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2013 IPHONE + IPOD  
BUYERS' GUIDE

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# Welcome to the Guide.

2013  
IPHONE  
+ IPOD  
BUYERS'  
GUIDE



After a slow and uneven 2011, Apple roared back in 2012, launching a wide array of significantly redesigned devices. The iPod, iPhone, and iPad families all saw major screen revisions, including two taller iPods, one elongated iPhone, and a quadrupled-resolution iPad. Then, just before the holidays, Apple debuted the 7.9" iPad mini, and replaced the 9.7" iPad again - just because it could. Going into 2013, the lineup looks almost completely different than it did a year earlier, except for three iPods that have been left largely untouched.

If you're reading this Guide, you're probably looking for buying advice, and that's why we're here - to give you an impartial and honest look at the world of Apple devices, accessories, apps, and games. Following our tradition, iLounge's editors have spent the past year testing hundreds of new products, selecting the best and most noteworthy ones for our new 2013 iPhone + iPod Buyers Guide. Independently assembled, our Guide is a sight to behold. We hope you enjoy it.

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Last year in this space, we lamented the decline of the iPod - a product line that rejuvenated Apple, only to stagnate as iPhones and iPads became the company's top priorities. One year later, Apple has released two new iPods - an improved nano, and a taller, faster iPod touch - but the family is as confused as it's been in years: Apple expects customers to spend almost as much for a limited \$149 iPod nano as the old \$199 iPod touch, and nearly the same for the new \$299 touch as a \$329 iPad mini. It's no wonder that traditional iPod sales have fallen; Apple's other products make more sense, even at modestly higher prices.

Or do they? Despite the ubiquity of cell phones and growing popularity of tablets, there's still a huge market for standalone pocket-sized media players - particularly gaming devices. Nintendo's Game Boy and DS portables have been thriving for decades, collectively selling several hundred million units. Apple knows this, but hasn't really cared to make cutting-edge devices just for gamers. Instead, it produces new iPod touches that are steps behind the iPhone, markets them as "fun," and hopes that \$5 games will entice purchases. It's a strategy, but is it working?

The new iPods are so recent that the dust hasn't settled, but we suspect their decline will continue, as the iPhone and iPad enjoy a strong holiday season. Perhaps that's not a bad thing, but with a proper iPod strategy in place - uniquely capable devices at more compelling prices - Apple could have even greater success (and better products) in the next year.



Dennis Lloyd  
Publisher

A long-time Apple fan, Dennis Lloyd (Twitter: @iLounge) was a graphic designer and DJ before creating iLounge, which remains the world's most popular resource dedicated to iPods, iPhones, iPads, and iTunes. Dennis lives in Irvine, CA with his wife and daughter.



Jeremy Horwitz  
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Clockwise from bottom left: A September event saw two new iPods join two older models - and the classic - in an expanded family, while Scott Forstall and Phil Schiller introduced iOS 6 and the iPhone 5. In late October, Apple debuted the iPad mini and fourth-generation iPad.



## Apple Shows iPhone 5 + iPods, Then Twin iPads

Third-generation iPad replaced after six months, joined by 7.9"-screened iPad mini

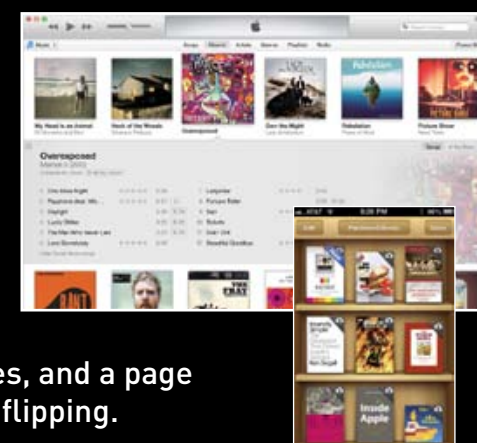
Following months of rumors, Apple used two separate events to debut major updates to its pocket and tablet devices. Leading a September event was the iPhone 5 (16-64GB/\$199-\$399), a taller, slimmer, and more metal-bodied update to the iPhone 4/4S, featuring LTE cellular support, improved front and rear cameras, and battery tweaks. The fifth-generation iPod touch (32-64GB/\$299-\$399) borrowed its screen and some of its camera improvements, becoming the first touch to be available in an array of

six colors. The seventh-generation iPod nano (16GB/\$149) doubled its predecessor's height, gained a 2.5" touchscreen, and became video-capable, all in eight new colors matched to the iPod shuffle. October saw the debut of the iPad mini (16-64GB/\$329-\$659), a 7.9" distillation of features from the last two iPads into a 7.2mm thick, 0.69-pound body, and the fourth-generation iPad (16-64GB/\$499-\$829), which received a 2X speed bump and camera improvements over its unceremoniously discontinued, six-month-old predecessor.

## iOS 6, New iTunes, iBooks 3 Conclude Big Yet Quiet Year For Apple Software

After rolling out many new apps during 2011, Apple's 2012 software lineup focused largely on updating previous products: iOS 6 rolled out in September, expanding the reach of Siri, adding the digital wallet Passbook, and debuting a controversial new version of Maps. Apple also previewed iTunes 11, which

refocused the Mac/PC app on art rather than text, and seamlessly blended together media libraries on the computer and iCloud servers. Also released was iBooks 3, featuring easier iCloud redownloading of books, publisher-specified fonts, more foreign languages, and a page scrolling alternative to page flipping.



Far more information on these and other topics of interest to iPod and iPhone users is available from the iLounge.com news archives at [ilounge.com/index.php/news/archives/](http://ilounge.com/index.php/news/archives/).





IPHONE+IPOD

# BUYERS GUIDE

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## Which iPhone? Which iPod? We Can Help.

With eight different iPhone and iPod models currently on store shelves, Apple's lineup is bigger - and frankly more confusing - than ever. It's easy enough to make a purchase based purely on price, but there are many other factors to consider: for iPods, you need to decide whether you want a tiny, screenless box for music, a small touchscreen device adding video playback and wireless audio streaming, a larger version with app and game support, or an even taller one with better screen and camera technology. iPhones are easier: the iPhone 4, 4S, and 5 all have the same core features, but the newer models run faster and use higher-quality components. Or perhaps you want an iPad, instead? How about more than one Apple device? You now have many options, limited only by budget.

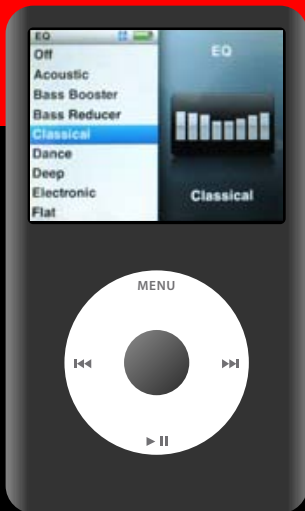
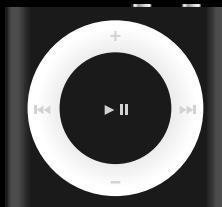
We're not going to claim that Apple produces a single device that's right for everyone; even our own editors use multiple devices, preferring some at specific times for different reasons. However, it's possible to choose a single iPhone or iPod that's well-suited to most of your needs, and our goal is to help you do that. On the pages that follow, you'll find straightforward looks at each current model, including new iPod releases, the zombie-like iPod classic, the not-yet-discontinued fourth-generation iPod touch, and all three presently available versions of the iPhone. We'll look at all of Apple's latest color options, and offer our expert advice on the models we'd pick or skip this year. Armed with good information, you can pick the right device for yourself - hopefully one that will satisfy your needs for several years to come.

*Start here!*



01 IPHONE + IPOD FAMILY

EIGHT MODELS, FROM \$49 TO \$399



2013 IPOD LINEUP

MODEL	IPOD SHUFFLE	IPOD NANO	IPOD CLASSIC
PURPOSE	Ultra-Small Music Player	Sport-Ready Media Player	High-Capacity Media Player
SIZE	1.14" x 1.24" x 0.34"	3.01" x 1.56" x 0.21"	4.1" x 2.4" x 0.41"
PRICE	\$49	\$149	\$249
STORAGE	2GB	16GB	160GB
COLORS	8	8	2
WEIGHT	0.44 Oz.	1.1 Oz.	4.9 Oz.
SCREEN	No	2.5" / 432x240 / 202ppi	2.5" / 320x240 / 163ppi
MUSIC	14-15 Hour Battery	30-35 Hour Battery	36-42 Hour Battery
PHOTOS	No	Yes	Yes
GAMES	No	No	No
VIDEOS	No	3.5-Hour Battery	6-8 Hour Battery
PHONE	No	No	No
RATING	<b>B</b>	<b>B</b>	<b>C+</b>
SUMMARY	This colorful, audio-only model lacks for a screen, storage capacity, and battery life versus a nano. But it's cheap, supports multiple playlists, and can speak playlist names.	Twice the prior version's height, Apple's small-screened player restores video playback and adds Bluetooth, but falls well short of the iPod touch 4G at a small price difference.	Unchanged since 2009, the iPod classic is still Apple's highest-capacity media player, and retains a Click Wheel controller. Unless you need to store lots of music, skip it; it's very limited.



2013 IPOD LINEUP

MODEL	IPOD TOUCH 4G	IPOD TOUCH 5G
PURPOSE	Touchscreen Media Player	Touchscreen Media Player
SIZE	4.4" x 2.32" x 0.28"	4.86" x 2.31" x 0.24"
PRICE	\$199-\$249	\$299-\$399
STORAGE	16GB-32GB	32GB-64GB
COLORS	2	6
WEIGHT	3.56 Oz.	3.1 Oz.
SCREEN	3.5" / 960x640 / 326ppi	4.0" / 1136x640 / 326ppi
MUSIC	39-40 Hour Battery	40 -44 Hour Battery
PHOTOS	Yes	Yes
GAMES	App Store Downloads	App Store Downloads
VIDEOS	7-8 Hour Battery	8 Hour Battery
PHONE	No	No
RATING	<b>B+</b>	<b>B+</b>
SUMMARY	Kept on as a low-cost iOS device, it's steps down from the new iPod touch, with two so-so video cameras, lower-powered processors, and a smaller screen, but way more capable than the nano.	As the most capable iPod, the new touch has a tall screen, very good cameras, and better wireless chips, but its overall performance is akin to last year's iPhone 4S, and on par with the iPad mini.

While the iPhone family is powering ahead at full speed, the iPod lineup is becoming somewhat confused and messy. After transforming into a watch-sized, iPod shuffle-like shape in 2010, the \$149 iPod nano is back to looking like a miniature iPod, now closer in shape to the iPod touch - only minus most of the \$199 touch's great features. And there are now two iPod touch models: the 2010 fourth-generation version, sold in two capacities, plus a new 2012 fifth-generation model with a taller screen, improved cameras, and redesigned body. Don't forget the iPod classic, which somehow remains in the lineup at its same \$249 price with the same 160GB capacity introduced in 2009, seemingly only for serious music enthusiasts at this point. The big theme now is color choices: iPod shuffles and nanos now come in 8 colors, with the iPod touch in 6. Each is offered in Apple-exclusive red.





2013 IPHONE LINEUP

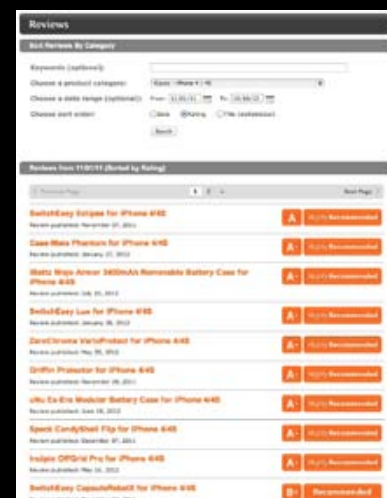
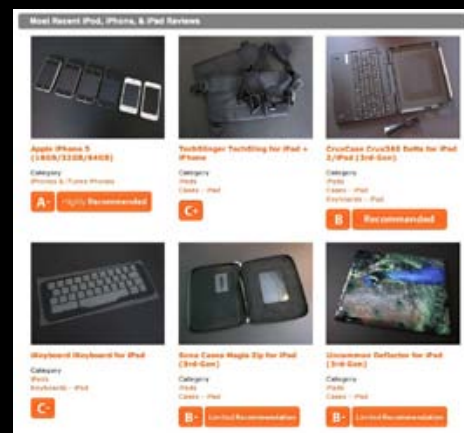
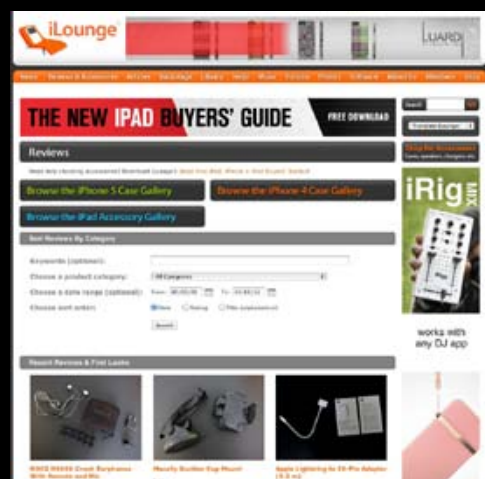
MODEL	IPHONE 4	IPHONE 4S	IPHONE 5
PURPOSE	Touchscreen Media Phone	Touchscreen Media Phone	Touchscreen Media Phone
SIZE	4.5" x 2.31" x 0.37"	4.5" x 2.31" x 0.37"	4.87" x 2.31" x 0.30"
PRICE	\$0 + Contract	\$99 + Contract	\$199-\$299-\$399 + Contract
STORAGE	8GB	16GB	16GB-32GB-64GB
COLORS	2 ● ○	2 ● ○	2 ● ○
WEIGHT	4.8 Oz.	4.9 Oz.	3.95 Oz.
SCREEN	3.5" / 960x640 / 326ppi	3.5" / 960x640 / 326ppi	4.0" / 1136 x 640 / 326 ppi
MUSIC	40-52 Hour Battery	40-41 Hour Battery	37-40 Hour Battery
PHOTOS	Yes	Yes	Yes
GAMES	App Store Downloads	App Store Downloads	App Store Downloads
VIDEOS	10-11 Hour Battery	10 Hour Battery	10-11 Hour Battery
PHONE	6 Hour Battery	7-8 Hour Battery	6-8 Hour Battery
RATING	B+ (GSM) / B (Verizon)	A-	A-
SUMMARY	Except for durability and antenna issues, iPhone 4 is a very good free phone, with a Retina display, solid battery life, and a good camera. Limited storage space is an issue; expect to buy a case.	Faster than iPhone 4, 4S has a better camera, Siri, antenna fixes, and worldphone support. Durability is still an issue, and it's both slower and less polished than iPhone 5.	With a redesigned, less easily damaged body, a taller screen, faster speeds, and major improvements to both cameras, the iPhone 5 is a truly great phone - a top pick unless price is truly critical.

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- 3 | **Gum Plus™**  
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The stylish stylus for iPad







## 02 HERE'S HOW WE WORK

THIS IS HOW WE RATE HARDWARE + ADD-ONS

iLounge has covered Apple's portable media devices since 2001, and has reviewed more iPod, iPhone, and iPad add-ons than any other publication on the planet. Because we've been testing these devices since their inception - and because of our unique editorial independence from Apple and third-party developers of accessories and software - our reviews and ratings are based on deep, extensive experience, and free of the taints that arise from cozy relationships between writers and the companies they cover. Whether you agree or disagree with our conclusions, you can always trust that they've been reached honestly, with our readers' interests and needs foremost in our minds.

On the pages that follow, you'll find every current iPod and iPhone model, plus the very best recent accessories designed to work with them. Our editors hand-select each Buyers' Guide's accessories from thousands we've covered over the years, focusing on top recent picks and nuggets of useful information that will help you make smarter purchases. Below each first page, you'll find iNtelligence, a smart "bottom line" pointer to help you save time and money. If you want additional information on any these products, use the Reviews & Accessories button on the orange navigation bar at the top of the iLounge.com home page.

iLounge has used the same letter grade rating system for years, issuing A to F ratings to Apple hardware, accessories, and apps - strictly on the basis of merit. On the next page, we explain our rating system and philosophy so you can understand our buying advice for each iPhone, iPod, and accessory in this Guide.



**This iNtelligence summary offers our best, most current advice in one simple sentence.**

### Understanding Our Ratings.

iLounge's letter grade ratings break down into "excellent" (A), "good" (B), "okay" (C), and "bad" (D) marks, with two ratings (D- / F) reserved for products with serious defects.

A grades are reserved for the very best products we **highly recommend** to our readers. Fewer than 2% of all products we review receive flat A grades, while A- ratings indicate small issues that limit their universal appeal. B grades are issued to products we **generally recommend** to our readers, with caveats. These products are almost universally well-made and useful, but have one or more large issues that will likely bother most users. Products receiving B- grades qualify only for our **limited recommendation**, which means "think seriously about this before buying." C grades are for products that we consider to be **decent**, but wouldn't recommend given other, better options, while D grades are for products that we would **pass on** no matter what. If you see a rare D- or F rating for an accessory, that means our testing uncovered something seriously wrong with its core functionality (D-), or potentially dangerous to users (F). For apps, these low ratings typically signal junk-level value or seriously screwed-up programming.



### The iLounge Difference

Over the years, the distinctions between true "reviews" and marketing hype disguised as analysis have become harder to spot. Our reviews are written by hard-working specialists who have covered Apple for years, yet don't have clandestine relationships with Apple or its developers. We review every item from the consumer's perspective - yours - but with an advantage: we've covered thousands of products from thousands of companies, so when we say something's the "best," we can say so with industrial-strength authority.

Because of a strict separation between our business and editorial sides, and our strong belief in the value of an objective resource for Apple customers around the world, our reviews are in no way influenced by advertising or outside concerns. We have no agenda other than the promotion of a happy and well-informed global community of Apple users.



### Get Far More Detail From iLounge Reviews

Our Buyers' Guide is designed to be a convenient summary of the comprehensive reviews we publish online, all of which are archived at [ilounge.com/index.php/accessories/](http://ilounge.com/index.php/accessories/). We spotlight new reviews on our main page several times each week, and with only limited exceptions, make an effort to review products by as many different developers as possible.

In response to an ever-increasing number of new products - and a world in which "instant reviews" from anonymous and/or inexperienced users have become more common - we continue to take the time to properly evaluate the good and bad points of each product we review. Our goal isn't to be the fastest; we want to be the most reliable.

Please address any questions or requests for new product reviews to [jeremy@ilounge.com](mailto:jeremy@ilounge.com).





# 03 IPOD SHUFFLE

2 GB - 15 HOUR BATTERY - MUSIC - \$49



Now entering its third year on the market, Apple's fourth-generation iPod shuffle remains Apple's simplest media player - a device only slightly larger than a stack of four coins, capable of playing audio through a top-mounted headphone port. It is a smaller retread of 2006's second-generation model, adding only two features: multiple playlists and device-spoken VoiceOver menus. A five-button Control Pad on front is the size of a U.S. quarter, providing track and volume controls, while a dedicated VoiceOver button on top tells the shuffle to speak artist, song, and playlist names, as well as battery status. There's just enough aluminum on all sides to make the device easy to hold, and a shirt clip on the back lets you wear it. For 2012, Apple changed the shuffle's colors and texture, moving to a classic sandblasted aluminum rather than a slippery, polished version.

The iPod shuffle is a good \$49 music player, with a 15-hour battery, solid sound quality, and relative simplicity on its side. But it doesn't do much else. Sold only in a 2GB capacity, it has too little storage for a full music library, and no screen, so you load it with small batches of tracks that can be played with little direct control - or in random "shuffle" mode. It's also incompatible with the many docking, car, and speaker accessories that work with other iPods, requiring a special packed-in charging and sync cable. The shuffle is hard to love, though it remains a solid value for its very low price. Refurbished sixth-gen iPod nanos cost more, but do more.



**Pick the nearly disposable iPod shuffle only if the nano is too expensive for your budget.**



## In the Box + Design

The iPod shuffle is packaged with short-cabled, remote-less Apple Earphones. A tiny USB-to-headphone port charging and syncing cable, comically small instructions, and an Apple sticker are also in the box.



As with the last two iPod shuffles, this model has a firm rear shirt clip that can be used to attach the device to your clothing. On the top is a VoiceOver button, located between the three-position (off/ordered/shuffled playback) power switch, a status indicator light, and a standard, highly compatible 3.5mm headphone port.



## Colors

Purple, yellow, black, and red joined new takes on 2010's blue, pink, silver, and green. Orange was discontinued.



## Compared With Past Models

The fourth iPod shuffle lost virtually nothing besides size compared with the 2005 original. While the first shuffle included a built-in USB connector, subsequent versions have required users to carry a little cable around, or wait to sync and charge at home. A first-generation lanyard necklace was replaced with rear clips on the last three models. Otherwise, the \$49 metal 2GB iPod shuffle offers better sound, capacity, and features than the original plastic \$99 512MB model, while building upon the second-generation shuffle's controls, and taking the VoiceOver/multiple playlist features from the third.

Apple's aluminum has changed a little this year: most shuffles had sandblasted matte finishes, but this model was originally polished to a reflective shine that became slippery with moist fingers, a possible issue when handling the device after a workout. Along with this year's color switches, Apple went back to a classic matte texture that's easier to grip. However, the headphone port may still be susceptible to sweat intrusion; wearing the shuffle upside down may help limit the port's exposure to moisture.



## 04 IPOD NANO

16 GB - 35 HR. BATTERY - MUSIC - VIDEOS - RADIO - \$149



Halfway between the last two iPod nanos in size and features, the seventh-generation iPod nano is a disorienting new model: it looks like a tiny iPod touch, but isn't even close. Instead of running iOS apps, it does the same old things nanos have been doing for years: music, grainy photos, Nike+ features, and FM radio tuning, rejoined by video playback, which the prior nano lost. The new 2.5" screen is low-resolution and washed out like earlier nanos - not up to snuff with any current iPod touch. And while the battery life is better than its watch-sized predecessor, there's only enough juice inside for 3.5 hours of video. Many features take a step back from the fifth-generation nano Apple released in 2009, except for the touchscreen and the slightly fancier, beveled metal body; we'd trade these features for the earlier model's speaker, video camera, and vibrant body colors.

On the other hand, the new nano is smaller than any iPod touch, and the first nano to include Bluetooth, sporting compatibility with Bluetooth 4 speakers and heart rate monitors; it can also pair with Nike+ Sensors without a dongle. Best suited to athletes who will appreciate the 1.1-ounce weight, it may become more appealing when great Bluetooth headphones come out. Until then, we'd call it 25% as appealing as the iPod touch at 75% of the price; it's not as smart of a choice for kids, but good enough for a small, budget media player.



**Consider a refurbished fourth-gen iPod touch as a wiser and more useful (but bigger) option.**



### New Pack-Ins + Accessory Compatibility

This year, the nano includes new pack-ins: Apple's just-released EarPods - improved earbuds, minus the remote control and mic of the retail version - and a Lightning to USB Cable, matching the new Lightning port on the bottom. This nano only works with past iPod add-ons if you purchase one of Apple's Lightning to 30-Pin Adapters.

### Body Colors

Eight colors are offered, including silver, blue, near-black slate, red-tinted purple, a red-like pink, a blue-hinted green, and a slightly green yellow. The rich red version is an Apple Store exclusive, with some proceeds going to the Global Fund to fight AIDS in Africa. Each is matte aluminum with polished metal accents; most have white fronts.



### Screen Size + Quality

Now 2.5" on the diagonal and 432x240 in resolution, the new screen is a step backwards in sharpness from the prior models, but spreads more dots over a wider area. It's not as nice as either current iPod touch.



### Size + Colors Compared With Past Models

Twice the height of the sixth-generation nano and nearly the same width, the seventh-gen model is thinner, and dominated by its front touchscreen. Directly compared against the earlier fifth-generation model, it's only a little smaller, losing 0.6" of height while gaining a tiny bit in width and shrinking roughly the same amount in thickness. The new colors have improved from the square version, but regressed from earlier tall nanos.



### Bluetooth Support

Capable of pairing with most Bluetooth accessories, including headphones, this model can stream music to many wireless speakers and some newer car stereos. Current headphone options are limited and often large.



COMPARING IPOD COLORS

This year's iPod shuffles and iPod nanos come in the same eight colors; six are shared by the fifth-generation iPod touch. Here's how their tones compare with earlier iPod mini and iPod nano colors.



Red has been fairly consistent between iPod generations, except for the darker brick-like third-gen nano and a similar fifth-gen model. Most others have been a rich, saturated red, and this year's is close to the strongest tones Apple has offered; it's just a hint darker, but still nice. It's offered for the iPod touch, too.



Pink tones have varied wildly since the iPod mini debuted with the color back in 2004, ranging from faded to vibrant shades, sometimes skewing red or close to purple. Also offered for the iPod touch, this year's pink looks almost like a failed, muted red, so this year's dull pink and strong red iPods are closer than ever.



Blue has differed between generations since the iPod mini days, most often resembling tones from jeans. Available for the iPod touch as well, this year's blue is in the middle of the brightness scale, with a little green. It's neutral rather than striking or heavily saturated, but better than the bland tone of the prior nano.



Purple changes the most between years, when it's offered at all; Apple debuted the color with the second-gen iPod shuffle, then increased its saturation and blue tint for two iPod nano generations before it disappeared. Now it's back for the nano and shuffle only, carrying so much red that it nearly looks pink, a disappointment.

Red iPods	
N/A	N/A
iPod mini (1st-Generation)	iPod nano (1st-Generation)
iPod nano (2nd-Generation)	iPod nano (3rd-Generation)
iPod nano (4th-Generation)	iPod nano (5th-Generation)
iPod nano (6th-Generation)	iPod nano (7th-Generation)

Pink iPods	
	N/A
iPod mini (1st-Generation)	iPod nano (1st-Generation)
iPod nano (2nd-Generation)	iPod nano (3rd-Generation)
iPod nano (4th-Generation)	iPod nano (5th-Generation)
iPod nano (6th-Generation)	iPod nano (7th-Generation)

Blue iPods	
	N/A
iPod mini (1st-Generation)	iPod nano (1st-Generation)
iPod nano (2nd-Generation)	iPod nano (3rd-Generation)
iPod nano (4th-Generation)	iPod nano (5th-Generation)
iPod nano (6th-Generation)	iPod nano (7th-Generation)

Purple iPods	
	N/A
iPod shuffle (2nd-Generation)	iPod nano (1st-Generation)
N/A	N/A
iPod nano (2nd-Generation)	iPod nano (3rd-Generation)
iPod nano (4th-Generation)	iPod nano (5th-Generation)
N/A	
iPod nano (6th-Generation)	iPod nano (7th-Generation)



Green has been around since the iPod mini days, but the tones have gone back and forth so many times that there's clearly a debate within Apple as to what's green. Colors selected for the fourth- and fifth-generation nano were as close to reference green as Apple came; this year's shuffle and nano version is so blue that it's nearly aqua - only a little richer than the pale third-gen model.

Green iPods	
	N/A
iPod mini (1st-Generation)	iPod nano (1st-Generation)
iPod nano (2nd-Generation)	iPod nano (3rd-Generation)
iPod nano (4th-Generation)	iPod nano (5th-Generation)
iPod nano (6th-Generation)	iPod nano (7th-Generation)



Yellow remains a weird color for Apple, having debuted as gold with the first-generation iPod mini, only to be yanked due to customer disinterest. It re-emerged with strong tones for the fourth- and fifth-generation iPod nano, disappeared for the sixth, and now shows up again with a slightly green tint. We'll see how popular the new tone is this year for the iPod touch, nano, and shuffle.

Yellow iPods	
	N/A
iPod mini (1st-Generation)	iPod nano (1st-Generation)
N/A	N/A
iPod nano (2nd-Generation)	iPod nano (3rd-Generation)
iPod nano (4th-Generation)	iPod nano (5th-Generation)
N/A	
iPod nano (6th-Generation)	iPod nano (7th-Generation)



Black became a nearly mandatory color for the iPod nano before evolving to shades Apple has described as "graphite" or "slate." While this year's version isn't the darkest Apple has ever come up with, it's very close, and looks particularly dark on the iPod shuffle thanks to a bright white Apple logo; on the iPod nano and iPod touch, it looks lighter because of true black accents.

Black iPods	
N/A	
iPod mini (1st-Generation)	iPod nano (1st-Generation)
iPod nano (2nd-Generation)	iPod nano (3rd-Generation)
iPod nano (4th-Generation)	iPod nano (5th-Generation)
iPod nano (6th-Generation)	iPod nano (7th-Generation)



Silver is the standard and nearly unchanging color for Apple's devices - it varies more due to changes in metal or finish than anything else. Available for the iPod touch, this year's silver is back to a matte texture after prior glossy finishes on stainless steel iPod touches and aluminum nanos and shuffles. It looks slightly brighter than before, due to the use of reflective and/or darker Apple logos.

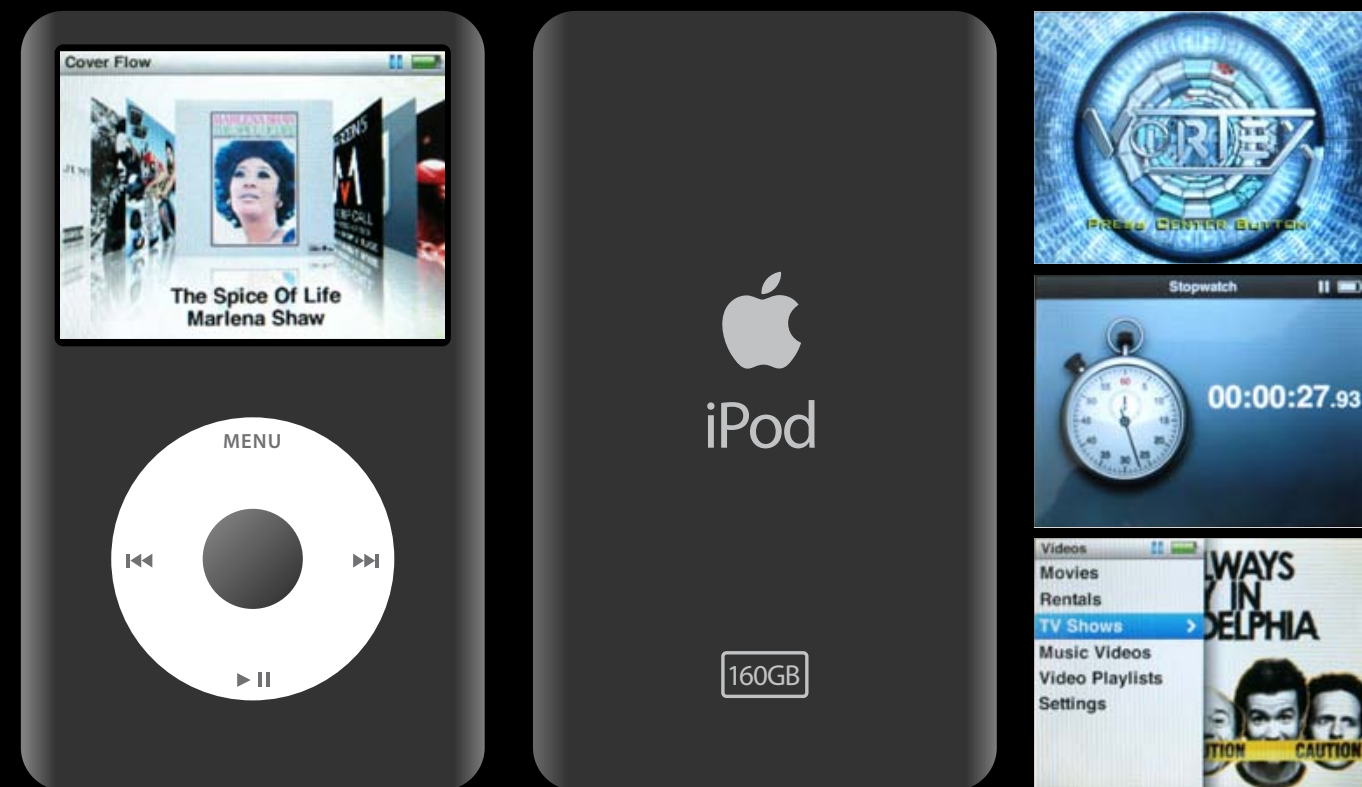
Silver iPods	
iPod mini (1st-Generation)	iPod nano (1st-Generation)
iPod nano (2nd-Generation)	iPod nano (3rd-Generation)
iPod nano (4th-Generation)	iPod nano (5th-Generation)
iPod nano (6th-Generation)	iPod nano (7th-Generation)





Accessories for life





## 05 IPOD CLASSIC

160 GB - 42 HR. BATTERY - MUSIC - VIDEOS - \$249

So ignored by Apple that it's not even mentioned during "completely new" iPod family refreshes, the iPod classic is a zombie: as the only remaining iPod with a Click Wheel controller and hard disk inside, it's been entirely unchanged for three years. Sporting a 2.5" screen that's lower in resolution than the iPod nano's and not touch-controlled, the iPod classic plays music, photos, and videos, but not apps or games - unless you count three simple built-in games, or 50 titles that Apple stopped selling last year. Its single virtue is the 160GB of storage, which is over twice as capacious as the most expensive iPod touch, iPhone, or iPad. Serious audiophiles may appreciate the extra space for storing lots of high-bitrate music, but the iPod classic can hardly do more with audio than play it through its top or bottom ports, the latter an old but compatible Dock Connector. Even the iPod nano has Bluetooth streaming built in.

It's hard to recommend the iPod classic today as even a marginally good investment. Heavy, with an antiquated interface and an only decent price tag given its features, it's now worthy of a C+.



**This stale model has only raw storage capacity as a reason to exist; we'd generally skip it.**



### Two Faceplates, One Rear Shell

The iPod classic's chassis consists of a silver or dark gray metal faceplate, a glass screen, plastic Click Wheel, and a mirror-polished steel back. As shown below, the back casing tarnishes very easily - so easily that it needs to be covered with film straight out of the box or will start to show marks within minutes. The top has a headphone port and Hold switch, while the bottom has a Dock Connector that works with thousands of pre-2012 accessories, though fewer recent add-ons have been tested with it. Headphones with built-in microphones and three-button remote controls work fully with this model, which can play roughly 7 continuous hours of video or 42 hours of audio. Notably missing from the classic is wireless audio streaming support, so special dongles are needed to use wireless headphones or speakers, and now harder to find. If you want to record audio, you'll have to self-supply an add-on microphone.



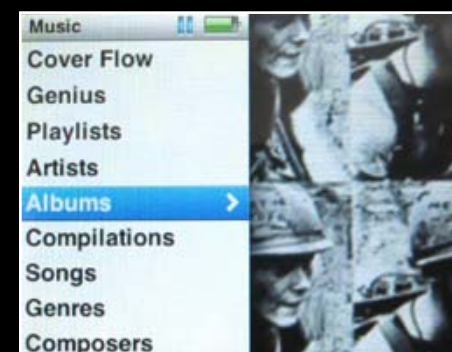
### The Stats

The 160GB hard drive in iPod classic can hold 200 hours of SD video, 40,000 low-bitrate (128kbps) songs, or 20,000 high-bitrate (256kbps) songs.



### Pack-Ins and Package

In addition to a pair of Apple Earphones and a Dock Connector to USB cable, Apple includes a simple plastic Dock Adapter, helping the iPod classic to fit inside pre-2012 "universal" iPod docks and speakers. It's the only iPod model that's still sold in a cardboard box; others are boxed in plastic.



### Old User Interface

The iPod classic's interface hasn't changed since 2007, when it was introduced for this model and the third-generation iPod nano. It largely displays black text on white backgrounds, like the earliest iPods, and relies upon Apple's touch-sensitive Click Wheel for scrolling up and down lists of choices. Artwork flows on the right of the screen as you navigate.





## 06 IPOD TOUCH FOURTH-GENERATION

16-32 GB - 39 HR. BATTERY - MEDIA - APPS - \$199-\$249

Surprised that Apple's still selling this iPod touch? We were, too. The 2010 fourth-generation model is sticking around for another season, doubling the \$199 version's storage capacity to 16GB, with 32GB now at \$249, each retaining last year's white or black colors. Equipped with two very basic video cameras for FaceTime video calling and 720p recording, plus a 960x640 Retina display akin to the iPhone 4/4S, it's thinner than even the iPhone 5 - but substantially less powerful. While it includes 802.11n and Bluetooth 2.1 wireless, and enjoys very good battery life, it uses Apple's old A4 processor, can't run Siri, and doesn't offer either GPS or 3-D iOS 6 Maps. Some recent 3-D games don't support it, either.

Are these limitations important? We'd say yes, given other options at similar prices: you'll have to decide whether a small iPod or inexpensive (but contract-required) iPhone best suits your needs. Our advice would be to consider this iPod touch as a nice holiday gift for kids - a much more capable alternative to the new iPod nano, unless the nano's smaller size is really necessary.



**This iPod touch remains Apple's cheapest iOS device, but is unlikely to be supported for long.**



### Pack-Ins + Accessory Compatibility

This iPod touch comes bundled with a Dock Connector to USB cable, Apple's classic Earphones - without a three-button remote or microphone - plus two Apple stickers and small manuals. It works with virtually every iPod accessory released from 2007 through 2012, as well as most of the latest wireless AirPlay + Bluetooth speakers.



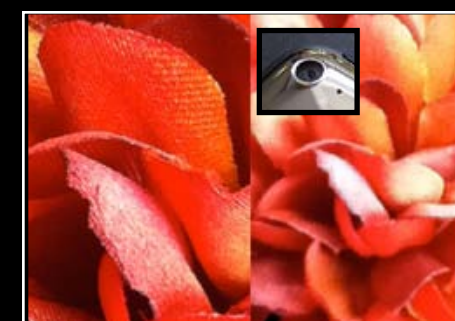
### Compared With Other Models

Apple reduced the original model's large charcoal bezel down to a ring of polished stainless steel, slimming it further for this model (fourth above). The FaceTime camera is centered above the screen. Mirror-polished steel remains on the back, far more susceptible to scratches than the newer fifth-generation model's colored aluminum back - a reason to look for protective film or a case even before you take the touch out of its package. Volume buttons on the side provide control over the pretty good built-in speaker, which vents through a mesh grille on the bottom next to the Dock Connector and headphone ports. The rear camera, a pinhole microphone, and Sleep/Wake Button are found together on the top left corner when viewed from the back. This model notably does not have a plastic antenna cover on the back, or an LED flash like the fifth-generation touch. Inside is a gyroscope for motion tracking, but no GPS or cellular chip inside, consistent touch limitations.



### Limited iOS 6 Support

Relatively few of iOS 6's big new features are supported by this iPod touch. Passbook, the digital coupon and ticket app, was added, as were Facebook integration, Shared Photo Streams, and full screen Safari browsing. Will it support iOS 7 at all?



### Camera Problems

This model's rear camera snaps some of the lowest-quality still images ever taken by an Apple device: 0.7-Megapixel shots (right) look weak even by contrast with the iPhone 4 (left). But it's alright for 720p videos.





# 07 IPOD TOUCH FIFTH-GENERATION

32-64 GB - 40 HR. BATTERY - MEDIA - APPS - \$299-\$399



Taller, thinner, and more powerful than its predecessor, Apple's latest iPod touch pairs last year's iPhone 4S hardware with the screen of an iPhone 5, subtracting cellular features, GPS, and bulk. The new 4" Retina screen is as impressive as the iPhone 5's, with the same 1136x640 resolution and improved colors, and both of the cameras are huge upgrades over the last iPod touch's: apart from low-light photography, you can now capture pretty great photos with this model, in some cases indistinguishable from the new iPhone's. Videos have jumped, too; the front and rear cameras now both record clean HD footage. And battery life remains very comparable to the iPhone 5's, despite this model's lighter, thinner profile. It's a very good do-it-all device for its size.

But despite these improvements, the new iPod touch lags behind the latest iPhones and full-sized iPads - last year's technology in a new, smaller package. And at \$299-\$399 for a 32-64GB media player, it's not priced low enough for most parents to gift to kids. Consider it akin to a phoneless iPhone 5 or a pocket iPad mini.



Carefully weigh your iPhone and iPad mini options before picking this iPod touch.



## Pack-Ins + Accessory Compatibility

The new iPod touch includes a Lightning to USB Cable, Apple's EarPods (notably without a remote or mic), an iPod touch loop wrist strap, two Apple logo stickers, and small manuals. While the new touch supports AirPlay and all Bluetooth speakers, it won't work with Dock Connector-based accessories without a Lightning Adapter.



## An Aluminum Body, Now In Six Colors

More substantially redesigned than any prior iPod touch, the new model is the first to feature an aluminum back, as well as six matte metallic color choices. Only the "slate" version has a black glass bezel; the others are all white on the front. This time, both the rear camera lens and a "loop" button stick out of the otherwise flat back; the loop button attaches to the included wrist strap if you want, or becomes flush with the rear shell when you're not using it. In addition to a new LED camera flash and a rear-mounted microphone hole, a redesigned antenna compartment lets the new touch connect to 802.11a/b/g/n wireless networks - both 2.4Ghz and 5Ghz - as well as Bluetooth 4 accessories. On the bottom are a tiny five-dot speaker grille, a headphone port, and the Lightning port for charging, syncing, and accessories. Sleep/Wake and volume buttons are thinner than before, and have polished metal edges. The new body doesn't scratch as easily as all of the earlier touches did.



