

14BisSat: International Student Experience

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Topics

- Introduction
- History
- Mission
- Satellite
- Project Management
- Benefits

SPACE Group

- Started in 2000
- Hands-On Experience



First Projects

In 2000

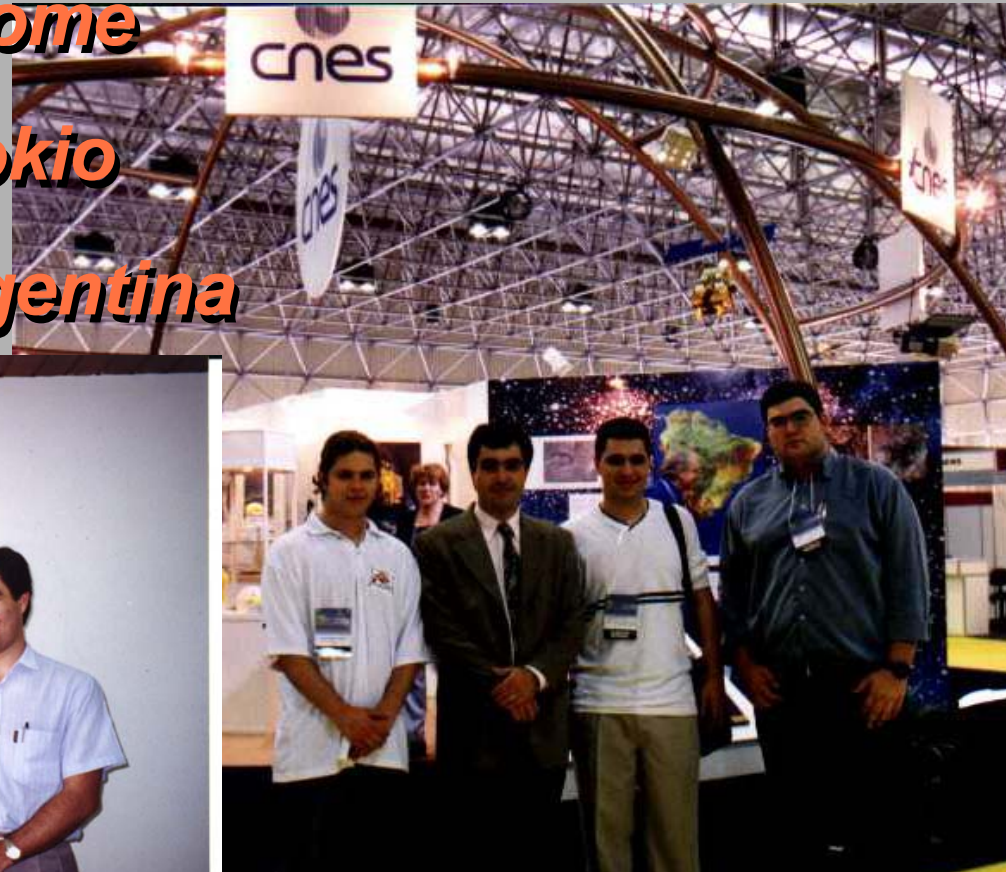
STAR- Aerospace Recoverable Transport System



