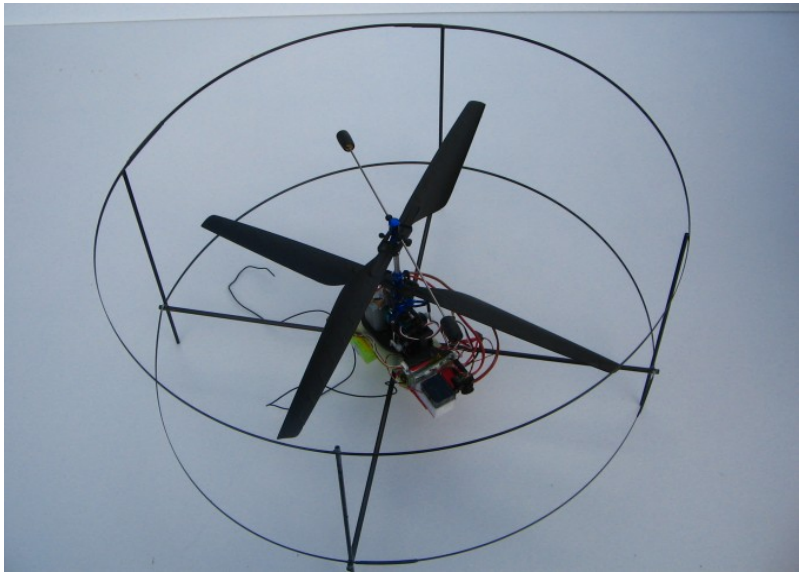
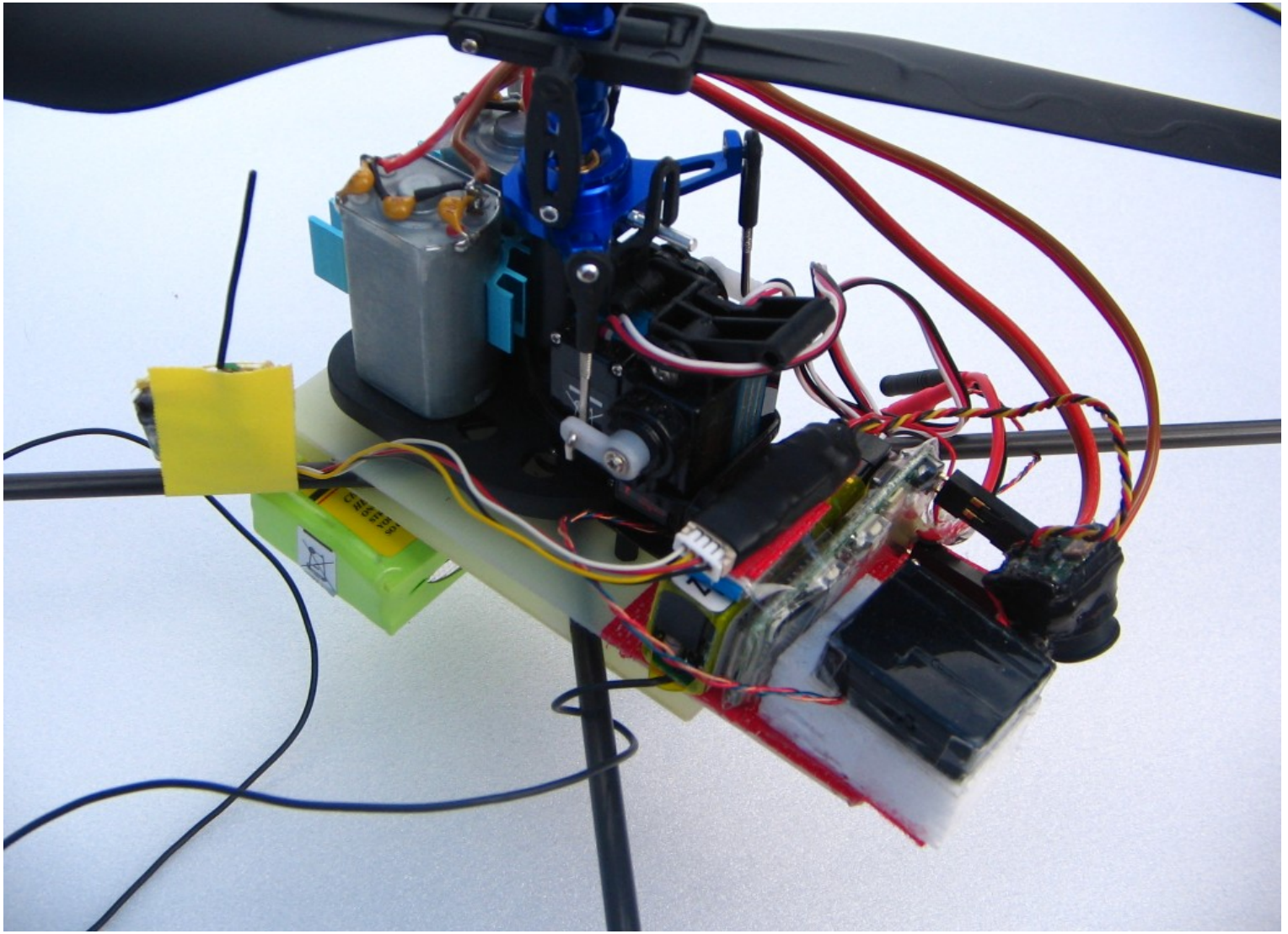
M.A.C.'07 MAVs



