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LAUNCH
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**Q&A WITH
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DAVID PERRY**

**SAMSUNG TAKES
ON THE 13-INCH
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LEVAR BURTON
ON THE REINVENTION
OF *READING RAINBOW*



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Nexus Q

**CAN GOOGLE'S STREAMING SPHERE
BREAK THE BLACK-BOX MOLD?**

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high-definition

Experience everything in HD with Xperia™ Ion – Sony's first LTE smartphone. Create HD movies, take stunning snapshots and video chat in HD. View it all on the brilliant 4.6-inch HD screen, powered by Mobile BRAVIA® Engine. sonymobile.com/xperiaworld



XPERIA ion
made of imagination



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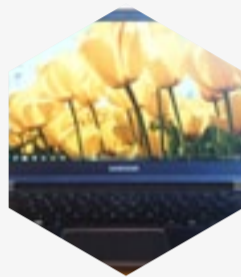


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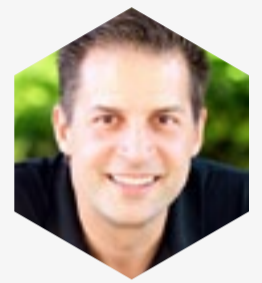


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RIM'S EVER-LENGTHENING ROAD TO RECOVERY



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EDITOR'S
LETTER

Well hello there, it's been a little while since the high-flying antics at Google I/O a few weeks back. No, there's no sky-diving to report on this week, though it could be said there was evidence of a free fall. RIM held a shareholders meeting earlier this week in which CEO Thorstein Heins made various reassuring statements about his intentions for a company that many began to write off with the most recent delay of the BlackBerry 10 operating system and phones — now not expected until 2013.

Heins let slip that we should expect to see BB10 in January, though he didn't make clear whether that month will host a release for sale or just a more public unveiling of the finished product. If we had to guess we'd say the latter and, if we had to continue speculating about a venue, CES would certainly be at the top of our list. It's where we saw the PlayBook unveiled in years past and, once we see BB10, Heins promises it will "reinstall faith in RIM." I think that means we can safely be doubters until then.

Heins also mentioned that he's streamlining the company, focusing on a "smaller number of devices" through the

coming year. That's a promising statement, but also an inevitable one thanks to the 5,000 planned layoffs. Despite some grumpy questions at the end of the shareholder meeting, both Heins and founder Mike Lazaridis were re-elected to the board, so for now, the company will continue on its current glide path.

The Ouya videogame console came from nowhere to become a Kickstarter darling, meeting its \$1 million funding goal in about eight hours and going on to raise more than another million before its first day of funding availability was through. It's an amazing early success for a company with a long road ahead of it before producing what will be a console with questionable gaming chops — it'll be Tegra 3-powered, which can do great things on a smartphone, but how will those graphics look on an HDTV? Will any major developers sign on? Is this just a flash in the pan or will it be a legitimate console power?

For now, it's clear the price is right. People are willing to throw \$99 at the company for the sheer hope of something good to come, which to me is a strong sign that Microsoft, Sony and Nintendo



“Angel investors, and indeed the very concept of venture capital, may be rapidly approaching obsolescence.”


have been milking this current generation of consoles for too long. I know I'm ready for something new — I put my \$95 down to be one of the first 1,000 to fund it.

This is also an interesting sign that angel investors, and indeed the very concept of venture capital, may be rapidly approaching obsolescence. If a company can get \$4 million (and counting) just by posting a good idea and a couple of nice-looking rendered screenshots on Kickstarter, all without giving up *any* control of its operations, who needs traditional investors?

Verizon's flavor of the Galaxy S III finally hit retail this week, but not without some controversy. This version of the GS III will have a locked bootloader and there was an interesting back-and-forth between Verizon and Samsung, with Verizon blaming Samsung for the lock and Samsung firing back by creating a “Developer Edition” of the Verizon GS III that will be completely unlocked. We got our hands on one of the retail units in advance, as we do, and found it to be equal to all the many and myriad versions that came before. It's a truly great phone.

A new round of rumors about an updated Kindle Fire have arisen, courtesy

of a report from *AllThingsD* that indicates the new Fire will have a 1,280 x 800 resolution, an integrated camera and a Q3 release date. Assuming it sticks with the 7-inch size, that would put it on par with Google's Nexus 7 — which, by the way, we heard costs between \$155 and \$184 to manufacture based on various estimates this week. That means the \$199 MRSP is either making Google a slight profit or a slight loss once you factor in packaging, marketing and everything else entailed in getting something like that to market. Either way, if a new Kindle isn't coming until Q3, the Nexus 7 will be the tablet to beat all summer.

In this week's Distro we'll be looking at my review of Google's other major hardware release, the Nexus Q, along with Dana Wollman's take on the sultry Samsung Series 9 Ultrabook. Alexis Santos takes us inside NASA's Launch Control Center and Brian Heater examines the past and present of *Reading Rainbow*. Ross Rubin's *Switched On* explores Google's fragmented ways of TV domination and for Q&A this week, it's Gaikai's David Perry. Kick back and enjoy. 



TIM STEVENS
EDITOR-IN-CHIEF,
ENGADGET



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EYES-ON

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GOOGLE BOOTY

Tap for detail



NEXUS 7

NEXUS Q



JELLY BEAN



Google's I/O keynote may be best remembered for a high-flying Glass stunt, but the real stars of the show

came in the form of a tablet, a streaming device and a tasty new operating system — all of which were provided gratis to attendees.



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EYES-ON

JELLY BEAN



THE DESIGN:

Among its other tricks and treats, Android 4.1 contains an interactive jelly bean-flavored Easter egg, but the real draw to the OS refresh is Google Now, a search function that knows what you want.

THE BILL: N/A



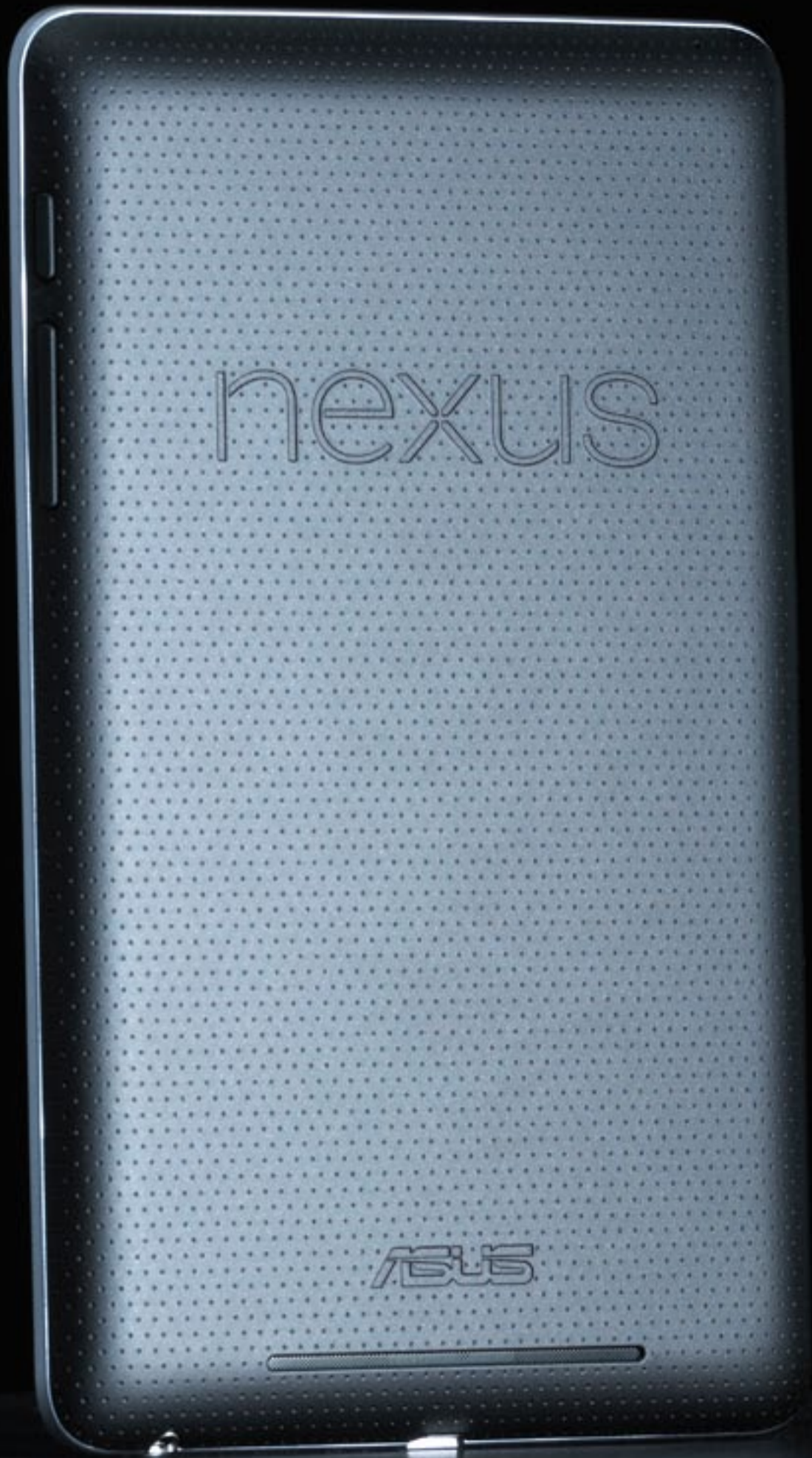
NEXUS 7



THE DESIGN:

Google reportedly dedicated an entire building to the production of the 7-inch slate, while ASUS contributed a staff of 30 engineers. The result is a Kindle Fire competitor that looks little like the unnamed device ASUS showed off at CES earlier this year.

