

Review

TrackIR 3-Pro™ by NaturalPoint

by **Thomas "WKLINK" Cofield**

Introduction

A year ago I was introduced to a device that I called the biggest advancement in flight simulation hardware since the introduction of the hat switch. **NaturalPoint's TrackIR™** revolutionized the ability to enter the virtual cockpit, giving the flier the freedom to watch that bogey without the clumsiness of hat switches or the artificial feel that a padlock view gives.

Well, the company didn't rest on their laurels. While joystick design and manufacture has been relatively stagnant over the last few years (name any really new designs to come out in the last three years) NaturalPoint has been busy trying to improve the TrackIR, making it more responsive and more accurate for those players that want to get the most out of their flight simulation experience.



The third version of the TrackIR arrived a week and a half ago and I have had the chance to play with it in games like **WW2 Online**, **Lock On: Modern Air Combat**, **IL-2 Sturmovik - Forgotten Battles: Aces Expansion Pack** and **Flight Simulator 2004**. These are similar games as the ones I used last year for the TrackIR2™ and it gives me a good ability to actually compare the two devices.

Of course two questions arise. Is the TrackIR3™ (in this case the TrackIR 3-Pro version I received) worth buying for the non TrackIR owner? The answer is probably pretty obvious based upon the previous review of it's older brother, the TrackIR2. The real question should be; Is this device worth the cost of an upgrade, i.e., should TrackIR1 or 2 owners consider plunking out the price to get a TrackIR3? Well, read on and hopefully I can answer that question.

Concept and Design

The TrackIR system was developed actually from a device that was used to help the disabled gain access to computers. In 1997 NaturalPoint (then called Eye Control Technologies) started to develop a hands free mouse system for people unable to use a mouse. By placing a small infrared camera and having it track a dot placed somewhere on a person's head the device could easily emulate any mouse movement.

It didn't take long for someone to figure out that if you placed this device in front of you, then fired up a simulation that had a mouse look available in the cockpit, you could easily pan a cockpit without the clutter of trying to move a mouse around. NaturalPoint noticed this, and in a case of someone quickly realizing the potential of their device, and began to develop a gamer oriented version of the Smart Nav system.

Like a lot of new devices, the TrackIR has had some slow acceptance among simmers. One of the initial problems with using the device was the relative lack of mouse view in many of the early simulations. In 2000 the number of flight sims that had mouse pan were still few and far between. Most virtual cockpits still required people to use a hat switch to change views. The development of mouse driven cockpits wasn't far behind though and once this became standard equipment the idea behind the TrackIR came into its own.

As I said before, the TrackIR is essentially a mouse emulator. Instead of using a mouse or trackball to move around in

a virtual cockpit the TrackIR3 uses infrared data to follow your head movement via a reflective dot placed somewhere on your head. The TrackIR3 follows a 32 degree arc in front (or behind if you want to configure it that way) of you. The device follows the movement of the dot and translates it into movements of the mouse on your computer.

Placed in the cockpit you get the idea. Since the device translates small movements into larger head movements in the cockpit it becomes quite easy to pan an entire cockpit with just a few small head movements. With practice most people should be able to follow an object while in the virtual cockpit with ease. It does take some practice and for those of us that have a hard time keeping their heads still, it can be hard at first. Still, practice it and after a few hours you will get the hang of it.

Given the relative lack of innovation in flight simulation hardware lately, the Track IR system has been a quantum leap forward. I stated in an earlier review (of the TrackIR2) that this is probably the biggest leap forward in flight simulation hardware since the invention of the hat switch. My TrackIR2 has really been a boon for most of the flight sims that I fly. The TrackIR3 claims to be a major improvement, well lets see.



Evaluating the TrackIR 3-Pro™

The TrackIR3 claims to increase resolution and tracking frequency significantly over earlier models of the TrackIR. The TrackIR3 comes in two versions, the standard version (not reviewed), or for \$30 USD more, the Pro version. For \$139 USD you get the TrackIR3 device, a sheet of reflective dots, and software to install the device on your computer. Depending on when you get your CD-ROM, you may be better off going to the [NaturalPoint download page](#) and grabbing updated drivers and software.

Installation was very straight forward. All you have to do is install the software, plug in the device and you are ready. Pretty much all you have to do to start working with the TrackIR3 is fire up the software, place a reflective dot on a hat or some other item placed on your head (I use the optional NaturalPoint cap which can be ordered with the device), make sure you are centered on the device and away you go.



Outwardly the TrackIR 3-Pro looks no different than the TrackIR2. Place them side by side and I doubt too many people could tell the difference. One problem I had with the TrackIR2, and still have with the TrackIR3 is the inability to easily mount the device on a flat panel monitor. The device is obviously designed to sit on a standard CRT monitor. There is a clip that you can get for one dollar from the site that can fix this or you can devise a homemade fix.

I found that two pieces of self adhesive Velcro fixes the problem for me. Personally, I think for \$139 bucks a dollar clip should have been included with the unit — at no charge. A minor complaint, but with the prevalence of flat monitors these days NaturalPoint shouldn't make people go and look for the fix. I myself didn't even know it existed until I started squirreling around the site looking for pictures.

