



## Harmonic Announces the Availability of NASA TV UHD, North America's First Consumer Ultra HD Channel

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### Ambient Video Channel Provides Viewers With Breathtaking Imagery of Space Leveraging Advanced 4K UHD Technologies From Harmonic

SAN JOSE, CA -- (Marketwired) -- 11/10/15 -- Harmonic (NASDAQ: HLIT), the worldwide leader in video delivery infrastructure, today announced that NASA TV UHD, the first consumer Ultra HD (UHD) channel in North America, is now available. Leveraging an end-to-end UHD delivery system from Harmonic, NASA's ambient video channel provides consumers with a wide array of out-of-this-world linear 2160p60 video content, capturing the breathtaking beauty of the space program.

Transmitted in the clear via the SES AMC-18C satellite, NASA TV UHD is remotely produced by Harmonic and jointly operated with NASA. Harmonic is currently in discussions with pay-TV operators to carry the channel on their satellite DTH, cable and optical networks. Tests are underway to enable consumption on a wide range of television and IP-connected devices. The channel will also be available for OTT streaming at a later date, to be determined.

NASA TV UHD consists of eight brand-new TV series designed to explore the various facets of NASA's space program. These include: "ISS Life," documenting life on the space station from the first-person perspective of the astronauts; "Earth View," the astronauts' unique perception of our planet; "Solar System," showing vibrant imagery of the earth's neighboring planets and the sun, including time-lapse videos using solar dynamics observatory images; "Deep Space," animated UHD still imagery captured from the Hubble telescope and other telescopic platforms; "NASA Classics," important highlights from NASA's history, such as the Apollo program; "Mars," an entire program dedicated to the intriguing red planet; "Liftoff," an up-close look at spacecraft launches, including rocket tests; and "Development," detailing the training and R&D efforts that take place before each NASA mission.

"Not only is NASA TV UHD the first consumer UHD channel in North America, the ambient nature of the channel is unlike anything anyone has ever seen before, taking the consumer entertainment experience to a whole new level," said Peter Alexander, chief marketing officer at Harmonic. "Each program featured on NASA TV UHD is composed of long, beautiful shots that can only be described as breathtaking. Delivered in the eight million pixel resolution of the UHD format, it truly is a remarkable viewing experience that would not have been possible without Harmonic's complete solution for Ultra HD video production and delivery. We're happy that the channel is now operational with the first tranche of content."

The NASA TV UHD utilizes an end-to-end solution that includes Harmonic's Ellipse<sup>®</sup> 3000 contribution encoder, ProView<sup>™</sup> 7100 integrated receiver-decoder (IRD), MediaGrid shared storage system, Polaris<sup>™</sup> playout management suite, Spectrum<sup>™</sup> X advanced media server system, Electra<sup>™</sup> X and Electra X3 advanced media processors, ProMedia<sup>®</sup> Origin packager and streaming video server and NSG<sup>™</sup> Exo distributed CCAP system.

At the heart of the UHD workflow is Harmonic's Electra X3 advanced media processor, the industry's first converged media processor for UHD content with live, full-frame, full-GOP UHD encoding. Powered by the Harmonic PURE Compression Engine<sup>™</sup>, an advanced encoding technology that supports resolutions up to 2160p60 (HEVC Main 10) for broadcast and OTT multiscreen delivery, the Electra X3 enables superior video quality at minimum bandwidth.

For more information on Harmonic, instructions for gaining access to the NASA TV UHD channel, and to view the trailer, 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](http://www.harmonicinc.com).

*This press release contains forward-looking statements within the meaning of Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934, including statements related to the anticipated capabilities and benefits of Harmonic's Ellipse<sup>®</sup> 3000 contribution encoder, Electra X2<sup>™</sup> and Electra X3 advanced media processors, MediaGrid shared storage system, NSG<sup>™</sup> EXO distributed CCAP, Polaris<sup>™</sup> playout management system, ProMedia<sup>®</sup> Origin packager and streaming server, ProView<sup>™</sup> 7100 IRDs, and PURE Compression Engine<sup>™</sup> products. Our expectations and beliefs regarding these products may not materialize and are subject to risks and uncertainties, including the possibility that the products may not meet some or all of their anticipated capabilities or provide some or all of its anticipated benefits, such as enabling superior video quality at minimum bandwidth.*

*The forward-looking statements contained in this press release are also subject to other risks and uncertainties, such as those more fully described in Harmonic's filings with the Securities and Exchange Commission, including its Annual Report on Form 10-K for the year ended Dec.31, 2014, its Quarterly Reports on Form 10-Q and its Current Reports on Form 8-K. The forward-looking statements in this press release are based on information available to Harmonic as of the date hereof, and Harmonic disclaims any obligation to update any forward-looking statements.*

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Image Available: [http://www.marketwire.com/library/MwGo/2015/11/6/11G071081/Images/NASA\\_TV\\_UHD\\_Prep\\_to\\_be\\_Amazed\\_HLIT\\_HR-20999cc51b339c4799b3271ce15e0e77.jpg](http://www.marketwire.com/library/MwGo/2015/11/6/11G071081/Images/NASA_TV_UHD_Prep_to_be_Amazed_HLIT_HR-20999cc51b339c4799b3271ce15e0e77.jpg)

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