



CBC-03

Nihon-Univ.



Yuta Chiba
Yuta Kujira

Our concept in this experiment is “ Clean ”

~ We make our cansat cleanly ~

~ We keep the Desert of Black Rock clean~

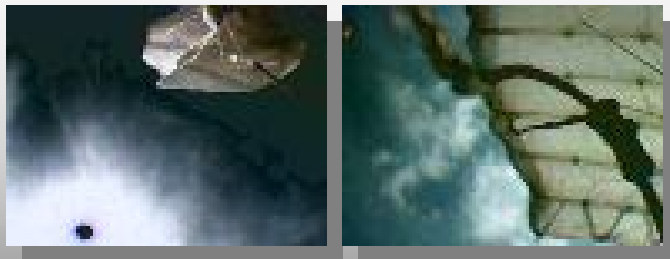
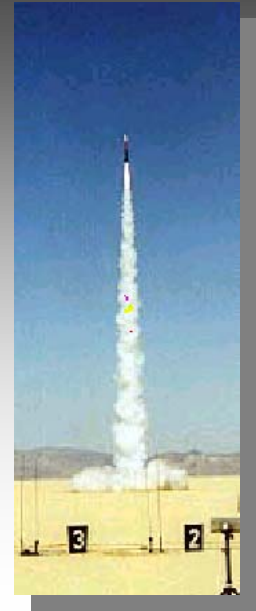
~ Cleanliness is a symbol of CBC~

Come Back Cansat



Purpose

1. Land CBC at the close point from the target by come back system
2. Get flight data from an altitude of 4000[m]



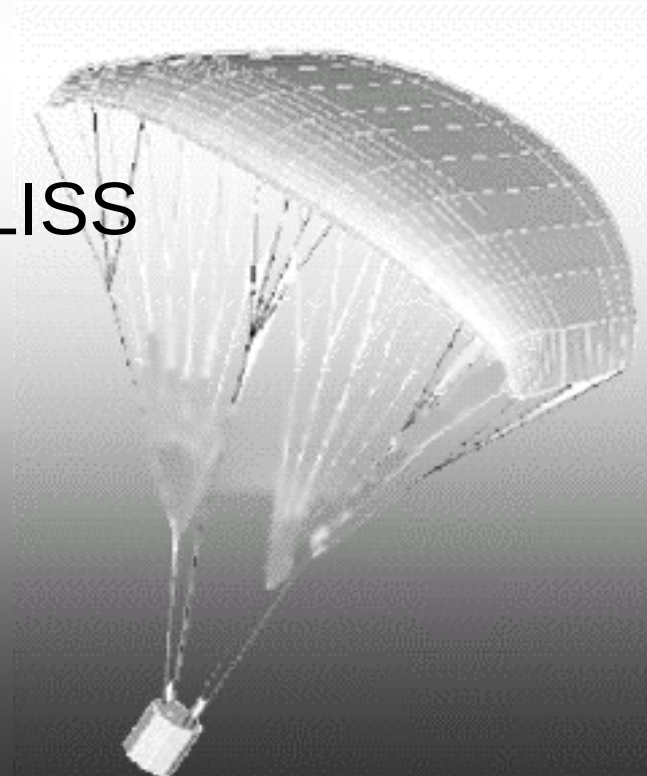
Pictures from CBC

Characteristics

1. Comeback system
2. Sensor handling

Contents

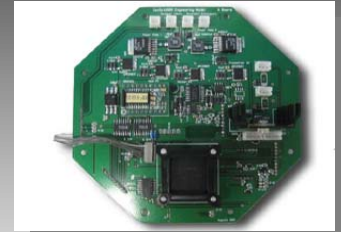
1. Systems
2. The Structure of CBC
3. Installation of CBC
4. Experiments for ARLISS
5. Results



