Spin – C# communication protocol

**1. From Spin to C# (lower case only)**

[infoType\_direction\_magnitude]

a) Spin sending

1-1) PWM

[m\_motorNumber\_pwm]

EX)

[m11200] - motor1’s PWM1200

[m21200] – motor2’s PWM1200

1-2) Attitude

[attitudeType\_direction\_value]

EX)

[ax179][ay18][az8191] – accelerometer, x,y,z direction and magnitudes of 179, 18, 8191

[gx-1][gy-5][gz-2] – gyroscope, x,y,z direction, magnitudes of -1, -5, -2

b) c# parsing algorithm

- find first [ and last ] of the incoming stream. Trim the first and last unusable string.

- tokenize each value: ax179

- categorization by first letter – by second letter – by rest of the digits

**2. From C# to Spin(lower case only)**

a) C# sending

general protocol type :

[CMD\_Direction\_Magnitude] = [Letter(1)\_digit(1)\_digit(n)]

1-1) PWM

[m\_motorNumber\_pwm]

Ex)

M11200; set motor1, 1200(pwm)

1-2) MODE

[D\_0\_modeType]

- Idle Mode(0)

- Prepare Mode(1)

- Hover Mode(2)

-Navigate Mode(3)

1-3) PID Target change

[P\_0\_targteType]

- Hover (0)

- To Left(1)

- To Right(2)

- Advance(3)

- Retreat(4)

- Ascend(5)

- Descend(6)

b) Spin parsing protocol

- simple parse (short string)