



**hurry & save 10%**  
**on 512MB or more**

**crucial**  
TECHNOLOGY  
A Division of Micron  
The Memory Experts™

TECHNOLOGY ADVICE YOU CAN TRUST

OCTOBER 13,  
2005

**PC WORLD**

[HOME](#) | [NEWS](#) | [REVIEWS](#) | [HOW-TO](#) | [DIGITAL DUO](#)  
[DOWNLOADS](#) | [TOOLS](#) | [PRODUCT FINDER](#) | [MAGAZINE](#)

SEARCH

USE FIND.PCWORLD.COM

BROWSE BY TOPIC

INFO CENTERS

[Cameras](#)[PCs](#)[Laptops](#)[Printers](#)[Electronics](#)[Spyware](#)[Macs](#)[See All](#) ↓

## RELATED ARTICLES

[Microsoft Changes Tune on Windows XP SP3](#)

[Want the Enterprise Version of Microsoft Windows Vista?](#)

[Microsoft Previews Vista, Next Office](#)

[Microsoft Set to Debut New Vista OS Features, Graphics Software](#)

[Microsoft Bolsters Video Content Security in Vista](#)

[See all related items](#)

## RELATED FILES

[Make Windows Act Like Longhorn Will Two Years From Now](#)

[See all related downloads](#)

## SUBSCRIBE

[Get 2 Trial Issues + 15 FREE Gifts!](#)



[Renew your subscription](#)

[Give a gift subscription](#)

## FREE NEWSLETTERS

[Topics](#) > [Software](#) > [Windows](#) > [Vista/Longhorn](#) >

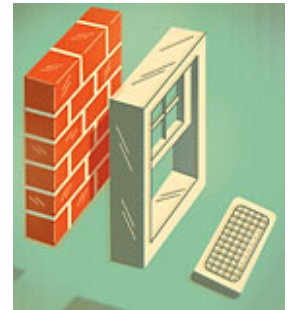
## Most Monitors Won't Play New HD Video

Vista's content protection will block or blur high-def movies on today's displays.

**Scott Spanbauer**

From the November 2005 issue of PC World magazine  
Posted Tuesday, October 04, 2005

If you dropped a bundle on a high-end computer display or HDTV, you could be in for an unpleasant surprise when you slip your new high-definition DVD of *Star Wars: Episode III* into your Windows Vista PC. Vista, the next version of Windows that's slated to appear in about a year, will feature a new systemwide content protection scheme called PVP-OPM (see box below). If your monitor doesn't work with PVP-OPM, all you'll likely see is either a fuzzy rendition of your high-def flick or Hollywood's version of the Blue Screen of Death--a message warning you that the display has been 'revoked'.



### High-Def Hard-Liners

Forthcoming Blu-ray and HD-DVD discs promise higher resolution than a standard DVD's 480-line maximum. But to protect its high-quality content from pirating, the film industry, along with disc and hardware makers, has created an umbrella content protection scheme known as AACS. If Windows is to play the new discs, Microsoft has little choice but to support AACS, which is where PVP-OPM comes in. According to Microsoft, PVP-OPM will prevent pirates from attaching recording devices directly to the PC graphics card's DVI or HDMI video outputs in order to capture a pristine digital copy of the disc's otherwise encrypted content. A related component, PVP-UAB, will prevent savvy computer owners from installing data capture cards in order to grab high-def movies straight off the PCI Express bus.

Unfortunately, PVP-OPM will also shut out plenty of law-abiding video watchers whose current displays aren't future-proof. To comply with the film industry's protection scheme, PVP-OPM employs HDCP technology to determine whether graphics boards and displays are allowed to output and display high-def video. If HDCP sees a blocked display (such as a video capture device) or one that does not support HDCP (including any HDTV with only analog connectors), it prevents output or reduces the video resolution until the offending display or protected content is removed from the system.

Advertisement

Get our weekly news recap or daily downloads digest, or both.

[Weekly Brief](#)

[Daily](#)

[Downloads](#)

Enter your e-mail:

[See all newsletters](#)

## Costly Upgrades

If that scenario sounds disturbing, it gets worse: Few existing wide-screen desktop displays support HDCP. If you're one of the hundreds of thousands of current wide-screen desktop display owners, you can probably forget about viewing Blu-ray or HD-DVD discs on your nearly new (and far from cheap) monitor. To watch high-def content, you'll likely have to upgrade your monitor. A handful of HDCP-compliant displays from NEC, Samsung, Sony, and ViewSonic are just starting to appear, according to market research firm iSuppli. And manufacturers such as Dell have plans to incorporate HDCP support into future wide-screen displays, though details are scarce.

