST, a noted implementation of the RIST error correction protocol standard. It provides in particular advanced extensions to the protocol that allow complicated routing scenarios for redundancy, multiple sources and targets, as well as enhanced encryption.
- The DenzCast Decoder provisions one libRIST service/daemon per each SDI port. This provides for one source and five to fifty outputs, dependent upon license purchase options.
- IP inputs and outputs may utilize h.264/h.265 transcoding with a wide variety of options including advanced options such as GOP size, b-frames, x264/x265 profile/compression levels, slices/frame, canvas aspect ratio, macroblock, quantizer, CEA-608/708 captions, VITC/RP188 timecodes. Plus AAC, MPEG2 and AC3 audio transcoding. Up to 8 audio tracks with audio track mapping control.
- Latency as low as 100ms, depending upon settings

## 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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