



NASA and Harmonic Explore the Boundaries of UHD at ISS Resupply Launch at Kennedy Space Center

December 3, 2015

Launch of Atlas 5 With Cygnus Spacecraft Will Be the First Captured for Release in UHD at High Frame Rate and High Dynamic Range

SAN JOSE, CA -- (Marketwire) -- 12/03/15 -- The National Aeronautics and Space Administration (NASA) and Harmonic (NASDAQ: HLIT), the worldwide leader in video delivery infrastructure, today announced that they will document the launch of the Orbital 4 mission, carrying supplies to the International Space Station, at a new level with leading 4K and UHD capabilities. As an industry first, today, Dec. 3, the teams will shoot the launch for release using an array of six 4K+ cameras, shooting at high frame rate and in high dynamic range (HDR). The footage will then be rapidly post-produced into a program on the entire process of the launch, to be aired on NASA TV UHD the next day. HDR reference UHD video clips of the launch will also be published at the beginning of next year.

"We are thrilled with the industry reaction to NASA TV UHD, and hope television service providers carry the channel, in their growing UHD offerings, for the public to experience," said Fred Brown, executive producer of NASA TV. "This launch provides more compelling content for the channel, and allows us to demonstrate the technology by using high frame rate and high dynamic range UHD equipment, better documenting another milestone in the NASA story."

NASA and Harmonic are working with key industry players to leverage and showcase emerging HDR capabilities and standards. Clips will be published in both HDR-10 and Hybrid Log Gamma (HLG) HDR schemes. HLG content is backwards compatible with non-HDR televisions and displays, and will be played on the NASA TV UHD channel.

"NASA and Harmonic developed NASA TV UHD to give consumers ready access to out-of-this-world content that shows the breathtaking beauty of space and the various facets of NASA's space program in visually stunning Ultra HD. The channel has been operating since early November, and we've been adding content regularly ever since -- including this launch, which we will air just 24 hours after it happens," said Peter Alexander, chief marketing officer at Harmonic. "Our end-to-end UHD production workflow is what makes it possible to go from the live shoot to on-air UHD delivery, within a persistent scheduled channel, in such a short time. Most UHD channels today are not run like their HD counterparts; they simply spool pre-compressed files. NASA TV UHD is built with UHD playout and live/linear encoding for professional channel operations, and supports HDR."

The NASA TV UHD channel is the first of its kind in North America. It uses an end-to-end solution that includes Harmonic's Ellipse[®] 3000 contribution encoder, ProView[™] 7100 integrated receiver-decoder (IRD), MediaGrid shared storage system, Polaris[™] playout management suite, Spectrum[™] advanced media server system, Electra[™] X2 and Electra X3 advanced media processors, ProMedi[®] Origin packager and streaming video server, and NSG[™] Exo distributed CCAP system.

For more information on Harmonic, instructions for gaining access to the NASA TV UHD channel, and to view the trailer and other 4K clips, visit: <http://info.harmonicinc.com/nasa-uhd>.

About Harmonic

Harmonic (NASDAQ: HLIT) is the worldwide leader in video delivery infrastructure for emerging television and video services. Harmonic enables customers to produce, deliver and monetize amazing video experiences, with unequalled business agility and operational efficiency, by providing market-leading innovation, high-quality service and compelling total cost of ownership. More information is available at www.harmonicinc.com.

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Image Available: http://www.marketwire.com/library/MwGo/2015/12/3/11G074496/Images/Harmonic_-_NASA_TV_UHD_Earth_Shot-bea483c30384bcbb9af0765860760d25.jpg

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