

HP ZBook15 Mobile Workstation Review – Is Beauty More Than Skin Deep?

by David Heller



HP recently introduced its ZBook series of mobile workstations. After attending the product launch in NYC, I was fortunate enough to get a top of the line HP ZBook 15 mobile workstation to evaluate and discover if this sleek new beauty's performance promise was more than skin deep.

My evaluation unit was über equipped with the highest performing NVIDIA GPU, included a built-in HP DreamColor Display system and came with the following specifications as supplied:

O/S: Windows 7 Professional 64-bit Service Pack 1

CPU: Intel® Core™ i7-4800MQ with Intel HD Graphics 4600 (2.7 GHz, 6 MB cache, 4 cores)

GPU: NVIDIA Quadro K2100M (Designed specifically for mobile 15.6" Platforms and the high end of offered GPUs)

Storage: Hard Drive – 500 GB (Includes 32GB Flash Cache and is Expandable to 1.87TB)

System Memory: 16GB RAM – (Expandable to 32GB with 64bit O/S and Quad Core processor)

Display: Full HD 15.6" diagonal LED-back lit UWVA eDP anti-glare (1920 x 1080) screen with integrated HP DreamColor Display system providing more than a billion color possibilities.

Ports and Connectivity: 2 USB 3.0; 1 USB 2.0; 1 USB 3.0 charging port; 1 Thunderbolt1; 1 DisplayPort; 1 stereo microphone-in/headphone-out combo; 1 RJ-45 Ethernet; wireless; 1 docking connector; 1 secondary battery connector; 1 VGA port; 1 SD compatible memory card reader

Other: Webcam with Cyberlink YouCAM control software installed; Optical Storage with Blu-ray read, DVD/CD read/write; fingerprint reader; Kensington lock port

Weight with batteries: Starting at 6.2 lb (2.82 kg)

Warranty: Protected by HP Services, including a limited 3 years parts, 3 years labor, and 3 years on site service (3/3/3) standard warranty.

My first impression of the mobile workstation was the attention to its detail, at many levels: its strong and substantial construction and yes, as you can see above, the ZBook 15 is beautifully designed. Its case is artfully and ergonomically constructed of high-grade burnished aluminum

resting on a light weight but strong magnesium chassis that, as I unfortunately learned the hard way, protects the unit from accidental damage.

A Tale of Unintended Consequences – Testing the ZBook 15's Ruggedness and Durability



Accidents do happen – courtesy of Dr. C. Wacko

I never intended to test this unit's durability but sometimes life gets in the way. After completing my evaluation, the mobile workstation was sitting closed on the floor directly below my TV stand. I was swapping out a couple of connectors at the rear of my 46" TV and as I nudged the TV to the front of the glass stand-top to gain access, the fifty-pound glass plate unexpectedly tipped forward and slammed forcefully down on top of the closed computer. OMG!

When I saw the two inch recessed gash in the case above the screen I was certain that I had completely destroyed this expensive loaner and quickly but carefully pulled the unit free. I said a few prayers and booted up to find that although the screen had cracked it was still emitting light. There was hope, and I quickly plugged in an external VGA display and miraculously the computer worked perfectly! I do not recommend this as an evaluation method, but it certainly does prove that the ZBook 15 is capable of surviving even the most egregious mishandling and of overcoming the worst of accidents.

Ease of use



The keyboard is well laid out and includes a full numeric keypad, back lit keys, and the TouchPad mouse controller is ideally positioned. Using other portables the fleshy mass under my thumb intermittently rubs against the finger controlled pad while I'm typing, initiating all sorts of unwanted actions and consequences. This never happened to me on the ZBook 15, and to use the workstation with a mouse and avoid this possibility altogether all I had to do was double tap the TouchPad to toggle it off. The ZBook 15 is also equipped with a fingerprint reader you can use instead of entering a password when signing in. And, it works! I was skeptical about this feature at first, but found that lightly sliding my forefinger over the reader logged me in every time without a hitch

Ports (Expandability)

Four USB ports are positioned around the sides and rear of the unit: 1 USB 2.0 port for backwards compatibility and 3 USB 3.0 ports, one of which can be used as a charging port that always has power available to charge your other devices, even when the machine is turned off. This came in handy during a recent business trip when I had my iPad's cable but forgot to bring along the AC charging plug.

The sides of the workstation also include an SD memory card reader, one port that accepts a composite headphone-out/microphone-in cable, an optical drive that plays Blu-Ray DVD's and plays and records to standard DVD's and CD's, a VGA monitor input jack, a DisplayPort, and a Thunderbolt I/O that greatly increases data transfer performance with bi-directional 10 Gbps speed. (There is no HDMI port. However, I learned that if you want to display HD video on your TV, the HP "[DisplayPort to HDMI Adapter](#)" is available as an inexpensive accessory.)

Flip the unit over and you'll find a docking connector, flush-mounted with the surface that gives you the option to expand your possibilities by powering external displays or other devices.

