

DISTRO

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engadget[®]

HELLO,

EXAMINING THE 7TH COMING OF APPLE'S LITTLE IPOD

NIANI

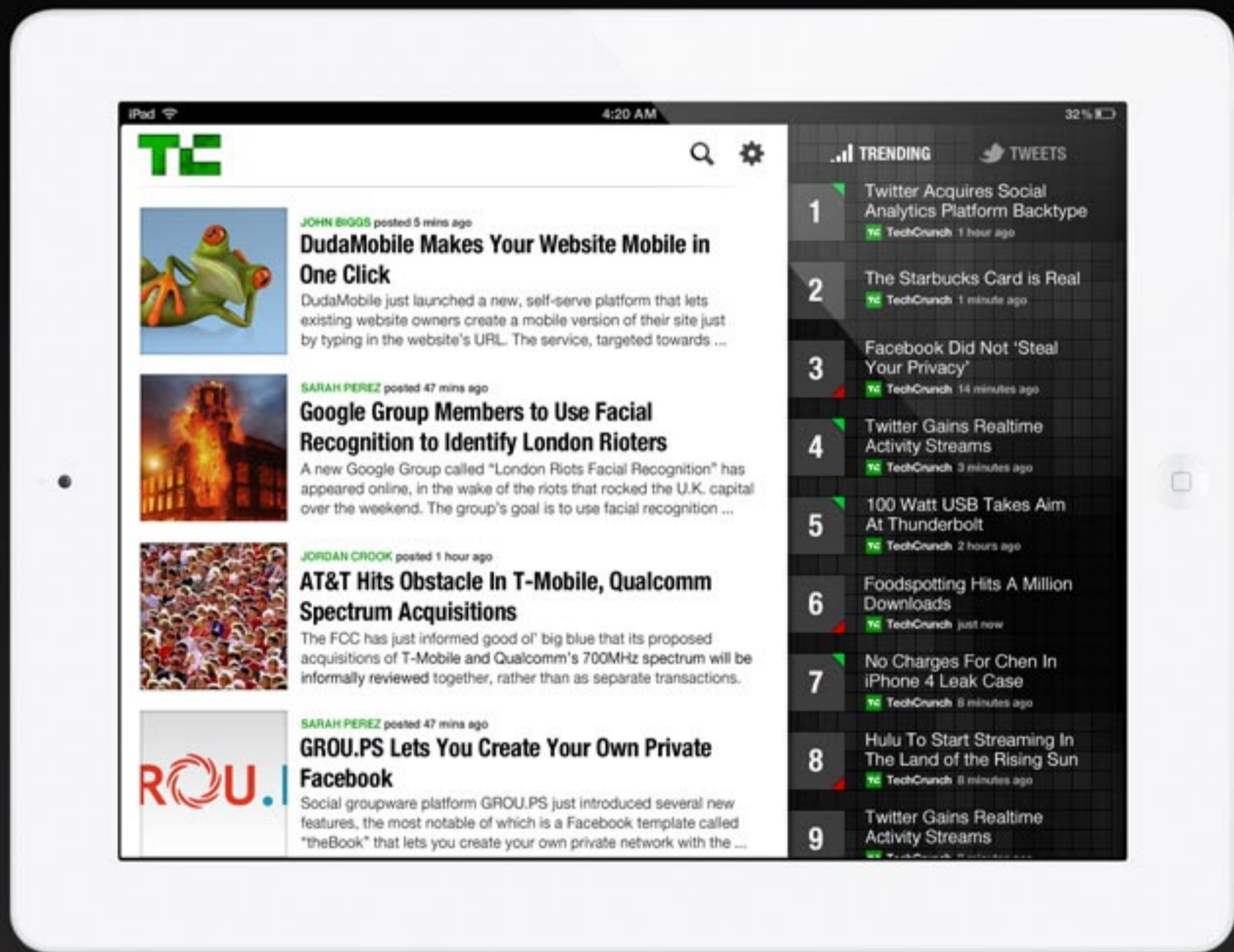


**SONY'S PLAYSTATION 3 GOES SUPERSLIM
IS THE IPOD TOUCH THE PMP TO BEAT?
FELIX BAUMGARTNER'S FALL FROM SPACE
PLUS: THE EMOTICON GENDER GAP**



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ISSUE 62

DISTRO

10.19.12

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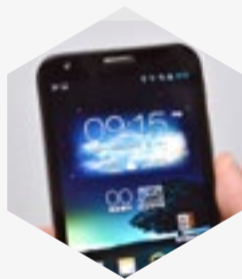
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REHASHED
Eco-Cruisers and the Punderful World of Tech



TIME MACHINES
Calculated Differences



A LOT MORE TO SHOW YOU



DISTRO
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EDITOR'S
LETTER

Events. So many events. They just won't stop. There once was a happy time, when consumer electronics companies restrained themselves and launched their products at big, industry events. Now? Everyone has to be different, everyone has to hold their own party, and so we get stuck with the airline bills — and some pretty impressive frequent flier perks, to be fair.

Two more major events were announced this week, first being Apple. The company said “We've got a little more to show you” in its invitation, and if that wasn't a cheeky tease about an iPad mini I'll eat my hat. There has been plenty of speculation that we'll also see a 13-inch version of the MacBook Pro with Retina, a device that I've been yearning for since the 15-incher graced my desk a few months back, and we might even get a redesigned iMac as well.

Of course, if Apple does drop all this hardware on us in one shot it could make for a bit of a convoluted event, but it would also make for an exciting one. Regardless of how it pans out, we'll be there in San Jose covering it live on Tuesday, October

23rd, right to your browsers.

Less than one week later, on Monday the 29th, we'll be live from the right coast of the US at an NYC Google event. Google's invite says “The playground is open,” which we *might* have taken as a reference to upgrades to the Play store — if Google hadn't just released a Play store update this week, adding wishlists and some other tweaks. What we're expecting from this event is the new LG Nexus device I mentioned last week, the E960 Mako. Its likely official name will be something like “Nexus G,” but I hope they call it a “G'Nexus.”

And if that weren't enough, Microsoft's Windows Phone event is later that same day — back again on the left coast. So many phones. So few pockets. We'll be jetting back over to *that* event and bringing it to you live, too.

Of course, our travel exploits absolutely pale in comparison to those of Felix Baumgartner who, after a five-day delay, rode a balloon up to 128,100 feet and then promptly jumped out. In the process he not only became the world's most extreme skydiver, but also became the person to go highest in a balloon. Plus, he established himself as a rather



notable badass in the process.

Microsoft confirmed Surface RT pricing: \$499 for the 32GB model, \$599 for the 64GB model and \$699 if you want the funky Touch Cover, with the capacitive keyboard — and productivity-minded users probably will. That's not as cheap as we'd hoped it might be, basically putting it head-on against the iPad. It must, therefore, compete purely on its merits. Can it? Our full review will tell and, with the device shipping next week, that shouldn't be far away.

ASUS gave us details on the PadFone 2, a 4.7-inch quad-core device with a 720p IPS+ display and a whopping 13-megapixel camera. But, of course, that's only half the story, with a 10.1-inch tablet dock announced too. That not only offers a slightly smaller battery (5,000mAh vs. 6,600) but a much lighter weight. In fact, the combination of phone and tablet is now lighter than the WiFi version of the new iPad, which is a nice feat. While there's no indication this will be coming to the US soon, the device ships to Asia in a few weeks and Europe by the end of the year, starting at €799 for the 32GB bundle. That's about \$1,000.

SoftBank confirmed a deal to pick up 70 percent of Sprint for \$20.1 billion. With this the Japanese carrier gets a strong CDMA foothold in the USA and Sprint gets a much-needed cash infusion to keep its LTE rollout rolling.

Finally, console gaming just got a

little bit cheaper for some. While the new edition of the PS3 is actually *more* expensive than the last one, Nintendo brought the price of its Wii down to \$130, including both *Wii Sports Resort* and *Wii Sports*. That's \$20 cheaper than the current *New Super Mario Bros.* bundle. Microsoft, meanwhile, is offering \$50 off of a bundle with a 4GB console, two games and a Kinect, which could be yours for \$250.

In this week's Distro we have my reviews of Apple's latest little widgets, the new iPods touch and nano. Both are bright and beautiful, but a bit pricey as ever. We also have Ben Gilbert's review of that new and unfortunately more expensive PlayStation 3 Superslim and Billy Steele's review of the even more spendy Wacom Cintiq 24HD touch. This Modem World gives us a look at the frustrations of modern digital content ownership, Switched On offers a detailed analysis of the Surface RT's chances in the market and Qualcomm's Rob Chandhok tells us why the Q in Q&A should be for "quad-core." All that and lots more right here. We won't even make you get up off the couch to enjoy it, much less fly across the country. ▣

TIM STEVENS
EDITOR-IN-CHIEF,
ENGADGET



GADGET DRIVERS, MURSE CARRIERS AND THE RIM FAITHFUL



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INBOX



THIS IS THE MODEM
WORLD: GIVE ME THE
KEYS, I'LL DRIVE!

ISSUE 61,
OCTOBER 12TH, 2012

“Not everyone can be well-versed in everything, I can load test servers and assemble desktops but can’t change the oil in my car, I would probably look pretty stupid to a mechanic. Nothing wrong with devices being easy to use for those who don’t have the skills or knowledge for the more complicated intricacies of them, the problem I

SAMSUNG GALAXY NOTE II

ISSUE 61,

OCTOBER 12TH, 2012

“Time to buy a man
purse (murse)
so I can carry this
beast with me at
all times.”

—**WHERESEKARLO**

have is that this is rapidly becoming the ONLY mode for more and more devices and software nowadays, constantly removing more and more control from the user, whether they want to or not.”

—**CYBER_AKUMA**

“Interesting, some true observations. Some of

us enjoy discovering the unknown, maybe we enjoy the learning or maybe we just want to be the one that people turn to for help. Me, I just like to figure stuff out and get the best of something. Settling for just getting there isn’t enough for me.”

—**DARREN PORTER**



“Am I the only one that thinks the best feature of the entire phone is its ability to record voice while you use the pen, and then immediately share the video? Yet not a single review covers it. The hover function of the pen will also let you hover over expandable links on web pages.”

—**DONTTROLLMEPEOPLE**

ACER ICONIA W510
ISSUE 61,
OCTOBER 12TH, 2012

“The Acer Iconia W510 rocks, 8MP camera, two HD video cameras, 16 hours of battery — eight hours without dock and additional 8 hours with dock connected. I heard that this tablet will come with Atom CPU instead of ARM CPU, but they say this CPU is not like old Atom. Since they say you’ll be able to watch HD video, play Windows 8 metro style games like *Angry Birds* as fast as in an NVIDIA Tegra chip, I’ll wait for the review and see, maybe I’ll buy this instead of the Surface Pro for the lower price.”

—**MIGUELANGELGIMENEZ**

“The Metro (um, Windows 8) start menu looks considerably more “alive” and prettier than just single-colored squares once you click on them and wake them up and give them content to stream and update for your viewing pleasure. I can’t understand why so many marketing photos fail to take advantage of that. Almost nobody’s [Windows] 8 start menu is going to look that sterile, unimaginative and asleep once you actually start using it.”

—**TIMMCDONALD**

BLACKBERRY DEV ALPHA B
ISSUE 59,
SEPTEMBER 28TH, 2012

“I’m rooting for RIM ... the more competition in this space, the better ... but I just don’t know how they will survive if they don’t re-ignite their popularity in the corporate niche.”

—**ANDY B**

TOYOTA'S SMART INSECT
ISSUE 60,
OCTOBER 5TH, 2012

“I understand the need for small city cars, but how hard would it be to make it just a little bigger and fit two seats? I mean come on, even my scooter seats 2.”

—**TONICBOY**

“The problem, as proven by Smart, is the engineering costs rise dramatically as you scale down in size to meet safety requirements, so you will never get too cheap.”

—**MADLYB**



ENTER

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10.19.12

EYES-ON

ACER ASPIRE S5

Tap for
detail

TAKE
COVER

MAGICFLIP

THIN &
LIGHT

PACK AWAY YOUR PORTS

We first laid our grubby mitts on the Acer Aspire S5 back at CES 2012 and — nearly seven months later — the Ultrabook arrived with drop-down port stowage in tow. The unit crams all of its internals into a 3-pound frame that is only a smidge over half an inch thick. How's that for taking up less room in your rucksack?

