

## 21st Century 3D Introduces Uncompressed High Definition 4:4:4 Stereoscopic Camera System - 3DVX3

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Today, 21st Century 3D announced the introduction of the 3DVX3, the latest in their line of digital stereoscopic motion picture camera systems. The 3DVX3 represents 21st Century 3D's most significant advance in stereoscopic camera technology to date. This newly developed 3D camera-recorder features numerous evolutionary advances over previous 3DVX models, while maintaining the compact form factor and self contained design that has been a distinctive feature since the first generation.

Foregoing tape, a unique direct to disk recording system captures RAW CCD data in 4:4:4 RGB color space at 10 bits per channel, producing remarkably vivid 3D images at up to 1280x720 per eye, 24fps progressive. This unique capture method provides industry leading dynamic range and color fidelity, more akin to motion picture film than digital video. The genlock synchronized system features two entirely discreet image channels simultaneously captured by 6 CCDs, two on board CPUs running Mac OS X with over 2.8ghz of processing power, 2gb of RAM, 8gb of flash memory and a maximum record time of one hour per eye on paired sets of 100gb removable 7200 RPM drives.



As in previous 3DVX cameras, the Panasonic AG-DVX100A serves as the core of the camera section. The 3DVX3 bypasses resolution and color limitations imposed by miniDV and takes full advantage of the higher resolution and 36 bit color quality the CCDs provide. Data is taken directly from the analog to digital converters and sent over USB 2.0, providing 600% more information than would be recorded to digital tape. An advanced demosaic algorithm is employed to achieved 1280x720p resolution. Since no color decimation or spatial compression is applied to any of the color channels, the 3DVX3 greatly exceeds the image quality of many HD and HDV systems.

The built in recorder of the 3DVX3 is comprised of two extensively modified Apple Mac Mini computers. The compact size and CPU horsepower offered by the Mac Mini coupled with the power of Mac OS X make the 3DVX3 a truly unique camcorder. Flash memory modules replace hard drives in the Mac Minis for fast booting and reduced operating temperature.



The all-new binocular electronic viewfinder utilizes high quality optics and the latest LCOS technology to provide a bright and crisp 800x600 (per eye) SVGA display under 10x magnification. The uncompressed output can be monitored via the BEVF or the built in left and right analog VGA ports. Analog composite, S-video and digital IEEE1394 ports are also available for standard definition monitoring or additional output options. An external S-video multiplexer allows for high quality field sequential output and even more flexibility in terms of previewing 3D images in real time.

Focus settings for both optical blocks are now controlled via a synchronized optoelectric mechanism that adds mere ounces to the system and allows precise control over left and right eye focus with one convenient follow focus knob. This new method reduces weight

as compared to previous designs, improves accuracy and eliminates the backlash associated with a geared stereo focus system. Zoom functions are also now electronically linked for improved ergonomics and accuracy as well as significant weight reduction as compared with previous generations.

Left and right eye lens apertures are now synchronized by a dual channel galvanometric system that ensures matched exposure to both CCD arrays with just one user operated dial. The system provides accurate and consistent brightness and contrast between left and right images and makes “run ‘n gun” 3D shooting a reality. Interaxial spacing has been significantly reduced to 2.75” (69.85 mm) for a more natural simulation of human vision. An all new carbon fiber and aluminum matte box with two stage filter holder allows a wide range of industry standard 4”x5.6” filters to be employed.

Because of its advanced design, which integrates dual on board Mac OS CPUs, dual high-speed hard drives, a high res binocular LCOS electronic viewfinder, high data rate USB 2.0 interface and a 6CCD camera head, the 3DVX3 has unusually high power requirements. To meet these demands, 21st Century 3D turned to Anton Bauer, the worldwide standard in custom power systems. Their state of the art Dionic 160 offered the best balance between power output and weight. Additionally, Dionic 160 is one of the only batteries in the industry that can power the 3DVX3 at all. This battery is constructed with specialized lithium ion cells originally designed for high rate military applications. Because of these low resistance cells, Dionic 160 meets the power requirements of the 3DVX3 with a total output of up to 10 amps - a capability usually reserved only for nickel based chemistries. Dionic 160 weighs 30% less than a HyTRON 120 but has 30% more capacity, allowing the 3DVX3 to run for up to 2 hour of continuous operating time. An AC power supply based on a modified Anton Bauer Titan 70 has also been developed.



This advanced battery technology contributes in part to the camera’s overall weight of just 24 pounds making the 3DVX3 the industry's smallest and lightest high definition stereoscopic camcorder. The 3DVX3 can easily go places and do things that competitive 3D systems simply cannot. Car mounts, steadicam and hand held operation are complex challenges with other systems, but easy options with the 3DVX3. Other high definition 3D camera systems can weigh three times as much as the 3DVX3 or more, and often require separate recording hardware and large support crews. Furthermore, these systems cannot match the dynamic range afforded by the uncompressed 10 bit image quality. The 3DVX3 allows for more setups per day and requires smaller crews to operate. This translates to more efficient production. Directors and cinematographers can now concentrate on producing high quality 3D content without the cumbersome delays and exorbitant expense associated with traditional 3D shoots.

“This is the camera we set out to create two years ago,” says 3DVX3 inventor Jason Goodman. “It’s an evolutionary design that builds on our previous work and takes what we’ve done to the next level with 1280x720p stereoscopic high definition and outstanding dynamic range. At the same time, it’s an entirely new design in that we’ve abandoned tape and created so many new components. The uncompressed image quality and remarkable color fidelity add so much subtle detail that really enhances stereoscopic quality in a profound way. This is the next generation in live action 3D production.”

The 3DVX3 is available for worldwide hire exclusively through 21st Century 3D. 21st Century 3D is a leading provider of stereoscopic motion picture content and technology. Learn more about 21st Century 3D and 3DVX camera technology at <http://www.21stcentury3d.com>