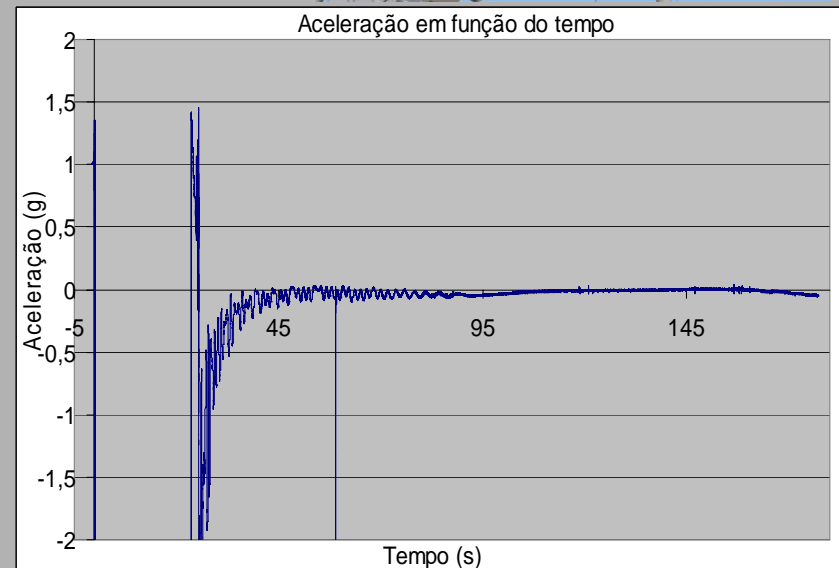
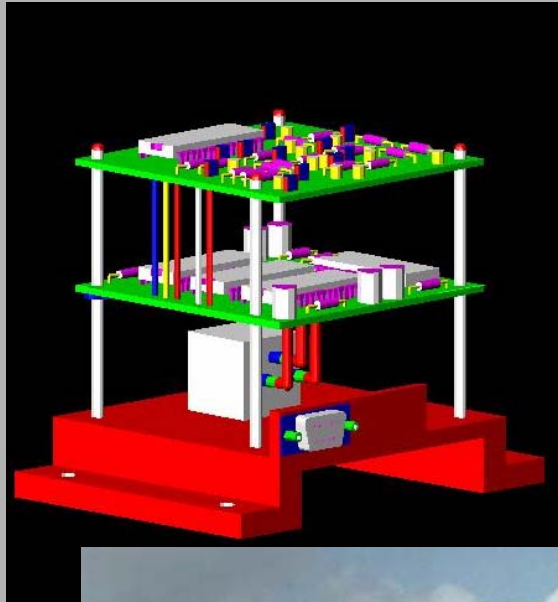
51st IAC – 2000- Rio de Janeiro

Contact to universities satellite programs:

- ***UNISAT- Univ. of Rome***
- ***Cansat – Univ of Tokio***
- ***AATE Satellite - Argentina***



2001: Microgravity Experiment



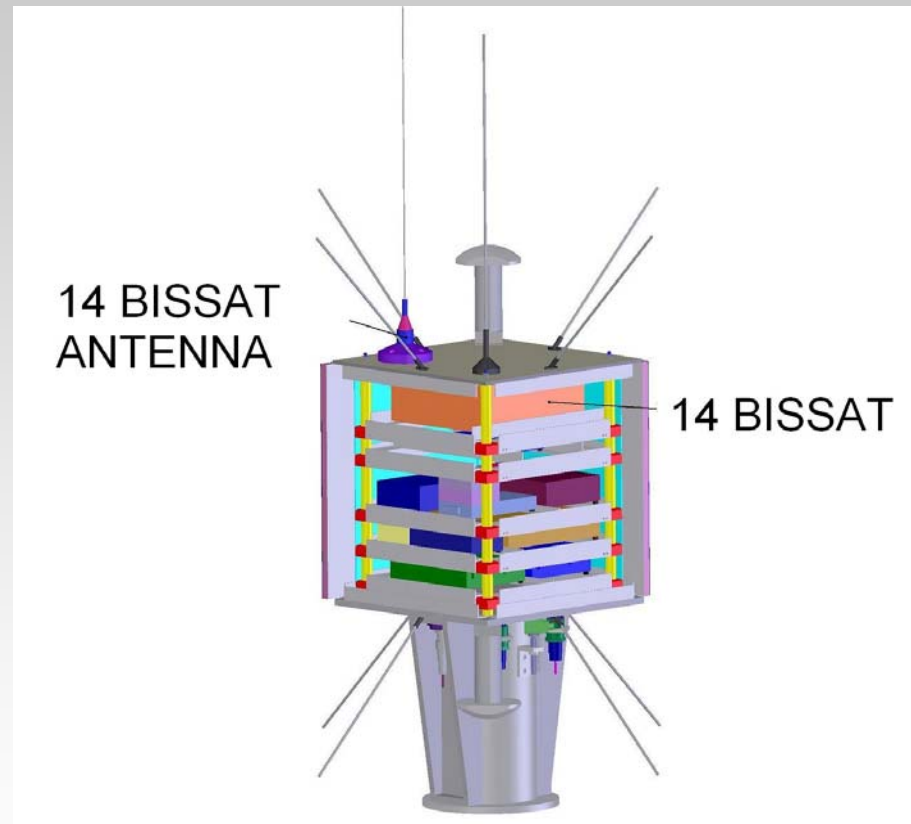
So, let's get a free ride on ... VLS!