THE DAMAGE:

\$1,400





ASUS PADFONE 2

The bulkiness of the original PadFone slate and dock is totally gone and we're still blown away by the combo's new weight. But first, the phone: in our hands, it really just feels like an enlarged version of the original PadFone, especially with the ripple pattern on the back, as well as the plastic chin at the bottom along with the slightly tapered aluminum bezel. We do love the new and larger Super IPS+ screen, which is much sharper than the old PenTile Super AMOLED display, and it no doubt has better outdoor performance as well. Additionally, the Android soft keys are no longer virtual — you can access them below the screen at any time, and we dig that.

While docking the phone into or pulling it out of the PadFone Station is hardly a challenge, there's some sort of

magic that keeps the phone tucked into the bay no matter how hard our pals shook the tablet upside down — the geared rubber grip along the two sides of the bay are somehow responsible for this. The back of the PadFone Station has a rubbery texture that's essentially identical to its predecessor's, making it just as comfortable to hold. Software-wise it's just as snappy on the tablet as it is on the phone, and we noticed the switch between phone mode and tablet mode is now a tad quicker as well.



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stories



PRICE: STARTING AT NT\$17,901 (\$610)

**AVAILABILITY: OCTOBER 2012
(TAIWAN)**

**THE BREAKDOWN: THE PADFONE 2
PACKS A SUPER IPS+ DISPLAY AND
ANCHORED ANDROID KEYS IN A MUCH
LIGHTER PACKAGE.**





BEATS BY DR. DRE PILL

Beats Electronics has set its sights on nabbing the portable Bluetooth audio crown from Jawbone's Jambox. The NFC-equipped portable Bluetooth 2.1 speaker comes in your choice of red, black or white, comes loaded with a quartet of 1-inch drivers, and supports codecs including Apt-X and AAC. An internal battery is said to provide about seven hours of listening at around 75-percent volume and the unit can be charged via its micro-USB input. Notably, an auto-off feature turns the unit off after 30 minutes if no audio is streamed to it. We're also pleased to notice that the diminutive system also features a 3.5mm output if you'd like to send your tunes out to another audio ware.

We were able to spend about an hour with the system, and we've frankly come away very impressed. The unit feels very sturdy, with a stiff metal



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grille and soft-touch coating around the rest of its exterior. All of the buttons have a soft, slightly clicky tactility, which also adds to its premium feel. Using it initially alongside one of Beats' on-hand Jamboxes in a wired A/B comparison, the Jambox came out sounding

PRICE: \$200
AVAILABILITY:
NOW AVAILABLE

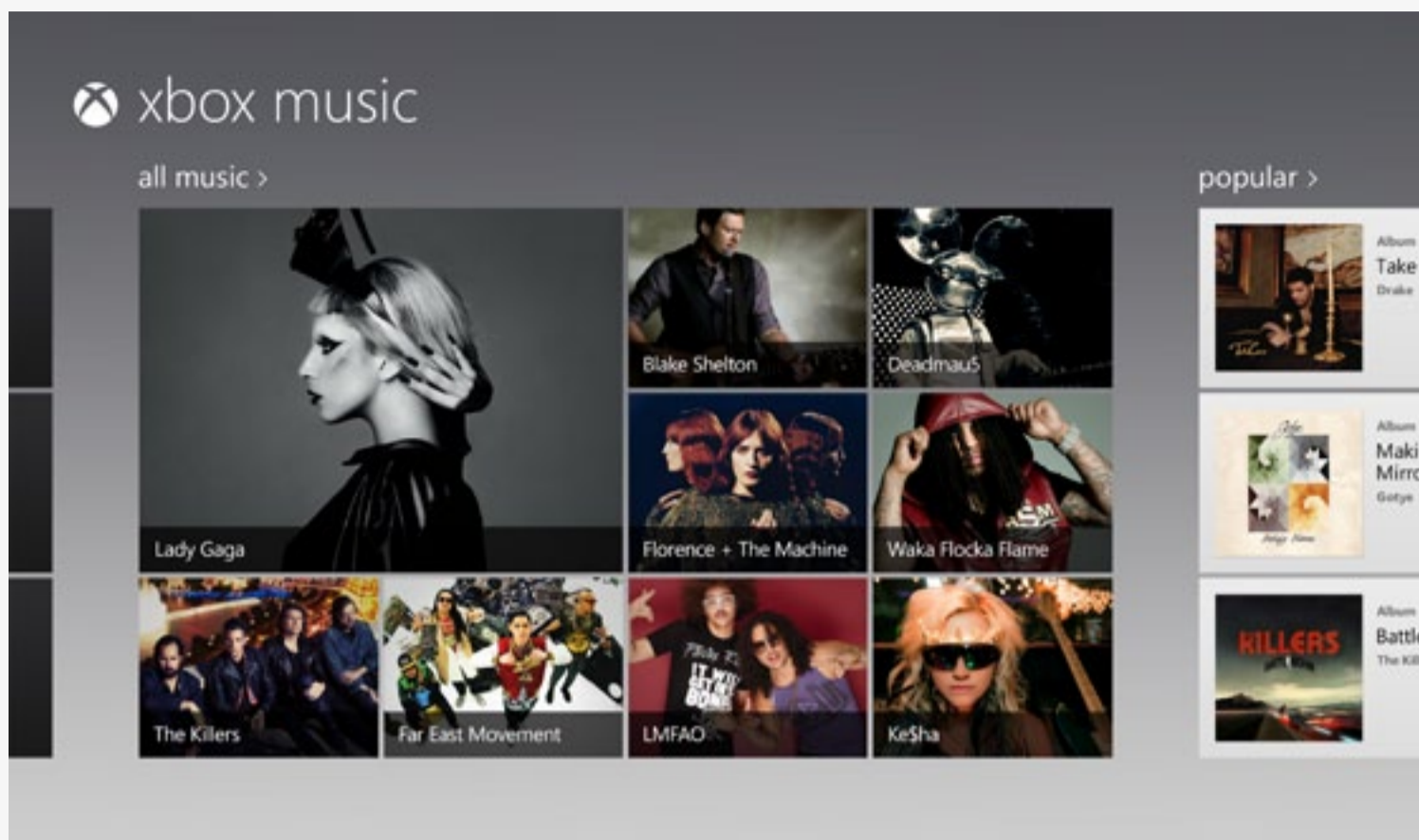
THE BREAKDOWN:
BEATS' BLUETOOTH SPEAKER GIVES THE JAWBONE JAMBOX A RUN FOR ITS PORTABLE AUDIO MONEY.

like a distorted, rumbling mess up against the Pill. If that wasn't enough, the Pill also managed to get much louder, staying fairly clean (in comparison), and without rumbling on the table as the Jambox did very slightly.





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XBOX MUSIC

Xbox 360 console owners were the first to access Microsoft's new Spotify-esque music service as it went live a few days ago. Well, at least some of them — existing Zune Pass (now "Xbox Music Pass") subscribers and folks willing to pony up \$9.99/month or \$99.90/year who also have an Xbox Live Gold account gain access to Xbox Music's global 30 million song database via data streaming. Okay, okay, a free trial is available for 30 days. Then, on October 26, Windows 8 PC and tablet users get the service for free — with or without the Xbox Music Pass — albeit with ads laced in.

Like with Spotify and Pandora, some basic artist, album and song info, as well as images, garnish playing tracks, though not all artists are represented.

Xbox Music Pass holders can hang on to tracks for offline listening as well, which show up in your library and can be added to playlists. And should you wish to listen to a "Smart" radio station based on an artist / song / album, you can employ the "Smart DJ" to create just such a station. The whole shebang is tied directly to your Microsoft login, mirroring settings and library data on all your devices across the cloud. Unlike its PC, tablet and smartphone brethren, though, the 360 version isn't capable of being used in the background.

PRICE: \$9.99/MONTH OR \$99.90/YEAR

AVAILABILITY: NOW AVAILABLE (XBOX 360)

THE BREAKDOWN: THIS STREAMING COMPETITOR SYNCs ACROSS YOUR MICROSOFT ARSENAL AFTER YOU OPT FOR A MONTHLY SUBSCRIPTION.





V-MODA M-100 HEADPHONES

V-Moda's been seriously edging for the audiophile crowd lately and its M-100 headphones continue the trend. Aside from a few tweaks to the design, it's packing an audiophile-focused (rather than DJ) tuning that's based on blending the voicings of its M-80 on-ears and the LP2 over-ears. Although the M-100 headphones are similar to V-Moda's other products, this is the brand's first set to feature collapsible earcups and cable inputs on either side. Speaking of how the headphones fit, it's basically what you'd expect from the LP2 cans. We're told that the earpads are slightly different, but we wouldn't know the difference if blind-folded.

Even though this editor didn't experience major cartilage cramps after a few hours of repeated use, it's safe to say it'll be a weird feel for some — memory foam

pads only help so much when parts of your ears are being pressed against pieces of metal veiled only by a thin strip of fabric. Gripes about the fit and familiar design aside, we're finding our-

selves very pleased with the sound quality after a few hours of initial use with an iPhone 5. Almost exactly as described, the 50mm drivers let the high-end shimmer without being fatiguing and the bass bump just

enough for impact without drowning the full mix. The audio comes through exceptionally clear, well-rounded and moderately punchy.

PRICE: \$300

AVAILABILITY: TBD

THE BREAKDOWN:
V-MODA'S
AUDIOPHILE CANS
SPORT FAMILIAR
STYLINGS AND
PACK IMPRESSIVE
SOUND QUALITY
OVERALL.



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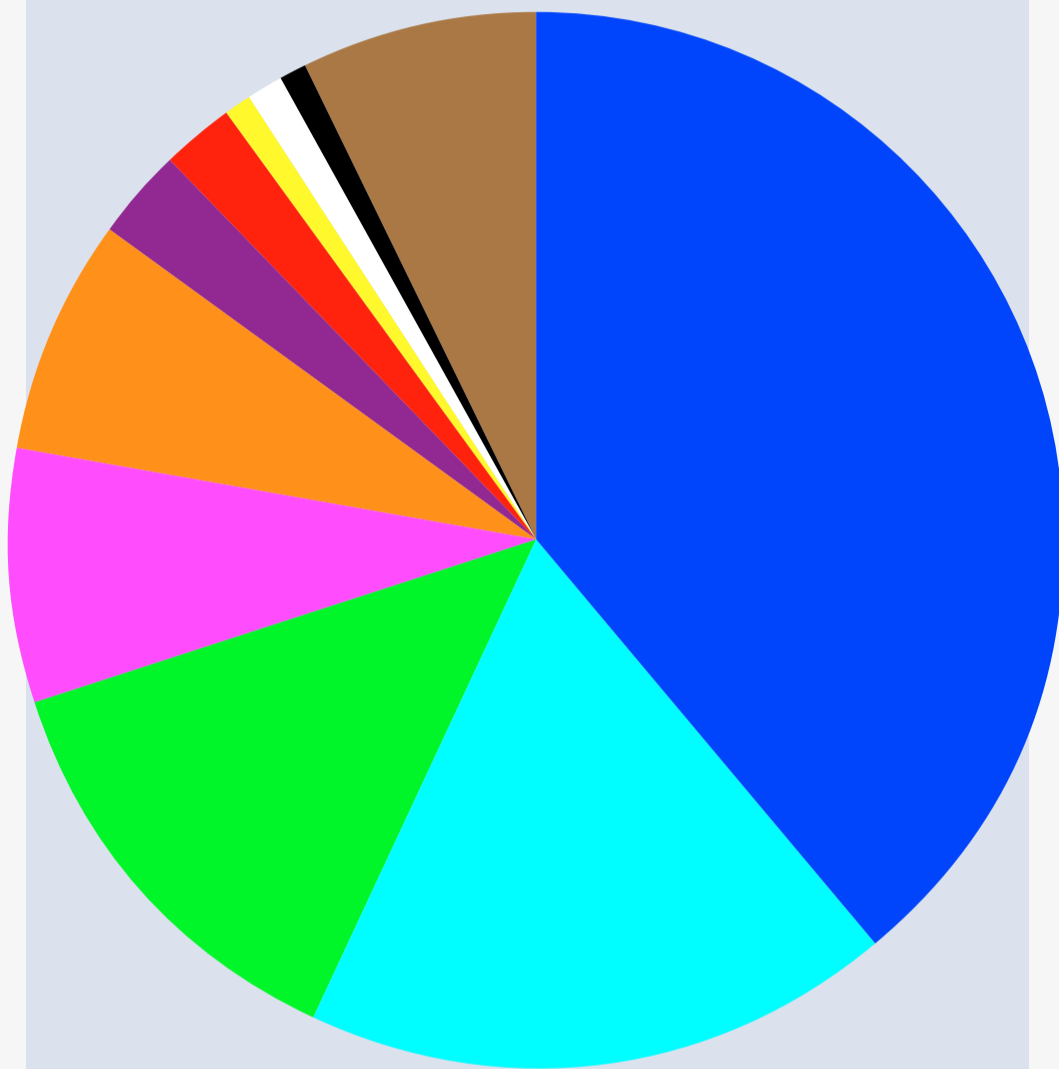


