



Dell XPS 410 with ATI TV Wonder Digital Cable Tuner

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BOTTOM LINE:

The Dell XPS 410 with ATI TV Wonder Digital Cable Tuner is one of the CableCard reader-equipped systems we've been waiting for. This is a working prototype, however; the shipping product may take a bit longer to arrive. I can't wait for it to be available to the public.

PROS:

Dell handles all the details on getting the system working. Desktop Media Center is finally the "home server" that was promised years ago. HDTV and premium channels on MCE. Blu-ray on a Dell (finally!). Being able to record TV and HDTV to large hard drive(s). All sorts of multimedia content streams to Xbox 360 MCE extender.

CONS:

Requires Xbox 360 for full functionality. CableCard is still an unknown quality for installers. Can't use on-demand or pay-per-view with CableCard reader. CableCard tuner not available separately. HD through CableCard still has some glitches. External CableCard reader takes up desk space.

COMPANY:

Dell, Inc.

SPEC DATA

Type: General Purpose, Multimedia

Processor Family: Intel Core 2 Duo

RAM: 2 GB

Storage Capacity: 1000 GB

RAID: Yes

Graphics Card: nVidia GeForce 8800GTX

Primary Optical Drive: Dual-Layer DVD+/-RW

Secondary Optical Drive: Dual-Layer DVD+/-RW

Monitor Type: LCD Widescreen

Screen Size: 27 inches

EDITOR RATING:

By [Joel Santo Domingo](#)

Editors' Note: Since this preview was published, Timothy Dodd (Time Warner Cable Group President for Technology Policy) issued a statement on Time Warner Cable's behalf: "Time Warner Cable has worked with both Microsoft and PC manufacturers throughout the development and testing of this new technology. Our priority is to provide all our customers with a positive installation experience. The opportunity for self-installations of CableCARDS in OCUR devices will be determined on a system-by-system basis, in light of actual experience in the field with this new product." Also, while Dell initially told us it would be ordering the cable service on behalf of the customer, it has since decided that this strategy needs further investigation.



The Dell XPS 410 with ATI TV Wonder Digital Cable Tuner is the culmination of the things we've been promised for years: the ability to use Media Center Edition (MCE) with digital cable TV. With this latest iteration of the XPS 410, users can now time-shift (and even place-shift, to an extent) TV programming that they've been aching to view on their PCs. The XPS 410's copious storage capacities alone are reason enough to be excited for this [technology](#) (think about the last time you "lost" episodes on your DVR or TiVo during a vacation because they were edged out by newer recordings). Though TV on Vista's MCE interface is still a niche product, this system makes great strides toward making Dell and Microsoft's vision of the "digital home media suite" a reality.

Cable Without the Set-Top Box

We've been promised CableCard on PCs for years. For the uninitiated, CableCard is a cable industry-standard technology, comprised of a PCMCIA-sized card and an external or embedded card reader, that allows your local cable TV company to send basic and premium channels, including HDTV, to devices in your home without the use of a "set-top" box. I define a set-top box here as your typical cable box with an addressable tuner that is required for viewing premium content (like HBO and Showtime). It is usually directly connected to your TV with a DVI, HDMI, Component, S-Video, or RF coaxial cable. It differs from a CableCard in that cable boxes are self-contained, have their own remotes, and are usually rented from the cable company (which owns it).

For the past couple of years, high-end flat-panel TVs have been shipped with working CableCard readers built in, which decode premium and other digital cable channels. Similarly, the same CableCards fit in the TiVo Series3 DVR and work much the same way. Both setups mean you have to pay only the cheaper rental fee on the CableCard itself. With its TV Wonder Digital Tuner (also known as the OpenCable Unidirectional Receiver, or OCUR), ATI is bringing the same built-in functionality to PCs. The TV Wonder, which is the only CableCard reader available for all PC manufacturers, allows [computer](#) manufacturers to create Vista PCs that can access digital cable instead of the simple analog SDTV or over-the-air HDTV that users have been limited to in the past.

