

## Review

# TrackIR 3™ Vector Expansion™ by NaturalPoint

by **Thomas "WKLINK" Cofield**

## Introduction

In July I had the pleasure of reviewing NaturalPoint's TrackIR 3-Pro™. In my review I essentially stated that the TrackIR™ series will supplant the view hat as the mechanism of choice for the true hard core combat flight sim pilot. No one, at least no one with the monetary means available, would be willing to give up such an advantage in a dogfight. The situation awareness advantage is amazing with the TIR and in most flight sims getting the view of the enemy first is the biggest single advantage you can have.



Well, I was somewhat surprised when a small box from NaturalPoint arrived at my home. Inside was the new **TrackIR™ Vector Expansion** that NaturalPoint is now offering to owners of TrackIR 3 and TrackIR 3-Pro. Included is a NaturalPoint hat and keycard which gives the owner the ability to unlock the software downloaded from the TrackIR site.

## So, what is this Vector Expansion?

Well, to put it simply, with the TrackIR system you essentially get only the up / down and left right aspects of head movement. While certainly a massive improvement over older hat switches, key presses and padlock keys it still limited overall head movement in the cockpit. In reality only a few sims actually even bothered to model some of the side-to-side and front-to-back movements of the cockpit.

It may seem like a minor thing but imagine trying to drive a car without being able to move your head from side-to-side. Simple things like parking a car would become very difficult. Essentially, it is the same thing in the cockpit. Pilots can move their heads around to get a much fuller view of the surroundings or to peek around obstacles in their path of view.

What the TrackIR expansion does is allow the lateral, up / down, and front / back movement that people take for granted in the real world. The TrackIR expansion uses three-point locations instead of the one used for the standard TrackIR. By tracking three-points, the device is able to correlate head movements into multiple directions in the game. By amplifying the small movements that the virtual pilot makes the TrackIR system allows for large head movements.

The Vector Expansion only works with the current version of the TrackIR (3 or 3-Pro) so if you own a TrackIR 2 or 1 don't plan on using it with your setup. I don't think there is a way to retrofit older models to work with the expansion. This is too bad, there are quite a few people out there that probably would like to use this device but don't have the funds to upgrade from their older TrackIR to the newer model.



The TrackIR 3 Vector Expansion Clip and Hat.

## How well does it work?

Overall the thing works quite well. I ran the TrackIR Vector Expansion through several simulations, both those that support six degrees of freedom (6DoF) and a couple that don't. Those that currently support 6DoF are Microsoft **FS2004** (FS9.0), **Combat Flight Simulator 3** and **Aces High II**. I had the opportunity to try the expansion in CFS3 and Aces High II. In addition I tried the expansion in non-6DoF games like **IL-2: Sturmovik Forgotten Battles / Pacific Fighters** and **WW2 Online**.

Like the original TrackIR system getting the most out of the 6DoF system takes some time and some getting used to. In games like Aces High you tend to find out that you lean your head from one side to the other. Initially I found that I had a hard time keeping my head centered in the cockpit. I must like to lean to one side because everything seemed to veer off to left in the cockpit.

Once you get used to it though, the expansion really becomes quite handy. Leaning to the side or zooming in to get that shot really takes a lot of thought out of the game. Unlike other games you don't have to map a series of keys to zoom in or out. Likewise seeing up over the edge of the cockpit is easier with the device. This comes in quite handy when you are lining up an approach on a carrier or on a target.

***"The big difference  
I see in games  
is when you are lining-up  
that tricky landing  
or looking for that target."***

In addition I have found that I tend to fly the aircraft more and aim the aircraft less. In the past I tended to fly with the gunsight. With the TrackIR I have found that I fly the aircraft more and concentrate on the gunsight less. I actually fly to get into position with the TrackIR and only go to the gunsight when I am ready to take a shot on the enemy. What has happened is, my deflection shooting and my overall kill ratio has improved with the TrackIR system.

This seems to be something that has occurred regardless of the support of 6DoF or not. One thing I have noticed with the Vector Expansion is that games like Pacific Fighters pan more smoothly and it holds its head position a little better. The worst part of the TrackIR 2 was something I called head slur, a phenomena in which your view would cock one direction or the other. This would give you a fish bowl type feeling when flying the plane and would require frequent hits of the F12 key to re-align your view. The effect was diminished with the TrackIR 3 and the Vector Expansion. It's not completely gone, you have to make sure you have the device centered but I don't see the problems I have had before.