Cute Communications

Emoticons, love ‘em or hate ‘em, they definitely serve to add a hint of emotion to your everyday textual landscape. A recent study from Rice University entitled “A Longitudinal Study of Emoticon Use in Text Messaging from Smartphones” has found some interesting details about this emotive medium. Reviewing a rather small focus group of 21 men and women texting over a period of six months, they discovered that females tended to use emoticons in their messages more often than males. As for variation, 74 unique emoticons were encountered in the study, but the top three made up about 70 percent of the emoticons in use. For those of you who consider these to be typographical abominations, don’t fret, the study has found that only about 4% of all text messages sent included one of these various anthropomorphous characters. — *Jon Turi*

AUTHORS: CHAD C. TOSSELL, PHILIP KORTUM, CLAYTON SHEPARD, LAURA H. BARG-WALKOW, AHMAD RAHMATI, LIN ZHONG

PERCENTAGE OF EMOTICONS SENT BY TYPE

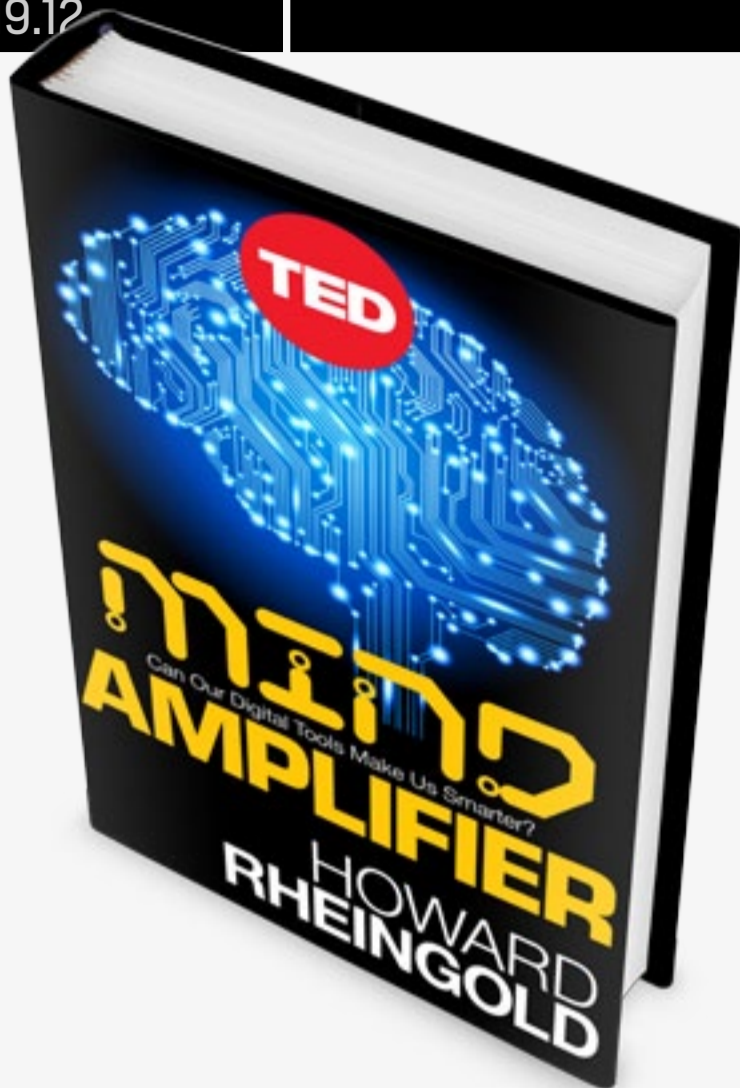


Tap for Stats

2,896	# OF TEXTS SENT	2,144
2,776	# OF TEXTS RCVD	2,030
10	# OF FRIENDS	10
45	# OF STRANGERS	48
2,406	# OF MSGS SENT TO FRIENDS	2,002
2,312	# OF MSGS RCVD FROM FRIENDS	1,993
10	WORDS PER MSG SENT	9
10	WORDS PER MSG RCVD	9
422	EMOTICONS SENT	242
479	EMOTICONS RCVD	201

TABLE STATISTICS ABOVE ARE AVERAGE PER USER





Mind Amplifier: Can Our Digital Tools Make Us Smarter?

Howard Rheingold
TED Books

It was 10 years ago this month that Howard Rheingold's "Smart Mobs" was first published, an incredibly prescient book that examined the growing possibilities for collective action that mobile technologies afforded. Earlier this year, Rheingold's "Net Smart" provided a guide of sorts for using technology and social media more mindfully, and he's now followed that up with "Mind Amplifier," a short e-book that in some ways is a distillation of what he's been thinking and writing about since the 1980s. Like "Net Smart," "Mind Amplifier" is concerned with the mindful use (and design) of new technologies, and it looks to the past for context and clues to aid us in the future. In this case, that means going all the way back to the invention of writing and tracing the growth and adoption of new technologies from there, up to what we can learn from the likes of Vannevar Bush, Douglas Engelbart and more recent thinkers. "Mind Amplifier" is a remarkably quick read given its somewhat daunting subject matter, but it's one that still provides plenty of substance, and serves as a great jumping off point for those interested in digging a little deeper. — *Donald Melanson*



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Unmasking Reddit's Violentacrez, The Biggest Troll on the Web

Adrian Chen

Gawker

Easily one of the most talked about pieces of technology writing in the past few weeks, Adrian Chen's profile of Reddit's most infamous user goes beyond being an expose of one individual to examine the larger culture of trolling and broader issues associated with anonymity on the internet.

Why is this Man Running for President of the Internet?

John Herrman

Buzzfeed FWD

A look at another side of Reddit, this piece from John Herrman charts the rapid rise of the site and the increasingly public role of co-founder Alexis Ohanian, who's recently been on a campaign-style tour of the US touting its accomplishments and calling for more action.

The Future of Fuel Efficiency

Jonathan M. Gitlin and Kyle Niemeyer

Ars Technica

Ars Technica recently concluded this three-part feature on the future of the automobile, which looks at how car engines are getting more efficient through design, how a doubling of fuel efficiency is possible in the next decade, and why smarter cars may be the final piece of the fuel efficiency puzzle.



IT'S MY MOVIE



DISTRO
10.19.12

FORUM

THIS IS THE
MODEM WORLD

BY JOSHUA FRUHLINGER

N“NO WORRIES, WE CAN WATCH THIS MOVIE on my iPad on the plane,” I announced with confidence. ¶ “Oh really? Cool. Let’s do that!” she replied, proud of her little nerdy man. ¶ Yup. I was cool. I was going to rip a DVD that we just bought to watch on my iPad on a long flight to Korea. How amazed would she be when that movie so easily pops up on the Retina display as we ease into complimentary wine and processed air for a good 13 hours!

And then I tried to actually complete the task of getting a movie from a DVD to an iPad.

First, before I complain and you all revoke my nerd cred, a couple disclaimers. Yes, I own the DVD.

Second, to the hardcore, I have ripped DVDs in the past. I know how it’s done.

But that’s just the thing: In all this time (DVDs were introduced in 1995), it hasn’t become any easier to import and use the digital video files that

come on these discs. And don’t get me started on Blu-ray.

I knew to use Handbrake, so I downloaded the latest presets and whatnot. I then inserted the DVD, found the disc’s video directory and told Handbrake to grab the file. A seedy-looking dialogue window popped up telling me that Handbrake wasn’t about to rip a copyrighted DVD. That is, unless I went and downloaded some file from the back alleys of the internet which it happily directed me to. Feeling like a criminal



“I followed the instructions like a druggie meeting a pusher on a corner ...”

for wanting to watch the movie that I just bought on the device that I owned, I followed the instructions like a druggie meeting a pusher on a corner and downloaded the necessary extension.

Contraband installed, I clicked “start,” half-looking over my shoulder and wondering if I was about to be logged as a data thief in some secret FBI file. Without issue, the ripping process started and I sulked away to pour a cup of coffee and contemplate what I’d do on my vacation — or in jail, depending on how this ripping process went.

Ten minutes later, Handbrake signaled that it was done.

“This doesn’t seem right. That’s a 90-minute movie,” I thought.

Sure enough, the ripping process timed out at about nine minutes. Those nine minutes looked — and sounded — beautiful, but my soon-to-be wife wouldn’t be too impressed on the plane with such a short clip.

Had I been stopped by some external force? Were the nine minutes of illicit material enough to lock me up? Had I downloaded a bait file that reported me directly to the MPAA?

So now I get to peek under the hood and figure out why the rip failed. I’m

guessing it has something to do with the fact that I shouldn’t be doing this because I am — according to the law — doing something wrong. What I should be doing, of course, is buying a digital copy of the movie or bringing the DVD that I paid for with me to play on a portable player or laptop, both of which sound not so fun.


It doesn’t have to be this way.

Sure, I know there are gajillions of terrible people who download movies they didn’t pay for. I also know there are actors and producers who aren’t getting paid as much as they could for their hard work.

As a writer, I respect the right to be paid for one’s work.

But here’s the thing: I do get paid. Once I sell my work, anyone can come see it. I don’t expect payment based on how many people read my articles. Of course, Hollywood is a very different beast: contracts are written, for the most part, based on how much a movie sells. If people grab the movie illegally and don’t pay for it, people aren’t getting paid.

That model is broken now, though. Today, virtually every consumer has more than one screen: a television, smartphone, tablet and computer — not to mention the big screen they may have seen the movie on in the first place. Sure, when we all had one TV and one VCR this wasn’t a huge deal — one tape was enough.

Let’s get over this already. I’ll bring the popcorn. 



SELL THE HARDWARE, ATTRACT THE APPS



DISTRO
10.19.12

FORUM

SWITCHED
ON

BY ROSS RUBIN

MICROSOFT HAS FINALLY REVEALED details on the pricing for the all-singing, all-dancing Surface RT. True to Steve Ballmer's word, the Windows RT device is priced competitively with the iPad. It is, in fact, the same price as the entry-level, now not-so "new iPad" and with double the flash memory, an advantage that may change by the time the Surface ships.

The commercial shows off the device's signature hardware features — the kickstand and touch keyboard cover — and plays up the "click" they make when they attach to the Surface, which is of course similar to the "click" made when an Apple Smart Cover connects to an iPad. And in a bit of irony for a product that is more focused on tapping than the mouse clicks of the desktop mouse, its campaign slogan is "click in." (It also raises the question as to why people would be constantly attaching the

sold-separately touch keyboard when it doubles as a cover, but it is a commercial after all.) While expensive relative to the price of the device, Microsoft's keyboard covers represent an extension of one of Apple's best-conceived iPad accessories (the Smart Cover) that far exceeds one of their worst (the original iPad keyboard dock).

Surface RT is in some ways the more pure of Microsoft's Windows-driven tablet plays — without most of the legacy support for Windows desk-




“Microsoft will need to build a catalog of apps to create a rich Surface experience.”

top apps of its Intel-based sibling. And so, like all operating systems before it, Microsoft will need to build a catalog of apps to create a rich Surface experience. The inclusion of Office RT is a double-edged sword. The now ARM-compatible office suite offers marginally touch-optimized productivity and wide compatibility out of the box, but it is not a great showcase for the Windows-style user interface.

