

Eon Delivers Ground Breaking Uncompressed HD-SDI Video Inserter/Recorder

Volume 8.2 | June 2024

Records to Volatile & Non-volatile Memories

- Continuously to removable SSD (1TB, non-volatile) up to 175K Frames 1080p/60 Uncompressed
- DDR3 (volatile) event/Loop up to 5.5K Frames 1080p/60 Uncompressed
- Save more than 32 event clips to SSD
- Live Monitor Video while recording
- Recording Format is Compliant with SMPTE 2022-6

• INSERTS

- Metadata
 - MISB 0605.3 compliant timestamp
 - 2 KLV metadata blocks of user formatted data in VANC space
- Text & crosshairs, bore site graphics

• PLAYBACK

- Delivers uncompressed SDI video at 1/16x, 1/8x, 1/4x, 1/2x, 1x, 2x, 4x, 8x or 1-frame stepping from DDR3 or SSD
- Decodes, Overlays, Extracts Metadata

• FEATURES

- **CLEAN DDR3 (VOLATILE) OR SSD (NON-VOLATILE) COMPLIANT WITH DOD 5220.22-M**
- **ACCEPTS SD, HD SDI SMPTE 259M/292M/424M SDI VIDEO SOURCES**

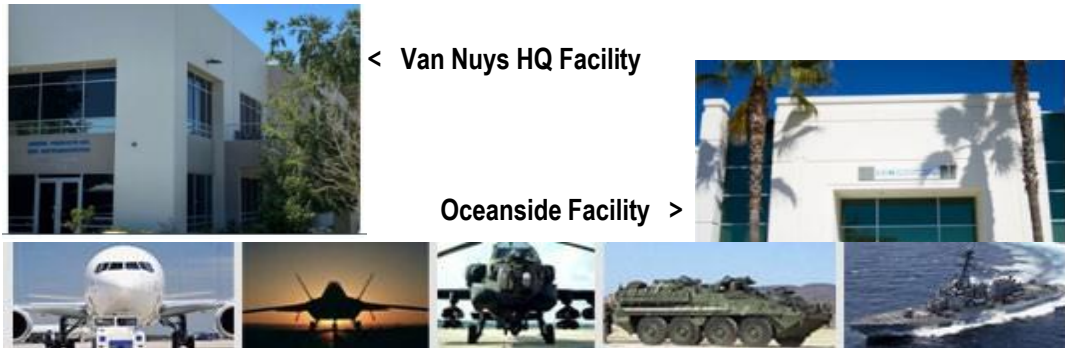
The HD-SDI Video Inserter/Recorder is a ruggedized SDI video inserter-recorder (I-R) that records and plays uncompressed SDI video. Source video may be 480i, 720p, 1080i or 1080p at 25, 30, 50 and 60 frames/sec (also at the NTSC comparable rates). The unit will detect the input video format and synchronize to it automatically. The SDI video source may be monitored live while recording with less than 8µsec of in-out latency. The unit records all HANC (AES audio and other metadata) and VANC metadata. The I-R can overlay text and crosshairs (fixed and movable) while recording or during playback. More importantly, the HD-SDI Video Inserter/Recorder can insert VANC KLV metadata including the MISB Microsecond Timestamp (0605.3). All timestamps are accurate to within 4µsec of the selected time reference (GPS or IRIG). The user may design a custom metadata KLV key using the KLV SOFTWARE TOOLKIT currently delivered with our HD-SDI video products. When metadata is recorded, the recorder may be commanded during playback to decode and overlay metadata as well as extract and send it out as a data record per frame stream. There are three modes of recording possible; Event Record (ER) to DDR3 (volatile), ER to SSD (non-volatile) and save event clips to the removable SSD (non-volatile) or Continuous Record (CR) to the removable SSD¹. All of these modes record UNCOMPRESSED SDI video at the native resolution and frame rate received. When in ER mode, the recorder will continuously record to DDR3 the number of frames set by the user (up to 60,000) in a loop. When an event is triggered by an Ethernet command or a discrete input, the recorder will save the last n frames (set by the user) in DDR3 and complete recording the loop. The clip data may be played back from the DDR3 as SDI to the output video port, saved to SSD as a clip, or downloaded to the Ethernet port formatted as SMPTE 2022-6 at 1G max. The recorder I-R can also continuously record to the removable SSD to the full 1TB capacity (e.g. 49 minutes of 1080p/60). During any playback, the video may be stopped, played back 1 frame at a time or at 1/2, 1/4, 1/8, 1/16, 1x, 2x 4x or 8x speed either forward or reverse. Playback may be one clip at a time, or continuous (all clips concatenated). Clips saved to SSD may be any mix of the input formats. When the camera sync option is purchased, the recorder tri-level sync (TLS) may be programmed or auto-sync'd to match the camera format (must be one of the supported formats). TLS is phase locked to GPS or external IRIG B and may also be delayed in 1µsec steps enabling synchronization of



picture taking across a variety of imaging technologies (e.g. CMOS, CCD or IR). Supporting data collection time coherent to imagery, the camera sync option also provides a TTL strobe output that may be adjusted relative to the TLS

- $\pm 16\text{ms}$ in 1μ steps to help align data acquired with the image of each frame. A built in DOD 5220.22-M clean function implements method C for the volatile DDR3 record memory and when there is an SSD (non-volatile) the function implements method C; then method H.

About Eon Instrumentation – Since 1961 Eon was founded in 1961. Eon is a veteran owned multi-million-dollar business that includes three development subsidiaries for design/manufacture of military qualified, rugged industrial, and commercial products for airborne, shipborne, ground vehicle platforms, plus homeland security and flight test applications. Eon's customers include direct contracts with all US Military Departments, International and US Primes, Ranges and Commercial/Industrial Programs. Check Eon's Website for brochures or contact Eon at 818-781-2185 for help getting to the right engineering staff for additional discussion.



www.eoninstrumentation.com | TEL: 1.818.781.2185 | 16333-B Raymer Street, Van Nuys, CA 91406