Think you could avoid this expense by sticking with XP? No such luck. To see HD, you'll have to upgrade to Windows Vista as well; Windows XP's security and driver models lack the ability to support HDCP. Consumers intent on viewing HD discs via their PCs will have little choice but to spring for the new operating system in addition to an HDCP-compliant monitor.



The HP DAT 40 USB internal tape drive and media.

»Buy now and get 3 FREE TAPE CARTRIDGES

### Decode the Jargon

**AACS:** Advanced Access Control System. A specification for guarding next-generation optical-media content created by the film, electronics, and software industries.

**HDCP:** High-Bandwidth Digital Content Protection. Intel's content protection scheme for digital displays, not supported by most currently available PC monitors.

**PVP-OPM:** Protected Video Path Output Protection Management. Downgrades video resolution or blocks the picture entirely if the connected display doesn't support content protection.

**PVP-UAB:** Protected Video Path User-Accessible Bus. Encrypts video content as it passes over the PCI Express bus from the high-def disc to prevent other PCI Express devices from intercepting the video stream.

Illustration by: Harry Campbell

Related Topics: [Monitors](#), [Peripherals](#), [Copyright](#)

### Printer Friendly Version



Get 2 RISK-FREE Issues of PC WORLD and 15 FREE Power Guides plus Bonus CD-ROM! [Click here](#)

## PC World's Marketplace

- [Hyena - Windows 2000/2003/XP System Administration](#)  
Download the popular 'Hyena' Windows system administration utility for domain, user, and workstation management. Over 85 function...
- [IT Certification and .NET Developer Training](#)  
Industry leading MCSE, CCNA, CCNP, MCSD, A+ courses and more. Live instructor led training on CD. Hands-on labs, study guides, ex...
- [Best deals on Software OS' only @ TigerDirect.com](#)  
We have what you are looking for in stock & ready to ship at a great price! Computers, Notebooks, Monitors, Digital Cameras, CPU'...
- [Hitachi Hard Drives](#)  
Hitachi GST offers a wide range of hard drive products for desktop computers, high-performance servers and mobile devices. Learn ...
- [WAN performance problems slowing you down?](#)  
Accelerate applications 100x and expand bandwidth 10x with Riverbed. To find out how Riverbed's comprehensive Wide-area Data Serv...
- [Metadata Management Software](#)  
MetaCenter: Plug & play metadata management software for enterprise systems. Features: data dictionary, process documentation, im...
- [Spyware Doctor 3.1 - Fast Spyware Removal](#)  
Free Scan, top-rated Spyware and Adware Remover. Download Now!

## PC World's Free Whitepapers

- [Netflow-based Traffic Analyzer](#)  
Get NetFlow Analyzer for in-depth network traffic analysis from Cisco Netflow exports. Instant reports on top talkers, top protocols, and more from just a web browser. Affordable tool, free trial available.
- [File Replication - Scheduling](#)  
Peer-to-peer & one-to-many, scheduled file replication and content distribution for cross platform deployments on Windows, UNIX, Linux and NAS systems.
- [GroundWork--Optimizing Application Monitoring](#)  
Learn practical, low-cost techniques for application monitoring in today's IT environment using synthetic transactions, multi-measure containers, monitoring plugins, port-based "gets" and other techniques.

[See All Whitepapers >](#)

## Whitepapers by Topic

- [Internet and Networking](#)
- [Privacy & Security](#)
- [Software](#)
- [All Others](#)

[See All Topics >](#)



Receive 2 RISK-FREE Issues of PC World and 15 FREE Power Guides!

**Special  
Bonus: Free  
Software  
CD-ROM!**

[Digital Subscriptions](#)

Enter your trial subscription and you'll receive 2 Risk-Free Issues plus 15 FREE Instant Power Guides and Bonus CD-ROM. If you like PC World, pay just \$19.97 for 10 more issues (12 in all). Otherwise, write "cancel" on the bill, return it, and owe nothing.

**BONUS ISSUES**

Pay now and get **2 EXTRA ISSUES FREE!** That's 14 issues for the same low price! [click here](#)

Try PC World Risk-Free, just fill in the form and click Submit!

Name	City
Address 1	State Zip Code
Address 2	E-Mail (optional)

Canadian residents, [click here](#) | All other foreign residents, [click here](#)  
Customer service, [click here](#)

[XML](#) | [About Us](#) | [Contact Us](#) | [Advertise](#) | [Corrections](#) | [Member Services](#) | [Site Map](#)  
[RSS Feeds](#) | [Terms of Service Agreement](#) | [ASME Guidelines](#) | [Privacy Statement](#) | [IDG International](#)



**IDG NETWORK:** CIO Computerworld CSO GamePro GamerHelp Infoworld ITWorld Canada JavaWorld Macworld  
MikroDatarn Network World PC Advisor PC-Welt PC World Latin America Playlist tecCHANNEL Techworld