The big difference I see in games is when you are lining-up that tricky landing or looking for that target. By allowing the player to shift his head from side-to-side and front-to-back. In essence you can move your head into the best position to line up your approach or find that ground target blocked by your engine. In addition you can raise your head position and see over the nose of your aircraft, something very nice when trying to land on an aircraft carrier.

Aces High II is an outstanding demonstration of how the Vector Expansion can work. It is *really cool* to be able to look to the side, past your engine, when approaching the back end of the carrier. It works smoothly and effortlessly in the game. It does take a little getting used to, but once you figure out some of the quirks (most related to things I do in the game that I never realized I did, like leaning back in my chair and the previously mentioned head lean). One thing to note, keep your keyboard within easy reach.

***"I really wish  
that the IL-2 series  
supported the  
6DoF feature."***

I've found the biggest problem I have with the expansion is when I lean in to hit a keystroke. I find myself zoomed in on the bottom of the engine compartment and I never get back to the original center position. It is easily fixed by hitting F12 though.

I *really* wish that the IL-2 series supported the 6DoF feature. I know Oleg doesn't want to do much else with the game and I know that there is fear that some cockpits may not look right with different head movements, but the ability to move your head around in the cockpit really does eliminate the need for such cheats like the no-cockpit key. The IL-2 series always prided itself on taking advantage of the cutting edge of technology and to see something ignored that really improves the overall game is a shame. I hope that Oleg plans on 6DoF support in his Battle of Britain based sim. In the next few years I expect the ability to pan around the entire cockpit to be as common as enhanced support is right now.

### **Sooooo, should I buy the thing?**

That question isn't quite as easy to answer. Right now a TrackIR 3-Pro and the Vector Expansion will set you back around 200 bucks-after shipping. No, that is not cheap, especially when you think about the relative cost of other flight sim gear.

The big question of course is if the extra cost of the expansion (49 bucks) is worth it for most of the flight sims currently in production. If there were a ton of games that supported the vector expansion I probably would give a higher "yes" vote but for anyone on a strict budget it probably isn't. I am sure some folks would be surprised by my statement, especially after I talked the device up. But right now the games that support 6DoF is fairly small and unless you are a dedicated player of one of those games the best features of the Vector Expansion is probably wasted.

Who would I recommend this device to? Well, anyone who is a dedicated flier of Aces High or CFS3 would recommend it to in a heartbeat. Like the TrackIR in general, it is nice for FS2004 but not life critical. For other folks, the answer is harder. It does seem to make visual control more precise in games like Pacific Fighters but overall there isn't a major improvement in this game (and I suspect others) with the expansion.

Even if you don't get the expansion now, keep an eye on it for the future. I fully anticipate that most new simulations will support this feature. Just like the TrackIR 1; the vector expansion is a revolutionary device that will take some time before it gained universal support. If judging from the quick support for Vector Expansion in



new sims like Aces High II is any indication, then games like the upcoming Battle of Britain based sims *should* have Vector Expansion as standard.

So how would I recommend this? If you are getting the TrackIR 3 and had planned on buying a NaturalPoint hat (\$20) to go with it (something I recommend anyway) you might as well get Vector Expansion. I suspect there will be a packaged special very soon that will give an additional discount. NaturalPoint is very good at marketing specials so keep your eyes open.

Unless you are a CFS3 or Aces High flier you may not use it quite yet, but that will change. Currently there are plans to model 6DoF support in **Battle of Britain 2: Wings of Victory**, Oleg's version of Battle of Britain, **Lock-on: Flaming Cliffs** and others. It isn't mainstream quite yet, but give it some time, it probably will be.

---

## Test System Specs

- Dell Dimension 4600
  - Pentium 4, 2.8 GHz (HT)
  - 1GB 400MHz DDR RAM
  - 80 GB Ultra ATA 100 HD
  - Radeon 9800 Pro
  - Creative Audigy 2 sound card
  - Broadband cable connection for online play
-