Systems



Power Supply
(PS) System

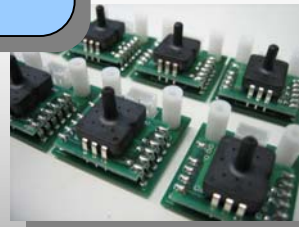


On Board Computer
(OBC) System

Servo Control
(SC) System



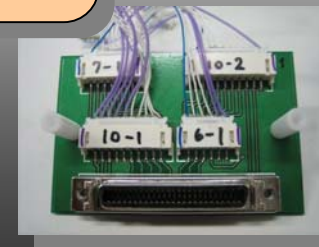
Sensor Handling
(SH) System



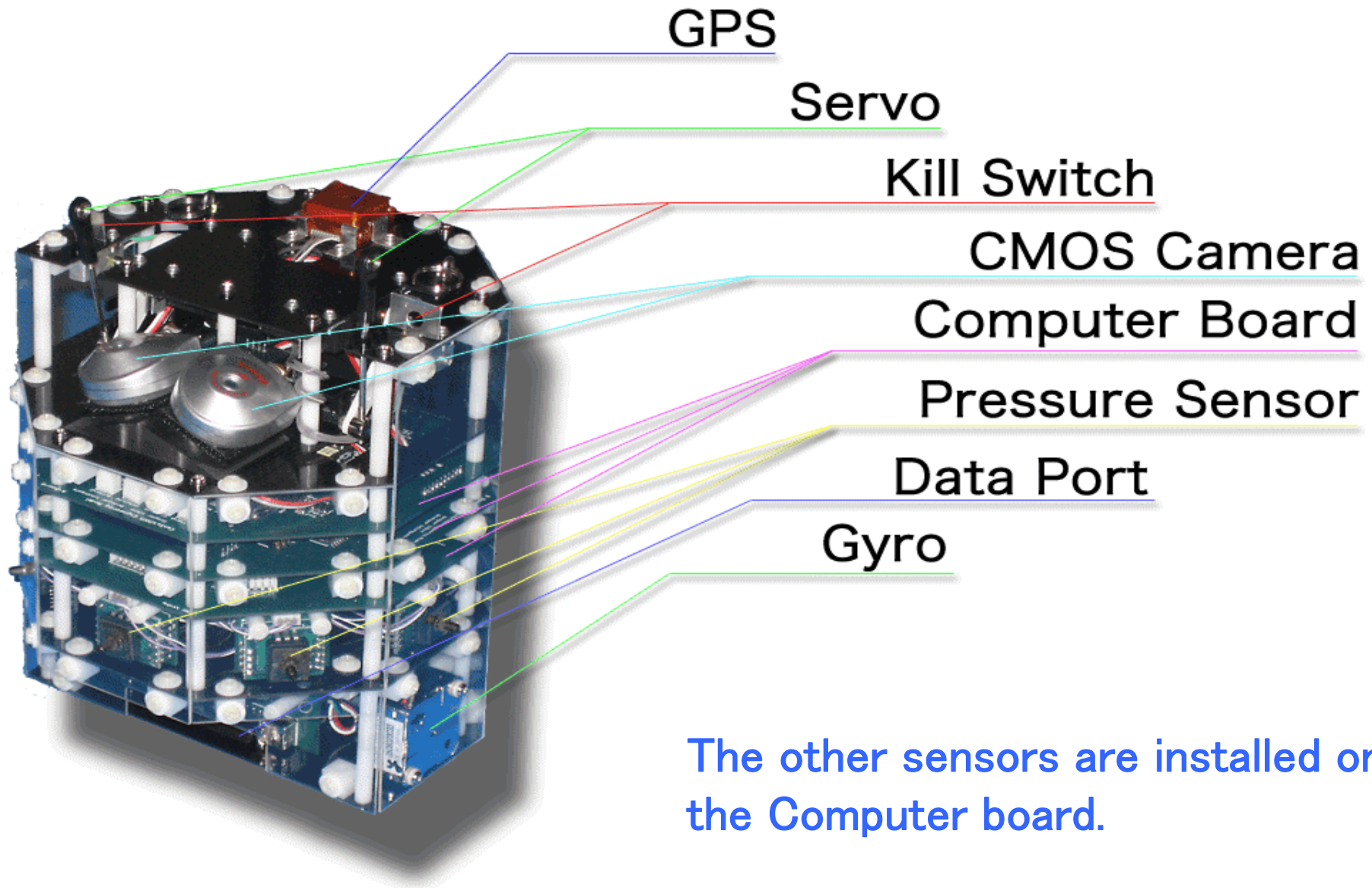
Communication
(Com) System



Data Port
(DP) System



The Structure of CBC (1/2)