My evaluation unit came with 16GB of system RAM and 500 GB of hard drive storage that's paired with a 32 GB MLC mSATA module with intel SRT (Smart Response Technology) for quick boot and file access.

I particularly liked the ability to open the back panel with just a flip of a lever to quickly upgrade system RAM to 32GB, and upgrade storage to a whopping 1.87TB with no tools needed. The modular design with green touch-points allows for tool-less removal and replacement of most common modules making upgrades and maintenance a snap.

The Optional DreamColor Display



The DreamColor Display in Animation

The evaluation unit came equipped with an integrated DreamColor display. The DreamColor display was introduced a few years ago on the DreamWorks Animation campus where it collaboratively got its birth by providing exceptional color accuracy across their entire studio. One feature set that I took special note of are its six built-in and selectable color calibration modes: sRGB, Rec. 709, Rec. 601, Adobe® RGB, DCI-P3 emulation, and full gamut. There's also one user programmable mode that lets you customize your unique color look and feel across an entire enterprise.

You initiate the DreamColor control panel by entering “HP Mobile Display Assistant” into the Start menu search field. This wasn't immediately obvious or explained, and to get there faster I pasted a shortcut icon to this program into the task bar.

Subjective Testing

To experience this machine as it was intended, I began my evaluation by using the mobile workstation in my every day work by taking it with me daily to and from my office, and then on an out-of-town business trip. The ZBook15 is ISV certified to perform with virtually all engineering software and I loaded in and worked with Autodesk Maya 2014, the full Adobe creative suite, and Avid's Pinnacle video software during my evaluation.

I was pleasantly surprised at how quickly the unit booted up – it took just 15 seconds to boot from a cold start to the login screen and only 3 seconds to the desktop after swiping my finger. I also clocked boot times for my applications – Autodesk Maya 2014 fully launched in 4 seconds, Adobe Photoshop in 3, and Avid's Pinnacle video editing software in just 7 seconds.

I fully exercised each of these applications creating and rendering complex models and scenes with Autodesk Maya and doing full video editing and rendering with both Adobe Premiere and Avid Pinnacle. The renderings appeared to fly by and when operating in these applications all actions occurred almost instantly.

Working in this responsive environment was a breath of fresh air and allowed me to get to work fast without impatiently drumming my fingers waiting for the next screen to appear.

I clocked the battery life at an even 2 hours while running the very compute intensive **SPECapc Maya 12 Benchmark Test** and was told that on my unit battery life was diminished by at least half with the DreamColor display installed. The HP spec claims 14 hours of battery life, but this is without DreamColor, and measured when the computer is idled.

Objective Testing

To objectively gauge how well the ZBook 15 performs I ran two benchmarks, NovaBench (geared more toward overall performance) and SPECapc Maya 12 (geared more toward graphics performance).

NovaBench Benchmark Test

16156 MB System RAM (Score: 238)

- RAM Speed: 12318 MB/s

CPU Tests (Score: 648)

- Floating Point Operations/Second: 203,939,208

- Integer Operations/Second: 678,708,632

- MD5 Hashes Generated/Second: 946,661

Graphics Tests (Score: 260)

- 3D Frames Per Second: 754

Hardware Tests (Score: 44)

- Primary Partition Capacity: 450 GB

- Drive Write Speed: 143 MB/s

Total NovaBench **Composite Score: 1,190**

The ZBook 15 scored well above average. 41,004 NovaBench workstation benchmark tests were performed over the past 3 months and the average composite score for these was 864 compared to the ZBook 15's score of 1,190.

SPECapc Maya 12 Benchmark Test

I chose to run the Maya test because of its many complex and compute-intensive operations. This comprehensive test puts Maya through its paces by evaluating four Maya projects (.ma) from wireframes, to texturing, shading and mentalRay rendering. It also measures time expended while doing physics calculations for liquid, smoke, cloth, streamers, hair and deformations. It runs each of these tests four times and calculates and displays all of the details and a composite score of the test results. The composite score for the SPECapc Maya 12 benchmark I ran on the ZBook 15 was: GFX – 272 and CPU – 347 putting it on a par or faster than the majority of the newer workstations we've tested recently.

Final Thoughts

With its slick ergonomic design, extreme power and build quality the Zbook 15 is ideally

positioned to meet the needs of today's crunch-time world where computational horsepower and mobility can be game changers. Its starting point price of \$1,699 makes it competitive with desktop workstations and well within reach of its intended professional audience.

HP ZBook 15 Mobile Workstation

Pros: Ergonomic and attractive design; excellent price/performance ratio; build quality; connectivity options; configurability; easy expansion; ruggedness and reliability.

Cons: None significant, especially noteworthy since this is one of three new ZBooks just released.

Price (As configured for review): \$2,999. Prices start at \$1,699

Final Grade: A

HIGHLY RECOMMENDED

For More Information about the HP ZBook 15 mobile workstation:

<http://www8.hp.com/us/en/campaigns/workstations/zbook-15.html>



www.HTSCreative.com