## iOS 6 On iPod Touch 5G

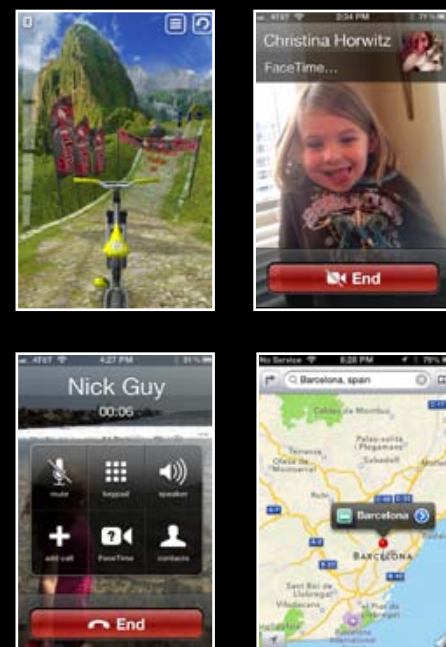
Unlike the prior iPod touch, this model includes Siri, 3-D Flyover in Maps, Panorama mode for still photos, 1080p video camera recording, and AirPlay Mirroring for screen sharing with an Apple TV - the latter handy for big screen FaceTime calls.



## Improved Cameras

The 5-Megapixel/1080p rear camera (above right) focuses quickly, with better accuracy, color, and detail than its predecessor (left); the front 720p camera produces great self-portraits and better FaceTime HD video quality.





# 08 IPHONE 4

8 GB - GSM OR CDMA PHONE - MEDIA - APPS - \$0\* / \$450

Free with a two-year cellular contract or \$450 off-contract, the iPhone 4 is effectively halfway between the current two iPod touch models in power, with cellular phone/data connectivity not found in any iPod. Yes, you'll want a case to cover its fragile glass body and external antennas, but you'll enjoy strong battery life, a better 960x640 screen than the one in the iPod touch 4G, and a rear camera similar to the one in the iPod touch 5G. While it's not a speed demon, you'll get decent cellular transfer speeds and solid phone calling abilities - as a "free" phone, it's hard to beat, and can be used where iPods can't.

The iPhone 4 has caveats: the 8GB of storage space is inadequate for holding more than a handful of apps and light media content, and it's sold in separate GSM (AT&T/rest of world), Verizon CDMA, or Sprint CDMA versions that have varied international utility - the GSM version is faster and more useful internationally than the others, meriting the higher B+ rating. You'll only do better if you're willing to spend more, which we'd suggest, but if "free" is key, go for it.



**If you pick this phone, recognize that it won't be supported by many (if any) future iOS versions.**



## Compared With Other iPhone Models

Apart from body changes, iPhone 4 loses almost nothing save thickness from earlier models. Apple added a second, echo-cancelling microphone to the iPhone 4, as well as a gyroscope for superior motion tracking in games and other apps, 802.11n Wi-Fi, and the A4 CPU, plus as much RAM as the iPad 2. It improved speaker, camera, and GPS performance, adding FaceTime for video calling. As with the iPhone 3G and 3GS, black and white versions are available.

The biggest issues with iPhone 4 relate to its durability and antenna performance; the original iPhones' metal and plastic bodies gave way to panes of glass that crack when dropped, and the antenna loses strength if hand-held in certain ways. Users can fix these issues by choosing a good case. Apple improved antenna performance in the iPhone 4S, but not durability, waiting until the iPhone 5 to reduce the amount of glass on the back.



## Versus iPod touch 4G/5G + iPhone 4S

The iPhone 4's 5-Megapixel and LED flash-equipped rear camera outclasses the cheaper iPod touch and rivals the newer model, while falling behind the iPhone 4S; its front FaceTime camera is comparable to the old iPod and iPhone 4S, but worse than the new iPod's. Apart from speed, the biggest omission is Siri; unlike the iPhone 4S and iPod touch 5G, iPhone 4 has a less versatile, calling- and music-only feature called Voice Control, also found on the old iPod.



## Pack-Ins + Accessory Compatibility

The iPhone 4 includes Apple's Earphones with Remote + Mic, a Dock Connector to USB cable, and a wall power adapter; GSM models include a micro-SIM card and a SIM tray removal tool. Thanks to Bluetooth 2.1, it works with most wireless accessories, and its 30-Pin Dock Connector plugs into most docking add-ons produced in 2007-2012.

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Case 2500mAh  
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## 09 IPHONE 4S

16 GB - GSM/CDMA WORLDPHONE - MEDIA - APPS - \$99\* / \$549

The iPhone 4S is an evolutionary upgrade to the iPhone 4, but certainly better, and now it's less expensive, too: \$99 with a 2-year contract, or \$549 unlocked. Though the glass body is as fragile as before, Apple solved the antenna issues, creating a single version of the phone to work with GSM and CDMA networks around the world. A much-improved rear camera shoots full HD videos and cleaner, higher-definition still images; the addition of an Apple A5 processor doubles 4S's speeds and radically improves its 3-D graphics performance, allowing for 3-D Maps. This was the first Apple device with Siri, which improved with iOS 6, and unlike the iPhone 4, every iOS 6 feature is supported by the 4S.

Battery life suffers a little versus the iPhone 4, with an hour less of video playing, 11 fewer hours playing audio, and 45 minutes less of cellular data use. But the extra 8GB of space and performance improvements are worthwhile enough that we'd certainly recommend spending the extra \$99 if you have it. Only the iPhone 5 is decidedly better, though again at a higher price.



**Consider the 4S as a smarter alternative to the iPhone 4, worthy of the \$99 price difference.**



### Packaging, Pack-Ins + Accessory Usability

The iPhone 4S includes the same USB cable, Earphones with Remote + Mic, and wall adapter as iPhone 4. Every iPhone 4S includes a micro-SIM card - even the CDMA phones work on international GSM networks. Bluetooth 4 support expands wireless compatibility, and a 30-Pin Dock Connector plugs into most 2007-2012 docking add-ons.



### Stepping Up: A 8-Megapixel/1080p Camera

While the iPhone 4's rear camera wasn't any slouch, the 8-Megapixel still and 1080p video camera inside the iPhone 4S is unquestionably better - closer to a modern pocket camera, albeit without the zoom lens. Still photos snapped with the 4S offer noticeably greater detail and lower grain-like noise than the iPhone 4, making low-light shots a little cleaner. Videos are now capable of using all of the 1920x1080 pixels on high-definition televisions, a jump of more than twice the detail recorded by the iPhone 4 video camera. They're also image-stabilized, so wind and hand jitters play less of a role in ruining photos. The lens is also improved, enabling the iPhone 4S to gather light more quickly, and thereby produce sharper images. The only down sides are in the increased storage and battery life required by the new camera system: video recording fills an empty 16GB iPhone 4S in only an hour and 20 minutes, and drains a fully charged battery in two hours and 20 minutes.



### Siri As Distinguisher

Apple's virtual keyboard is sub-par, but iPhone 4S's Siri and voice dictation features make up for it. Speak words and Siri will understand well enough to provide answers or dictate emails/texts, if you have an Internet connection.



### Better For Gaming

With the same graphics chip as the iPad 2, the iPhone 4S features 7 times the horsepower of the iPhone 4. It can display 1080p games on a TV with the Digital AV adapter, or use AirPlay for wireless 720p to an Apple TV.





# 10 IPHONE 5

16-32-64 GB - LTE PHONE - MEDIA - APPS - \$199-\$299-\$399\*

Apple fully redesigns the iPhone every two years, and the iPhone 5 isn't just the latest complete rethinking - it's also Apple's best, by far. Marketing hype aside, it is importantly taller, thinner, lighter, and faster than ever before, with a 4" color-accurate screen and support for LTE cellular networks as its signature features. When used on LTE networks, the iPhone 5's Internet speeds are around ten times faster than its predecessors, surpassing typical home broadband service. The hitch is that LTE - and fast pre-LTE 4G towers - are still rolling out, so one neighborhood's speeds may be slow while another's are fast. A related caveat: iPhone 5's battery life falls below prior models in areas with weak cellular signals. But when it works fully, it's fantastic, and iPhone upgraders can get LTE service at the same prices as slower 3G.

From its redesigned body to its two much-improved cameras and usefully larger display, the iPhone 5 is better in almost every way than the iPhone 4/4S. If you can afford it, buy it unless September 2013 is fast approaching as you're reading this.



Unless you're seriously budget-constrained, this is certainly the best iPhone to buy today.



## Inside The Box + Accessory Compatibility

Each iPhone 5 ships with Apple's EarPods with Remote + Mic, a Lightning to USB Cable, and a wall power adapter. Many users will get a pre-installed nano-SIM card, and some will get a small metal SIM tray removal tool. Notably absent is a Lightning to Dock Connector Adapter; if you want to use old iPhone accessories, you'll need to buy one.



## A Better Metal Chassis

Unlike the iPhone 4/4S, this iPhone's body is primarily metal, with small glass antenna windows. Since it's still scratchable and dentable, we'd recommend a case, but shatter risks are much lower on this model.



## The Superior Screen

Enhanced color saturation and accuracy make the iPhone 5's 1136x640 4" screen (right) look more vivid and balanced than earlier 960x640 3.5" models (such as iPhone 4S, left), which now look washed out. Pixel density is the same.

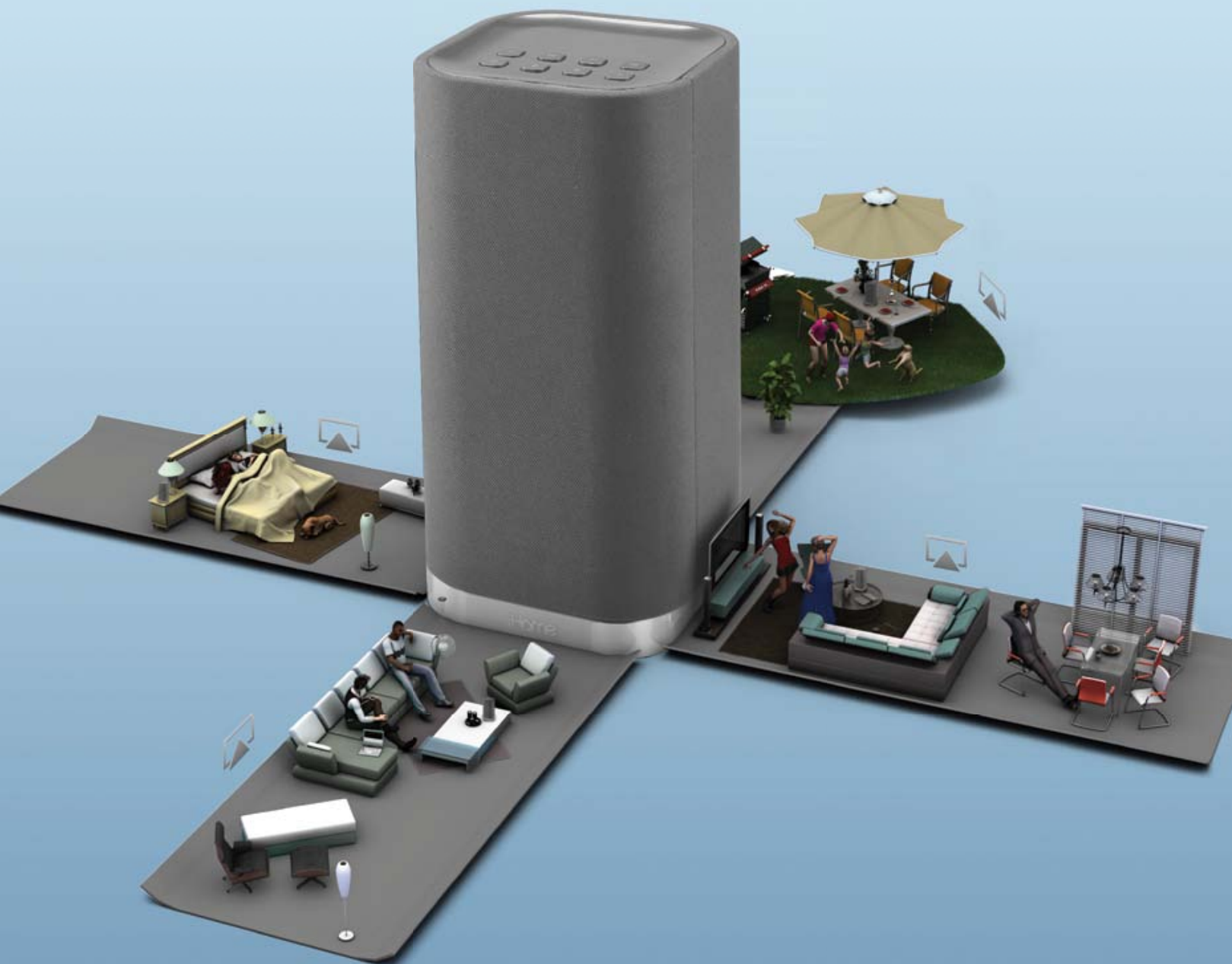


## Major Changes, Inside And Out

While the new 16:9 aspect ratio screen is taller and richer than before, providing a larger surface for widescreen video playback and portrait web browsing, the biggest improvement is found in the new Home Screen, which has room for four extra icons - plus four more icons per folder. While iOS 6 on the iPhone 5 is otherwise nearly identical to the iPhone 4S, apps run faster and games are smoother, with the potential for more detailed graphics. Apple has also considerably improved both cameras, enabling much better low-light still photography, better-looking front and rear videos, and at least slightly superior FaceTime video calling. A new triple microphone system offers much-improved noise cancellation, leading to clearer phone calls; even the speakers are better.







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COMPARING IPHONE SPECS

MODEL	IPHONE 4	IPHONE 4S	IPHONE 5
SCREEN	960x640 / 3.5" Diagonal	960x640 / 3.5" Diagonal	1136x640 / 4" Diagonal
CAPACITY	Stated: 8GB	Stated: 16GB	Stated: 16-32-64GB
	Actual: 6.4GB	Actual: 13.5GB	Actual: 13.5-28.1-57.3GB
CELLULAR	UMTS/HSDPA/HSUPA + GSM/EDGE <b>OR</b> CDMA EV-DO Rev. A	UMTS/HSDPA/HSUPA + GSM/EDGE <b>AND</b> CDMA EV-DO Rev. A	UMTS/HSPA+/DC-HSDPA/ GSM/EDGE. CDMA EV-DO Revs. A + B in CDMA model.
			
WI-FI	802.11b/g/n (2.4GHz)	802.11b/g/n (2.4GHz)	802.11a/b/g/n (2.4 + 5GHz)
			
BLUETOOTH	Bluetooth 2.1 + EDR	Bluetooth 4.0/Bluetooth Smart	Bluetooth 4.0/Bluetooth Smart
			
F. CAMERA	640x480 Still/Video	640x480 Still/Video	1280x960 Still 1280x720 Video
			
R. CAMERA	5-Megapixel Still 720p Video LED Flash	8-Megapixel Still 1080p Video LED Flash Image Stabilizer	Enhanced 8-Megapixel Still 1080p Video LED Flash Improved Image Stabilizer
			
EXTRAS	Gyroscope	Gyroscope	Gyroscope
GOTCHAS	Antenna attenuation, shatterable glass body	Shatterable glass body, so-so battery	Scratchable aluminum body, battery/cellular speed issues.

EASY ADVICE

By contrast with the iPhone 4S, the original iPhone 4's only weaknesses for most people will be in capacity and the good rather than near-great rear camera. Still extremely capable, the iPhone 4 looks and feels mostly the same, otherwise lacking only the ability to switch between GSM and CDMA networks, and to adeptly switch its antennas for better cell strength.

The iPhone 4S is faster and more network-compatible than the 4, but well behind the iPhone 5. Works in virtually any country regardless of where it's bought, and features solid cameras that most users will like. While going back to the 4S after using the 5 feels like a needless return to a squatter, heavier device, the iOS experience is nearly identical, but for screen size.

Though the iPhone 5's cellular speeds vary between carriers, countries, and neighborhoods (AT&T LTE beats Verizon's on speed, falling short in coverage; Sprint LTE is hard to find), nearly every other feature is improved over the iPhone 4, and many are better than the 4S. The iPhone 5 even connects to 5GHz Wi-Fi networks. It's not future-proof, but it's very close.

2013 SAMPLE CONTRACT PRICING

MODEL	AT&T (U.S.)	T-MOBILE (GER)	AU/KDDI (JAPAN)	OPTUS (AUSTRALIA)
8GB 4	\$0/\$450	€0/€399	N/A	A\$240/A\$449
16GB 4S	\$99/\$549	€0/€579	¥0/¥39,600	A\$432/A\$679
16GB 5	\$199/\$649	€380/€679	¥0/¥51,360	A\$432/A\$799
32GB 5	\$299/\$749	€480/€789	¥10,320/ ¥61,680	A\$528/A\$899
64GB 5	\$399/\$849	€580/€899	¥20,640/ ¥72,000	A\$648/A\$999
MINIMUM MONTHLY SERVICE	\$59/300MB DATA/450 MINS + \$36 1X FEE	€36/UNLIMITED DATA/120 MINS (U.S. ~\$47/MO)	¥5,275 UNLIMITED DATA/0 MINS (U.S. ~\$67/MO)	A\$30/200MB DATA/200 MINS (U.S. ~\$31/MO)
APPLECARE+	\$99	€69	N/A	A\$99
BATTERY REPAIR	\$86	€75	¥6,800	A\$109

MINIMUM COST OF IPHONE OVER TWO-YEAR PERIOD WITH APPLECARE+ (WHERE AVAILABLE)				
8GB 4	\$1,551	€933 (\$1,207)	N/A	A\$1,059(\$1,086)
16GB 4S	\$1,650	€933 (\$1,207)	¥126,600 (\$1,614)	A\$1,251 (\$1,283)
16GB 5	\$1,750	€1,313 (\$1,703)	¥126,600 (\$1,614)	A\$1,251 (\$1,283)
32GB 5	\$1,850	€1,413 (\$1,833)	¥136,920 (\$1,745)	A\$1,347 (\$1,381)
64GB 5	\$1,950	€1,513 (\$1,963)	¥147,240 (\$1,877)	A\$1,467 (\$1,504)

Unlike iPods and iPads, iPhone prices only start with the initial purchase of the device; to get the lower (\$0-\$399) iPhone prices shown above, you need to sign up for 24-month contracts and pay for minimum monthly data (plus voice calling) plans. The higher prices reflect unlocked phones with no-contract pricing. Cellular service is the next expense, and it can be pricey: some American LTE providers now require new customers to sign up for unlimited calling and messaging plans in addition to data, while others have heavily staggered iPhone pricing based on the data service you sign up for. While buying an unlocked phone at full price and pre-paying for service each month typically won't get you the fastest data speeds, you may save money with Cricket Wireless or Virgin Mobile.

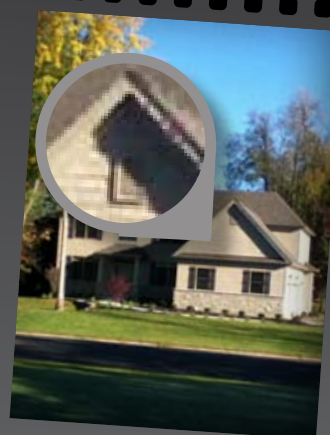
Beyond the cost of the phone, data plan, and activation fees, expect to pay extra for a voice calling plan and text/MMS messages. iPhones have only one-year warranties despite two-year contracts, so our minimum costs include the extended two-year coverage of AppleCare+ where it's available; otherwise, you'll have to buy a new phone or pay for repairs if your iPhone dies before the contract ends. Overall, some people may find themselves better off with iPod touches or iPads and cheap voice-only phones, since the total two-year cost of iPhone ownership is often over \$1,000. But carrying only an iPhone and benefitting from its speed and cameras is convenient - and fun. You can decide whether it's worth the added premium.



# COMPARING APPLE'S CAMERAS

One year ago, Apple's attitude towards digital photography was decidedly unfocused: perhaps best known for its amateur Mac photo editing program iPhoto and professional version Aperture, Apple was building iPads and iPods with cameras so bad that even terrible photographers wouldn't use them. But after continuing to improve its iPhone and Mac cameras, it brought the innovations down the line to iPods and iPads this year: the latest iPod touch and iPad now take solid pictures, and the new iPhone and iPod touch both have front-

mounted FaceTime HD cameras akin to the ones on current Mac computers. Moreover, the iPhone 5 has the best camera ever found in an Apple product. It would be easy to say that every current iOS device has a very good camera, but since the iPod touch 4G and iPad 2 remain on the market, that's not really true; the photos below suggest how much the various models differ in detail and color rendition, as well as how they compare with very good pocket-sized and DSLR-style cameras. Within two years, you won't need a pocket camera if you have a new iPhone.



iPod touch 4G



iPod touch 5G



iPad 2



iPad (3rd-Gen)

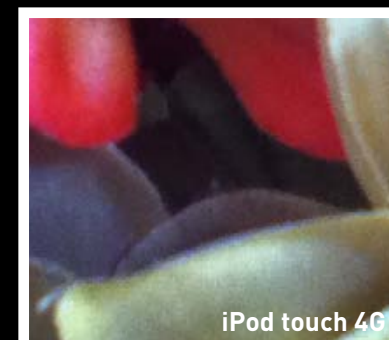
## Looking At The Big Picture: Lenses and Sensors

The biggest challenge faced by any camera is physical: small lenses and sensors reduce image quality. Lenses gather the light a camera "sees," so bigger and clearer lenses tend to produce more detailed, color-accurate, and less distorted images; larger sensors generally produce cleaner images. To the right, you can see the actual relative sizes of lenses from a DSLR, a recent standalone pocket camera, and the iPhone 5. iPhones gather light with roughly 1/6th the glass surface area of a good pocket camera, and the iPhone 5's sensor is around 1/4th the size of the pocket camera's (albeit with fewer pixels). This partially explains why iPhones and iPods struggle to produce comparably impressive images, especially in low light. Yet new sensor technologies are beginning to improve the light-gathering abilities of all sizes of cameras. As a result, new iPhones and iPods can outperform some older, larger pocket-sized rivals.

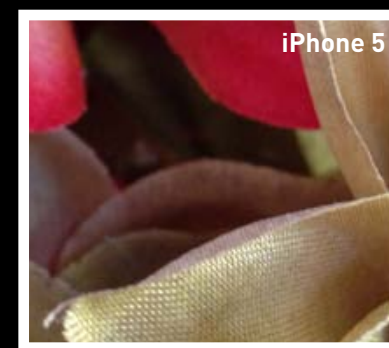


## The Small Picture: Pixel-Level Details + Colors

In addition to struggling with color accuracy, the iPod touch 4G and iPad 2 have no ability to focus on specific parts of their images - they're set at a single fixed focus point, and close-up objects became blurry. Moreover, they have very limited color range, tending to render blotches of color rather than subtle gradations. Autofocus and dynamic color range both improved noticeably in the latest iPhones: the iPhone 5 is quick and accurate at locking onto objects, producing images that are sharper and more detailed. It also does a better job of balancing highlights, dark and shadow detail, and various colors inbetween. By comparison, the \$199 iPod touch 4G does a decent job with color balance but has atrocious detail levels. The images here show how the iPod and iPhone 5 images look up close: akin to impressionist and realist paintings, though the former doesn't look particularly impressive at a distance, either. Photos taken with the last two iPhones can make nice 4x6" prints.



iPod touch 4G



iPhone 5



iPhone 4



iPhone 4S



iPhone 5



Canon S100



Canon 5D Mark 3

## Close-Up and Distance Photography

Close-up "macro" photography was once strong in top pocket cameras and weak across iPhones and iPod touches, thanks to both lenses and autofocus capabilities. The iPhone 4S, iPhone 5, third-generation iPad, and new iPod touch are now all pretty good for macro shots, closing the gap with pocket cameras. However, Apple's roughly 35mm-equivalent lenses - found on all devices save the iPad 2 and fourth-gen iPod touch - are really optimized for taking shots of people and objects that are several feet away, as well as the occasional image of a distant landscape. Pocket cameras often have lenses that start wider (24-28mm) for landscapes and zoom in to 35-50mm for portraits, stopping at 100mm or more; iOS devices can't zoom.



iPhone 5



Canon S100

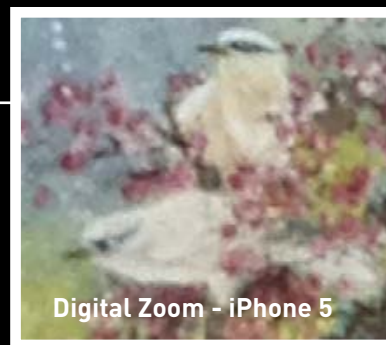


## Low-Light Performance

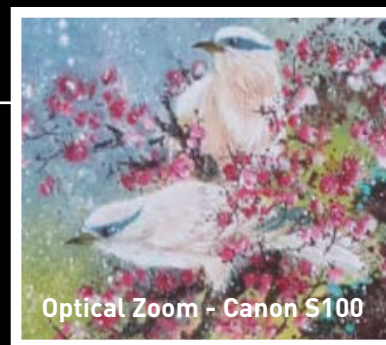
Because of their small lenses and sensors, iOS devices strain to gather light indoors - and even outdoors at night. Only the iPhone 5 has a special low light mode capable of capturing usable images in dim conditions: as the filmstrip on the left shows, the iPhone 4S (and all other iOS devices) render the low light scene as nearly pitch black, whereas the iPhone 5 brings out some color and detail. A very good pocket camera and excellent DSLR can do markedly better under the same lighting conditions, but they're exceptions to the rule - most cameras have a very hard time in dark light. Using a flash can help a lot, but you'll have to decide whether blinding your subjects temporarily is worthwhile for "that shot." Current iPhone, fifth-gen iPod touch, and Canon pictures can be fixed with iPhoto; by comparison, the images grabbed with the fourth-gen iPod touch and earlier iPhones have such heavy noise and weak levels of detail that they can only be stylized, not fixed.

## Optical Versus Digital Zoom

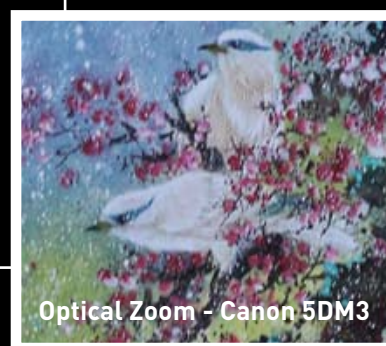
Standalone cameras almost always have zoom lenses capable of focusing on faraway subjects, but iOS devices don't, instead relying on a gimmick called "digital zoom" that merely takes a regular, unzoomed photo, crops off the sides, and blows up the center. Even on the otherwise impressive iPhone 5, this effect produces uselessly blurry detail. Unfortunately, adding optical zoom would require additional thickness - or perhaps a magnetic accessory. Oversized zoom and wide-angle lens accessories have been released, with decidedly mixed results.



Digital Zoom - iPhone 5



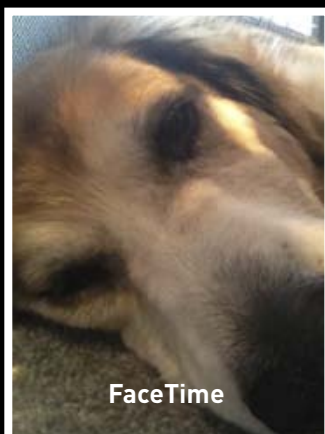
Optical Zoom - Canon S100



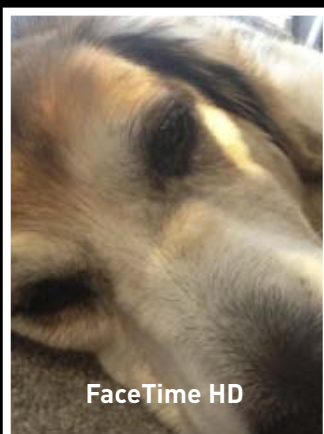
Optical Zoom - Canon 5DM3

## FaceTime vs. FaceTime HD Cameras

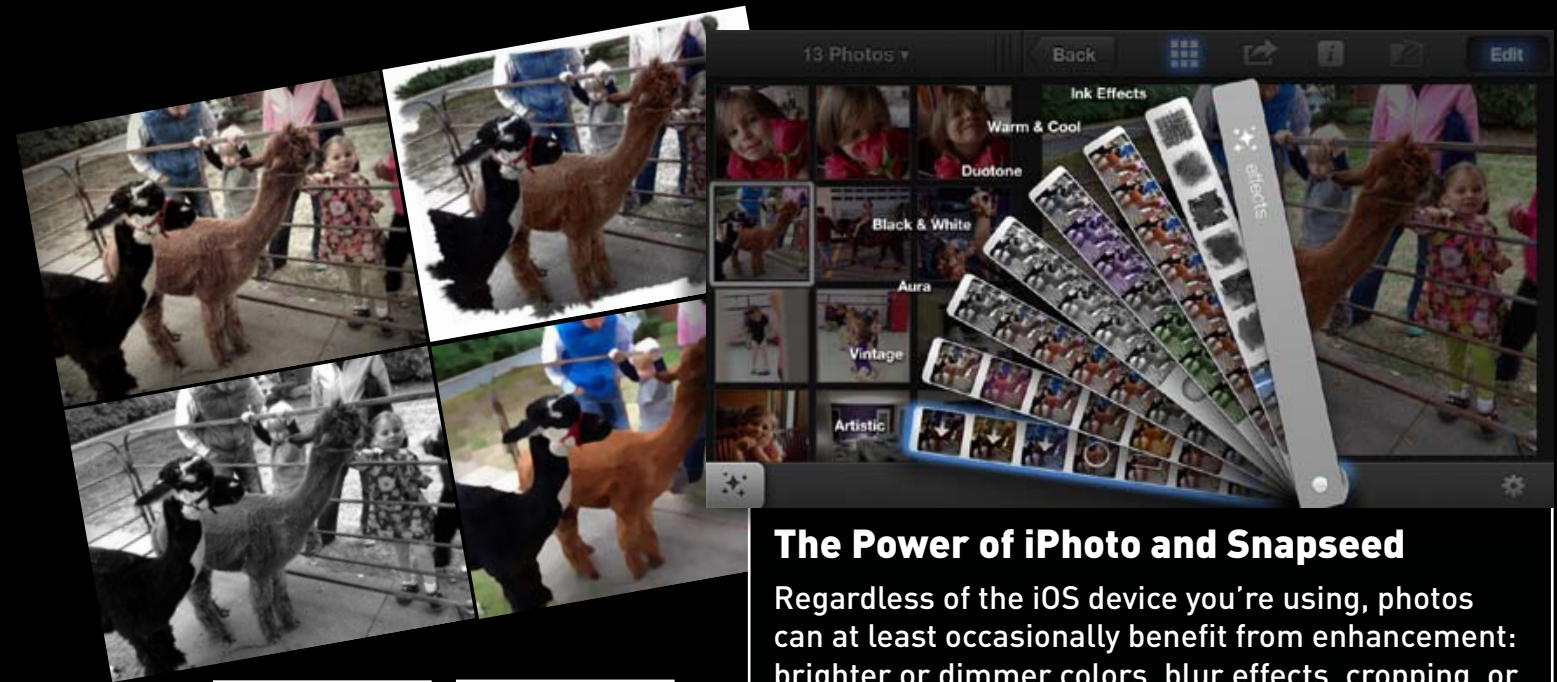
While Apple's jump from 640x480 FaceTime cameras to 1280x720 FaceTime HD cameras in the fifth-gen iPod touch and iPhone 5 isn't profound, front-facing (self-portrait) photos and videos now look markedly sharper and brighter, particularly in low light.



FaceTime



FaceTime HD



## The Power of iPhoto and Snapseed

Regardless of the iOS device you're using, photos can at least occasionally benefit from enhancement: brighter or dimmer colors, blur effects, cropping, or straightening may improve photos. Apple's \$5 iPhoto handles almost all of these editing tasks with ease, as shown in the samples at upper left, allowing you to choose from numerous effects and tools, while acting as an alternate photo library and sharing service for your images. Featured in our Top 100 Apps last year, Nik Software's \$5 Snapseed is solely focused on image editing, but has its own special tricks, including adjustments focused on specific areas of images, grunge effects, tilt-shift and center focus blurring. Both apps are well worth buying.

## High-Res Panoramas

Currently found only on the new iPod touch, the iPhone 4S, and iPhone 5, the new panorama mode built into Apple's Camera app lets users easily capture massively wide images - over 10,000 pixels across by 2,300 pixels tall. Debacle Software's \$2 app Pano isn't quite as easy to use, but lets other iOS devices create panoramas that are nearly as large.






11 WHERE TO BUY

TIPS FOR SAVING MONEY ON IPODS, IPHONES AND ADD-ONS

Apple's prices for iPods, iPhones, and accessories are always high: shop around and you can save up to \$20 on some iPods, often with huge savings on add-ons. This table shows mid-October 2012 prices for eight different retailers; few discounts are presently available because iPods were introduced so late this year, but prices will likely fluctuate weekly with sales.

Item	Apple	Amazon	B&H Photo	Best Buy	Fry's	J&R Music	Target	Walmart
shuffle 2GB	\$49	\$49	\$49	\$50	N/A	\$49	\$49	\$49
nano 16GB	\$149	\$149	\$149	\$150	N/A	\$149	\$149	N/A
touch 16GB(4th)	\$199	\$199	\$199	\$200	\$199	\$199	\$199	\$195
touch 32GB(4th)	\$249	\$249	\$249	\$250	\$235	\$260	\$249	\$249
touch 32GB(5th)	\$299	\$299	\$299	\$300	N/A	\$299	\$299	\$295
touch 64GB(5th)	\$399	\$399	\$399	\$400	N/A	\$399	\$399	\$395
classic 160GB	\$249	\$229	\$230	\$229	\$240	\$240	\$245	\$229
Mophie Juice Pack Plus	\$100	\$60	\$100	\$100	N/A	\$100	N/A	N/A
iHome iW1	\$250	\$156	N/A	\$300	\$250	N/A	N/A	\$241
JBL On Air	\$350	\$110	N/A	N/A	N/A	N/A	N/A	N/A
Free Shipping	\$50+ Int'l	\$25+ No	Yes NYC	Yes US/UK	No US	\$100+ NYC	\$50 US	No Int'l

<b>Apple Store</b> Has exclusives on engraved or red-colored iPods, and sells iPhones, but charges full MSRP for everything it sells.	<b>Amazon.com</b> Pricing can be very aggressive. Free shipping, sometimes no sales tax. But prices change often, sometimes hourly.	<b>B&amp;H Photo Video</b> Reputable NY-based electronics dealer for decades. iPod prices are rarely low, but it can be aggressive with accessories.	<b>Best Buy</b> Prices are \$1 higher than Apple's. Also sells iPhones at high prices. Rarely good prices for accessories.
<b>Fry's</b> Very aggressive iPod pricing. Poor in-store service/return hassles, but online's OK; shipping's extra. Weak accessories.	<b>J&amp;R Music World</b> Another NYC-based retailer; no longer good for iPod prices, but you may find a deal or two on some accessories.	<b>Target</b> iPods sometimes go on brief, impressive sales, as do certain accessories. Returns are easy if you're local, online's good.	<b>Walmart</b> Occasionally sells iPods/iPhones (!) at a nice discount, but charges for shipping. Sells too many low-quality accessories.

 Check Fry's or Target for iPod deals; Walmart is the most aggressive for iPhone discounts.

Exclusives

Every year, Apple reserves certain iPod colors solely for sale in its own stores, and this year, there are charitable (PRODUCT) RED iPod shuffles, nanos, and touches, from which Apple donates part of the profits to the Global Fund fighting HIV and AIDS in Africa. Each of these models is a rich red color, marked with a (PRODUCT) RED logo, and sold by Apple at the normal (full retail) price. If you want to find past exclusive iPods, check the clearance section of Apple's online store, or eBay, where used models circulate en masse.

There are few truly retailer-exclusive accessories, and even fewer that can't eventually be found elsewhere after a limited period of time. For now, Apple sells (PRODUCT) RED iPhone 4/4S Bumpers, iPad Smart Covers, and iPad Smart Cases as special edition accessories, and certain third-party accessories are stocked only by Apple as time-limited exclusives, sometimes six months. During that time, they typically sell at a steep premium relative to their value, and are discounted upon broader availability at other retailers. As a general rule, if an accessory's an Apple Store exclusive, your wallet will be better off if you wait six months and buy it elsewhere.



AppleCare & Gift Cards

Easy to buy and unquestionably useful, AppleCare (\$39-\$59) extends your iPod's warranty to two total years of coverage at any time in the first year. AppleCare+ (\$99) is sold for iPhones, and must be purchased within 30 days of the phone, adding damage coverage at a cost of \$49 per incident. Apple's Gift Cards (\$15 and up) and Amazon Gift Certificates let recipients pick whatever they want.



Apple Product Buying Advice

The best prices are generally found online rather in physical stores, except under two circumstances. When new iPods or iPhones come out, Apple's the place to look. And when Target or Walmart offer gift cards or other heavy discounts, you can save cash.

Save by waiting. Early in an iPod's life, \$5-\$10 off the MSRP is great, but months later, you may save more. iPhones are sometimes discounted \$10 by Walmart after launch; carriers now offer deals after 6-12 months.

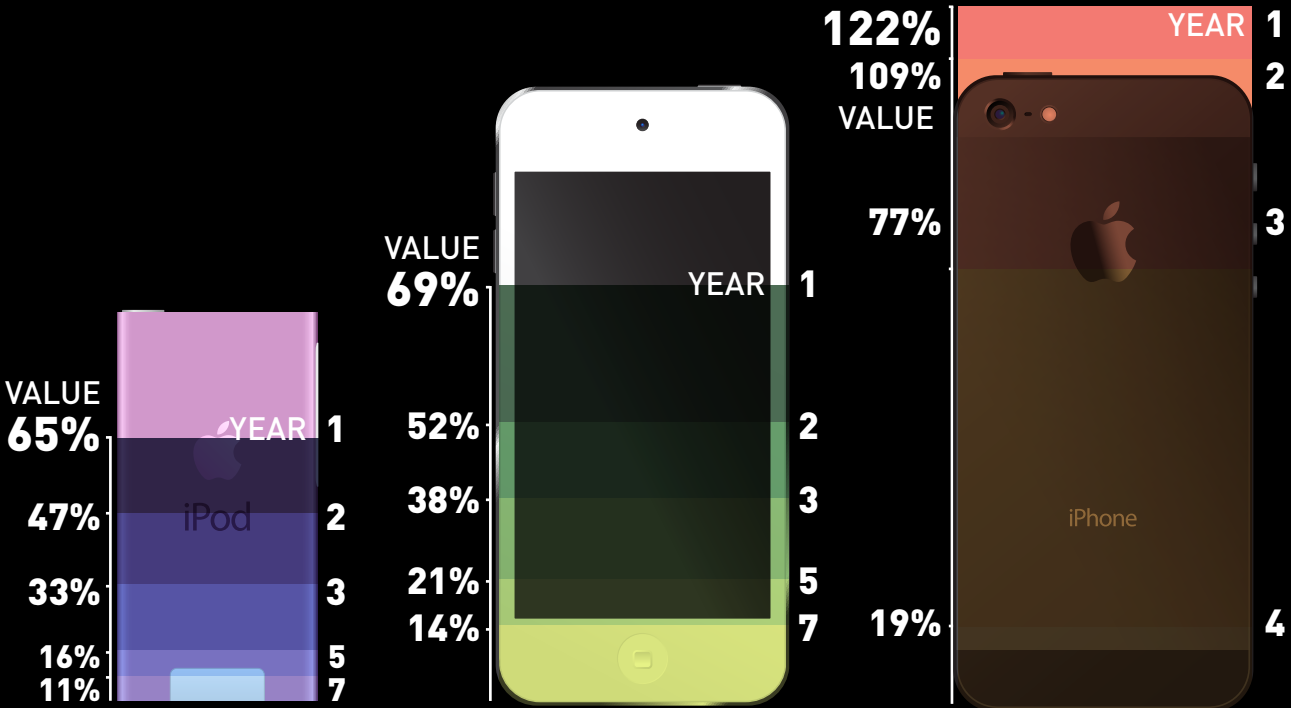
Consider refurbished units. Defects and changes of heart lead to returns; bad devices have almost certainly been fixed and are awaiting resale from the Apple Store's Special Deals section at big discounts. AT&T's refurbished iPhones are often sold for \$50-\$100 below their new prices.



12 BUY OR SELL - USED

LEARN THE VALUE OF YOUR IPOD, IPHONE , OR APPLE TV

iPods and iPhones lose value differently: historically, iPods retain 60-70% of their value after a year - something that may be changing for the worse - but unlocked year-old iPhones can fetch more than their original prices, as do some Apple TVs. Here's how to estimate your device's worth at intervals after the date of release, based on years of eBay price tracking.



iPod mini/nano

Historically, Apple's least expensive iPods lose value at least a little more quickly than full-sized models. Certain colors may hold value longer. Cheap iPod shuffles fall more quickly.

Full-sized iPods

Not surprisingly, iPods, iPod classics, and iPod touches with more capacity fetch higher dollars later. Older iPods are beginning to slip in value. U2 iPods and specific colors for each model tend to hold value better.

iPhones

Apple hasn't stopped selling the iPhone 4 or iPhone 4S, and used, unlocked models keep fetching hundreds of dollars - even more than their subsidized contract prices. Only the original iPhone crashed in value.



Unengraved, unscratched, fully working iPods sell best; unlocked iPhones + 2010 Apple TVs sell for premiums over their original prices.

