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Pages: [1]

Topic: Rig Recommendations : Graphics (Read 18 times)

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**Saist**  
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**Rig Recommendations : Graphics**

on: July 03, 2005, 04:00:58 PM

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Talking about graphics this time.

There are several considerations to be made when considering a future purchase of graphics card. Some of the ones I look at are

1: Performance : performance is perhaps the primary consideration of how fast a graphics card is. But, much like processors, graphics card performance can differ depending on the application used. Some graphics cards are better suited to some games than competitors products.

2: Features : sometimes raw performance may not matter. What all can you actually DO with your graphics card. What all does it support?

3: Platform : Are you intending on running just a single operating system? Or are you intending to run multiple operating systems?

4: Drivers : Is the graphics card stable? Are the drivers high maintenance? What is the software support like?

5: Cooling : Does the card cut out because it's too hot? Can you overclock it? Is the card quiet?

From this point we have a couple of different manufacturers, so I'm going to talk about each one a bit.

Intel: Low end Provider  
Intel Extreme Graphics 2  
Intel Graphics Media Accelerator 900  
Intel Graphics Media Accelerator 950

Intel doesn't do add in cards like other manufactures, which is probably a good thing. Their performance is a joke. Intel uses a Tile- Based rendering system underneath their adapters, which while not a "bad" rendering system, it is far from a good one. Intel adapters also have next to no overclocking capabilities, so don't expect to gain any performance with the adapters. The latest update to Intel's devices claims to support DX9 code paths. While this is technically true, don't expect DX9 intensive games like Far Cry or Half Life 2 to work well above 800\*600.

S3 Graphics: Low end provider, Home Theater PC  
UniChrome  
DeltaChrome  
GammaChrome

S3 Graphics used to be one of the manufacturers of high end graphics several years ago. They currently are a subsidiary of ViaTech and sell products under the "chome" name. Chrome adapters are generally hard to find in retail markets, but only have mid- range performance. Because of their inability to compete in the high end space, S3 Graphics concentrates on Home Theater Operations. If you plan on building a computer with the intent of using it only for TV, S3's DeltaChrome or GammaChrome cards may be good choices. However, don't expect to get too many high overlocks, and beware of stability problems under non Microsoft systems.

XGI : Xabre Graphics Incorporated : Fan Favorite, Open Source Provider, Low- Mid Range provider.  
Volari

XGI was a spin off combining the graphics divisions from Trident and SIS. Their former product under SIS was the Xabre graphics technology, which quickly became a fan favorite for it's low retail price and decent overlocks. Their first product under XGI was the ill- fated Dual Volari and Volari Vx series. The Dual Volari V8 card promised to put 2 8 pipeline GPU's supporting DX9 shaders on one card, and the Dual Volari V5 promised to put dual 4 pipelines DX9 shader path GPU's on one card. From a paper standpoint, Volari had two surefire winners. Then the cards actually launched... and everything went downhill. The drivers for the cards sucked like a vacuum cleaner, and instead of competing in the high end, the prices were way out of line. Sometime in 2004/2005, XGI stepped back and looked at their product lineup and made several changes. Obviously the Dual Volari cards were slashed from production.

Then XGI dropped the equivalent of a bomb.  
http://www.xgitech.com/about/about\_press1.asp?CTID=(C3FD7D03- 6BE1-4BB9-9F34- 1221E723B87F)

While many graphics venders provide binary drivers for \*nix systems or contribute to open source efforts, XGI dropped the entire source code to their products into the X.org and Xfree86 repositories. This is noteworthy for a couple of reasons. First, its the first time a graphics vendor has opened up product source code to shipping products. Second, XGI admitted their drivers were not competing with the competition and is allowing other developers to improve the drivers. XGI followed up the source code release with an announcement for the US. XGI would produce and sell its cards through online vendor NewEgg. The V8 256meg card weighs in under \$90, \$92 with shipping from newegg.  
http://www.newegg.com/Product/Product.asp?Item=N82E16814270005

While the original retail launch of the Volari cards is forgettable, the current retail stock is worth some attention. The V5 and V8 cards can execute Pixel Shader 2.0 code paths without issue, and are fairly silent with some deadly overlocking. Those who invest in copper heatsinks can easily achieve clockspeeds 20- 30% above the shipping speeds. The V3 lineup which only supports up to Pixel Shader 1.4 in hardware, comes in a half- height design, which Home theater users love.

