



**Fox-Plus A Block Diagram**

# Minimum Viable Product

- Commercial 1U frame (ISISpace)
- Commercial EPS (ISISpace?)
- LTM
  - C&DH
  - TX/RX
- RT-IHU (nice to have)
- Passive attitude control



**Fox-Plus-A**

# AX5043 Replacement

Find a replacement for the AX5043



**Job Jar**

ASCENT

and



**FOX+**

What's Happening?

# Fox-Plus Systems Engineering

- Objective
  - Advance systems engineering tasks
- Team
  - Mike Moore
- Current Activity
  - Now moving on to high-level system design and bus diagrams
  - Examining ISISpace EPS option sheet

# Fox-Plus Structure

- Objective
  - Buy the Fox-Plus Structure (and EPS)
- Team
  - Thomas Wu
- Current Activity
  - Purchase 1U frame and EPS (Thomas)
    - Option sheet (Jonathan)
  - Need to adapt Fox boards to 1U frame (Thomas)

# Fox-Plus C&DH (aka IHU) Flight Software

- Objective
  - Fox-Plus flight software
- Team
  - Cameron Mahaffey
  - Dave McCoy
  - Chris Grill
- Current Activity
  - Assemble prototype environment (Cameron & Dave)
  - Prototype slow scan transmitter (Cameron)
    - A slow scan transmitter developed on the TMS570 Launchpad using modified LTM build software stack

# Fox-Plus C&DH (aka IHU) Hardware

- Objective
  - Order a whole stack of LTMs
- Team
  - Leandra MacLennan
- Current Activity
  - Get me some LTM sets for development (Leandra)
    - Focusing on ICR – Looking for alternative parts for EOL parts
    - Picking up LIHU
  - Exercise the available LTM stack (Jonathan)
  - RX/TX assembly
    - Assembling two more and dealing with EOL (Dan)



# ASCENT Structure

- Objective
  - Develop 3U space frame
- Team
  - Tom Karnauskas
- Current Activity
  - Design 3U frame
    - Model cards in candidate frame (Tom)

# ASCENT SDR Plan B

- Objective
  - Develop SDR for Golf (i.e., five-and-dime)
- Team
  - Rich Gopstein
  - Ray Roberge
- Current Activity
  - Build of Linux for ZedBoard (Rich)
  - Design radio board (Ray & Rich)
  - Obtain preliminary hardware (Jonathan)
    - Have all but FMCOMMS3 maybe use a FMCOMMS4 for software

# RT-IHU

- Objective

- Assemble RT-IHU Payload

- Team

- Zach Metzinger
  - Heimir Sverrisson

- Current Activities

- Assemble V1.1 Development Boards (Zach)
    - Result is 5 more assembled V1.1 RT-IHU boards.
  - Flash Loader (Heimir)
    - Result is an updated flash loader to load the RT-IHU board

# ASCENT PACSAT

- Objective
  - Develop digital packet communication payload
- Team (typically on this call)
  - Bill Reed
  - Jim McCullers

# ASCENT Deployable Solar Panels

- Objective
  - Develop deployable solar panels
- Team
  - Vincent Risalvato
- Current Activity
  - Design solar panel and hinge solution
    - Result is a model of solar panels and hinges that fit in the pockets of the currently envisioned 3U structure.
    - Are we ready to prototype real hardware? Any luck getting cells?
    - If things are going to plan, we had a meeting with Mark Kanawati earlier today.

# ASCENT RF

- Objective
  - Develop radio-chip-based SDR
- Team
  - Mike Swiatkowski
- Current Activity
  - Design voice FM transponder board

# ASCENT Reaction Wheel

- Objective
  - Develop reaction wheels and motor control algorithms
- Team
  - Tom Davis
- Current Activity
  - Design Reaction Wheel controller board (Tom)
  - Assemble prototype (Jonathan)
    - Unable without controller software
- Keep in Mind
  - Possible Zero-G Flight