M. Müller
A. Schröter
C. Lindenberg

September 2007

Coaxial Helicopter for Indoor



Manual control with video

MAV'05

- made from 3mm Depron sheets
- light but fragile

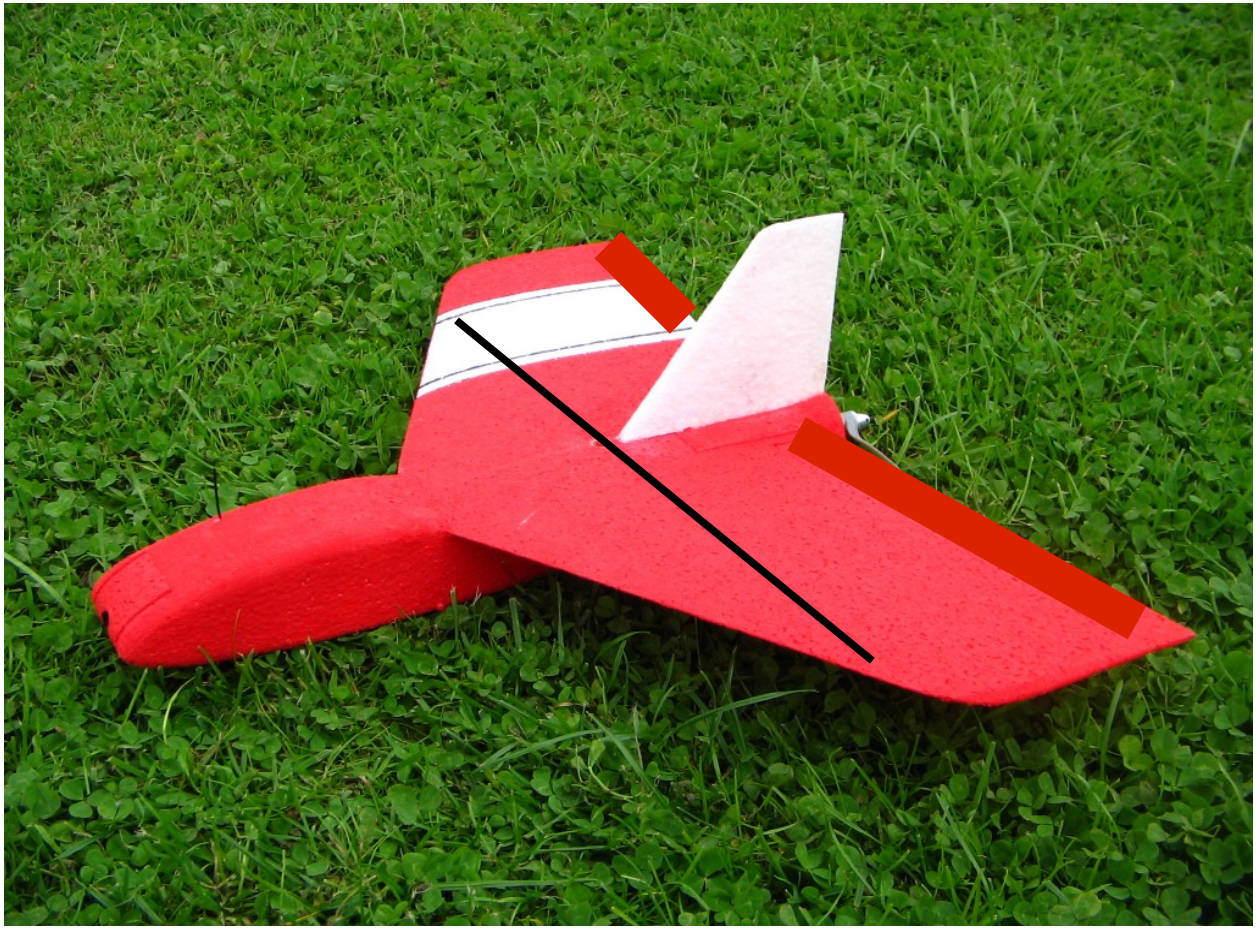
EMAV'06

- industrial EPP formed in molds
- flexible

MAV'06

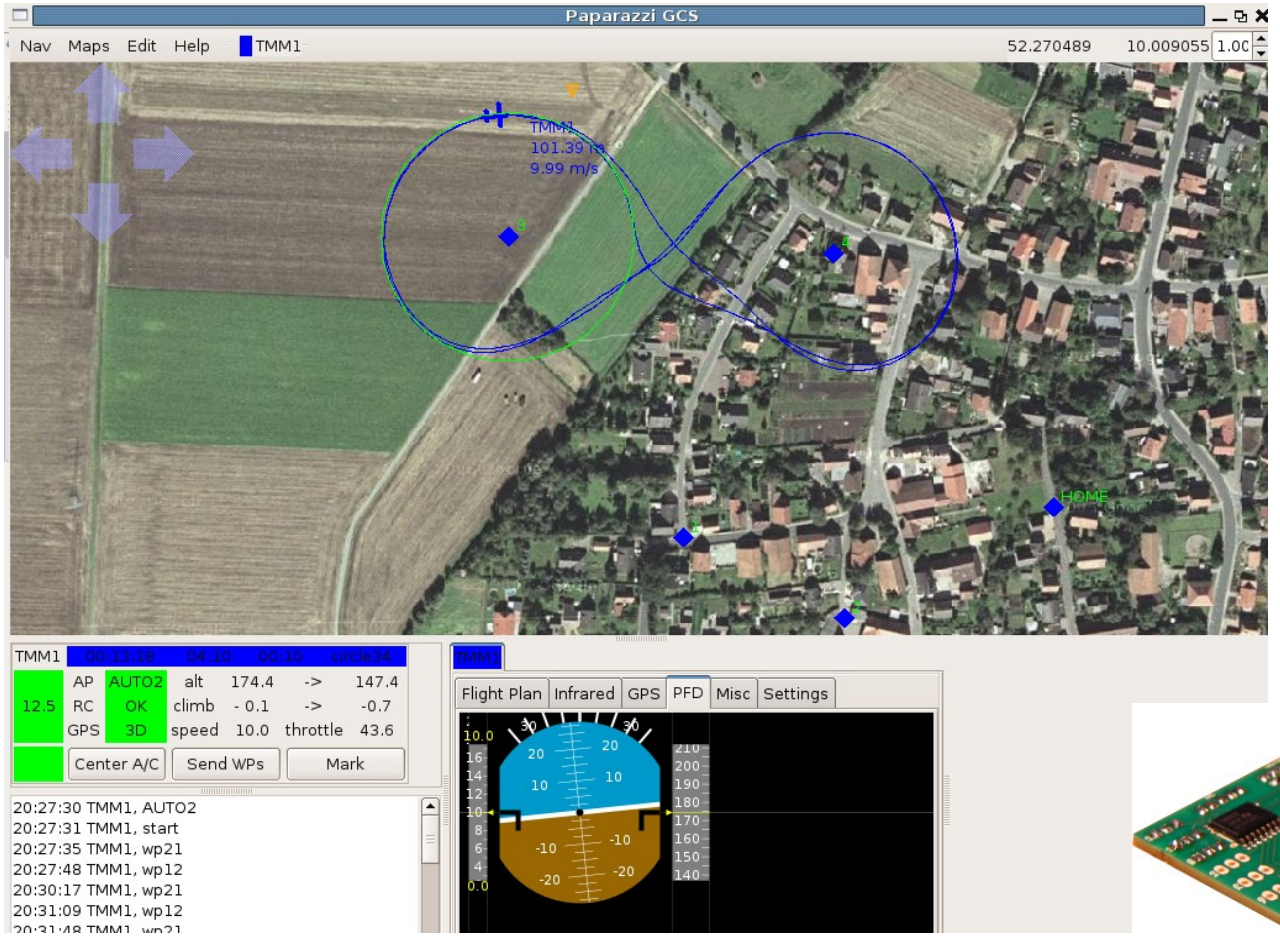
- glass/carbon made in molds
- very rigid but heavy