THE BILL: \$199



NEXUS Q

**THE DESIGN:**

Perhaps the most controversial announcement from Google's I/O keynote, the media-streaming orb costs three times as much as Apple TV, but is manufactured entirely on American shores. Its shell is composed of a plastic top and an alloy base.

THE BILL: \$299





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SAMSUNG EX2F

In the market for a new point-and-shoot? The EX2F packs a 12.4-megapixel, 1/1.7-inch CMOS sensor, a top extended ISO setting of 12,800, a 3-inch VGA-res AMOLED display and — the crown jewel — an f/1.4-2.7, 24-79mm lens. That optic delivers an additional 2/3 stop of sensitivity over the TL500. Though the EX2F is noticeably lighter than the 2010 model, it still retains much of its volume. The camera is too bulky to slip into a pocket, though the flip-out display is a nice touch. A smart UI mode enables instant access to settings, as do the dual control dials, which let you adjust shooting modes and capture speed.

PRICING:
\$549

AVAILABILITY:
TBA

THE BREAKDOWN:
THE EX2F HAS ITS ADVANTAGES
OVER OTHER POINT-AND-
SHOOT MODELS, BUT THE PRICE
TAG MAY DETER MANY.

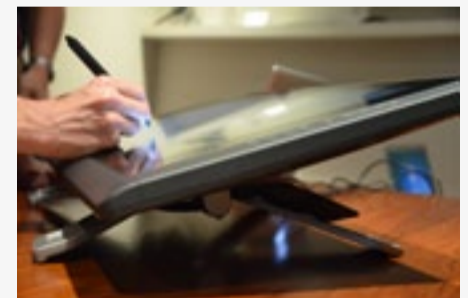




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WACOM CINTIQ 22HD

Looking to replace that Wacom Cintiq 21UX from a couple years back? Not really wanting to splurge on a 24HD or 24HD touch? Meet the 22HD, a 22-inch pen display that touts a revamped LED-backlit panel with 1,920 x 1,080 resolution, 230 nits of brightness and 1,000:1 contrast ratio. This model does keep the same rotation stand, though, and you'll have to snag one of the 24-inch models for the beefier "ergo" stand if you're after vertical flexibility. Subtle tweaks to the buttons make them a bit more comfortable and cables are now user-replaceable.



PRICING:
\$1,999

AVAILABILITY:
NOW AVAILABLE

THE BREAKDOWN:
THE SUCCESSOR TO THE 21UX
BOASTS AN IMPROVED DISPLAY
PANEL, USER-REPLACEABLE CABLES
AND LARGER BUTTONS.





SONY XPERIA GO

The spiritual successor to last year's Xperia Active now packs a dual-core 1GHz processor, and Sony hopes it'll manage to keep up with your surf-heavy lifestyle. At least, that's the explanation we reckon underpins the certified dust and waterproofing. The phone is a notch above the Xperia miro and Xperia tipo hardware-wise, although the software leans on the increasingly creaky Gingerbread. Those curved corners and design lines remind us of the Xperia S, P and U, but it lacks that pervasive see-through bar. The increased processing power made web browsing a painless affair, while wet-finger tracking keeps the 3.5-inch touchscreen in play.



PRICING:
£250 (AROUND \$390)

AVAILABILITY:
TBA

THE BREAKDOWN:
WHILE IT WILL KEEP THE INTERNALS DRY, WE CAN'T GUARANTEE THAT THE OPERATING SYSTEM WON'T GET A LITTLE SOGGY.



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GARMIN FENIX

Is there a better place to slap global positioning goodness than on your wrist? Garmin has unveiled the Fenix, following on the heels of last month's Swim introduction. This time around, the \$400 watch packs an altimeter, barometer, compass, optional external ANT temperature sensor, Bluetooth and GPS receiver. We had an opportunity to try out the device in an office setting and the Fenix had quite a bit of heft to it — it'll surely look out of place on smaller wrists. It also functions quite nicely as a watch, displaying time and date in large characters on the backlit LCD, with a nifty ring around the digits to indicate seconds.

PRICING:
\$400

AVAILABILITY:
AUGUST

THE BREAKDOWN:
GARMIN IS BACK
WITH A MORE
VERSATILE
WEARABLE
COMPLETE WITH
GPS, ALTIMETER,
BAROMETER,
COMPASS
AND MORE.

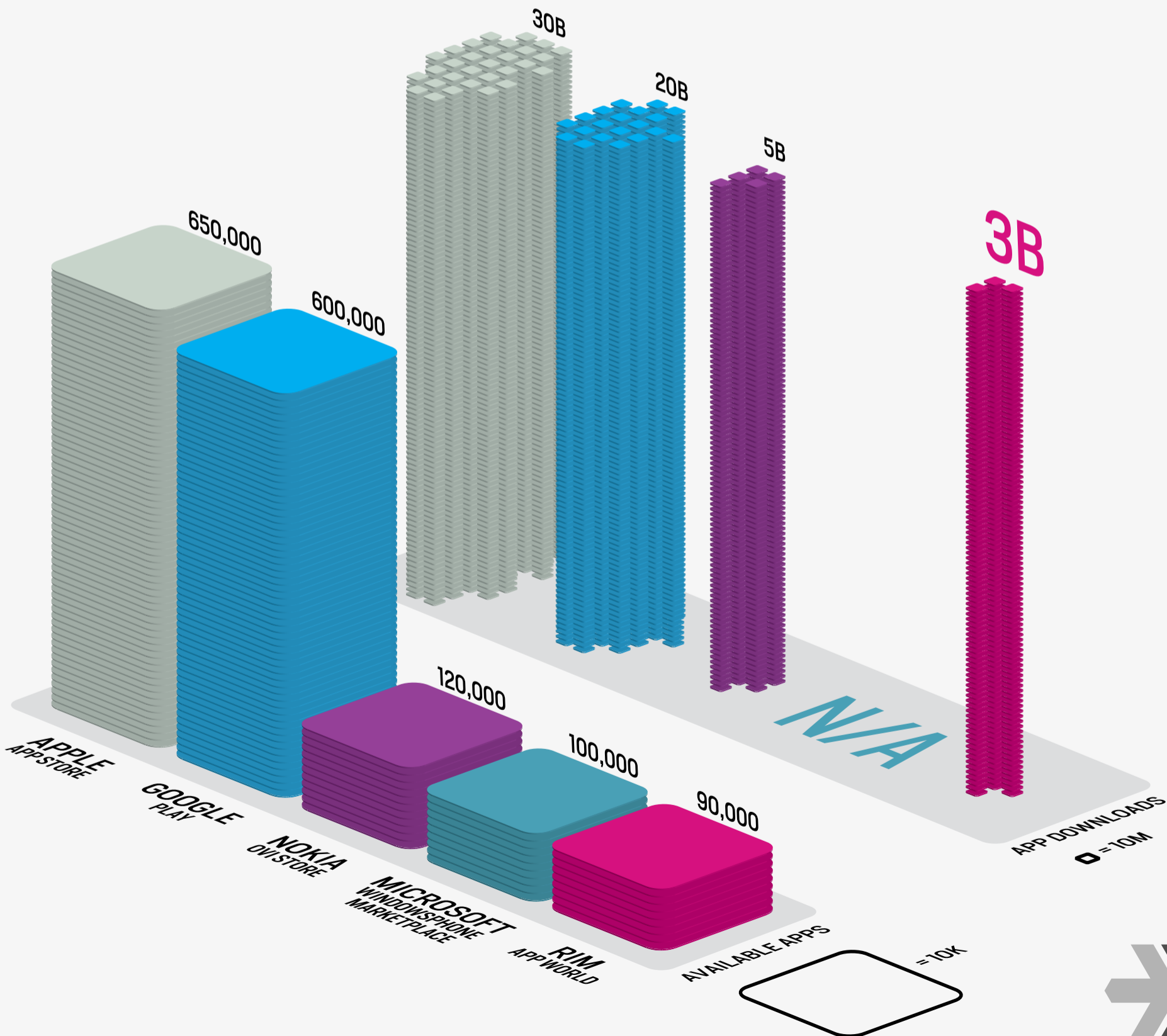


App-raaisal: BlackBerry App World Hits Three Billion Downloads

SOURCE: RIM/APPLE/GOOGLE/
NOKIA/MICROSOFT

Not all of the numbers are bad around RIM headquarters. The company's celebrating the big 3 billion — that's the number of app downloads it's seen since the 2009 launch of App World. According to RIM, that number amounts to 2.5 million downloads a day — certainly

nothing to sneeze at. Naturally, RIM is using the opportunity to do some "myth busting," regarding the perceived lack of selection for BlackBerry handsets and the PlayBook tablet. At present, there are 90,000 apps "up for sale" through the mobile app market. — *Brian Heater*



OUYA: A NEW CONSOLE IN AN OLD BUSINESS



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ENTER

REACTION
TIME

BY LUDWIG KIETZMANN

The Sony PlayStation upended console gaming twice: First when it packaged 3D graphics and high-fidelity media for the market back in 1994, and then again, years later, when its disc drive had trouble reading your copy of *Parappa the Rapper*, compelling you to turn the system upside down.

The Ouya (pronounced Oo-yah) aims to “upend console gaming” for a mere \$99, once its Kickstarter campaign ensures the prototype model makes it into full production. The makers of Ouya have already generated over 3 million crowd-sourced dollars above their \$950,000 goal, so the sleek silver box should reach thousands of backers as soon as it’s ready. But what, exactly, are all those backers going to play on it?

If you consider a Kickstarter donation as a pre-order of sorts, it’s especially odd to see so many early adopters sign up for a brand new console, having no idea what games will be avail-



A render of the Yves Behar-designed Ouya.



A new console, even one that's amenable to hacking and open to all sorts of developers, isn't going to solve the problem of a bloated business.

able on day one. We know that "at least some gameplay has to be free" for all Ouya games, and that it's likely to borrow popular fare from the Google Play Store, but there's nothing tangible like a *Halo* or a *Soul Calibur* to prompt the purchase outside of the vague desire to support a new system. The Ouya is gaining momentum based on the power of its claims, and what its creators see as an inherent ability to disrupt the couch-facing status quo.

