

NASA TV Goes Tapeless

Space agency invests in digital video

by Susan Ashworth

WASHINGTON

Trying to further expand its reach into homes and classrooms all over the world, NASA has invested in a new multichannel video system that will allow the agency to create five customized NASA TV channels to more quickly supply images and information to the nation—with the promise of HD on the horizon.

distribution portions of the new NASA TV system, and get information out to the public more readily.

The system now offers five channels: a public channel (officially known as the NASA TV channel); a channel for educators; a space operations channel for NASA employees and contractors; and a media channel that provides images for the press to pick up and rebroadcast. The goal for the fifth channel has not yet been designated.

delivery system, provided call center services for maintenance and warranty work, and supplied integrated receiver devices to NASA affiliates, which include broadcast and cable stations. Equipment within the new video chain includes Harmonic encoders, Wegener receivers and Wegener Compel control equipment.

programming as they need it.

The system made its debut in advance of the highly publicized Return to Flight mission of the space shuttle Discovery earlier this summer.

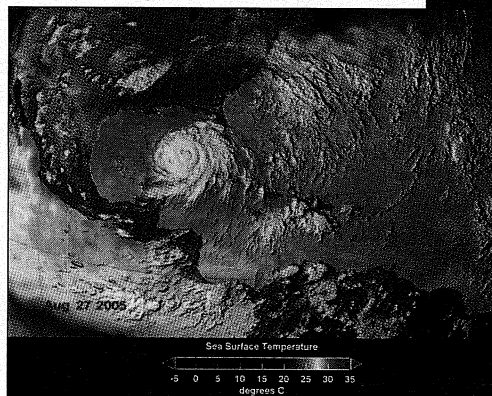
The agency is still working through a few glitches. Live broadcasts offer their own tricky challenges, and NASA is working to solve a few live timing and

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—Rodney Grubbs, NASA

A new tapeless video distribution system replaces the outmoded single-channel system that was used to provide disparate information. One minute, a viewer would be watching NASA Administrator Michael Griffin give a speech, the next minute, a scientist would be expounding on how the latest meteor shower would cross into Earth’s atmosphere. And all of this had to be scheduled and routed through a single facility, with individual offices unable to contribute their own late-breaking news with speed or regularity.



With the agency’s new video distribution system, NASA hopes to get images out to the media more quickly.



STRICT REQUIREMENTS

In the past, content from the NASA centers would be reviewed, edited and programmed at a master control site at the agency’s headquarters in Washington, D.C., and then distributed from an uplink facility at the nearby Goddard Space Flight Center in Maryland.

But that’s all changed now. NASA ordered a digital store-and-forward system that had to be able to handle multiple live channels from multiple locations simultaneously; and it had to be able to put programming control in the hands of 10 individual centers, bypassing the traditional master control center. It had to have stringent security requirements for multiple live channels, plus it had to offer top-of-the-line video quality.

The resultant system is designed to improve both the contribution and

The new system now gives those 10 NASA centers the ability to feed video and files in real time through an IP network backbone to an uplink site. Video then airs on one of the five channels that comprise the system. For example, video of the last-minute and highly anticipated Discovery landing at Edwards Air Force Base in California in August was captured by on-site personnel and directly fed into the IP network to the uplink center in Maryland, all without waiting for scheduling permission from headquarters.

RICH EDUCATIONAL LEGACY

Ascent Media Systems & Technology supervised the implementation of the new NASA TV content

“The desire to have a digital TV system came up several years ago,” said Rodney Grubbs, NASA DTV program manager. The goal was to retire NASA’s analog system, and give individual centers more control by creating a system that would allow the agency to switch origination from one center to another.

The agency also wanted to take better advantage of its rich educational programming. This system offers the agency the ability to push content in real time to different receive sites—kindergarten classrooms or museums—without having to squeeze programming into one continually monitored channel. In addition to point-to-point capability, the free-to-air media channel allows individual media organizations to pick up pro-

syncing issues between audio and video.

But the system is allowing NASA to better meet one of its primary goals: provide near-immediate information to the press and the public that supports and funds this public agency.

“We’ve got a lot of stories to tell,” Grubbs said. “This technology gives NASA the ability to share content with the public more efficiently and with better quality, while at the same time improving NASA’s research and space flight programs ability to utilize video for science and engineering.”

Though no high-definition images are currently airing on the new NASA TV channel, the system has an HD upgrade capability and Grubbs said the agency may begin high-definition programming within the next three years. The agency has equipped several of its centers with high-definition technology, including HD cameras at Kennedy Space Center in Florida, where Discovery launched, and a bevy of HD gear at the Dryden Flight Research Center at Edwards Air Force Base where experimental aircraft flights are being captured in high definition. ■