If Windows Phone, which has much in common from a development perspective with Windows 8, is an example, Microsoft has spent much time and effort in building that app library since it rebooted its mobile strategy and has not only begun to reach a critical mass of apps, but also attracted apps that tend to take good advantage of the operating system's features, notably Live

Tiles. One unique advantage that Windows RT will enjoy, though, is the benefit gained from cross-platform (Windows 8 and Windows RT) development that will exploit the scale of Windows notebooks. Microsoft is also sweetening the revenue-sharing deal for apps sold via its Windows app store, which has led to the company proclaiming it as the greatest developer opportunity ever.

Also looking at Windows Phone, however, most of the apps created for that operating system have had counterparts on iOS and Android. This makes some sense as developers are unlikely to be interested in Windows Phone unless they are interested in mobile software development generally. Still, if the same apps are available on Surface RT and iPad, why would one choose Surface RT (or an RT tablet in general)? Beyond Surface's clicky hardware amenities and accessories, it will come down to a preference for the panoramic Live Tile home screen, which avoids much of the icon clutter of the iPad, the ability to run side-by-side apps, and Charms, which allow apps to communicate with each other in a more standardized way than we see on Apple's tablet.

These points, though, are too subtle to communicate as an opening salvo for Surface, which will be sold on the promise of more transparently bridging the consumption-oriented mode of the tablet with the productivity-oriented one of the PC. 



REVIEW

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iPod touch



WACOM CINTIQ 24HD TOUCH



This version of the Cintiq 24HD brings touch functionality to Wacom's big screen, but can it justify a \$1,100 price jump?
By Billy Steele

A few weeks ago, Wacom started shipping a new version of its Cintiq 24HD pen display for creative pros that first broke from cover last September. The appropriately named Cintiq 24HD touch carries virtually the same outer styling as the OG model. An ergonomic base still cradles the massive 24-inch screen and can be configured to your particular seating preference. On the inside, though, there's a host of changes. As the name suggests, the major difference between the two is the addition of multi-touch controls to the more recent offering. However,



the added functionality does come with a pretty hefty price tag, as the Cintiq 24HD touch costs \$1,100 more than its elder sibling. Are the additions of touch gestures and an improved display panel enough to justify forking over the extra coin, or will the less expensive option work just fine in a studio setting? Read on to find out as we tackle that very question.

HARDWARE

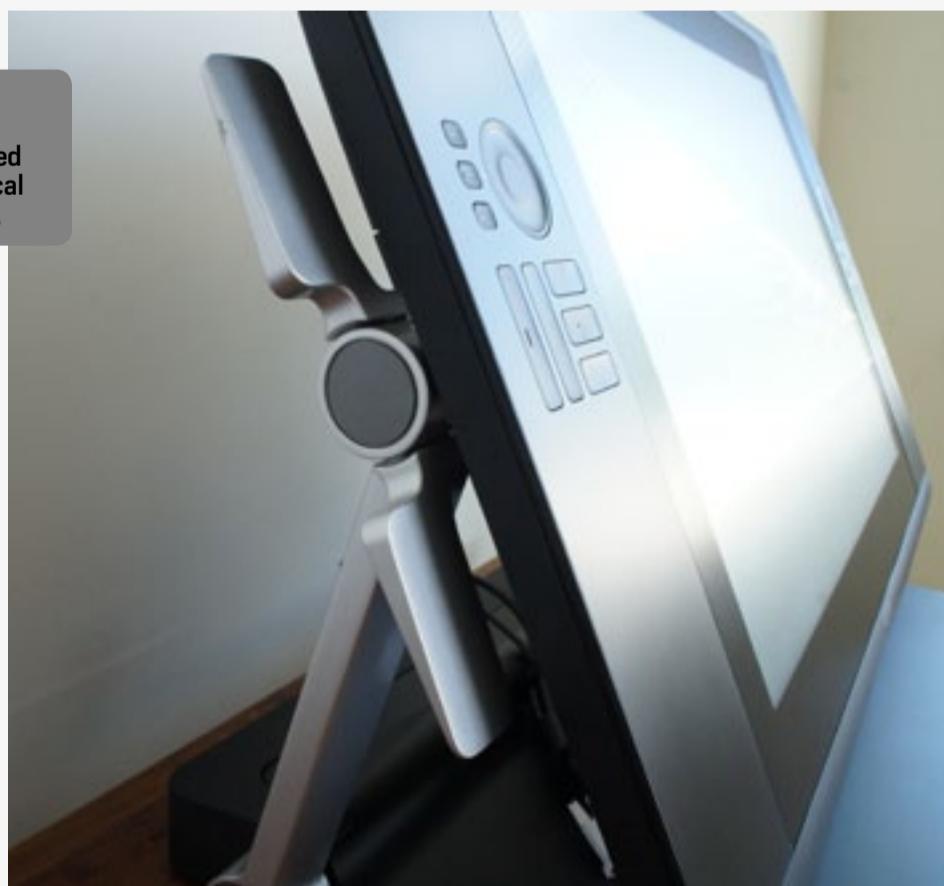
As we've already mentioned, the Cintiq 24HD touch has much the same design as the previous, non-touch offering. In fact, the only difference you'll notice is that the controls at the top of the display's face have changed — and that's if you're looking closely. These buttons now toggle touch functionality on / off, bring up an on-screen keyboard and display ExpressKey / control reminders. One thing that hasn't changed: the weight. Undoubtedly, the first thing you'll notice is the mass of the 62.9-pound (28.6 kg) kit. If you happen to forget about this bit of information, your courier will be quick to remind you when it arrives. When you tack that figure on with the 30.3 x 18.3-inch (769.3 x 463.74mm) surface area that also remains relatively unchanged, you'll find a substantial amount of space will need to be dedicated to the high-end peripheral. In other words,

One thing that hasn't changed: the weight. Undoubtedly, the first thing you'll notice is the mass of the kit.

once you find a resting spot, you'll think twice about relocating.

Let's chat about the base for a bit, shall we? This unit rests atop an enclosed black box that hides all of the requisite cables from sight. Cables head into the back of the base and connect beneath two user-removable panels on both sides of display's back — making the only visible port the lone USB connector on the left side of the front. Metal arms reach up from the black platform and sport two pairs of hinges for adjusting the viewing angle. The

Visible changes are limited to physical controls.



first set is level with the base and allows the device to rotate forward, toward the user. A second sits on the side of the display and can be used to rotate the panel between being parallel with your desk to sitting perfectly perpendicular to it. Large handles on the 24HD's sides control the latter adjustment while a release that's situated on the base allows for the former. The aforementioned arms are the only two parts of the device that aren't shrouded in black, providing an aesthetic accent to the rest of the behemoth.

Moving on to the business portion of things, the 24-inch H-IPS panel, we'll begin to encounter the new features of the Cintiq 24HD touch. Again, on the surface, the display appears to be an exact replica of the previous version. A set of

programmable ExpressKeys rest on either side of the ultra-wide bezel and a single Touch Ring is included with each. Resting along the main display are two Touch Strips, too. You still won't find any printed-on labels here, as all of that information remains on-screen like we've encountered on the regular 24HD and the Intuos5 touch. Speaking of the extra real estate around the outside, what may seem like a waste initially is actually a nice place to rest forearms and elbows when you're in the heat of a Photoshop editing session. We quickly decided that the added space was a welcome addition indeed.

DISPLAY

The unit's display panel sports a few added features (in addition to the touch gestures) that give it a bit more of an

Two sets of hinges allow for multiple viewing angles.



We found the matte-coated affair to be quite accommodating to our red-eyed stares for hours on end.

advantage over the first Cintiq 24HD. First, this pen-enabled device covers 97 percent of Adobe's RGB gamut. That's up from 92 percent on the previous release and accounts for 1.07 billion colors. Resolution remains at 1,920 x 1,200 for the 16:10 display, with 500:1 contrast and a 178-degree viewing angle in tow. It's still a matte-coated affair that we found to be quite accommodating to our red-eyed stares for hours on end during the course of this review. Well, as cozy as gazing upon a screen for long periods of time can be.

Truth be told, the color production on the display is quite nice. Brightness controls can be jacked up to 300cd/m², offering a wide range of adjustment to fit the lighting in your workspace. Sitting so close to the display during our tests, we definitely noticed individual pixels. But let's be honest, when your peepers are situated mere inches away from the screen, those tiny squares are going to be easy to see — even on an H-IPS device.

THE PEN

If it ain't broke, don't fix it, right? That's the approach that Wacom has taken with its tried-and-true pen. The

same input device that we spent some quality time with alongside the Inutos5 touch a few months ago is also included with the Cintiq 24HD touch. It still comes with 10 replaceable nibs that are housed inside a holder for the pen when you're not digitally painting your next comic series. Internally, 2,048 levels of sensitivity are at work and the top end retains its eraser duties by default.

Wacom's reliable stylus and 10 replaceable nibs.

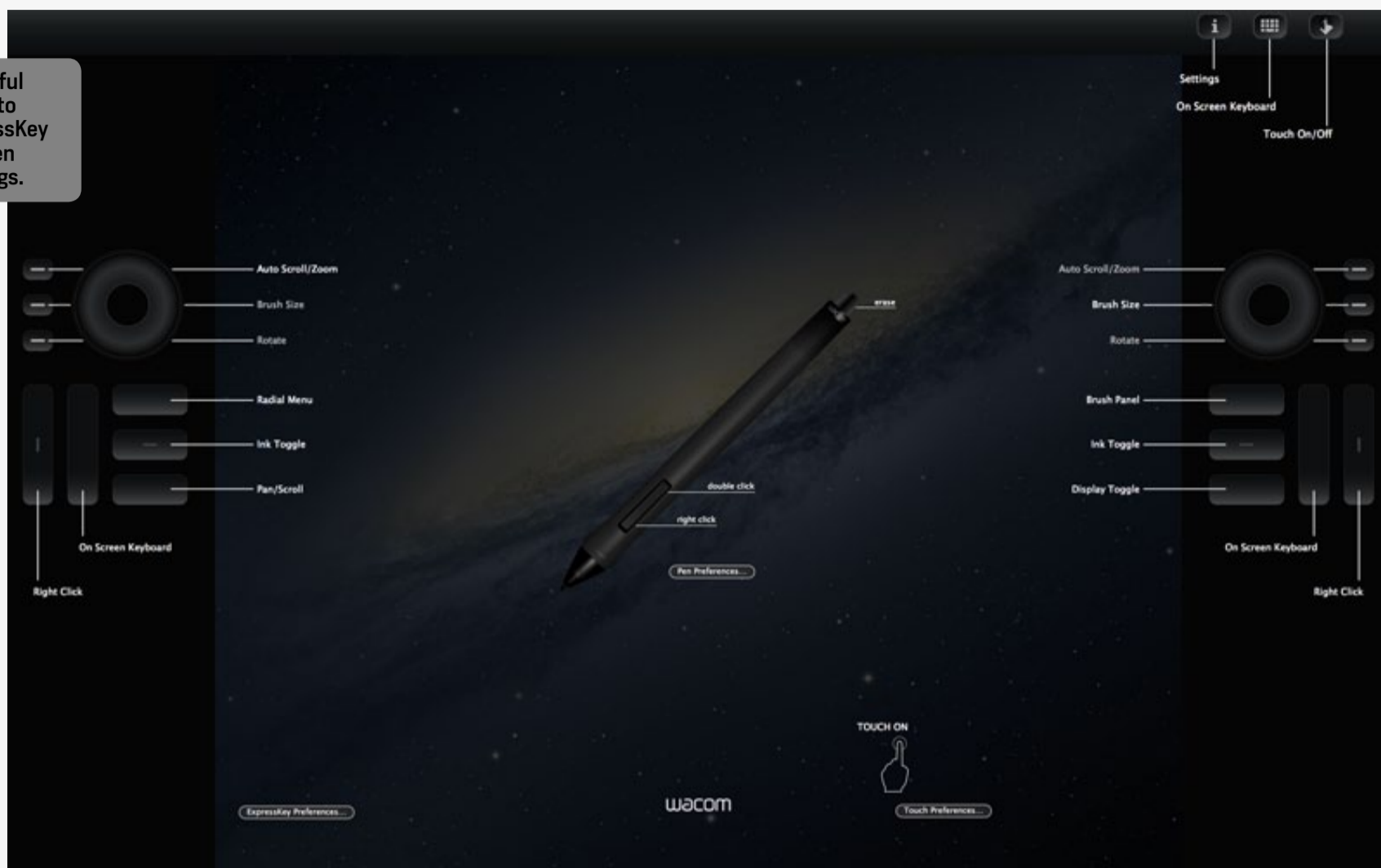


SETUP AND SOFTWARE

After bribing a couple of your best mates to help you raise this behemoth out of the box, the hard work is over. From there, its two connections (USB and DVI) to your work machine and you're a driver install away from on-screen sketching. Keep in mind that you'll need a \$30 adapter for the DVI



A helpful guide to ExpressKey and pen settings.



cable in order to connect to a Mac's Mini DisplayPort or Thunderbolt jack. The entire process took us less than 10 minutes before we were able to fire up Photoshop. Of course, this is if you're willing to hit the ground running with Wacom's default settings for the ExpressKeys and touch gestures. One thing you will want to do is calibrate the pen so that all of the action happens directly under the tip. This adjustment only takes a few minutes and will save you loads of frustration.