The Structure of CBC (2/2)

Weight : 1050 [g]

Height : 156 [mm]

Diameter : 140 [mm]

Pressure Sensor

CMOS Camera

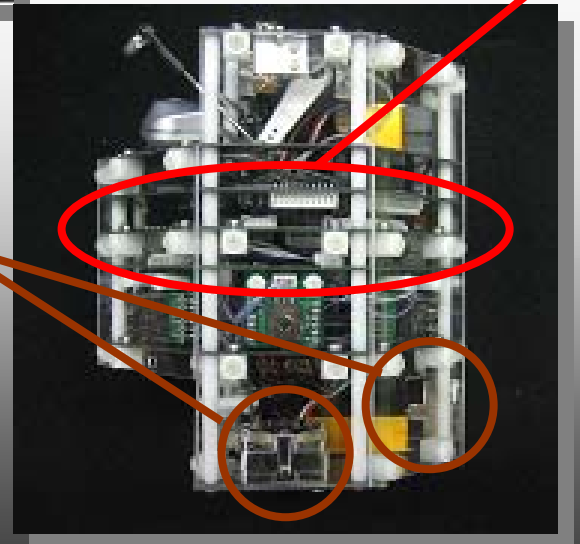
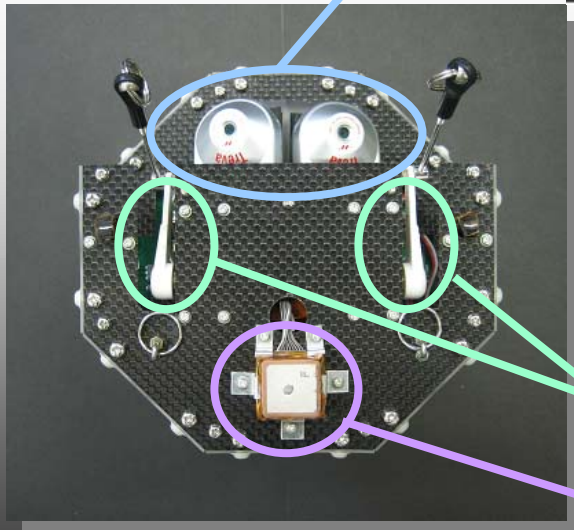
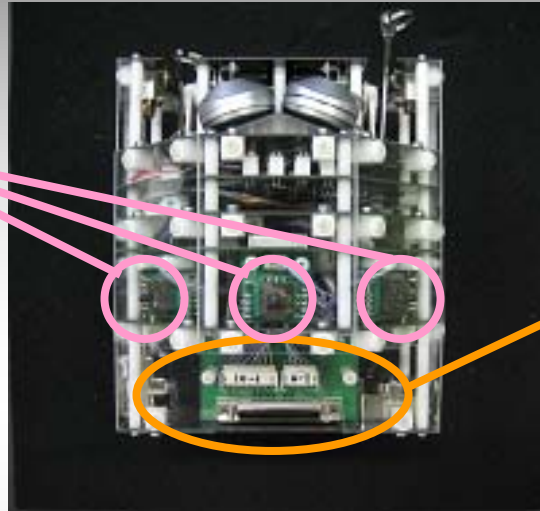
Data Port

Computer Board

Gyro

Servo

GPS



Installation of CBC (1/2)

GPS Sensor



Purpose	Acquire GPS radio waves
Notes	Acquire the latitude and longitude information

Gyro Sensor



Purpose	Gauge the angular velocity of a payload
Notes	Gauge the 1 axial angular velocity, so CBC carries 3 gyro Sensors

Acceleration Sensor



Purpose	Gauge the acceleration of a payload
Notes	Gauge the 1 axial acceleration of payload, so CBC carries 3 acceleration sensors