The project's Kickstarter page indicates a passion for returning games to the television and finding a new venue for simple diversions and indie gems that reached a wide audience on phones and tablets — devices which have such great reach because they aren't dedicated gaming systems. Developers have found a massive audience across iOS and Android, large enough to support simple and risky game concepts that wouldn't fly on a console. Why give that up in order to make a console game with a comparatively limited audience?

2 NEW GAME RELEASES FOR THE WEEK OF JULY 13TH



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**RHYTHM THIEF AND
THE EMPEROR'S TREASURE**
Nintendo 3DS - \$30



NCAA FOOTBALL 13
Xbox 360, PlayStation 3 - \$50

Perhaps we're in disagreement over what constitutes a console game. A new console, even one that's amenable to hacking and open to all sorts of developers, isn't going to solve the problem of a bloated business. When it comes to the typical AAA game, the costs of marketing and development are enormous, and ultimately prohibit extreme instances of creativity. Customers don't want to pay \$60 for what may seem like a weird, unfamiliar idea, and yet charging less is incompatible with the barely sustainable reality of making the console games we like — or that we think



we like. The Ouya isn't "upending" this problem so much as it is avoiding it entirely, and that may disappoint those who have come to expect certain productions on their consoles.

Though the Ouya's low price point and relative purity as a games machine may not spare it from the pitfalls of any other console, its biggest asset is in being a vector for a different business model. The free-to-play model is hardly a new strategy, having made *League of Legends* a multi-million dollar success on PC, but it has yet to be packaged and sold into the living room. The unproven console may be the first to make free-to-play a standard outside of computer and mobile gaming.

The introduction of a new console is arguably the best way to reshuffle business models and distribution methods. Microsoft, Sony and Nintendo could pursue these radical shifts with their

next endeavors, but the old web of retailers, global broadband penetration and people who just like the smell of a new game box means they won't go cold turkey just yet. The Ouya may end up being more of a test run for the big boys to crib from — and they'll have access to the franchises and big-budget console games you'll never see on Ouya.

Of course, that's also part of the appeal. If paying \$99 for a system frees you from the great \$60 obligation, it might establish habitable ground between big-budget blockbusters and experimental phone games. That sounds an awful lot like the PC (or even the Xbox Live Indie Games service), but the Ouya's projected price and simple design will appeal to a different kind of audience. If it wants to upend the world of consoles, however, it'll have to be competitive in the same way that everyone else is: Show us some games first. **D**



A detail view of the Kickstarter darling's controller.





Your E-Book Is Reading You

by Alexandra Alter
The Wall Street Journal

We all know that e-readers have changed the experience of reading a book, but they've also introduced some other profound changes that are less immediately evident. In this piece for *The Wall Street Journal*, Alexandra Alter looks at one such shift that represents a boon to publishers and retailers: what your e-reader knows about you. That, as you may have guessed, is quite a lot: how long it takes people to read a particular book, how far they get before quitting a book, which passages they highlight and what books they buy next when they're finished. And that's to say nothing of the data Amazon and others are less willing to reveal. All of that, Alter explains, opens up a host of new possibilities for retailers and publishers that could well lead to some big changes in books themselves, such as revisions or "splashier digital editions" based on when folks get bored in a particular book or series.

What the WELL's Rise and Fall Tell Us About Online Community
by Howard Rheingold
The Atlantic

Late last month it came to light that the WELL, the pioneering online community, was once again on the market, and this time the outlook was particularly bleak. Here, one of its earliest and most well-known members, Howard Rheingold, offers a look back at the WELL's history and the impact it's had.

Data Centers: Anti-Monuments of the Digital Age
by Vanessa Quirk
ArchDaily

A fascinating look at the architecture of data centers, which Vanessa Quirk suggests is now at a crossroads. On one side are companies like HP, which are betting on modular data centers as the future (with architecture taking a back seat), while others like Facebook are insisting that efficiency and a building's design go hand in hand.

The IRL Fetish
by Nathan Jurgenson
The New Inquiry

This piece sparked a good deal of debate when it was published two weeks ago, and much of it is still ongoing. In it, Jurgenson argues that online and "real life" (or IRL) can't, and shouldn't, be separated — that online isn't simply a state of being "not offline," and social media is "something we carry within us."

Before iPhone and Android Came Simon, the First Smartphone
by Ira Sager

Bloomberg Businessweek
There was plenty written about the iPhone's fifth anniversary last month, but Ira Sager went back a full 20 years for this in-depth look at another key device in the history of smartphones: the IBM Simon Personal Communicator, the very first smartphone.



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connection

Share your content seamlessly in HD with Xperia™ ion – Sony's first LTE smartphone. Simply connect via HDMI to use Xperia ion's unique TV launcher homescreen. Control everything – movies, music, web browsing and more – with your TV's remote.
sonymobile.com/xperiaworld



XPERIA ion
made of imagination



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REVIEW

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Google
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Samsung
Series
9



SAMSUNG SERIES 9 (13-INCH, MID-2012)

If you can handle the sticker shock, the **Series 9 (13-inch)** is one of the lightest and brightest out there right now.
By Dana Wollman

Good things come in pairs, right? Earlier this year Samsung revamped its high-end Series 9 line with two new Ultrabooks: an impressively thin 15-inch model, along with a more portable 13-inch machine. So far this year, we've gotten a chance to review the larger version which remains one of our favorite ultraportables ever, thanks to its minimal design, fast performance, lovely display and long battery life.

“So what?” you're thinking. “Why bother revisiting the miniature version?” For one, friends, Samsung only recently refreshed the Series 9



with third-generation Intel Core processors, and we were eager to make note of any performance gains. More importantly, though, the 13-inch Series 9 faces stiffer competition than its big brother. There truly isn't another big-screen notebook quite as thin or as light as the 15-inch Series 9; if those are the attributes that matter most, that's the laptop you're best off getting. But the smaller Series 9 finds itself fighting for space on retail shelves amidst high-end ultraportables like the MacBook Air, ASUS Zenbook Prime UX31A, the HP Envy Spectre XT and, well, you get the idea. So how does this \$1,300 system fare against such worthy opponents? Read on to find out.

LOOK AND FEEL

If you've already read our review of the 15-inch Series 9, you should have a pretty good idea of what's in store here. As you'd expect, the 13-inch model is basically a shrunken version of the bigger model: just as gorgeous, with one less USB 3.0 port in tow. Even now that Ultrabooks are flooding the market ahead of back to school season, the Series 9 remains one of the most stunning options out there, with a unibody aluminum chassis that's as rigid as it is lightweight. As

The Series 9 rocks a rigid, lightweight aluminum chassis.



ever, what we appreciate most about the design is how simple and unadorned it is: Samsung didn't need an embellished hinge or fancy penmanship to demonstrate that this is a premium laptop. Nope, just high-quality materials and some narrow bezels did the trick.

Our only gripe: those smooth aluminum surfaces are a magnet for fingerprint smudges, which can be tough to wipe away. The metal isn't totally immune to scratches, either, though nicks weren't nearly as big a problem as the grease stains.

But back to that featherweight chassis for a moment. At 2.55 pounds (1.16kg), the Series 9 is exceptionally light, even for an Ultrabook. (By comparison, even relatively light laptops like the MacBook Air and ASUS Zenbook Prime UX31A

Samsung didn't need an embellished hinge or fancy logos to demonstrate that this is a premium laptop.



weigh 2.96 and 2.87 pounds, respectively.) As for that razor-thin profile, it measures just 0.5 inches (12.7mm) thick at its widest point, making it one of the skinniest Ultrabooks money can buy. It's worth noting, by the way, that it's only marginally thinner and a pound lighter than the 15-inch Series 9, which comes in at 3.5 pounds and 0.58 inches thick. So, if you've been shying away from the larger model because you assumed you'd have to make a huge compromise in portability, it might be time to re-think that assessment.

Of course, a half-inch-thin laptop has its drawbacks, especially when it comes to port selection. As with other 13-inch Ultrabooks, you'll have to do without an Ethernet jack or HDMI output, and the number of USB ports tops out at two (compared with three for larger-screened Ultras). What you get are one USB 2.0 socket and one 3.0; micro-HDMI and mini VGA output; a 4-in-1 memory card reader; a standard 3.5mm headphone jack; and a miniature Ethernet port, which you can use with an included adapter. (Samsung also makes a VGA dongle, sold separately.) Though we wish Samsung would upgrade all its USB ports to 3.0, this selection

is still pretty typical for a laptop in this class — if anything, it illustrates one of the key trade-offs you'll make if you opt for an Ultrabook instead of a more mainstream notebook.

KEYBOARD AND TRACKPAD

If buying an Ultrabook means making a Faustian agreement with Intel, there's one other thing you're likely to sacrifice besides port selection, and that's a cushy, tactile keyboard. We so often see depressed, shallow keys on ultraportable machines, and it's not until you step up to the slightly heavier models that you start to enjoy a little more travel. The Samsung Series 9 is no exception: its keys are some of the flattest we've seen, and their smooth finish means your fingers might slip and slide in the beginning as you get used to the layout.

But there's hope: the buttons are widely spaced, so once you do acclimate



The keyboard is responsive, but the keys have very little travel.



to the short pitch your fingers should land where they're supposed to. Even the arrow keys, as tiny as they are, are easy to use for highlighting text and such. Also, for what it's worth (and it's worth a lot, we think), Samsung avoids the worst issue we've seen on Ultrabook keyboards: lifelessness. Here, the buttons are at least responsive, meaning you won't have to pound them just to make sure your presses register.

