



Monday Maritime Matters

Technology Tuesday

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Toys....

Virtual Reality headsets have been a technology I watch from afar. Two things have made them "not just yet" for the run of the mill users: 1) Cost! and 2) Resolution. The second actually drives the first, when you consider the expense in making a small LCD, or now OLED, display less than an inch square have the same resolution as most people run on their laptops and 15/17" LCD monitors: 1024×768 pixels.

I once was working on the Computer Aided Dead Reckoning Tracer project, when they used an upended Mitsubishi 37" TV as the viewing surface. There was a quest to replace the CRT technology with a digital projector by the engineers working the project, and at the time, they were lucky to have a 800×600 pixel display for the projectors (similar issue with the LCD in the projector). Pushing the manufacturing process to make 1024×768 yielded significant failure rates in the LCDs produced. That was 1997-8.

Things have come a lot further now, and **Vuzix** has a series of head mounted displays (HMDs) that are affordable and can display a 1024×768 picture to each of your eyes. Not surprisingly, they also build such equipment for the military/tactical market, which, most likely has been a major factor in driving the cost down for the run of the mill consumer by expending military R&D dollars.



The one headset in particular that I have "my eyes on" (maybe I should say "in") is the **iWear VR920**. Besides being able to take a VGA display feed, it also has head tracking built in. That means the unit, while worn, sends a signal back via the interface to tell the computer which direction you are "looking" in the virtual world. Big deal? Yes, it is. For games like Flight Simulator X from Microsoft (check out a video of the VR920 in action with FSX [here](#)), when you look around your cockpit, or the outside of the cockpit, the display shifts as though you were looking there, without the operator having to slew the picture about artificially with key strokes. That adds another layer of realism to the game....



Specs:

- Technical Specifications: Twin high-resolution 640×480 (920,000 pixels) LCD Displays Equivalent to a 62" screen viewed at 9 feet 24-bit true color (16 million colors) Visor weighs 3.2 oz. 60 Hz progressive scan display update rates. Fully iWear® 3D compliant and supports NVIDIA stereo drivers Built-in noise canceling microphone for Internet VOIP communications Built-in 3 degree of freedom head-tracker USB connectivity for power, tracking and full duplex audio Analog VGA monitor input Support for up to 1024×768 VGA video formats
- Features: 6-foot slim, single cable design with miniature USB and VGA connectors Large field-of-view optics to allow a fully immersive experience iWear® 3D enabled for automatic 2D/3D control; no buttons required With built-in microphone users can communicate from anywhere in the world as if they were standing next to each other (or inside the game) Integrated 3 DOF head-tracker lets users look around inside virtual worlds as if they were there
- User Adjustable: Removable, flexible headphones AccuTilt™ viewer pivots up to 15 degrees Soft, comfortable, hypoallergenic nosepiece extends out up to 3/8" Custom fit headstrap included for extra secure fit
- Supported Media: Plug and play video with virtually all PC applications Thousands of pre-existing applications in full 3D (supported by NVIDIA stereo drivers) The VR920 will completely change the plethora of massively multiplayer applications from World of Warcraft to Internet chat in virtual worlds
- Advanced Optics: 32 degree field of view 3/4" eye relief and 5/16" eyebox 2.5" Intraocular Distance (IOD) Color corrected 10th order aspherical lens with diffractive surface
- Box Contents: iWear VR920 Headstrap Drivers, manual and software disc Quick start guide with warranty and safety instructions Lens cleaning carrying pouch

Price tag? SRP \$399. Not cheap, but...not like the \$24,000, many, many lb beast I used to find around the net that would do the same thing in military grade simulation applications...

In case you don't need head tracking, but are in the habit of watching movies, but have the significant other that doesn't share your choice of movies, or you are on the road/in the air a lot, or just bored and sit and watch movies, there is the **AV920** for a savings of \$50 @ \$349 to plug into your DVD player.

What does it look like? 62" display at 9 feet. Like sitting in the TV/Living Room with the \$3000+ dollar big screen. See, it's really affordable if you explain it to her that way...and she won't even have to watch it because you grabbed the remote first and you saved at least about \$2650!

What's not to like?