VLS accident – 22/08/2003



Yuzhnoye SDO invitation



Microsatellite Technological Platform

University Class

Weight – 20 kg

Payload Weight – 5 kg

Orbit Altitude – 650 km

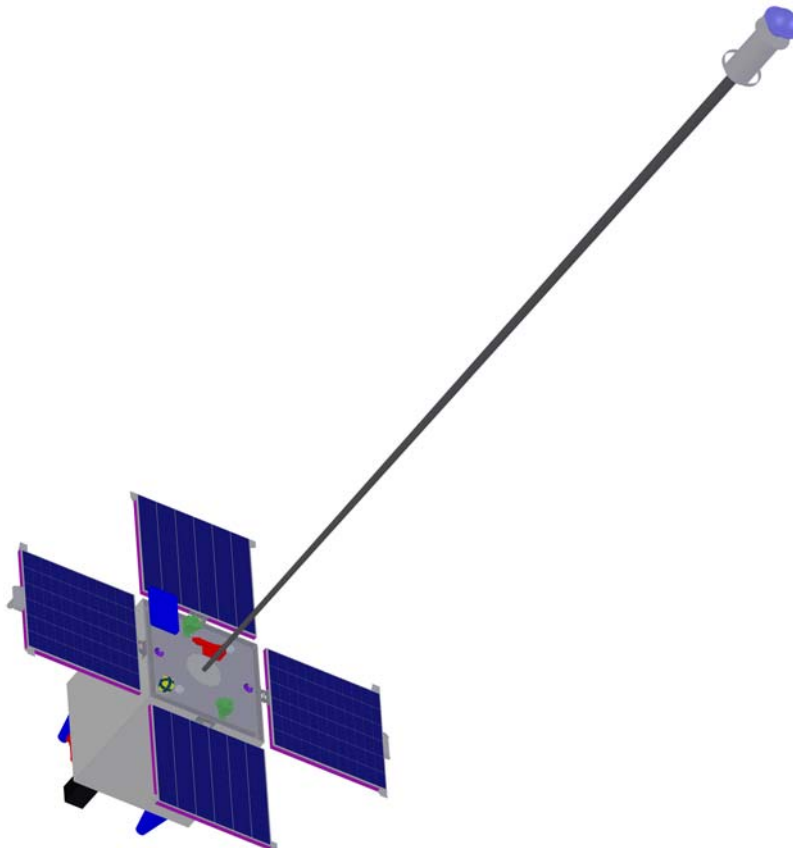
Orbit Inclination – 98 deg

Sizes – 350 x 350 x 530

Orientation – gravi-boom

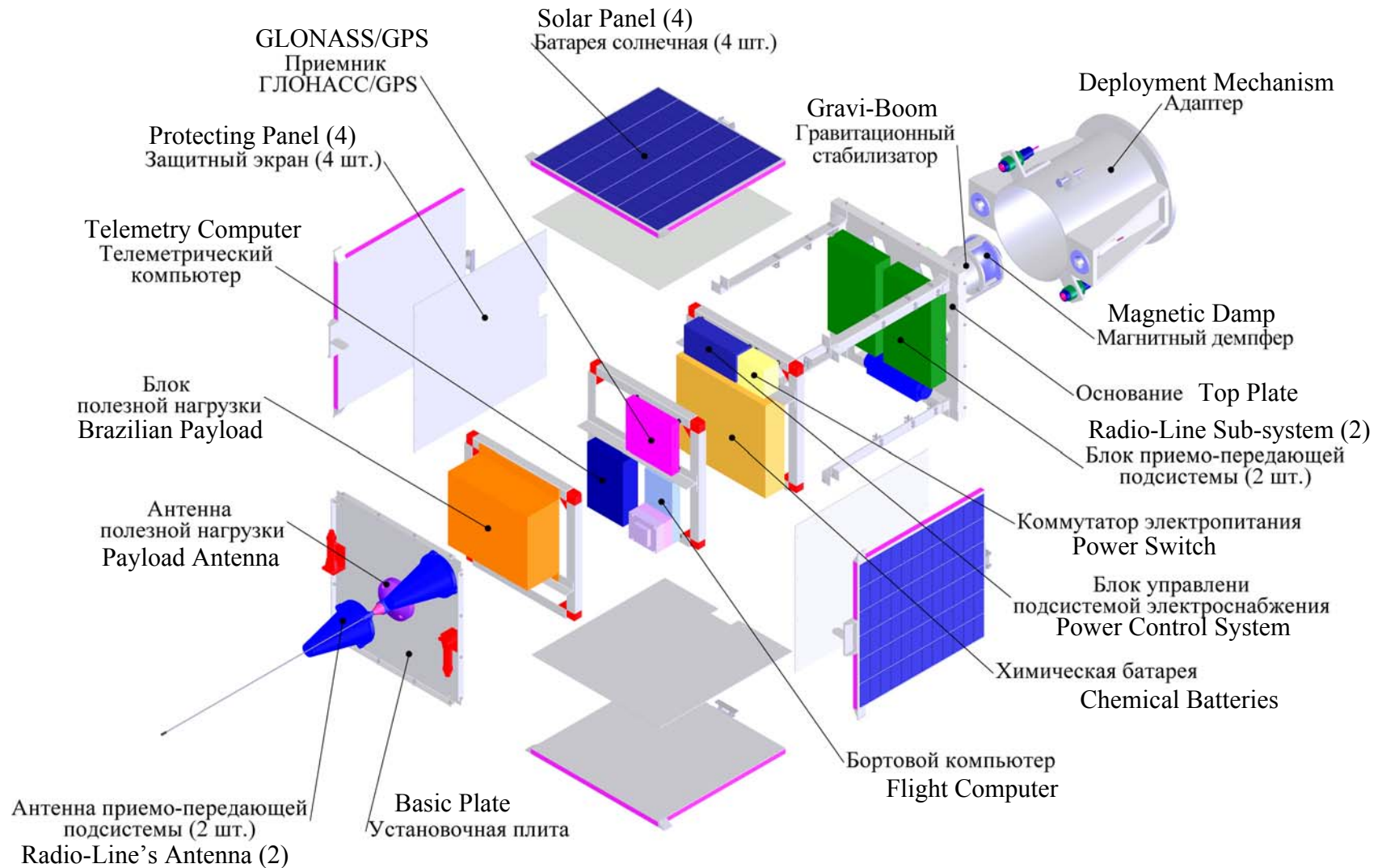