Editor's Note - July 31, 2004: NaturalPoint is now including the flat panel clip.

The only real visual difference (at least externally) between the two is when the device is on. When turned on four eerily red lights project from device. This is supposed to increase the resolution of the device. My wife finds it disturbing, especially since I have the thing on constantly. I guess you can call that an added bonus.

The device allows for two different kinds of tracking. *Mouse emulation mode* is just as it sounds. The device acts as a mouse control device moving the TrackIR3 through motions as you move your head. This is useable with games like **Aces High II** and other games that allow for mouse cockpit movement. While useful, you do run into some problems with straight mouse emulation, mostly when trying to interface with the menus. You can still use your mouse to access these menus but it can get to be irritating for those of us that can't seem to keep our heads totally still.

What really works with the device — and what really makes the TrackIR series outstanding — is the *enhanced mode*. Enhanced mode allows the device to track around the cockpit while at the same time allowing for independent mouse cursor usage. It requires the cooperation and help of game developers but most have quickly seen the advantages of having enhanced mode enabled in their games. LOMAC, IL2FB, WW2OL, and FS2004 are among the latest box games to incorporate enhanced mode in their games. Online sims are starting to come around as well. **Warbirds 2004** and WW2OL support enhanced mode.

I will say this, any new simulation reviewed by myself will be evaluated for its support of enhanced mode for the TrackIR2. I will also say that any new simulation that doesn't support enhanced mode is ignoring a potentially large portion number of buyers. In the near future, the lack of TrackIR support probably won't cut it. It would be like not supporting hat switch modes or allowing the ability to re-key functions.

Most of my comparisons will be based upon what I perceive are the differences between the TrackIR2 and the TrackIR

3-Pro. I have read on the boards that the TrackIR 3-Pro is a significant improvement over the first version of the TrackIR and I will have to take their word for it.

A Comparison of the NaturalPoint TrackIR Series

	Speed	Resolution	Price
TrackIR 3-Pro	120 FPS +100%	101 K +57%	139 ⁹⁹
TrackIR 3	80 FPS +33%	101 K +57%	109 ⁹⁹
TrackIR 2	100 FPS +55%	60 K	129 ⁹⁹
trackIR	60 FPS	60 K	129 ⁹⁹

I played four games with the TrackIR3. Three of them used for testing the TrackIR2 were included in the TrackIR3 testing. These include Lock On: Modern Air Combat, IL-2 Sturmovik - Forgotten Battles: Aces Expansion Pack and Flight Simulator 2004. I added one new game, WW2 Online, which I am currently writing a review for SimHQ. WW2OL is the latest game to add TrackIR enhanced support giving the player the chance to look around vehicles, AT/AA guns and vehicles. I dropped Aces High II since they haven't, at least to this point, included enhanced support.

Editor's Note - July 31, 2004: Aces High II has added TrackIR support.

I had some fairly serious complaints about LOMAC with the TrackIR2. In enhanced mode the game panned unevenly and too quickly. I found it more than irritating. With the TrackIR3 the panning has improved substantially. At the default settings I find the game eminently playable. In fact, the panning is downright perfect for the game. Whether the fix is related to the TrackIR3, the 2.02 patch or a combination I am not totally sure but I don't really care. The result of it all is I finally feel like I can recommend the TrackIR system for fliers of LOMAC. I really couldn't do that before.

IL2FB really didn't seem much different to me. I think this is because the software optimization for the TrackIR is probably the best with IL2. Oleg Maddox's masterpiece offered TrackIR support from the beginning and it's use in the game has always been outstanding. Panning is smoother but overall I wouldn't recommend upgrading from the TrackIR2 if you are primarily an IL2 flier. Of course if you haven't gotten a TrackIR yet then I would highly recommend it for the IL2 crowd.

FS2004 is somewhat smoother as well. As I said with the TrackIR2 I am not totally convinced that the TrackIR systems are an essential item with the Microsoft title. I'm not saying it doesn't work well with the game, it is excellent in virtual cockpit mode. The thing that probably limits the overall need for the system is the lack of urgent pinpoint control of the bogies. It certainly makes the game more realistic feeling; I find that it makes all games feel more realistic. At the same time I also think that everything the TrackIR makes easier in the game can be done pretty much as well with current hat switches and the mouse. If you buy a TrackIR3 for FS2004 you will not be disappointed to be sure but it isn't the life critical device that I personally think it is for combat related simulations.

The last game with enhanced support is WW2OL. In air-to-air mode this really improves the functionality of the game. Prior to the last major upgrade to Playnet's title, cockpit viewing was limited to the hat switch only — even with a fully virtual cockpit. v1.14 fixed this problem, allowing for mouse view, and enhanced support in the game. Just like IL2FB in multiplayer mode, the ability to pan the cockpit gives the flier an almost "unfair advantage" over opponents.

I did have a problem, something that I am sure is related to the new nature of the support. In the default settings I was able to setup and use the TrackIR3 without any difficulties. I thought the panning was a little too quick so I decided to modify the settings in the control panel of the TrackIR and get back into the game. Unfortunately, for some reason this completely lost the TrackIR in the game. In mouse emulation and in enhanced mode I couldn't get anything. Reverting back to stock mode and firing up the game again fixed the problem but this is a bug in either the TrackIR drivers,

WW2OL's build or a combination of both.

