ARISTO 2017 Digital Camera Imagery and Movie notes

During ARISTO 2017, the NSF/NCAR GV HIAPER flew a forward-facing digital camera for in-flight image capture. The forward camera is a Point Grey Research Hi-Res Flea Hi-Color, 1024x768 resolution. The Navitar DO-412 lens has a focal length of 4 mm and the field of view is about 62 x 48 degrees with some barrel distortion. This camera is located on the right wing pylon.

Images were acquired once per second and stored as JPEG-compressed files, roughly 100 kB each. No image processing was performed beyond converting the raw pixel data to 24 bit color images. Applying a sharpening filter as is ordinarily done by consumer digital cameras will considerably improve the appearance. The UTC date and time are encoded in the filename as YYMMDD-HHMMSS.jpg.

For the preliminary MPEG-4 movies each image was processed with the linux ImageMagick toolkit. The image was slightly sharpened [SHARPEN(0.0x1.0)] and resized to 512x384 pixels. Each image was then annotated in the lower left with the time the image was recorded. These 1-second annotated images were compiled into a video stream running at 30 frames/s, 1000 kbps data rate using the MPEG-4/h.264 (AKA "MPEG-4 Part 10" and "AVC") codec. Final movies add data to the right. The movies are playable with Quicktime, Windows Media Player, mplayer, VLC, and others.

For questions, please contact:

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