Every Discontinued iPod, iPhone, and Apple TV: Details + eBay Prices

On the pages that follow, you'll see every discontinued iPod, iPhone, and Apple TV, along with its storage capacity or capacities, release date, and original price. Since several factors can influence the used value, we've listed each one's new features, pack-ins, and major issues/problems, along with mid-October 2012's average eBay selling price for each specific model number. Different models can denote small or large changes, so check the Apple part number on the back or bottom of your box before buying or selling.



iPod (1G)

10-2001

5/10GB - 10 Hr Battery  
Music - Data  
\$399-\$499 US

**Breakthroughs:** Apple's original cigarette pack-sized 5GB music player uses intuitive five buttons and moving wheel controls plus an easy-to-read white backlit screen, features iconic clear/white plastic and polished steel case design. Works as Mac hard disk.

**Pack-Ins:** FireWire-to-FireWire cable, original FireWire wall charger, original iPod earphones.

**Issues:** High price, Mac only, limited battery life. Retrospectively fewer add-ons than newer iPods, in part because of lack of bottom connector and missing USB support.

**eBay Values:**  
5GB (M8513LL/A, M8541LL/A, M8697LL/A) \$73.58  
10GB (M8709LL/A) \$95.85


Our Advice: Buying Used

Once every two or so years, Apple replaces a popular model with something new that's not as good in some way, letting older models remain viable. The sixth-generation iPod nano lost video and camera features, and the third-generation iPod shuffle lost all buttons, making earlier models valuable. Similarly, the 2008 iPods discontinued support for popular charging accessories, making older models easier to use with prior Apple and third-party gear. But before you buy a used iPod, factor in the cost of a replacement battery, the warranty, and the cool factor of having something new. You can decide whether a new or used device is best for your needs.

Our Advice: Selling Used

- Sell your old device right before Apple replaces it. "Old" models lose \$\$\$ fast.
- Include the model number in the title.
- Indicate quality in the listing. If you say "as-is," expect to get less.
- Unlock your iPhone before listing it.
- Use Apple's official photo on the search page. This oddly helps prices.
- Keep your box and pack-ins. People pay more for the complete package.
- Don't bundle other add-ons. They won't help your price; sell separately.
- Include photos of all the included items. People want to see them.
- Don't include "Windows/Mac" in title.
- Charge reasonable shipping. You'll get much less if you overcharge.





### iPod

(2G)

7-2002

10/20GB - 10 Hr Battery  
Music - Data  
\$399-\$499 US


**Breakthroughs:** Moving scroll wheel replaced with touch-sensitive surface. Separate PC versions introduced, enabling PC users with FireWire ports to transfer music with MusicMatch software. Peak capacity upped to 20GB with old 5GB falling to \$299.

**Pack-Ins:** FireWire cable, wall charger, original iPod earphones, carrying case, remote control.

**Issues:** High price, FireWire standard isn't PC-friendly, limited battery life.

**eBay Values:**

10GB (M8737LL/A, M8740LL/A)	\$69.17
20GB (M8738LL/A, M8741LL/A)	\$93.33



### iPod

(3G)

4-2003

10/15/20/30/40GB - 8 Hr Battery  
Music - Photos\* - Games\* - Data  
\$299-\$499 US

**Breakthroughs:** Touch-sensitive buttons, thinner casings, USB support, top + bottom accessory ports, photo transfer + mic add-ons, big drives, games.

**Pack-Ins:** FireWire cable, adapter, wall charger, and new earphones. Some inc. dock, case, and remote.

**Issues:** Weaker batteries, screen backlight variations.

**eBay Values:**

10GB (M8976LL/A)	\$37.17
15GB (with Dock, M8946LL/A)	\$42.00
20GB (M9244LL/A)	\$39.83
30GB (M8948LL/A)	\$42.85
40GB (M9245LL/A)	\$48.72



### iPod mini

(1G)

2-2004

4GB - 8 Hr Battery  
Music - Games\* - Data  
\$249 US


**Breakthroughs:** Microdrive storage creates smallest iPods ever, with 5 new body colors and tiny Click Wheel controller, integrating all buttons into one surface.

**Pack-Ins:** 2003 iPod earphones, belt clip, USB and FireWire cables, wall charger.

**Issues:** Low capacity per dollar, limited battery life, not designed for use with photo sync or recorder add-ons.

**eBay Values:**

4GB (M9160LL/A, M9436LL/A, M9435LL/A, M9434LL/A, M9437LL/A)	\$22.57
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### iPod

(4G/U2)

7/10-2004

20/40GB - 12 Hr Battery  
Music - Photos\* - Games\* - Data  
\$299-\$399 US

**Breakthroughs:** Replaces separate touch-sensitive buttons and wheel of third-generation iPod with iPod mini's Click Wheel controls, improves battery life, adds USB cable. Black and red U2 iPod debuts for the first time as alternative to the classic white full-sized iPod.

**Pack-Ins:** 2003 iPod earphones, USB and FireWire cables, wall charger. Dock included with top model.

**Issues:** Slight cheapening of prior iPods' looks.

**eBay Values:**

20GB (M9282LL/A)	\$36.49
U2 (M9787LL/A)	\$60.81
40GB (M9268LL/A)	\$53.75



### iPod photo

(aka iPod 4G with color)

10-2004

20/30/40/60GB - 15 Hr Battery  
Music - Photo - Games\* - Data  
\$499-\$599 US


**Breakthroughs:** Takes iPod 4G, improves battery, adds color screen for photo display. Higher storage capacity. Originally called iPod photo, later renamed to just iPod.

**Pack-Ins:** 2003 iPod earphones, USB cable, wall charger. Dock, AV cable, FW cable with certain models.

**Issues:** Photo sync is slow, display requires add-ons.

**eBay Values:**

20GB (Color, MA079LL/A)	\$49.94
20GB U2 (Color, MA127LL/A)	\$64.88
30GB (Photo, M9829LL/A)	\$46.24
40GB (Photo, M9585LL/A)	\$43.83
60GB (Photo/Color, M9586LL/A, M9830LL/A)	\$58.04



### iPod shuffle

(1G)

1-2005

512MB /1GB - 12 Hr Battery  
Music - Data  
\$99-\$149 US

**Breakthroughs:** A complete music player in the space of a pack of chewing gum, with simple USB plug. Wearable, using ultra-simplified controls: a large play button surrounded by track skip and volume buttons. "Shuffle" mode plays music out of order.

**Pack-Ins:** 2003 iPod earphones, lanyard necklace.

**Issues:** Screenless interface falls below competitors' lowest-end offerings, highly limited storage capacity, no iPod accessory compatibility.

**eBay Values:**

512MB (M9724LL/A)	\$14.00
1GB (M9725LL/A)	\$21.42



iPod mini  
(2G)



2-2005

4/6 GB - 18 Hr Battery  
Music - Games\* - Data  
\$199-\$249 US

**Breakthroughs:** Radically improved battery life and lower price than prior mini; brighter body colors.  
**Pack-Ins:** USB cable, belt clip, 2003 iPod earphones.  
**Issues:** No longer includes wall charger, value so-so.  
**eBay Values:**

4GB (M9800LL/A, M9802LL/A, M9804LL/A, M9806LL/A)	\$27.64
6GB (M9801LL/A, M9803LL/A, M9805LL/A, M9807LL/A)	\$35.34

iPod nano  
(1G)



9-2005

1/2/4 GB - 14 Hr Battery  
Music - Photos\* - Games\* - Data  
\$149-\$249 US

**Breakthroughs:** Thinnest iPod ever, now with mini-besting color screen and photo display feature.  
**Pack-Ins:** USB cable, 2003 iPod earphones, dock adapter, simple carrying case (added late 2005).  
**Issues:** Lower battery life and storage than same-priced minis, scratchable body, no top add-on port.  
**eBay Values:**

1GB Black (MA352LL/A)	\$56.87
1GB White (MA350LL/A)	\$55.02
2GB Black (MA099LL/A)	\$54.49
2GB White (MA004LL/A)	\$57.29
4GB Black (MA107LL/A)	\$65.87
4GB White (MA005LL/A)	\$62.67

iPod  
(5G)



10-2005

30/60 GB - 14-20 Hr Battery  
Music - Photos - Games - Data  
\$299-\$399 US

**Breakthroughs:** Screen size boosted to 2.5", video and downloadable game playback added. Interface modestly improved. First all-black full-sized iPod model.  
**Pack-Ins:** iPod earphones, USB cable, simple case.  
**Issues:** Short video play time, limited formats. Abandons top-mounted accessories, obsoleting many top add-ons.  
**eBay Values:**

30GB White (MA002LL/A)	\$55.78
30GB Black (MA146LL/A)	\$55.48
U2 (MA452LL/A)	\$87.08
60GB White (MA003LL/A)	\$62.23
60GB Black (MA147LL/A)	\$65.97

iPod nano  
(2G)



9-2006

2/4/8 GB - 24 Hr Battery  
Music - Photos - Games\* - Data  
\$149-\$249 US

**Breakthroughs:** Thinner and less scratchable nano in 6 colors. Much-improved battery, new voice recording feature, impressive new black and red aluminum versions introduced. Marked the debut of the PRODUCT (RED) iPod nano, the first in a series of charitable iPods.  
**Pack-Ins:** USB cable, 2006 iPod earphones.  
**Issues:** Color choices limited by price and capacity, problems with prior nano accessories.  
**eBay Values:**

2GB Silver (MA477LL/A)	\$31.88
4GB (MA426LL/A, MA428LL/A, MA489LL/A, MA487LL/A, MA725LL/A)	\$34.50
8GB (MA497LL/A, MA899LL/A)	\$52.99

iPod  
(5.5G)



9-2006

30/80 GB - 14-20 Hr Battery  
Music - Photos - Games - Data  
\$249-\$349 US

**Breakthroughs:** Brighter screen, better video battery life, search feature, superior prices for capacities, highest capacity yet in the iPod family.  
**Pack-Ins:** 2006 iPod earphones, USB cable, simple case.  
**Issues:** Limited video formats, screen size still small by comparison with other portable video devices. Almost physically indistinguishable from prior model.  
**eBay Values:**

30GB Black/White (MA444LL/A, MA446LL/A)	\$86.15
30GB U2 (MA664LL/A)	\$80.80
80GB Black/White (MA448LL/A, MA450LL/A)	\$98.83

iPod shuffle  
(2G)



11-2006

1/2 GB - 12 Hr Battery  
Music - Data  
\$79 US (1GB), Later \$49 -\$69

**Breakthroughs:** Apple's smallest, most wearable iPod to date, available in multiple colors (five per season), each with rear belt clip. Metal replaces earlier plastic.  
**Pack-Ins:** 2003 or 2007 iPod earphones, USB dock.  
**Issues:** Audio distortion and weak accessory support. Can't charge and play audio at the same time.  
**eBay Values:**

1GB (MA564LL/A, MA949LL/A, MA951LL/A, MA953LL/A, MA947LL/A, MB225LL/A, MB227LL/A, MB229LL/A, MB233LL/A, MB231LL/A, MB225LL/A, MB815LL/A, MB813LL/A, MB811LL/A, MB817LL/A)	\$18.45
2GB (MB518LL/A, MB520LL/A, MB522LL/A, MB526LL/A, MB524LL/A, MB518LL/A, MB683LL/A, MB685LL/A, MB681LL/A, MB779LL/A)	\$27.33



Apple TV  
(40GB/160GB)



2-2007

40/160 GB

Music - Video - Photos  
\$299-\$399 US,  
Later \$229-\$329

**Breakthroughs:** First standalone high-definition (720p) iTunes video player; first iTunes family device capable of streaming video from a computer, first with on-screen menu UI for browsing media content.

**Pack-Ins:** Apple Remote, power cable.

**Issues:** Only useful with HDTVs, limited features, buggy software, user interface clunky in mid-cycle.

**eBay Values:**

40GB (MA711LL/A)	\$74.09
160GB (MB189LL/A)	\$92.44

iPhone  
(1G)



6-2007

4/8/16 GB - 7-24 Hr Battery  
Phone - Music - Video - Internet  
\$399-\$599 US

**Breakthroughs:** Apple's first mobile phone, combining a multi-touch widescreen iPod, quad-band GSM phone, and EDGE/Wi-Fi Internet device in a metal and glass enclosure.

**Pack-Ins:** Stereo headset with microphone, iPhone Dock, USB Power Adapter, USB Cable, cleaning cloth.

**Issues:** Initially limited storage capacity at high prices, slow EDGE data speeds, and reliability problems. Phones are sold locked, and initially without third-party applications.

**eBay Values:**

4GB (MA501LL/A - Unlocked)	\$80.17
8GB (MA712LL/A - Unlocked)	\$91.00
16GB (MB384LL/A - Unlocked)	\$86.00

iPod classic  
(80GB/120GB/160GB)



9-2007

80/160 GB - 30-40 Hr Battery  
Music - Video - Games - Data  
\$249-\$349 US  
9-2008 120GB Model \$249 US

**Breakthroughs:** First hard disk iPod with silver or black metal face, new interface with Cover Flow, dramatically better audio, battery life and storage capacity for the prices.

**Pack-Ins:** iPod earphones, USB cable, Dock Adapter.

**Issues:** Screen comparatively outdated. Lost compatibility with all prior video accessories.

**eBay Values:**

80GB Silver (MB029LL/A)	\$78.50
80GB Black (MB147LL/A)	\$93.00
160GB Silver (MB145LL/A)	\$133.79
160GB Black (MB150LL/A)	\$125.89
120GB Silver (MB562LL/A)	\$121.70
120GB Black (MB565LL/A)	\$134.33

iPod nano  
(3G)



9-2007

4/8 GB - 24 Hr Battery  
Music - Video - Games - Data  
\$149-\$199 US

**Breakthroughs:** First iPod nano with video playback and true game-playing abilities, using same resolution screen and UI as iPod classic.

**Pack-Ins:** USB cable, iPod earphones, Dock Adapter.

**Issues:** Color limited by price, body shape a little odd.

**eBay Values:**

4GB Silver (MA978LL/A)	\$34.50
8GB (MA980LL/A, MB249LL/A, MB253LL/A, MB261LL/A, MB257LL/A, MB453LL/A)	\$51.88

iPod touch  
(1G)



9-2007

8/16/32 GB - 22 Hr Battery  
Music - Video - Games - Internet  
\$299-\$499 US

**Breakthroughs:** First iPod with Wi-Fi, multi-touch, Internet access, and iPhone OS, gaining ability to download music and games, read e-mail, browse web.

**Pack-Ins:** Earphones, USB cable, stand, dock adapter, screen cleaning cloth.

**Issues:** Screen quality issues. Higher price, much lower storage capacity, lower battery life, and lower audio quality than iPod classic. Paid \$10-\$20 software updates required to add new system software.

**eBay Values:**

8GB (MA623LL/A)	\$63.00
16GB (MA627LL/A)	\$62.50
32GB (MB376LL/A)	\$73.33

iPhone 3G



6-2008

8/16 GB - 24 Hr Battery  
Phone - Music - Video - Internet  
\$199-\$299 US, Later 8GB \$99 US  
With 16GB Model Discontinued

**Breakthroughs:** Faster second-generation update to original iPhone, adding support for third-party apps, dramatically expanding international distribution and compatibility with 3G cellular networks.

**Pack-Ins:** Stereo Headset with microphone, USB Power Adapter, USB Cable, cleaning cloth, SIM tool.

**Issues:** Cheaper-looking and -feeling plastic casing than prior iPhone, weak battery life for 3G calling and data services. Primarily sold locked to specific carriers for \$199/\$299 prices; unlocked retail prices are considerably higher, reflecting a carrier subsidy of roughly \$400.

<b>eBay Values:</b> 8GB Black (MB702LL/A)	\$89.96
16GB Black (MB704LL/A)	\$102.75
16GB White (MB705LL/A)	\$89.92



iPod nano  
(4G)



9-2008

8/16 GB - 24 Hr Battery  
Music - Video - Games - Data  
\$149-\$199 US

**Breakthroughs:** Nine colors available for each capacity; first nano to include accelerometer.

**Pack-Ins:** USB cable, iPod earphones, Dock Adapter.

**Issues:** Dull knife body shape, incompatible with FireWire.

**eBay Values:**

8GB (MB598LL/A, MB754LL/A, MB732LL/A, MB739LL/A, MB735LL/A, MB751LL/A, MB742LL/A, MB748LL/A, MA745LL/A)	\$54.83
16GB (MB903LL/A, MB918LL/A, MB905LL/A, MB909LL/A, MB907LL/A, MB917LL/A, MB911LL/A, MB915LL/A, MA913LL/A)	\$77.09

iPod touch  
(2G)



9-2008

8/16/32 GB - 30 Hr Battery  
Music - Video - Games - Internet  
\$229-\$499 US, Later \$199 (8GB)  
With 16/32GB Discontinued

**Breakthroughs:** First iPod with integrated speaker, Nike + iPod wireless built-in, free support for third-party apps, new headphone port with mic support.

**Pack-Ins:** iPod earphones, USB cable, Dock Adapter, cleaning cloth.

**Issues:** Still relatively low capacity for prices, battery life doesn't rival iPod classic. Incompatible with FireWire accessories. Requires paid software updates from Apple, ranging from \$5-\$10. Almost indistinguishable from late 2009 32/64GB models.

**eBay Values:**

8GB (MB528LL/A-MC086LL/A)	\$62.02
16GB (MB531LL/A)	\$79.48
32GB (MB533LL/A)	\$88.43

iPhone 3GS



6-2009

16GB/32 GB - 24 Hr Battery  
Phone - Music - Video - Internet  
\$199-\$299 US / 2010 \$99 US 8GB  
As 16/32GB Models Discontinued  
Late 2011 8GB \$0 With Contract

**Breakthroughs:** Faster sequel to iPhone 3G, 3-Megapixel autofocus camera, compass, Voice Control, improved 3-D graphics capabilities.

**Pack-Ins:** Earphones with Remote + Mic, USB Power Adapter, USB Cable, SIM removal tool.

**Issues:** Weak battery, most sold locked to specific carriers.

**eBay Values:**

16GB Black (MB715LL/A)	\$132.24
16GB White (MB716LL/A-MC132LL/A)	\$142.50
32GB Black (MB717LL/A)	\$146.16
32GB White (MB718LL/A-MC138LL/A)	\$156.25

iPod touch  
(3G)



9-2009

32/64 GB - 30 Hr Battery  
Music - Video - Games - Internet  
\$299-\$399 US

**Breakthroughs:** First iPod with Voice Control, faster CPU and graphics chip for improved 3-D gaming performance, superior battery life.

**Pack-Ins:** Earphones with Remote + Mic, USB cable, Dock Adapter.

**Issues:** Still relatively low storage capacity for prices relative to iPod classic. Almost indistinguishable from late 2008 models; camera removed at last minute.

**eBay Values:**

32GB (MC008LL/A)	\$92.60
64GB (MC011LL/A)	\$148.96

iPod shuffle  
(3G)



3-2009

2/4 GB - 10 Hr Battery  
Music - Data  
\$59-\$99 US

**Breakthroughs:** Apple's smallest iPod ever, and first to eliminate all buttons in favor of a single switch and remote control headset. Originally introduced in aluminum, later gained first all-stainless steel model.

**Pack-Ins:** Earphones with Remote, 3.5mm-USB cable.

**Issues:** Difficult to control, weak battery life, plain design, earphones had moisture failures and a recall.

**eBay Values:**

2GB (MC306LL/A, MC384LL/A, MC381LL/A, MC323LL/A, MC387LL/A)	\$16.93
4GB (MB867LL/A, MC328LL/A, MC307LL/A, MC331LL/A, MC164LL/A)	\$21.04
4GB Stainless Steel 9/09 (MC303LL/A)	\$31.59

iPod nano  
(5G)



9-2009

8/16 GB - 24 Hr Battery  
Music - Video - Games - Data  
\$149-\$179 US

**Breakthroughs:** First nano to include video camera, pedometer, and FM radio, new glossy aluminum body.

**Pack-Ins:** USB cable, iPod earphones, Dock Adapter.

**Issues:** Mediocre camera quality, weak selection of games, tiny Click Wheel controls. Some color options aren't as impressive as prior year's.

**eBay Values:**

8GB (MC027LL/A, MC031LL/A, MC037LL/A, MC034LL/A, MC050LL/A, MC049LL/A, MC046LL/A, MC043LL/A, MC040LL/A)	\$61.72
16GB (MC060LL/A, MC062LL/A, MC066LL/A, MC064LL/A, MC075LL/A, MC074LL/A, MC072LL/A, MC070LL/A, MC068LL/A)	\$80.88



iPhone 4



6-2010

16/32 GB - 24 Hr Battery  
Phone - Music - Video - Internet  
\$199-\$299 US / 2010 \$99 US 8 GB  
As 16/32 GB Models Discontinued

**Breakthroughs:** First Apple device with Retina Display, 5MP rear camera, and FaceTime camera. First iPhone with 802.11n, and first iPhone with white front bezel. Subsequently released Verizon iPhone 4 is first iPhone with CDMA network support.

**Pack-Ins:** Earphones with Remote + Mic, USB Power Adapter, USB Cable. Some include SIM card/SIM tool.

**Issues:** Fragile glass body; signal issues with metal antenna. Introduced later, Verizon/CDMA model needs clear ESN for activation when resold.

**eBay Values:**

16GB Black (MC318LL/A)	\$231.25
16GB Black, Unlocked (MC603LL/A)	\$254.17
16GB White (MC536LL/A)	\$239.92
16GB White, Unlocked (MC604LL/A)	\$297.16
32GB Black (MC319LL/A)	\$274.00
32GB Black, Unlocked (MC605LL/A)	\$276.75
32GB White (MC537LL/A)	\$266.90
32GB White, Unlocked (MC606LL/A)	\$305.17
16GB Black, Verizon (MC676LL/A)	\$196.49
16GB White, Verizon (MC677LL/A)	\$233.75
32GB Black, Verizon (MC678LL/A)	\$234.08
32GB White, Verizon (MC679LL/A)	\$257.75

Apple TV  
(2G)



9-2010

8 GB  
Music - Video - Photos  
\$99 US

**Breakthroughs:** Dramatically smaller iTunes video streaming device at a considerably lower price than the original version. Originally pitched as a dedicated video rental box without purchasing capabilities, using much-improved user interface relative to prior Apple TV. Software updates following initial release fundamentally improved the device, enabling it to purchase videos from iTunes, stream videos, photos, and music from iOS devices, and stream everything from sporting events to Wall Street Journal content.

**Pack-Ins:** Apple Remote, power cable.

**Issues:** Only useful with HDTVs. No user-accessible on-board storage, and thus completely Internet connection-dependent for playing back content. Capped at 720p for video output while rivals reach 1080p. No RCA-style connectors for audio or video.

**eBay Values:**

Apple TV 2G (MC572LL/A)	\$151.53*
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(\*Heavily sought for jailbreaking; some sell for \$200!)

iPod nano  
(6G)



9-2010

8/16 GB - X Hr Battery  
Music - Photos - Data  
\$129-\$149 US

**Breakthroughs:** First nano with "multi-touch" screen and rear clip. Smallest nano ever; doubles as a watch.

**Pack-Ins:** iPod earphones, USB cable.

**Issues:** Loses all video, camera, and game features of prior model, tiny screen cramps interface. Weak colors.

**eBay Values:**

8GB (MC525LL/A , MC688LL/A, MC689LL/A, MC690LL/A, MC691LL/A, MC692LL/A, MC693LL/A)	\$79.75
16GB (MC526LL/A, MC694LL/A, MC695LL/A, MC696LL/A, MC697LL/A, MC698LL/A, MC699LL/A)	\$112.15

iPod touch  
(4G)



9-2010

8/32/64 GB - 30 Hr Battery  
Music - Video - Games - Internet  
\$229-\$399 US; 2011 8GB \$199;  
2012 16/32GB Models \$199/\$249

**Breakthroughs:** First iPod with FaceTime camera, first iPod touch with rear camera, first iPod touch sold in white version (introduced 2011).

**Pack-Ins:** iPod earphones, USB cable.

**Issues:** Still low storage capacity relative to iPod classic. Poor camera still image quality. Markedly behind iPhone performance, particularly by 2011.

**eBay Values:**

8GB Black (MC540LL/A)	\$114.97
8GB White (MD057LL/A)	\$119.93
64GB Black (MC547LL/A)	\$187.92
64GB White (MD059LL/A)	\$216.29

iPhone 4S



10-2011

16/32 GB - 24 Hr Battery  
Phone - Music - Video - Internet  
\$199-\$399 US/2011 \$99 US 16 GB  
As 32/64 GB Models Discontinued

**Breakthroughs:** First Apple device with Siri, 8MP rear camera, and support for pre-LTE "4G" networks.

**Pack-Ins:** Earphones with Remote + Mic, USB Power Adapter, USB Cable. Some include SIM card/SIM tool.

**Issues:** Fragile glass body. Siri unreliable, limited in features. Cameras aren't great in low light.

**eBay Values:**

32GB AT&T (MC919LL/A*, MC921LL/A)	\$391.20
32GB Verizon (MD278LL/A, MD279LL/A*)	\$365.42
32GB Sprint (MD379LL/A*, MD380LL/A)	\$336.84
32GB Unlocked (MD241LL/A, MD244LL/A*)	\$431.46
64GB AT&T (MD269LL/A, MD271LL/A*)	\$422.11
64GB Verizon (MD280LL/A, MD281LL/A*)	\$370.50
64GB Sprint (MD381LL/A, MD382LL/A)	\$378.33
64GB Unlocked (MD257LL/A, MD260LL/A*)	\$462.42

(\* models represent colors with \$20 price premiums)



# 13 REPURPOSING OPTIONS

SQUEEZE A LITTLE EXTRA VALUE FROM YOUR OLD IPOD/IPHONE

Rather than selling your old iPod or iPhone for cash, there are ways you can put it to good use. Discontinued accessories and cases can be readily purchased from eBay, Amazon, and elsewhere.



## Permanent Car Or Home Audio Installation

If you've gotten used to intermittently plugging your device into your car or home audio system, you mightn't realize how convenient an iPod can be when it stays in one place. With simple cables, such as Macally's Bubjack Retractable Audio Cable (\$15), more complex Bluetooth solutions such as XtremeMac's InCharge Auto BT or InCharge Home BT (\$80 each), or discontinued (but eBay-listed) combo audio and charging solutions such as Kensington's LiquidAUX, you can turn your old iPod into a full-time home or car music jukebox. See our past Buyers' Guides for recommendations of specific brands.

## Replace Your Old DVD Player

Paired with anything from Apple's \$39 Composite or Component AV Cables to Epson's \$800 MegaPlex MG-850HD projector, you can dedicate an older iPod to storing your favorite videos for instant TV viewing, particularly good for larger iPod classics and iPod touches. If you have an iPod touch, you can replace the content wirelessly using iTunes Wi-Fi Syncing, and stream Internet content to your TV, as well.



## Use It As A TV Remote

iPod touches and iPhones have integrated Wi-Fi and Bluetooth wireless features. Using previously-reviewed accessories such as Gear4's UnityRemote, Logitech's Harmony Link, Zero1.tv's VooMote Zapper, or New Potato's TuneLink Home, you can easily keep your old device near a TV as a full-time universal remote control - and consult it for info on whatever you're watching or hearing. While you could do these things with your latest device, as well, an older one will be easy to keep in one place.



## Use It Underwater

Submersible cases allow you to swim and dive with iPods - some even let you record videos underwater. Prior-generation cases from H2O Audio/X-1 Audio can be had at discounts.

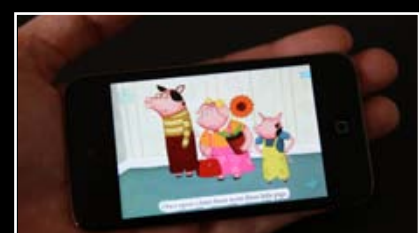
## Keep It As A Spare/Use It For Travel Overseas

Selling an older iPhone is an easy way to get several hundred dollars towards the purchase of a new model, but having a spare can be handy. If your new iPhone breaks, gets lost, or can't be used in another country without incurring huge roaming charges, your old iPhone can serve as a handy backup. Most cellular service providers will unlock your iPhone after it's done being used as your primary device; you can then pop out the SIM Card tray and insert a replacement card of your choice. In foreign countries, SIMs are inexpensive and very useful.



## Devote It To Worry-Free Workouts

Many people use their primary iPods or iPhones for workouts without fear of soaking or damaging their devices, but if you sweat a lot or live in a rainy or snowy climate, you might have held off. Now might be a good time to seek out a discontinued (but highly-rated) weather-resilient armband or case for your device, and possibly Nike+ gear: a Sensor for your shoes, a wristband remote, or heart rate monitor.



## Gift It/Hand It Down

Your old iPod or iPhone might not be shiny and new, but there's a good chance that a relative or friend will be able to use it for fun, school, or work. iPhones and iPod touches can be especially fantastic educational tools for kids. Consider gifting one to someone who can use it.



## Trade It In

Amazon's trade-in prices for used iPods and iPhones are below current eBay averages, but are as simple as printing a shipping label and sending out a box. Companies such as Gazelle, uSell, and Apple's partner PowerON generally pay much less than Amazon.



## Donate It

Beyond the tax deduction, a charitable donation of your iPod or iPhone will help people who need it. Consider donating to the American Foundation For The Blind, Cell Phones For Soldiers, or Secure The Call (senior citizens/domestic violence centers). Some will hand your device over; others will use the proceeds for charity.





# The iPhone + iPod ACCESSORY GUIDE

**Good news: the latest iPods and iPhone have a tiny new Lightning connector instead of a big, old 30-Pin connector. Bad news: your past accessories probably need a \$29 adapter. And all-new accessories won't be out until 2013.**

Change is inevitable, and Apple's switch to a new connector standard has been expected for some time - some developers have spent two years adding wireless and USB options to their accessories as hedges, and the new Lightning connector seemed imminent enough six months ago to note in our last iPad Buyers' Guide. Even so, the transition has been painful: the iPhone 5 and new iPods were released without Lightning accessories, apart from the USB cables needed to charge them. Overpriced adapters are here, but new Lightning-equipped third-party accessories haven't entered manufacturing or even testing yet; Apple will start sharing details with developers too late for new accessories to hit the market in 2012.

Because of Lightning's major impact on electronic accessories - and our desire not to rehash add-ons we've covered in the past - this year's iPhone + iPod Accessory Guide focuses primarily on new products that will actually work with the iPhone 5, seventh-generation iPod nano, and fifth-generation iPod touch. Last year's Guide contains plenty of suggestions for earlier models, and we'll spotlight a handful of recent Dock Connector accessories worth considering, too. As always, every accessory selected for our Guide was picked solely on merit by our editors, and we hope that you find some fantastic new gifts in this collection.

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# 01 THE BIG PICTURE

## ACCESSORY INFO YOU NEED TO KNOW FIRST

iPhones and iPods work well without assistance, but accessories can protect them and enhance their capabilities. Speakers and headphones bring out the best in your music; batteries can keep them running for days at a time, and cases can shield them from drops and scratches. Here's the big picture of what's out there.

### Cases and Protective Film: Why Do They Matter?

Apple deliberately chooses attractive but fragile materials for its portable devices, seemingly to keep people hungry for shiny new versions every couple of years. iPods tend to be durable but scratchable and dentable, while the glass screens and bodies of iPod touches and iPhones are highly susceptible to fingerprints and shattering. Cases and film shields keep Apple's devices looking fresh, reduce the need for cleaning, and improve their resale value.

### What's Changed In Accessories Over The Past Year?

The iPhone case market has fragmented into two primary types of cases - hybrid plastic/rubber cases, which tend to offer superior protection and style, versus hard plastic shells, which are less protective, thinner, and simpler. Leather and fabric wallets or sleeves are becoming popular again. We've stopped reviewing shells because they've become too generic; they are also the least safe if you drop your iPhone. iPod cases have almost fully dried up; nano wrist straps are fading, and few iPod touch cases have been released.

Speakers have continued to embrace wireless streaming, particularly the open Bluetooth standard; docking speakers hit a wall when Apple started the Lightning transition. Oversized traditional headphones continued to gain ground on in-ear models, with fashion-forward designs grabbing attention. The Apple TV (featured in our New iPad Buyers' Guide) received modest upgrades and continued to grow in popularity.

### What Are The "Sweet Spot" Prices For Different Types Of Accessories?

These guidelines can help you budget for quality options; some top picks are more or less.



#### Cases

\$30-\$35 for a case, \$15 for screen film.



#### Headphones

\$100: Good, \$200: Great, \$500: Wicked.



#### Batteries

\$60 for a battery, \$80+ for a battery case.



#### Speakers

\$100-\$200 for solid Bluetooth systems.

### What Types Of iPhone and iPod Speakers Should I Consider?

There are so many shapes, sizes, and prices of speakers these days that there's no single correct answer. Decide first whether you plan to keep your speaker in one place or move it around, then how much you're willing to spend to buy one or more systems for your needs. If bedside listening is your goal, consider a clock radio. Non-clock wireless speakers may well sound better. Tabletop speakers often sound best, but are larger and pricier.



#### Bluetooth

Currently the safest choices on the market, these wireless speakers work with nearly every iOS device, as well as the new iPod nano, enabling you to stream music from 30+ feet away without a dock.



#### AirPlay

Apple's wireless standard isn't as fast as Bluetooth but is capable, theoretically, of higher audio quality. AirPlay speakers tend to be more expensive and less responsive than Bluetooth.



#### Clock Radios

Generally in the \$100-\$200 price range, these are often designed as bedside charging stations and clocks first, speaker systems second, and provide good rather than stellar audio quality.



#### Docking Audio

Until speakers with Lightning docks built in begin to appear, it's not a great idea to buy docking audio systems; we've cut almost all of them from this year's Guide, and many are discontinued.

### What's Included and What's Left Out Of This Year's Buyers' Guide?

We focus heavily on iPhone and iPod products introduced over the last year; many prior accessories with iPad compatibility are featured in our New iPad Buyers' Guide, available from [iLounge.com/newipadbg](http://iLounge.com/newipadbg). iPod classic add-ons have dried up over the last several years; find our prior top picks in our 2009-2010 Buyers' Guides at [iLounge.com/library](http://iLounge.com/library).





## 02 LIGHTNING ADD-ONS

### CABLES, ADAPTERS, AND WORKAROUNDS

Apple's 30-Pin Connector - also known as the Dock Connector - had a good nine-year run as the only charging and synchronization option for Apple's iPads, iPhones, and screened iPods: hundreds of companies built thousands of 30-Pin accessories that are now in use all over the world. Starting with the release of the iPhone 5, seventh-generation iPod nano, and fifth-generation iPod touch, Apple is replacing the 30-Pin Connector with Lightning, a much smaller connector that can be inserted upwards or downwards. Apple has promised that Lightning will be in use for "many years to come," in an effort to reassure customers (and developers) that Lightning accessories won't be a wasted investment.

Unfortunately, Apple has used the launch of Lightning to squeeze both customers and developers, releasing four different Lightning products of its own while denying third-party developers the ability to release competing products this year. As a result, if you want to buy a Lightning cable or adapter, you'll most likely have to purchase it from Apple at full retail price; only one company has released a workaround, and it's unwieldy. The list of current options is on the following page.



**Expect the first round of third-party Lightning accessories to appear in early- to mid-2013.**



### Apple Lightning To USB Cable

Packed in with every iPhone 5, seventh-gen iPod nano, and fifth-gen iPod touch, this nearly 42" cable is the least expensive option currently available for connecting new devices to some old accessories. Cars, car chargers, and speakers with USB ports will at a minimum be able to charge the new devices; any accessory with a digital audio connection will be able to play music, too. Apple bets you'll need more than the one it gives you, and it's surely correct.

**\$19**



### Apple Lightning to 30-Pin Adapter

As the smaller of two adapters designed to turn male Dock Connector plugs into Lightning plugs, this version uses a solid hard plastic base to provide physical support for a device resting above it. Primarily sold for use with docking speakers, it can do in a pinch if you need a car-ready adapter, but the 0.2m version below is flexible.

**\$29**



### Apple Lightning to 30-Pin Adapter (0.2m)

Much like the version above, the 0.2m Adapter converts a male Dock Connector plug to Lightning, but here uses 7.5" of flexible cabling between the two connectors. While this is better suited to use in a car or to extend Dock Connector cables, neither version works for video output; they're only for power, syncing, and audio.

**\$39**



### Apple Lightning to Micro USB Adapter

Sold only in Europe - and solely to comply with an EU directive requiring phone chargers to be universally Micro USB-compatible - this tiny white Adapter has a female Micro USB port and a male Lightning plug, letting you connect any Micro USB cable to new iPhones or iPods. It's notably twice the price of the older 30-Pin version.

**€19**



### CableJive dockBoss+ iPhone 5 Kit

If you need a quick but somewhat convoluted workaround to make your iPhone 5 or new iPod work with any old accessory, dockBoss+ is a solution. One piece converts a Lightning to USB Cable for connection to any male Dock Connector plug, with an auxiliary audio out port - the latter works if your accessory needs analog audio.

**\$30**



# ALWAYS USE PROTECTION

## TAKTIK Premium Protection System

LUNATIK TAKTIK for iPhone takes protection to a whole new level. TAKTIK Series offers three new progressively rugged cases from high impact to water & wind resistance to ultimate screen protection, which includes an extra layer of Gorilla® Glass.

Transform your iPhone through bold design, precision engineering, innovative features and the best performance materials. Always use TAKTIK protection.



iPhone 4  
8GB 16GB 32GB

iPhone 4S  
16GB 32GB 64GB

iPhone 5  
16GB 32GB 64GB

LUNATIK®

LUNATIK.COM

+simplism®



### Fabric Cover Set

Easy Snap-on  
8 unique designer fabrics

for  
iPhone5

Dress up your phone.



### Flip Note Style

Stylish Case with 2 Card Slots  
Open the flip to let the phone stand



### Floating Pattern Cover Set

Scratch-free Pattern Design feature  
Easy Snap-on



### Vertical Flip Style

Inner Card Slot available  
Open the flip to stand



### Silicone Case Set

Anti-bacterial  
Strap hole available



### Crystal Cover Set

Anti-scratch/bacterial  
Raised frame for display protection

www.simplism.jp





## 03 INDOOR POWER

### RECHARGE A DEVICE USING WALL OUTLETS

In previous years, recommending indoor charging solutions for iPhones and iPods was easy: the ideal choice was a well-built, nice-looking, and reasonably priced dock or wall adapter with a 30-Pin Dock Connector on one end and wall prongs on the other. Better yet, there were many competing options priced at \$25, climbing in features and price from there. Unfortunately, the shift from 30-Pin to Lightning connectors has reduced the number of options significantly, so the choices on the following page are almost all USB-based: the developer supplies the wall prongs, you supply the cable that fits your iPhone or iPod - either the one that came in your device's box, or one purchased separately for \$19 from Apple.

While most of the solutions on the next page are inexpensive and simple, we included one standout solution from XtremeMac that was originally shown in early 2012 and only recently released, featuring either three or five Dock Connectors in a row. Designed for homes, schools, or offices with multiple iPods, iPhones, or iPads to charge at once, this sort of space-saving solution makes a lot of sense to us, and we're actively hoping to see it - and competing options with different orientations - become available in same-priced Lightning versions next year.



**Most of the wall adapters here require either \$19 Apple Lightning cables or 30-Pin versions.**



### Apple 12W USB Power Adapter

Just released, Apple's latest iPad charger is backwards-compatible with iPhones and iPods, charging any of these devices at its maximum possible speed. Folding wall blades are paired with a USB port; no USB cable is included. This Adapter sells for the same price as Apple's smaller 5W USB Power Adapter, but does a lot more.

• \$19



### XtremeMac InCharge X3 + X5

Place three (\$100) or five (\$150) Dock Connector devices in a line for space-effective, full-speed recharging. Each includes a wall adapter and international blades.

• \$100



### Satechi USB Surge Protector

For half the price of Apple's solution, Satechi gives you a 1-Amp iPhone/iPod USB charging port and a 3-prong pass-through to let this adapter share a wall outlet with another plug.

• \$10



### dreamGear i.Sound Universal Power View

Released well before the iPhone 5, new iPods, and iPad mini, this dock dispensed with Dock Connectors in favor of a device-agnostic solution: fueled by an included wall adapter, two USB ports are on the dock's back, each with 2.1-Amp output capable of iPad, iPhone, or iPod regarding. You need to supply the USB cables yourself, and only one of your devices can be placed in the dock at once - generally on its side.

• \$45

### Macally Power Outlet & Dual USB Charger + Phone Cradle

With two fold-out cradles capable of holding iPhones or iPods, two USB ports that supply up to 2.1 Amps of total power, and three pass-through power outlets, this large adapter is designed to be mounted atop an existing wall plate, replacing two existing wall outlets with five different connectors. A neat, affordable option.

• \$30







## 04 BATTERIES

### DEVICE-AGNOSTIC OPTIONS WITH USB PORTS

Despite the increasing popularity of battery cases - batteries inside plastic, device-specific housings - developers haven't been able to get Lightning connectors to build them, leaving new iPhone and iPod users with only option: standalone battery packs with USB ports. These batteries are reliable and increasingly stylish, though not as convenient as battery cases, and you'll have to supply your own Lightning cable to use them. Many of these batteries include Dock Connector cables, so you can recharge your older iPhone or iPod without any issues, and some have more than one USB port or iPad support as frills. MyCharge's Peak 6000 even has its own wall plugs built in, so you can easily connect it to any outlet for refueling.

Our prior Buyers' Guides have covered many top battery cases for older iPhones and iPods, and more recent options have been fully reviewed on the iLounge web site; we include several notable iPhone 4/4S options from this year within section 9 (Cases) of this Accessory Guide. For the time being, the battery packs shown here are more likely to be compatible with whatever devices you buy in the future.



