

# Re: GPS Ideas

---

*Source:* <http://sci.tech-archive.net/Archive/sci.electronics.design/2006-06/msg01698.html>

---

- *From:* "Abstract Dissonance" <[Abstract.Dissonance@xxxxxxxxxxx](mailto:Abstract.Dissonance@xxxxxxxxxxx)>
  - *Date:* Thu, 8 Jun 2006 03:12:00 -0500
- 

"David L. Jones" <[altzone@xxxxxxxx](mailto:altzone@xxxxxxxx)> wrote in message  
[news:1149752899.873010.309430@xx](mailto:news:1149752899.873010.309430@xx)

Abstract Dissonance wrote:

I was reading some stuff today about GPS and had a few ideas. I'm curious as to if anyone things they have any practicality. I am by no means an expert on GPS and basically this is my first time even reading about some of the specs and stuff. I did take several courses in physics several years ago by I have forgotten most, if not all of what I have learned. These are just ideas and I am not saying they will work or even make sense... just trying to get some feed back. (note, everyone is non-relativistic for simplicity)

I was thinking that one could attach to each satellites two frequencies to transmit on. This might help in solving the problem of the speed of light changing due to the different mediums that it transmits through.

The data that the satellite transmits would include the distance from itself to all other satellites and to a reference on the ground.

The idea for the different frequencies is to somehow build up a differential method of dealing with the change in the speed of light as it passes from the transmitter to the receiver. I'm not sure if it will work but I was thinking that, say, if satellite A transmits the signal on frequency X and frequency Y that one might be able to remove the changes in the speed of light through the different mediums because it will effect both signals the same amount. Not sure if this would lead to something worthwhile though.

## Re: GPS Ideas

Basically it would seem that one could compute the dispersion due to the medium between the transmitter and receiver to "repair" the distance computed. Maybe there are other ways to do this too by using only one signal and by using some modulation method.

By including the distances(and maybe positions too) from all the satellites from each other, which are able to computed in a vacuum(I think, not sure if it will go through the ionosphere but maybe the method above could work too). This might not be practical as the satellites would have to send signals to each other too and some power would be wasted.