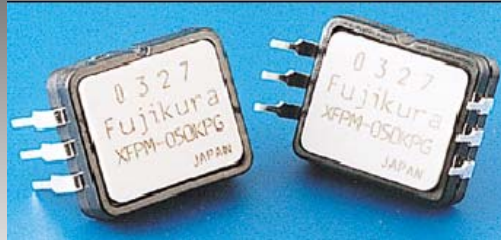
Pressure Sensor



Purpose	Use as an anemometer
Notes	There are sensors, external board by external board, so CBC carries 8 pressure sensors

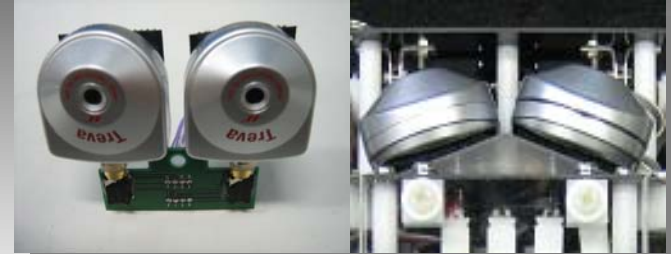
Installation of CBC (2/2)

Absolute Pressure Sensor



Purpose	Use as an altimeter
Notes	Carries as an altimeter, because data that is from GPS doesn't have high accuracy

CMOS Camera



Purpose	Grasp the attitude of parafoil at payload
Notes	CBC carries 2 cameras and its are carried as shown angles in figure

Servo motor



Purpose	Control the amount of pull of a control line
Notes	CBC carries 2 servo motors in order to control the right and left control line

Antenna / transmitter

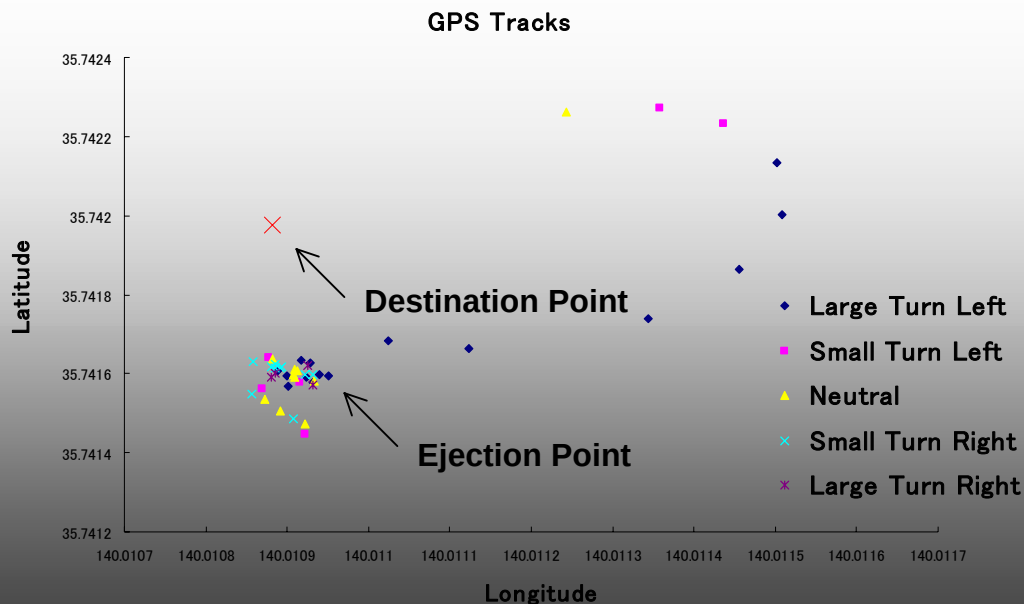


Purpose	Grasp the GPS information at ground
Notes	Send by the minimum times in order not to give the sensors' noise

Experiments for ARLISS (1/2)