Nvidia: Mid- High Range  
Geforce  
Nforce

I'm halfway tempted to describe Nvidia as the court jester. Every now and then you want to pay attention, but it's just another joke. Nvidia is one of the few hardware vendors today that I have serious issues with, and with whom I don't exactly plan on supporting. I'm going to try to keep from going off on tangents about the issues I have with Nvidia.

Nvidia currently has 3 major product lineups in the market. Those are GeforceFX, Geforce6, and Geforce7. Since Geforce7 cards start at \$600, I think I will ignore them. So lets focus on the GF- FX and GF6 cards.

GeforceFX is the current "low- end" Nvidia lineup. While the cards claim to support DX9 shaders, such is not true. The GeforceFX architecture actually supports pixel shader 1.4 in hardware, but can use additionally hardware and software extensions to run DX9 shader code. The problem is that standardized ARB code is dog- slow through the GeforceFX and developers who adhere to published standards will only get acceptable performance out of code written for Pixel shaders 1.4. Because of this GeforceFX cards can only really be compared to the Radeon 8500 family, which will be discussed later. If you did make the mistake of getting a GeforceFX card, well... I really feel sorry for you.

Geforce6 is the replacement line for GeforceFX, and unlike it's predecessor, it does support Pixel Shader 2.0 paths in hardware. The GF6 lineup is split into 3 parts

Low : 6200 series : The 6200 series does support Pixel Shader 2.0 hardware paths yes, but it does not feature any memory compression technology at all. The result is that you can forget turning on Anti- Aliasing or Anisotropic filtering without a massive performance hit. The 6200 series generally works around the level of the Radeon 8500 family, the Volari V8 cards, and the GeforceFX series of cards.

Mid : 6600 series : the 6600 series is supposed to come in at the previous generations highend, and compete with Radeon 9800 and X700 series. In some respects the Geforce 6600 is good at this. It does offer comparable performance to the Radeon 9800 Pro, which costs almost half the price. In my experience the 6600 often gives me a higher number of total frames than the 9800 Pro. However, in practice, the 6600 GT cards I have deliver a lower average number of frames in most games that I play. The biggest shot in the 6600 series for me though is the noise. I have two different branded 6600 GT's, a leadtek and an XFX, both AGP. The sound is unbearable most of the time and you can't replace the fans on AGP 6600 GT cards because of the bridge chip Nvidia uses. So, in order to shut the fans up even when doing simple tasks like writing this post with no 3D operations going on at all... I have to underclock the 6600 GT. Underclock shouldn't even be in my vocabulary.

High : 6800 series : the 6800 series will no doubt catch many gamers eyes. With eye catching words like SLI, it's hard to remember that the cards are outpowered by X800 series.

Among the features Nvidia offers is the SLI link which lets you run 2 video cards as one card. Thus increasing theoretical performance. The problem is that ATI offers a much better solution with CrossFire that is nowhere near as restrictive. Nvidia also offers DX9c support, which as it turns out, isn't any faster or better than DX9b. Riddick: Escape from Butcher Bay, is one of the few games on the market that support DX9c. I've found that I have to drop a complete resolution in order to get acceptable frame- rates in DX9c shader paths, with no visible image quality enhancements from the standard DX9 path. Far Cry, another game that is supposed to support DX9c paths, also suffers a similar performance hit in the DX9c paths.

My biggest problem with Nvidia comes from the driver support. Quite frankly, I don't have a high opinion of the driver team Nvidia has, and I no longer respect Nvidia because of their driver support. I, for one, think it's embarrassing that issues filed back in the year 2001 have not yet been addressed by Nvidia's driver team. Nvidia's driver team was also found guilty of using the drivers to directly manipulate benchmark programs, and using replacement shaders in actual games. The end result is that you couldn't reliably compare any Nvidia card to any other card out there on the same program because Nvidia was changing the way the program was handled at the driver level. The good news is, Nvidia has been found out each time it tries to cheat on a product, and the drivers have more or less stabilized. But I find it interesting that the driver team which lauded it's drivers so much, when their cheating was found out, stopped producing certified drivers for about a year, entering instead into a "beta" program where cheat loaded drivers were "ok". I wish I could say that Nvidia's drivers have improved since 2003, but they haven't. I experience more crashes and more glitches on my windows machines with Nvidia than I do with ATI or XGI cards. And, Linux isn't a picnic either. Nvidia used to be the dominating Linux graphics card vendor. Till early 2005 a driver update broke X-configuration files. Nvidia refuses to fix the problem forcing average users to have to enter the command line to get their X- servers working. Now, I could be wrong, but that my friends is a step backward, and then to outright refuse to fix the problem? No thanks Nvidia.