**Choose a USB battery that will fit your pocket or bag; smaller batteries charge fewer times.**



### Just Mobile Gum (2012) + Gum Plus 2.1A

Now sold in matching aluminum 2,200mAh and 5,200mAh versions - each with a carrying case, self-charging cable, and Dock Connector adapter for older devices - Gum (\$50) and Gum Plus 2.1A (\$80) look great and provide enough juice to refuel an iPhone either once or twice. The 2.1A version works with iPads, too.

**-\$50+**

### Luxa2 P1 Battery

Encased in plastic and equipped with two 1-Amp USB ports, P1 can charge up to two iPhones or iPods at once from a 7000mAh cell - enough for nearly four complete iPhone refuels.

It's bundled with a carrying bag, a Micro USB cable for recharging, and a Dock Connector cable; you'll need to supply a Lightning to USB Cable of your own.



**-\$99**



### Cooler Master/Choiix Power Fort 5600mAh

Now sold in seven colors, this version of Power Fort has enough juice to recharge an iPhone roughly three times, or half-charge an iPad. But you'll need to supply the Apple cable.

**-\$70**



### PowerBag Instant Messenger

Device agnostic thanks to a USB port on its interior 6000mAh battery - enough power to recharge an iPhone three or so times - this nylon cross-shoulder bag has enough space inside for any 17" or smaller laptop, any iPad, and any iPhone or iPod, plus extra room for books or other items. It doesn't look or feel fancy, but it's certainly well made, and includes built-in Dock Connector, mini-USB, and micro-USB connectors.

**-\$180**



### MyCharge Peak 6000

With a Dock Connector built in for older iPods, iPhones, and iPads, the attractively designed Peak 6000 also has a USB port for use with the iPhone 5 and new iPods, plus a micro-USB plug, and a solid 6000mAh battery.

**-\$100**





## 05 BLUETOOTH SPEAKERS

### AFFORDABLE WIRELESS AUDIO SYSTEMS

Bluetooth wireless streaming was once restricted to iOS devices and older iPods attached to special dongles, but that's changed: the new iPod nano has a Bluetooth 4.0 chip inside, just like the latest iPod touch, iPhones and iPads. Bluetooth is now so widespread that there are plenty of speaker options, and streaming requires little more than two button taps on a device's screen.

Even today, Bluetooth speakers are smarter purchases than alternatives built with Apple's competing AirPlay standard: they're more responsive when pairing or changing tracks, without discernible differences in audio quality, and come in a much wider variety of shapes and prices. A few can be had for as little as \$50, and they're rarely sold for over \$300. Some Bluetooth speakers double as speakerphones when used with iPhones, and many run on rechargeable batteries.

Some Bluetooth speakers have docks for older iPods, iPhones, and iPads, and others do not, saving money and space. This year's Guide focuses primarily on the speakers without docks, but we have included a handful of recent docking models that really stood out this year based on design, features, or pricing. Whenever Lightning-equipped speakers become available, we'll cover them, though we suspect that some manufacturers will shift away from relying on Apple's connectors if the pricing or manufacturing terms are too onerous.



**Bluetooth speakers remain the safest choice for users, and offer more value than AirPlay.**



### iDevices iShower

Exploiting two of Bluetooth's greatest strengths, the waterproof iShower wirelessly streams audio from an iPod, iPhone, or iPad, allowing you to control track playback and volume without getting your device wet. Powered by three AA batteries for up to 15 hours, it's easily mounted and removed from a shower wall.

-\$100

### Soundfreaq Sound Rise SFQ-05

Continuing the boxy look of its older brothers, Sound Rise is the most affordable Bluetooth-equipped alarm clock speaker we've seen for Apple's devices. Equipped with a bright, two-alarm clock, it has a Dock Connector that can be covered with a rubber insert, if you want to self-supply a USB cable to connect to the back for charging. It's sonically powerful for wired or wireless use, with a very nice, small footprint.



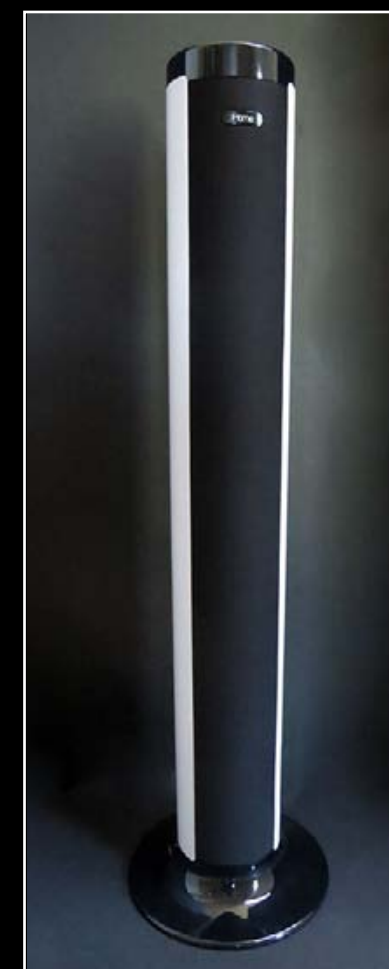
-\$100



### Edifier Spinnaker

Inspired by sails, this pair of wireless speakers looks like bull's horns, delivering atypically powerful and well-balanced sound with six total drivers. Best used in Bluetooth mode, it also has a wired audio-in port.

-\$350



### iHome iP76

A nearly museum-quality, conversation-starting audio tower, iP76 is the love child of a lava lamp and iOS audio system: a three-foot-tall speaker with solid or color-shifting mood lights on its sides. Sixteen LED clusters put on a show that can vary from relaxing to musical beat-driven, or turn off for pure audio enjoyment. Up top is a dock for older iPods and iPhones, but iP76's real appeal is its Bluetooth support, which enables it to be placed in the corner of a room and enjoyed from afar. An included remote control lets you change both the lighting scheme and audio at a distance.

-\$200



### Supertooth Disco 2

As the first Bluetooth 4.0 speaker marketed to Apple users, the rechargeable battery-powered Disco 2 offers nearly instant re-pairing, and strong monaural sound. Visually unique and tall, it's right-priced.

-\$100



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**Soundfreaq Sound Kick**

As one of the best \$100 speakers we've ever tested, Sound Kick has an expanding rear bass chamber for great budget sound in a boxy, easily packed chassis. Strong wireless performance, a sharp design, a 6-hour battery, and a rear USB port are all assets.

• \$100

**Braven 625s**

A rival in size, shape, and price to Jawbone's \$200 Jambox, Braven 625s is ruggedized for outdoor use, and has a few novel features: a USB port to recharge your iPhone or iPod, a dry bag to keep everything safe in the rain, a mini flashlight, and a 16-hour battery for unusually long play times. Expect good sound and solid speakerphone support - it's one of many Jambox-beating options in this Guide.

• \$180

**Philips Shoqbox SB7300**

Featuring voice-prompted wireless pairing, a super-simple power and volume dial, and the ability to be used either on its side or standing up like a tower, this handsome little speaker also boasts strong sound quality and speakerphone support. Somewhat gimmicky but interesting is its Smart Sensor feature - a glossy bar on the front that optionally lets you affect playback with hand gestures. An eight-hour battery is inside.

• \$200

**JBL Flip**

Smaller than the Shoqbox and half the price, Flip eclipses it in raw volume while matching it in sonic clarity; it's much better than Jawbone's Jambox. Like Shoqbox, it's designed with tower and wide orientation options, speakerphone support, simple volume and power controls, and a rechargeable battery, making a few compromises of debatable value. The battery inside's rated for only five hours of play, the all-plastic chassis is nice but not as fancy as Shoqbox's, and there aren't voice prompting or gesture control features. But given the lower price, the small size, and the overall sound quality, Flip is a fantastic wireless speaker pick: it just edges out Soundfreaq's big \$100 Sound Kick.

• \$99

**Westinghouse Unplug**

Sonically solid but not suited for portable use due to an easily tarnished soft touch rubber coating, Unplug is nevertheless a neat desktop piece thanks to a cool front speaker vent and useful speakerphone support.

• \$100

**Radtech WaveJamr**

As an inexpensive way to convert your past Dock Connector speakers to Bluetooth, WaveJamr connects to any 30-Pin plug, pairs with your iOS device, and lets you stream music with only a little static.

• \$40

**Harman/Kardon SoundSticks Wireless**

Originally developed in cooperation with Apple, Harman's MoMA-honored transparent 6" subwoofer and twin towers with eight 1" drivers have received a Bluetooth upgrade, enabling all iOS owners to wirelessly enjoy powerful, stereo-separated audio at home. A knob on the subwoofer's back lets you turn the bass up to ridiculous levels.

• \$229

**Yantouch Black Diamond 3**

Combining Yantouch's latest diamond-styled desktop lamp with a Bluetooth chip and small but respectable stereo speakers, Black Diamond 3 offers ambient LED lighting in your choice of single color, flowing color, or multi-colored modes - including multiple beat-matching modes. Powered by an included wall adapter or any USB power source, it's entrancingly beautiful.

• \$130

**Swissvoice BH01u ePure**

As the first speakerphone we've heard that actually shifts properly between two very different modes - a handset safe to hold up to your head for phone calls, and a very good-sounding desktop stereo speaker - BH01u is buoyed by very distinctive styling, a smart recharging base, and traditional phone comfort. It's quite cool.

• \$140





## 06 AIRPLAY SPEAKERS

### AIRPLAY + BLUETOOTH AUDIO SYSTEMS

Introduced in iOS 4.2, Apple's AirPlay is a Wi-Fi-based lossless audio streaming technology. Originally known as AirTunes, it was developed to allow computers running iTunes to wirelessly stream music to AirPort Express routers. But unlike AirTunes, Apple also licensed AirPlay to third-party speaker developers, requiring them to use specific chips, follow certification guidelines, and pay licensing fees.

After two years, AirPlay speakers haven't gained much traction. On a positive note, they're theoretically capable of playing pristine audio from iOS devices, Apple TVs, and iTunes-equipped computers - sometimes through multiple speakers at once. In practice, however, the audio quality isn't perceptibly better than on less expensive Bluetooth speakers, and AirPlay systems have been hard to set up, dependent on Wi-Fi, and unreliable for streaming audio without interruptions. Moreover, they consume more power than Bluetooth options.

While no AirPlay speaker has received our high recommendation, some of the more recent models have come closer to their predecessors, thanks to reduced audio drop-outs, easier set-up processes, and more reasonable prices. The several speakers featured here are in addition to picks found in our New iPad Buyers' Guide, and benefit from improvements Apple has made to the standard. Each has a rear USB port and can make a wired connection to Lightning devices.



**AirPlay speakers are worthwhile if you stream from iTunes or to multiple speakers.**

### iHome iW3

The most recent in iHome's family of AirPlay speakers is arguably its best: iW3 combines iW1's famous battery charging base with iW2's more appropriate price, wrapping everything up in a stylishly minimalist

tower. Easy to control thanks to clearly labeled, top-mounted buttons, iW3 is also simple to set up, and can fit pretty much anywhere thanks to its 4.6" square footprint. Highly similar in sound signature and quality to the iW1, the tall iW3 doesn't have quite as much stereo separation, but still packs four speakers, and can be used for hours before requiring a recharge.



**-\$200**

### XtremeMac Tango Air

Evoking Sony's original PlayStation 3 design, Tango Air similarly works in wide or tall orientations, the latter with a handle to help you carry it around, though it's not battery powered. Sonically balanced with just enough bass and treble to keep from sounding flat or weak in any way, it has enough power and clarity to fill a medium-sized room without distortion.



**-\$300**

### Libratone Zipp

Wool-wrapped and seriously cute, this battery-powered, tube-shaped speaker runs for four hours per charge, using a 4" bass driver and twin 1" tweeters to provide bassy sound; it can create its own Wi-Fi network. You get one colored wool cover with the \$399 speaker, or a set of three in a \$449 set.



**-\$399**

### Pioneer A1

Radically simplified from Pioneer's earlier Apple speakers, A1 is a 12.5" by 7" by 5" glossy black unit that could as easily have come from Bose, only more aggressively priced: think of it as a loudspeaker, optimized for medium- to high-volume performance with relatively warm sound. Unlike the other speakers here, A1 is bundled with an Infrared remote control, and like Zipp, it can operate in a "wireless direct" mode that creates its own Wi-Fi network; it's also somewhat rare in offering DLNA support for non-Apple devices. The rear USB port specifically supports both iOS and non-iOS iPods, so long as you supply the necessary cable.



**-\$299**





## 07 VEHICLE ACCESSORIES

### USE YOUR IPHONE/IPOD IN CARS OR ON BIKES

When you're looking for a way to use your iPhone or iPod on the road, the worst answer possible is "buy a new car," but there's no question that the integrated charging, line-in, and Bluetooth solutions found in recent vehicles are much better than ones from several years ago. These days, a new car needs little more than a USB cable and iPhone or iPod mount; current wireless speakerphone and music streaming solutions can eliminate the need for audio cables altogether.

While many of the year's best car accessories were featured in our New iPad Buyers' Guide, the following options are of particular interest to iPhone and iPod users. Most of these accessories work with the iPhone 5 and new iPods, but we've also included a recent release built for previous-generation iPhones and iPods, because it was such a standout all-in-one package for the price.

As with other types of accessories, don't expect Lightning-specific options to become available until 2013. You'll probably save money going with USB- and Bluetooth-based designs instead, as they're device-agnostic.



**Car accessories with stereo Bluetooth support allow you to hear audio turn-by-turn guidance.**



#### Just Mobile Highway + Highway Pro

Simple in functionality but beautifully designed, Highway and the \$40 Pro version offer either one or two USB ports for in-car charging; each includes one Dock Connector cable.

**\$35+**



#### Arkon SuperCharge

Affordable and nicely designed, this car mounting and charging solution works only with pre-2012 iPhone and iPod models, but includes a suction arm for mounting to a dashboard and works with thick cases.

**\$45**



#### Outdoor Technology Turtle Shell

Distinctively shaped and sold in seven colors, this is the rare Bluetooth speakerphone designed to attach to a bike - with an optional \$25 clamp - and with IPX-5 water resistance. Music sounds reasonably clear and loud, while an integrated microphone works respectably for phone calls; expect 9-10 hours of runtime per recharge.



**\$150**



#### SuperTooth Crystal Bluetooth Handsfree Kit

After creating last year's most advanced visor-mounted speakerphone, SuperTooth focused this year on evolving its budget model Buddy into Crystal - a Bluetooth 3.0 model with faster, multi-device pairing, improved power management capabilities, and the ability to broadcast turn-by-turn directions spoken by the iPhone 4S or 5. If your car doesn't have Bluetooth, seek this out.

**\$69**

#### Macally Suction Cup Mount For iPhone/iPod

Aggressively priced with surprisingly thoughtful adjustability, this car mount can accommodate any iPhone or screened iPod, inside or outside a case. A pressure-based suction cup attaches to your dashboard, and thanks to two pivot points and a rotating ball joint, it's easy to achieve the screen viewing angle you prefer.

**\$25**





## 08 HEADPHONES

### WITH OR WITHOUT APPLE REMOTES + MICS

As we noted in our New iPad Buyers' Guide, this has been a slow year for major new headphone releases - an accessory category that used to be thriving and exciting became highly iterative and familiar, focused on cheap throwaway models and me-too copies of the Beats By Dre line. Thankfully, some developers have continued to improve on their earlier headphone and earphone designs, eking out fewer but better products than in years past.

The big step forward for Apple this year was the introduction of the unfortunately-named EarPods, which genuinely sound better and will fit snugly in more ears than ever before. They come packed-in with the iPhone 5, new iPod touch, and new iPod nano, but are sold separately for other models. Other developers have focused on tweaking wireless headphones, which we expect will become a bigger deal in 2013, as well as improving the looks, feels, and sound of earlier products.

Most earphones range from \$30 to \$300. We continue to recommend that users plan to invest \$100 or more, and focus on models with A or A- iLounge.com reviews.



See our New iPad Buyers' Guide for other picks, including B+W's P3 and House of Marley's Zion.

### What Do These Graphics Mean? →

Headphones are built with one to eight miniature speakers per ear; most contain only one, two, or three. When properly tuned, extra speakers - also called "drivers" - divide the work normally handled by one speaker. This adds complexity and cost, but lets speakers work together to reproduce given portions of the sound spectrum more accurately.

Most headphones inadvertently or deliberately over-emphasize some parts of the spectrum. Virtually all headphones can perform the midrange - where most musical instruments and voices sit - represented by the central line, though some distort the midrange to focus on highs and lows instead. The highs are also called treble (think cymbals) and lows are called bass (think low thumping beats). Top headphones cleanly perform all detail across the high/mid/low spectrum, as indicated with white circles. Four-, six-, and eight-driver designs generally use two-speaker pairs for lows, mids, and/or highs, enabling extra detail or power for given areas of the spectrum.



#### Apple EarPods w/Remote+Mic

Apple's free packed-in Earphones were fully resculpted into EarPods, now funneling improved, bass-rich sound into your ear canals with sturdier and more sweat-resistant yet more comfortable housings. A great starter model.

• \$29



#### BBP Mobiband

Inexpensive, battery-powered Bluetooth wireless headphones aren't easy to find, but Mobiband is a good option, packing a microphone for calling, 10 hours of run time, and fold-down portability. Black or white versions are available.

• \$60



#### Scosche Realm RH656m/md

Embracing the Beats phenomenon, Scosche brought its A game to create the best-ever on-ear headphone: true comfort, engaging sound, attractive pricing, and an ideal mic and remote, with cool styling.

• \$130



#### Harman/Kardon AE

Part of a new family of metal and plastic Apple-inspired headphones, AE is a bassy, comfortable in-ear model packed with silicone and Comply foam tips, plus an integrated remote and mic. A good gift pick.

• \$150



#### NOCS NS600 Crush

Sporting minimalist lines and thin cables, NS600 Crush packs two speakers into each metal housing, delivering thumping bass and crisp treble. A remote and mic, zippered case, and many eartips are included.

• \$150



#### Audio-Technica ATH-ANC9

Though a little pricey, this top-shelf noise-cancelling model is definitely the best we've tested, and a Bose QuietComfort 15 killer at the same price. Comfortable, with great highs and deep lows.

• \$300



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## 09 IPHONE + IPOD TOYS

### A RACE CAR, ROBOT CAR + MECHANIZED BALL

While 2011 saw an explosion of new and amazing iOS-compatible remote-controlled toys - helicopters, gyrocopters, tanks, cars, and even a motorized sphere - most of the designs had issues ranging from pricing to bugginess, and developers quickly retooled them in anticipation of the next holiday season. As a result, 2012's iOS toys look a lot like their predecessors, and we haven't been terribly impressed by the results: Brookstone's second-generation Rover tank had wireless issues in our testing, Parrot released a ho-hum sequel to the original (and expensive) AR.Drone, and numerous me-too cars have come and gone. The most original toy we saw in 2011, the moving ball Sphero, went through a redesign and saw its price hiked before it finally began shipping in mass quantities this year. Does anyone really want to pay \$130 for a self-rolling plastic ball?

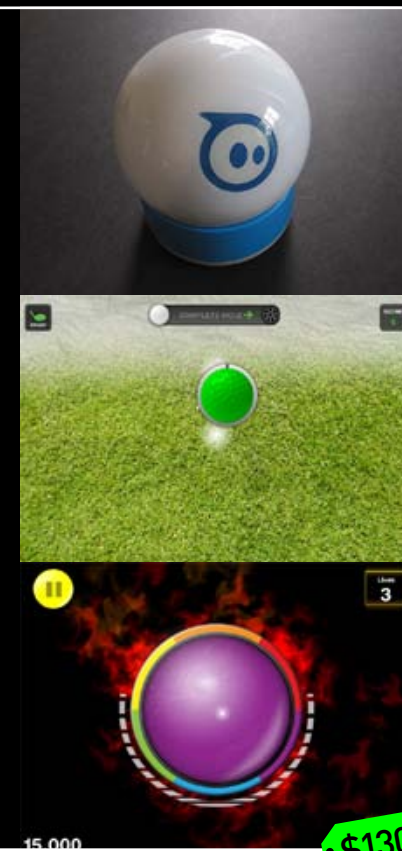
On the next page, we look at the two extremes of iOS-compatible toy cars - one super-cheap, the other expensive but impressively executed - as well as Sphero, which would be an ideal stocking stuffer if you can find it at a discount. Our hope is to see more Bluetooth wireless toys in the coming year, at even better prices.



**Bluetooth 4 will likely make upcoming iOS toys more affordable and less power-hungry.**

### Orbotix Sphero

Cool but overpriced, this novel little Bluetooth-controlled, battery-powered ball has lights, motors, and sensors inside, enabling it to roll itself around, glow, and be used for games - either on the ground or in your hand, where it can serve as a unique positionally sensitive controller for Sphero-specific games. A charging dock is included to refuel it after an hour of use. As of today, 13 free or inexpensive apps are Sphero-compatible, and if the price goes down, we'd expect more to follow.



\$130



### Desk Pets CarBot

Small and dependent on an included Infrared blaster for control, CarBot is the year's easy budget toy recommendation for kids with iPods and iPhones. Surprisingly zippy and capable of playing multi-CarBot games against friends, the car can turn, accelerate, reverse, boost, and "fire" Infrared shots at other cars. Once it's set up, it's fun to play with - and cheap.

\$30



### Silverlit Porsche 911 Carrera Interactive RC

Wisely built with a Bluetooth chip rather than requiring you to use an Infrared dongle, Wi-Fi network, or other inconvenient wireless control scheme, this 1:16-sized Porsche 911 allows you to enjoy racing a large scale model, along with hazard, bright, and turning lights, plus a horn that plays through the free iOS app. You have the choice between a steering wheel and dashboard combination that look quite like the interior of a real 911 - much like the model's exterior nicely resembles the prior model year vehicle - or twin thumbsticks for somewhat greater precision over acceleration and steering. Four AA batteries are included, and the need to dispose of them rather than recharge is the only big miss in an otherwise great ride.



\$80





## 10 CASES, STANDS + FILM

PROTECT, DECORATE + PROP UP YOUR DEVICE

The iPhone and iPod lines saw some major form factor changes this year, resulting in all-new (and plenty of familiar) case designs. Since Apple delayed their releases until the cusp of the holiday buying season, manufacturers are still working to churn out properly fitted cases. This is especially true with the iPod nano and iPod touch; very few cases have debuted for these devices so far. Many companies gambled on leaked iPhone 5 specs, and luckily, they were accurate.

Within the first few weeks of the new iPhone's launch, dozens and dozens of cases hit our offices. Most of the designs are protective and attractive, keeping the device safe without adding much bulk. Rubber and plastic have become the most common materials, but leather, metal, and wood sometimes come into play too. Neoprene continues to be the dominant material in armbands.

With the iPhone 4 and 4S still for sale and so many legacy devices still being used, we've opted to cover cases for all of the current iPhone lineup in the following pages. You'll also see stickers and films that cover iPhones while adding little to no bulk, as well as a handful of stands and cases with stands built in.



**Beyond protection, cases offer you a chance to personalize your neutrally-designed device.**

## 10A IPOD NANO + IPOD TOUCH

EARLY CASES, AN ARMBAND, AND SCREEN FILM

### Spigen SGP Steinheil Film for iPod nano 7G

Available in either clear or anti-fingerprint finishes, this film is cut to fit the new iPod nano's diminutive screen. It comes in pairs, and with the tools necessary for installation. Spigen SGP also offers films for the new iPod touch at the same \$14 price point, although it doesn't currently have a matte finish option available for that device.



\$14

### XtremeMac TuffWrap Tatu

Made from silicone rubber with elaborate two-tone rear designs, this competent soft case covers the entire iPod touch body save for the screen, rear camera, loop, and bottom holes.



\$25



### XtremeMac Sportwrap LED

Designed to work with both the fifth-gen iPod touch and the iPhone 5, Sportwrap LED is one of the more technologically advanced armbands we've reviewed. The elastic band and plastic frame are paired with a set of red and white LEDs - lights that can be set to flash or hold steady, making it safer to run or walk outside in the dark. Both devices fit well, and their screens are easier to access than with other armbands because they rest flat against the front protector. XtremeMac includes a Micro-USB cable for recharging the LED lights.

\$80

### Griffin Reveal

Also available for iPhone 5, Reveal combines protective rubber edges with a clear plastic back for a nice look. It offers protection for the volume and Sleep/Wake buttons while leaving the bottom edge exposed. Rubber lines the opening for the loop button, so you'll need to attach the wrist strap before the case.



\$20



## 10B CASES + STANDS, CONTINUED

### BRAND NEW IPHONE 5 OPTIONS



#### Speck CandyShell Flip

We hoped that Speck would quickly offer case options for the iPhone 5, and it succeeded: CandyShell Flip is the even better update to the earlier iPhone 4/4S Case of the Year. Upgraded with a thinner body, better protection on the bottom, and more hinge rubber, it now sports two- or three-tone designs. A plain CandyShell and CandyShell Grip are also available; all three versions of the rubber and plastic case come in a wide variety of colors.

• \$35

#### Griffin Survivor

It's bulky, but with Survivor on your iPhone, the device is going to withstand pretty much whatever you throw at it during a normal day. The case is built to military specifications for protection against drops, dust, and rain, but it's not meant to be dropped in a pool. Flip-open covers protect the iSight camera, side switch, and the ports on the bottom, with an integrated screen cover over the display. Our only real complaint is the bulky size, but that generally comes with the territory. A plastic clip is included so that you can carry it on your belt instead of in your pocket.

• \$50



#### SwitchEasy Colors

Although the style is a bit dated at this point, Colors is still a nice choice. As the name suggests, this rubber case comes in many different two-tone color options. It doesn't attract dust or lint as might be expected, and the "Jellybean" over the Home button feels good. As always with SwitchEasy, many pack-ins are included.

• \$20



#### STM Harbour

Similar to CandyShell Flip, this hard plastic and rubber case has a flip-open bottom for dock compatibility. It's one of the first iPhone cases from the established bag maker, and follows its sense of clean, modern style.

• \$35

#### SwitchEasy Tones

The spiritual successor to Eclipse, Tones has a lot to like: rubber top and bottom edges with a big rectangle of sturdy plastic in the middle, matching the iPhone 5's design. Precision cut holes provide port and camera access, while rubber covers the buttons. It's a great looking, slim, and affordable case, offered in many mature colors.



• \$25



#### OtterBox Defender Series Case

Defender is the first iPhone 5 case from OtterBox to earn our high recommendation, and is one of the device's best options. As OtterBox's flagship product, it looks better than ever, yet remains highly protective against bumps and drops, though it's not waterproof. A plastic frame inside is surrounded by form-fitting rubber. Together, the pieces protect all buttons and ports, yet unlike earlier Defenders, it feels great and isn't bulky.

• \$50



#### Incipio Faxion

Made from a mix of rubber and plastic, Faxion is similar to a number of other cases on the market, but the design is clearly Incipio's. The glossy back can attract fingerprints and scratches pretty easily, so you may want to consider the company's similarly styled [Ovrmlt] case, which is matte finished at the same price.

• \$35



#### Ballistic Every1 Series Case

A different take on super-protective cases such as Defender, this one is similar, but sleeker. Here, the plastic is the star rather than the rubber, and a kickstand on the back is unique.

• \$50



#### Gumdrop Cases Drop Tech Series Case

Another heavy-duty protector, this one brings a tire-tread pattern to the rubber and is a few bucks less than competitive options. It feels tall because the sides are slim.

• \$45



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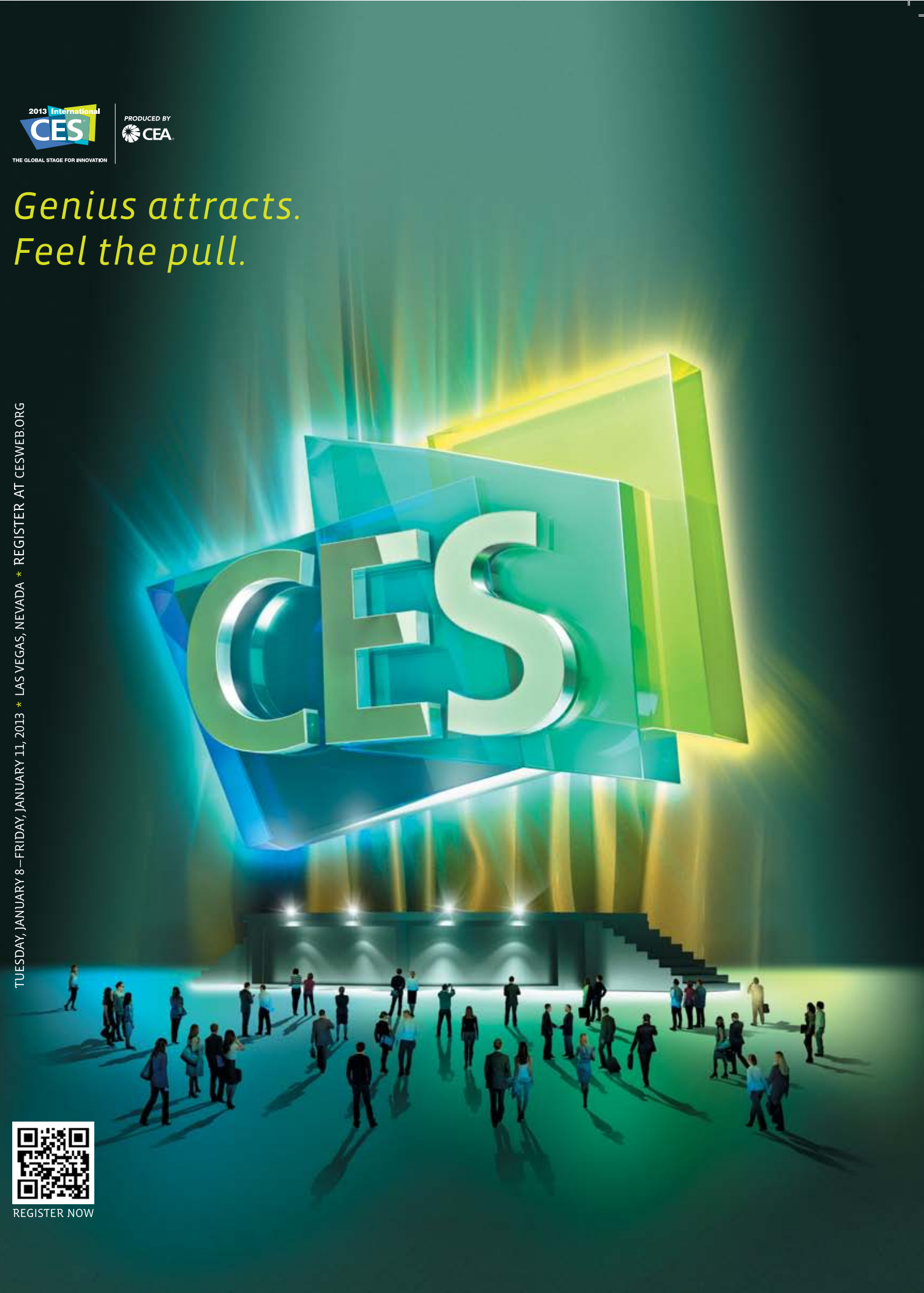
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### Uniq Creation Back to Basics

A simple white or black rubber frame with a clear plastic back, we like that this one shows off the iPhone's design. It's also quite slim, and lets you access the ports without issues.

• \$20



### Griffin KaZoo

If you're inclined to trust your child with an iPhone, this might be the case for you. Offered in monkey or elephant designs, KaZoo is made from such thick silicone that an accidental drop won't scare you.

• \$25



### Stanley Technician

A cool collaboration between tool company Stanley and case mainstay Incipio, Technician comes in the former's classic yellow and black color scheme, offers button protection, and is pretty sturdy thanks to a combination of rubber and plastic. It's even packaged with a belt clip so that you can wear it right next to your tool belt.

• \$40

### Hex Axis Wallet

The earliest wallet we saw from Hex was lacking a rear camera hole; thankfully, this one isn't. It's made of real leather and can hold three credit cards or IDs along with cash. An elastic band holds the lid closed or open, which can come in handy when you're actually making phone calls - no one wants a flap to dangle around mid-conversation.



• \$50



### Belkin Grip Candy Sheer

Grip Candy Sheer is an attention-grabber: it may look like other minimalist cases, but the soft touch back feels particularly nice. It covers the buttons and also forms a protective lip around the iPhone 5's face. Another nice feature: it easily slips in and out of a pocket. The case comes in five two-tone color combinations, each unmistakably Belkin in selection and style.

• \$25



### iLuv iCA7T325 Pulse

Pulse is a fun, almost retro design: the base is a rubber case, overlaid with a raised zigzag frame that's unlike anything we've seen before - akin to 1980's and early 1990's fashion. Pulse's frames are even removable and interchangeable, so you can swap with friends. If only iLuv's names weren't such confusing jumbles...

• \$30



### Belkin Ease-Fit Armband

iPhones have become essential workout companions for many athletes; this iPhone 5-ready armband is a really good, affordable choice. Made of a neoprene-like material with an adjustable Velcro strap, Ease-Fit has you insert your phone through a slit on the back and plug in headphones through a hole on the bottom. A premium version sells for \$10 more, adding a key pocket.

• \$20

### Ballistic Smooth Series Case

Smooth Series is a sequel to an iPhone 4/4S case, keeping the same look and design with a smooth body and swappable rubber corners. That extra padding is meant to help absorb shocks and prevent damage. It's much slimmer than many of the heavy-duty cases out there, although it doesn't include any sort of screen protection.



• \$30



### Odoyo Sharkskin

The hard rubber Sharkskin includes a cool raised wavy texture, colored button covers, and even screen film. Substantially protective, it feels quite nice in the hand, and comes in six different colors, plus black.

• \$28



### Speck PixelSkin HD

A nice, slim case that offers solid protection and comes in five attractive colors, PixelSkin HD has a raised matte box pattern on the back, breaking up a glossy surface and adding grip without any bulk.

• \$35



## 10C CASES + STANDS, CONTINUED

### TOP RECENT IPHONE 4/4S OPTIONS



#### SwitchEasy Eclipse

By far one of our favorite cases for the iPhone 4 and 4S, Eclipse is mostly plastic with a rubber J along the device's side and back. It's slim, protective, and very stylish - the predecessor to Tones for iPhone 5. Add to that the multiple vivid color options and the extensive pack-ins SwitchEasy provides, and it becomes hard to beat the value here. When it comes to simplicity, price, and good looks, there's really no competition.

• \$20

#### Case-Mate Phantom

Nearly every case company has at least one heavy-duty case, and Phantom is Case-Mate's. Your iPhone rests in the main body of the case and then a plastic frame fits over it, locking the device in place. Unlike some competitors, this one doesn't include integrated screen protection or a belt clip. It does cover pretty much all of the rest of the handset, though, including the buttons and ports. The case comes in blue or black, and both variations look quite nice - they're different enough to stand out. We particularly like the interesting lines that run around the perimeter.



• \$50



#### Griffin Protector

A simple and inexpensive case, Protector is a nice alternative to the bulky cases out there - made from a single piece of rubber and sold in seven bright colors. Not only does it protect the back and sides, but the case comes over the front bezel and all buttons. This is a smart choice for kids and budget-sensitive users.

• \$20



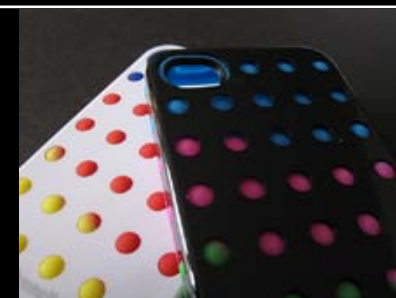
#### Incase Box Case

Most case manufacturers try to follow the shape of the iPhone, but Incase went with squared-off corners on this one. It's truly unique among iPhone cases, actually allowing the device to stand by itself on a flat table.

• \$30

#### XtremeMac Microshield Layers

The look is what makes Layers stand out: a plastic shell is perforated to allow bumps on the rubber skin to poke through. Instead of flat colors, XtremeMac chose dot candy-like rainbow shades that can be swapped between white and black outer layers. It's a bit expensive by iPhone case standards, but unusually fun for a protective accessory.



• \$40



#### Incipio OffGrid Pro

Incipio succeeded in creating the best battery case we've yet seen: the slim body houses a swappable 1600mAh battery pack, and a second 1600mAh cell is included in the package. The company also includes a separate charger and a micro-USB cable so you can fuel the second battery while using the first. Unlike most battery cases, you almost won't notice the extra bulk, and being able to swap batteries on the fly is a huge benefit.

• \$100



#### Spigen SGP Ava Karen

Not everyone likes wallet-style cases, but some people want one less thing to carry, and placing an iPhone in a wallet achieves that. Ava Karen borrows its styling from Louis Vuitton: the faux leather trifold wallet extends to offer credit card slots, and snaps shut, keeping your iPhone pretty well protected, but widening it.

• \$48



#### Cygnett WorkMate Pro

Plastic and rubber together isn't an unusual combination, but it's the price that makes WorkMate Pro stand out. The arrows sticking through the back are also pretty neat, and screen film is included.

• \$20



#### SwitchEasy Lux

Leather is a popular material in iPhone cases, but it's often expensive. Lux is made of real cowhide but it's affordable without looking cheap. Brown, black, and white versions of the nice frame are available.

• \$30





### CalypsoCrystal CalypsoPad

A simple leather base, CalypsoPad is a nice alternative for those who don't use cases but want to keep an iPhone 4 or 4S protected on a desk. The material feels great.

• \$39



### Case-Mate Pop!

Similar to CandyShell cases, but at \$5 less, Pop! is hard plastic down the center with rubber lining the inside and poking out at the edges. The soft material has a diamond-hashed texture, which provides extra grip.

• \$30



### iStabilizer Monopod

Monopod is a useful tool for iPhone photographers who don't want to carry around large, heavy tripods. Shaped like a long stick, it stretches from 15" to 40" to touch the ground, offering stability for precision shots. The adjustable holder can also be used with iPhones in cases, small digital cameras, and iPod touches.

• \$35

### Speck FabShell

With similar aesthetics to its Fitted series, Speck's FabShell is a soft touch rubber case with a huge number of fabric patterns stretched across the back, including special limited edition holiday models, and a genuine leather version that can be had for a premium price. It's a very nice case for people who like hip style and solid protection.



• \$35+



### Gomite Tiltpod Mobile

A neat little accessory to snap onto your keychain, Tiltpod Mobile consists of an egg-shaped disc and a clip that fits around the edge of your bare iPhone. The two connect to each other with embedded magnets, allowing for a modest number of angles. It's particularly well-suited for use with photography apps that have timers for self photos, or for shots that require stability.

• \$15

### uNu Ex-Era Modular Battery Case

Ex-Era interestingly allows you to slim down from a battery case to a shell when you don't need a charge.

An included flat backplate can be slipped into place if you're not using the 1700mAh battery, which has enough juice to get you almost a full charge. It's one of the best performing packs around, and its ability to drop weight and size is relatively rare.



• \$80



### ZeroChroma VarioProtect

The hands-down favorite case of at least one of our editors, VarioProtect uses the now familiar combination of rubber and plastic to offer comprehensive protection. The novelty is its amazing kickstand, which pops out and rotates all the way around, allowing for a huge number of viewing positions. As an added bonus, it can also slip between your fingers to give you a better hold on the device. Truly a thing of beauty, it's ideal for videos.

• \$40



### iBattz Mojo Armor

Mojo Armor is actually two separate battery cases sold as one: a heavy-duty unit and a more traditional design, bundled with two 1700mAh batteries. While it's not sexy, you're really getting a great deal for the price, all pack-ins considered. Each battery provides a 76% recharge, which is reasonable to keep a dry iPhone going.

• \$100



### Speck CandyShell Grip

We love the CandyShell line, and Grip lives up to the high standards set by the rest of the family. It's plastic and rubber, with the inner layer sticking through the back in ridges that help make it a lot easier to hold tightly.

• \$35

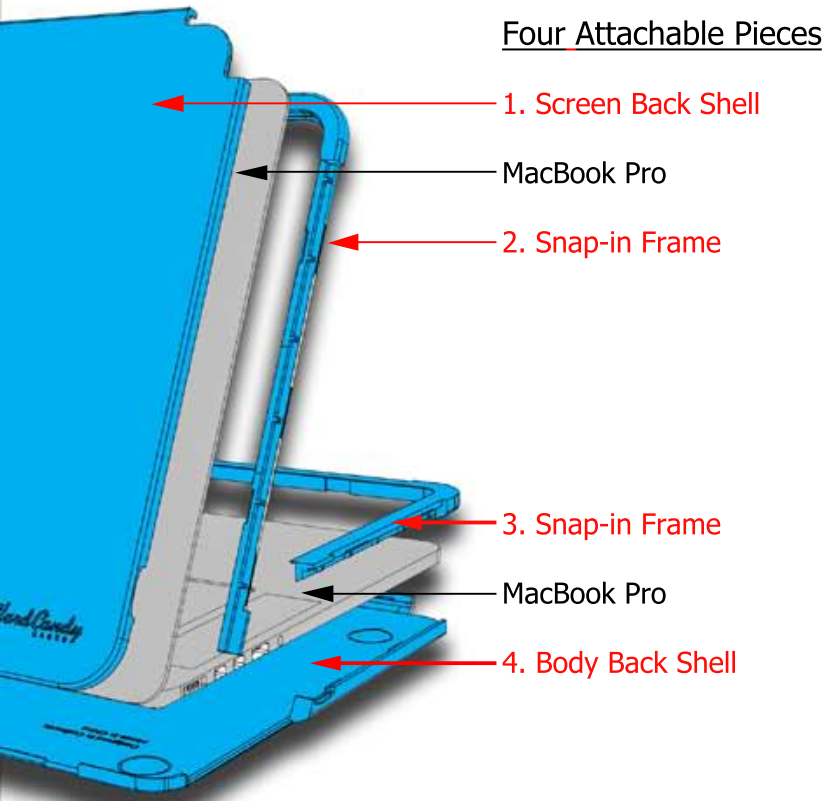


### SwitchEasy CapsuleRebelX

It looks funky, but it's still a good case. Slip your iPhone into the hardened rubber, snap the oddly organic-looking X onto the back, and you're good to go. It also has neat color combos.