I'm going to take a small piece and comment on a game that doesn't have native support for the TrackIR. HiTech Creation's Aces High II has just been released and I was disappointed to see that the game does not have native support for enhanced mode. The TrackIR3 works fine in mouse emulation but AHII really needs enhanced mode to work optimally. Right now bringing up the interface clipboard to check on something or to click on the map creates a wild gyration as you move your mouse, your TrackIR and try to click. A setup like IL2FB would be marvelous in the game.

When you consider the outstanding view system in the game, one where you can not only pan the cockpit, but move your seat position around to get a better view (very nice when trying to land your F4U on that aircraft carrier) the omission of enhanced support is almost sinful. I hope HTC will read this or that someone will forward my comments to them. With the enhanced mode support Aces High II will have the best view system in flight simulation. Without it, it is marginal at best.

Overall these games gave me a decent overall impression of how the device works with what I consider a decent cross reference of simulations that support enhanced mode with the device. There are many new sims coming out including **GTR**, the new racing simulation from **SimBin** and some first person shooters like **Operation Flashpoint 2** from **Bohemia Interactive**. I potentially see a quick crossover into fps games. I could easily see enhanced mode allowing realistic head movements while the mouse working for gunsight mode when you are ready to shoot. Hopefully developers of these games will quickly recognize the potential of the device and will increasingly support it. Not only will this make the games more popular, but it will also increase NaturalPoint sales, something that I think should happen.

As I said before, any simulation that comes out without enhanced support for the TrackIR3 will be dinged by me. It may seem cruel, but to me releasing a title without native support for the TrackIR is like releasing a sim without the ability to re-map keys. It was fine in the past but not even close to acceptable now.

Final Opinions and Suggestions

Ok, so I think you have figured out by now that I really like the TrackIR 3-Pro. That is pretty obvious to all. I also have read that the TrackIR3 is significantly better than the TrackIR1. As I said, I will take their word for it. Their recommendations state that it is absolutely worth the cost to upgrade from at TrackIR1 to the TrackIR3. I will also take their word for it. I never have used the first version of the device so I have no frame of reference concerning it.

As for the TrackIR2 vs. the TrackIR 3-Pro, the decision to upgrade probably should be based upon which simulation you fly and how exacting you want the precision. Overall the TrackIR 3-Pro is an improvement over the TrackIR2 in every category. Now whether this translates into a need to upgrade is up to each individual. Just like the HOTAS Cougar is an improvement over the FLCS series, the TrackIR3 is better than the TrackIR2. That doesn't mean though that there is anything wrong with an older FLCS and that also means there isn't anything wrong with the TrackIR2.

I think the TrackIR 3-Pro is much more precise, smoother and overall better with LOMAC. As such I think that fliers of the simulation might want to consider an upgrade. It isn't life critical, the TrackIR2 works fine with some tweaking in the game. Still, jet sims move at a much quicker pace so the ability to pan smoothly and precisely is much more important in these games. This need may be the reason as to why the game appears much smoother and more precise than in prop sims.

I really can't recommend an upgrade for current TrackIR2 users if you are a prop sim flier in games like IL2FB or WW2OL. There is improvement but the overall improvement, at least to me, isn't worth the outlay of cash. Most TrackIR2 users have bought the device five or six months ago. I would probably wait until the next version of the TrackIR comes out and then make a decision.

Is this a putdown on the TrackIR 3-Pro? Not at all; the device is fantastic. If you regularly fly games like IL2FB or WW2OL, or heck even Aces High II then the device is, IMHO, a must have. If you have a choice between a high priced

joystick upgrade or the TrackIR 3-Pro go for the TrackIR3. This game eliminates the need for a second hat switch (for those up and side views) along with any extra buttons needed for padlock keys. In other words, unless you want to map all those LOMAC buttons stick with your sidewinder and get a TrackIR 3-Pro, you will get more use out of it.

Since the TrackIR3 comes in the base model and the Pro, I am sure the next question will be the value of an upgrade. I haven't tried the base model but from the specs it appears to be essentially similar to the TrackIR2 in it's performance. The Pro's price (\$30 more) is not that much more than the standard version. If you are going to buy one I personally think the increased cost is well worth the improvement.

The TrackIR series continues to improve with the latest version of the device. If you haven't considered a TrackIR before then there isn't a better time to consider than now. The rebate for LOMAC buyers is still in effect for the TrackIR3 although I don't know how long the company will continue this.

As simulations have gotten more and more realistic and complicated the need for hardware improvements has become more important. The TrackIR series continues this improvement. I consider this a must own item. So do most people who have bought one.

Test System Specs

- Dell Dimension 4600
- Pentium 4, 2.8 GHz (HT)
- 1GB 400MHz DDR RAM
- 80 GB Ultra ATA 100 HD
- ATi Radeon 9800 Pro video card
- Creative Audigy 2 sound card
- USB 2.0 (for TrackIR3 interface)