

Originally Posted by Antigen07

1.2 - Adjust Windows mouse properties.

When I see people list their mouse settings, many players are putting themselves at a big disadvantage. Windows has a slider for setting pointer speed, but that doesn't mean gamers should use it. The reason is that changing a setting here can in no way make up for the dpi (resolution in counts per inch) a mouse has or doesn't have. Increasing the pointer speed even one notch, will make your cursor skip pixels. Losing pixel accuracy is not worth it when sensitivity is adjustable in-game. Lowering the setting here, throws away dpi from the mouse forcing you to use a use a higher, less precise sensitivity in-game.

At the highest setting, the cursor goes two pixels for each count. If you open up MS Paint, use the pencil tool, swing the mouse around to make circle patterns and notice how terribly notchy the edges are. *This is not normal aliasing* if you have the wrong settings in mouse properties it will make easily visible notches, not jaggies, it will look like teeth from a saw blade or something else bad. This is not the same as the normal stair steps on the edges of non antialiased graphics.

On the other hand, if you reduce the pointer speed setting, even by one notch, you get two different mouse sensitivities and your cursor will move, slowly to the right, and faster to the left. This is probably even worse than raising it, so **KEEP THIS ON DEFAULT!!** The default setting is the 6th notch in the middle and it wont interpolate or filter your mouse inputs, so you get the dpi your mouse is advertised. This may take some getting used to but it's worth it, you need to live with it if you do not want your per pixel targeting or sane mouse response compromised.

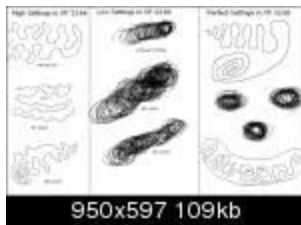
You can **clearly** see the differences between these settings in my screenshots (Windows x64):





Update:

In the normal 32-bit windows the 6th notch is also the default and optimal setting. This is because raising it doesn't make a mouse have more dpi, so it's faster at the expensive of desktop precision and lowering it throws away dpi not using your mouse's full potential, and by setting sensitivity higher to compensate you've lost in-game precision.



(click on the image to see it in it's original size)

In addition there are similar problems with tracking like in Windows x64, but not **nearly** as pronounced. For example when you raise sensitivity you still get notchiness but you can't see it as much until you start making slower precise movements in paint. When you change the sensitivity it is near impossible to perceive but if you do the mouse looping exercise the cursor falls slowly to the lower left during about a minute of looping. So I am 100% positive you have multiple sensitivities in different directions, it's faster to the downward left. I tested this carefully with my mice. Even started in the bottom left corner of my mouse pad where I had no where to go in that direction, the looping slowly drifted that direction anyways. It's not nearly as dramatic in windows XP x64 but my recommendation stands without need of correction to use the default 6th notch.

And there is no formula for changing between different windows sensitivities because I don't know the scaling values the OS uses.

Amendment for Section 1.2

I have been persuaded to make a short table about windows sensitivity. This is for 32-bit windows XP, it might apply to older versions of windows as well but I can't test on those platforms.

Remember how I said the best setting was 6?!

This is because the inputs from the mouse are untouched and relate directly 1:1 with cursor movement. Every "tick" of the mouse the cursor moves 1 pixel your cursor on setting 6. On setting 8 for example, one mouse "tick", moves your cursor two pixels. Setting 4 on the other hand, ignores every other input from your mouse, so the mouse moves two pixels before your

cursor moves 1.

We want the **raw unscaled** movement data from your mouse.

To get that ideal, use setting 6, turn off enhance pointer precision, and use a No Acceleration patch such as the CPL mousefix from Section 1.1.

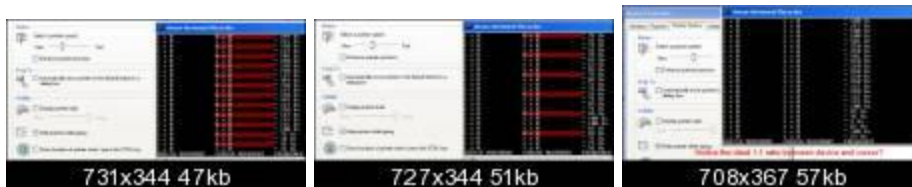
Here are illustrations of how Windows scales your pointer speed:

The number on the left is number of pixels your mouse moves in proportion to number of pixels your cursor moves. The ideal number for each side of the ratio is 1 as this is movement directly from the mouse directly to equal movement of the cursor.

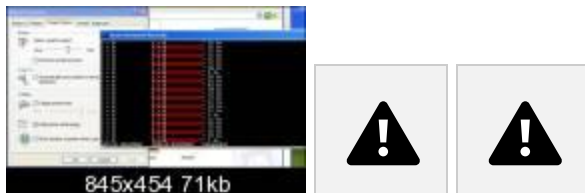
Setting 1 is 32?:1-----Setting 2 is 16:1-----Setting 3 is 4:1



Setting 4 is 2:1-----Setting 5 is 4:3-----Setting 6 is 1:1



Setting 7 is 2:3-----Setting 8 is 1:2-----Setting 9 is 2:5



Setting 10 is 1:3-----Setting 11 is 2:7



Interesting information there, and using it I was able to calculate the scalars that windows uses to control pointer speed. If you're using a setting that's not 6, then the table that follows shows what you need to multiply your in-game sensitivity by to use the correct setting and not change your overall sensitivity in CS:S.

1. **0.03125**
2. **0.0625**
3. **0.25**
4. **0.5**
5. **0.75**
6. **1.**
7. **1.5**
8. **2.**
9. **2.5**
10. **3.**
11. **3.5**

To use this, take your current CS:S sensitivity such as 4.5, find what windows tick you have been using, lets say 4, multiply 4.5 by that setting's value, in this case, .5. Now I can set my windows CP to the proper 6, use 2.25 in game, and keep the overall in-game sensitivity untouched.