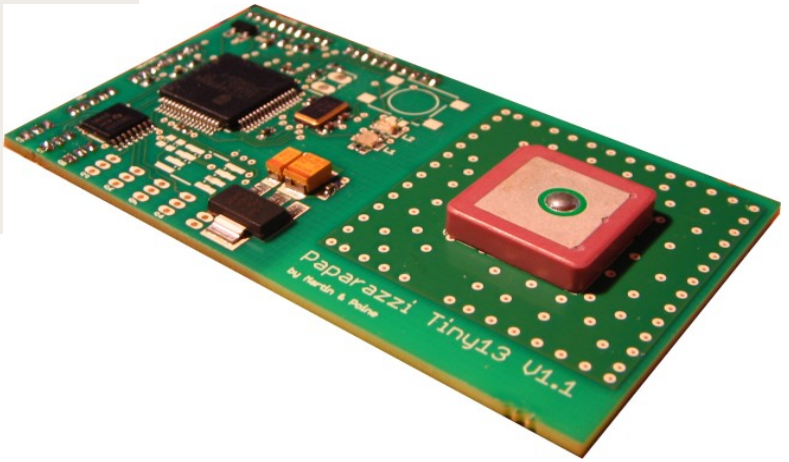
Fixed Wing for Outdoor



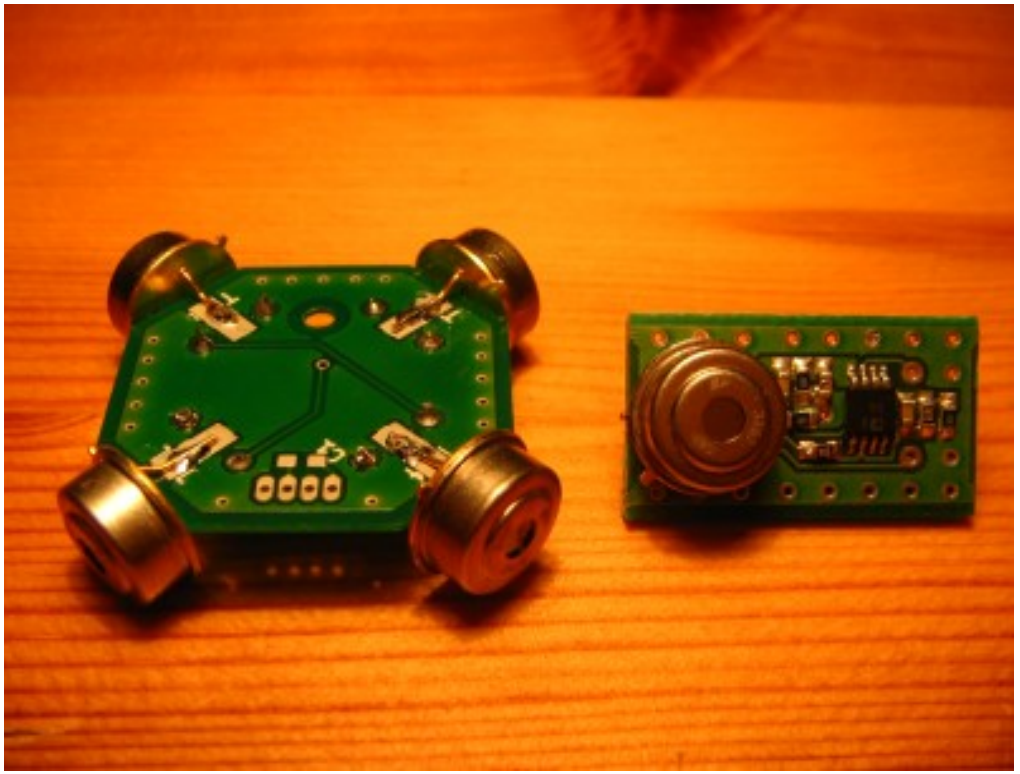
- computer cut EPP
- carbon/glass inforced

