Western Digital Caviar Green (2TB)

he new WD Caviar Green 3TB internal hard drive from Western Digital.

(Credit: Dong Ngo/CNET)

A few months back, Seagate released the world's first 3TB hard drive in the form of the FreeAgent GoFlex Desk. The release wasn't so exciting, though, because the drive wasn't intended to be available in the standalone internal form.

Today, Western Digital announced the availability its own 3TB and 2.5TB internal hard drives--the latest in the WD Caviar Green family--that you can bring home and install in your computer. This is great news for those who want a second and large hard drive for their computer that runs Windows 7 or Vista.

The reason that Seagate has been hesitating to release the 3TB Barracuda XT internal hard drive--which it used to make the FreeAgent GoFlex Desk external hard drive and the BlackArmor NAS server--as a standalone product is because of the limitations in existing PC motherboards and in Windows operating systems.

Seagate foresees that most PC computers won't recognize the drive with its maximum amount of storage.

This is because 32-bit Windows operating systems generally support only the legacy Master Boot Record (MBR), which has the cap partition size of 2.19TB, to manage the hard drive. This means, the system won't see more than 2.19TB of storage, regardless of how much larger the hard drive's actual capacity is.

On top of that, all Windows computers that use the Basic Input/Output System (BIOS)-based motherboards, which are the majority of computers on the market, can't boot from a hard drive that's larger that 2.19TB, either, due to the limitation of BIOS protocols. These protocols were defined back in the 1980s and are used to load the operating system from the hard drive into system memory, hence facilitating the booting process.

In the near future, possibly by the end of next year, MBR will be completely replaced by GUID Partition Table (GPT), which is supported by both Windows 7 and Windows Vista, and the BIOS will be replaced by the new Extensive Firmware Interface (EFI). Then and only then, Windows users will no longer need to worry about hitting the barrier in the storage space for hopefully many, many years to come.

In the meantime, however, Western Digital has a quick solution for consumers to immediately take advantage of its new ultra high-capacity hard drives. The company bundles the new WD Caviar Green 2.5TB and 3TB hard drives with an Advanced Host Controller Interface (AHCI)-compliant Host Bus Adapter (HBA), in the form of a PCI Express add-in card.

At its core, this card is an SATA storage controller that, apart from support SATA hard drives, enables the operating system to use proper software driver to correctly support large capacity drives. This allows computers that run Windows 7 and Vista, both 64-bit and 32-bit,

to use the new hard drives, at their full capacity, as secondary drives, as long as they are formatted using GPT. Windows XP is still out of the game as it only support MBR.

Other than that, the new WD Caviar Green drives are much like traditional SATA2 3.5-inch hard drives. They sport 64MB of cache memory and utilize 750 GB-per-platter areal density and Advanced Format technology, which was [first available with the Scorpio Blue drive](#). The Caviar Green drives are designed to use the minimum amount of power spin at around 6000rpm.

Both models of the new hard drives are available now. The 2.5TB version (model number WD25EZRSDTL) is slated to cost around $190 and the 3TB version (model number WD30EZRSDTL) is around $240. Both of them will come with a three-year limited warranty.

General

- **Device Type** Hard drive - Internal hard drive
- **Width** 4 in
- **Depth** 5.8 in
- **Height** 1 in
- **Weight** 1.6 lbs

Hard Drive

- **Form Factor** [3.5" x 1/3H](#)
- **Capacity** [2 TB](#)
- **Interface Type** Serial ATA-300
- **Buffer Size** 64 MB
- **Features** StableTrac,
  IntelliSeek,
  IntelliPower,
  GreenPower technology,
  NoTouch ramp load technology,
  Perpendicular Magnetic Recording (PMR)
- **Compliant Standards** S.M.A.R.T.

Performance

- **Drive Transfer Rate** [300 MBps](#)
- **Internal Data Rate** 110 MBps

Reliability

- **Storage Hard Drive / Non-Recoverable Errors** 1 per 10^15
- **Start / Stop Cycles** 300,000

Storage Controller

- **Type** None

Expansion / Connectivity

- **Interfaces** 1 x Serial ATA-300 - 7 pin Serial ATA
- **Compatible Bays** 1 x Internal - 3.5" x 1/3H
- **Compatible Slots** x None

Miscellaneous

- **Compliant Standards** RoHS

Manufacturer Warranty

- **Service & Support** 3 years warranty
- **Service & Support Details** Limited warranty - 3 years

Environmental Parameters

- **Min Operating Temperature** 32 ï¿½F
- **Max Operating Temperature** 140 ï¿½F
- **Shock Tolerance** 250 g @ 1ms (non-operating)