The TV Wonder is a sleek, yet bulky box that sits next to the PC, in this case a tricked-out Dell XPS 410 multimedia powerhouse. We received two TV Wonder units from Dell, along with a new 27-inch widescreen LCD monitor and a set of speakers. The internal TV Wonder found in systems like the Sony XL3 Digital Living System (announced at CES this year) is the same card reader, without the outer casing. Niveus created a new case to hold two internal card readers. Other desktop-style systems will likely come with the same external boxes as the XPS 410, while other Digital Entertainment System-style PCs will use the internal card reader.—[next: Set Up Your Setup >](#)

Set Up Your Setup

I had to call Time Warner Cable to schedule an install of the CableCards, but when the product is released to the public, the Dell sales rep taking your order will be able to schedule the CableCard install on the same day the system is delivered. Note that for this to work, you'll need to have cable TV in your house or apartment already: New installs of cable service (for example, when you move in or switch from satellite) are another department at the cable company. Theoretically, FiOS (Verizon's Fibre Optic TV service) should also work, since it is part of the CableCard mandate, but Dell has relationships only with the cable companies.

Each CableCard must be paired to its TV Wonder receiver by the cable company's [computers](#), so you can't just take the existing one out of your current TV or TiVo setup and drop it into the TV Wonder to get it to work. Right now, that will involve a technician visit (and another morning or afternoon waiting around for the cable guy). This is the same situation as cable company's HD DVRs: Two years ago every install and adjustment required a service call; now you can just pick up a box and self-install. I hope someday you'll be able to go to your local cable office and just pick up a CableCard, then get it provisioned over the phone or Internet.

Since our office building isn't wired for cable TV, all of this testing took place at a colleague's apartment several blocks away (Thanks, PJ!). The customer service rep at Time Warner Cable was unfamiliar with the ATI TV Wonder and was unaware that you could connect a CableCard to a PC. So I just fudged a bit and said that the CableCard was for a flat-panel TV installation. The Time Warner Cable tech who showed up was used to flat-panel installs, but this was the first time he had installed a CableCard into a PC. The install was tricky, since we were all learning as we went along. Three hours later, I had one working TV Wonder CableCard receiver and one nonworking one. One of the CableCards had trouble communicating with the home office, so the tech took it back there and installed the second CableCard on a subsequent visit. This was fine for my testing, since I only needed one working CableCard reader. The next day, the reps from Dell came over to do the final install and demo. This process was simpler and more familiar: The Dell rep made sure the PC was up and running, then flashed the firmware on the TV Wonder and made sure that the CableCard was getting a signal from the cable company. The rest of the install happened in the MCE setup wizard, which will be familiar to anyone who has set up a MCE PC in the past: Choose which tuner(s) are active, enter your ZIP code, and download the EPG (electronic program guide). Voila, you're good to go!—[next: What You Get, What You Don't >](#)

What You Get, What You Don't

Right off the bat, I was able to get standard-definition (SD) and high-definition (HD) channels, and all of the usual MCE functions were functioning properly. HD and SD viewing on basic and premium channels, pause and resume, and recording favorite shows also worked. Quality of Service (QoS) was another issue: While the Dell folks assured me that the system worked fine in Dell's labs, in the apartment where I was testing, HD content and some SD content had stuttering and video artifact issues. While it's still watchable, the occasional stuttering would be annoying during critical viewing. We'll be keeping an eye on this to see

whether it is somehow related to our second QoS issue.

The second TV Wonder CableCard reader worked only intermittently. It was fine for half a day after the second visit from Time Warner Cable, after the CableCard had a chance to "upgrade its firmware," according to the install tech. Then it just stopped working and didn't come back. I called Time Warner Cable and was told that the problem would require another tech visit to fix, even though it is same problem that was fixed by a phone call during the second tech visit. We've seen this kind of behavior in early desktops with HD-DVD and Blu-ray drives, and those issues have long since been ironed out in current systems. We hope this problem is something that Time Warner, ATI, and Dell will be able to iron out with a few firmware and driver updates.