Balloon Experiment

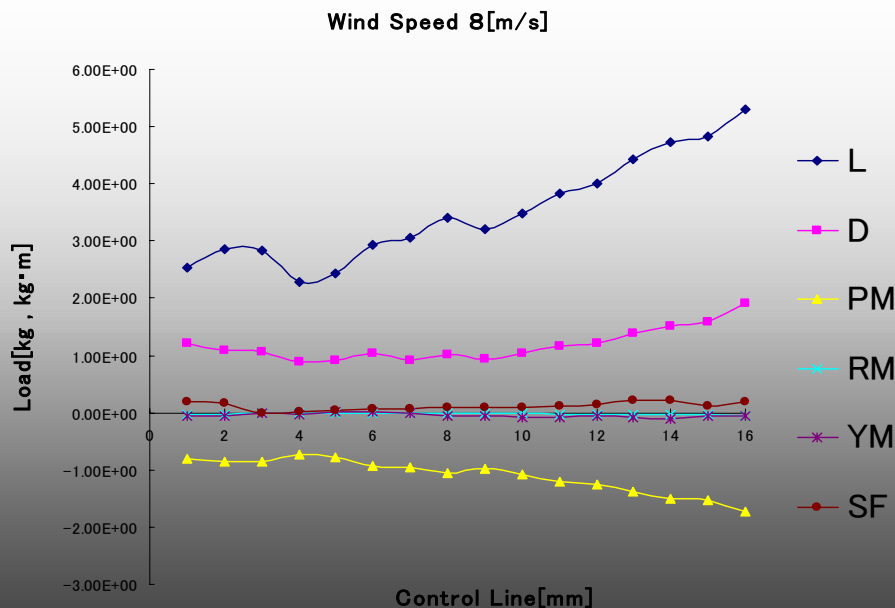
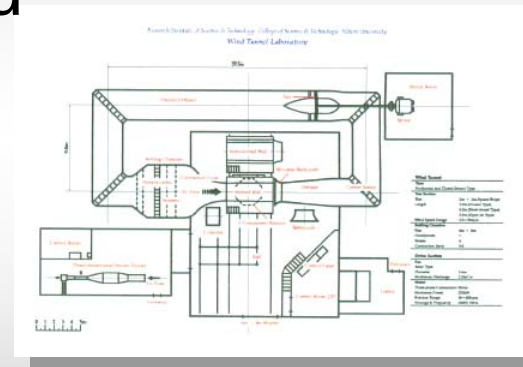
We performed the Balloon Experiment to acquire flight data and check systems like sensor family, power supply and servo motors to see whether they work properly.



Experiments for ARLISS (2/2)

Wind Tunnel Experiment

We performed the Wind Tunnel Experiment to examine the characteristics of a parafoil and gauge the 6 forces.



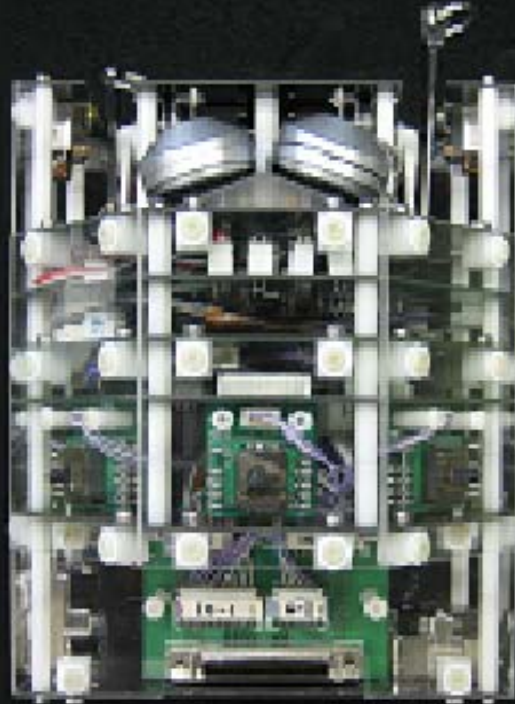
Results (1/2)

We are still missing...



...nothing to say

WANTED



find
me

*If you find me please e-mail to
araki@forth.aero.cst.nihon-u.ac.jp*

Results (2/2)

**We are cleaning up on the Desert of
Black Rock while we are searching for.**

Earth friendly



Desert friendly

Thank you so much!

Mr. Hashiguchi

Mr. Ed



Are there any questions?

Thank you