



## University of Wyoming IDEAS 2012

Instrument Development and Education in Airborne Science

September/October, 2012

### UWKA Update (25 July, Wednesday):

#### Status:

King Air is down as we work on infrastructure to install Holodec in one of the PMS cans on the left wing. The first phase is to run Cat-6 network cable through the wing to the can and modify the can to bring the cable in through the side. This should be accomplished by the end of July.

## DATA

- [Link to King Air Processed Data](#)

## Planning and Operations

- [Planning Calendar \(updated 8/10\)](#)
- Flight Plans (coming soon)
- **Flight Tracking**
  - [SPOT](#) (pw:n2uw)
  - [Flight Aware](#)

## IDEAS Instruments

- [Michigan Tech HOLODEC](#)
  - Holodec PI contact [Raymond Shaw](#)
  - Holodec technical contact [Matthew Beals](#)
  - [Holodec wiring drawings](#)
  - [email information from Beals \(7/25\)](#)
  - [Spec Sheet for rack enclosure](#)
    - [Picture of rack mount in C130](#)
    - [On Bench-Pic 1](#)
    - [On Bench-Pic 2](#)
    - [On Bench-Pic 3](#)
    - [Drawing of Backring](#)
- [CASI 1500H Hyperspectral Imager](#)
  - Holodec PI contact [Carl Legleiter](#)
  - [CASI Mechanical Drawings](#)
- [UWKA Facility-supported Instrument List](#)

# Blank Engineering Forms

- [Calibrations](#)
- [Daily Ops](#)
- [Install/Removal](#)
- [Maintenance/Troubleshooting](#)

Date	Flight # (* .kml)	Status	Times (UTC)	Hours	Crew/Notes
<i>HOLODEC-II Flights</i>					
12 Sep	RF04	Worked stratus and strato-cu eas of Laramie out to Scottsbluff, NE. Worked mainly between 9 kft and 13 kft (+5 to -3 C). Sampled areas of large droplets, pristine crystals (mostly needles), aggregates, mixed phase, all liquid, and all ice. Sampling strategy included long legs at constant altitude/temperature and some profiling/porpoising. No known problems.	1501-1735	2.7	T Drew M Beals J French L Oolman
11 Sep	RF03	Started working convection being kicked off from waves over/downwind of the Med Bows. Transitioned to working a cluster of cells from low levels to cloud top and back down to cloud base over period of about 1 hour. A few times during flight HOLODEC-II buffer appeared to reach max/overload. TwoDC data form last ~15 minutes of flight may be bad. No other known problems.	1557-1829	2.6	T Drew M Beals L Oolman J Stemmler
10 Sep	RF02	Targeted cumulus build-ups well to the west (by Rock Springs); worked a fairly well-developed line of cu congestus, starting at mid-levels (~20 kft, -10C), then dropping below cloud base to sample precipitation. We sampled both ice precipitation, water precip., and some partially melted. HOLODEC-II may have lost some data early in flight while RAID array was initializing. Later in flight--HOLODEC-II would go down--apparently correlated with static buildup on aircraft (while sampling precip below cld base). On return ferry, sampled cu cloud tops/edges for mixing. LICOR dewpoint and CIP problems were fixed prior to flight. Applanix died on takeoff, was able to be re-started in flight.	1811-2056	2.9	T Drew M Beals J French L Oolman
06 Sep	RF01	First flight with HOLODEC-II, flew through 'messy' cumulus over the Laramie valley, relatively short flight to verify instrument was working properly. No problems with HOLODEC-II. CIP was not working (out of align), LICOR dewpoint appeared 2C high compared with chilled mirror. Applanix died on takeoff--was able to be re-started in flight. CIP computer crashed near end of flight.	2003-2117	1.3	T Drew L Oolman J French M Beals
Flight Hours			9.0 out of 13.0, 4.0 Remain		
<i>CASI Flights</i>					
12 Nov	CASI RF05	Second flight over the Niobrara River. Applanix solution was good on take off.	1724-2121	4.1	T Drew B Overstreet

					J French C Legleiter
9 Nov	CASI RF04	Flight over the high mountain lakes in the Snowy Range and over the Platte River near Saratoga. Valentine was fogged in. Applanix solution was good on take off.	2010- 2200	1.9	T Drew A House L Oolman C Legleiter
8 Nov	CASI RF03	Flight over the Niobrara River near Valentine, NE. Passes over Prexy's Pasture to bore site the CASI. Applanix solution was good on take off.	1820- 2251	4.6	T Drew A House L Oolman C Legleiter
07 Nov	CASI RF02	Lidar alignment flight. The Applanix faulted while running it in the hangar at the far side from the repeater but was good on take off.	2116- 2145	0.6	T Drew P Bergmaier L Oolman B Liu
11 Oct	CASI RF01	First flight with CASI. The flight was terminated because of a short in the CASI. Applanix solution was good on take off.	1803- 1817	0.4	T Drew B Southgate L Oolman C Legleiter
CASI Flight Hours			11.6 out of 12.0, 0.4 Remain		