

Review of
Panasonic PT-AT6000E Projector
Distributed by AV-Connections

Flight simulation has always since it first began, developed to be more and more realistic. The trend that I am starting to see for the regular simmer is, that we thrive to get an “as real as possible” flight experience when flying our desktop simulation. This is done by adding various kinds of sophisticated hardware as modules, control systems, gauges, iPads etc, but in regards to the actual view, the simmer has previously been restricted to use only ordinary computer screens – first one and then several to get the unique panorama view.

This I see is about to change, and not only in regards to very serious cockpit builders but also to the everyday flight simmer. The quality of projectors has increased enormously the past years and has now reached a level of quality that is more than acceptable for even the demanding flight simmer. Today you can purchase full HD projectors for very low prices, but for the demanding flight simmer you can also get very sophisticated projectors that have a quality that exceeds the quality of the normal computer screen.

Think about the idea of using 3 or even 4 or 5 projectors that project images of 100 – 150” in Full HD quality instead of your standard 3 computer screen setup. This will most certainly add a huge experience for the flight simmer and take the home flight simulation to the next era. Now you can get more than just the home cinema center – you can build your own home mega flight simulator.

I have had the pleasure of testing the Panasonic PT-AT6000E projector which is not just a simple low price projector, but a very sophisticated and powerful 2D and 3D projector capable of projecting Full HD quality images easily to 120-150” and also larger if you have the wall for it.



I received this projector from AV-Connections in Sønderborg, Denmark who is a distributor of Panasonic projectors in Denmark. The projector was sent with the national postal service and arrived on time at my location.

The packaging of the projector is really good. The projector is placed in a soft foam bag to prevent it from being scratched or similar. Hereafter it is placed in a hard card board box with flamingo attached to all edges of the projector and glued special made flamingo in the button so that the projector would be 100% secured during transport.

Installing / connecting the projector is very simple but there are of course included a manual and installation guide for the projector. Furthermore there are included a special made power cable for European sockets and also one for US sockets together with a remote control and one set of 3D glasses – No HDMI cable was included.

Connecting the projector can be done by using either HDMI or VGA – this depends on which possibilities your computer has, but I would recommend using the HDMI for maximum quality. All inputs are located on the back side of the projector and include both component, composite, S-video, VGA, HDMI and an RS232C port for use to integrate the projector to a complete and fully automated home cinema system where you can also use the projectors two trigger outputs to control e.g. blinds, curtains, projector screen etc.



When choosing a projector for your home cockpit, there are several criteria that has to be meet to gain the best possible visual experience - the most important ones in my opinion are the Lumens, the Resolution and the Contrast Ratio, so the first thing I checked with this projector was of course these specs.

The Lumens is the power/brightness of the light source measured in ANSI lumens. The higher number of ANSI lumens, the better performance the projector will have when using it in rooms that are very light and with e.g. windows etc. This projector has 2,400 ANSI lumens which provide the PT-AT6000E with a superb performance even in rooms with windows without blinds.

A known issue with high-end projectors is the heat generated by the lamp, but in the early 2013 Panasonic redesigned the lamp module hereby improving the heat dissipation. This was done so efficiently that it had no impact on the fan, meaning that the fan could still run with the same rpms as previously to keep the Db level to a minimum and also without minimizing the lifetime of the fan.

The Resolution should as minimum be full HD quality which is also provided by this Panasonic projector. The Native resolution is 1,920 x 1,080 and the max compressed resolution is 1,680 x 1,050, so the image quality is really superb. Furthermore this quality continues even though the image is projected up to more than 135" which was my test maximum (projected from a distance of app. 4 meters), so everything here above I was unable to verify.

The Contrast Ratio was simply put just stunning. The PT-AT6000E has a contrast ratio of 500,000:1 which put this projector right to the top. This spec is very important for flight simmers that like to fly in the evening / dusk, or night VFR or in the morning where the projected image is full of various dark colors that are faded into each other.

The performance I saw was perfect – I could easily see tiny details in even very dark areas and the update speed of the dark areas were completely fluently. This gave me a totally different and awesome experience of flying VFR at night and enjoying the unique light filled scenery below me.