• \$28





## Hard Shell Case for Apple 13" and 15" Pro Retina

### EASILY SNAP ON & SNAP OFF

Traditional Hard Shell cases use an aggressive tab or hook that grabs onto the sides. No need to work that hard, as the snap-in corners make it a 'snap' to put on and to take off.



# REAL GLASS

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ROUNDED EDGES



RESILIENT  
ANTI-CHIP

REFINED  
TAPERED CUTOUT



GLAS<sup>t</sup>R for iPhone 5  
PREMIUM GLASS SCREEN PROTECTOR





## 10D OTHER CASE CONSIDERATIONS

### EVALUATING CASES BEYOND OUR PICKS



#### Body Coverage

Almost every iPod/iPhone case covers the device's back, sides, and top. Try to find one that forms a raised lip around the screen and covers the buttons, yet doesn't interfere with control tactility.



#### What's Missing

Not many companies include extras these days, but frills can include screen films, stands, belt clips, and more. SwitchEasy is particularly generous when it comes to pack-ins.



#### Materials

The glass on iPhones and iPods is prone to shattering if dropped. Go for rubber/plastic combo cases; don't rely on wood, metal, or thin plastic shells to keep your device in one piece.



#### Fair Pricing

The average price of a good iPhone case is \$35. Try not to spend more than that unless you're looking for extra protection or specific features. Some very good cases can be had for \$20-\$25.

## 10E BODY STICKERS

### DECORATIVE PROTECTION



#### BodyGuardz Armor Carbon Fiber

This colored faux carbon fiber sticker set comes in either full back protection or "Style Cut" versions, the latter covering aluminum with fiber and the glass panels with clear film.

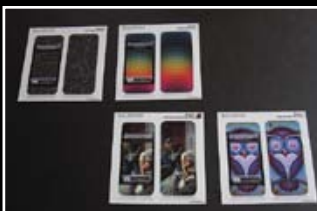
• \$20



#### DomeSkin Skin

With a neat soft cushioned sticker for the back and two more for the front, DomeSkin also sends a matching wallpaper for your iPhone via email when you order. Unique look and feel, but a limited array of designs.

• \$20



#### Gelaskins Gelaskins

Still offering the widest and coolest selection of graphics, Gelaskins protect the back of your iPhone 5 as well as the top and bottom of the bezel. You can upload and print your own pictures on stickers, too.

• \$15



#### id America Cushi

id America has updated its soft 3-D sticker with peaks and valleys to fit the new iPhone. Available in some neat designs, Cushi comes with screen film plus six matching Home Button covers.

• \$15

## 10F SCREEN FILM + BODY FILM

### FRONT OR FULL DEVICE PROTECTION



#### Artwizz ScratchStopper

The base version comes with three sheets per pack; the matte and clear versions come with two. You may have a hard time finding it in the U.S., but it's readily available in Asia and Europe. It only protects the iPhone's front.

• €10



#### BodyGuardz UltraTough Clear Skins

Applied using wet application gel, this set includes a pair of front and back protectors plus side stickers. The slippery gel is a little more forgiving during film installation, but can get messy.

• \$17+



#### Moshi iVisor

AG is matte, XT is clear. iVisor guarantees bubble-free installation because it only adheres to the top and bottom bezel, not the screen itself. In addition to looking good, it can be washed and reapplied - a rare reusable film.

• \$30



#### Spigen SGP Steinheil Series

SGP's film options range from crystal clear to matte, oleophobic, and microlensed. Each comes with two matched films except for a mixed set with clear screen film and a matte body sticker.

• \$14+



#### Spigen SGP GLAS.t/r

A sheet of glass may seem like a crazy way to cover the iPhone's display, but it works. GLAS.t/r is a newer version with tapered, rounded edges to prevent chipping. It even has oleophobic coating that's better than Apple's.

• \$28+



#### Simplism Films

As inexpensive name brand film, Simplism's lineup includes many finishes, such as novel bubble-less and self-healing versions. There's only one film per package, while many rivals include two at higher costs.

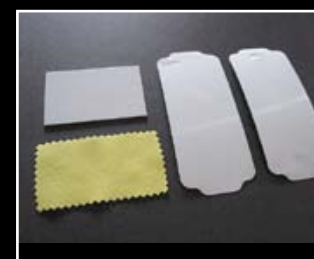
• \$8+



#### Trü Protection Screen Film

From the same company responsible for Power Support films, these very thin front protectors come in either HD Anti-Glare or HD Crystal, with a hat-shaped top opening for the earpiece, FaceTime camera, and sensor.

• \$15



#### Wrapsol Ultra Xtreme

Available as either screen film or a set with a back protector, this uses a dry application method and automatically releases air bubbles after installation. It also offers self-healing when scratched.

• \$15+





## 11 EVERYTHING ELSE

### NOVEL AND PARTICULARLY USEFUL ADD-ONS

Over the last two years, iPod and iPhone accessories have started to break out of their classic “speaker,” “video” and “power” categories into a number of different and frankly unexpected directions, many spawned by apps and new iOS features that weren’t imaginable five or ten years ago. This section of our Accessory Buyers’ Guide looks at a bunch of the most noteworthy options that don’t fit neatly into other sections, but are interesting and potentially worthwhile for some users.

On the following pages, you’ll see everything from iOS-assisted home automation and video sharing accessories to a radar detector, a home weather station, and add-ons to improve your camera and telephone calling experiences. We’ve also included a few other options that caught our attention this year, including an accessory that brings iOS-compatible AirPrint support to expensive printers people wouldn’t otherwise want to abandon, a little bag that can help you recover a drowned iPhone or iPod, and the first heart rate monitor to be built with a power-conserving Bluetooth 4 chip. Based on the number of novel new accessory genres we’ve seen in 2012, we fully expect to see an even wider array of choices in 2013, particularly items that - like these - don’t depend on Lightning connectors.



**Many of these items are sold for premiums over non-iOS versions; find discounts online.**



### New Potato Technologies **TuneLink Home**

Unusual but smart, this single accessory doubles as a universal remote control solution and a Bluetooth audio streaming receiver. It connects to your home A/V setup with included audio cables, letting your iPhone, iPod touch, or iPad play music through your stereo, as well as Infrared controlling your TV, DVR, and speakers.

• \$100



### Lantronix **xPrintServer Home Edition**

Need to add AirPrint abilities to a pricey older printer? This little white box connects to your router, enabling almost any wireless or USB printer to perform perfectly as an AirPrint device.

• \$100



### Cobra **iRadar iRAD 200**

Cosmetically redesigned, the new iRadar remains a competent standalone radar and laser detector; it uses Bluetooth to pair with an iPhone app, using GPS to help you avoid known speed traps and cameras.

• \$130



### Belkin **WeMo Switch / Switch + Motion**

Home automation solutions tend to be fairly complex and expensive, so Belkin’s WeMo Switch (\$50) and Switch + Motion (\$100) aim for simplicity: each Switch lets you control one wall power outlet using a free app, while Switch + Motion adds a motion sensor as an additional trigger. The app lets you control your devices while at home, outside, or based on timers, rules, and sensor triggers, each customizable to your preferences.

• \$50+

### iFixit **Thirsty Bag**

If you’ve ever accidentally soaked an iPhone or iPod, you probably know that there’s a chance of restoring its functionality - if you do the right things. Immediately after drying the device with a cloth, Thirsty Bag is a correct next step: it contains a dessicant that absorbs the moisture inside your device, giving it the best chance to work again.



• \$10





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iLounge: "A surprisingly thoughtful  
 and nice design"

1

2

- 1 | **Xtand Go™**  
 The flexible in-car gadget mount
- 2 | **Highway Pro™**  
 The twin-slot in-car charger



Highly Recommended  
 iLounge.com

**just|mobile®**



### Native Union Pop Desk

Traditional desktop telephones still hold a lot of appeal for some iPhone users, and Native Union specializes in selling nice handsets. Pop Desk combines the company's most classic wired handset with a metal iPhone dock; you just connect the dock to your iPhone's headphone port to make and take calls the old-fashioned way.

**\$50**

### Dexim ClickStik

Conceptually simple, ClickStik gives iPhone and iPod touch owners an easy way to snap self portraits, combining a 3.75"-tall portable tripod with a remote controlled shutter button on a wriststrap. The shutter button uses Bluetooth to connect with your iOS device, and uses an included Micro USB cable to recharge its built-in battery. Although there's a hitch - you can only use ClickStik with Dexim's free photo-snapping app, not Apple's integrated iOS Camera app - the remote does what it's supposed to do, and also supports the iPad; the tripod doesn't.



**\$50**



### Wahoo Blue HR

Leveraging Bluetooth 4, this waterproof heart rate monitor lasts for ages on a tiny coin-sized battery, sending data to the iPhone 4S/5, iPod touch 5G, iPad mini, and latest iPad.

**\$80**



### Netatmo Urban Weather Station

Far more impressive than we'd initially expected, this cool new iOS accessory consists of two metal tubes - one to be left outdoors, the other indoors - which connect to your home Wi-Fi network, measuring temperature, humidity, air quality, indoor CO<sub>2</sub> levels, barometric pressure, and noise levels. A gorgeous free app tracks everything, sharing data wherever you may be.

**\$179**



### Belkin @TVplus

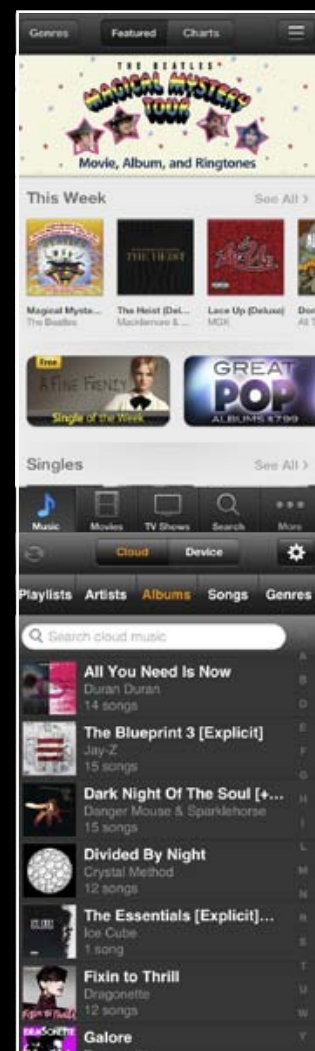
Want to watch your cable TV channels from anywhere? @TVplus lets you control any cable box using an Infrared blaster, then encodes the current station and shares the signal with your home network - and over cellular. The unit's \$180 with a free iPad app; an iPhone/iPod touch app's oddly \$13.

**\$193**



# 12 SHOP FOR CONTENT

## TIPS ON BUYING MUSIC, BOOKS, AND VIDEOS



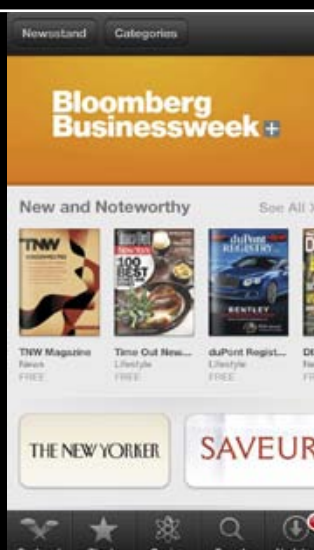
### MP3/AAC Music

Apple's iTunes app is the exclusive direct-to-iOS seller of music - the only way you can purchase songs directly from an iPhone or iPod touch and start listening immediately. Unfortunately, most iTunes songs now sell for \$1.29 a pop, even when they're offered for less at competing stores. Apple does offer extra value: once you've purchased a song from iTunes, you can redownload it from iTunes in the Cloud. But Amazon.com offers lower prices than Apple's for comparably high-quality music, and now has a Cloud Player app that provides streaming access to Amazon downloads and other content. Outside the U.S., users may have fewer legal digital music purchasing choices, with iTunes the only real alternative to pirating music.

Subscriptions are also an option in some places: services such as Slacker Radio, Spotify, Pandora, Rdio, and Rhapsody each provide unlimited streaming (and sometimes limited on-device storage) of tracks as long as you continue to pay around \$10 per month. They're easy ways to discover music.

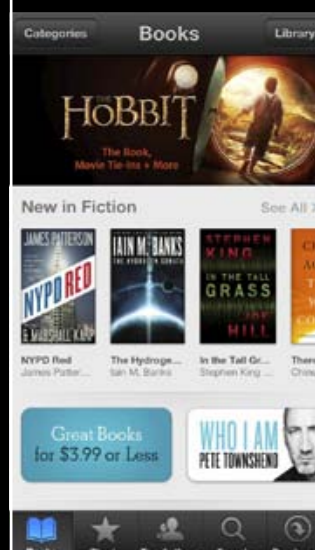
### Magazines + Newspapers

Although Amazon and some publications sell alternative access to popular magazines and newspapers, iTunes subscription-based app versions have become popular and excellent over the last year. Sold through the App Store or the "Store" link under the Newsstand folder on iOS devices, these publications vary between non-interactive replicas of print periodicals and highly interactive remakes of paper issues. Monthly and annual iTunes subscriptions are offered; some publications give app access away with their print copies.



### Digital Books

Apple's iBookstore competes with Amazon's Kindle and Barnes & Noble's Nook bookstores, now offering 1.5 million books, often priced from \$10 to \$15. The iBookstore's selection and prices are only decent, and purchases can't be read on PCs or Macs, but Apple offers a more convenient iOS buying system than the others; Amazon and B&N book purchases for iOS reading must be made on their web sites, not their iOS apps.



### MP4/H.264 Videos

As with music, Apple's iTunes Store is the exclusive direct-to-iOS seller of videos, including TV shows, movies, and music videos. Although the quality of these videos is high enough to make great use of the latest high-resolution iPhone, iPod, and iPad screens, they are expensive, with TV shows commonly selling for \$2-\$3 each, and movies for \$10-\$20. The sheer quantity of free or low-cost streaming alternatives is dramatically higher, depending on what you're looking for.

In the United States, many brand new TV shows are also available through Hulu Plus, an iOS app with a \$8 monthly all-you-can watch subscription fee. Hulu also offers a number of decent movies, but it's strongest for U.S. network TV. Apple recently added Hulu Plus support to the Apple TV, and Hulu continues to stream to Macs and PCs, so a subscription will let you watch network (and some cable) TV on all of your favorite devices.

Competitor Netflix offers a \$8 monthly subscription with unlimited iOS streaming access to a huge collection of decent movies and season-old TV programming, with heavy children's content and documentaries offering the greatest appeal. Netflix's service also works on the Apple TV, and has proved to be a major draw on that device - along with a Hulu subscription, Netflix can enable you to stop paying for cable television service.

While Amazon and other companies sell some of the same TV shows and movies as Apple does, the compatibility of the video files varies, and the price differences are rarely as sharp as with music sold through iTunes. As of this year, Amazon began to offer its Netflix-like Instant Video streaming service for the iPad, and though it remains to be seen whether the service will come to the iPhone and iPod touch, many videos are free with an Amazon Prime membership - another avenue to enjoy streaming content.



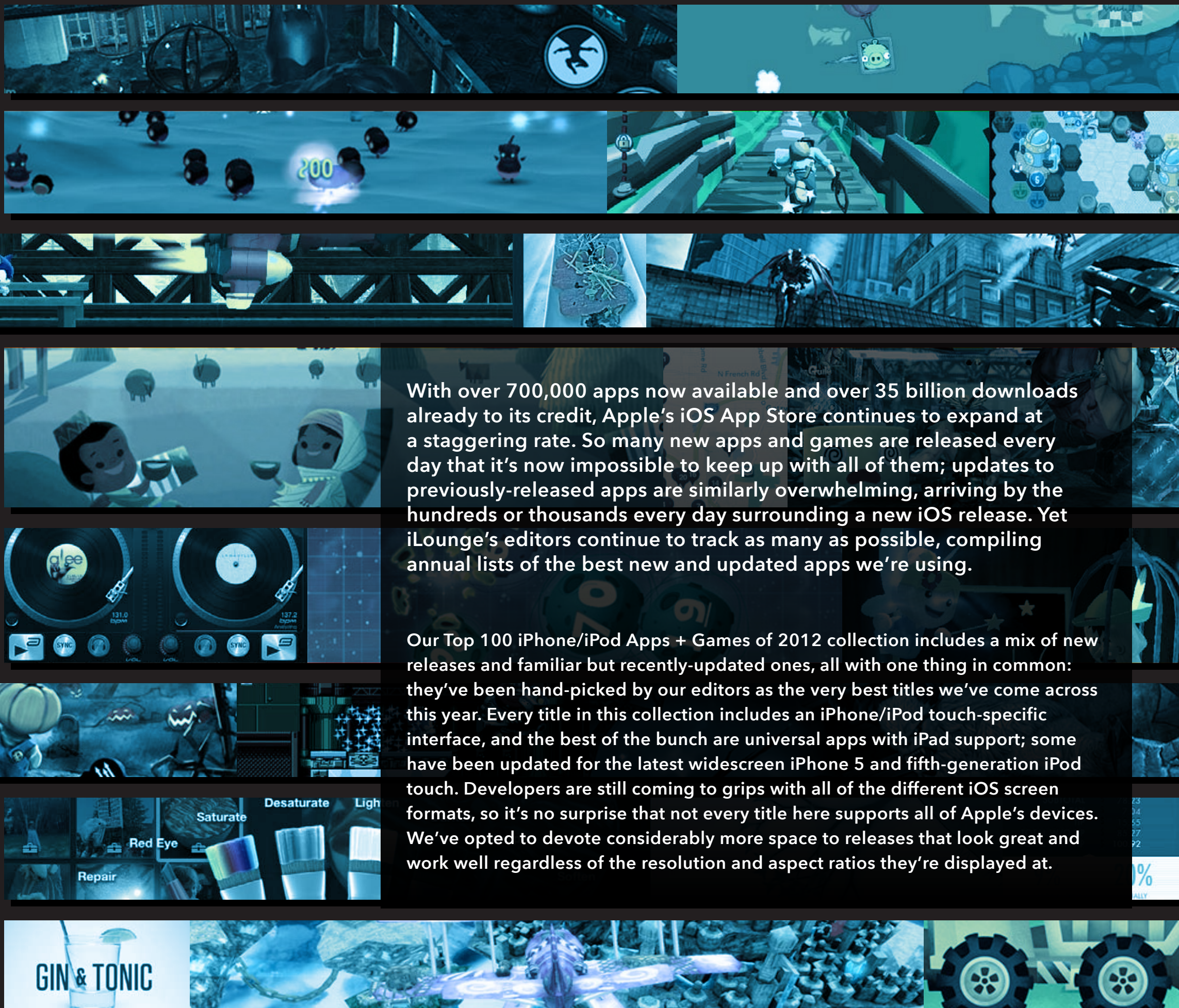
### Apps + Games

Once again, Apple is the sole official direct-to-iOS provider of applications and games for these devices; the company has frozen its rivals out by denying warranty coverage to jailbreakers. For this reason, we do not recommend jailbreaking.

The App Store now boasts over 700,000 apps and games, most of which are formatted for the iPhone and iPod touch. Aggressively priced software starts at free and averages \$1.70 per download, with "premium" games going for \$8 a piece - low prices that strongly disincentivize piracy and encourage impulse purchasing. Developers have been increasingly using In-App Purchases of items and "freemium" pay-to-play models to try and earn more money from their customers, iffy practices that turn off as many people as they appeal to, but aren't going away anytime soon.



# TOP 100 IPHONE + IPOD APPS + GAMES OF 2012



With over 700,000 apps now available and over 35 billion downloads already to its credit, Apple's iOS App Store continues to expand at a staggering rate. So many new apps and games are released every day that it's now impossible to keep up with all of them; updates to previously-released apps are similarly overwhelming, arriving by the hundreds or thousands every day surrounding a new iOS release. Yet iLounge's editors continue to track as many as possible, compiling annual lists of the best new and updated apps we're using.

Our Top 100 iPhone/iPod Apps + Games of 2012 collection includes a mix of new releases and familiar but recently-updated ones, all with one thing in common: they've been hand-picked by our editors as the very best titles we've come across this year. Every title in this collection includes an iPhone/iPod touch-specific interface, and the best of the bunch are universal apps with iPad support; some have been updated for the latest widescreen iPhone 5 and fifth-generation iPod touch. Developers are still coming to grips with all of the different iOS screen formats, so it's no surprise that not every title here supports all of Apple's devices. We've opted to devote considerably more space to releases that look great and work well regardless of the resolution and aspect ratios they're displayed at.



TOP 100 APPS + GAMES OF 2012:  
ACTION GAMES

2013 BUYERS' GUIDE



While properly mimicking real game controllers seemed impossible a year ago, some developers have succeeded in creating console-style iOS games. Sega's **Sonic the Hedgehog 4 Episode II** (\$7, above) is a particularly impressive example, using virtual controls and seriously cool 3-D artwork for this modern remake of the classic 2-D Genesis/Mega Drive games. By comparison, Sega's **Sonic CD** (\$5, top right) is a port of the more obscure first Sonic game to appear on an optical disc, with less impressive graphics but phenomenal music and unique time-traveling gameplay. Fans of retro platformers will also enjoy BeaverTap Games' **Mikey Shorts** (\$1, center right), which sees a character rescuing petrified friends across 24 levels, and Activision's **Pitfall!** (\$1, below right), a radically redrawn, semi 3-D take on the classic Atari 2600 game, featuring endless running, jumping, ducking, and whipping.



TOP 100 APPS + GAMES OF 2012:  
ACTION GAMES

2013 BUYERS' GUIDE



Some of this year's best iPhone/iPod action games were deliberately off-kilter. Dejobaan's **AaaaaAaaaaAAAaAAAAA!!!** (\$1, top) is effectively a futuristic base jumping game, challenging you to dodge objects and spray paint buildings as you fall from the sky. Monsters Inc.'s **Kotomon** (\$4, center) is a weird but charmingly Japanese walk/explore/shoot game, putting you in control of a character who gathers allies to use against armies of projectile-armed bad guys.



Also noteworthy are **Rayman Jungle Run** (\$1, above right), an inexpensive distillation of Ubisoft's classic platform game into a simpler one-button concept - you hit the button to jump, fly, and punch only as needed, and the game handles running. Mobigame's **Zombie Tsunami** (free, center right) was formerly known as Zombie Carnival, and is another automatic running game, paralleling Kotomon in amassing an army to help you stay alive. Last but not least, Microsoft's **Kinectimals** (\$3, lower right) is a surprisingly impressive port of the Xbox "play with jungle cats" game, replacing Kinect motion controls with gestures. The 3-D graphics and animation are superb.





## TOP 100 APPS + GAMES OF 2012: ADVENTURE GAMES

2013 BUYERS' GUIDE



Twenty years ago, games based on movies and comic books were all but guaranteed to be mediocre. That's changed. Gameloft's **The Dark Knight Rises** (\$1, above) and Warner Bros' **Batman Arkham City Lockdown** (\$6, inset above) are both Batman action games, but Gameloft's movie-inspired take is a full-fledged adventure akin to the console and computer titles, and Warner's game - developed by the Mortal Kombat team and taken from the comics - has deeper fighting. **The Amazing Spider-Man** (\$7, left) is another Gameloft release, ably recreating the look and feel of the recent movie, adding rapid web-swinging through the city and serious climbing elements to fighting and damsel-saving missions. EA's **LEGO Harry Potter: Years 5-7** (\$5, bottom left) is the second title in the comically pint-sized Potter game franchise, closely following the events of the final three books with puzzle-focused levels, multiple selectable characters, and movie-quality music. Even better on the iPad than on the iPod and iPhone, it - like the other titles here - is thankfully iOS universal.

2013 BUYERS' GUIDE



Capturing even half of The Legend of Zelda's magic is a huge challenge for developers not named Nintendo, so the fact that Phosphor Games' **Horn** (\$7, top) even comes close - on iOS devices - thrilled us this year. Inspired by Zelda, Infinity Blade, and Metroid Prime, the fantasy adventure lets gamers explore a ruined medieval world and fight creative enemies while solving the mystery of how everything fell apart. Also built with the Unreal Engine, Gameloft's sometimes eye-popping **Wild Blood** (\$7, upper right), adds a few things Horn's missing - a virtual joystick for precise movement, a more diverse mix of slashing and bow-firing, and dramatic boss encounters - but feels unevenly balanced and a little too guided by adventure game standards. Rockstar's **Grand Theft Auto III** (\$5, middle right) is noteworthy for successfully porting the entire 2001 open-world "sandbox" computer and console game, including music, while Gameloft's **Gangstar Rio: City of Saints** (\$7, lower right) effectively cloned it, using Brazilian themes and later jetpack and zombie missions to freshen the experience. While GTAI is deeper, better written, and better voice acted, Gangstar has newness and novelties on its side.





## TOP 100 APPS + GAMES OF 2012: FIGHTING GAMES

2013 BUYERS' GUIDE



One-on-one fighters made huge improvements in 2012: Marvel's **Avengers Initiative** (\$7, above) is hugely inspired by Epic's **Infinity Blade II** (\$3, mid right), both merging simple but beautiful brawling with mild exploration of 3-D areas. Namco's classic **SoulCalibur** (\$15, bottom right), Capcom's **Street Fighter x Tekken** (\$3, bottom left) and **Marvel vs. Capcom 2** (\$5, bottom center) are all successful ports of console titles to iOS, now with the 3-D art and respectable controls gamers expect.



2013 BUYERS' GUIDE

## TOP 100 APPS + GAMES OF 2012: SIMULATION GAMES

While driving and flying games made only iterative improvements in gameplay this year, their graphics really jumped. Gameloft's **Asphalt 7: Heat** (\$1, top right) set new standards for arcade-style driving, and Sega's intense **Crazy Taxi** (\$5, mid right) looks and sounds virtually identical to its manic Dreamcast predecessor. EA's police-evading **Need For Speed Most Wanted** (\$7) offers outstandingly detailed 3-D tracks and cars, and Chillingo's **Air Mail** (\$3, center) is the most beautiful iOS flying game yet, with steampunk art, fine controls, and plenty of missions.



As is generally the case on game consoles, sports games didn't see any huge breakthroughs this year, but previously addressed genres became better. EA Sports' **FIFA Soccer 13** (\$7) feels all but indistinguishable from a console title, with ultra-smooth animation, Retina-quality art, and a new control scheme akin to using twin analog sticks. 2K Sports' **NBA 2K13** (\$8) similarly looks and feels nearly console-quality, featuring all the NBA's current teams and players, plus historic matchups, solid play-by-play, great animation, and impressive camera work. Only closeups could use some polish.





TOP 100 APPS + GAMES OF 2012:  
PINBALL + WORD GAMES

2013 BUYERS' GUIDE



Pinball and word games are the App Store's "old reliables;" they've been solid for years, and they keep improving at least a little every generation. FarSight Studios' **Pinball Arcade** (\$1, above) and Gameprom's **Pinball HD Collection** (free, left) are textbook examples, each starting out with seriously impressive 3-D pinball tables and then adding new ones through in-app purchases. FarSight's machines are all based on classic pinball tables, painstakingly recreated, while Gameprom's are all original and at least equally impressive; recent AC/DC and Da Vinci machines are cool. Word games took a step up with Warner's release of **Scribblenauts Remix** (\$1, below left), which lets you type words to make objects appear, comically solving puzzles, while Zynga's **Scramble with Friends** (\$3, below center) and Ayopa's **W.E.L.D.E.R.** (\$3, below right) reward you for making words from letters, the former online with friends from Facebook or Twitter, and the latter solo or competitively via Game Center.



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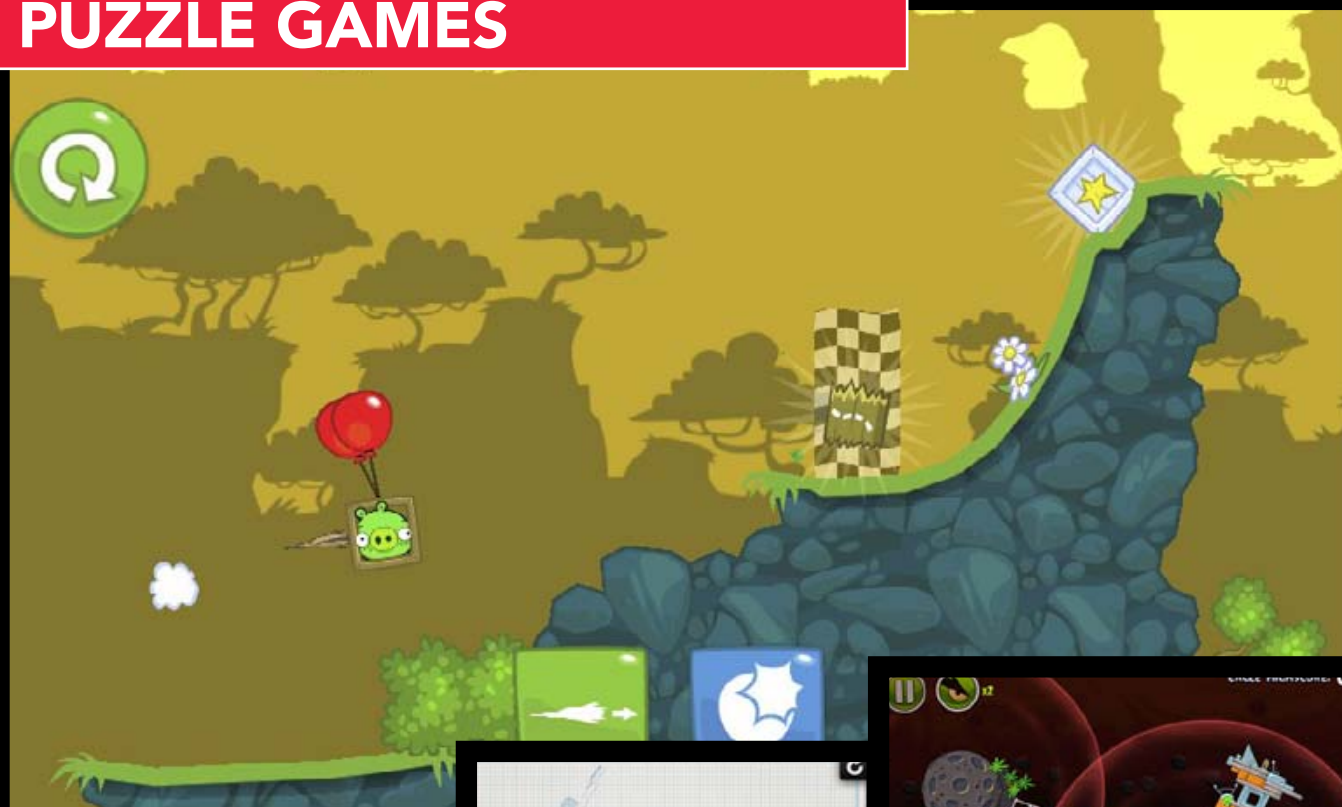
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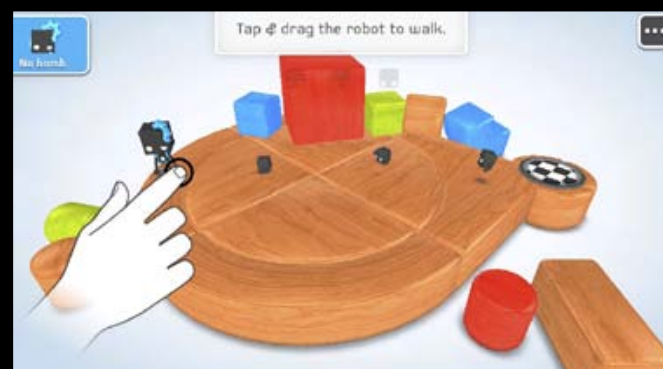
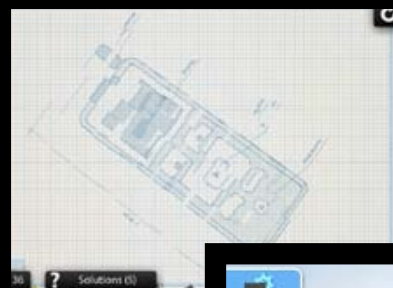


## TOP 100 APPS + GAMES OF 2012: PUZZLE GAMES

2013 BUYERS' GUIDE



After Angry Birds dominated the puzzle game charts for years, developer Rovio finally released something original and great: **Bad Piggies** (\$1, above) challenges you to build vehicles to help pigs traverse 72 levels, earning stars for creating better vehicles and properly using them. Of course, there's also **Angry Birds Space** (\$1, top right) for those who want a proper sequel, this time with better graphics and orbital gravity challenges. FDG's **Blueprint 3D** (\$1, inset above) offers over 300 fragmented object puzzles that you twist and turn, finding the one viewing angle that reassembles all the pieces. **Blast-A-Way** (\$2, right center) uses Illusion Labs' pixel-sharp, realistically textured 3-D graphics engine for an abstract "blow things up and gather things" puzzler, rewarding you for tapping to walk and using items to reach each level's exit with boxes in tow. And Omni Systems' **Euforia HD** (\$5, lower right) is an abstract space strategy-puzzler with CPU opponents, challenging you to take over asteroids, then seed them to grow plants and spacecraft to conquer more territory.



## TOP 100 APPS + GAMES OF 2012: PUZZLE + STRATEGY GAMES

2013 BUYERS' GUIDE



Familiar yet new, HeroCraft's **Cuboid** (\$3, top left) has you move a large stone block over precarious mazes to an exit. Niffler's **Chuck's Challenge** (free, center left) revives the smart Atari Lynx puzzler Chip's Challenge with new puzzles and art. And PopCap's new **Bejeweled** (\$1, center right) is based on the third PC/Mac game, with lightning, diamond mine, butterflies, and zen modes.



Overstating the speed with which **Draw Something** (\$3, above) rose up and fell down the App Store charts would be hard: developed and released by OMGPop, this asynchronous "guess what I'm sketching" title was acquired by Zynga near the height of its insane popularity, only to fade away - perhaps only temporarily - as players tired of spending hours composing fleeting images to share with friends and strangers. Yet the game (and its free version) remain worth checking out, given how many people still know how to play it.

Turn-based hexagonal territory-conquering strategy games had a pretty good year in 2012, led by two titles: **Great Big War Game** (\$3, below left) is Rubicon's expanded, device-universal sequel to last year's Nintendo Advance Wars-inspired Great Little War Game, complete with comical military 3-D graphics, sound effects, and solo/online campaigns. One Man Left's **Outwitters** (free, below right) is a cartoony 2-D title, solely for asynchronous multiplayer play.





## TOP 100 APPS + GAMES OF 2012: SHOOTING GAMES

2013 BUYERS' GUIDE

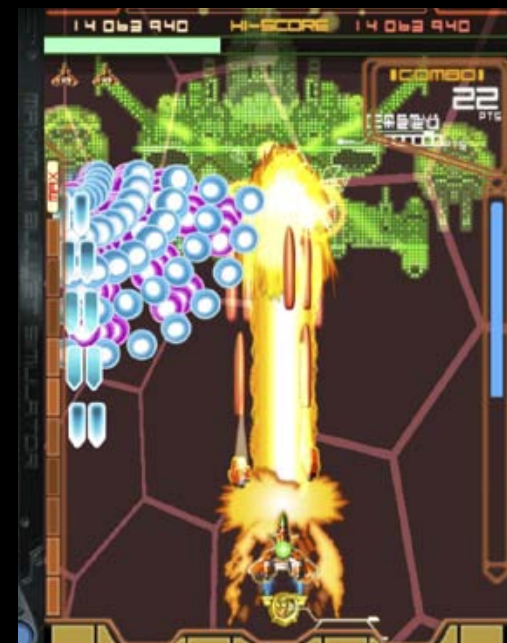


Cave's **Bug Princess** (\$5, left), SNK Playmore's **Metal Slug 3** (\$7, center), and Capcom's **Mega Man X** (\$5, right) were amongst the past year's best ports of classic shooters, benefitting from much-improved virtual controls and smoother, console-quality frame rates.



Apple's devices have become surprisingly excellent for both ports and original titles - both at prices much lower than on other handhelds. Infinite Dreams' **Shoot the Zombirds** (\$1, above) offers a much darker but also better-rendered spin on last year's Shoot the Birds, letting you swipe to pump arrows into creepy undead targets. **DariusBurst SP** (\$11, center) is an uncompromising update to Taito's Sony PlayStation Portable side-scrolling shooter, featuring fully 3-D techno-aquatic artwork, an atypically powerful but moody soundtrack, and fairly intense action. It's a full console-quality game, at a (slightly) lower price. And straddling the port/original divide is Sega's **Zaxxon Escape** (\$1, below), which updates the classic isometric shooting and dodging arcade game with 3-D tunnel-style levels, challenging you to turn your device - much easier with iPhones or iPods than iPads - to rotate around obstacles and collect points.

2013 BUYERS' GUIDE



## TOP 100 APPS + GAMES OF 2012: SHOOTING GAMES



We were also impressed by a variety of other shooters this year, notably including Gameloft's first-person **N.O.V.A. 3** (\$7, above right), which debuted a brand new graphics engine and look inspired by the Crysis series, plus cinematics that could have come straight out of the TV show Battlestar Galactica - welcome evolutions beyond its earlier and heavily Halo-derived predecessors. The earlier gameplay is preserved intact, remaining solid; only frame rate hiccups on older devices are a major issue. Uppercut Games' **Epoch** (\$1, top left) brings a similarly gritty, futuristic look to a simpler rock-paper-scissors style shooting game, allowing you to control a robot in a series of dodge-shoot-roll-jump 3-D battles, set in post-apocalyptic environments seemingly inspired by the movie Terminator: Salvation. Previously known as Left2Die, Everplay Interactive's **Free 2 Die** (free, second from top) is a forced isometric-perspective zombie shooting game, letting you blow away undead attackers with two virtual joysticks across 60 levels. With dark backgrounds and glowing objects, **Luxor Evolved HD** (\$5, second from bottom) continues MumboJumbo's now long-running match-three shooter series with a glowing vector-themed visual retrofit, plus a thumping soundtrack. Unfortunately, a post-release update added annoying ads. Last but not least, Japanese shooter developer Cave's **DoDonPachi Maximum** (\$12, bottom) is one of the most expensive games we've seen this year, justifying its price with intense "bullet hell"-style shooting and dodging gameplay, plenty of powerful boss encounters, and a new soundtrack. It's priced and designed for hard-core shooter fans, worth grabbing when it goes on a significant sale.



## TOP 100 APPS + GAMES OF 2012: KIDS' APPS

2013 BUYERS' GUIDE

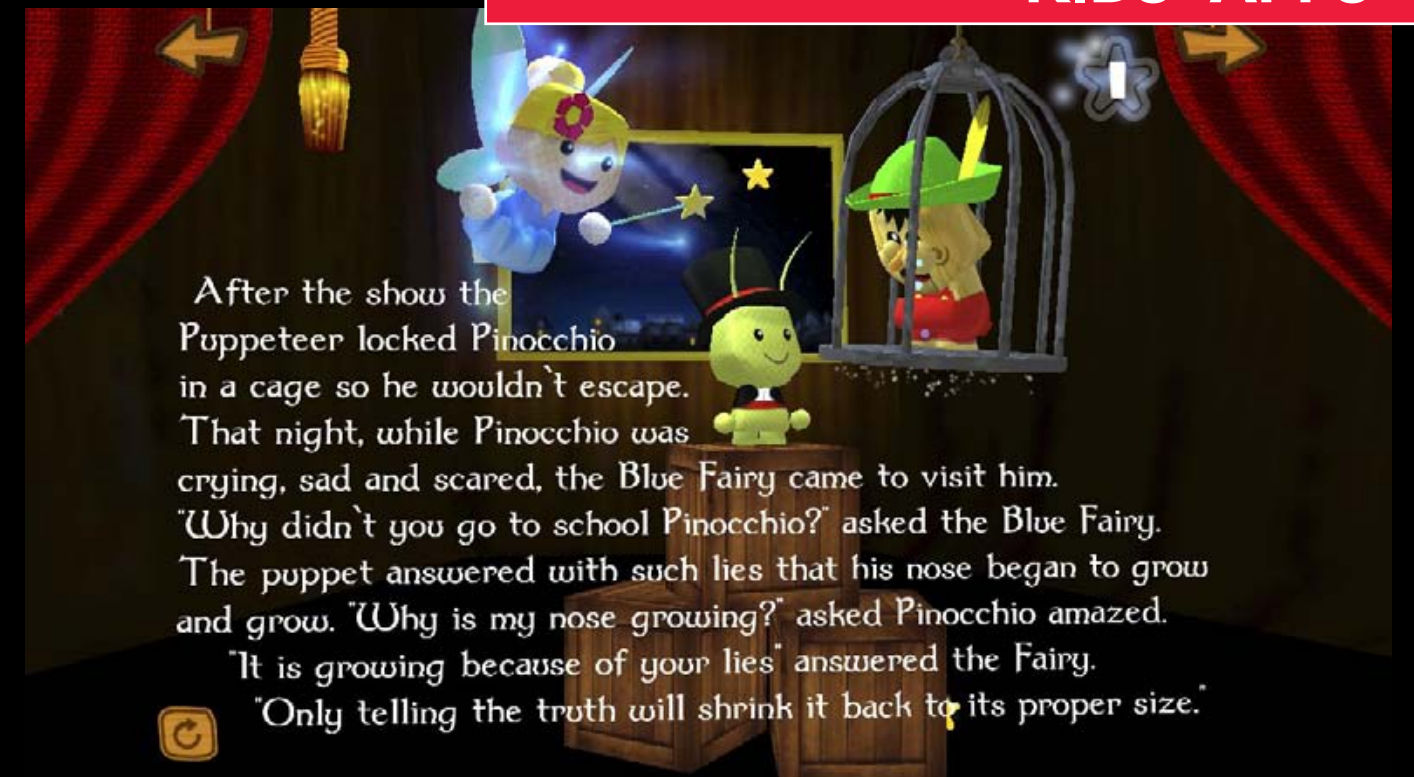


Encouraged by the increasing popularity of the iPad as an educational tool for children, major developers have made impressive efforts at bringing famous kids' franchises to the App Store. Disney's universal release of **It's A Small World** (\$4, above) is a beautifully illustrated, lightly interactive retelling of the beloved theme park ride, including matching audio and the original Small World song. **A Charlie Brown Christmas** (\$7, top right) is Loud Crow Interactive's universal app version of the classic Peanuts cartoon and book, complete with voice narration and animation for all of the on-screen characters; Great Pumpkin was just released for Halloween. Designed for young children, Sesame Street's **Another Monster At The End Of This Book** (\$5, center right) is a courage-themed page-flipping story featuring Elmo and Grover; Elmo pushes on through the story, while Grover tries to slow him down. Callaway's **Angelina Ballerina's New Ballet Teacher** (\$3, below right) is one of a number of animated storybooks from this developer, augmented with five music videos, puzzles, and coloring pages. And Gameloft's **The Adventures of Tin Tin** (\$5, below left) hints at the future of kids' interactive titles - a full-fledged 3-D game based on the movie, with impressive graphics.

