

NEW NETWORK PROTOCOL STANDARD FOR HIGH SPEED CAMERAS

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Abstract

High speed cameras that can record store separation or other events during test flights are widely used measurement systems in today's NDT development process. The data collected by these camera systems delivers important feedback for designers and test engineers for improvement or validation of systems. Traditional 16mm film-based high speed cameras have been replaced by first-generation digital high-speed cameras in the past years.

The deployment of second generation, network-based airborne instrumentation is now leading to cost efficient replacement of legacy systems. One application of airborne instrumentation systems that has up to now been developed and maintained separately from traditional avionics and orange-wire data acquisition systems is high speed video. The development of network-based high speed cameras has led to an opportunity to unify these two previously distinct airborne data acquisition activities using standards for plug-n-play interoperability across airframes and organizations. This paper describes standards based network-based video and imagery instrumentation systems, which are being implemented to replace existing proprietary systems.





New IRIG/OSG network protocol standard for high speed cameras

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Requirements of airborne high speed camera system

Cameras require:

- Command & Control
- Apply Real-Time Changes in Flight
- Time Correlation of All Test Instrumentation & Mission
 Data
- Accept Hardwire Trigger or Network Trigger
- Local Storage or Streaming of Data to Storage Media





• Leveled Playing Field Where Cost & Performance are Deciding Factors





The GigE Vision Standard

- Fastest Growing Standard in the Vision Industry
- Allows Users to Leverage Unique Benefits of Networked Video Connectivity
- Built Upon Dozens of Time-Honored IEEE, IETF & GenICam Standards
- Interoperability with Products from Multiple Manufacturers