As with the 15-inch model we reviewed, this guy has some offbeat aquamarine backlighting, which turns on and off automatically. Which is to say, you can't force the funky lights to turn on if you happen to be sitting in a brightly lit space.

The refreshed Ivy Bridge machine we're reviewing shares the same Elan touchpad drivers as the larger 15-inch model. Since the Series 9 has been on sale for a couple months already, Sammy's had quite a bit of time to refine the touchpad experience. And refine it has. When we reviewed the 15-inch version three months ago, we complained that the pad sometimes mistook left clicks for right ones, and that even after a driver update multi-touch gestures like two-finger scrolls felt a bit jerky. This time around, our clicks registered correctly, and scrolling felt buttery smooth. Even pinch-to-zoom — a difficult-to-pull-off gesture — works pretty well here. Also, palm rejection continues to be excellent: not once did we have to put up with the cursor randomly flying to a different part

of an email or document.

Oddly, despite responding well to two-finger scrolls, the touchpad stumbles when it comes to simple cursor navigation, of all things. Dragging the cursor around with one finger routinely felt clumsy, with the cursor stopping short somewhere on the screen before we got to whatever it was we intended to click. Surely there's room for Samsung to improve here.

DISPLAY AND SOUND

When you're buying a PC from a company with as much television know-how as Samsung, you'd expect the display to be gorgeous. Well, Sammy doesn't disappoint: like the larger Series 9, this guy has a 1,600 x 900 SuperBright Plus display, which, in layman's terms, means the brightness is rated at 400 nits. It might just be the best display on an Ultrabook this size — except, of course, for the 1080p IPS panels you'll find on ASUS' Zenbook Prime line. Pixel count aside, it's just so refreshing to sit down in front of a glare-free display that's bright, gentle on the eyes and easy to view at odd angles. If you look closely, you can see the LCD matrix, but nonetheless the brightness and contrast make this one of the best screens you'll find on a laptop in this category.

As is becoming standard on Ultrabooks, the Series 9 also features Intel's Wireless Display technology, which allows you to stream 1080p video to an





The display is glare-free, bright and gentle on the eyes.

external monitor or TV with the help of a settop box, sold separately. If you're not up for media streaming, you can also use the tech to mirror your desktop on a larger display.

When it comes to audio, you'll notice a bit of tinniness, as with the 15-inch version. The difference, though, is that the larger Series 9, at \$1,500, has to compete with less expensive, but similarly sized laptops, like the HP Envy 15. In that scenario, the Series 9's audio output is disappointing. If you compare the smaller Series 9 to other 13-inch Ultrabooks, though, the quality doesn't seem bad at all, just be-

cause most ultraportables fall flat where sound is concerned. For the category, the volume here is surprisingly loud, and while we could've used some deeper bass notes, we still had a pleasant time kicking back, listening to Florence and the Machine and old Queen records.

PERFORMANCE

The \$1,300 configuration we tested comes stocked with a 1.7GHz Core i5-3317U (Ivy Bridge) processor, 4GB of RAM, a 128GB SSD and Intel's integrated HD 4000 graphics. So what does that mean in terms of performance?



Well, unfortunately for you, the consumer, our benchmarks and real-world tests tell two different stories. On the one hand, its PCMark Vantage score falls short of other high-end Ivy Bridge systems like the MacBook Air and the ASUS Zenbook Prime UX21A; in fact, it trends closer toward what we've been seeing from lower-end Ivy Bridge Ultrabooks, such as the Lenovo IdeaPad U310 and Sony VAIO T13.

On the other hand, this same machine is capable of one of the fastest (if not *the* fastest) boot-up times we've ever logged: just 12 seconds! We actually continued to run that test, wondering, perhaps, if that result was a fluke. Nope, the Series 9 boots in 12 seconds.

The Series 9 is capable of one of the fastest boot-up times we've ever logged.

Every. Time. By comparison, the new MacBook Air and UX21A both boot in about 18 seconds, which is already faster than most laptops we've tested.

It would appear, too, that its Sandisk-made solid-state drive is also faster than most. In the disk benchmark ATTO it managed top read speeds of 501 MB/s and max writes of 364 MB/s. That's actually roughly on par with the Zenbook Prime UX21A, but again, you

LAPTOP	PCMARK VANTAGE	3DMark06
SAMSUNG SERIES 9 (13-INCH, 2012, 1.7GHZ INTEL CORE I5-3317U, INTEL HD GRAPHICS 4000)	8,624	5,155
MACBOOK AIR (2012, 1.8GHZ CORE I5, INTEL HD GRAPHICS 4000)	13,469	5,827
ASUS ZENBOOK UX31 (1.7GHZ CORE I5-2557M, INTEL HD GRAPHICS 3000)	10,508	4,209
ASUS ZENBOOK PRIME UX21A (IVY BRIDGE CORE I7 PROCESSOR, INTEL HD GRAPHICS 4000)	10,333	4,550
LENOVO IDEAPAD U300S (1.8GHZ CORE I7-2677M, INTEL HD GRAPHICS 3000)	9,939	3,651
SAMSUNG SERIES 9 (15-INCH, 2012, 1.6GHZ CORE I5-2467M, INTEL HD GRAPHICS 3000)	10,580	4,171
LENOVO IDEAPAD U310 (1.7GHZ CORE I5-3317U, INTEL HD GRAPHICS 4000)	8,345	4,549
SONY VAIO T13 (1.7GHZ CORE I5-3317U, INTEL HD GRAPHICS 4000)	8,189	3,847
MACBOOK AIR (2011, 1.7GHZ CORE I5-2557M, INTEL HD GRAPHICS 3000)	9,484	4,223



wouldn't know it based on that gap in PCMark Vantage scores.

Graphics-wise, the Series 9 lands in the same general ballpark as most other Ivy Bridge machines with that HD 4000 chipset. Both the low-end IdeaPad U310 and premium UX21A, for instance, come within about 600 points of the Series 9, while the MacBook Air running Windows takes the lead by less than 700 points. Either way, a score in the mid to high 4000s or somewhere in the 5000s would reflect the kind of performance jump we'd expect to see going from Sandy Bridge (3000s) to Ivy Bridge.

When it comes to real-world gaming, you should be able to pull off some popular titles — if you keep the resolution capped at default settings. In *Call of Duty 4*, for instance, our frame rates mostly hovered in the 30s when we settled for 1,024 x 768. With the display set to the native 1,600 x 900 resolution, though, gameplay slowed to a crawl at 13fps.

BATTERY LIFE

And we have a winner. Ladies and gents, meet the new longest-lasting 13-inch ultraportable on the block. The smaller Series 9 lasted a hair over seven hours in our usual rundown test, which involves looping a video off the local drive with WiFi on and display brightness fixed at 65 percent (and this is with a 400-nit panel, mind you). That's almost a half hour longer than the new Ivy Bridge-enabled MacBook Air, whose six-and-a-half

LAPTOP	BATTERY LIFE
SAMSUNG SERIES 9 (13-INCH, 2012)	7:02
SAMSUNG SERIES 9 (15-INCH, 2012)	7:29
LENOVO THINKPAD X230	7:19
MACBOOK AIR (13-INCH, 2012)	6:34 (OS X) / 4:28 (WINDOWS)
HP FOLIO 13	6:08
TOSHIBA PORTEGE Z835	5:49
ASUS ZENBOOK UX31E (2011)	5:41
SONY VAIO T13	5:39
MACBOOK AIR (13-INCH, 2011)	5:32 (OS X) / 4:12 (WINDOWS)
HP ENVY 14 SPECTRE	5:30
LENOVO IDEAPAD U300S	5:08
SAMSUNG SERIES 5 ULTRABOOK (14-INCH, 2012)	5:06
DELL XPS 13	4:58
LENOVO IDEAPAD U310	4:57
SAMSUNG SERIES 9 (13-INCH, 2011)	4:20
ASUS ZENBOOK PRIME UX21A	4:19
ACER ASPIRE S3	4:11



hour runtime was already on the long side. Realistically, then, this means you'll enjoy an hour or more of battery life on the Series 9 than you would on most competing Ultrabooks.

SOFTWARE

Okay, so when it comes to bloatware the Series 9 isn't the pristine paradise that Vizio claims to be, but the list of pre-installed programs is at least relatively short. On board you'll find Absolute Reminder, Amazon Kindle, CyberLink YouCam, Norton Internet Security, Norton Online Backup and Skype 4.2. A mostly harmless bunch, though those pop-ups imploring you to convert your Norton trial to a paid subscription are as annoying as ever.

Samsung also bundled some software of its own, a suite of applications with some pretty self-explanatory names: Easy File Share, Easy Migration, Easy Settings, Easy Software Manager and Easy Support Center.

CONFIGURATION OPTIONS AND WARRANTY

What you see here is what you get. There are two versions of the 13-inch Series 9, priced at \$1,300 and \$1,400, but the only variable is the OS: Windows 7 Home Premium on the first, and Win7 Professional on the second. Other than that, you'll get that 1.7GHz Core i5 CPU with Intel HD 4000 graphics, 4GB of RAM and a 128GB solid-state drive. None of these parts (e.g., the RAM, drive or six-cell battery)

were designed to be user-replaceable. As we've outlined, these components add up to long battery life and strong real-world performance, but we're sure some power users will grouse at there being no 8GB or Core i7 option (not to mention, more storage space).

Whichever model you choose, though, you'll be signing on to a one-year warranty, which is typical for a consumer PC at pretty much any price.

THE COMPETITION

If you're considering the Series 9, we're going to go ahead and assume you're not put off by that lofty price. (If you're here for the gadget porn, that's okay, too.) Obviously, Samsung justifies that \$1,300-plus cost with high build quality and fast performance. Ergo, for the sake of keeping things simple and *not* overwhelming you with choices, we'll focus on other higher-end machines with similarly high-end specs.