The second piece of new tech in the XPS 410 is a Blu-ray drive. I was able to playback Blu-ray movies using the Dell-branded CyberLink PowerDVD Blu-ray player software. Like HD-DVD, native Blu-ray playback in the MCE interface isn't yet available, but the same remote works for both PowerDVD and MCE, and since there's a Blu-ray entry in the MCE menu, getting to PowerDVD is a snap. Blu-ray titles like Sahara, X-Men 3: The Last Stand, and The Italian Job looked wonderful on the XPS 410's 27-inch widescreen monitor. But as expected, you can't stream that content to the Xbox 360 extender we had on the network (more on the Xbox 360 later). The Dell rep told me that the company went with Blu-ray instead of HD-DVD simply because BD-RE is a writable drive now. By contrast, while HD-DVD-RW technology exists, it still hasn't passed Dell's stringent quality control and certification process. People with 1TB arrays in their systems (as with my review unit) will need to back up sometime, and backing up in 50GB (BD-R) chunks is a lot better than being limited to 9GB (dual-layer DVD-R) chunks.

All this brings us to another issue. Due to the CableLabs consortium's certification mandates, only certain certified systems will be able to use the TV Wonder tuner. The Dell XPS 410 we used has a unique CableLabs-certified BIOS build, and so will the other system manufacturers. This isn't an issue for someone who wants the whole package, but it will be a deal breaker for raging gearheads (yours truly included) who are adamantly set on building DIY systems.

Of course, fact that you don't have to do any tweaking is the reason Dell is getting in the game. Dell's "Home Media Suite" initiative means that it's putting all the pieces together for you: hardware, peripherals, service, setup, and troubleshooting in an easy-to-buy package. As gearheads grow older (with families, house repairs, and other responsibilities), they may not want to spend the requisite overnight hours to work on tweaking a home media server setup but would still want a neat media setup that they can play with and brag about. Dell will come in (likely one of its licensed setup techs in our local area) and set up the system, make sure it's paired up and squared away with your local cable provider, hook the system up to your LAN or wireless router, connect your Xbox 360 to the system, and make sure you know how to start it all up. Media Center in the home office, serving content to the rest of the house, is available as a package, now updated with the glorious HD content from your digital cable provider. The service is integrated into the price of the package when you purchase this system; you literally cannot buy the system without this service.—[next: Save Your Data, Save the World >](#)

Save Your Data, Save the World

This brings us to our strongest argument for this system: archiving. Since the XPS 410 comes with 1TB (1,000GB) of drive space and the ability to add more, you shouldn't have any problem with your shows "rolling off" (being erased in favor of newly recorded programs) like they do on 40GB TiVos or 160GB cable system DVRs. Using a MCE with a CableCard, you can save whole seasons of several shows live, then archive them if you want to keep them. Try doing that on your locked-down cable DVR that can only record roughly 15 to 20 hours of HD content. With the drive space and dual CableCard tuners on a MCE system, you and your significant other can record to your heart's content, knowing that it will all be in HD, and it will all be there when you need it.

You won't have to fight for desk time to watch all that good stuff you've recorded, either. If you have an Xbox 360, you're all set to bring your recorded programs and multimedia files into the living room. (If you don't already have an Xbox 360, you can add one to the XPS 410 purchase and have the Dell folks set it all up for you at the same time.) With the assistance of the Dell tech, I hooked an Xbox 360 up to the router and activated the Xbox 360 extender link between the game console and the MCE PC. Using the Xbox 360's controller or Microsoft's Universal Media Remote, the Media Center interface appeared on the Sony Bravia flat screen I hooked up to the Xbox. I watched previously recorded programming on the XPS 410 and the Xbox 360 simultaneously with the MCE interface on both, and even switched the Xbox to live TV, including the HD premium channels like Cinemax and HBO. Theoretically, with this setup you can completely eliminate the set-top box connected to your TV and watch cable programming using the Xbox 360 link to the XPS 410. The Xbox sits in your living room, the XPS in your den. This setup saves you from putting another PC into the living room, yet lets you view everything your MCE PC can (TV, videos, music, pictures, and so on).