ATI : Low- mid- high range  
Radeon IGP  
Radeon Xpress  
Radeon xx00  
Radeon 9x00  
Radeon 8x00

While Nvidia left the integrated graphics market after Nforce2, ATI has been charging ahead with it's Radeon IGP and Xpress series. Time to go over some of the products.

Radeon 8x00 series : the most used series ATI has. The design used in the Radeon 8500 has been repeated into the 9000, 9100, 9200, and 9100 IGP product lineups. The quick shot on these cards is that they support Pixel Shader 1.4 in hardware and offer middle overlocks. The 8x00 family competes with Geforce FX, Volari, and Geforce 6200

Radeon 9x00 series : this starts from the 9500 and goes up to the 9800 series. The 9x00 cards support pixel shader 2.0 in hardware, and were the first cards to the market that supported the full shader path. Currently you can nab a 9800 pro for around \$120 (  
http://www.monarchcomputer.com/Merchant2/merchant.mv?Screen=PROD&Store\_Code=M&Product\_Code=190675&AFFIL=pricewatch&NR=1  
http://www.newegg.com/Product/Product.asp?Item=N82E16814153018&CMP=O TC- pr1c3watch&ATT=Video+Cards )

9x00 cards typically offer decent overlocks and you can easily swap the fans out for something more silent. The cards effectively compete with the X700 series, and Geforce 6600. There are no GeforceFX competitors in this class.

Radeon xX00 series : ATi has about 4 product lines in the xX00 series, which are mostly PCI-Express cards.

x300 : the low end card based on the Radeon 9600 processor. Slow, but cheap. Plays around with Volari, Geforce 6200 and GeforceFX. Also the GPU used in the Radeon Xpress products.

x600 : also based off of the 9600, this is a higher clocked product. Competes with high end GeforceFX, and against it's brethren, the Radeon 9600.

x700 : based off of the 9800 design, the x700 is just about everything the 9800 is, just in Pci-express. However, the x700 has a 128- bit memory interface, while it's memory is higher clocked compared to the 9800 series. The end result is that while raw performance is close, the 9800 series tends to pull ahead once texture filtering is applied. The x700 series competes with the 6600 series.

x800 : the only series to have AGP versions out of the xX00 cards. These compete with the high end 6800 cards.

ATI's current line- up of cards only supports up to DirectX9b shader paths. However, as witnessed in today's games, the performance impact of DX9c code on Geforce cards means ATI users aren't missing anything. ATI's next gen card, the R520, has no issues accelerating DX9c code paths, as those who saw Alan Wake at E3 will attest. However, R520 cards won't be released until august, but with expected starting prices of \$300+, not exactly a big issue.

Also unique to ATI's line- up is CrossFire. The 3rd party series doesn't have as many hardware restrictions as Nvidia's SLI, and CrossFire is via, and Intel plan on releasing CrossFire compatible chipsets. The result is that end users will have the freedom to pick and choose their products for CrossFire, rather than having to purchase the exact same video card and purchase from only select motherboard vendors.

Among ATI's other products are the All- In- Wonder series which combines a 125- channel TV tuner onto the card. Recent versions include dual monitor support.

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okay, background aside, my recommendations. I'm just going to link AGP cards. The reason why is that if you are looking to upgrade your current computer you probably are going to be upgrading an AGP card. If you want me to track down your PCI-Express, will.

(shipping included for us)

best shared- platform deal :: \$92 : XGI Volari V8  
http://www.newegg.com/Product/Product.asp?Item=N82E16814270005

Best deal Period :: \$130 : Radeon 9800 Pro  
http://www.newegg.com/Product/Product.asp?Item=N82E16814153018

Best deal at \$300 :: \$317 Radeon X800 XL  
http://www.newegg.com/Product/Product.asp?Item=N82E16814102520

Most likely to last you a couple years :: \$385 : X800 XT AIW  
http://www.newegg.com/Product/Product.asp?Item=N82E16814102492 (ooo... \$50 rebate, down to \$333 before shipping)

bleh, I'm done for now.

Report to moderator [L] 24.214.190.53

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Pages: [1]

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