



Videogame wars: the empire vs. the empire vs. um, the other empire

Why your next video-game system will be a quantum leap ahead of your current home computer

Have you ever felt that the march of technology is easily distracted by shiny things? You know, instead of a cure for cancer, we have iPods? Now, I love my iPod and all, but I do sometimes wonder how many great minds are working overtime to make the ladies in *Dead or Alive Xtreme Volleyball* more, um, *photo-realistic* instead of working on, let's say, systems to desalinate ocean water and feed the starving millions.

If you've ever felt that way, you're really going to start wondering about it when the hype machine cranks up for the forthcoming "third wave" of video-game consoles. At the recent E3 electronics convention, all three major manufacturers – Sony, Microsoft and Nintendo – announced new machines that would go on sale sometime between winter 2005 and spring 2006. All three new console systems are (no over-hyping required) an order of magnitude more powerful than their predecessors, and harness cutting-edge technological breakthroughs that even the latest and greatest home computers haven't yet caught up to.

Speaking of being distracted, last week in this space we said we'd be looking at the technology of hybrid cars, and we will get to that next issue – but the interest in these new shiny things demands that we go over just what exactly they offer, which ones are actually best, which ones will dominate sales, and even offer some speculation on how much this is gonna cost ya.

"X" Marks the Box



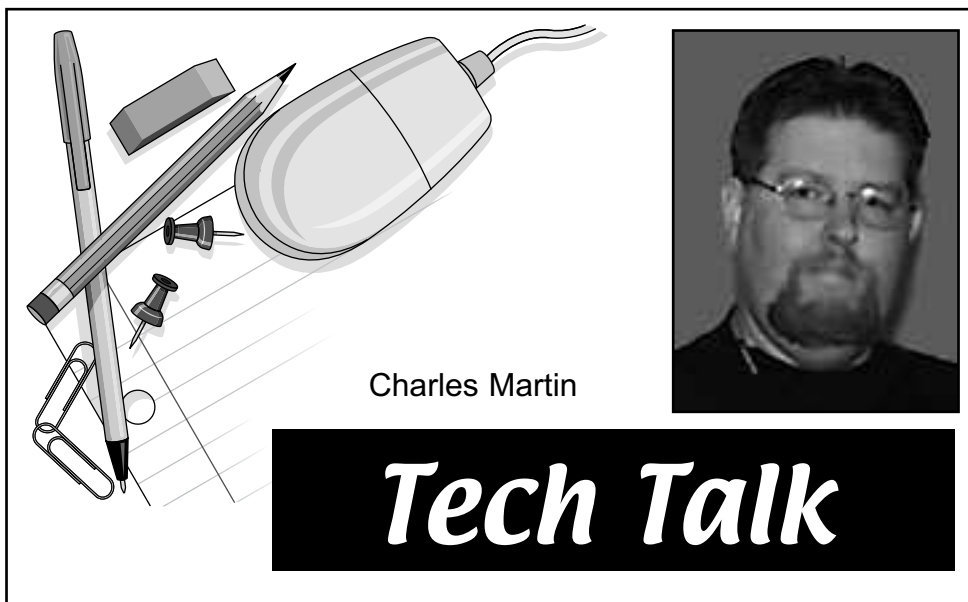
The new Xbox 360, looking less like a Borg mothership than last time ...

Microsoft, whose Windows operating system is favored among gamers, decided to do the logical thing and get into the video console market four years ago. Despite the system's immense popularity, Microsoft has thus far lost a fortune on their Xbox division (we hear to the tune of a couple billion dollars). The primary reason is that the Xbox is, for all intents and purposes, a Pentium-class 700MHz fully-functional computer with a powerful graphics card, sold for \$150 (instead of the 3-8 times that amount most home computers sell for).

Of course, MS can afford to take a loss on these machines virtually forever until one of their competitors drops out – and it's becoming ever-more-apparent that this is exactly what they are trying to do – take out the weaker link of the three makers (that would be Nintendo) and then down the road make Sony an offer they can't refuse. I can't help but think this is (or should be) illegal, but I'm not an attorney so my opinion means *bupkis*.