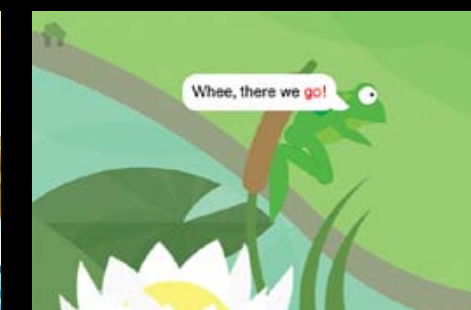


2013 BUYERS' GUIDE

## TOP 100 APPS + GAMES OF 2012: KIDS' APPS



Other childrens' app developers have had great success with entirely original or distinctive riffs on well-known themes. Mundomono/Kid Bunch created **Bean Bag Kids Present Pinocchio** (\$3, above), a retelling of the classic wooden boy story using bean bag characters and light interactivity, later adding new features such as a Pinocchio jumping game for kids. Originally known as Ideal Binary, StoryToys has released digital pop-up books including **Grimm's Hansel & Gretel** (\$5, top left) and **Farm 123** (\$2, center left), using the pages as significantly interactive and charmingly animated stages. Several titles are better for slightly older kids. For instance, Monster Costume's **Bartleby's Book of Buttons Vol. 2: The Button at the Bottom of the Sea** (\$3, below left) reads a story while challenging kids to figure out how to use buttons and levers to flip the pages. Nosy Crow's **Rounds: Franklin Frog** (\$5, below center) takes kids through the lifecycle of a frog, including reproduction and growth of tadpoles. And Touch Press's **X Is For X-Ray** (\$3, below right) lets kids explore an alphabet full of rotating 3-D objects, each shown in its original and x-rayed versions.





## TOP 100 APPS + GAMES OF 2012: KIDS' APPS

2013 BUYERS' GUIDE



Though interactive books for kids have continued to improve and grow in number over the last year, many childrens' apps are less about telling stories than providing fun educational experiences for kids. Leading iOS kids' app developer Duck Duck Moose has released many new titles this year - regrettably in separate iPhone/iPod and iPad versions, unlike most other developers - with **Trucks** (\$2, above) and **Draw and Tell** (\$2, top left) as a couple of standouts. Trucks lets children play with a dump truck, ice cream truck, fire truck, police car, and car wash, complete with the company's signature music, art, and animations, while Draw and Tell is a cute coloring and drawing app with fun pages to fill in and pre-drawn objects to add. Kids can also record audio to go along with their art. By comparison, Nickelodeon went even further with its slightly more expensive **Nick Jr. Draw & Play** (\$4, center left), which is also unfortunately sold in separate iPhone/iPod and iPad versions; this drawing and coloring app includes many Nick Jr. cartoon characters - Dora, Umizoomi, and Bubble Guppies among them - but includes more advanced tools and some really eye-catching animated items, letting kids bring pictures to life with fireworks, spinning tops, and other items. And Peapod Labs has continued its long-running ABC series with additional titles this year, building on its earlier release of ABC Wildlife with the release of **ABC ZooBorns** (\$3, below left). This app teaches children letters and words by using photos, voice-overs, and videos to identify animals, focusing on often cute younger animals rather than Wildlife's adults.

2013 BUYERS' GUIDE

## TOP 100 APPS + GAMES OF 2012: KIDS' APPS



Great developer Pi'lkea St. offers the charming **Memory Train** (\$2, far left) as a way to teach kids to pay attention to details and remember what they've seen. Mindshapes Limited's **Meteor Math** (free, center) teaches addition, subtraction, multiplication, and division by having kids tap two moving meteors to match a number at the top of the screen.



Built for young children and surprisingly addictive, Duck Duck Moose's **Puzzle Pop** (\$2, left) starts out simply by dividing lightly animated, cartoony

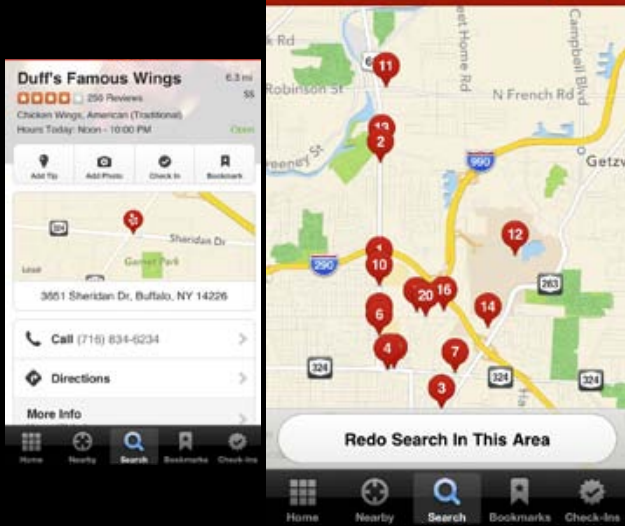
images into only three pieces, ramping up quickly with considerably more pieces to shuffle into their correct positions; these turn out to be great ways to ease kids into the challenge of assembling bigger and more complex puzzles. As is always the case with Duck Duck Moose's titles, upbeat renditions of classic kids songs play in the background, though it's worth noting that this title still hasn't been updated with Retina graphics for prior-generation iPhones and iPods, or widescreen support for the latest models.



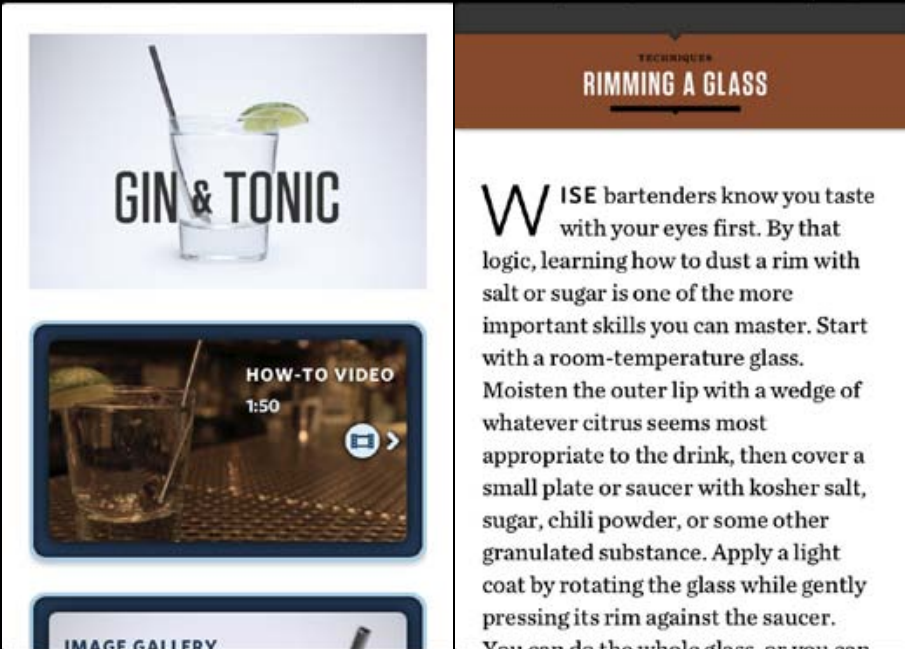
In addition to its ABC series, Peapod Labs has continued to create pre-K and kindergarten titles featuring a hamster lead character; **Buggy Kindergarten Math** (\$3, above) teaches counting, number drawing, comparisons, simple patterns, addition, and subtraction, with on-screen treats for Buggy as rewards for correct answers.



TOP 100 APPS + GAMES OF 2012:  
EATING + DRINKING APPS



Although we continue to use iPhone and iPod touch restaurant apps we've previously spotlighted, such as Urbanspoon and Opentable, we've become increasingly fond of **Yelp** (free, top) - and not just because its results are partially integrated into iOS 6 for instant searching by Siri. Leveraging user-submitted photography and reviews to help people determine which restaurants and items are worth trying, Yelp also has a substantial business database, a surprising number of local deals worth up to 50% off normal prices, and a still-cool Monocle feature that uses your iPhone's GPS and rear camera to overlay information about businesses on top of their actual locations as you walk around.



Two of the most noteworthy adult beverage apps we've tested over the last year are Open Air Publishing's **Speakeasy Cocktails: Learn from the Modern Mixologists** (\$10, above) and Early-Humans' **Today's Beer** (free, right). Built using the Inklings digital book platform and recently expanded with a full iPhone/iPod interface, Speakeasy Cocktails combines text, photos, and instructional videos within a very easily browsed book form, teaching users about classic pre-Prohibition Era cocktails and more recent alternatives. Today's Beer is much simpler but very cool in its own right, showing off one bottle of beer per day - complete with a rotating 360-degree view, if you care to see it - as well as an image of the beer in a glass, and basic information to help you locate samples nearby.



2013 BUYERS' GUIDE

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Is Google's **Chrome** (free, top and middle right) really needed by iPhone or iPod touch users? Well, if you use the desktop version of Chrome and want to sync tabs to your iOS device, prefer to use Incognito Mode for anonymous browsing, or just want to support Google for developing a more reliable mapping solution, Chrome is a nice alternative to Safari. Tapbots' **Tweetbot** (\$3, bottom center) similarly offers iOS users an alternative to Twitter's official and increasingly screwed up app - the gulf is wider on the iPad, with handy tools for customizing your default timeline views, seeing what's new, and searching without embedded ads. Then there's **Billr** (\$1, bottom left), which uses a very clean interface to help you divide up food and drink costs amongst multiple people, as well as calculating tips and sending results over SMS.



TOP 100 APPS + GAMES OF 2012:  
MISCELLANEOUS APPS



As impressed as we were with Algoriddim's iPad version of **djay**, the iPhone and iPod version (\$1, top right) is a sight to behold, letting users mix songs together as if they were carrying two turntables, and applying digital effects - it's more fun than using Apple's Music app. IK Multimedia's pro-focused **DJ Rig** (\$10, middle right) includes sampling and auto beat matching features.

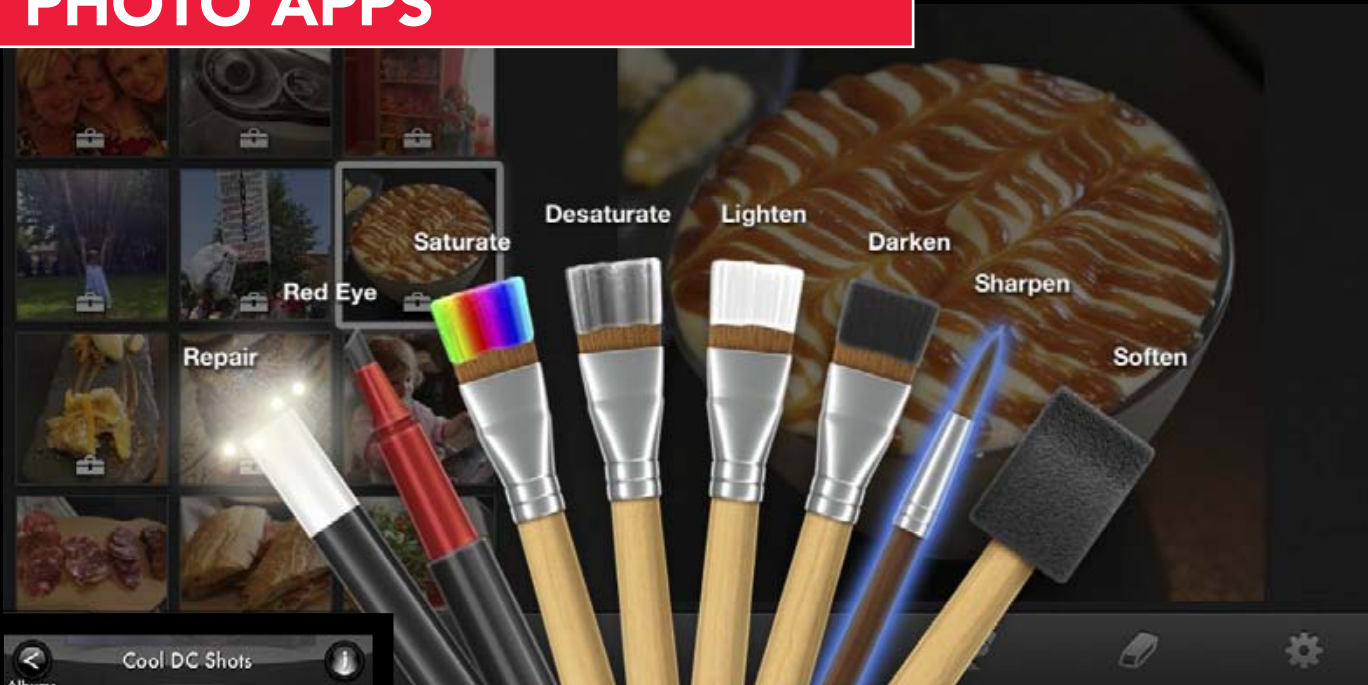
Another major splash for Google this year was **Google+** (free, bottom right), which received a complete overhaul for the iPod touch and iPhone in May, just ahead of an iPad-focused universal update in July. Though Google's social network still lags behind Facebook in popularity, unique features such as nine-person video chat Hangouts and a much cleaner interface than Facebook's are making it increasingly appealing.





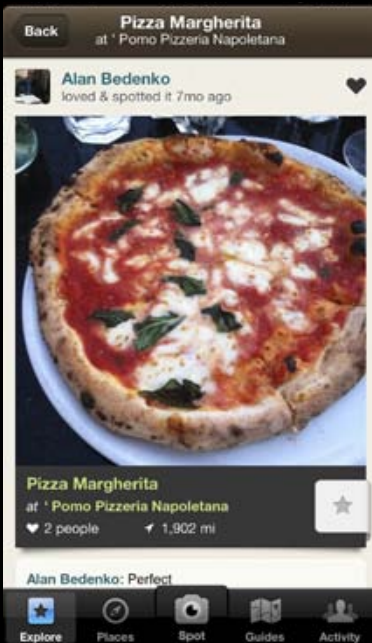
TOP 100 APPS + GAMES OF 2012:  
PHOTO APPS

2013 BUYERS' GUIDE

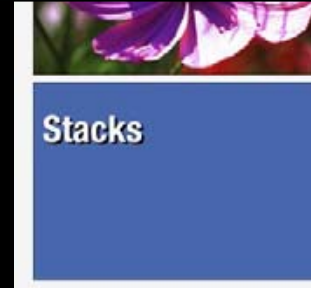


Thanks to Apple's truly awesome **iPhoto** (\$5, above), the days of one-trick pony photo applications seem to be numbered. Ambitious and forward-looking, iPhoto debuted for the third-generation iPad but amazingly included an iPhone 4S-ready interface that preserved virtually all of its functionality. Now compatible with the more color-accurate iPhone 5 and fifth-generation iPod touch screens, as well, it's a nearly must-have tool for optimizing, color-correcting, and retouching digital photos, capable of processing images shot with Apple's devices or imported to them from other cameras. Advanced sharing options even enable you to create web page galleries to share your photos online. No photo app we've tested is as capable or nicely designed, though there's an early learning curve to figure out how to use all of the features. By contrast, Omer Shoor's **Photogene<sup>2</sup> for iPhone** (\$1, top left) is more device-restricted, but includes even more retouching tools and picture frames than iPhoto, as well as the ability to add text bubbles, collages, reflections, and other effects Apple doesn't include - all at a price anyone can afford.

If you're a fan of sharing or browsing photos of food, the top app to check out is Foodspotting Inc.'s **Foodspotting** (free, bottom left), which provides an increasingly large database of restaurants, focused on individual dishes that have been identified by users as standouts; members are given stars and expertise badges for sharing images. And users who like to play with Japanese-style tilt-shift blurring will enjoy Figtree Studio's **MiniatureCam** (\$1, bottom right), which creates photos and videos with strikingly well-faked depth-of-field.



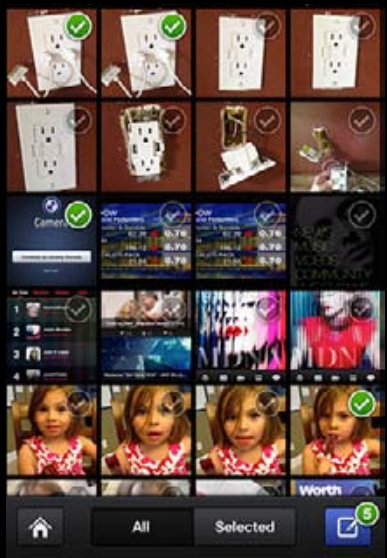
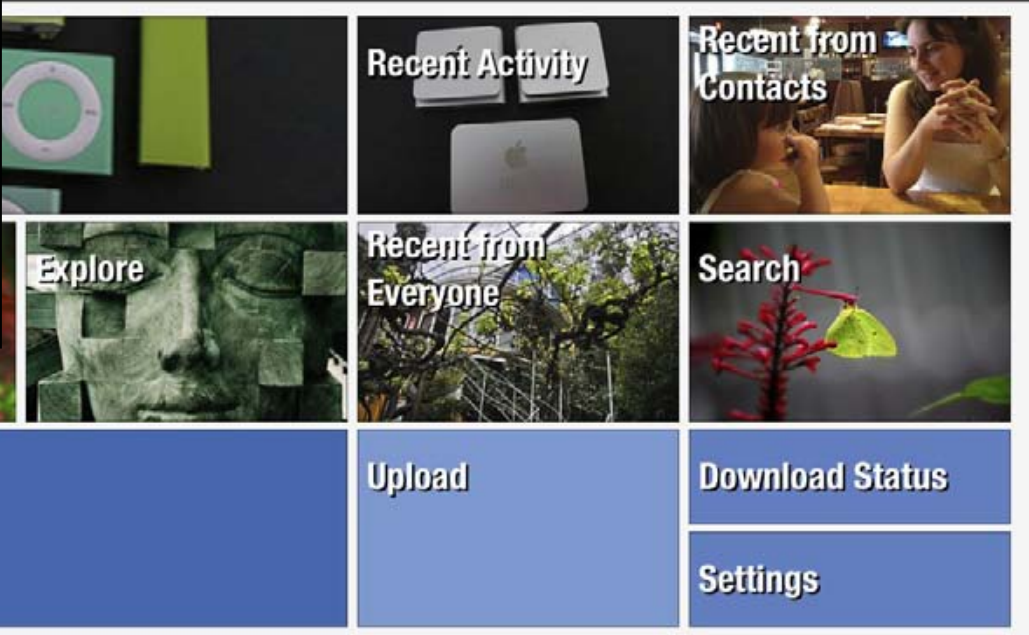
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Apple made iOS photo sharing a lot easier with this year's introduction of Shared Photo Streams, but cross-platform photo sites are going to remain popular for years to come. **FlickStackr for Flickr** (\$2, above) provides a clean interface for browsing and sharing photos on Yahoo's Flickr site, enabling you to easily search and see what friends have been posting. And uber-social network Facebook's own **Facebook Camera** (free, right) uses a great grid interface to let users select, tag, and upload batches of photos at once, alongside a specially photo-focused version of your Facebook feed for easy browsing of images shared by friends.

TOP 100 APPS + GAMES OF 2012:  
PHOTO APPS

There are still a handful of one-trick photo apps that remain worth checking out in the post-iPhoto era. As its name suggests, **Frametastic** (free, top left) by Imaginary Feet focuses on framing images, enabling you to create themed and framed collages, apply textures to framed photos, and use other effects; additionally, like Apple's free app Cards, it allows you to print your images on physical cards, here postcards that can be sent for 99 cents a piece. Then there's Macphun's **ColorStrokes** (\$1, center left), which was previously known as Color Splash Studio. ColorStrokes also has a postcard-mailing feature, but the thrust of this app is its ability to desaturate images and selectively recolor them - accurately or with deliberately enhanced colors - using your finger with both brushes and special effects.





TOP 100 APPS + GAMES OF 2012:  
READING APPS

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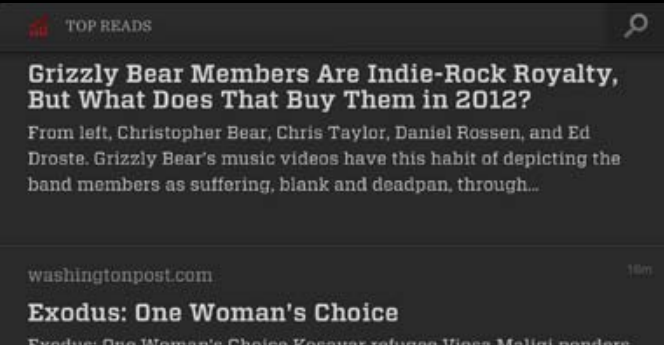
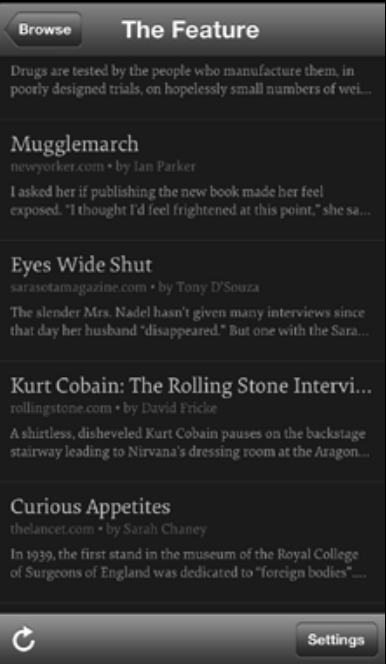
Lightning Dock announced for iPhone 5

by Phil Dzikiy, ilounge.com  
October 5th 2012

Apple apparently has no plans to release an iPhone 5 dock, third-party options are now underway, including the Lightning Dock, which will start at \$25. Created by an eponymous company that says that it has been "producing docks and mounts" for over 3 years, the Lightning Dock uses Apple's Lightning to USB Cable to hold up the phone — the dock is made of hardwood or aluminum, with a hole in the middle for the connector.

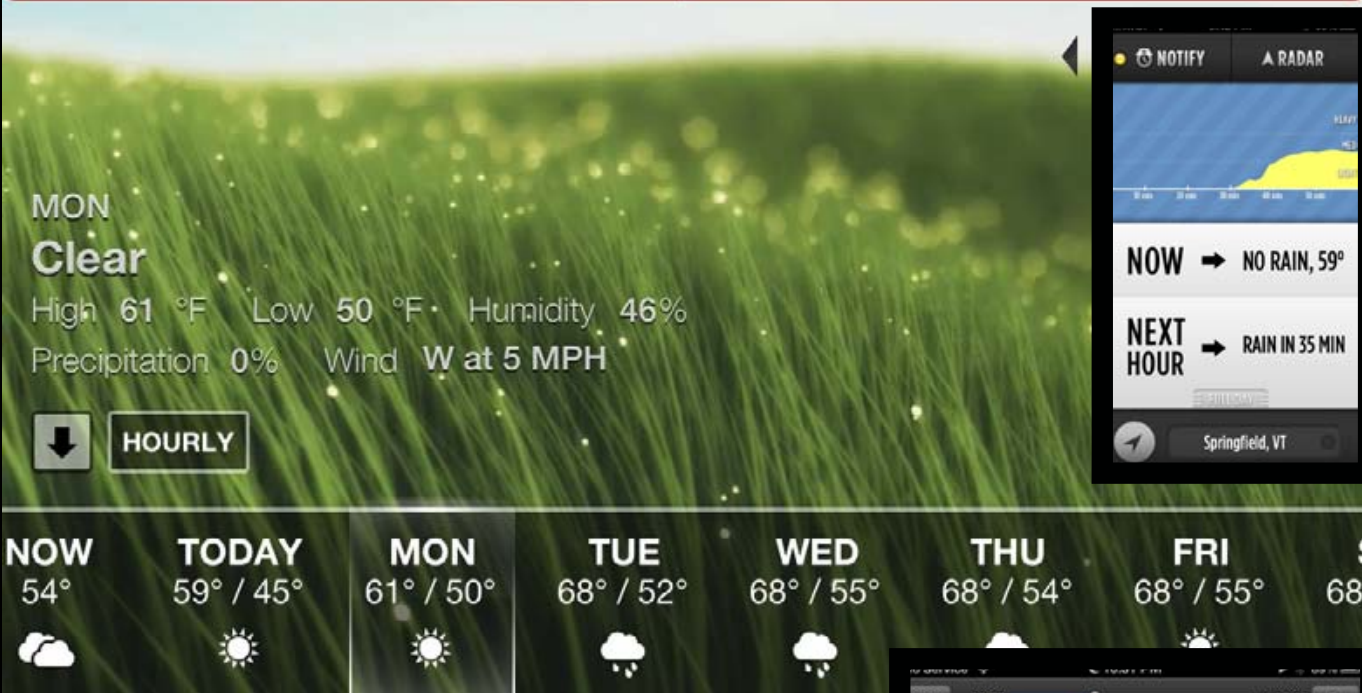


Apple's iPhone and iPod touch screen size choices have been compromises, balancing pocketability, readability, and battery drain; even if these iOS devices can render full-sized web pages, you mightn't be able to read them without pinching and zooming. Three of the top apps that make the web easier to read - anywhere, thanks to page-saving features - are Idea Shower's **Pocket** (free, above and left), Marco Arment's **Instapaper** (\$4, center left) and **Readability** (free, below) by Readability. All three create virtual folders containing web pages you've discovered and opted to revisit in the future, including support for saving pages within other developers' RSS and web browsing apps. Formerly known as Read It Later, Pocket has a particularly handsome interface, providing separate folders for web articles, videos, and images you've saved, plus intuitive color, font size, and typeface controls, while Instapaper is a thoughtfully developed alternative with similar options, buoyed by a curated collection of interesting articles; it's weighed down by its initial price tag, and an optional annual subscription plan for users who want to search their own Instapaper archives. Readability is similar to Instapaper but trades depth for simplicity and good looks, still including cool fonts, a Top Reads collection of popular articles, and an automatic small screen page optimizing feature, with a more appealing price tag.

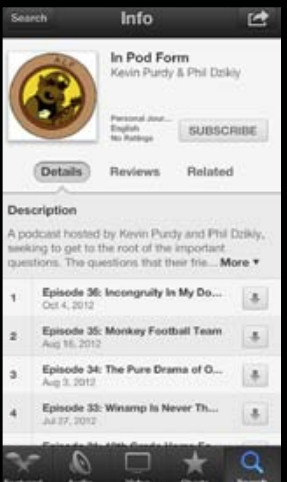
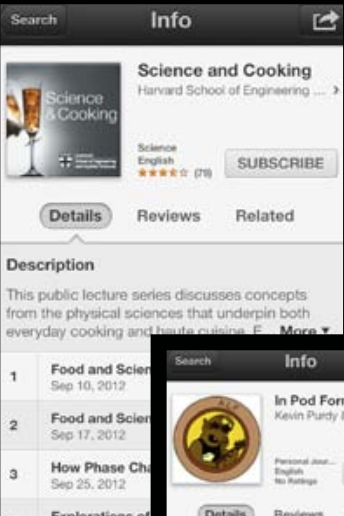


2013 BUYERS' GUIDE

TOP 100 APPS + GAMES OF 2012:  
REFERENCE + FREE A/V APPS



Some of the year's most noteworthy apps served to augment or replace features previously built into iOS. For instance, Vimov's **Weather HD 2** (\$2, above) is the type of stunning weather app Apple would never build into its own operating system, requiring nearly 300MB for a large collection of pre-rendered 3-D weather animations that are impressive enough to serve as screensavers. Multi-day and hourly forecasts are included, too. By comparison, The Dark Sky Company's **Dark Sky** (\$4, top right) isn't as flashy, but beyond its clean rain forecasting interface and colorful weather radar, it offers a unique feature: it will use push notifications to alert you to impending precipitation. Apple also offered several noteworthy apps of its own. **iTunes Festival** (free, right) provided live and on-demand video for 30 days of free concerts given by major recording artists. **iTunes U** (free, center right) and **Podcasts** (free, bottom right) are new standalone apps that let you acquire and organize free audio and video content from the iTunes Store's iTunes U and Podcast catalogs; you can subscribe to new episodes or courses directly from your iPhone or iPod, and consume them without opening the Music or Videos apps. Finally, after getting booted out of iOS 6, Google released a standalone **YouTube** app (free, bottom left), featuring a much-improved interface for viewing videos, adding support for some videos that were previously unwatchable in Apple's version of the app. (Next up: a dedicated Google Maps app, improving on the iOS web page at maps.google.com.)





# Best of the Year Awards

2012

BEST OF THE YEAR AWARDS

Judged from November 1 through October 31, our Best of the Year awards recognize the products and developers that most improved the way users enjoy their iPods, iPhones, and iPads. In addition to iLounge's editorial selections, based on hands-on testing of hundreds of new products, our Readers' Choice Awards tallied thousands of reader votes across four categories: the year's best Apple device, plus top third-party accessory, application, and game developers. Congratulations to all of the winners and runners up!

## iPod Case of the Year



### Griffin Reveal for iPod touch 5G

In the slowest year for iPod cases in memory, solidly executed products at reasonable prices stood out. Long-time casemaker Griffin was early to market with this universally attractive \$20 clear and opaque case. Familiar from past iPods and iPhones, it's now tailored perfectly to Apple's fifth-generation iPod touch.

#### Runners Up

LunaTik	XtremeMac
Lynk for nano 6G	TuffWrap Tatu
\$130-\$140	\$25

## iPhone 5 Case of the Year



### Speck CandyShell Flip

Having come up with an ingenious design that every rival wants to copy, Speck has been challenged to make each generation of its rubber-lined hard case CandyShell better than the last. The \$35 iPhone 5 CandyShell Flip is the thinnest and best made version yet, guaranteeing 100% accessory compatibility.

#### Runners Up

Incipio	OtterBox
Stowaway	Defender
\$35	\$50

## Top Apple Product of 2012 - Editors' + Readers' Choice



### iPhone 5

We and our readers agreed: Apple's thoughtfully redesigned and almost entirely improved iPhone 5 was its best release of the year, thanks to screen, speed, size, durability, and camera jumps that were anticipated and appreciated. Runners Up: iPad (\$499-\$829) + iOS 6 (Free).

## iPhone 4/4S Case of the Year



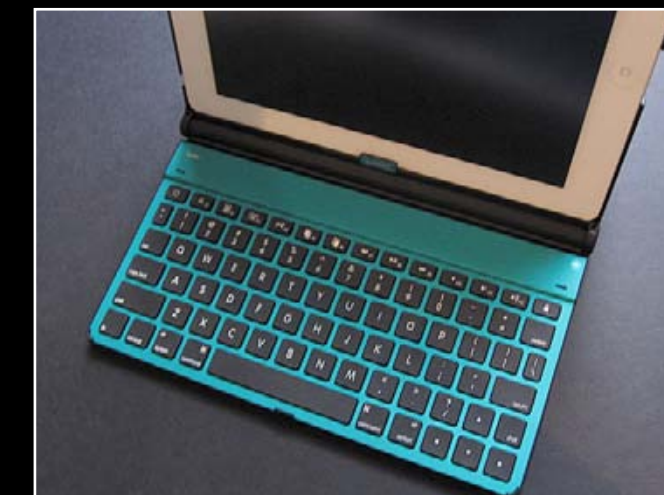
### Incipio OffGrid Pro

Without question, OffGrid Pro is the best-designed battery case we've ever tested: between its thin size, dual 1600mAh batteries, and twin chargers - in the case or via an included standalone charger - this \$100 set became our "must carry" accessory of 2012. Next up: a version for the iPhone 5.

#### Runners Up

SwitchEasy	ZeroChroma
Eclipse	VarioProtect
\$20	\$40

## iPad Case of the Year



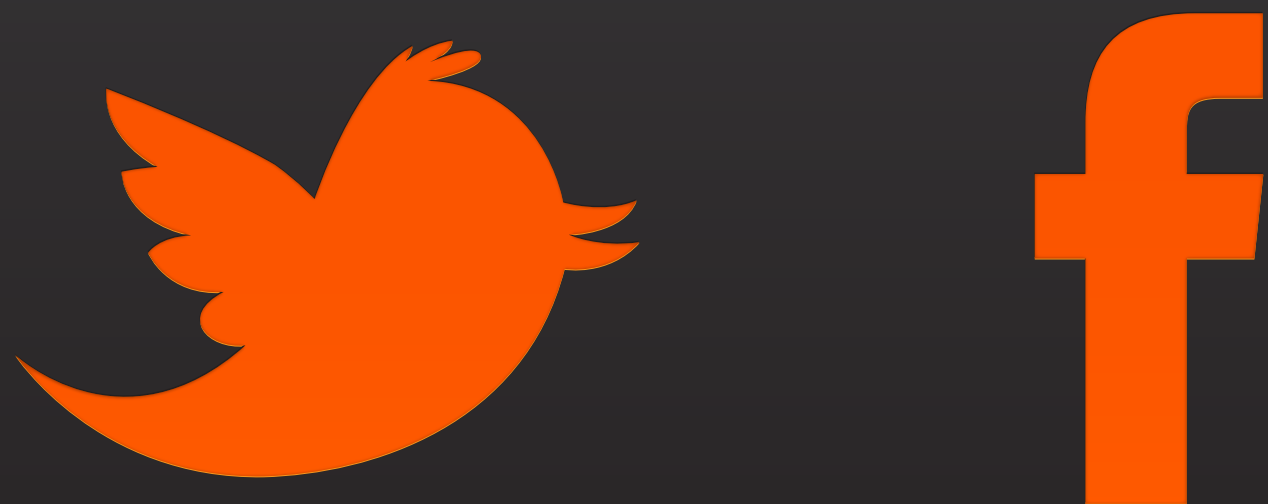
### Adonit Writer Plus

There are times when iPads seriously benefit from having a proper keyboard, and the best overall solution thus far is the \$75-\$85 Writer Plus, pairing a thin but highly usable aluminum keyboard with a handsome folio-style iPad case. It's easy to carry and comfortable for typing, with the right price.

#### Runners Up

Gumdrop Drop	STM
Series (3rd-Gen)	Skinny 3
\$60	\$40





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### Headphone of the Year



#### Scosche Realm RH656m / RH656md

Beats By Dre changed the headphone market, but Scosche beat Dre at his own game with these great-sounding, sharp-looking \$130 headphones - the best on-ears we've tested, with a great remote control and mic. Runners Up: Audio-Technica ATH-ANC9 (\$300) + Apple EarPods (\$29).

### Speaker of the Year



#### JBL Flip

While Apple focused on expensive, sluggish AirPlay speakers, top developers improved their small, affordable Bluetooth models, and JBL's \$100 Flip is the ultimate small speaker: roughly the size of Jawbone's Jambox, it's in another league sonically, and half the price.

#### Runners Up

iHome  
iP76  
\$200

Soundfreaq  
Sound Kick  
\$100

### Car Accessory of the Year



#### Just Mobile Highway Pro

Car accessories have been underwhelming and iterative for a couple of years, so designs with great aesthetics and solid features stand out. The \$40 Highway Pro addresses a common need for two-device car charging with a cool aluminum body and iPad support.

#### Runners Up

Arkon  
SuperCharge  
\$45

SuperTooth  
Crystal  
\$69



iOS Game Developer of the Year - Readers' Choice



Rovio Entertainment

For the second year in a row, Rovio handily won our Readers' Choice Award for Game Developer of the Year, unquestionably on the strength of Bad Piggies, Angry Birds Space, and numerous free updates to its earlier Angry Birds titles. Runners Up: Electronic Arts and Zynga.

iPad App of the Year



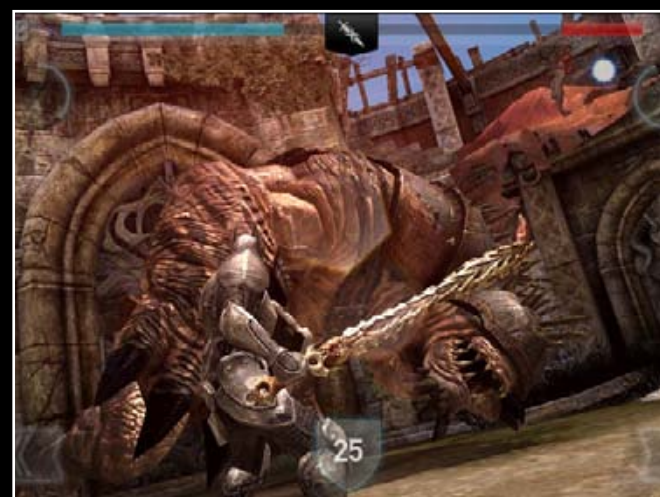
Apple iPhoto

So boldly rethought from the popular Mac iPhoto that a small learning curve is required, this \$5 photo editing, managing, and sharing app is truly awesome, letting users retouch and improve even DSLR output on the iPad's color-accurate Retina screen. Great iPhone + iPod support is a big bonus.

Runners Up

Google	HarperCollins/Brian Cox
Google+	Wonders of the Universe
Free	\$7

iPad Game of the Year



Epic Games Infinity Blade II

Even better than last year's award-winning Infinity Blade, this \$7 wander-and-fight adventure started with incredible graphics, better audio, and more types of weapons than before; then it grew spectacular additional levels and enemies as the year went on. A great title with multi-replay-worthy updates.

Runners Up

Fireproof Games	Phosphor Games
The Room	Horn
\$5	\$7

iOS Game Developer of the Year - Editors' Choice



Sega

Making a major comeback this year, Sega has all the right stuff to thrill iOS gamers: pixel-perfect, playable ports of memorably awesome titles Sonic CD and Crazy Taxi, plus new titles such as Sonic 4 Episode 2 and Zaxxon Escape. Runners Up: Epic Games and Gameloft.

iPod/iPhone Game of the Year



Sega Sonic the Hedgehog 4 Ep. 2

We played hundreds of iPod/iPhone games this year, but the one that really stuck out as a big leap in playability, fun, graphics, and music was Sega's second episode of the platform game Sonic 4, which included great 3-D art, very cool level designs, Tails the Fox, and a legit reward for first episode players.

Runners Up

Gameloft	Rovio
Dark Knight Rises	Bad Piggies
\$7	\$1

iPod/iPhone App of the Year



Algoriddim djay for iPhone

For years, we dreamed of using iPods to mix, scratch, and fade songs together, and this affordable, beautifully developed app gives iPod and iPhone users all those abilities and more - tons of effects, beat-matching, and pitch-bending. Often sold for \$1, it has tall and wide UIs for old and new iPods/iPhones.

Runners Up

Open Air	Vimov
Speakeasy Cocktails	Weather HD 2
\$10	\$2



## iOS Application Developer of the Year - Editors' + Readers' Choices



### Google + Apple

For the third year running, our readers selected Apple as the year's top iOS app developer, on the strength of the new iPhoto and updates to prior apps. Our editors selected Google, creator of multiple Top 100 apps including Google+, YouTube, and Chrome, plus the Maps web app.

## iPad Kids' App of the Year



### Disney Mickey Mouse Clubhouse

Iconic characters. A popular kids' TV show, with completely 3-D pre-rendered artwork, turned interactive with simple on-screen controls and opportunities to talk back with the iPad's microphone. All for free. This Road Rally "appisode" is better than the cartoon it's based upon, and packed with fun for kids.

#### Runners Up

Duck Duck Moose Trucks HD \$2	Kid Bunch/Mundomono Bean Bag Kids Pinocchio \$3
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## iPod/iPhone Kids' App of the Year



### StoryToys Farm 123

Teaching children to count is easy with the right tools, and this \$2 app is as smart as kids' apps get: a storybook folds open to reveal each set of animals to count, and kids get to watch and interact with them, tapping on each to hear its number. After the book's done, mini-games reinforce the lessons.

#### Runners Up

Loud Crow Charlie Brown Christmas \$7	Nosy Crow Rounds: Franklin Frog \$5
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## Accessory Maker of the Year - Editors' Choice



### JBL by Harman

Universally respected for the sonics, build quality, and pricing of its audio accessories, JBL delivered 2012's best overall speaker in Flip, alongside a large collection of Bluetooth and docking speaker systems at a wide range of prices. Runners Up: Incipio and Speck Products.