Configuring all of the ExpressKeys, multi-touch swipes and pen actions is easily done in the System Preferences panel under Wacom if you're on a Mac (we used a MacBook Pro for our tests). Here, you'll find access to all of

the functions that a button, finger or pen click can control. You can also sort all of your application-specific commands here as well. Looking to add to your software library? The Cintiq 24HD touch includes full versions of Adobe Photoshop Elements, Anime Studio Debut, Nik Software Color Efex Pro 4 Select Edition and a 90-day trial version of Corel Painter 12. During our time with the display, though, we made use of Adobe Photoshop CS5 and the Corel Painter 12 trial in order to put the unit through its paces.

TOUCH GESTURES AND GENERAL USE

While the multi-touch functionality provided some useful shortcuts during our



work sessions, any action that required more than two or three fingers became quite cumbersome. The most useful gestures were two-finger actions: pinch to zoom in / out and rotating the canvas. These two commands worked almost flawlessly and kept us from having to reach a short distance to the ExpressKeys to move around the file. When we needed a tool or action that required more than two fingers, though, our results were much less enjoyable — much like we saw with the Intuos5 touch. Eventually, we found ourselves programming all of the gestures used most often to the two-finger settings and leaving the rest to very limited use. Using our non-pen hand to man the controls along the bezel while moving in to zoom or rotate became our preferred setup.

As expected, the pen functionality with the Cintiq 24HD touch worked flawlessly. We encountered performance similar to what we saw with the Intuos5 touch, making our work sessions quite enjoyable. We found that the pen input eased tasks like photo editing, hand-rendered typography and any chore that required a brush. Speaking of brushes, you'll notice all of those 2,048 sensitivity levels at work with

The most useful gestures were two-finger actions: pinch to zoom in / out and rotating the canvas.

a digital paintbrush or a tool that's used to tidy up a few images in Photoshop.

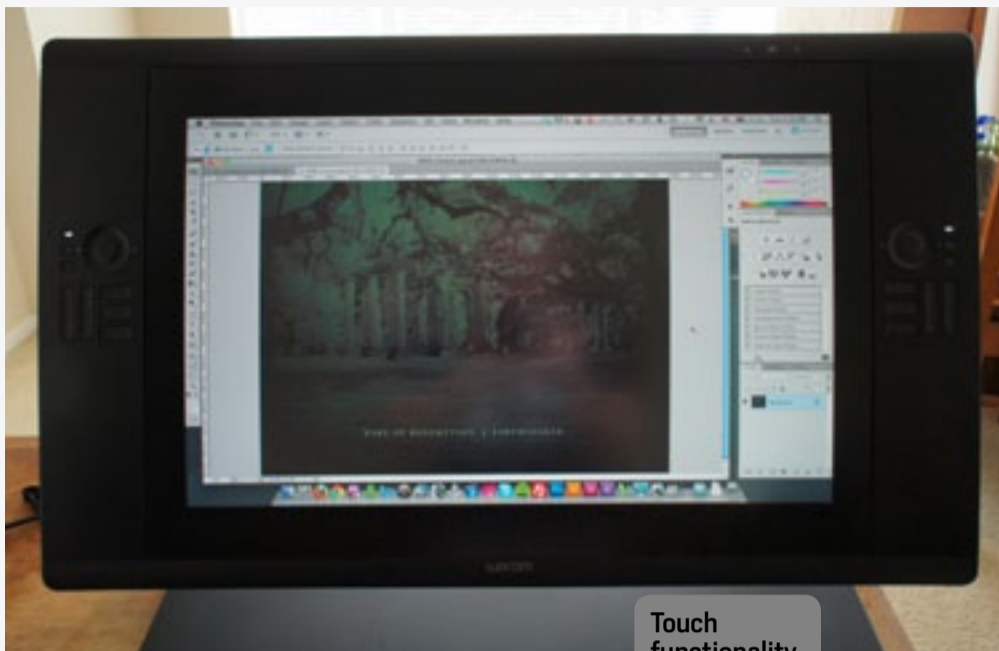
OTHER OPTIONS

If the hefty price tag immediately turns you away from the Cintiq 24HD touch, there are a couple of other options from Wacom that are a bit easier on the ol' wallet. As we've already discussed, the non-touch version of the 24HD is still available and — aside from the lack of multi-touch functionality and a handful of improvements to display panel itself — knocks an aforementioned \$1,100 off the final price (\$2,599). The outfit also offers the recently announced Cintiq 22HD pen display for \$1,999; however, the base / stand isn't nearly as accommodating (despite its ability to rotate) as the one we've handled here. It also touts a 21.5-inch LCD instead of the H-IPS panel that the 24-inch offerings make use of.

WRAP-UP

It should come as no surprise that the pen functionality on a Wacom display or tablet is going to be stellar — especially on the high-end kits like we spent time with here. We never encountered a hiccup with the pen functionality, and having all of those pressure levels at your disposal should be a major improvement over a regular mouse, to say the least. However, given the fact that we only really made use of a few touch gestures once we settled in, we're not so sure spending the extra cash for the touch model is worth it. Of course, the two-finger zoom





Touch functionality is the biggest difference here.

and rotate actions are quite convenient, but we would like to see the same consistency in those that call for four or five fingers as well. Aside from a few improvements to the display panel, touch functionality is really what distinguishes the two and we aren't convinced that the additional \$1,100 is a sound investment.

Multi-touch gripes aside, both the Cintiq 24HDs are stellar peripherals for any design professional. The ability to

draw directly on screen in a host of applications shaves valuable time off of most creative tasks and offers more precise control than moving a mouse around on your desk. Another huge plus for these pen displays is the ability to maneuver the unit into just about any position you could imagine to make sure that you stay comfortable while burning the midnight

oil. The ergonomic base / stand has as much to do with our affinity for these two as the displays themselves. Even if you don't splurge for the touch-enabled model, these 24-inch displays from Wacom should definitely be on your shortlist when the time comes to make a big purchase for that new studio. **D**

Billy is an Associate Editor at Engadget, sports a pretty decent beard and desperately wants to be on Wipeout.

BOTTOMLINE

WACOM CINTIQ
24HD TOUCH

\$3,699



PROS

- Top-notch pen input
- Adjustable base
- Programmable ExpressKeys on both sides

CONS

- Weighs a ton
- Touch gestures can be flaky
- Price tag

BOTTOMLINE

- The touch model adds gestures to the highly capable Cintiq 24HD pen display, but we aren't so sure that they're worth the extra investment.



PLAYSTATION 3 SLIM (LATE 2012)



The new **PlayStation 3** is quieter and lighter than ever, but will the redesign have you itching to upgrade?
By Ben Gilbert

What else can be said about the PlayStation 3 at this point that hasn't already been said? Since launching in 2006, there have been approximately 400 different permutations of the console: variations on hard drive sizes, functionality, physical shape and, of course, price. The latest model, the PlayStation 3 Superslim, is no different. It comes in just two permutations: 250GB (\$270) and 500GB (\$300). With the latter launching at the end of October, we've recently spent some time with the already available 250GB model. Is it time to finally jump into



the PlayStation 3 party, or upgrade that aging 2006 model?

HARDWARE

Weighing in at just over 4.5 pounds, the PlayStation 3 Superslim lives up to its name, shedding nearly three pounds from the Slim and 6.5 from the original (*monstrous*) 11-pound console. Sadly, the clean, classy matte finish of the Slim model has been replaced with the glossy, fingerprint-prone plastic that Vita, PSP and first-gen PS3 owners have come to know and loathe. You may not notice the glossy facade at first, however, as the biggest hardware change in the new PS3 is where you insert disc-based media: a top-loading

slider gets moved to the left, revealing a space for your brand new copy of *Uncharted 3: Drake's Deception Game of the Year Edition* (bundled with the 250GB console).

Aside from being the most notable change to the new PS3, it's ... well, it looks and feels terrible, to put it plainly. Not only is the new design unfriendly to home entertainment centers (where most PS3s reside, we'd argue), but it feels cheap and unstable — a distinct step down from the previous two models' front-loading tray design.

That statement can be applied to the entire redesign; despite Sony touting a 20 percent decrease in size and a 25 percent reduction

The new PS3 features an ill-placed, top-loading disc tray.





For a top-tier system, you get a rather cheap build quality.

in weight, nothing about the redesign feels like an improvement over the last model. The lightness only serves to accentuate the console's feeling of cheapness and the build quality drives that point home. An audible hollow rattle can be heard when you place the console on a hard surface — that's the flimsy disc bay cover up top, reminding you that your brand new, nearly \$300 console looks and feels like a piece of electronics from the 1970s.

Internally, the same RSX GPU drives the newest model PS3, and the 45nm Cell processor from the Slim returns. The only difference we've seen in tear-

downs is a smaller Blu-ray drive (which still spins at 2x for BD, 8x for DVD and 24x for CD) and a rearrangement of internals — both of which make way for the volume and size reduction. The 250GB HDD can be swapped like with previous models, and all it takes is a small Phillips head screwdriver, your hands, some confidence and about two minutes. Sure, that 250GB drive adds some value to your purchase, but it ends up feeling more like a ploy to charge more for the same old console, but not made as well, with a slightly larger HDD. In terms of rear-facing ports, the new, even slimmer model is identical to the Slim, offering Ethernet,



HDMI, Optical out, RCA and a spot for the AC adapter. Unfortunately, the sad tradition of not including an HDMI cable with high-definition, HDMI-enabled consoles continues here, with only a (standard def) RCA cable included in the box. Remember, folks: *Amazon is your friend.*

WHAT'S MISSING

Also like the last model, the Superslim features no backwards compatibil-

ity with the PlayStation 2 — a feature we're still sore about losing in the last PS3 redesign. Sure, PSOne support remains, but we'd really, *really* like to play our old PS2 games on the PS3 rather than buying HD re-releases of PS2 games on Blu-ray. The same two USB slots sit up front (down from four on the original), and the SD card reader from the first model remains stuck in the past. Similarly, the Superslim won't allow a Linux or OtherOS install — ad-

SPECIFICATIONS	250GB PS3 SUPERSLIM	120GB PS3 SLIM	160GB PS3
PRODUCT CODE	CECH-4000	CECH-2000A	CECH-PXX
PRICE	\$270	\$250	\$300
COLOR	CHARCOAL BLACK (HALF GLOSSY)	MATTE BLACK	PIANO BLACK (GLOSSY)
HDD	250GB 2.5-INCH SATA	120GB 2.5-INCH SATA	160GB 2.5-INCH SATA
DIMENSIONS	11.42 X 2.36 X 9.06 IN.	11.42 X 2.56 X 11.42 IN.	12.75 x 3.86 x 10.8 in.
WEIGHT	4.62 POUNDS	7.05 POUNDS	11 POUNDS
POWER	190W	250W	280W
VERTICAL STAND	OPTIONAL (\$15)	OPTIONAL (\$24)	NOT NECESSARY
COMPATIBILITY	PSONE	PSONE	PSONE, LINUX
PS2 COMPAT?	NO	NO	NO
BRAVIA SYNC (HDMI-CEC)	YES	YES	NO
BUNDLE	WIRELESS DUALSHOCK 3 CONTROLLER, UNCHARTED 3: DRAKE'S DECEPTION GOTY EDITION, \$30 IN DUST 514 CREDIT, ONE-MONTH PS PLUS SUBSCRIPTION	WIRELESS DUALSHOCK 3 CONTROLLER	WIRELESS DUALSHOCK 3 CONTROLLER, UNCHARTED: DRAKE'S FORTUNE, PAIN DOWNLOADABLE GAME VOUCHER



mittedly, not a widely used feature — but it's yet another example of how starkly different the current model PS3 is from the original console.

