

HIBAL Video Transmission

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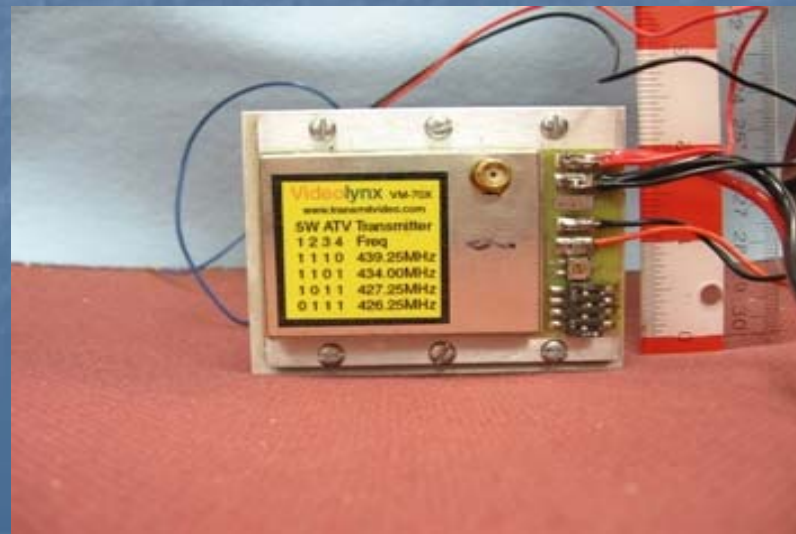
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Final Products

- Videolynx VM-70X transmitter
- 11.1 Lithium Ion Battery
- Video switching circuit
- Ground plane antenna for 70 cm
- New ground plane for 2 m
- Basic Stamp code
- Video capture of flight

Videolynx VM-70x

- Outputs 4.2 watts with 11.1 V battery
- Ground tested to 3.8 miles zero line of site
- Can receive on Channel 58,59 and 60
- Satisfies our transmitting requirements



11.1 Lithium Ion Battery

- Transmitter pulls 1.5 Amps from battery
- Battery should last around three hours
- Future tests will show longevity of battery



Video Switching Circuit

- Created prototype in WSU laboratory
- Bought 2 from Batch PCB
- Can send strong video signal to both DVR and to transmitter
- Altitude controlled through basic stamp
- Requires DC coupled camera
 - Working on a DC correction circuit to work with AC coupled cameras

70 cm Ground Plane Antenna

- Omni-directional
- Durable
- Tune to 427.25MHz



2 m Ground Plane Antenna

- Ground plane antenna
 - Lighter
 - 0.262lbs vs. 0.462lbs
 - Smaller Center Plate
 - 2x2in vs. 5.75x5.75in
 - Center Connector
 - N connector vs. BNC connector
 - Tuned to our APRS frequency of 144.39 MHz and will work with our packet frequency of 145.05
 - Reached about 6 miles non line of sight distance

Basic Stamp

- Code was re-written
 - 2 GPS units are operated
 - Controls Video Switching Circuit
- Slight problem with temperature reading
 - Negative numbers are reading positive
 - Lack of variable space
- Will be replaced with Wildfire Board

Feb 24 Launch

- APRS trouble
 - Bad GPS unit
 - Bad battery pack
- Lost Signal around 50K feet
 - Temperature readings were -20 C
 - Believe batteries froze and were ruined
- Launched from WSU Lake Campus
 - Made local newspaper [The Daily Standard](#)

Video Capture of Flight

- Able to recover 6 hours of flight
- Top Camera
 - Servo Release
 - Balloon popping
- Bottom Camera
 - Antenna straps
 - Landscape
- All video can be found at www.engineering.wright.edu/balloon

Next Launch

- Planned for Wednesday March 25
- On schedule for launch
- Contacted (ADAM WHO DID WE CONTACT?) for some assistance in receiving the video transmission
- Antenna on Joshi

Thanks

- Dr. John Wu
- Bruce Rahn
- Dan Rahn
- Nick Baine
- Mechanicals

Questions?