## Accessory Maker of the Year - Readers' Choice



### STM

Having expanded this year from designing consistently great computer and tablet bags into selling attractive iPad- and iPhone-specific cases, STM scored its first Readers' Choice Award after an extremely close vote, thanks to loyal fans. Runners Up: Speck Products and Incipio.

## Accessory of the Year



### JBL Flip

Wireless speakers were growing in popularity even before Lightning struck, wounding docking speakers, and JBL's \$99 portable unit is a fantastic option, packing better sound than units twice its size and price. Runners Up: Incipio OffGrid Pro (\$100) + Scosche RH656m (\$130).



# iHistory 2001-2012

2013 BUYERS' GUIDE

The iPod and iTunes helped Apple recover from a bruising personal computer battle, transforming the company into the world's leading designer of pocket and portable electronics. Today, the iPod, iTunes, iPhone, Apple TV, and iPad names are internationally respected; we look at their eleven-year evolution in this iHistory lesson.

## 2001

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### iTunes 1.0 Released

- Apple buys Casady & Greene's SoundJam MP
- Reworks it to become iTunes 1.0, which:
- Turns/rips audio CDs into smaller files,
- Organizes music libraries,
- Plays Internet radio, and
- Runs on Macs. No PC version is planned.



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### iPod (5GB) Unexpectedly Announced

- Will sell for \$399 when released,
- Is pocket-sized, with a 1.8" hard disk inside,
- Holds 1,000 songs in its 5-Gigabyte capacity,
- Uses a scroll wheel controller + bright screen,
- Works only on Macs, and
- Took only six months to develop.



### iTunes 2.0 Released

- iPod support,
- ID3 and metadata support,
- MP3 CD burning, and
- Sound controls such as an equalizer and crossfading.
- Still Mac-only.



### The First iPod Ships

125,000 iPods Sold

2013 BUYERS' GUIDE

IHistory

## 2002

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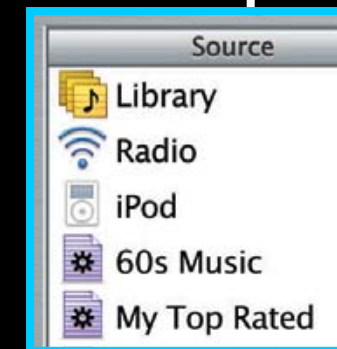
### 10GB iPod Is Out

- \$499.
- Same design.
- Displays contacts.
- Still Mac-only.
- Iffy PC software.

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### iTunes 3.0 Released

- Supports Audible audio books,
- Song ratings,
- Smart playlists, and
- Playlist import/export.
- Still Mac-only.



### Second-Generation iPod Is Out

- New \$499 20GB model.
- 5GB now \$299, 10GB now \$399.
- PC-friendly, using MusicMatch software.
- Old moving Scroll Wheel now capacitive touch.



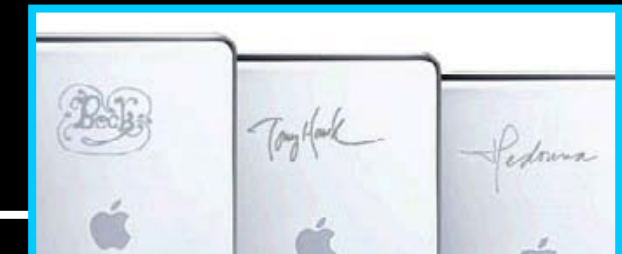
### Big Box Retailers Go iPod

- Best Buy, Target + Dell
- all sell iPods, sometimes cheap
- Competitors such as Creative try to squeeze 2.5" hard disks into enclosures more like the iPod's.



### iPod Limited Edition

- New "limited edition iPods" feature engraved signatures or logos for \$49 each
- Madonna, Tony Hawk, Beck, or No Doubt
- Most expensive iPods now sell for \$548.



595,000 iPods Sold

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2003

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**Microsoft's Plan**

- Announces Media2Go.
- Audio/video player.
- Deemed "iPod killer."
- Renamed Portable Media Center for 2004 release, where it flops.

**iTunes 4.0 Released**

- AAC audio, DVD burning, album art, library sharing.
- New store offers 99c/track, \$9.99/album, 200,000 songs.
- 1 million songs sold week 1.
- iTunes and iTunes Music Store are both still Mac-only.

**Third-Gen iPod Is Out**

- Thinner, Smaller.
- Bottom Dock Connector.
- Touch Wheel + buttons.
- 10GB/\$299, 15GB/\$399, 30GB/\$499.
- All support Macs + PCs.
- But Firewire only.

**iPod Goes USB**

- New USB 2.0 cables and drivers
- PC users finally have easy way to connect iPod

**Third-Gen iPod Updated**

- Only 4 months after release
- 20GB/\$399, 40GB (10,000 songs)/\$499.
- 10GB stays at \$299, earlier models discounted

**iPod Adds Recording, iTunes 4.1 Released**

- Belkin + Apple release first voice recorder + digital photo reader for new iPod.
- iTunes adds PC support, iTunes Music Store for PC; MusicMatch phased out.

**2,046,000 iPods Sold**

2004

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**iPod mini Debuts**

- \$249, 4GB capacity.
- Comes in 5 colors.
- Anodized aluminum.
- New Click Wheel.
- Critics call Apple crazy.
- 15GB \$299 iPod debuts.

**iPod+hp Shown**

- Promised for mid-'04 release.
- Blue iPod shown, but never came out.

**iPod mini Ships, Sells Out**

- Despite critics, long lines form.
- Immediately popular with women and girls.
- Shortages delay international release until July 2004.

**iTunes 4.5 + 3M iPods**

- Apple Lossless for Macs/PCs, WMA conversion for PCs.
- 3Mth iPod sold only 4 months after 2Mth, critics begin to attack iPod's competitors as cheap, poor designs.

**iTunes 4.6 + EU iTunes**

- iTunes added for AirPort Express wireless access to iTunes music.
- France, Germany, U.K. get iTunes Music Stores, sell 800k songs in first week.

**iTunes Music Store: 100 Million Songs Sold****Motorola + Apple / Real's Harmony**

- Motorola promises iTunes-compatible next-gen phones, without specifics.
- RealNetworks releases Harmony so Real RMA songs can play on iPods; Apple implies a lawsuit.

**iPod 4G Debuts**

- \$299 (20GB), \$399 (40GB) models borrow Click Wheel from iPod nano.
- Thinner bodies, fewer pack-ins.





2004

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**iTMS Music Catalog Hits 1M****Apple Thinks Video**

- Begins search for wireless, video experts to join iPod division.

**iPod+hp Ships**

- Hewlett-Packard ships "Apple iPod from HP," a repackaged iPod 4G with new manuals and HP's tech support.
- HP also announces iPod-compatible printer - never shipped - and "printable tattoo" stickers to cover iPod bodies.

**Microsoft Talks**

- Attacks iPod at Portable Media Center launch.
- Claims iPod unsafe, iPod buyers are music thieves.

**iPod, iTunes Rule**

- 4M songs now downloaded from iTunes per week.
- ~6M iPods sold, now 80%+ of U.S. digital music players.

**iPod Photo, U2 iPod Debut**

- Apple debuts color-screened iPod 4G called iPod Photo.
- \$499 (40GB), \$599 (60GB) models.
- "P" in photo is later decapitalized, matching mini, other models.
- Also releases the iPod U2 Special Edition (\$349), black-bodied B&W-screened iPod 4G, signed by the four members of rock band U2.

**iTunes 4.7**

- Adds photo syncing support for the iPod Photo, and duplicate song search.

**Sony Goes MP3**

- After failing with ATRAC-based iPod rivals, Sony announces MP3-ready Walkman, plots with Warner to take away iPod's lead in digital music.

**10,309,000 iPods Sold**

2005

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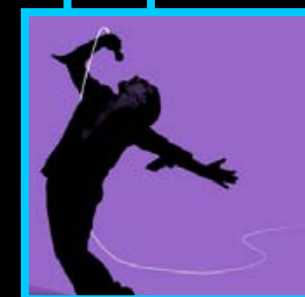
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**iPod Shuffle Debuts**

- \$99 (512MB) or \$149 (1GB).
- Flash-based.
- No screen or Wheel; button controls.
- In 4 months, Apple has 58% of flash player market.

**#1 Brand: Apple**

- U2 Silhouette ad is named smartest ad campaign by Business 2.0.
- By month's end, Apple named the top global brand in survey of ad pros.

**iPod Price Drops**

- Apple kills 40GB iPod and 40GB iPod photo.
- New iPod photos: \$349 (30GB), \$449 (60GB).
- \$29 Camera Connector introduced, allows photo transfers to iPod photo without iTunes.

**shuffle Knocked Off, Battery Suit Settled**

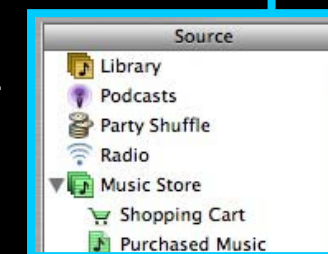
- Clones of the iPod shuffle appear in Taiwan.
- Apple settles a massive class action lawsuit over iPod battery defects.

**"iPods" Go Color**

- Color "iPods" replace "iPod photos" at \$299 (20GB) + \$399 (60GB).
- Apple also drops the price of the 1GB iPod shuffle to \$129.

**iTunes 4.9, Podcasts**

- New iTunes adds free downloads of radio-like audio "podcasts" to the iTunes music store, plus iPod-ready playback.

**Bush Gets iPod**

- Following Queen Elizabeth II's purchase of an iPod, U.S. President George W. Bush receives one as a gift.



2005

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**HP Ends iPod Sales**

- After firing CEO, HP abruptly stops iPod sales.
- Claims repackaging iPods didn't fit future plans.
- Retailers sell off HP-badged iPods, some released only weeks earlier.

**Apple Can't Patent UI**

- Failing in its attempt to patent the iPod's UI, Apple finds itself threatened by Creative, which successfully patented a key aspect of library nav.

**mini Killed, nano and ROKR Debut**

- iPod mini, "the most popular iPod", killed without warning.
- Replacement iPod nano is ultra-thin, small color iPod.
- \$199 (2GB), \$249 (4GB), sold in black or white bodies.
- Special edition engraved Harry Potter iPod announced.
- Apple and Motorola unveil first iTunes phone, ROKR E1, billed as an iPod shuffle in a cell phone; immediately reviled.

**iTunes 5.0**

- Adds staff reviews of music, streamlined look, easier search features, and preference menu changes.

**iPod (with video)**

- iPod 5G debuts, billed as music player "with video as a bonus."
- \$299 (30GB), \$399 (60GB), black or white bodies.
- 2.5", 320x240 screen, enough battery for 2-3 hours of video.

**iTunes 6.0**

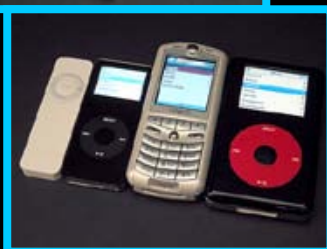
- Adds videos to the iTunes Music Store.
- Five TV shows, 2,000 music videos: \$1.99 each.
- Videos are 320x240, formatted for iPod's display.
- By month's end, 1 million videos sold.
- Gifting and reader reviews also added.

**42M iPods, shuffles Sold Out**

- Apple announces huge iPod sales, and that shuffles are sold out through year's end.
- NBC videos come to the iTunes Music Store.

**Creative, Microsoft, MTV**

- Creative launches iPod-clone called Zen Vision: M
- Microsoft and MTV work to duplicate iTunes with URGE music service



2006

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**iPod + FM Radio**

- Apple intros the iPod Radio Remote.
- Adds FM to iPods and nanos.

**Sandisk Now #2**

- Memory chip maker surprisingly becomes #2 U.S. MP3 player vendor.
- Distant second to Apple.

**1GB iPod nano, Cheaper shuffles**

- \$149 (1GB) nano intro'd via press release.
- iPod shuffles now \$69 (512MB), \$99 (1GB).

**1B iTunes Songs**

- 1 billionth song sold to Alex Ostrovsky, who wins iMac, 10 60GB iPods, \$10,000 iTunes credit + name on a Julliard Music School scholarship.

1,000,000,000

To every iTunes Music Store customer, thanks a billion.  
1 billion songs have been legally downloaded from the iTunes Music Store.

**iPod Accessory Day**

- Apple unveils iPod Hi-Fi, a \$349 "audiophile" speaker system, and \$99 leather iPod cases.
- Many users are shocked by the prices and skeptical of the value.

**iTunes Season Pass**

- TV shows and sports can now be purchased on discount in advance, with future parts downloading automatically.

**PortalPlayer Out, Samsung In iPods**

- Longtime iPod chipmaker dumped for Samsung, iPod memory vendor.

**Creative vs. Apple**

- Creative and Apple sue each other over iPod UI patent violations.

**Nike + iPod**

- The Nike + iPod Sport Kit is announced.
- \$29 iPod nano add-on, lets runners track their progress and hear voice prompts
- 450,000 sold in 90 days.

**New U2 iPod**

- A video-ready version of the U2 iPod debuts, bundled with a U2 video download.





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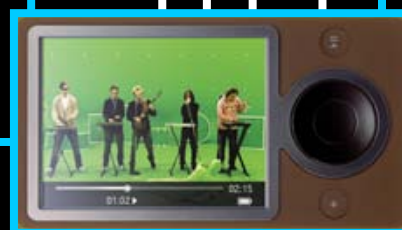
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**Chinese Trouble**

- iPod maker Foxconn exposed for labor issues.
- CEO oddly tells shareholders that Apple is working on a "none-touch" iPod.

**Microsoft's Zune**

- Having failed to beat Apple earlier, Microsoft plans iPod and iTunes clones for late 2006.

**Bye, Dell + Napster**

- iPod and iTunes competitors falter.
- Dell quietly withdraws from MP3 player market.
- Napster publicly mulls a sale.

**U.S. Carmakers Back In-Car iPod**

- Ford, GM, Mazda 2007 models will have iPod-ready stereos.
- By year's end, over 70% of cars sold in U.S. are iPod-ready.

**Apple + Creative**

- Lawsuit settled; Creative becomes iPod add-on maker, receives \$100M from Apple with caveats about future patent licenses.

**"Made For Sansa"**

- Sandisk launches accessory program with iPod add-on developers.

**iPod 5.5G, nano 2G, shuffle 2G Debut, iTV Shown**

- Apple debuts iPods with brighter video screens (\$249/30GB, \$349/80GB).
- New metal nanos: 5 colors, good battery (\$149/2GB, \$199/4GB, \$249/8GB).
- New radically smaller metal-bodied iPod shuffle (\$79/1GB)
- Offers advance look at iTV: device wirelessly streams videos, music to TVs.

**iTunes 7.0; Movies & Games**

- \$4.99 iPod games, \$9.99-\$14.99 640x480 movies in renamed iTunes Store.
- iTunes adds Cover Flow browsing mode, gapless audio playback.

**Product (RED) iPod nano**

- Special edition red iPod nano debuts; \$10 of the \$199 nano fights AIDS in Africa.

**88,701,000 iPods Sold**

2007

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**iPhone, Apple TV Feted**

- Apple shows "revolutionary" iPhone.
- Combines a cell phone, Internet communicator, and widescreen iPod.
- \$499 (4GB), \$599 (8GB) plus 2-year AT&T contract.
- 480x320, 3.5" touchscreen,
- Launch planned for June.
- iTV renamed Apple TV, set for February with 40GB hard drive.

**iPod shuffle colors**

- Apple adds green, blue, pink, and orange shuffles to the lineup.

**Jobs Fights DRM**

- CEO posts open letter on Apple's website.
- Says Apple will sell DRM-free music if labels will supply it.
- Refuses to license Apple's DRM.

**Cisco + Apple**

- iPhone trademark fight resolved; name shared.

**iTunes 7.1**

- Support for streaming and syncing media to Apple TV.
- Adds full-screen Cover Flow, confusing sorting options.

**Apple TV Ships**

- Delayed a month, the "DVD player for the 21st Century" ships.
- Requires extended- or high-definition TV, separate video cables.
- Only plays videos purchased or converted through iTunes.

**100M iPods Sold**

- Apple breaks the 100 million sales mark for the iPod family.

**iTunes 7.2, DRM-Free**

- Apple adds \$1.29 iTunes Plus downloads to the iTunes Store.
- DRM-free, bitrate doubled to 256Kbps, old tracks can be upgraded for 30 cents each.
- Only certain labels support iTunes Plus format.



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**Apple TV Updates**

- Now deemed only a "hobby" by Steve Jobs.
- Gets a \$399 (160GB) version, YouTube browser.

**iPhone Dominates Media, Launches**

- After utterly dominating news for a month, iPhone launches to lines across U.S.
- Apple sells 270,000 units in first weekend, but doesn't sell out in many locations.
- AT&T activation problems dog the otherwise happy event, but are mostly resolved in two weeks.

**iTunes 7.3, #3 in U.S., 3B Songs**

- New iTunes adds iPhone activation support.
- iTunes Store becomes the #3 vendor of music in the U.S., surpassing Amazon.com.
- Store quietly sells 3 billionth song.

**NBC Ends iTunes Deal**

- Shocking TV fans, NBC opts not to renew its iTunes agreement.
- Apple blames greed, and refuses to carry the network's Fall lineup.

**iPod nano, classic, touch Debut, New iPod shuffle Colors, iPhone Price Cut**

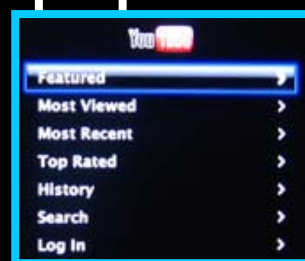
- Apple introduces a video nano (\$149/4GB, \$199/8GB)
- Renames iPod to "iPod classic" (\$249/80GB, \$349/160GB).
- Introduces widescreen, flash-based iPod touch (\$299/8GB, \$399/16GB).
- iPhone's price radically cut by \$200, and the 4GB version is killed off.
- Four muted iPod shuffle colors replace January's, including new purple.

**iPhone Mea Culpa, iTunes 7.4**

- iTunes 7.4 adds 99-cent ringtone creator for iPhone, plus new iTunes Wi-Fi Music Store for iPod touch and iPhone.
- Steve Jobs apologizes for shocking iPhone price cut, offering \$100 Apple Store credit.

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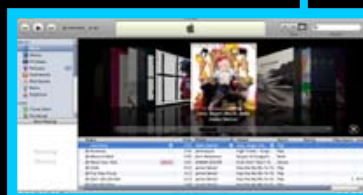
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**iPhone Dev Center opens, SDK?**

- Apple says it will release a software development kit for the iPhone in February 2008, then opens a site to help devs create custom "web apps."

**119,265,000 iPods sold**

- The number, tallying total iPod family sales for six years, doesn't include 1,389,000 total iPhones sold through September 2007.

**iPhone Hits UK, Germany, France**

- Following September and October announcements, O2 (UK) and T-Mobile (Germany) become exclusive service providers on November 9, with France's Orange joining on the 29th.
- Sales are respectable, but not fantastic.
- By December, O2's CEO is already talking about a "3G iPhone" for 2008.

**Carmack Criticizes iGaming Strategy**

- Following numerous complaints from developers skeptical of Apple's still-cloudy plans for iPhone software, famed Doom and Quake developer John Carmack describes Apple's closed game development strategy for iPods as "horrible."
- Notes that he personally told Steve Jobs not to repeat the mistakes with iPhone gaming, but isn't optimistic.

**Apple Fights iPhone Unlockers**

- Despite software updates from Apple, hackers continue to succeed in "cat and mouse game" of unlocking iPhones for sale overseas, "jailbreaking" them to run unauthorized applications.
- Apple threatens overseas importers with legal penalties of up to \$1,000 per phone sold.

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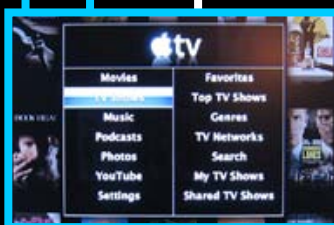
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### iPhone, iPod touch, Apple TV Software Updated with Major New Features

- iPhone + iPod touch get 1.1.3 software: custom home screens and location finding ability for maps.
- iPod touch owners offered previously iPhone-only apps such as Mail for \$20.
- Apple TV 2.0 software is shown, adding support for iTunes purchasing and movie rentals. Released 2/12.
- Hardware drops to \$229 (40GB), \$329 (160GB).



### iTunes 7.6: Movie Rentals + Copies

- Following months of leaks, Apple + all six major studios unveil U.S. movie rental service for iTunes.
- \$2.99-\$4.99 based on movie's age + DVD-/HD-quality.
- iTunes Digital Copy lets buyers of certain Fox movies get iTunes-ready, DRM-protected version.

### Apple Adds Pink 8GB nano

- Lighter pink 8GB iPod nano released as sixth "Spring" color, Valentine's Day gift for standard \$199 price.



### 141.265M iPods, 3.7M iPhones Sold

- Apple's strongest quarter adds 22.1 million iPods, 2.3 million iPhones to totals.
- Reports suggest up to 1/3 of iPhones are purchased to be unlocked; Apple cites strong global interest.

### 16GB iPhones, 32GB touch Added

- Apple debuts higher capacity devices via press release.
- \$499 for 16GB iPhone or 32GB iPod touch.
- touch sells in Europe at a slightly lower price than iPhone.

### iPod shuffle 1GB Price Drops, 2GB Debuts

- 1GB shuffle drops to \$49, 2GB added for \$69, both in same five colors. Higher capacity ships in early March.

### iTunes Store #2 Music Retailer in U.S.

- iTunes now trails only Wal-Mart in music sales.
- Apple attacks developers of Hymn Project, software to strip DRM off of iTunes purchases.



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### Apple Holds iPhone SDK Event

- Instead of the SDK in February, Apple releases free beta kit and \$99 developer program for select U.S. applicants.
- All software will be distributed through iTunes, starting in June, requiring iPhone/iPod touch 2.0 software.
- Developers offer praise and concern; 100,000 downloads in four days.
- Eight days later, Apple sends out mass rejection letters, blaming high demand.



### Ireland, Austria Get iPhone, Supplies Low

- O2, T-Mobile expand iPhone sales to more countries.
- Stock of 16GB iPhones dries up.

### Apple Buys Chipmaker P.A. Semi

- Apple buys maker of low-power CPUs.
- Explains chips are for future iPods, iPhones.

### iTunes Store #1 Music Retailer; AT&T Hints 3G iPhone "In Months"

- iTunes now top U.S. seller of music, over Walmart.
- iPhone stock scarce, AT&T hints 3G phone soon.

### 152M iPods, 5.4M iPhones Sold

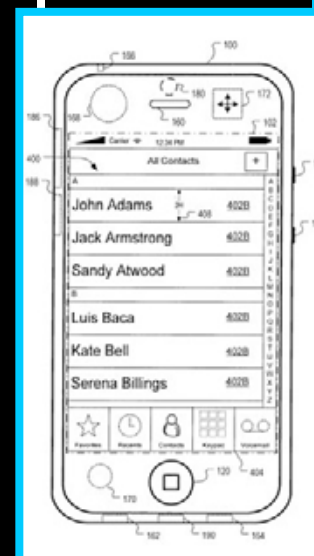
- Quarter reflects slowing sales growth.

### Apple Welcomes International Developers

- Comes two months after U.S. developers allowed in iPhone SDK program.

### iPhone Patented

- A 371-page filing attempts to cover the entire UI.





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### iPhone 3G, 2.0 Software Finally Dated

- Apple sets July 11 release for iPhone 3G.
- \$199 (8GB), \$299 (16GB).
- Faster, plastic-bodied, GPS-enabled.
- Seventy countries, inc. Japan + Australia, to get iPhone.
- 2.0 software and App Store to launch at same time.
- Expensive rate plans anger many potential buyers.



### iTunes Store Sells 5 Billion Songs

- Music catalog now 8 million tracks
- Also claims to be the most popular online movie store.

### iTunes 7.7, App Store, Apple TV 2.1

- Adds the App Store, with 500 applications. 25% are free.
- Apple TV now lets iPhones, iPod touches serve as remotes.



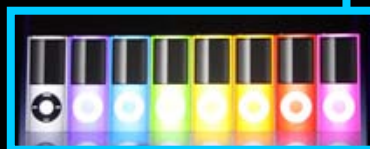
### iPhone 3G Bows

- Weekend of worldwide launches starts in Australia and New Zealand.
- Lines form; activation, call drop, and software issues anger buyers.
- Regardless, Apple sells 1 million units in three days.

### 163M iPods, 6.1M iPhones Sold

### New classic, touch, nano Released

- Fourth-generation nano repacks 3G model in nine tall, colorful shells.
- \$149 (8GB), \$199 (16GB).
- iPod touch 2G gets speaker, volume buttons, and Nike + iPod support.
- \$229 (8GB), \$299 (16GB), \$399 (32GB).
- Two iPod classics replaced by single \$249/120GB model.
- Four iPod shuffle colors are updated to brighter tones.



### iTunes 8: HD TV Shows + Genius

- HD TV show downloads, including NBC programs.
- Genius feature finds music similar to a selected song.
- Also adds photo-heavy Grid library view, new visualizer.



### 4GB iPod nanos appear

- Without warning, new 4GB iPod nanos appear in Europe.
- Suggests that Apple decided late on the top 16GB capacity.

2008

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### 174M iPods, 13M iPhones Sold

- iPhone sales beat predictions, due to 30,000 selling locations worldwide.

### Fadell Out, Papermaster In

- "The Father of the iPod," the man who pitched the device to Apple, is abruptly replaced by Mark Papermaster as VP of iPod/iPhone Engineering.
- Fadell quietly leaves Apple in March 2010, founding home automation company Nest.



### Apple TV 2.1, iPhone OS 2.2 Released

- Apple TV update adds 3rd party remote control support.
- Lets the device stream audio to other Apple wireless devices.
- iPhone OS 2.2 provides iPhone-only support for Google Street View and public transport directions
- Also adds direct-to-device podcast downloads.



### In-Ear Headphones with Remote + Mic Ship

- Months after adding wired three-button remote and microphone support to late 2008 iPods, Apple ships a \$79 pair of canalphones as the first remote and mic accessory.



### Apple Pushes iPhone As Gaming Device; Developer Complaints Grow

- As Apple begins to push the iPhone as a viable and growing gaming platform, developers take to the Internet to complain about lengthy delays and amateurish Apple review processes.
- Titles are rejected for unclear, often specious reasons.
- The complaints will continue through 2009.



2009

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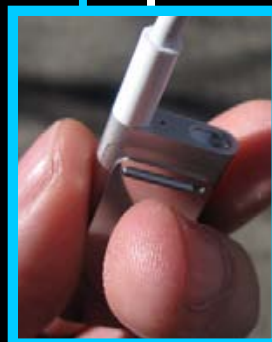
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**iTunes To Go DRM-Free, \$0.69-\$1.29**

- At Apple's last appearance at Macworld Expo, only one iTunes announcement.
- In April, Apple will drop DRM and let songs sell for \$0.69 (rarely), \$0.99, or \$1.29.

**New iPhone Model Leaks From UAE**

- Rumors of new iPhone model in June start as the iPhone 3G goes on sale in U.A.E.
- Corroborated in March by spy shots that show a new but similar-looking iPhone body shell.

**iPod shuffle 3G Out**

- Apple quietly unveils all-new iPod shuffle via press release.
- \$79 (4GB).
- No integrated playback or volume controls; requires Apple remote-equipped headphones and new VoiceOver feature.

**Apple Previews iPhone OS 3.0**

- Beta for iPhone and iPod touch adds cut, copy, and paste, push notifications, Spotlight search, Voice Memos, third-party accessory support, stereo Bluetooth, tethering capabilities.
- "Summer" release.
- Video recording, autofocus camera, and compass features are found hidden inside.

**1 Billion Apps Downloaded, Problems Persist**

- 9 months after launch, the App Store celebrates billionth app download.
- 13-year-old Connor Mulcahey wins \$10,000 iTunes card, 17" MacBook Pro, 32GB iPod touch, and a Time Capsule.
- Hours earlier, Apple was forced to apologize for allowing a baby shaking app, one of many deemed offensive or problematic by App Store visitors.

**iPhone 3GS, iPhone OS 3.0**

- Apple reveals "50% faster" iPhone 3GS, with almost identical body to iPhone 3G.
- \$199 (16GB), \$299 (32GB). 8GB iPhone 3G kept around at new \$99 price.
- Adds 3-Megapixel still camera, 640x480 video recording, compass, and faster chips.
- iPhone OS 3.0 ships right before iPhone 3GS's June 19 release date.



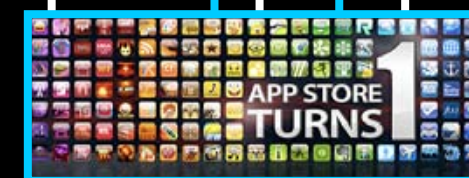
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**App Store Hits 50,000 Apps**

- On its first birthday, App Store has 100 times as many titles as when it launched.

**Google Voice Rejected; FCC Steps In**

- Apple refuses to approve a Google app that offers free SMS and cheap long distance calling.
- FCC later investigates Apple and AT&T.

**New iPod nano, shuffle, classic, touch**

- nano now includes widescreen display, camera, pedometer, FM radio, and polished aluminum body.
- \$149 (8GB), \$179 (16GB).
- New iPod touch boosts speed 2x, gets Voice Control, and accessibility features; lacks camera due to supply issue.
- \$299 (32GB), \$399 (64GB). Prior 8GB priced at \$199.
- \$249 classic bumped to 160GB, no other changes.
- Four new shuffle colors debut, including \$59 2GB models and a \$99 4GB stainless steel special edition.
- By October, 228M iPods, 33M iPhones have been sold.

**iPhone OS 3.1, iTunes 9 Ship**

- iPhone OS adds support for new iPod touch, minor Bluetooth, video editing, and other bug fixes.
- iTunes 9 gains CD- and DVD-emulating iTunes LP and iTunes Extras features, app organization, new iTunes Store design, and wireless Home Sharing of media.

**Apple TV: 160GB, \$229**

- 40GB Apple TV discontinued, price dropped on larger model.

**Apple TV 3.0 Software Debuts**

- Includes a new main screen for Apple TV, new Internet Radio streaming.

**App Store Hits 100,000 Apps****Google Grabs AdMob From Apple**

- Google buys leading phone ad company, deepening antagonism with Apple.

**Apple Buys Lala**

- Rumors of a web-based iTunes swirl; Apple buys and shuts Lala, supposedly for use in iTunes.

**Apple + Nokia Cross-Sue Over Patents**







2010

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**iPhone 4 Debuts, iPhone OS Renamed**

- Confirming prototype leaks, iPhone 4 is announced at Worldwide Developers Conference.
- New 960x640 "Retina Display," FaceTime video calling, new front VGA and rear 5-MP cameras.
- Unit's black or white glass body and metal frame/antenna are praised on stage by Steve Jobs.
- iPhone OS renamed iOS.
- 5 billion apps sold from catalog of 225,000.
- iPhone 4 pre-orders start one week later, crash Apple's and AT&T's websites.

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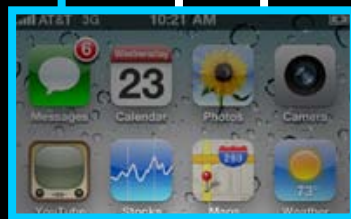
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**iOS 4, iPhone 4 Released, iPad at 3M**

- iOS 4 launches day before iPhone 4.
- Runs fine on 2009 models; problems on older ones.
- iPhone 4 arrives in black; white model missing.
- Apple announces 3M iPads sold, offers iOS iMovie.

**"Antennagate" Begins**

- Some early iPhone 4 users find that their cell signals die when holding the device normally.
- Apple downplays the issue for days before getting slammed by Consumer Reports, sued by users.

**1.7M iPhone 4s Sold First Weekend**

- Despite antenna issues, iPhone 4 is Apple's fastest selling product.

**Antennagate Continues**

- Apple concedes antenna strength is reduced when device is held.
- Software patch reduces the "normal" number of bars.
- At press event, Jobs claims that all smartphones have the same problem, but offers free cases for the next two months, no-questions returns.

**Mysterious Touchscreens Appear**

- Tiny Apple-branded touchscreens appear, suggest shuffle-sized iPod touch.
- Weeks later, iPod-touch sized screen is found with front-facing camera.

**269M iPods, 59M iPhones Sold****White iPhone 4 Delayed, Free Cases**

- Apple unveils iPhone 4 Case Program app, offering each buyer one free case from a small selection.
- White iPhone 4 delayed again.

2010

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**Papermaster Out As iPhone, iPod Chief**

- Reportedly blamed for iPhone 4-related problems, Mark Papermaster is fired.

**iPod shuffle, nano, touch Replaced, New Apple TV + iTunes 10 Debut**

- Fourth-gen shuffle has built-in buttons: \$29 (2GB).
- New nano is audio only, with a clip and the leaked touchscreen: \$149 (8GB), \$179 (16GB).
- Thinner fourth-gen iPod touch has twin cameras, Retina Display: \$229 (8GB), \$299 (32GB), \$399 (64GB).
- \$99 plastic, driveless second-gen Apple TV unveiled.
- iTunes 10 adds Ping social network and AirPlay wireless media streaming.

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**279.5M iPods, 73.7M iPhones, 7.46M iPads Sold, 300K App Library****White iPhone 4 Delayed Again To Spring 2011**

- Two days later, white iPhone 4 removed from Apple's online store.

**AT&T, Verizon Begin Selling iPad Directly**

- AT&T selling Wi-Fi + 3G iPads with data plans.
- Verizon selling Wi-Fi only models with Mi-Fi packages.

**Fortune Confirms Early-2011 Verizon iPhone**

- CDMA-capable iPhone said to be released early next year.

**The Beatles Land On iTunes**

- Catalog of digital music holdout finally comes to iTunes in one-year exclusive.
- 450,000 albums sold in the first week.

**iOS 4.2 Released for iPad, iPhone, iPod touch; 4.1 for Apple TV**

- First iOS release to unite Apple's mobile devices, brings iOS 4 features to iPad.
- Adds AirPlay, AirPrint, other new features.

**First Supposed Second-Generation iPad Cases Seen**

- Features slimmer design, large speaker opening, and rear camera hole.
- Some sources claim that speaker opening is actually an SD Card slot.



2011

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### Verizon iPhone Parts Appear Online?

- Slightly redesigned iPhone 4 frame shows different black bands, moved switch and buttons.

### iPad 2 Body Spotted at iLounge Pavilion

- Accessory developer shows a supposed iPad 2 rear shell, with features that match earlier case leaks.



### Apple Drops iPhone 3GS Price, Restocking Fees

- iPhone 3GS cut from \$99 to \$49, with 2-year contract.
- All Apple restocking fees eliminated.

### Verizon iPhone Finally A Reality

- Apple and Verizon announce launch of CDMA-based iPhone 4 for February 10; same prices as AT&T model.
- \$30 unlimited data at first, to be replaced with tiered options.
- Launches to short lines, but sales are consistently strong.

### Apple CEO Steve Jobs Takes Medical Leave of Absence

- For second time in two years, Jobs leaves to focus on health while battling pancreatic cancer.

### 298M iPods, 89.9M iPhones, 14.79M iPads Sold

### 10 Billionth App Downloaded

- Gail Davis's download of Paper Glider rewarded with \$10,000 iTunes card.

### News Corp. Launches "The Daily" iPad Newspaper

- Aided by Apple, News Corp. launches daily newspaper app with interactive content.
- Utilizes new "In-App Subscription" billing option from Apple: \$0.99/week, \$40/year.
- Usability, stability, quality of content criticized from early on.

### HP Unveils iPad Rival TouchPad

- 9.7"-inch tablet computer runs webOS, acquired during purchase of Palm.
- Physically very similar to the first-generation iPad, but plastic.
- TouchPad and all webOS hardware killed off August 18, weeks after the tablet's release.

### The Future of MobileMe

- Apple stops selling boxed versions of its online service for Mac OS, iOS devices.
- Rumors suggest revamped free service with new features, cloud-based "locker" for content.

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The App Store is about to hit ten billion downloads.  
Download the ten billionth app and you could win a US \$10,000 iTunes Gift Card.  
Visit the App Store »

THE DAILY

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### Apple Announces iPad 2

- Matching rumors, iPad 2 to launch March 11.
- New dual-core A5 processor, two cameras, available in black or white, is thinner and lighter than first-generation model, same prices.
- Garageband, iMovie debuted for iPad.
- Launches to long lines, sell outs on March 11.
- 100M iPhones, 15M iPads, 100M iBooks sold.



### iOS 4.3 for iPhone, iPad, iPod touch

- Improved performance, iPad side-switch options, Personal Hotspot for GSM iPhones, Home Sharing.
- Apple TV 4.2 brings MLB and NBA content, AirPlay for apps and Safari, other new features.



### White iPhone 4 Launches

- After months of delays, GSM- and CDMA-versions of white iPhone 4 finally launch to short lines.

### AT&T Says No Summer Launch For Next iPhone

- Kicks off months of speculation, confusion about new iPhone models.

### Apple Announces iOS 5, iCloud, iTunes Match

- WWDC focuses on software; iOS gets revamped notifications, iMessage instant messages, Twitter integration, wireless syncing and over-the-air updating.
- iCloud is a new free replacement for MobileMe, with contact, calendar, and mail syncing, redownloads of iTunes-bought content, cloud-based backups, and more.
- iTunes Match is introduced as a new syncing/downloading service for music whether it was purchased through iTunes or not; subscriptions are \$25/year.



### Jobs Outlines Plans For New "Spaceship" Campus in Cupertino

### Apple Begins Offering Unlocked iPhone 4 In The U.S.

- GSM iPhone 4 can be purchased unlocked; \$649 (16GB), \$749 (32GB).

### Bloomberg Reports Specs Of Next-Generation iPhone

- Magazine claims same A5 processor as iPad 2, 8-Megapixel camera.



2011

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**15 Billion App Store Downloads**

**128.89M iPhones, 314.56M iPhones, 28.73M iPads Sold**

**T-Mobile USA Offers SIMs for iPhone 4**

- Despite not carrying the device, T-Mobile offers service to those with unlocked iPhones.
- Later claims over 1M iPhone users on network.

**Apple TV Updated, Adds TV Shows to iCloud**

- Unexpected software update brings streaming of previously purchased iTunes TV content.

**Apple Passes Exxon Mobil In Market Cap**

- Apple becomes world's most valuable company.
- The two companies trade positions back and forth for months.

**Steve Jobs Resigns**

- Hinting at ill health, Apple CEO resigns, named Chairman of Board.
- Chief Operating Officer Tim Cook is named new CEO.

**99-Cent TV Show Rentals Pulled From iTunes**

- Without explanation, Apple halts TV show episode rentals, one of the second-generation Apple TV's highly promoted features.

**Purported iPhone 5 Test Photo Appears Online**

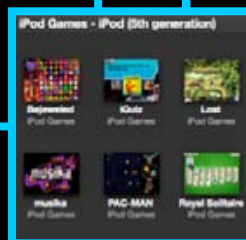
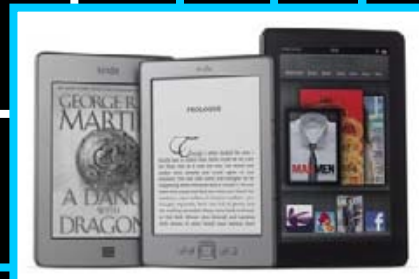
- EXIF data apparently confirms photo was taken on Apple's campus.
- Suggests 3264 x 2448 resolution, 8-Megapixel camera at f/2.4.

**Amazon Undercuts Apple With \$79-\$199 Kindle**

- Online retailer introduces cheaper dedicated e-readers.
- Also shows off Kindle Fire, a \$199 7" color-screened tablet to launch in November.

**Click Wheel Games Disappear from iTunes Store**

- Five years after introduction, Click Wheel games are removed from the iTunes Store.
- Believed to suggest iPod classic was on way out after extended period without an update.



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**Apple Unveils iPhone 4S**

- After months of rumors, Apple debuts new iPhone 4S.
- \$199 (16GB), \$299 (32GB), \$399 (64GB).
- Same body as iPhone 4, redesigned antenna, A5 processor, 8-Megapixel camera.
- Gets voice-activated Siri personal assistant, acquired from an iOS developer, demoed by Senior VP of iOS Scott Forstall.
- White iPod touch added, 8GB price drops to \$199.
- iPod nano price now \$129 (8GB), \$149 (16GB), new software changes UI, adds new watch faces.
- AppleCare+ plan replaces standard AppleCare for iPhone, offers coverage for accidental damage.
- Over 300 million iPods sold, 16 billion songs downloaded.

**Former Apple CEO Steve Jobs Dies, Aged 56**

- Passing of Jobs announced on Apple.com, following battle with pancreatic cancer.
- Profound worldwide reaction to loss of "creative genius."
- Apple launches dedicated "Remembering Steve" site, holds memorial event for corporate and retail employees.