WHAT'S DIFFERENT

The familiar hum of a game console — from the Harrier jet noise of the original Xbox 360's fans to the night-imperceptible din of the last-gen PS3 — is hard to escape. The new PS3 manages to make approximately zero noise; it is without a doubt the quietest home console we've ever heard (er, not heard, rather). That's likely due to the ubiquity of air vents found all over the ma-

chine, not to mention three hardware iterations and years of R&D. An entire horizontal half of the rear is dedicated fan space, and the bottom is framed by openings, giving the internals plenty of space to breathe.

The button arrangement up front has once again been reconfigured, eschewing the touch-sensitive styling of the original PS3 and the clicky, large buttons of the PS3 Slim in favor of one long plastic panel that pushes in at either end (left for opening the disc tray, right for powering on the console). Like the top-loading disc tray, the buttons feel remarkably

Vents are scattered around the device to keep it cool.



It's a glossy black dust and fingerprint magnet.



cheap and flimsy — another confusing choice for the new console.

WRAP-UP

At \$270 — a full \$20 more than the already existing 120GB model, albeit with the addition of a year-old game and \$30 in virtual money for a free-to-play shooter that isn't available yet —

the PlayStation 3 redesign is hard to suggest. Barring the price, the generally cheap feel of the hardware and sheer unattractiveness galvanize our position: you're better off picking up the older, less expensive, more attractive (and functionally identical) PS3 Slim. And that's without mentioning awkward design choices like a top-loading disc tray, or the return to glossy black plastic that holds fingerprints and dust so dear to its heart. If you're in the

market for a new PS3 — and honestly, who are you people? — we can't suggest the Superslim. **D**

Ben Gilbert is a Senior Associate Editor, where he tends to write about video games. He loves a great breakfast, is obsessed with media, and recklessly employs serial commas.

BOTTOMLINE

SONY PLAYSTATION 3 SLIM (2012)

\$270+



PROS:

- Half the weight of the original PS3
- Extremely quiet

CONS:

- More expensive than previous model
- Top-loading disc tray
- Glossy exterior attracts dust, fingerprints

BOTTOMLINE:

The newest PlayStation 3 is a step down from its predecessor, with a higher price, illogically placed disc tray and a glossy, fingerprint-prone finish.



iPOD TOUCH



The new **iPod touch** packs the same screen as the iPhone 5, but is it still the PMP to beat?
By Tim Stevens

When last we got a new iPod touch, the fourth-generation from 2010, it was so thin relative to other devices of that era we said it looked like “a toothpick.” Its 7.2mm thinness was unparalleled — at the time. But now, just two years later, the iPhone 5 is less than a half-millimeter thicker, and that is of course packing a lot more wizardry inside. Suddenly, that toothpick is looking a little portly, which means it’s time for the touch to lose a little weight.

Enter the fifth-generation iPod touch, the 2012 model that has slimmed down to a mere



6.1mm in thickness. It's also about 10 percent lighter — despite being grafted with a new 4-inch Retina display. Not only is it bigger and thinner, but it's far faster and has hugely improved cameras on both the front and rear. Is it the perfect PMP package for \$299?

HARDWARE

The fourth-generation iPod touch had a curved chrome back that looked absolutely lovely coming out of the box. Roughly 30 seconds later that mirrored look would evaporate, replaced by a scratched-up patina that no amount of careful handling

The fifth-gen touch is even thinner than the new iPhone 5.

We chose the special edition (Product) Red to evaluate and as soon as it came out of the box we were confident we made the right call. It's beautiful.

could prevent. But, its shape felt good in the hand, with its size and weight both seeming minimal compared to nearly



every other device on the market — two ingredients for a top-notch device.

The fifth generation improves on that in every regard. As mentioned, it now measures 6.1mm thick, while its width and height clock in at 4.86 by 2.31 inches (123.4 x 58.6mm). Compared to the fourth-generation touch, which measured 111 x 58.9 x 7.2mm, the new iPod is considerably thinner, fractionally narrower and massively taller. It's also noticeably lighter, at 3.1 ounces (88 grams) compared to 3.56 ounces (101 grams) for the outgoing model. Storage capacities are now 32 or 64GB, priced at \$299 and \$399, respectively.

Gone is the mirrored back, replaced by a matte aluminum shell available in your choice of six anodized colors. We chose the special edition (Product) Red to evaluate and as soon as it came out of the box we were confident we made the right call. It's beautiful. The crimson hue sets up a nice contrast to the white bezel around the glass on the front, as well as the white plastic that forms the rim of the 3.5mm headphone jack, which still lives on the bottom, but has moved to the left to match the placement on the iPhone 5.

That red color bathes a machined aluminum back that has a rather more square profile than the previous iPod touch, but it's still decidedly more comfortable in the hand than the angular, industrial iPhone. The metal enclosure (which has a soft feel similar to a MacBook) is punctuated for numerous sensors, buttons and other accoutrement, with the power/lock toggle still residing in the upper-right and the volume rocker on the left side. On the bottom, next to the headphone jack, is the new Lightning connector, which is rimmed by about a millimeter's worth of raw, uncolored aluminum. Five tiny holes are drilled on the other side of the bottom, making up a puny speaker grille.

On the back, the camera still peeks out of the top-left, but the module is considerably larger now and, where it was inset on the fourth-gen iPod touch,



The new touch sports the same screen as the iPhone 5.



it now protrudes slightly — just over 0.6mm, by our measurements. This means the overall actual thickness of the device is closer to 6.8mm, a difference that only those wearing the tightest of skinny jeans need concern themselves with. The camera portal is considerably wider in diameter, too, still flanked by a small microphone opening but now joined by a third opening: an LED flash. It's a 5-megapixel sensor this time with the same basic array of lenses and mechanics found in the iPhone 4S.

Keep moving across the top back and you'll find a small black plastic patch, similar in feel to the plastic section on the top of the iPad. It's here that the iPod's dual-band 802.11a/b/g/n module sends and receives its data. There's Bluetooth 4.0 support in here too, as well as Nike+ connectivity, but sadly still no GPS. The ability to properly track your movement using fitness apps like Strava would make this an even more compelling workout companion, and of course geotagging photos is more popular than ever. Sadly, the iPod touch is left out of that party yet again.

The most curious bit of connectivity is found at the bottom of the device. It's a little brushed metal circle that, when pushed, pops out slightly. It's here that you attach the curious little microfiber wrist strap that Apple includes with the device. But, in typical Apple style, it isn't called a wrist strap. It's "the loop" and it's designed to further ramp up this

thing's street cred as a compact camera.

Finally, on the front things are more or less as they were before — just taller. Up top, there's a 1.2-megapixel FaceTime HD camera peeking out of the bezel. Down below, there's the same subtly recessed home button we've come to expect. In between? Here lies something special.

DISPLAY

The vertical growth of the iPod touch is for one reason and one reason only: to accommodate the new 4-inch display that debuted in the iPhone 5. Yes, this is the exact same panel as the iPhone, not a cut-rate version like the last iPod touch received. That means a 326dpi, 1,136 x 640 IPS LCD screen.

We gushed about this panel in the recent iPhone 5 review, so we won't spend too much time covering such well-trod ground, but we will reiterate our thoughts from before: this is among the best panels on any mobile device. Brightness and contrast are top-notch and viewing angles are wide enough to ensure that you can enjoy everything from all sides. However, we would point out the lack of a brightness sensor here, so unlike the iPhone (and, indeed, the last iPod touch) this thing won't use an appropriate brightness for all light-

This is among the best panels on any mobile device.



ing conditions — at least, not without a little help from you.

PERFORMANCE

The fifth-generation iPod touch sports a dual-core A5 processor and, while Apple isn't quoting specs, thanks to benchmarking apps we know it's running at 800MHz and is paired with dual-core PowerVR graphics. So, just like the iPhone 4S that came before. And our benchmark results back that up. An average Geekbench score of 627 is right where the 4S tends to rank in, and an average SunSpider score of 1,785 is even better. Our impressions upon using the device definitely match up with those numbers. The iPhone 5 leaves the new iPod in the dust in all regards, but it's a massive leap beyond the old iPod.

We've not been able to run the device through a full battery test, but Apple rates the new iPod touch as having the same music listening time as the previous generation (40 hours) and rates its video playback for an hour longer — eight versus seven. We've never had a complaint with the longevity of the fourth-gen iPod, so we expect this new model to live up to expectations.

CAMERAS

While the new display is the most noticeable departure from the previous-generation iPod and the new silicon on the inside certainly makes for a markedly improved experience, it's the pair of new shooters that mark the biggest

step forward from the previous touch. The 1.2-megapixel FaceTime HD camera up front appears to be the same as we've seen in other devices, meaning it's quite good even in conditions with middling light.

It's the 5-megapixel setup on the back that's the star of the show. No, it isn't as nice as the new 8-megapixel module on the iPhone 5, but the new iPod does match the performance of the iPhone 4S in most regards, which is to say it takes some great stills. Photos are light-years beyond those captured by the previous touch, meaning this does indeed do a reasonably good job as a compact camera. They don't live up to the photos on the 5, and indeed in lower light you'll see a good amount of noise, so serious photogs will still want to lug along something with a bit more horsepower. But, for more casual holiday snaps, the touch does a respectable job.

It also captures compelling video at 1080p, though the video stabiliza-

Photos are light-years beyond those captured by the previous touch, meaning this does indeed do a reasonably good job as a compact camera.





The fifth-gen touch's new cameras are a big improvement.

tion here doesn't seem nearly as good as that on the iPhone 5. Trying to walk while filming, a situation handled commendably by the 5, creates a jittery mess here. You'll want to practice those deep-breathing and soft-walking techniques you learned in sniper school. Additionally, you're unable to take stills while recording video, as you can on the iPhone, but overall video quality is more than acceptable.

SOFTWARE

Well, it's iOS 6, so you should know more or less what to expect here. Siri

is now here, so you can get yourself some spoken-word advice from your slender PMP, and all the iCloud, Safari and other upgrades that were grafted onto the latest version of Apple's mobile OS have all come along for the ride.

There's also the new Maps, for better or for worse, but without GPS you'll be a little bit restricted in terms of what you can do with it. You can also load up third-party navigation apps like TomTom or CoPilot Live, but again they won't be much use anyway.



SOUND QUALITY

We stacked the new iPod touch up against a number of comparable offerings, including the fourth-generation touch, the new iPhone 5 and the new nano as well. We also lined up three sets of headphones, starting with Apple's own EarPods, which we put through the paces and found to be perfectly adequate. We also went a little higher-end with a set of Klipsch S4i buds and, finally, some Sennheiser HD555 cans. The new touch performed well with all, not noticeably better or worse than

Like the new iPhone, the touch uses the Lightning connector.

its predecessor. The internal speaker, meanwhile, is predictably weak, again performing about as well (or, rather, as poorly) as that on the previous touch. You can hear it, but you certainly won't want to use it for much.

WRAP-UP

As an upgrade, the fifth-generation iPod touch hits all the right marks. It's thinner and lighter despite packing a bigger and (far) better screen. It's faster despite having better battery life, its pair of cameras are markedly better than those found in the previous touch and its new matte





A matte aluminum back replaces the mirrored finish design.

not a lot of sugar we can put on that pill. The iPod touch is a comprehensively better package than the previous-gen unit but, at \$299 to start, it certainly doesn't come cheap. If you're reasonably content with your fourth-gen this is probably not worth the upgrade, but if you have an older

aluminum exterior certainly seems like it will prove rather more durable in the long-run — though time shall tell on that front.