Damp – perm. magnet

Communication – S-band

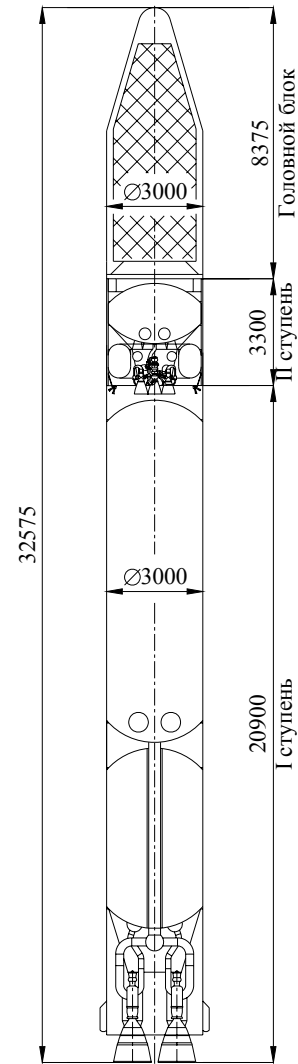


Microsatellite Technological Platform

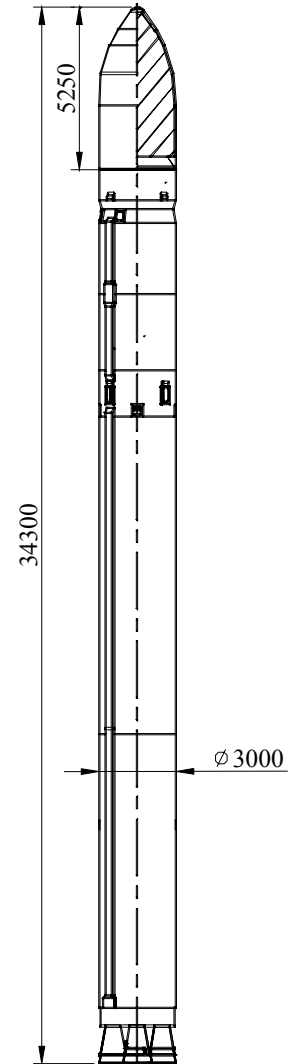
University Class



Launch Vehicles



DNIEPR

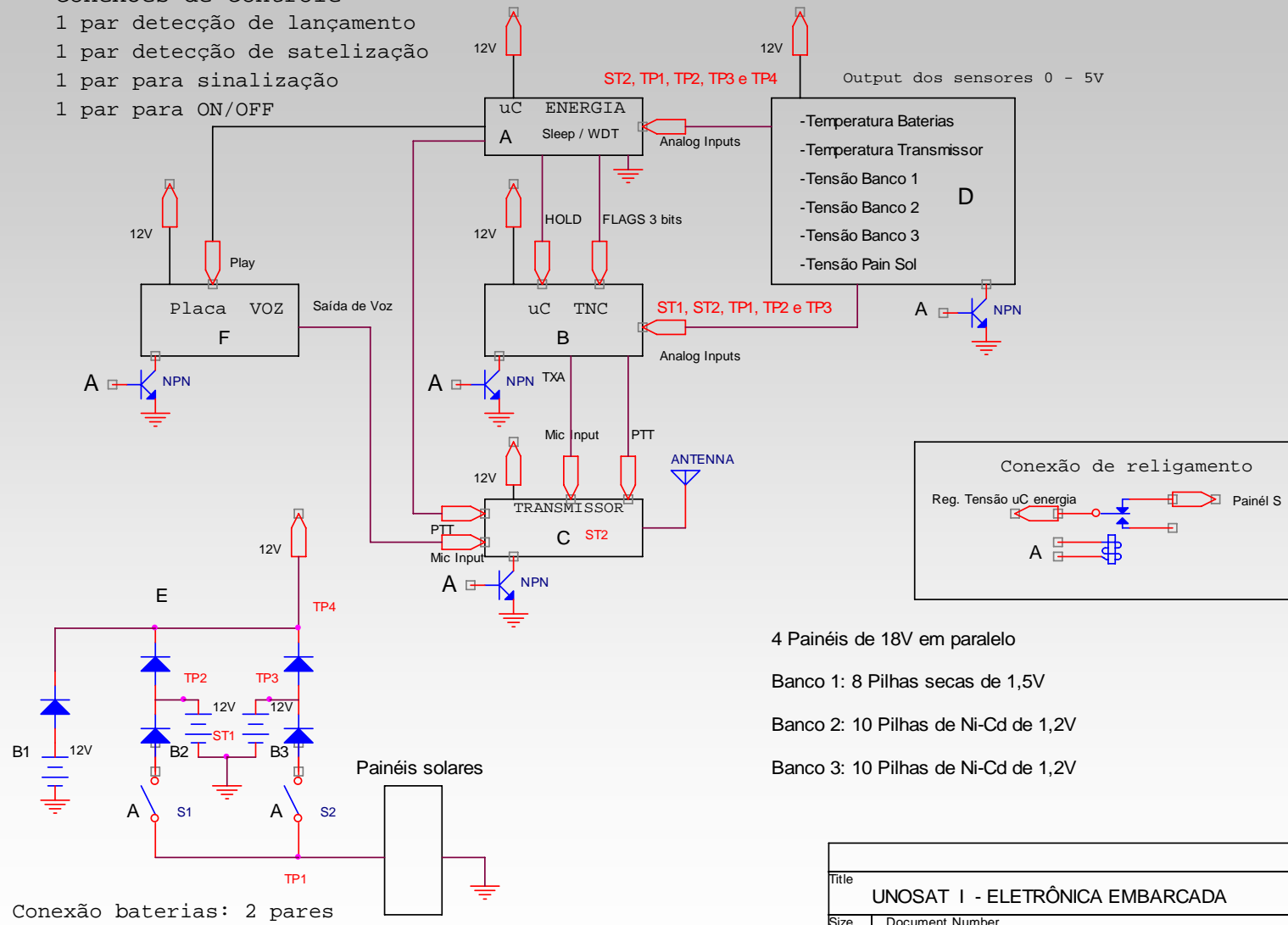


MAYAK-12

14 BisSat Mission

Conexões de controle

- 1 par detecção de lançamento
- 1 par detecção de satelização
- 1 par para sinalização
- 1 par para ON/OFF



4 Painéis de 18V em paralelo

Banco 1: 8 Pilhas secas de 1,5V

Banco 2: 10 Pilhas de Ni-Cd de 1,2V

Banco 3: 10 Pilhas de Ni-Cd de 1,2V

Title		
UNOSAT I - ELETRÔNICA EMBARCADA		
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Date:	Tuesday, July 31, 2001	Sheet 1 of 1