That profitability thing should turn around somewhat with the release this winter (November, or so we hear) of the Xbox 360, a radically redesigned console that not only plays round shiny discs (new Xbox 360 games, Xbox 1 games regular movie DVDs and audio CDs as well), but also functions as kind of a permanent add-on to your television set, a Media Center as MS wants you to think of it. What does that mean? It means you can load your own music on the included 20GB hard drive (or on another computer on your home network) and "stream" them to your home stereo or TV, basically. It has support for both "regular" and "hi-def" video and surround sound. It can accept direct input from your digital camera and put on a "slideshow" for you on the spot. It has wireless access built right into it (indeed, the controller is wireless – the Xbox supports up to three more) as well as Ethernet for broadband connections (the Xbox 360 emphasizes the idea of connecting through Microsoft's subscription "Xbox 360 Live" service to play games with others and buy more Xbox-related stuff online).

For the tech geeks, the Xbox 360 marks a fascinating



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Tech Talk

change in Microsoft's approach not just to this particular piece of hardware, but to game programming in general. The new Xbox uses a modified IBM-designed 3.2GHz PowerPC chip, and big-endian programming to do the game design. In other words, the Xbox 360 is a modified Mac – missing only the UNIX-based OS Apple sells, and deeply ironic to people who follow gaming (let's just say the Mac is not renowned for its gaming).

The processor can do a trillion floating-point operations per second, or one "teraflop," according to Microsoft. This is because the chip, unlike present computer chips, has three "cores" (main processing units) on it. In effect, IBM has put three 3.2GHz processors on a single chip. To give you some idea of how powerful this is, the world's most powerful supercomputer (the Earth Simulator in Tokyo) can do 35 teraflops. Add to this a 512MB ultra-powerful video card, and you've got some serious potential – which is why the small hard drive (20GB) and weak main system memory (256MB) seem like invitations to spend more money upgrading.

Among the games that are slated to appear alongside the Xbox 360's debut are *NBA 2K6*, *Call of Duty 2*, *Tony Hawk's American Wasteland*, *Quake 4*, *Madden NFL 06*, *Need for Speed Most Wanted*, *Tiger Woods PGA Tour*, *Perfect Dark: Zero*, *Project Gotham Racing 3* and *Ghost Recon 3*. As for the price – well, Microsoft won't say, but it's widely expected that they will continue to sell the machine as a loss-leader, probably at a price point between \$300-400.

Playstation 3: An Easy "Cell" for Fans

Sony, who are still king of the hill when it comes to consoles, are not ceding any ground to MS, but could run into trouble with their planned spring 2006 launch of the Playstation 3. If MS can get the Xbox 360 out in November as rumored, it could hurt sales of Sony's far-more-powerful machine, which boasts a totally new IBM/Toshiba-designed chip (again based on the PowerPC) called "Cell."

Without question, this processor is more powerful than anything ever before seen in the home-computing arena: Sony claims that "Cell" can do two teraflops, making it twice as powerful as the Xbox. The graphics system uses less overall RAM (256MB compared to the Xbox's 512MB), but uses it more cleverly, meaning the graphics are substantially better (Sony says the PS3 supports 1080p, the highest High-Definition spec on the market).

Again, to illustrate even further how incredibly powerful these machines are: a typical high-speed home computer can do about a third of a teraflop ... on a good day. If



From the previews, the graphics and processing power of the Playstation 3 just blow the Xbox 360 out of the water ... but will that translate into superior sales?

there were some way to link PS3s together to act as a mass processor, you'd only need about 20 PS3s to beat the raw processing power of the world's current fastest super-computer, at about 1/5000th the cost (\$35 million vs. about \$8,000). It's kind of mind-boggling – and so far, just marketing talk – but it demonstrates how quickly the computing world is changing.

Sony has considerable resources behind it to help in their battle against Microsoft: a much larger selection of games, a rabidly loyal audience, and a corporation large enough to also afford to sell the machines at a money-losing \$300-\$400 price point (both companies tend to make their profits on game royalties and peripheral sales).

The PS3 will also have another feature – potentially a big advantage – over the Xbox: it's ability to play the new Blu-Ray High-Definition DVD discs. If this new format takes off, Sony will have a tremendous edge, as people will use the PS3 both as a game device and as a DVD player (much the way they did with the PS2) instead of buying separate devices. The Xbox only has a regular DVD drive (this probably won't make much difference to users for the next year or so, but does make the PS3 more "future-proof.")

