

Ground Control Station:

The Ground Control System consists of:

- a laptop running Adaptive Flight Control's operator interface software
- a manual controller (joystick) for the 900MHz (primary) link, and
- a manual controller for the 72MHz (secondary) link.

The ground station is schematically shown in Fig 1.

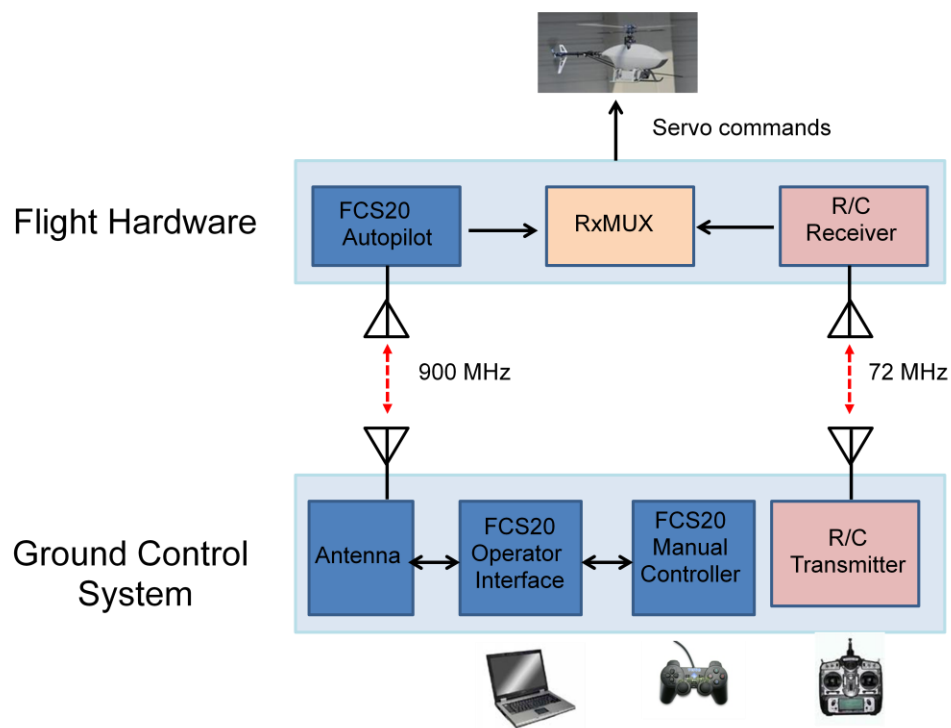


Fig 1. Schematic of the Maxi Joker Ground Control Station (GCS)

Experimental Setup:

The experimental setup is shown in Fig 2. The UAV has the following three modes of operation.

1. *Fully Autonomous Mode*: In this mode, the UAV executes a flight plan including autonomous takeoff. The GCS sends flight plan information and receives flight data via a 900 MHz channel.
2. *Semi Autonomous Mode*: In this mode, the UAV takes heading inputs from the GCS operator via a joystick or the ground control station (clicking way-points). The flight stabilization is done by the autopilot.
3. *Full Manual Mode*: This is a safety override. At any point, the safety pilot can take manual control of the UAV via a dedicated 72 MHz R/C link.

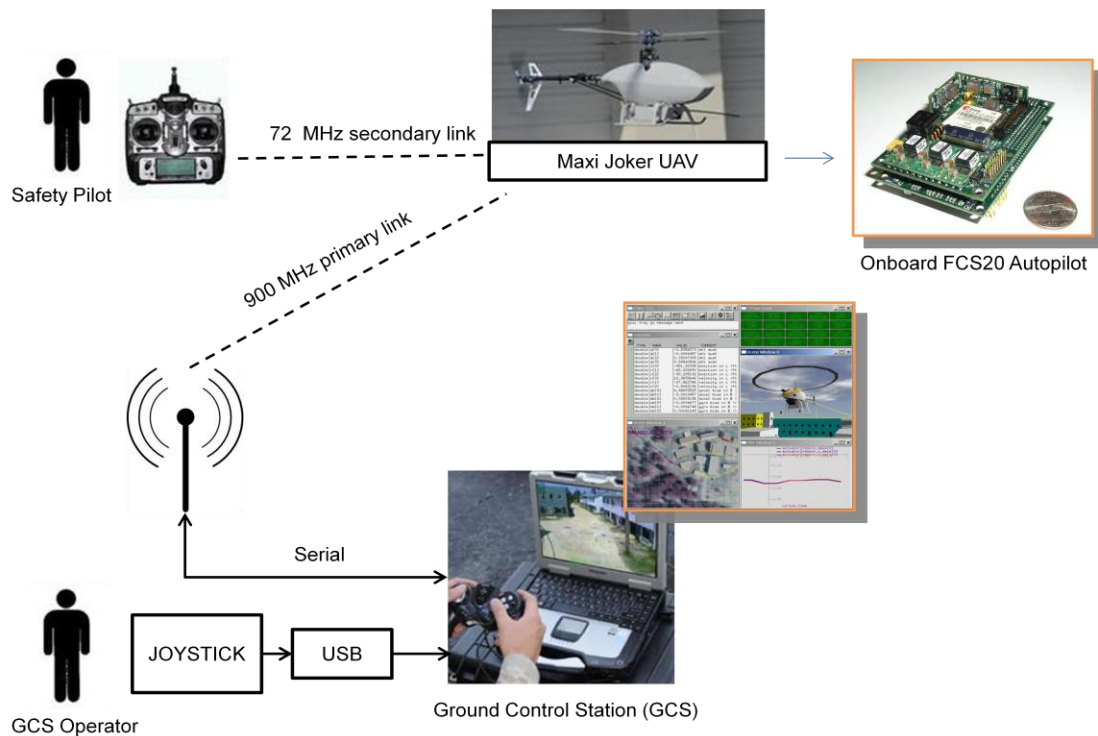


Fig 2: Experimental Setup for Maxi Joker UAV platform