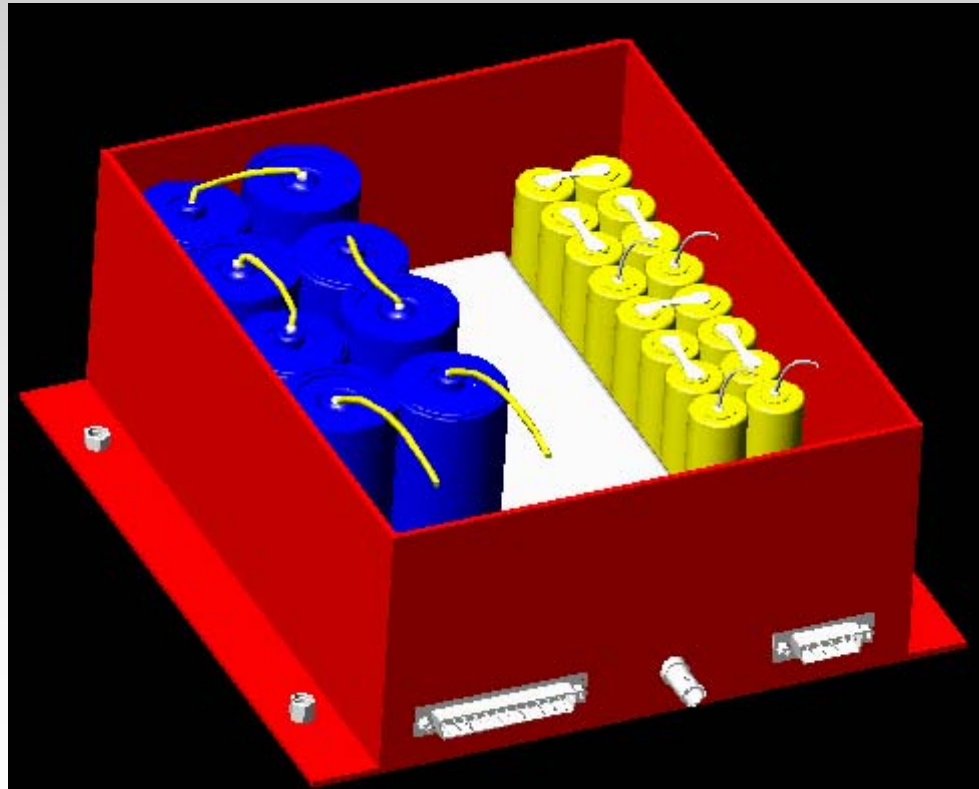
Structure



4 times smaller...

Communication

5W FM radio

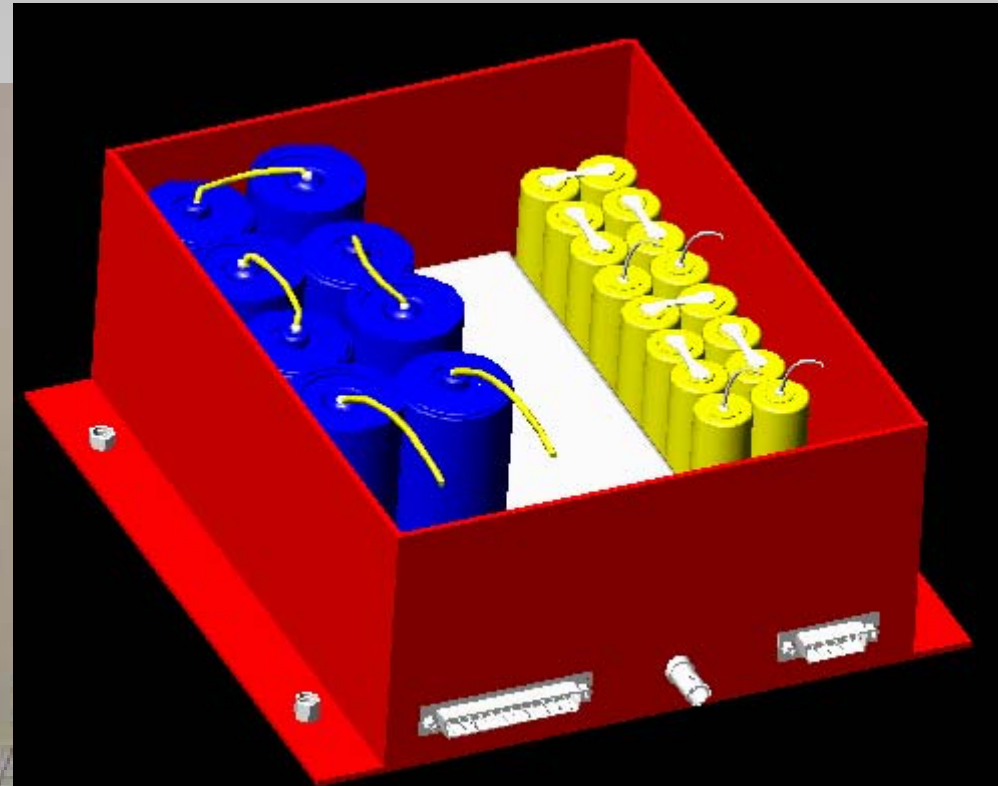


Energy Control

- High rate: 1 transmission at each 16 seconds;
- Medium rate: 1 voice and packet transmission at each 100 seconds;
- Low rate: 1 transmission of telemetry at each 4 minute.

Design Students

Structure



*Computing and **Electronical** Eng. Students*



Flight Module Team:



Benefits:

- ***Academic***
- ***Responsibility***
- ***Reliability (Redundancy....)***
- ***High Quality***
- ***Teamwork (students overcame divergences with personal agreements)***
- ***International experiences***

Thanks