Starting with the 800-pound gorilla in the room, the Series 9 is bound to get compared with the 13-inch MacBook Air, which also just got an Ivy Bridge refresh. It, too, used to start at \$1,300, but Apple recently cut the price by a hundred bucks. For the money, it offers similar specs: a Core i5 CPU (clocked at 1.8GHz, not 1.7), four gigs of RAM and a 128GB SSD. On the plus side, it offers two USB 3.0 ports instead of one, and a slightly more comfortable keyboard and trackpad. Power users will also appreciate being able to configure it with



We suspect some shoppers will shift their attention from the Series 9 when they see how relatively expensive it is compared to similar high-end systems like the ASUS Zenbook Prime UX31A.

a Core i7 CPU, 8GB of RAM and a larger 512GB drive. Still, the Series 9 offers an extra half hour of battery life and a higher-res screen (1,600 x 900 vs. 1,440 x 900). Ultimately, the decision comes down to your priorities. Suffice to say, though, you can't really go wrong with either, and if you're patently more comfortable in one OS, well, your decision just got a lot easier.

But before we crown the Series 9 the best Windows-based Ultrabook money can buy, we suspect ASUS might have a thing or two to say. The company's new Zenbook Primes greatly improve upon ASUS's first-generation models, with improved trackpads, more tactile keyboards and higher-res 1080p displays. We haven't yet tested any of the 13-inch models, so we can't vouch for their performance or battery life, but we *were* impressed with the 11-inch UX21A we took for a test drive. What's more, ASUS clobbers Samsung on price: a 13-inch UX31A with the same specs as our Series 9 review unit is going for a promotional \$1,130 on Amazon at the time of this writing (the normal price is \$1,150 — still a good deal).

In HP's camp, there's the recently

announced Envy Spectre XT, the 13-inch little brother to the glass-clad Envy Spectre we reviewed earlier this year. At \$999, it starts with the same internals as the 13-inch Series 9. Also like Samsung's model, it has a backlit keyboard and USB 3.0 / 2.0 ports, though it adds a full-size HDMI socket and full editions of Adobe Photoshop and Premiere Elements. Before you get *too* excited, though, the screen resolution is fixed at 1,366 x 768, and there's no option to upgrade. (You can, at least, add a Core i7 CPU and a 256GB SSD.)

It's a similar story with the Sony VAIO T13, which starts at \$760, but costs about \$1,000 if you deck it out with the same CPU, memory allotment and 128GB solid-state drive as the Series 9 we're reviewing here. Like HP, Sony is offering more configuration options than some other Ultrabook makers, including 8GB of RAM, a Core i7 CPU and a mix of hard drives and SSDs. Again, though, you're locked into 1,366 x 768 resolution.

We're not done yet. After many months, Acer is finally getting ready to ship the Aspire S5, a 13-inch Ultrabook with a motorized drop-down door in the



back covering an impressive port selection (USB 3.0, Thunderbolt and HDMI). As is the case with almost all of these machines, we haven't yet had the opportunity to test the performance or battery life, though we can say that given the starting specs (Core i7, a 256GB SSD), that steep \$1,400 starting price makes some sense. Still, for the money you'd expect more than just a 1,366 x 768 display, especially given that Samsung, Apple and ASUS are all offering denser, higher-quality screens for less money.

Finally, let's not rule out Toshiba, whose 2.47-pound Portege Z935 is one of the few 13-inch Ultrabooks that weighs even less than the Series 9. In brief, this is the Z835 we reviewed last year, except it's since been refreshed with Ivy Bridge. With a starting price of \$900 it's certainly tempting, and we like how the company is throwing 6GB of RAM standard, where every other outfit is offering four. Still, raw specs aside, this is the same cramped keyboard we

Even at the premium price, this is one sweet machine.



struggled with the first time around, so until Toshiba gives its Portege line a makeover, we believe you can find a better balance between ergonomics and performance elsewhere.

WRAP-UP

In recent weeks, we've been receiving an uptick in emails from readers, asking for help in choosing an Ultrabook (not the most affordable Ultrabook, but the *best* — our fans do tend to be spec-obsessed, after all). While we can't outright make a decision for you kind folks, we've taken to suggesting a very small handful, and the 13-inch Series 9 always makes that list. Here's why: it's carefully made, with an exceptionally thin and light build. Its battery life is best in class, its screen falls toward the top of the heap and while its benchmark scores aren't record-breaking, real-world performance is indisputably solid.

So what can improve? The track-

pad, mostly. Though Samsung's clearly done some fine-tuning here, it could still stand to update the drivers further so that single-finger navigation feels more precise. A beefier storage option would be nice. Lastly, we suspect some shoppers will shift their attention from the Series 9 when they see how relatively expensive it is compared to similar high-end systems like the ASUS Zenbook Prime UX31A, which offers the same internals and a 1080p display for almost \$200 less. For now, Samsung can make an already-excellent Ultrabook more competitive by refining the touchpad and trimming the price. And maybe, just maybe, it'll buck the shallow keyboard trend when it comes time to design next year's model. **D**

Dana Wollman is Reviews Editor at Engadget, a marathoner, lover of puns and a native Brooklynite.

BOTTOMLINE

SAMSUNG SERIES 9 (13-INCH, MID-2012)

\$1,300+



PROS

- Beautiful, exceptionally thin design
- Best-in-class battery life
- Fast boot-up
- Bright, matte display

CONS

- Trackpad could use more fine-tuning
- Pricy compared to similar Ultrabooks

BOTTOMLINE

With a smart design, fast boot-up and long battery life, the Series 9 is among the best Ultrabooks you can buy right now.



DISTRO
07.13.12

REVIEW

NEXUS Q



Google's Nexus Q is a small ball of power and potential, but may leave many cutoff from their content collections.
By Tim Stevens

When setting up a gadget for review, delicately unboxing and smelling the carcinogenic whiff of freshly molded plastics, we typically feel some amount of excitement and anticipation to see how it stacks up against the competition. It's either that or a resigned sense of duty as we run yet another iterative evolution of this or that laptop through the same benchmarks to see just how this year's model stacks up to the older model now being sold on discount. With the Nexus Q, though, we felt something different altogether: genuine curiosity.



Why? Well, it's a high-end device with a \$299 MSRP, a price that's multiple times higher than media streamers like the Apple TV, anything from Roku and, indeed, Google's own Google TV. And yet, the Q has considerably less functionality than any of them. Largely because of this, many who witnessed its unveiling at Google I/O were quick to write it off. Despite having our own doubts we pledged to give it a fair swing, a week of solid use at home and with friends. How did it do? Does this high-concept device with high-end componentry make up for some decidedly low-end capabilities? There's only one way to find out.

HARDWARE

If you've ever been candlepin bowling then you know what it's like to cradle a Nexus Q in your hands. Coincidentally (or, perhaps, intentionally) the Q fills almost the exact same dimensions as one of those kid-sized rolling implements, weighing in at two pounds (923g) in weight and measuring 4.6 inches (116mm) in diameter. Yes, diameter. It's not too often we get to use such dimensional terminology when measuring things we review, but here we can as the Q is an almost perfect sphere.

Its symmetry is betrayed only by a slight flat spot on the bottom, useful to keep it from rolling its way across your entertainment center, and by the selection of ports poking out the back. Those sockets are reasonably comprehensive,

Powering those outputs is an internal 25-watt amplifier, custom built to work in harmony with the custom power supply also nestled within this near-sphere.

including micro-HDMI, micro-USB, TOSLINK, 10/100 Ethernet and, most importantly (and, perhaps, controversially) powered stereo outputs just waiting to accept your overpriced, low-impedance speaker wire.

Why are these controversial? Powering those outputs is an internal 25-watt amplifier, custom-built to work in harmony with the custom power supply also nestled within this near-sphere. That's no mean feat of engineering and it's surely responsible for a good chunk of the Q's high cost. That, we think, will be a problem for people who simply want to use the HDMI or TOSLINK output to get a clean digital signal out to their home entertainment center – thus bypassing that amp altogether.

Also inside is a trio of wireless connectivity options: Bluetooth, NFC and dual-band 802.11a/b/g/n. The NFC and Bluetooth are used for pairing with other Android devices, while the WiFi and Ethernet come in for the sucking of content down from the cloud. Some of it will be buffered to the 16GB of internal flash,



but you don't have direct access to any of that storage for storing content. There's also a dual-core TI OMAP processor inside, the same as the one found in the Galaxy Nexus.

The Nexus Q exterior is bisected by a ring of LEDs, 32 in total, each of the RGB variety and designed to dance together, providing a Technicolor representation of whatever groove you've channeled through them. It's this ring that separates the metal bottom of the device from the plastic top, which spins freely and is a single, large capacitive touch section. Spinning the top acts as a volume dial and tapping serves to mute whatever's being played. Very limited controls – but then you're meant to rely on your phone or tablet for everything else, as we'll get into ahead.

Though the top is made of plastic it was given some internal metal weighting in an attempt to impart a higher-quality feel, and while that plan was mostly a success, the upper piece definitely feels more hollow than the bottom portion. That part is all metal, which adds weight to keep the contraption from toppling off your bookshelf and also acts as an integrated heat sink. That, as it turns out, is an important thing, as the Nexus Q gets quite warm whilst pumping out your hottest jams.

SETUP

The Nexus Q's initial setup is incredibly easy – trivial, even. Just run the skinny, two-prong power cable to the wall (no power brick here) and connect your fa-

vorite pair of bookshelf speakers. Google recommends a pair of Triad speakers, but as we didn't have any for testing we went with a few pairs lying around: some old Advents and a couple of slightly more modern (and rather more petite) Klipsch Quintets. Bookshelf speakers all, the sort we think people would be most likely to hook up here.

We plugged the combination into the wall, leaving us with a dimly glowing, ominous-looking and completely silent ball that can't do a damned thing.

