**Controller Notes**

Saitek X52 Pro:

* As expected, certain controls are grouped. All of the buttons are grouped under one button capability. All axii are in individual capabilities; the joystick seems to come first, in the order (X, Y,Rz). Throttle slider comes next, then throttle dials, (presumably) the throttle itself as Z, and finally the hat switch. Interestingly, there's two vendor-reserved caps, possibly the two scroll wheels on the MFD (they have a physical range of 0-315) or one of the D-pads (their usage corresponds to "Game Controls, Move Up/Down/Left/Right", and their range matches that of the hat switch itself).
* All of the major value caps have no physical range! Assume they go from 0-64K.

Wacom Tablet & Pen:

* Has way more value caps and way fewer button caps than you'd expect!
* There are a LOT of sensors regarding pen position and orientation, measuring basically 6DOF on it. Interesting in a 3D control context, but of course it might be unwieldy when flying a spaceship.
* The pen is also listed as a HID, but it has the same exact usages and layout as the tablet. Not sure if that definitely means they have the same state during WM\_INPUT.

Generic Keyboard & Mouse:

* I have no idea what's going on with these. They both seem to be listing almost nothing for their values. A Terminal Server Keyboard Driver lists 15 indicators on its device, so these structs should be getting filled. Will need to do more research.
* It's possible they just don't list details because they're generic interfaces; hopefully they'll still pass WM\_INPUT.

In General:

* RAWINPUT is typically about 40 bytes in size, but you CAN'T assume that - the struct coming from the 360 controller is 39 bytes, and that from an ASUS G75 keyboard 32 bytes, for instance.
* Axii have TERRIBLE resolution. You need to cap between -1.0 and 1.0; you also need to have a dead zone, as the error can be around ±0.001 near an axis' center.