

Cost:

Motors + ESC:

21.49\*4

Arduino Uno

MPU6050

Turnigy 2200mAh 3S: 21.45

Frame: Hobby Kinf F330

Eclipse project copy:

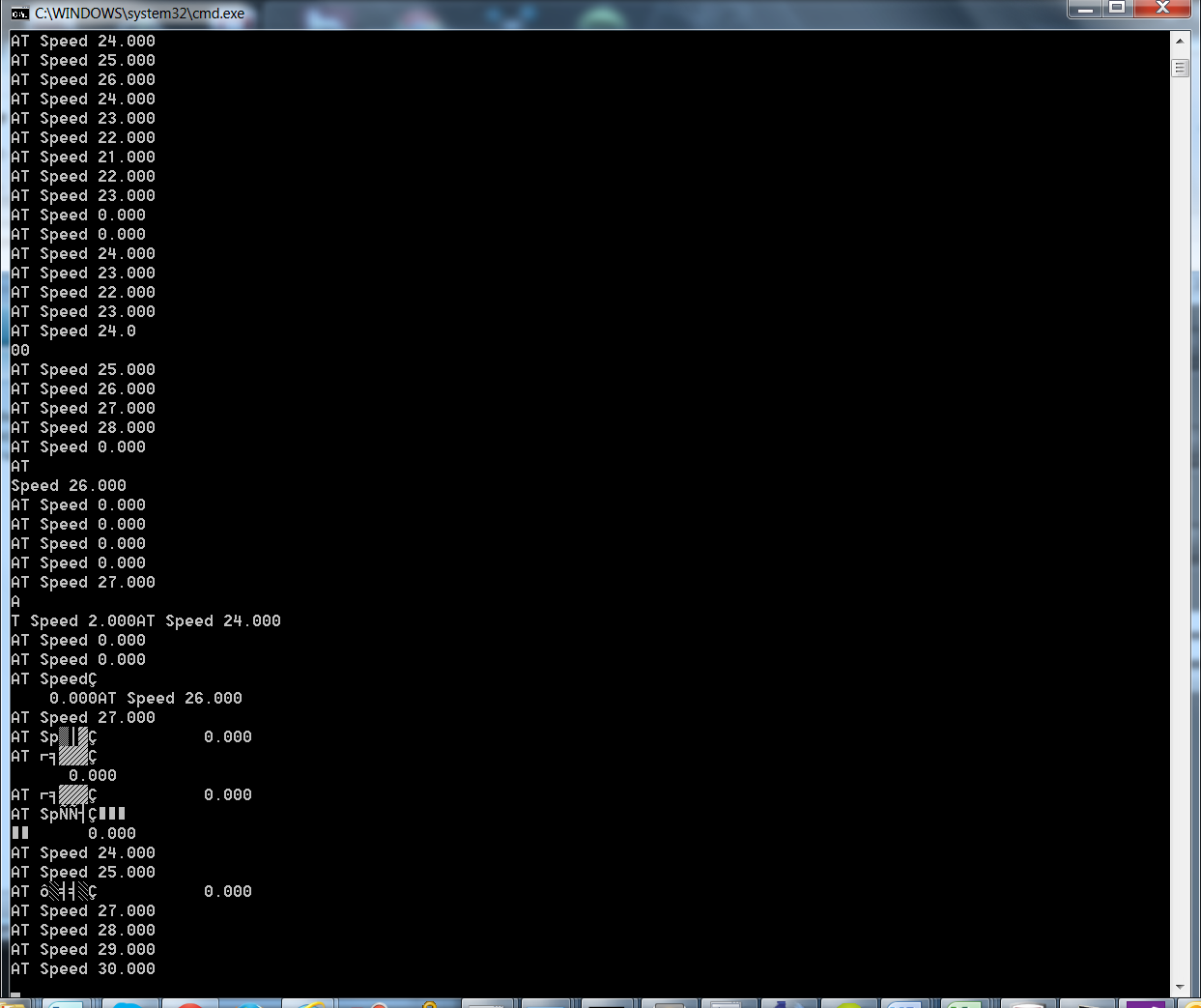
Copy: .cproject, .project .settings (must, otherwise AVR includes don’t work properly)

Make sure the correct configuration is selected

Close Eclipse and Reopen

Wait for full command packet

57600 baudrate may be not enough with xbee communication



Software serial doesn’t work with 115200 baudrate

Hold reset button on the xbee to upload code while using hardware serial

Connecting arduino power jack to turnigy. Draws about 120 mA

On Arduino Mega, driving both the Xbee and the MPU6050 from the same 3.3 supply line leads to corrupt data from the MPU. This could be because of high current drawn by the Xbee radio. Solution: Use separate 5v->3.3v line for the MPU6050

Move to arduino mega as Iwas close to running out of program space on the Arduino Uno

Fixed deployment issues, replaced old avrdude.conf in winavr folder, fixed include paths for mega and recompiled libs Fixed timing issue with receiving commands. Must wait for all command characters to be received otherwise flush the serial port Added derivative to the pid controller, fixed a bug in the proportional part Added ability to change set point and smoothly transition to the new set point Reorganized the user interface by adding per axis pid controllers Experimented with using serial port1/2

1/7/2015

Added ArrowPad for changing setpoint

Pitch/Roll setpoints can be configured independently

Changed commands mechanism to resend a command until a repeat count is reached if an acknowledgement is not received. This ensures that the state of the quadcopter (PID parameters, speed, setpoints are set up properly) is consistent on startup

1/29/2015

Talk about write/writemicroseconds, servo refresh frequency (default 50hz)

**#define** REFRESH\_INTERVAL 5000 // minumim time to refresh servos in microseconds

**#define** SERVOS\_PER\_TIMER 1