You'll need some banana plugs to make your connections, as the Q has no exposed posts and no way to accept raw speaker wire. So, we stripped some clean 16-gauge wire, threaded on four fresh connectors, popped them in the back of the Nexus Q and plugged the combination into the wall leaving us with a dimly glowing, ominous-looking and completely silent ball that can't do a damned thing. Not without a little external help, that is.

To actually do something you'll need a device that can run the bespoke Nexus Q app, which advertises itself as being com-





The Nexus Q is a 25-watt amplified orb with an LED halo.

patible with “any Android phone or tablet running Android 2.3 (Gingerbread) or later.” That is, sadly, a terrible lie. The app exclusively works on Jelly Bean devices and, while we’re told that will change before the Q ships later this month, for now the things that can actually control the Q are very few.

Thankfully, we had not one, but two compatible devices on-hand: the new Nexus 7 and a recently upgraded Galaxy Nexus. Tapping the 7 on top of the

sphere brought up the Q application in the Google Play store and, a few moments later, we had it installed. To pair with the Q, the app must use Bluetooth – but only for a few moments. After that, all communication with the device goes all the way out into the cloud and back again, meaning you can control it even if you’re well, well out of Bluetooth range.

At this point you’re ready to play, but there are some further options the



You can specify in which room your Q resides, so that you can easily push tunes to your bedroom, living room, media room and more.

Q owner can configure. Maybe. As it turns out, a bug in the Q has it currently showing up as owned by someone other than the actual owner. Who that someone is we're not sure, but the net result is that, after the Q is configured, it will quickly shun your ownership and lock you out from its more juicy configuration options. The only way to restore that highly transient feeling of possession is to do a complete factory reset on the Q. That works – for a little while.

Once reset, you have a world of options at your disposal, including managing the brightness of your Q's blinkenlights (or shutting them off entirely), calibrating the audio delay on the digital outputs

and locking their volume levels. You can also specify in which room your Q resides, so that you can easily push tunes to your bedroom, living room, media room and more – in the honestly unlikely case that someone should choose to invest in more than one.

PERFORMANCE

Our first test of the Q was with friends, friends who happen to own Android devices. The goal was to re-create this social streaming situation that we were shown during the Google I/O keynote – namely, people queuing up their favorite tunes and most hilarious YouTube clips. That experiment turned out to be rather less exciting when we learned that re-creating this situation was impossible. The app, of

A cluster of ports and connections reside at the back of the Q.



course, is wholly incompatible with their non-Jelly Bean devices. Again, that'll be fixed soon, but it definitely didn't help the party get started here.

Thankfully we had both a Galaxy Nexus and Nexus 7 running Jelly Bean, so we were able to at least make an effort at creating a party around the Q. But, presented with an unfamiliar library of tunes in Google Music, our companions quickly turned to the rather more palatable task of selecting YouTube highlights. Yes, the honey badger made an appearance.

Playing YouTube videos on the Q is as easy as tapping an icon on the top of the app with a play button showing some waves coming off, toggling external playback, then playing any video you like. The problem is you can't create a queue of videos; if another gets tapped it then fires up and is soon playing on your TV. Whereas with music, multiple people can work together to build out a killer playlist. However with YouTube, the current video gets replaced as soon as a single person gets the slightest bit impatient.

There's no option for lossless playback. There's no DLNA support, no support for playing media from external storage and no way to fill that 16GB of flash with music.

And, really, that's about all there is to it. You can play media through the Google Play media apps (music and videos) and push YouTube videos to the Q. Nothing more. Have a library full of ripped music or MP3s purchased from some other store? You'll need to upload *all* of it to Google's servers for it to be playable here.

Same goes for videos. Your complete collection of downloaded *Engadget Show* episodes cannot be played here. Any video you want to play through the Q has to be rented or purchased through Google Play. That's a shame, as this could have gone a long way toward fixing the annoying lack of output on the Nexus 7 tablet.

Sure, the focus is definitely on audio, but even music playback lacks features. That amplifier puts out some very clean sound when paired with non-powered speakers, but this is the kind of setup intended for audiophiles looking for a simple secondary system – exactly the kind of listener who cringes at the thought of lossy, compressed streaming audio. There's no option for lossless playback.

There's no DLNA support, no support for playing media from external storage and no way to fill that 16GB of flash with music. And, to top it all off, there's no configurable equalizer.

If you can live





A sphere in isolation...
from our
personal MP3
collection.

with all those missing pieces you'll get some very nice sound from such a petite system. The Nexus Q has a remarkably small footprint, a footprint we'd have been willing to extend a bit in exchange for a few more physical

The Nexus Q is begging for some sort of web-based interface.

controls. As it is, we quickly got tired of reaching for our tablet to pause the music.

In fact we quickly tired of reaching for our tablet in general. The Nexus Q is begging for some sort of web-based interface. Google Voice showed us how wonderful listening to voicemail and sending texts from a web browser can be, so why do we have to keep turning away from our keyboards and unlocking our mobile devices whenever we want to skip a particularly annoying track.



Even an IR port somewhere in there for compatibility with universal remotes would have been a nice bonus.

And then there are the lights. The 32 RGB LEDs scattered about the rim and the 33rd punctuating the top of the device put on quite a handy little light show when your tunes start dropping beats, or get a bit more mellow when the tracks get a little more chill. They're impressively bright and, while opinions are bound to be hugely divided on this subject, we like them. Yes, they can be distracting, but if we're talking about something that's intended to liven up a party, a chromatic cavalcade swirling around your entertainment center won't hurt. And, yes, you can turn them off if you'd rather.

WRAP-UP

After a week with the Q we're honestly still of mixed mind about the thing. On one hand it's a sophisticated, beautiful device with such a

fine-grained degree of engineering you can't help but respect it. It feels like a mysterious piece of alien technology that's beamed straight down to your bookshelf. It also feels like alien technology in that we have no idea what to do with the thing.

Sure, it can stream music or movies, but we have dozens of other ways of doing that already, and nearly all of them offer plenty more functionality. Even the \$99 Apple TV is hugely more flexible than this Android-powered device, and that's a curious state of affairs. The Nexus Q is an impressive piece of hardware that, given time and a serious augmentation of capability, could mature into a very exciting little thing. Right now, though, the Q feels like a high-priced novelty. A very nice novelty, but a novelty nevertheless. **D**

Tim Stevens is Editor-in-chief at Engadget, a lifelong gamer, a wanna-be racer, and a born Vermonter.

BOTTOMLINE

GOOGLE NEXUS Q

\$299



PROS

- Stunning design
- High-quality audio output
- Plenty of connectivity options

CONS

- Limited functionality
- Can only access Google Play content
- Can only be controlled by Android devices

BOTTOMLINE

Google's curious little media streamer is a beauty to behold but offers an unfortunate combination of high price and limited functionality.



INSIDE NASA'S LAUNCH CONTROL CENTER

For nearly 30 years, NASA's nerve center has remained off-limits to the public. Now, just one year since the launch of its last shuttle mission, the agency is ready to open up.

By **Alexis Santos**





DISTRO

07.13.12

INSIDE NASA'S LAUNCH CONTROL CENTER

At the dawn of the Space Shuttle program, NASA's Launch Control Center (LCC) was placed off limits for public tours. On June 15, however, buses embellished with Kennedy Space Center (KSC) decals began whisking visitors off to the control complex for the first time in more than three decades – nearly a year after the final shuttle mission last summer.

After clearing a security checkpoint, our bus wheels its way deep into Kennedy Space Center, NASA's 240,000-acre property on Merritt Island, Fla., that doubles as a wildlife refuge. The monolithic Vehicle Assembly Building (VAB) comes into view and grows larger as we approach. Referred to by NASA employees as the heart of the operation, the VAB houses spacecraft as they're pieced together.

Above: A mural within the LCC lobby chronicles the history of human spaceflight, complete with an earlier vision for the International Space Station.





1 Faux solar panels reminiscent of those on the International Space Station hang above ticket booths.

2 One of the VAB's 456-foot tall doors is lowered to promote air flow, keeping things cool in the Florida heat without air conditioning.

3 An older terminal on display is equipped with a bird deterrent system for scaring off potential winged threats before launches.

4 Flags bearing the names of space shuttles cling to the ceiling of the LCC's atrium.

5 Firing Room 4 terminals as viewed from within "The Bubble Room," where members of senior management observe countdowns.

6 Our bus swings by a shuttle launch pad after it leaves the LCC.



2



3



4



5



6



Once complete, a 6-million-pound crawler-transporter sidles up to the structure, gets fitted with the craft and ferries it over a gravel roadway to the launch pad 3.4 miles away. The LCC, which staff dubbed the brains of the system, is adjoined to the VAB by a slim corridor protruding from its boxy, white exterior.

Our bus sits in the complex's parking lot while the previous tour wraps up — our guide points out that the kinks in timing are still being worked out. Primed with a quick history lesson and peppered with trivia, we pull up and file into the LCC. Plaques for each mission that embarked on journeys from Launch Complex 39 and a mural depicting the history of human spaceflight greet us. The plaques for the most exciting missions, however, were still to come, the tour guide assures.

A security detail joins the group before we venture any further. Though activity in the building has been dialed back since the Space Shuttle program's mothballing, it's still a secured federal facility where work continues on commercial launches and preparation for future NASA missions. Following security protocols, our chaperone leads the way with a guard at his side.

As we ride an elevator, the guide contemplates aloud who else has stood within its confines: astronauts, presidents and scientists. The doors open, revealing the entrance to the nerve center and a message etched into a pane of glass: "The greatest launch team in the world enters through these doors."

Lo and behold, there it is: Firing Room 4, one of four veritable ground zeros for NASA launch countdowns. The room — captured on television, historic photographs and portrayed in films — is at the same time larger than life, but smaller than the imagination has led to believe. A constellation of computer consoles is crammed within, each station laden with knobs, displays, keypads, buttons, dials and a dedicated phone. A screensaver we spot reveals that NASA is still partial to Windows XP.

