

RED Epic Dragon Camera captures riveting images on space station

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View of RED video camera and display monitor floating between two Extravehicular Mobility Units (EMUs) in the airlock. Credit: NASA

In October 2014 NASA delivered high-definition, 3-D footage of astronauts living and working on the International Space Station to the

Internet, posting video of astronauts exploring water tension in microgravity. The same engineers who sent high-definition cameras and then 3-D cameras to the space station have now delivered a new camera capable of recording images with six times more detail than either of the previous cameras.

The RED Epic Dragon [camera](#) is capable of shooting at resolutions ranging from conventional HDTV up to 6K, specifically 6144 x 3160 pixels. By comparison, the average HD consumer television displays up to 1920 x 1080 pixels of [resolution](#), and digital cinemas typically project 2,000 to 4,000.

The fifth SpaceX cargo resupply mission delivered this camera to the orbiting laboratory in January 2015. The camera's ability to record at a high resolution as well as up to 300 frames per second made it the ideal recording device to capture dynamic events like vehicle operations near the station, such as docking and undocking. The higher resolution images and higher frame rate videos can reveal more information when used on science investigations, giving researchers a valuable new tool aboard the space station.

The ReelNASA YouTube channel posted views of the Earth and activities recorded from inside the station as an example of the detailed images this new camera can capture. The most recent RED camera footage shows astronauts having a little fun in the microgravity environment of space, while they also tested out the new camera that is ideal for science.

In the video, astronaut Terry Virts extracts a floating ball of water, into which he inserts an effervescent tablet to watch it dissolve and release gasses in mid-air. Rodney Grubbs, program manager for NASA's Imagery Experts Program at the Marshall Space Flight Center in Huntsville, Alabama, says the footage itself is dynamic for its subject

matter, and the detailed, high-resolution makes it especially riveting.



Astronaut Terry Virts inserted an effervescent antacid tablet into a ball of water while crewmates filmed the reaction with the Red Epic Dragon camera. Credit: NASA

"This is a huge leap in camera technology for spaceflight," Grubbs said. "These cameras have large sensors capable of very [high resolution imaging](#) at high frame rates. It is like having a high speed 35MM motion picture film camera, but it is compact, can use lenses we already have up there, and it is digital. No film to return to Earth."

The RED camera is the same model used to record theatrical releases

such as The Hobbit trilogy and television programs. Ultra-HD televisions capable of receiving and displaying 4K transmissions are now sold in stores.



A water bubble with the remnants of an antacid tablet reaction floats in front of astronaut Terry Virts' eye. The reaction of putting the effervescent tablet into the water was filmed with the Red Epic Dragon Camera. Credit: NASA

While the 4K resolutions are optimal for showing on movie screens, NASA video editors are working on [space station](#) footage for public viewing on YouTube. You will be able to watch high-resolution footage from inside and outside the orbiting laboratory right on your computer screen. You will need a screen capable of displaying 4K resolution for

the full effect, but the imagery still trumps that of standard cameras. RED videos and pictures are shot at a higher fidelity and then down-converted, meaning much more information is captured in the images, which results in higher-quality playback, even if you don't have a 4K screen.

NASA will post the 4K videos to the ReelNASA YouTube channel for users who have television screens or computer displays that can show footage of that resolution. They plan to post new videos every few weeks, bringing the spectacular views into your living room. Perhaps they may not be as good as the view from orbit, but pretty close.

Provided by NASA

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