My test of this high quality projector was done primarily with Flight Simulator FSX, but I of course also tested the projector on other games for both PC and Wii and Play Station. Secondly I also tested the projector for its real intended use – the home cinema experience where I used both Blue-Ray and 3D to really check the overall experience that this projector is capable of giving the viewer.

I was truly amazed by the level of quality that I experience when using the projector for all purposes. Viewing a Blue-Ray movie was a really superb experience with a perfect, clean and clear image even at 135” that moved fluently. The subtitles was also of a high quality with smooth edges which I had previously noticed often would be with a poor resolution. The colors were all warm and perfect but the projector here enables the viewer to customize these settings to fit his/hers needs.

The projector has auto focus, 2x zoom and a huge number of special settings for both picture, lens, colors, 2D & 3D, additional special settings for 3D, aspect ratio, mirror image, inverted image etc. that all can be easily controlled by the viewer using either the remote control or the mini control panel located on the left side of the projector. An extra little feature is that the remote has illuminated buttons which enables the viewer to control the projector at all times without any problems.





To get the very best experience of this projector, I would most certainly recommend projecting on a real projector video screen, but I have also tested it on a homebuilt screen consisting of gypsum wallboards that are put together, spackled and painted with screen paint and the outcome with this was still top quality.

I actually also tried out the projector using just a simple painted brick wall and the image was of course still great but heavily impacted by the roughness and the joints between the bricks. I would not recommend this since the experience would rapidly drop.

The lens is mounted off-center and the lens shift control is placed behind a removable panel on the front of the projector (to the right of the lens when looking directly at the projector) This is a manual control stick and the projector does not feature this with an electronic shift function.

The vertical and horizontal range is fair and I found no issues setting up the projector at both test facilities. Another extra is that the projector actually has a lens memory mode where I could save my different settings – I don't know how useful that normally would be since once the projector is mounted, it will probably never be moved, but still the feature is there.



My conclusion for this projector is that the PT-AT6000E from Panasonic is most certainly a high end projector that can be used for both the home cinema but defiantly also for the home flight simulation cockpit. If you want the ultimate home cockpit with a crystal clear image even during night VFR flight etc, then I would certainly recommend this projector.

The price tag for the PA-AT6000E is about US\$3,750.- which of course is a lot of money, but in return you get a high end projector capable of projecting images greater than 150" in full HD quality and also a projector that will secure the future when talking about 3D video and 3D flight simulation.

I rate this projector from Panasonic with a full 5/5 star rating and thank AV-Connections and Panasonic for contributing to the flightsim community with this excellent and ultimate solution for all home cockpit builders.

Rays Aviation



Specs:

Part code	PT-AT6000E
Review Date	June 9th 2013
Rating	5/5-Stars
Projector Technology	LCD
Lamp Brightness	2,400 ANSI Lumens
Lamp life non-eco mode	4,000 hours
Lamp life eco mode	5,000 hours
Contrast ratio	500,000:1
Native resolution	1,920 x 1,080
Max compressed resolution	1,680 x 1,050
Aspect ratio std	16:10
Aspect ratio secondary	16:9
Aspect ratio tertiary	4:3
Max diagonal at 7ft	72 in = app 183 cm
Throw ratio	1.35:1 to 1.7:1
Optical zoom	2.0x
Projection distance	1.1m to 18m
Mirror image	Yes
Inverted image	Yes
Lens shift horizontal	26%
Lens shift vertical	100%
HD Ready	Yes
Special view modes	Cinema 1, Cinema 2, Dark Cinema, REC709, Dynamic Game
VGA inputs	Yes
DVI inputs	No
Sound inputs	None
Composite inputs	Yes
S-video inputs	Yes
HDMI inputs	Yes
PAL support	Yes
SECAM support	Yes
NTSC support	Yes
Audio output	None
Video output	None
Other output/input	2x extra HDMI inputs, RS232c, 2x 12v trigger
Noise std	32dB(A)
Size	151 x 470 x 364mm
Weight	8.7 kg
Internal speakers	None
Extra	Remote, cables (power) and 2x 3D glasses
Remote special features	Picture mode, lens adjustment, input select, light
Power consumption	1W
standby	
Power consumption "On"	275W
Lamp cost est.	EUR 238,40
Lamp cost/hour non-eco	0,06
Lamp cost/hour eco	0,05