Though we can't wander the room, we're briefed on its layout, carefully shepherded through the consoles and to-

A Kennedy Space Center tour bus waits for visitors to hop aboard.



A trip to the Apollo / Saturn V Center, where one of three remaining Saturn V rockets is housed, rounds out the tour.





A massive Saturn V rocket looms overhead without its intended three-person payload.

wards the Launch Director's perch above the other terminals. The 1,600-step pre-launch manual, known as the S0007, is on display in a set of 10 beefy binders. Its pages hold launch contingencies and the classic roll call associated with the critical "go" or "no go" decision. And of course, the launch clocks hang on the walls — running a ghost countdown to simulate the hours before an actual mission. Aside

from the clusters of computers, the towering angled windows that frame a spectacular view of the crawler way and launch pad dominate the room. These are the windows, according to its architect Martin Stein, "through which you can see mankind's future." After a final gaze at the innards of the firing room, we're ushered outside and into the bus.

A consistent message is echoed throughout the tour: Reports of NASA's death are greatly exaggerated. Despite the shuttle shelving and reduced federal funding, it's stressed that NASA isn't packing up shop — our guide is quick to point out that employee parking lots aren't empty. In fact, tours of the LCC may cease if commercial missions make use of the facility and as the Orion project (NASA's shuttle successor) gears up for manned spaceflights to an asteroid, the Moon and Mars.

Still, it's hard to shake thoughts of what NASA would be doing with more cash in its coffers. However, construction at the visitor center is proceeding at full steam ahead. A 65,000-square-foot exhibit that'll house the Space Shuttle Atlantis is aimed for completion in the summer of 2013. Kennedy Space Center may not be as busy with launches as it once was, but it's still busy inspiring the next generation of intrepid astronauts.

"Do come back," the tour guide urges. "Great things will continue to happen right here." ◀

Alexis is a Contributing Editor at Engadget who has a penchant for collecting outdated hardware.



Re-Reading Rainbow

LEVAR BURTON
Returns with a New
Take on the PBS
Classic

By Brian Heater





LeVar Burton has to take a moment. He pauses, dabs his eyes with a tissue, taking it all in: the washed-out white room, over-exposed by the sun, filled with journalists, industry reps and friends in rows of folding chairs, red, orange, yellow, green and blue. Large balloons hang from the corners of the room, dressed up like hot air balloons, carrying small, empty baskets. A guitar sits next to an amp off the corner of the stage while the *Reading Rainbow* logo beams on a flatscreen monitor,

largely unchanged since its heyday a quarter-century ago. Burton, too, appears mostly unchanged since those days, aside from closer-cropped hair,

more neatly manicured facial hair and a smart, mustard suit jacket.

There's plenty to be emotional about, of course, hitting the stage on



the tail of an introduction by producer Mark Wolfe, who calls Burton, “my best friend.” The return of *Reading Rainbow* — now in the form of an iPad app — has been a long time coming, the beloved children’s series having been largely MIA since being pulled from the airwaves in 2009, after a 26-year run. “This is two years in the making,” Burton begins in his familiarly gentle cadence as we sit down for an interview roughly an hour later, “and I’m really just overwhelmed with the response. It’s like making a movie. You’re just so close to it and you sometimes lose perspective, you can’t see the forest for the trees, that sort of thing. There’s so much that’s gone into it, so much work, so much sweat, so much blood.”

A lot, certainly, has gone into the launch, Burton singling out theme song composer Steve Horelick and singer Tina Fabrique in the audience. “It’s my first time meeting her in-person,” he explains, extending a hand to bring her up on stage. “Butterfly in the sky,” she begins, as though not a single day had passed in the last two and a half decades that she didn’t wake up singing that line. “I can go twice as high,” Burton joins in. By “take a look, it’s in a book,” nearly everyone in attendance adds to the chorus. It’s a surreal sight placed up against the standard fare of tech press conferences, where bloggers elbow one another to shoot tablets on stands behind bulletproof plexiglass, and before the crowd finishes singing “a Reading Rainbow,” Burton’s eyes aren’t

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THE APP
FOR IPAD



“It’s amazing to recognize that there are so many devices that were imagined for *STAR TREK* that are actually a part of our lives today, and the iPad is one of them.”

the only misty ones in the house.

After the song, Burton offers up a “one more thing” to the crowd, staff members opening up the back wall to reveal the second half of the room, as a man picks up the guitar at the side of the stage, for an instrumental jam. Several iPads sit atop kiosks, spread out across the sun-drenched white room. In one corner is a giant sheet cake, designed by Cake Boss Buddy Valastro, a rainbow leaping from

an open book into an edible iPad. At the center the room, a culturally diverse group of children sit around a table on rainbow-colored beanbag chairs, flitting through the new app. There’s not a sour note during the whole event, even as the iPad conks out a moment in the middle of the demo, Burton (né La Forge) playing it off with a “I’m not the chief engineer, I just play one on TV.”

Burton’s longstanding commitment to literacy, naturally, goes a fair bit deeper. “My mother was an English teacher,” Burton tells me. “I feel it’s pretty much the family business.” The job of hosting began in 1983, with Burton, then best-known for the role of Kunta Kinte in the Emmy-winning ABC miniseries adaptation of Alex Haley’s *Roots*, at the helm of a new sort of PBS kids show. The show’s segments, narrated readings, with slow pans across the page, book reviews from kid readers and “field trips” to exciting locales, would all become *Reading Rainbow* signatures.

It would go on to help teach a generation to read, those who were weaned on the early days of the program are now well into their adult years. Writers and teachers often take the opportunity to thank Burton for his role in their early education — something I take a moment to do, toward the end of our interview. It’s the most someone in such a position could ever possibly hope for: a show with a real and lasting impact on its viewers. It’s also equally nerve-wracking. After two and a half decades, how do you adapt one of the most beloved properties in



children's television?

"The idea of translating that into a new experience for kids was a little daunting," admits Burton. "Because it would have been so easy to fail to meet the expectations because people are so familiar with the brand and the brand is a hallmark in the childhood of a whole generation of folks." And if Burton needed a reminder during the presentation just how elemental the program was to those covering the event, he got it in the form of a reporter who asked if the "book reports" from the show were coming to the app (they are).

Rather than closing the proverbial book on the property when PBS pulled the plug, Burton and team got to work, briefly considering the possibility of simply moving the show to a different station — a plan they quickly decided would be out-of-step with its demographic in the early 21st century. "They say that when a door closes, another one opens," says Burton, "and what really got our attention was that there was a real reaction from people when *Reading Rainbow* went off the air. I was kind of surprised, but I thought immediately, there's something here. It's not over for the brand."

The answer to striking that balance between the beloved property and the changing tastes of youth culture arrived in a soon-to-be-released technology. "What would a new version of *Reading Rainbow* look like? Television was the medium that we used in the '80s and '90s, because that's where our nation's

kids were hanging out, and this generation of digital natives, they get only a portion of their entertainment from television now. And then the iPad came out." It was a technology that, for Burton, was a long time coming. "I've been a science fiction fan all my life," he says with a smile "and it's amazing to recognize that there are so many devices that were imagined for *Star Trek* that are actually a part of our lives today, and the iPad is one of them. The chief engineer Geordi carried around a pad, not unlike an iPad."

And so, Steve Jobs' *Star Trek*-esque pad was chosen as the future home for the series. Once that decision was made, it was a journey that would take two years to realize. "Translating a television show into a multi-dimensional experience in and out is no small task," explains Burton, "and then with the added pressure of being able to figure out how to include elements that would make it really familiar to someone who had seen the show before, there were just a lot of problems that we had to solve for and that's before you get to the technology of actually making books and building a back end and a structure for all of this, the ones and zeroes."

Chief amongst the user interaction concerns was how exactly to drive the discovery of books, the concept behind *Reading Rainbow* in its original form. "There are a lot of people who are getting into the space of educational tech and books for kids, and for the most part, they're bookshelves," says Burton. "We wanted to do an experience.






with them in very specific ways and that's great," Burton tells me. "And books do give us the opportunity to enhance the narrative with animations and the like. We give them those in a way that we feel is appropriate, so as not to interrupt the narrative, to actually support the narrative

We wanted to take the discovery of books and make it an adventure for kids, like *Reading Rainbow* was. So we hit upon the island theme — there will be islands with different themes and a kid could go to an island based on how they felt about what was there." The initial group of islands — "My Friends and Family," "Animal Kingdom," "Genius Academy" (science and math) and "Action Adventures & Magic Tales" — are coupled with videos, old and new, maintaining the field trips of the original series in the form of shorts.

The books themselves, meanwhile, have optional narration and short, unobtrusive animations to help engage young readers, a way of harnessing the technology without overwhelming the reading experience. "We know that these are incredibly engaging devices and we know that kids want to be on them and we know that there's an expectation that they have when they get on them, that they'll be able to interact

— we're *Reading Rainbow*, after all."

Two years into the process, the big day arrives with singing, laughter and a few tears. And as much as Burton would like to view the event as the finish line, he admits that he's only getting started. "We're here at launch which is just another starting line because now it's up to us to iterate and to listen to our customers. So, as exhausted as we are to get to this point, you know, we're really just beginning." There's also the matter of getting the word out there — but with a generation of nostalgia-filled fans raising kids of their own, Burton and company no doubt have word-of-mouth on their side. "It's exciting to know that it is that first generation of *Reading Rainbow* watchers and lovers that's really going to help us spread the word and preach the gospel," says Burton, because, as ever, you don't have to take his word for it. 

Brian's work has appeared in Spin, EW, PCMag and various other publications.



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VISUALIZED

LEGO FOREST



A supersized Lego forest sprouted up in Broken Hill, Australia this month as part of the *Festival of Play*, celebrating 50 years of this popular brand in the land down under. The fake flora are 1:1 ratio replicas bumped up to 66 times their normal, kid-friendly size.



