



Convergent Design

**nano3D**



## Introducing nano3D

nano3D builds upon the award winning nanoFlash by combining two nanoFlashes, with sophisticated 3D firmware to provide an elegant, camera-mountable, stereoscopic recording and playback solution.

Each recording will start on the same frame, and playback will be in "Pixel Sync". Professional or consumer 3D monitors may be used to analyze your images as the nano3D includes 3D Image Combiner and Processor functions. Side by Side Image Combiner is provided in Live View, Recording, and during Playback. Menu selectable Pixel Offset is also provided.

When not shooting 3D, the two nanoFlashes may be used independently, or used for Fully Redundant Recording, or for creating both High Resolution and Proxy Mode recordings simultaneously.

- Records Isolated "Left Eye" and "Right Eye" or if desired, records combined 3D footage.
- Playback is in "Pixel Sync".
- Works with both Professional and Consumer 3D Monitors
- Records up to 280 Mbps for very high quality recordings.
- Uses low cost CompactFlash media
- Includes Image Combiner and 3D Processor Functions which work in Live View, Recording, and Playback
- Includes Image Flip (Vertical), Image Flop (Horizontal) and both, for Live View and while Recording.
- In 2D Mode, the nano3D can record the signal from one camera with full redundancy or one can record for both On-Line and Off-Line editing, thus recording High Bit-Rate and Low Bit-Rate Proxy modes simultaneously.

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# nano3D Spec Sheet

- Records Isolated “Left Eye” and “Right Eye” , or if desired, records combined “Side by Side” or “Line by Line” 3D footage.
- Isolated Recordings start on the same frame, Playback is in “Pixel Sync”.  
Two Isolated HD-SDI outputs are provided for Live View, while Recording or Playback.  
Single HD-SDI output for combined images (when selected via a menu option).
- Works with both Professional and Consumer 3D Monitors.  
Consumer Monitors will require an HD-SDI to HDMI converter, such as an AJA Hi5 3G.
- Records up to 280 Mbps, I-Frame Only for very high quality recordings.  
I-Frame only 4:2:2 at 100, 140, 180, 220, or 280 Megabits per second (Mbps).  
(Long-GOP for non-3D work, 4:2:0 at 18 and 35 Mbps, 4:2:2 at 50, 80, 100, 140, and 180 Mbps.)
- Image Combine Function supported for on-set viewing, in Live, while Recording or during Playback.  
“Side by Side” and “Line by Line” supported.
- Image Offset supported in Live, while Recording or during Playback.  
(Currently 0 to 512 pixel offset (max) in 4 pixel increments)
- Records up to 16 Channels of Isolated 24-Bit, 48K audio,  
if embedded in the HD-SDI input stream, audio embedders may be used.  
Records up to 4 Channels of unbalanced 24-Bit, 48K mic/line analog audio.  
Records up to 2 Channels of balanced 24-Bit, 48K mic/line analog audio.
- Uses low cost CompactFlash media, currently up to 64 GB,  
will work with 128 GB CompactFlash cards when available.
- Includes Image Flip (Vertical), Image Flop (Horizontal) and both,  
for Live View and Recording. Recordings will be in proper format  
and before Recording.
- In 2D Mode, the nano3D can record the signal from one camera  
with full redundancy or one can record for both On-Line and  
Off-Line editing, High Bit-Rate and Low Bit-Rate Proxy modes  
simultaneously.



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# nano3D Specifications

- nano3D works with almost all HD-SDI or HDMI equipped cameras that have a clean output. HD-SDI cameras are typically preferred. With HDMI cameras, playback requires a simple cable change.
- Genlocked cameras are recommended for 3D work. Alternatives to “Genlock” for certain HDMI cameras may also work.
- The nano3D supports Long-GOP and I-Frame Only; for 3D work, I-Frame Only is recommended.
- I-Frame Only Bit-Rates supported are 100, 140, 180, 220 and 280 Megabits per second (Mbps), all recorded in 4:2:2.
- The nano3D can be quickly split into two separate nanoFlashes for non-3D work, by removing four screws.
- Long-GOP HD Bit-Rates for non-3D work are 18 and 35 Mbps in 4:2:0, and 50, 80, 100, 140 and 180 Mbps in 4:2:2.
- Frame Rates supported: 1080p23.976, 1080p24, 1080p25, 1080p29.97, 1080p30, 1080i50, 1080i59.94, 1080i60, and 720p23.976, 720p24, 720p25, 720p29.97, 720p30, 720p50, 720p59.94, 720p60.  
Note: the nano3D, in 720p under 50 frames per second, does not currently support playback from the unit itself.
- Menu Options are available for conversion of Progressive Segmented Frames (PSF) to True Progressive, as well as removal of pulldown frames. This includes removal of 3:2 pulldown, 2:2 pulldown, and others.
- Image Flip (Vertical) and Image Flop (Horizontal) and Both are supported.  
Image Flip and Flop occur before recording and the monitor out signals are Flipped and Flopped, as appropriate.
- Side by Side 3D and Line by Line Image Combining is supported, no separate processor is needed.
- 3D Image Processing is provided in the nano3D. This includes the Flip/Flop and the 3D combining functions as well as image offset functions so that Live View and Playback may be analyzed on-set.
- The nano3D records the “Left Eye” and “Right Eye” as two isolated channels.  
A menu option allows combined image to be recorded, if desired.
- Monitoring is via two HD-SDI outputs for professional 3D monitors, or via a HD-SDI to HDMI converter for consumer 3D televisions. The AJA Hi-5 3G is recommended which is typically located near the television, so that a single, low cost, HD-SDI cable run can be used.
- Up to 8 Channels of 24-Bit/48K audio (per “Eye”) are supported via audio embedded in the HD-SDI signal or up to 2 channels (per “Eye”) of mic/line analog audio via a 3.5mm mini-jack.  
Thus, up to 16 isolated audio channels can be recorded in one nano3D unit.
- nano3D records in native Quicktime for Final Cut Pro and native MXF for Avid, Sony Vegas, Edius, Adobe CS3/4/5, etc.
- nano3D includes two nanoFlashes, Remote Control with Tally Light, heavy duty AC Power Supply, P-Tap Power Cable, two HD-SDI cables, Y-Power Cable, Y-Cable for Remote Control, and special hinged Bracket to hold the two nanoFlashes.