A final price on the PS3 hasn't been set, but it will likely match or slightly exceed Microsoft's Xbox price, so plan on putting aside \$400 or more. Among the titles that will ship around the time the machine debuts (which is currently set for spring of next year) are *Vision GT*, *Spider-Man 3*, *Unreal Tournament 2007*, *Eyedentity*, *Fifth Phantom Saga I-8*, *Final Fantasy Next*, *Ni-oH* (said to be the first "new" game specifically designed for the high-definition PS3), *EA Sports Fight Night Round 3*, *The Getaway 3*, *Killing Day*, *The Elder Scrolls IV: Oblivion*, *MotorStorm*, *Mobile Suit Gundam*, *Heavenly Sword*, *Formula One PS3*, *Killzone Next-Gen*, *Tekken Next*, *WarHawk PS3*, *Metal Gear Solid 4*, *Dirty Harry*, *Scarface: The World is Yours*, *Possession*, *The Darkness*, *Demonik*, *Dark Sector*, *Theseis*, and *Metronome*.

You Say You Want a Revolution?

Nintendo, once the proud champion of video games and still much-beloved among gamers, fell into third place with their lacklustre GameCube, which actually offered better graphics than the first Xbox but wasn't seen as being anything substantially improved over their previous product, the Nintendo 64. Most GameCube sales were to people who already owned either a PlayStation or an Xbox, but simply wanted to play their Nintendo games, which have always been the real strength of the company. Of all the video console makers, only Nintendo offers a litany of



The Nintendo Revolution, coming in 2006, is the smallest and lightest of the three systems.

memorable and original characters, stretching back to their days as a standalone video-game maker in the 80s – Mario, Donkey Kong, Yoshi and many others.

The company's new machine, dubbed "Revolution," is certainly the best-looking (and smallest) of the three units, and potentially just as powerful (since it's using essentially the same chips as the other two), it's apparently more dedicated to just gaming (in high-definition, naturally) than the others. While the Revolution machine will have options for DVD playing, wireless controllers and live network play, these are not the primary features. Nintendo emphasizes the quality (and particularly the family-friendliness) of their games, titles of which will include more *Metroid*, *Mario*, *Zelda* and *Donkey Kong* adventures, along with a slew of (as yet unannounced) new games from hot Japanese designers. Expect the popular *Final Fantasy* series to be ported over to Nintendo, as Sony will need its rival to act as an ally in the fight against



OUT & ABOUT

Microsoft.

Where the Revolution stands out is in backward compatibility. The Xbox 360 will play Xbox 1 games, and the Playstation 3 will play PS2 games, but the Nintendo machine trumps them all, playing not only Gamecube games but extending (via a downloadable for-fee service) the back catalog all the way back to the original NES (nearly 20 years ago!) and everything since then. People who still love their old Super Nintendo or NES or N64 game will be able to inexpensively keep playing those beloved games on their new machine. That kind of history and compatibility is unthinkable on the other machines.

Another feature Nintendo plans to emphasize is their less-violent approach to gaming: the thinking being that parents will favor the Revolution as the machine of choice for younger kids, while the PS3 and the Xbox fight it out for the hardened teenager market with their considerably more violent/bloody action games.

Nintendo's biggest strength, though, is in their complete dominance of the handheld-game market (a position which could change with the PlayStation Portable, currently out at around \$300 from Sony). To ensure their continued leadership, they recently announced the "Gameboy Micro," a suspiciously iPod Mini-like game device that doesn't offer anything really new over the previous Gameboy SP, just puts it into a vastly smaller (and presumably cheaper) package.

Pricing on the Gameboy Micro is likely to undercut the PSP substantially (we're thinking \$149 or less, possibly even \$99), and pricing on the Revolution machine is completely unknown (but again, will probably compare to Sony's and Microsoft's prices). The company has already said that the Revolution won't begin until early 2006.

The bottom line: you'll probably have to get at least two of these machines if you're housing some serious gamers, or if you have younger kids as well as teenagers. Despite the companies' alleged rivalries, the breakdown seems obvious: Xbox and PS3 for the teens, Revolution for the younger kids. And while parents on a budget may wince at the thought of having to buy or replace the current generation of these game systems so soon, there's actually a lot of good news hidden in this week's console-war announcements: first, soon-to-come home computers are likely to be *vastly* more powerful (and perhaps *cheaper*) than current offerings; and as these home-video-game systems become more powerful, people will use their (way more expensive) computers for gaming *less often* – meaning parents and kids who actually need to do something *useful* on the machines might just be able to get on and get some work done.

Separating the gaming away from the "serious" computing will allow users to get more out of both systems, since the game-consoles will do what they do well and free up the home computers to focus less on flashy graphics (which has been driving the PC market – and the average price for a computer – higher for at least the last five years) and more on user functionality, which will benefit those who prize information over high scores. So go ahead and get the kids their system of choice – while you reclaim the serious machines for yourself.