Paparazzi autopilot



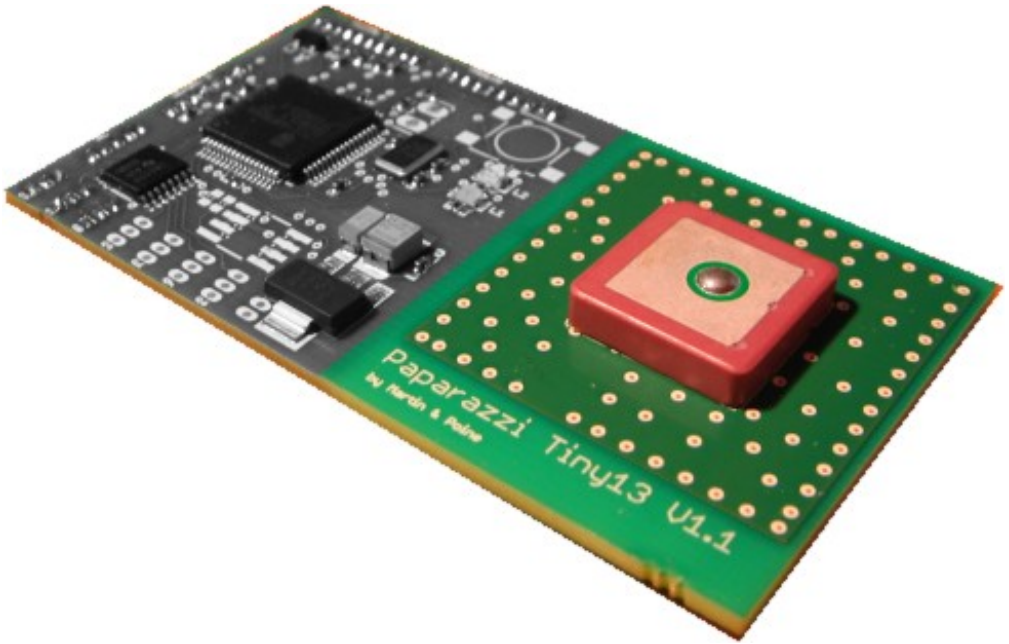


Sensors - Attitude



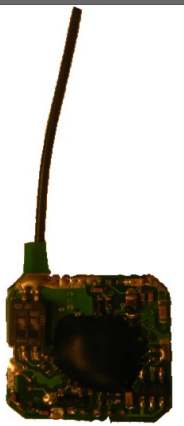
PerkinElmer TPS334 infrared thermopiles
(far infrared 5-14µm)

Sensors – 3D Position/Speed



u-blox LEA-4P GPS receiver, 4Hz update rate, ceramic patch antenna, mounted on autopilot board inside aircraft

Communication



analog
RC uplink

analog
video downlink

digital
2-way data link

Payload - Pitch Camera

fly straight towards target with camera pitch angle autonomously being updated

Payload – Ball Drop

do ball drop first

approach target with circle and straight line

take aircraft position, speed and attitude into account

use wind estimation