That the new touch is rocking Apple's new Lightning connector will be a drawback for those with legacy docks and the like, but this is clearly the path the company is taking going forward, and there's

iPod that's ready for retirement, or are indeed just jumping on the iOS bandwagon for the first time and are happy with your current phone, this is a great place to start. **D**

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

BOTTOMLINE

iPOD TOUCH (2012)
\$299 - \$399



PROS

- Beautiful design
- Best-in-class 4-inch display
- Much-improved cameras
- Siri

CONS

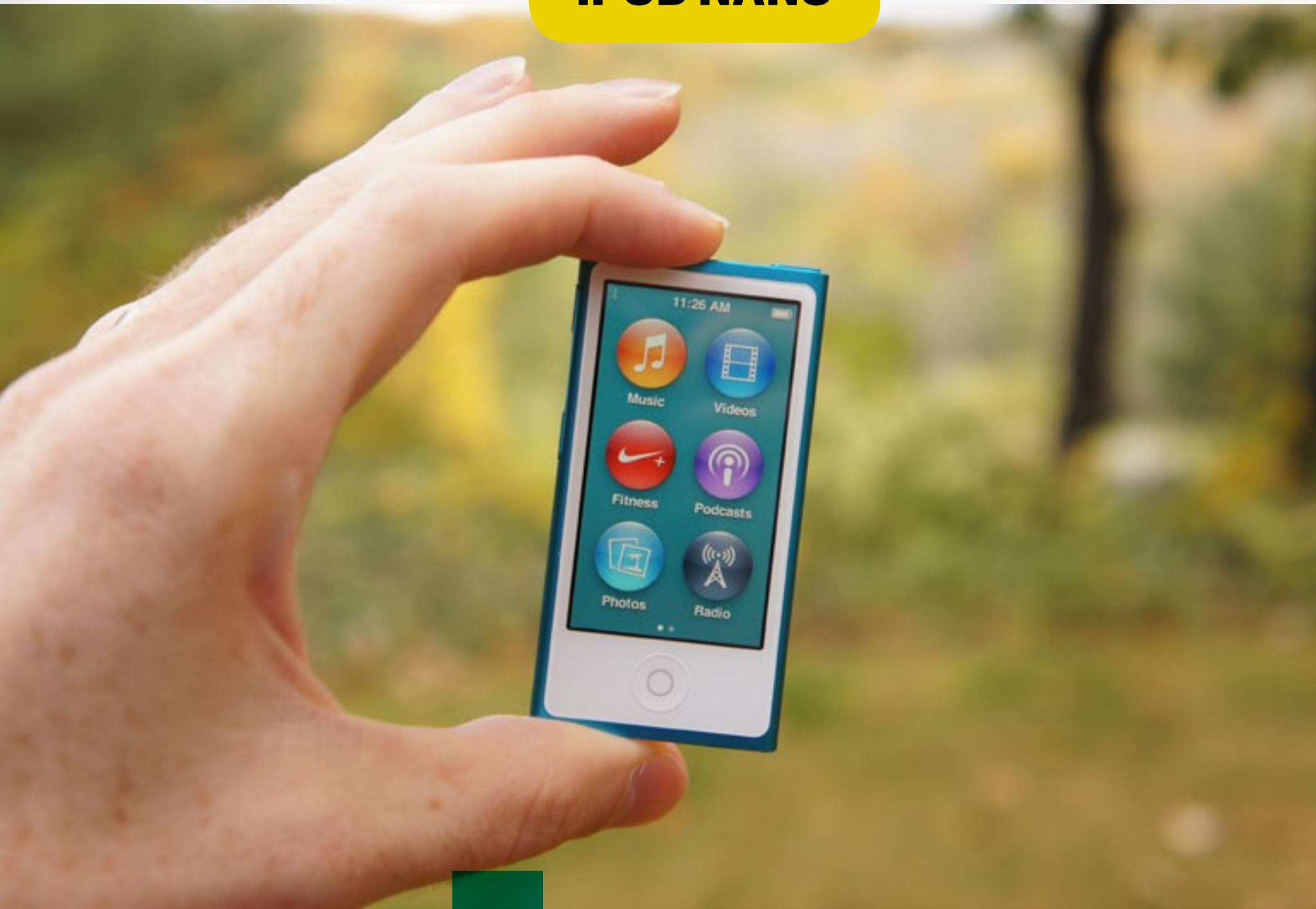
- Still no GPS
- Pricey

BOTTOMLINE

Apple's latest iPod touch is by far its best, but it's priced far out of impulse-buy territory.



iPOD NANO



Apple's **iPod nano** has seen a number of redesigns, but is its latest iteration lucky number seven?
By Tim Stevens

If you think Apple is getting a little predictable with its yearly device refreshes, you probably haven't been charting the progress of its iPod nano. While most products in the Apple line receive an update every 12 months or so, few have experienced the kind of annual reinvention of the nano. It's a rare example of the company drastically rethinking a product with such regularity — or of simply not really knowing what to make of it.

Depending on how you look at it, this new seventh-generation iPod nano is either the latest, most optimal design of the long-running



series, or it's Apple's latest shot in the dark. Even the cynics will have to agree this is a pretty good shot, thinner than ever and packing more functionality than in the past — including Bluetooth 4.0. It sure doesn't make much of a wristwatch, but is the latest littlest iPod worth the \$149 price of admission to its 16GB capacity? Read on to find out.

HARDWARE

It's a tiny little thing, this new nano. No, it isn't the smallest in terms of volume — that honorific resides with the decidedly square sixth generation, which measured 37.5 x 41 x 8.8mm. This new, clip-less model is far thinner, just 5.4mm, but it's also taller (76.5mm) and a bit wider (39.6mm), creating a device that is overall slightly larger. But, that's like saying Gerard Butler is a slightly hunkier dude than Hugh Jackman. Both dudes are pretty hunky.

Indeed, this new nano is properly

This new nano is properly tiny. Its weight, 31 grams, is less than half that of the new iPod touch and about the same as 10 sticks of Juicy Fruit.

tiny. Its weight, 31 grams, is less than half that of the new iPod touch and about the same as 10 sticks of Juicy Fruit. It weighs less than the batteries in many modern smartphones — those that still have removable batteries, anyway. Put it in your pocket, even the tiny fifth pocket that Steve Jobs famously pulled the original nano from back in 2006, and you absolutely won't be able to tell it's there.

The reason for this change in dimensions is the move away from the square, 240 x 240 resolution LCD found in the last-gen nano. That's replaced by a 2.5-inch, 16:9 aspect ratio, multi-touch LCD that clocks in at 240 x 432. It's actually a slight step down in terms of pixel density, but the extra space is more than worth it, as now this can make for a passable video player. In a pinch.

Still, even ignoring its size, this panel won't dazzle you like the one on the new iPod touch does. It's bright and clear and reasonably good-looking, but viewing angles are not this thing's forte. Tilt the screen downward and the contrast quickly plummets, and the color balance appears pretty sickly when gazing onward from any other direction.

Situated beneath that display is a tiny home button, a first on the nano. (Previous iPods had click-wheels or no such buttons at all.) That makes one of five buttons here — yes, five. There's a slender power button up on the top and, on the upper-left, a three-way volume rocker like those found on many





There are five physical buttons on this seventh-gen nano.

BlackBerry handsets. With this you can adjust volume and, by pressing in the middle, play/pause music or engage in any of the Morse code-like commands for shuffling or skipping tracks.

The design language of the device is simple, clean and, frankly, not too far off from the previous nano.

This rocker sits flush with the side of the device, the indentation in the middle serving as the only thing that sets it apart from the left extent. Still, it's easy to find, but given the size of this thing we think you'll probably want to rely on the inline remote on a pair of suitably endowed headphones. Sadly, the EarPods included with the device are lacking in that regard.

On the bottom are the three means of connectivity — two ports and a tiny plastic window through which this thing's Bluetooth 4.0 antenna talks. On the left is the 3.5mm headphone jack and on the right, the Lightning con-



nector. As on the iPhone 5 and the new iPod touch, the Lightning connector is a huge upgrade in terms of usability and size — far easier to connect and, of course, much smaller. But, that comes at the expense of adaptor-free compatibility with the zillions of iPod docks out there today.

The design language of the device is simple, clean and, frankly, not too far off from the previous nano. The anodized aluminum chassis curves around to cradle the LCD on the left and right, but it's flat on the top and bottom, with edges exhibiting the subtle chamfering that appears to be all the rage these days. It has a soft, polished finish to it that we think will hold up reasonably well to scratches. It will, at least, be far more scratch-resistant than the previous mirrored, stainless steel backs.

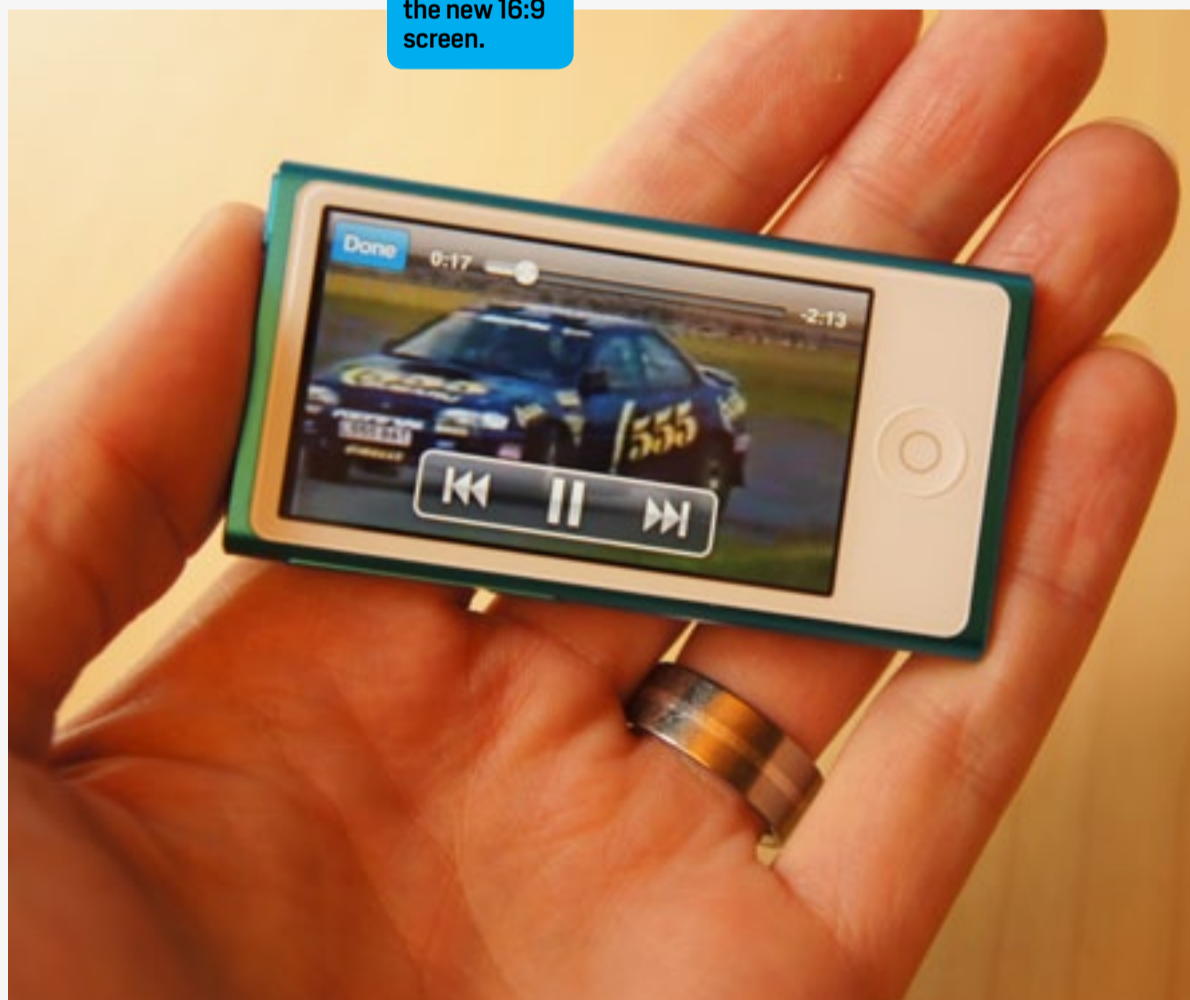
Overall, the new nano isn't quite the visually arresting device that the latest iPod touch is, but that's at least in part because it's so much smaller — it's harder to appreciate the design features. Look closely, though, and the attention to detail shines through. This is a great-looking and great-feeling device.

