Review: New iPad screen is eye-opening upgrade

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(AP) -- Beware the new iPad, not because it's an inferior product, but because it's a superior one. Using one is like living the life of a millionaire for a day, then getting dumped back in your regular life. Your eyes are now opened to how miserable your existence is.

The big culprit here is its stunner screen. It has four times the resolution of the previous models. That's a big, big jump, which makes text and high-resolution images look amazingly sharp and clear. High-definition movies look amazingly detailed.

At first, I wasn't that excited about the prospect of a high-resolution screen. For the past year and a half, I've read scores of books and more newspaper articles than I can count on the original iPad and the iPad 2. I've never felt that the screen wasn't sharp enough.

But after only a few hours with the third version, which went on sale last week and is known only as "the new iPad," it's like my eyes got really, really picky. Suddenly, I saw how clumsy and blurry text looked on the older models and how straight lines sawtoothed their way across the screen.

Color reproduction is also improved greatly over the previous models. I've never been unhappy with the way the iPad 2 displayed colors, but you can tell at a glance that the colors are more vibrant and nuanced on the new screen. On the old iPad, the Facebook icon looks blue; on the new one, you can see that it's more of a purple tone. Useful? Maybe not.

But once you've used it, you won't want to go back to a less-colorful screen.

The new iPad's "Retina" screen, with its resolution of 2048 by 1536 pixels, is far better than the competition can muster, and I have no doubt it will set a new standard for portable devices. In fact, I wonder why we haven't had screens this good before. Why don't we have laptops like that? How about desktop monitors? We deserve better!

Now, the improved screen does come with a significant drawback: It draws a lot more power.

One reason is that the graphics chip now has four times as many pixels to handle. When a chip has more work to do, it draws more power.

Another reason: Smaller pixels let through less light, so even though there are more of them, the image-forming layer is darker than on a standard screen, sort of the way a denser mesh screen blocks more light. To counter this effect, Apple boosted the number of light-emitting diodes that shine through the screen from 36 to 84, according to research firm IHS iSuppli, which took a unit apart. More LEDs mean the screen's brightness ends up being the same, at the cost of higher power consumption.

Still, Apple has managed to keep battery life nearly the same. The company rates it at 10 hours of use, the same as the iPad 2, and my testing indicates that the figure holds up. But it did so by making the battery a lot bigger. That means the new iPad is heavier and thicker than the iPad 2. In each case, the increase is less than 10 percent - noticeable, but hardly a deal breaker.

The bigger battery also takes more time to charge. In my tests, I found it took about 50 percent longer to charge the new iPad than the iPad 2. It

took just under seven hours for a full charge instead of four hours and 45 minutes. The new iPad needs to spend more time plugged in, and quick "top-up" charges are less effective.

The higher power consumption of the new tablet probably accounts for customers' observations that the new iPad runs hotter than the old one. It did for me, but it was never hot enough to be uncomfortable.

Another annoying thing is that for some applications, the text looks worse on the new iPad. This has to do with the mechanisms programmers chose in presenting text.

Applications that have been updated for the Retina screen look great, such as The New York Times app. But head over to a PDF-viewing program called GoodReader, which hasn't been updated, and it's another story: Letters are more blurry and smeared. One can only hope that the developers update their applications quickly.

Did I say the new iPad costs the same as the old one? I did, but that's not the whole story. An indirect price increase has snuck in.

For $499, you get an iPad with 16 gigabytes of storage memory. That's the same amount you got in the original iPad for $499. In the two intervening years, the price of memory chips used in the iPad have fallen by about 70 percent, according to IHS iSuppli. So Apple could have given us an additional 8 gigabytes of memory, if it kept spending the same amount on chips. Instead, it's cut the amount of money it puts into memory chips and shifted spending toward the screen and cameras.

That would be fine, except that the Retina screen eats memory space. Many applications that have been upgraded for the display use more memory than before, presumably because their icons and pictures need to be that much more detailed. So those 16 gigabytes won't go as far as

they did. After you've loaded your apps, you'll have less space for movies and photos.

Unfortunately, the "app bloat" effect isn't limited to the new iPad. The new, bigger apps will be delivered to older iPads as well, and in some cases iPhones, even though they can't take advantage of the upgrade.

In the past, I've recommended most iPad buyers get the cheapest version, with 16 gigabytes of memory. The 32-gigabyte version might be the better buy this time around. It galls me, though, that this model costs $100 more, for an additional memory chip that costs Apple about $17.

A couple of other upgrades in the new iPad are good to have, but not as revolutionary as the screen.

The processor is faster. Again, I've never actually wished for a faster processor in my iPad, but once you have one, it's welcome. In particular, there's less of a delay when firing up programs.

The camera on the rear is improved, now matching the one on the latest iPhone, with 5 megapixels of resolution. I use the iPad cameras for videoconferencing, not for photography, so this doesn't mean much to me. The lower-resolution camera on the front is unchanged from the iPad 2.

As before, there are step-up models with cellular broadband modems available for an additional $130. In the new iPad, these modems can access AT&T's and Verizon Wireless' faster "4G LTE" networks, which in many cases are faster than wired broadband. They come with added monthly fees, of course.

Another welcome change: You can dim the screen much further than you could on the iPad 2. That's a good thing if you like to use the tablet

in bed before going to sleep. Staring at a bright screen in a dark room is hard on the eyes and might make it more difficult to fall sleep afterward.

When I first learned that Apple had boosted the battery capacity of the new iPad by 70 percent, I thought it was a pity that it didn't just dispense with the screen upgrade and extend the battery life to 17 hours. But the screen has won me over.

Once again, Apple has come up with a feature we didn't know we needed, but we actually do.