Just about the only drawback to getting rid of the set-top boxes is that since CableCard is one-way communication, you can't use on-demand from your cable company with this setup, so no pay-per-view, either. But with a terabyte of drive space, you can set up your own on-demand center, with programs you

can watch at any time of the day or night. The MCE/Xbox 360 setup has the huge benefit of keeping all of your recorded content in one place: No more asking yourself, "which DVR did I record this week's Heroes on—the one in the living room, the TiVo in the den, or the one in the bedroom?" You can keep all your programs on the centralized PC with all that drive space. You can hook up to *five* Xbox 360s (or other media extenders when they become available) on your network and serve them all from one Vista MCE PC. Caveat: since HD content is particularly bandwidth dependent, I'd recommend wired (Ethernet or Powerline/HomePlug) networking or 802.11n wireless networking between your Xbox 360 and the MCE PC. Using slower 802.11b/g networking will likely result in dropped frames and sluggish performance viewing HD content.

Another performance issue cropped up when I tried to view Blu-ray content on the PC and simultaneously start a MCE recording session from the Xbox. Both MCE encoding/recording and Blu-ray decoding tax the processor: Even the system's high-end Intel Core 2 Duo E6700 CPU maxed out when all of this stuff was happening at the same time. This resulted in skipped frames on the Blu-ray movie I was watching at the time, but the recording worked without a hitch, and when I played the program back later it was fine. After both processes stabilized, the processor usage dropped to manageable levels, and both programs were back to normal. I liken it to when you take a shower and someone else in the house washes her hands: You'll have a problem for a few seconds, but then everything goes back to normal.

Other "normal" events didn't overtax the processor, including watching a previously recorded program on the Xbox while viewing live programming on the XPS 410, or even watching different recorded programs on both (Boston Public on the PC and a golf game on the Xbox). The programs and working tuners are all on the PC; the Xbox simply gives you a way to view content from the MCE PC on your TV in the living room. —[next: What About the Desktop? >](#)

What About the Desktop?

The rest of the XPS 410 is sweet: In addition to the E6700 processor, there are two speedy 500GB SATA hard drives in a RAID 0 array, 768MB nVidia GeForce 8800 GTX graphics card, and a 27-inch flat-panel monitor. I assume that Dell will have a more pedestrian version available to consumers, but this system configuration matches the actual launch product that will be available later this Spring. Say tuned for a full work-up with benchmark test numbers in the coming weeks.

Since the system is still a PC, you'll still have to worry about antivirus and Internet security utility subscriptions (XPS PCs come with a 15-month McAfee subscription included); other programs you need to buy and install; programs you download and install (and the crashes related to them); and the occasional reboots and hangs. Hopefully Vista delivers on the promise of a more stable and less malware-affected world, but that remains to be seen.

While this CableCard solution makes you "start from scratch," so to speak, you can integrate your old PCs into this network. The XPS 410 with ATI TV Wonder Digital Cable Tuner would act as the true digital hub that the PC makers, including Dell, have been promising us for years. DIY fans are out of luck on the CableCard front (for now), which is a shame, since bleeding-edge users are some of the best beta-testers. In a way I understand Dell's strategy: If the company can get tens or hundreds of thousands of units out to excited yet less-technical users, that may be a better [business](#) strategy than going after a few thousand users who know how to tweak everything and have the patience to do so (but also complain loudly when things don't work their way). After using the XPS 410 with TV Wonder for a few days, I can tell you I'm excited, albeit cautious, to see the shipping product reach the market.

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