SOFTWARE

Users of the previous-gen iPod nano will feel right at home here, for the most part. Not an awful lot has changed in the interface or functionality, though things are a bit more streamlined than before. It's still the same basic iOS-like UI, but again we're not talking *actual* iOS. There are nine icons this time, spread across two pages — with just three icons taking up the second. Thankfully you can re-arrange them and relegate your least-used functions to the depths of the second page.

Music and playlist controls are all contained beneath the single Music icon now, which brings up the familiar iPod interface for browsing tracks by artist, album or playlist. There are the same loop

The video player returns with the new 16:9 screen.



and shuffle playback options as before. Making a triumphant return after a few years off is the video player, which makes the best use of the limited screen real estate to play back footage in 16:9 Tinyvision.

Nike+ functionality is still here, made even better in this iteration by having everything built into the device. You no longer need to clip on a receiver or put an accelerometer on your shoe to track your walks or runs, and you can even connect Bluetooth heart rate monitors wirelessly. That makes this an even better workout companion than before — though the lack of the integrated clip will be seen as a slight step backward by those whose running shorts lack pockets. (Surely some intrepid case maker will fix that problem in short order.)

Photo viewing is still possible, made better with pinch-zooming this time around. And, thanks to the accelerometer, images will auto-rotate as you go from portrait to landscape. Radio playback is largely unchanged, including song tagging and the Live Radio pausing, which enables up to 15 minutes of time shifting. There are

lots of clock faces, made somewhat less necessary thanks to this thing's shape being unsuitable for wrist wearing, but we have no doubt someone will prove us wrong on that front. Finally, pop in a headset with a microphone and you'll get the Voice Memos icon, which allows the recording of little reminders.

But, since the set of EarPods included with the nano lack inline controls and the inline microphone, if you want to make such recordings you'll have to BYO ear buds.

SOUND QUALITY

We stacked the new nano up against the new iPod touch to see if you're giving up anything in the audio quality realm as compared to something bigger — well, slightly big-

Included EarPods lack inline controls and a mic.





This nano looks more like early versions than the sixth.

ger, anyway. We tested with Apple's EarPods, Klipsch S4i buds and some Sennheiser HD555 cans and could find no discernible difference between the players when listening to the same tracks. So, while we wouldn't recommend powering anything with an overly high impedance, the new nano is more than capable of driving your average 'buds.

WRAP-UP

The radical change in design here — closer to the fourth- and fifth-generation nanos than the last — won't be universally liked, but the seventh-gen iPod nano is absolutely the best yet. It brings all the functionality of the last nano to the table and adds plenty more in a deliciously slender package. The integrated Nike+ functionality will make the runners happy and, while it still doesn't mark the return of video capture, we welcome the re-acquired video playback. At

\$149 for 16GB there are certainly plenty of cheaper options out there, but if you're looking for something tiny, something light, something beautiful and something that plays nice within the Apple ecosystem, stop looking. **D**

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

BOTTOMLINE

IPOD NANO (2012)

\$149



PROS

- Incredibly tiny and light
- Aluminum case feels solid, durable
- 16:9 display and video playback
- Integrated Nike+ functionality

CONS

- No camera
- Expensive

BOTTOMLINE

Apple's latest iPod nano marks another redesign for the company's littlest player, but still it brings more to the table than any previous iteration.



FSC

VISUALIZED

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10.19.12



PHOTOGRAPH: JAY NEMETH/RED BULL CONTENT POOL



ROB CHANDHOK



**QUALCOMM'S PRESIDENT
OF INTERNET SERVICES**
offers us his (mostly)
impartial view of the
electronics market.



Each company has a focus that pushes and pulls at the fabric of new products — regardless of who is competing with whom.

What gadget do you depend on most?

Clearly, my mobile phone. I use it to keep in touch with my family and my work, and the news around the world.

Which do you look back upon most fondly?

Probably my cassette tape recorder when I was a teen. It had *Dolby*. I could make my own “playlists.” That was cool.

Which company does the most to push the industry?

It's hard to say that it's one company. Each company has a focus that pushes and pulls at the fabric of new products — regardless of who is competing with whom.

What is your operating system of choice?

That's a tough one for me to an-

swer ... so I'll pass. Each is good at different things.

What are your favorite gadget names?

Walkman was a great name. Nest is also, as was Flip.

What are your least favorite?

The names that are really long with a lot of numbers. Not memorable.

Which app do you depend on most?

Email. And I wish I could still get Eudora for my phone :-).

What traits do you most deplore in a smartphone?

Not being able to control notifications and interruptions. It's really hard to get that right, you need to do more than just have options, you need to make the user experience smooth through intelligent design.

Which do you most admire?

Simplicity. One-handed operation. Literate interfaces.



“Covet” implies I haven’t gone and bought that device already. So I’m pretty sure I don’t “covet” any device.

What is your idea of the perfect device?

I don’t think I could describe one. There isn’t a universal solution to anything

What is your earliest gadget memory?

Does this count? My 75-in-1 Electronics Kit? If not, I guess my portable cassette player. I couldn’t afford a Walkman.

What technological advancement do you most admire?

The internet. Especially the wireless internet.

Which do you most despise?

Gadgets that don’t communicate.

What fault are you most tolerant of in a gadget?

Size. Too big, too small, we can generally find the right size over time.

Which are you most intolerant of?

Cheap mechanical design.

When has your smartphone been of the most help?

When I really needed to be in touch.

What device do you covet most?

Hmmm. “Covet” implies I haven’t gone and bought that device already. So I’m pretty sure I don’t “covet” any device.

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

Battery life. No surprise there.

What does being connected mean to you?

Being able to choose to communicate with those I want to. For me it’s more about communication than surfing.

When are you least likely to reply to an email?

At night.

When did you last disconnect?

On vacation. 



IN REAL LIFE is an ongoing feature where we talk about the gadgets, apps and toys we're using in real life.

NUU SOFTKEY

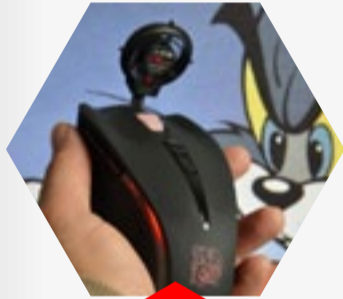
I was looking for an iPad case to help me peck out articles on the go, but NUU's SoftKey case for the new iPad / iPad 2 isn't it. The faux-leather folio disguises your tablet in a document wallet respectably enough, but its awkward prop made it useless as an impromptu movie screen on a long-haul flight. In fact, the various stand configurations are all so weak that you constantly need to keep your hands on the device to prevent it collapsing before you.

Of course, none of that would matter if its keyboard was use-

ful enough to relegate my laptop to the bottom of my carry-on. Unfortunately, it's topped with a rubber membrane that's too easily parted from its keys, meaning that the only travel you experience is when you depress the sheath in on itself. The keyboard, too, needlessly includes Escape, Arrow and Function keys that, while useful, could have easily been shed to increase the size of the letters. As such, my quest to turn the iPad into a useful work machine will struggle on. — *Dan Cooper*



MacBook
Air



Thermaltake's
eSports
Cyclone
Edition



IN REAL LIFE is an ongoing feature where we talk about the gadgets, apps and toys we're using in real life.

MACBOOK AIR (13-INCH, 2012)

I'm not even sure what happened. One minute, I was dead-set on waiting for one of those hybrid laptop / tablet deals running Windows 8. The next, I was braving a New York City downpour to pick up a MacBook Air. I've been a die-hard Windows user since the 3.1 days: I stuck with it through Vista and I eagerly await this month's update. And yet, here in New York, thousands of miles from home, I feel like I've had the OS equivalent of an illicit cross-country fling. What if my wife finds out?

Truthfully, my reasons for picking up an OS X machine are far more practical than lecherous. It's become increasingly clear that my Windows-only approach is a bit

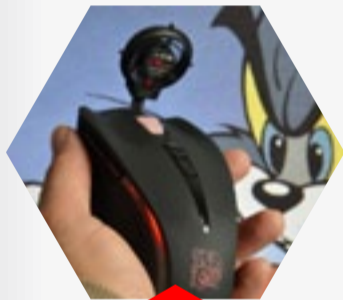
outdated. As part of a group that obsessively covers technology, it only makes sense for me to stay current with as many hardware and software ecosystems as I can. I've used OS X for years in the work environment (and Mac OS 9 before that). But this Ivy Bridge-powered 13-inch Air represents the first time I've ever spent my own money on an Apple product. That's right, no iPods or iPhones in our home. Just look at my Zune HD and Windows Phone.

So far, I'm not regretting my decision. This keyboard and trackpad combo is supremely comfortable and the solid-state drive is impressively quick. As of this writing, I've been on battery for about three hours and only just crossed the 50 percent threshold. The screen may not be Retina-level, but I've no complaints about it so far (though I haven't done any photo editing just yet). Up next: installing Windows 7 (and later Win 8) for a little Boot Camp action so I can have two great OSes on one amazing machine. Yup, I'm officially a two-timer — and I'm not ashamed.

— *Philip Palermo*



Nuu
SoftKey



Thermaltake's
eSports
Cyclone
Edition



IN REAL LIFE is an ongoing feature where we talk about the gadgets, apps and toys we're using in real life.

THERMALTAKE eSPORTS CYCLONE EDITION

I admit that when I first wrote about TT eSport's Cyclone Edition gaming mouse, I didn't take it all that seriously. A protruding 6,000 rpm fan to keep your trigger finger cool and slip-resistant — isn't that slightly *OTT*? Well, yes it is. But it's also beautiful, exuberant and happiness-inducing — as is the very thought that someone out there has the guts to bring stuff like this to market. My Cyclone's fan mostly sits detached and idle on a shelf these days, because fall where I live is chilly

enough already, but that detracts little from the \$80 mouse itself. It's well-built and well-specced, has plenty of extra buttons for FPS games, and is actually more comfortable than its pricier big brother — the BMW-designed Level 10 M. Rather than just being a boring gimmick, it leaves me with a strong sense that someone at TT eSports genuinely loves their job. Not convinced? Check out the Taiwanese company's obscene gold and yellow Chao gaming headphones and you soon will be. — *Sharif Sakr*



**Nuu
SoftKey**



**MacBook
Air**



The week that was in 140 characters or less.

Eco-Crusiers, Google's Oops and the Punderful World of Tech

DISTRO
10.19.12

ESC

REHASHED

@MikeIsaac

The button to file earnings to SEC and the Chromebook Launch button were like, right next to each other. Easy mistake to make.

@danielwcooper

My wife might have cracked it: "Maybe it's not the iPad Mini... Maybe it's the iPhone Mega!"

@Merkader

Not sure how I feel about this sprint partial buyout. Sent from my sprint phone

@Trixy

So many puns
Surfacing.



@ukslim

Cardboard bike. Shut up and take my \$20.

COURTESY OF ERB FINANCIAL GROUP INTERNATIONAL (BIKE)

THE STRIP

BY SHANNON WHEELER



DIFFERENCE ENGINE NO.1



In 1821, Charles Babbage began work on a machine to automate the time-consuming task of number crunching. His Difference Engine No. 1, which employs the method of finite differences, is considered to be the first successful automatic calculator built. While only a portion of this machine was completed, he continued his work, designing a more complex Analytical Engine and a successor to the first Difference Engine (No. 2). Many aspects of the modern computer are commonly believed to stem from Babbage's pioneering ideas.

**MODERN
EQUIVALENT:**
Digital Calculator

1791-1871



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