DAVID PERRY



Following rumors of **GAIKAI's sale, the cloud gaming platform's founder opens up about praying to the PowerPoint gods.**

What gadget do you depend on most?
My ASUS G73JW Stereo 3D Laptop. It weighs a ton, so I consider it a stunning laptop and stunning workout.

Which do you look back upon most fondly?
My Sinclair ZX81 (Timex Sinclair 1000 in the USA), programming it earned me a paycheck before I even had a bank account.

Which company does the most to push the industry?
It's a three-way tie for me, Apple

/ Sony / Canon. I need all three to survive.

What is your operating system of choice?

Windows. CP/M was my first, so [it] remains dear to my heart.

What are your favorite gadget names?
Tivo / Blip (from Tomy) / Nostromo from Alien (OK it was a VERY big gadget.)

What are your least favorite gadget names?

X-Series / Y-Series / Z-Series, it's cheating.

Which app do you depend on most?

PowerPoint, I'm giving an AMD Keynote in the morning. I'm relying on the PowerPoint Gods right now.



**Which App
Do You
Depend
on the
Most?****What traits do you most deplore in a smartphone?**

Auto-Correcting spelling that's wrong, Voice Recognition that's wrong, long delays when it's "thinking".

Which do you most admire?

iPhone. It's like buying into a tech roadmap to nirvana.

What is your idea of the perfect device?

It doesn't need charging!

What is your earliest gadget memory?

I got a pocket calculator before anyone in my school, before teachers knew to ban them.

What technological advancement do you most admire?

I like that new ideas like "The Internet" or "Credit Cards" can just pop up.

Which do you most despise?

I hate everything that makes me wait. Who invented the spinning wheel or loading bar?

What fault are you most tolerant of in a gadget?

Boot times. But I have to say, I'm at the end of the line, all my boot patience has been used up.

Which are you most intolerant of?

Advertising. Sadly Tivo didn't kill it off. Dammit!

When has your smartphone been of the most help?

It's great if you want to get into danger. Please add "Avoid war zones = YES/NO" to the GPS.

What device do you covet most?

I want the next Sony 3D Camera. My HDR-TD20V with slow motion mode is a GREAT start.

If you could change one thing about your phone what would it be?

Microsoft Office on the iPhone so I can get real work done, oh and "Enable Flash = YES/NO".


What does being connected mean to you?

4G at 20+ Megabits per second. I'm at a Hyatt Hotel tonight, paying for "Premium" internet, I get under 2Mbps. Hyatt = Lame.

When are you least likely to reply to an email?

When my life depends on it, as they are the ones my Spam filter always seems to nail.

When did you last disconnect?

I fell asleep on my Blackberry and my airplane belt buckle crushed the screen. Relaxing flight and a good time to upgrade! 



Androids TV Triple Threat



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SWITCHED
ON

BY ROSS RUBIN

Just two years ago, Google TV paved a way for Android to enter the television via integrated sets, Blu-ray players, dedicated TV add-ons and pay TV set-top devices. For now, the product may almost be as much of a hobby for the purveyor of questionable eyewear as Apple TV is for Apple, Google's mobile OS competitor. But it's clear that the platform isn't all things to all couch potatoes; the last several weeks have seen the launch of two new, contrasting approaches to getting Android on the big screen in the home.

And then, of course, there is the competition that all smart A/V products face from the growing influence of tablets and smartphones in the living room that can "throw" apps and video up to the TV. Still, a look at the (now) three key Android-on-TV initiatives shows an uneven landscape in the mad race to educate consumers that have traditionally been unaware of the OS' big-screen potential.

OUYA

The problem with smart TV, some say, is that people don't really want apps on their televisions, but the entire home console business serves as evidence to refute that. The basic business plan of Ouya seems to be, "Give away the razors, give away the blades and let a community develop their own way to shave." The small, \$99 disc-less game console that broke



the record for first-day funding and is poised to become the most-funded Kickstarter project requires developers to offer a free-to-play version of their games. It also provides a standard controller for overcoming the lack of practical touch-screen capability on the television, especially for certain game types.


The key question facing this would-be disruptor is whether the kinds of casual games that became popular on smartphones and which have become more compelling on tablets can compete for space, money and attention in the living room — not only against the triple-A titles from major console vendors, but from casual games springing up on integrated smart TV app decks.

NEXUS Q

Ouya may be the anti-console, but the Nexus Q is the anti-Ouya. Like the marketplace flop that was the first Google TV add-on device, the Logitech Revue, the Q costs not only three times what Apple TV costs, but also three times what Ouya and the Google TV-powered Vizio Co-Star device demand. As Switched On discussed several weeks ago, the true nature of Q has yet to reveal itself, but at this point it may be more helpful to think of its value weighted more heavily to music than video. In following the tradition of other Nexus products, the Q is packed with advanced hardware, but its price tag will keep it from serving as the lead Trojan horse for Android in the living room.

GOOGLE TV

What do these new devices mean for Google's initial official TV foray? Despite the launch of two new devices from Sony and Vizio leading up to Google I/O and some floor space devoted to it at the conference, there was little attention paid to Google TV in I/O's keynotes, perhaps to allow more of the spotlight to shine on the Nexus Q. Having LG Electronics supporting Google TV could be a major win for the TV-centric platform, but LG is also hedging its bets by supporting a rival consortium with TD Vision (which owns the Philips brand) and which seems to have support from Sharp Electronics.

Still, despite having the Nexus Q and the Ouya as the new kids on the Android TV block, and perhaps as distractions, Google TV stills seems to be the company's best play for the television. It is the only one, for the time being, that has the potential to be implemented in high-volume devices such as Blu-ray players and, ultimately, televisions themselves. It is easy to see the product developing support for NFC pairing and media sharing as the Nexus Q implements it (and, vice versa — we can imagine bringing Google TV support to Google's American-made sphere). And a potential bump in Android games deployment spurred on by the Ouya could only mean a richer potential selection of games available on Google TV. 



The week that was,
in 140 characters or less.

RIM'S BAD RAP AND TWITTER'S NEW DIGS

@saschasegan

RIM has problems in North America because of "certain aspects of our in-market product portfolio," Heins says. YOU DON'T SAY.

@MikeIsaac

Dreamed of major platform integration between two important companies that never happened. God, I need a life.

@Ohnorosco

I'm rooting for #RIM. A BlackBerry comeback would mean I can write "Heins catch-up" (say it out loud) for a headline.

@tayhatmaker

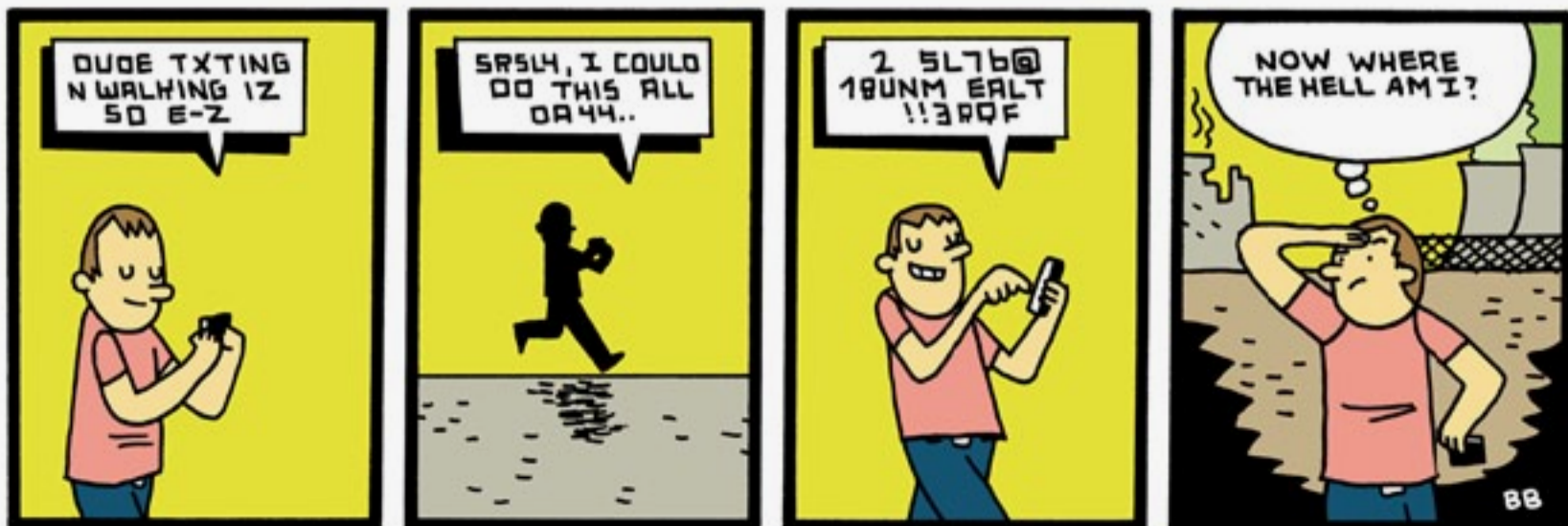
the new
twitter bird
seems
like kind
of an asshole

@itstrew

Apparently
Tweet bot is a big
thing, according
to my gadgety twitter
feed. My non
gadgety ones,
less so...

THE STRIP

BY BOX BROWN



WHAT IS THIS? TAP  TO FIND OUT



DAUPHIN DTR-1



MODERN
EQUIVALENT:
Microsoft
Surface



Like its recently announced successor, this Windows 3.1 tablet came equipped with pen input and a detachable keyboard back in 1993. It weighed 2.5 pounds (nearly twice as much as the Surface), sported a 25MHz processor and up to 6MB of RAM, and cost \$2,500. It failed to gain consumer interest and led to the eventual bankruptcy of Dauphin Technologies in 1995, which was later restructured as an AIDS research company.

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