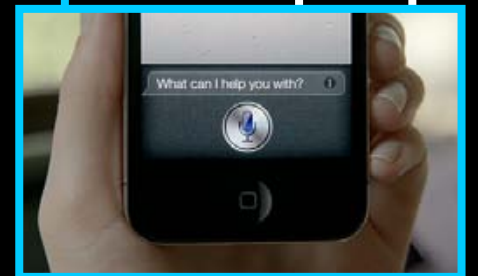
**iOS 5, iPhone 4S Released**

- Smooth rollout of iOS 5 ushers in the beginning of PC-free iPad, iPhone, iPod touch ownership.
- iCloud goes live for all users; iTunes Match follows in mid-November, and iTunes in the Cloud expands, allowing free streaming of more purchased music/TV shows.
- Apple TV adds NHL, WSJ videos, support for Photo Stream, AirPlay Mirroring.
- Following one million preorders, iPhone 4S goes on sale to lines at Apple Retail Stores and other retailers; over four million are sold in the first weekend, more than doubling record set by iPhone 4.
- Soon after launch, iPhone 4S users begin to experience Siri outages and issues, seemingly attributable to both connectivity and server problems.

**145.96 Million iPhones, 321.18 Million iPods, 39.85 Million iPads Sold**

**Apple Retail SVP Ron Johnson Joins J.C. Penney, Engineering VP Leaves**

- Announced in mid-June, Johnson takes reins at troubled retailer J.C. Penney, leaving Apple searching for a replacement. David Tupman, a VP of iPod and iPhone engineering, quietly leaves late in 2011, while other executive changes continue under Tim Cook's leadership.



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**Third-Gen iPad Body Leaks**

- Tiny differences suggest an improved rear camera and thicker body for upcoming model.

**Chinese iPhone 4S Launch Marred**

- Shoppers pelt Beijing's Apple Store with eggs after Apple misses launch time; Apple stops at-store sales.

**Apple Adds iPad Textbooks To iBooks 2**

- NYC education-focused event sees debut of iPad-only interactive textbooks, and iTunes U app for students/teachers.

**336.58M iPods, 183M iPhones, 55.28M iPads Sold****Foxconn Manufacturing Under Fire, Cook Responds**

- After reports of poor working conditions at Foxconn, Apple's top manufacturing partner, CEO Tim Cook promises increased oversight of partners, higher salaries for Foxconn workers, and fair labor hours.

**John Browett Hired As Senior VP, Retail**

- Hired following CEO stints at UK retailers Dixons Retail and Tesco, Browett is later blamed for flagging morale and other issues at Apple's retail stores.

**Eight-Inch iPad Now In Testing, WSJ Reports****"Micro" Dock Connector Coming**

- Renewed reports suggest Apple will replace the 2003 Dock Connector, likely soon.

**25 Billionth App Downloaded: "Where's My Water? Free"****Apple Unveils iPad (3rd-Gen) + Apple TV (3rd-Gen)**

- "The new iPad" looks nearly identical to iPad 2, but sports a 2048x1536 Retina display, 5MP rear camera, and LTE/4G cellular option at prior \$499-\$829 prices. A new A5X processor is inside.

- Three million new iPads are sold in first four days of Mar. 16 launch.

- Users discover new iPads run warm, require extra recharging time.

- iPad 2 drops in price to \$399 with a \$529 cellular model.

- Third-gen Apple TV keeps design and \$99 price, adds 1080p video.

- Redesigned Apple TV 5.0 UI switches to icon grid akin to iOS devices.

- iTunes in the Cloud adds movies; iTunes 10.6 gets 1080p support.



2012

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**iPhone 5, iPod touch 5G Body Leaks Begin**

- iLounge reveals the next iPhone will have a metal/glass back, 4" screen, and new dock port; a 4" iPod touch screen is leaked.

**Foxconn Hints At iTV**

- Following rumors, Apple's manufacturing partner claims it will build an aluminum Apple TV set with Siri and FaceTime.

- Apple later discloses that content/cable company negotiations failed; had planned to offer live and on-demand content via iTV.

**iOS 6 Shown With New Maps, Passbook, Facebook**

- Promising over 200 new features, iOS 6 is announced for a "fall" release. A new Apple-developed Maps app, the digital coupon/pass-holding wallet Passbook, and Facebook integration are added, with Siri improvements - including iPad support.

**351.08M iPods, 244.1M iPhones, 84.08M iPads Sold****Apple v. Samsung Trial Begins**

- Apple accuses partner Samsung of infringing iPhone, iPad + iPod patents; Samsung countersues. After being forced to divulge confidential info on iPhone and iPad development, Apple wins \$1B jury verdict, affirming UI + design patents.

**Apple Debuts iPhone 5, iPod nano 7G, iPod touch 5G**

- Leaks reveal a taller, faster iPhone 5 that Apple officially debuts at an event with a similar iPod touch (\$299-\$399), plus a fully redesigned iPod nano (\$149) featuring a 2.5" touchscreen and restored video playback. All three feature new Lightning ports. iTunes 10.7 arrives that day, with iPhone 5 on September 21, and the iPods in mid-October. iTunes 11 is due in "late October," then delayed.

- Major problems with new iOS Maps app cause Cook to issue public apology.

**Apple Announces iPad mini, iPad (4th-Gen)**

- The 7.9"-screened iPad mini debuts with surprising pricing: \$329 to start, with iPad-style 16/32/64GB capacities and \$130 cellular options. Apple also announces the iPad (4th-Gen) with a faster A6X chip and Lightning port. Both models launch November 2.

**355.98 Million iPods, 271 Million iPhones, 100 Million iPads Sold****Browett, Forstall Out; Ive, Cue, Other Execs Split iOS Responsibilities**

- Senior VP of iOS Scott Forstall, once called Apple's "CEO in waiting," is reportedly forced out of the company following complaints over Siri, Maps, and iOS app design. Retail chief Browett leaves as well.





# The iGlossary.

Now with over 200 definitions, our iGlossary enables you to easily understand virtually every term in Apple's ever-growing collection of iPod, iPhone, iPad, and Apple TV technical jargon and marketing phrases.

**AAC:** Advanced Audio Coding is a compression technology offering superior sound quality to an MP3 audio file of the same size. All of Apple's iTunes Store audio files are sold in AAC format.

**Accelerometer:** A feature of some iPods, all iPhones, and all iPads that enables the device to know how much it is being turned on three axes, or shaken.



**Accessibility:** Apple's collective term for features designed to help disabled users to use its products. See Spoken Menus and VoiceOver.



**Airplane Mode:** A setting on the iPad, iPhone and iPod touch that turns off all wireless broadcasting and receiving capabilities at once, rendering each device "safe" for use on airplanes.

**AirPlay:** Previously known as iTunes, this wireless technology streams audio and sometimes video or photos from an iOS device, Apple TV, or iTunes computer to Apple TVs, AirPort Expresses, or certain third-party AirPlay accessories.



**AirPlay Mirroring:** Supported by the iPhone 4S, iPhone 5, iPod touch 5G, iPad 2, iPad (3rd-Gen), iPad (4th-Gen), and iPad mini, this feature wirelessly mirrors the contents of the device's screen on any HDTV with a second- or third-generation Apple TV. This lets you watch videos, games, web sites, and other content on a big screen while interacting with them on the touchable screen.



**AirPort Express:** Originally introduced in 2004, and updated

with a new design in 2012, this Apple Wi-Fi router doubles as an audio receiver. Can stream audio from any computer with iTunes, playing that audio through attached speakers using AirPlay.

**AirPort Extreme:** Introduced in 2003, Apple's full-sized wireless (Wi-Fi) router, compatible with Macs and PCs.

**AirPrint:** Apple's wireless printing solution for iOS devices, compatible only with specific and relatively recent wireless printers. Hacks add AirPrint support to other printers attached to computers running specific operating systems.

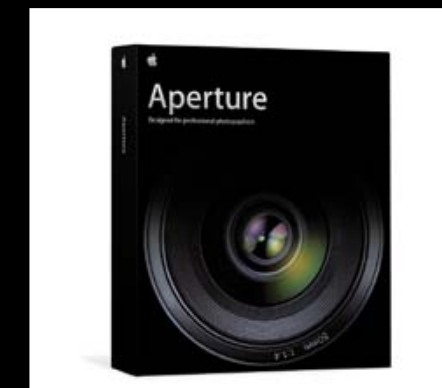
**Aluminosilicate Glass:** Confirmed to have been used in the iPhone and likely in other iOS devices, this special glass is more scratch- and chip-resistant than regular glass thanks to chemical strengthening. Sold by Corning as "Gorilla Glass."

**Anodized Aluminum:** The matte-finished metal used in most iPods, all iPads, the iPhone 5, and many Macintosh computers.

**Anodized Aluminum, Polished:** A glossy version of anodized aluminum, debuted by Apple in the late 2009 iPod nano, changed in the 2010 iPod nano and iPod shuffle, both replaced with non-glossy metal in 2012.

## 2013 BUYERS' GUIDE

**Antennagate:** The media term for the public relations debacle that followed the discovery that the iPhone 4 suffered from antenna attenuation issues, and Apple's initially flippant response. Also refers to the unusual media event Apple then held to address the issue.

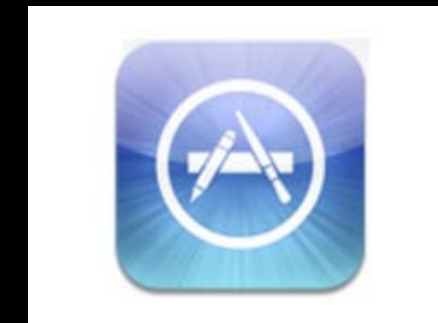


**Aperture:** The ratio of focal length to effective diameter of a camera's lens hole, expressed in the format "f/2.8," with lower numbers indicating superior light-gathering capabilities and more pronounced depth of field. Apple's current iPads, iPod touches, iPhone 4S, and iPhone 5 have f/2.4 lenses, versus slower f/2.8 lenses in the iPhone 3GS and iPhone 4. Aperture is also the name of Apple's professional photo editing and organization tool for Macs, not yet for iOS.

**API:** Short for "application programming interface," a behind-the-scenes tool to help developers build more powerful apps quickly. Apple touts new iOS releases as containing "over 200 new APIs," suggesting that developers have many new tricks at their disposal.

**App (Application):** Another word for "piece of software," used by Apple to refer to any

downloadable software - including games - available for the iPad, iPhone, and iPod touch. Apple began to use the term for Mac software in 2010, opening the Mac App Store.



**App Store:** The exclusive distribution point for all Apple-authorized software for the iPad, iPhone, iPod touch, and Mac; the Mac App Store is separate from the iOS App Store.



**Apple:** Founded in 1976, a developer of computers and software that in 2001 branched out into music players, 2007 into cellular phones, and 2010 into tablet devices. Now the maker of iPhones, iPods, iPads, Macs, iTunes, iOS, OS X, and numerous other products.

**Apple A4 Chip:** Based upon the ARM Cortex-A8, this customized CPU also includes a PowerVR SGX 535 graphics processor, and

is found inside the iPad, iPhone 4, iPod touch 4G, and second-generation Apple TV.

**Apple A5 Chip:** Based upon the ARM Cortex-A9, this dual-core CPU is bundled with a PowerVR SGX 543MP2 graphics processor, together delivering 2-9X the power of Apple's A4 Chip. It's found inside the iPad 2, iPad mini, iPhone 4S, third-generation Apple TV, and fifth-generation iPod touch.

**Apple A5X Chip:** An enhanced version of the A5, using a dual-core ARM Cortex-A9 CPU and quad-core PowerVR SGX 543MP4 graphics processor. Currently found only in the third-generation iPad.

**Apple A6 Chip:** Custom-built by Apple but based on an ARMv7s instruction set, this chip has a CPU in the same class as a dual-core ARM Cortex-A15, plus a triple-core PowerVR SGX 543MP3 graphics processor. Currently found only in the iPhone 5.



**Apple A6X Chip:** Like the A6, this chip is custom-built by Apple and boasts twice the CPU and graphics power of its predecessor, the A5X. It's currently only used in the fourth-generation iPad.





**AppleCare/+**: Apple's extended warranty options. AppleCare provides a two-year warranty and post-90-day telephone assistance for iPods and Apple TVs, while AppleCare+ is more expensive and adds up to two incidents of device replacement (with a per-replacement fee) for broken iPhones or iPads.

**Apple Lossless**: An Apple-developed audio format that creates sonically perfect copies of CD audio tracks while consuming less space.

**Apple TV**: A media player designed solely to be connected to high-definition television sets for the playback of standard- and high-definition video, stereo and 5.1-channel audio, and photos. The first model was effectively a seriously stripped down Macintosh computer without traditional keyboard, mouse, or monitor support, controllable only with various remote controls, and contained a hard disk. It was followed by a smaller diskless iPod touch-like version that streamed rented, subscription, iTunes, and iOS device content at up to 720p resolution, then a third version with higher-resolution 1080p output.

**Audible**: Owned by Amazon, a leading provider of audiobooks that can be played on iPads, iPods and iPhones.

**Audiobook**: A spoken version of a printed book, generally separated by chapter markers that can be skipped through like music tracks.

**Autocorrect**: A feature of the iPad, iPhone, iPod touch, and some software that automatically corrects perceived mistakes in your typing, using a dictionary and your prior key presses to guess what you wanted to type.

**Autofocus**: The ability of certain cameras to adjust their lenses to focus sharply on objects at different distances. Contrast with "fixed focus," where some close objects become blurry because the lens cannot adjust.

**Aux/Auxiliary**: Generally refers to a secondary, external source of audio output or input, connected via a standard-sized 3.5mm (headphone port-sized) audio cable. A device with Aux-In can receive and play sound from a connected sound-generating device; a device with Aux-Out can send sound to a connected sound-amplifying device.

**A2DP/AVRCP**: Refers to two related standards for stereo Bluetooth wireless audio streaming and remote control. A2DP was added to iOS 3.0, and AVRCP to iOS 4.1, enabling most iOS devices to work fully with stereo wireless speakers and their built-in track controls.

**Backside Illumination**: First added to the iPhone 4, this redesigned camera sensor technology improves low-light photography, increasing the amount of light that the sensor can gather by roughly 30%.

**Bitrate**: The amount of data used per second to store audio or video content, with higher numbers generally meaning higher-quality audio or video if everything else is held equal. See also Kbps and Mbps.



**Bluetooth (Monaural/Stereo)**: A wireless standard used by iPads, iPhones, most iPod touches, the seventh-generation iPod nano, and some accessories to transfer audio and other non-video data. Monaural Bluetooth lets iPhones connect wirelessly with headsets and speakerphones for phone calls; Stereo Bluetooth lets other iOS devices and the new iPod nano send music to wireless headphones and speakers. Bluetooth can also be used by certain iOS apps for multi-player gaming. The latest iPhones, iPads, iPod touch, and iPod nano include Bluetooth 4/Bluetooth Smart - the latest version of the standard - while older iPhone, iPod, and iPad models all use Bluetooth 2.0 or 2.1.

**CDMA**: Short for Code Division Multiple Access, the wireless technology used by Verizon and Sprint's 3G networks, which rendered them incompatible with early iPhones based on the competing GSM standard. The first CDMA iPhone was the Verizon iPhone 4.

**Cellular/Cell**: Refers to the wireless networks created by phone companies' towers, capable of broadcasting and receiving telephone calls and data from iPhones and other cellular phones. EDGE, 3G, 4G, and LTE towers differ in speed and relative pervasiveness across the world.



**Click Wheel**: The five-button plus touchable surface circular controller incorporated on most iPods sold until recently, providing scrolling, selection, volume-, and track-changing functionality. Currently used only on the iPod classic.

**Cloud**: Refers generally to servers on the Internet where data can be remotely stored and wirelessly retrieved regardless of one's geographic location. See iCloud and MobileMe.

**Component AV Cable**: A cable that uses five "RCA-style" connectors - three video, two stereo audio - to output standard- or high-definition video to a television set.



**Composite AV Cable**: A cable that uses three analog connectors - one for video, two for stereo audio - to output standard-definition video to a television set.



**Cover Flow**: A feature of iTunes, all iPhones, iPod classics, and iPod touches that displays album covers in a line, with the currently selected cover in the center and others on angles to its sides. Enables visual, photographic browsing for albums rather than reading a list of text.

**DC-HSDPA**: Supported by the third-generation iPad, fourth-generation iPad, iPad mini, and iPhone 5, this interim "dual-cell" standard between 3G and LTE

promises download speeds of 42 Mbps on certain Canadian, European, and Asian cellular networks.

**Developer (Dev)**: Refers to anything from a single person to an entire company of people who make products. Third-party developers create products that are dependent on products created by the "first-party," here, Apple.

**Dictation**: Generally coupled with Siri, allowing certain iOS devices to accurately transcribe spoken words into text. Offered without Siri on the third-generation iPad until iOS 6; still offered alone on Macs running OS X Mountain Lion.

**Digital Compass**: Also known as a magnetometer, a sensor that detects the device's orientation relative to the Earth's magnetic poles. Currently found in iPhones and iPads, not iPods.



**Dock Connector**: One of two names for Apple's proprietary 30-pin connector, which was used in all iPad, iPod, and iPhone models from 2003 through early 2012 except for iPod shuffles. Hides tiny pins for charging, data synchronization, remote control, and audio and video output. Replaced by the Lightning connector.



**DRM:** Digital Rights Management, a technology that locks audio, video, and other files such that they can only be played by one user or a small group of users sharing a single account and password.

**Dual-Band Wi-Fi:** The ability of an 802.11n device to broadcast or receive data on either 2.4GHz or 5GHz frequencies. A simultaneous dual-band router transmits data on both frequencies at once; iPads, the iPhone 5, and iPod touch 5G can switch between 2.4GHz and 5GHz as requested by the user.

**Dual-Core Chip:** One chip with two separate processors working together at the same task. A dual-core CPU is akin to two single-core CPUs.

**Dual-Mode:** A phone that is capable of operating either in CDMA or GSM mode as needed. The iPhone 4S and 5 do this.



**EarPods:** Apple's latest \$29 earbuds, released in 2012 and packed in with the iPhone 5, iPod nano 7G, and iPod touch 5G. A new design funnels bass directly into the ear canal, improving stability and comfort.

**EDGE:** Refers primarily to the slow cellular data standard used on GSM networks in the United States and elsewhere prior to the growth of 3G. Relied upon by the original 2007 iPhone, and a fallback for newer iPhones when 3G towers cannot be located nearby, dropping their data speeds.

**Exchange:** Shorthand for Microsoft Exchange, software offered by Microsoft to help large organizations synchronize their e-mail, calendars, contacts, and tasks. Exchange support was added to the iPhone OS in 2008 to help Apple's devices gain inroads in the Microsoft-dominated corporate market.

**Facebook:** The social network with nearly 1 billion users. Integrated Facebook status posting, photo/video posting, and contact information access was added in iOS 6.



**FaceTime:** Apple's name for both video calling and front-facing cameras on the most recent four iPads, three iPhones, two iPod touches, and Macs. The FaceTime standard supports two-person calls with H.264 video and AAC audio. FaceTime HD refers to a front-facing camera with at least 1280x720 resolution for video recording and possibly calling, depending on network bandwidth.

**FairPlay:** Apple's DRM scheme for iTunes Store content, including movies, TV shows, and apps, but no longer music. Permits multiple devices to share the same content, so long as they are all registered to the same iTunes Store account.



**FireWire Charging:** The original charging and synchronization connector technology found in all iPods before Apple migrated partially (2003) and then almost entirely (2008) to the more common USB standard for charging. Unlike subsequent Apple charging and syncing standards, FireWire initially had two identical male connectors on both sides of the cables, for connection to female FireWire ports on the first- and second-generation iPods. Apple switched to the Dock Connector for the third-generation iPod, but continued to sell FireWire to Dock Connector cables for users with FireWire ports on their computers. Most iPods since 2003 and the original iPhone supported both FireWire and USB charging, but in 2008 the iPhone 3G, iPod nano, and iPod touch dropped support for FireWire charging, breaking charging compatibility with computers and some accessories. Today, FireWire can not be used to charge current iPods or iPhones; it has never been supported for iPads.



**Flash:** Shorthand for Adobe Flash Player, a web browser plug-in for PCs and Macs that enables the display of animated graphics and video. Support for Adobe Flash was left out of all iOS devices due to stability, memory, and battery issues; HTML5 is offered alternatively.

**Flash Drive/Flash Memory:** A chip-based replacement for a hard disk, requiring less power and physical space, thus enabling the creation of the iPod nano, shuffle, and touch.

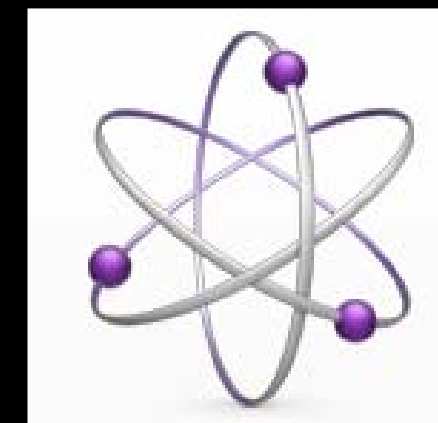
**Flyover:** Apple's term for user-controlled movement through the textured 3-D landscapes included in iOS 6 maps, akin to flying over cities in a helicopter.

**Frames Per Second (FPS):** Like a flipbook turning pages in rapid succession, refers to the number of still pictures that can be displayed on a screen in one second to create a smooth video image. Human beings can barely perceive more than 30 FPS, but gamers will notice a difference between 30 and 60 FPS. Movies are typically shown at 24 FPS, a rate below which video appears to be choppy.

**Generation:** As in, "second-generation iPod nano." A term used first by iLounge and later by Apple to distinguish between

successive versions of iPods, iPhones, and iPads, given that Apple continued to use the same product names year after year for different models. Often abbreviated "G," such as "iPod 5G" or "iPod nano 3G," though the abbreviation invites confusion with the iPhone 3G - actually the second iPhone model - and with "GB," or Gigabytes, below.

**Gigabyte (GB):** The unit of measurement for every iPod's, iPad's, and iPhone's storage capacity. Apple estimates that 125-250 songs or 1 hour of video can fit in each Gigabyte of a device's storage capacity, though the actual numbers will vary based on how the audio and video is encoded, as well as other factors. As distinguished from Generation/G above and 3G below, capacity is listed to show "an iPod 5G with 30GB capacity" or "an iPhone 3G with 32GB capacity."



**Genius:** Refers variously to the key technical support personnel in Apple Stores, and a feature of iTunes that uses information about your current song library to predict additional songs that you might like.

**Genius Mix:** An extension of the iTunes Genius feature that uses information about your current song library to create playlists of songs that are similar to one another.

**Geocoding:** Added to iOS 5, a feature that allows street addresses to be converted directly to geographic coordinates, and vice-versa.

**Geofence:** Introduced with iOS 5 and available in certain iPhone and iPad models, this GPS-related software technology creates a virtual "fence" around a certain geographic location, enabling the iOS device to remind you of something when you walk in or out of the area.

**Geotagging:** The ability of iOS devices with GPS or Location Services to mark photos, videos, and audio recordings with the map coordinates at which they were recorded.

**GLONASS:** A Russian-built alternative to GPS satellite navigation, supported by the iPhone 4S/5 and third-generation iPad.

**GPS:** Outside the Apple world, refers to mapping devices with satellite antenna-assisted ability to know their locations, and offer turn-by-turn guidance from one street address to another. In Apple's world, refers solely to the presence of a small GPS antenna and chip combination that can roughly estimate location on a map, aiding in geotagging, but lacking turn-by-turn direction software. AGPS is "Assisted GPS," or a GPS chip with help from cellular tower triangulation.



**GSM:** Global Standard for Mobile (communications), the cellular telephone standard used by 80% of the world's phones, including iPhones. Enables all iPhones except the Verizon iPhone 4 to be used almost anywhere in the world, either with roaming charges, or unlocked with different SIM cards.



**Gyroscope:** Found in the iPhone 4/4S/5, iPad 2/3rd-Gen/4th-Gen, iPad mini, and iPod touch 4G/5G, this positional sensor enables devices to more accurately know their orientation and track user movements, for both gaming and augmented reality applications.

**H.264:** Apple's preferred video compression format is a sequel to MPEG-4 technology, resulting in high-quality, comparatively small video files. Challenging for some computers to create, but no problem for computers, iPods, iPads, iPhones, or Apple TVs to play. One of two key video formats supported by Apple for iPods, iPhones, iPads, iTunes, and Apple TVs; MPEG-4 is the other, less efficient format.

**HDCP:** An industry-developed copy protection technology for high-definition content,

implemented both within televisions and devices that connect to them. Required by recent Apple TVs, iPads, iPhones, and iPod touches in order to play back iTunes Store-sold HD video output at 720p or 1080p resolutions.



**HDMI:** A cable standard designed to handle high-definition video and multi-channel audio, plus data transmissions, in a single thick digital connector.

**HDR (Photography):** High Dynamic Range, referring to the ability of a camera to capture more detail in dark and light areas of an image by taking several quick photos at different exposure levels, comparing the differences, and merging them together into one enhanced "HDR" photo. The iPhone 4, 4S, and 5 include HDR support, as does the iPod touch 5G.

**Headphone Jack/Port:** The primary way to hear audio from an iPod, this 3.5-millimeter-wide hole makes low-power electrical connections with headphone plugs and 3.5mm audio cables, splitting outgoing sounds into left- and right-channel stereo. Current iPad,

iPod and iPhone headphone ports are also used for one- or three-button remote controls and monaural microphone input, as well.



**Home Screen:** Known to developers as Springboard, the "Home Screen" of the iPad, iPhone, iPod touch, and seventh-generation iPod nano is where the icons for individual applications reside, and accessible at any time by pressing the circular Home Button on the front of these Apple touchscreen devices.

**Hotspot:** A public access point for wireless Internet access. Also known as a Wi-Fi Hotspot. Through partnerships with businesses such as Starbucks and Barnes & Noble, AT&T offers free Wi-Fi Hotspot access to iPhone (and some iPad) users in the United States. Hotspot Internet access is always provided using Wi-Fi.

**HSDPA:** One of several 3G (or third-generation) cellular standards, "High-Speed Downlink Packet Access."

Offers up to 14Mbps download speeds under ideal conditions; supported by recent iPhones and cellular iPads.

**HSPA+:** Short for Evolved High-Speed Packet Access, this stepping stone to LTE cellular performance typically offers up to 21Mbps or 42Mbps download speeds - 3 or 6 times faster than the 7.2Mbps HSDPA found in the iPhone 3GS and 4. Included in the iPhone 4S, iPhone 5, third-generation iPad, fourth-generation iPad, and iPad mini.

**HSUPA:** One of several 3G cellular standards, "High-Speed Uplink Packet Access," added to the iPhone 4 and iPad 2, increasing cellular upload speeds from 0.4Mbps to up to 5.76Mbps, depending on carrier support and antenna obstructions.



**HTML5:** An open standard for next-generation web site development, championed by Apple as an alternative to Adobe's Flash for animated graphics and video playback. Increasingly supported by web sites that want their pages to work fully on both iOS devices and modern computers.

**iAd:** Apple's premium advertising service, introduced in iOS 4, enabling companies to advertise using banners and full app-sized "rich advertising content" nestled within free or inexpensive apps. iAds leverage newer iOS devices' multitasking to quickly flip back and forth between the ad and the original app, so users aren't discouraged from viewing compelling ads.



**iBooks + iBookstore:** Once the name of Apple's low-end laptops, iBooks has become the name for a book- and PDF-reading application for the iPad, iPhone, and iPod touch; iBookstore is the built-in store that sells digital books.

**iCloud:** Unveiled in mid-2011, this replacement for Apple's MobileMe service is free for all iOS 5 and newer device users, storing music, photos, apps, calendars, documents, and settings on Apple's Internet-accessible servers (see Cloud), then automatically synchronizing them to all of your devices. Also includes a free @icloud.com e-mail account, and can be upgraded with additional music storage capacity for an annual fee.

**iCloud Tabs:** An iCloud-reliant feature of iOS 6 and

OS X Mountain Lion for Macs, enabling a user to see the open tabs on all of her Safari web browsers from any iOS device or Mac.



**iMessage:** Apple's Messages app for iPhones, iPod touches, iPads, and Macs enables any iOS 5 or newer device to send and receive text, photo, and video messages over Apple's "iMessage" network without relying upon cellular networks or paying per-message fees.



**In-App Purchasing:** Also known as IAP, this allows developers to sell additional content - game levels, additional characters, or application features - from within an already-downloaded game or app. For a minimum of 99 cents, a purchase can either download new content and expand the original size of the app, or unlock existing content that was hidden inside the app.



**Infrared:** Refers to the wireless technology used by most remote controls, using red light that's invisible to the human eye to broadcast flashing signals. Infrared remotes generally work only from 30- or fewer-foot distances, and must generally be pointed in a direct line of sight towards the receiving device. Superior remote controls use radio frequency (RF), which is not as limited in feet or direction.

**Internet Radio:** An alternative to AM, FM, and HD Radio that depends solely upon the Internet rather than broadcasting towers in order to transmit music and talk programming to users, generally in a "streaming" form that is passively heard by the listener rather than controlled. Thousands of stations around the world now offer Internet Radio; traditional AM and FM stations now offer their content in this format as well. iTunes, Apple TVs, and third-party iPhone/iPod touch/iPad apps can stream Internet Radio.



**iOS:** The most recent (and likely final) name of what was previously called iPhone OS and OS X iPhone, referring to the operating system that powers all iPhones, iPod touches, iPads, and the latest two Apple TVs.



**iPad:** The family name for Apple's line of tablet computers. Can also refer to either the first such tablet Apple released, the third-generation model announced as "the new iPad" in early 2012, or November 2012's fourth-generation model.

**iPad mini:** Apple's 7.9"-screened smaller iPad, to be available in November 2012. Capable of running iPad applications, but otherwise similar in features to the iPod touch 5G.

**iPad With Retina display:** The name Apple began to use for the full-sized iPad after debuting the iPad mini. Currently refers to the fourth-generation iPad.

**iPad With Wi-Fi:** The original base model of Apple's tablet computer, using a 9.7" touchscreen and an 802.11n wireless chip to offer Internet access at homes, offices, and Wi-Fi hotspots, plus most of the media and app features of iPhones.

**iPad With Wi-Fi + 3G:** The high-end original iPad, adding a 3G cellular data chip to offer Internet access on the road, typically without the need for a multi-month service contract.

**iPad With Wi-Fi + Cellular:** Apple's current naming

convention for its third- and fourth-generation 3G/LTE versions of the iPad. Briefly known as iPad With Wi-Fi + 4G until Apple was accused of false advertising in certain markets without 4G/LTE.



**iPad 2:** Apple's second-generation tablet computer, built thinner and lighter than the original while containing much faster processors and twin cameras for FaceTime. Comes in Wi-Fi-only or Wi-Fi + 3G versions, as well as white- or black-bezeled versions, each with silver aluminum backs.

**iPhone:** The family name for Apple's line of cellular phones with integrated iPod media capabilities and Internet functionality built in. Also refers to the original 2007 product of the same name, which was discontinued in mid-2008.

**iPhone 3G:** The 2008 replacement for the original iPhone, named specifically to reference its 3G cellular compatibility, which offered GPS, superior speeds, and better network compatibility than the first model. Discontinued in 2010 after two years of sales.

**iPhone 3GS:** The 2009 sequel to the iPhone 3G, with an added "S" to indicate superior speeds

achieved through faster chips, more RAM, and better cellular capabilities relative to the iPhone 3G, plus a compass and video camera. Discontinued in late 2012.

**iPhone 4:** The fourth member of the iPhone family, featuring a "Retina Display" screen, "FaceTime" video calling, and a rear 5-Megapixel camera amongst other improvements. Originally sold in 16GB and 32GB capacities, then only a 8GB capacity, as well as black or white versions.



**iPhone 4S:** The fifth-generation iPhone, preserving all of the features of the iPhone 4 while adding an 8-Megapixel rear camera, faster chips, and the Siri intelligent assistant. The first iPhone to come in a 64GB capacity.

**iPhone 5:** Actually the sixth-generation iPhone, this model introduced a 4", 16:9-aspect ratio screen and LTE cellular connectivity to the family, while dramatically improving processing speeds and camera performance. Available in 16, 32, and 64GB capacities.

**iPhone OS:** The former name of iOS, changed in 2010 with iOS 4.

**iPod Click Wheel Games:** Refers to a library of roughly 50 pieces of software developed from 2006 through 2009 to be played on the iPod 5G, classic, and nano 3G, 4G, and 5G models. These games sold for \$5 each with the exception of a few \$1 titles, and are incompatible with the iPhone, iPod touch, Apple TV, and other Apple products. Quietly discontinued in 2011.

**iPod:** The family name for Apple's line of digital media players, and later iPhone/iPad applications that emulated them. Also refers to the original 2001 product of the same name, renamed in 2006 to "iPod classic." Has traditionally referred to a pocket-sized (or smaller) audio player that may or may not have other capabilities. Original iPods exclusively featured white or black plastic face plates and polished stainless steel rear casings; black and red-faced versions were released from 2004-2006 with the rock band U2.



**iPod classic:** Apple's sole remaining hard disk-based digital media player, previously known as the iPod. iPod classics have exclusively featured silver or black anodized aluminum face plates and polished stainless

steel rear casings. Currently available only in a 160GB capacity.



**iPod mini:** Released in 2004, Apple's first attempt to shrink the iPod into a physically smaller, less expensive, and less capacious version. Pioneered the use of colored anodized aluminum shells as a resilient, eye-catching, and personalizing alternative to the plastic and stainless steel full-sized iPods; established 4GB of storage capacity, size, and colors as key to appealing to mainstream users. Discontinued in 2005.

**iPod nano:** Released in late 2005 as a replacement for the iPod mini, Apple's first attempt to repackage a color-screened iPod in an "impossibly thin" shell, using flash memory as a replacement for the hard disk. Replaced annually every year since introduction with a new design, adding video capabilities in 2007, evolving from two plastic and stainless steel body colors to nine by 2008, and adding video camera, speaker, microphone, and FM radio features in 2009. Lost all video and camera features in 2010 when shrinking to size of iPod shuffle, but



gained a touchscreen; the larger 2012 model regained video playback and an iOS-like (but not iOS) interface with a 2.5" touchscreen. Currently available in a 16GB capacity.



**iPod photo:** Released in 2004 as the iPod Photo (later "photo"), this thick, expensive iPod was Apple's first with a color screen and photo playback. It was subsequently shrunk, price-chopped, and renamed "iPod."

**iPod shuffle:** Released in 2005, this screenless iPod was Apple's first to hit a \$99 price point, and the first to use flash memory instead of a hard disk for storage. Pitched as wearable and designed for users who didn't need the complexity of Click Wheel controls, the shuffle shrunk into a matchbox-sized form in 2007, and then smaller in 2009, losing its integrated buttons in favor of a headphone-mounted remote control. It regained buttons and audio quality in 2010. Currently sold only in a 2GB capacity.

**iPod touch:** Released in 2007 after the original iPhone, this was the first widescreen, Wi-Fi, and Internet-ready iPod and, in essence, an iPhone without the phone, camera, speakers, or

microphone. Initially crippled with a deliberately limited subset of the iPhone's features, iPod touch grew with software updates to be extremely similar to the iPhone in applications, adding a speaker and microphone-friendly headphone port in 2008, then voice controls in 2009, then twin cameras and a Retina Display in 2010. The 2012 model improved the cameras and lengthened the screen to 4" with a 16:9 aspect ratio. Now pitched as the iPod for gamers, an iPod touch runs virtually all the same apps as the iPhone. Apple sells 8GB and 16GB fourth-generation iPod touches alongside 32GB and 64GB fifth-generation models.

**iPod touch loop:** Bundled with the fifth-generation iPod touch and sold separately, this wrist strap attaches to a swirled metal button that pops out of the iPod's back.

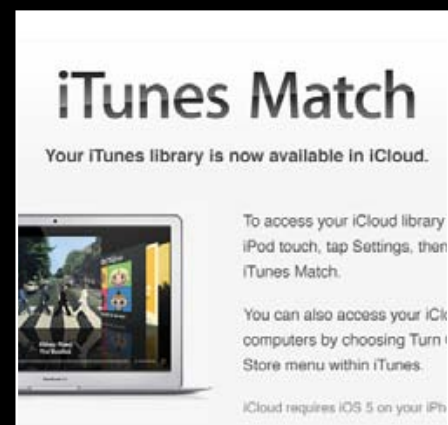


**iSight Camera:** Apple's recently repurposed name for the rear cameras found on some iPhones, iPod touches, and iPads; the term previously referred to front-facing cameras found on Mac computers, which are now called FaceTime cameras.

**iTunes:** Released in 2001, Apple's digital music management software has

evolved to become the Mac and PC hub for managing and selling music, video, and game content to iPad, iPod and iPhone users, wirelessly sending audio, photo, and video content to Apple TV users, backing up devices, and streaming media to AirPlay devices. As of iOS 5, iTunes use became optional; iCloud can be used instead for wireless device backup and synchronization.

**iTunes in the Cloud:** Apple's mid-2011 upgrade to allow certain past iTunes Store music, TV show, and video purchases to be re-downloaded by computers and iOS devices at no additional charge.



**iTunes Match:** A paid \$25/year service by which the majority of your iTunes music library can be made available for nearly instant playback on any iOS 5 or later device using iCloud. iTunes Match scans your entire music library, gives you quick access to any track it can find in the iTunes Store, and lets you transfer any unlocated tracks to your iCloud account for future streaming.

**iTunes Plus:** Refers to 256Kbps music sold through the iTunes Store without DRM, and at twice the bitrate/Kbps of prior 128Kbps music sold there.

**iTunes Store:** The section of iTunes devoted to selling music, audiobooks, and videos on computers and iOS devices, as well as distributing free and paid podcasts, iTunes U educational content, books, applications, and games on computers. The latter media are sold through separate apps on iOS devices.

**iTunes Tagging:** A feature of certain accessories and iPods, enabling iPods to store "tags" with name data for currently playing radio songs, then synchronize it back to iTunes for location in the iTunes Store.



**iTunes U:** A section of the iTunes Store devoted to educational content from numerous higher learning institutions, museums, and information providers. Also the name of an iOS app that browses, organizes and performs this content.

**iWork:** A collection of three Apple-developed Mac and iOS alternatives to Microsoft Office programs: Pages replaces Word, Numbers replaces Excel, and Keynote replaces PowerPoint. Documents from iWork programs can be viewed on the iPad, iPod touch and iPhone without the apps.

**JPEG/JPG:** The primary format for photo storage and display on iPads, iPods, iPhones, and Apple TVs, as synchronized through iTunes or viewed via their Internet connections.

**Kbps:** Kilobits per second. A measure of the amount of data stored in a given second's worth of audio or video. Higher numbers typically mean higher quality. See Bitrate.

**Light Sensor:** Also known as an Ambient Light Sensor, this small front-facing sensor enables iPhones, iPads, and most iPod touches to automatically adjust screen brightness in especially bright or dark rooms. Quietly removed from the fifth-generation iPod touch due to what Apple said was a lack of thickness for the sensor.



**Lightning Connector:** Apple's late 2012 replacement for the classic 30-pin Dock Connector found on all iPads, all iPhones, and most iPods sold from 2003 through mid-2012. Considerably smaller and reversible, this connector uses 8 tiny pins in a line for all-digital communication with cables and other accessories. Apple offers Lightning Adapters to allow some older Dock Connector accessories to work with Lightning-equipped iPads, iPhones, and iPods.

**Lithium-Ion/Lithium-Polymer Batteries:** Rechargeable battery technology used in iPads, iPods,

and iPhones that enables them to operate at full or nearly full capacity for around two years before requiring new replacement batteries.

**Live Pause:** Apple's term for the ability to stop a live radio broadcast, then resume it from the point where you stopped. Found in the FM Radio feature of certain iPod nano models.

**Location Services:** Apple's broad term for GPS and GPS-simulating technologies such as Skyhook, which creates a rough GPS-like approximation of your location by consulting a map of wireless routers. All cellular iPads and all iPhone 3G and later models have real GPS, while the iPads with Wi-Fi, iPod touches, and the original iPhone have no GPS, but can use Location Services.



**Lock Screen:** Found on the iPad, iPhone, and iPod touch, this screen prevents the device's many apps from being accidentally activated by adding a swipable left-to-right lock before you reach the Home Screen of a sleeping iOS unit. In addition to containing a photo of your choice, this screen now also has a down-to-up swipable camera icon to automatically open the Camera app on many iOS devices.



**Loop:** See iPod touch loop.

**LTE:** Also known as 4G LTE, this “Long Term Evolution” standard for fourth-generation cellular wireless transmissions promises peak download speeds of 300Mbps and uploads at up to 75Mbps. American LTE networks are still under development, with speeds in the 10-70Mbps down/2-30Mbps up range. The iPhone 5, iPad mini, and Retina display-equipped iPads with Wi-Fi + Cellular support LTE in certain countries.

**Magnetometer:** See Digital Compass.

**Mbps:** Megabits per second. A measure of the amount of information contained in one second worth of transmitted or played data. Higher numbers typically mean higher quality video. See Bitrate.

**Megapixel:** Each million dots used in a digital photo is referred to as a “Megapixel.” The original iPhone and iPhone 3G had 2-Megapixel cameras. iPhone 3GS has a 3-Megapixel camera. The iPhone 4, iPod touch 5G, iPad mini, third-generation iPad and fourth-generation iPad have 5-Megapixel cameras, and iPhone 4S/5 have 8-Megapixel cameras. Only the iPod touch 4G has a 0.7-Megapixel rear still camera. As a general rule, more Megapixels in the same-sized space (say, 4” x 6”) means more detailed photos, though this isn’t always 100% accurate.

**Micro-SIM:** The now mid-sized SIM card used by the iPad, iPad 2, iPad 3rd-Gen, iPad 4th-Gen, and iPhone 4/4S. See also Nano-SIM and SIM Card.

**MiFi:** The brand name of a Novatel Wireless portable Wi-Fi hotspot, sold by Verizon, Rogers, and other cellular providers as a way to access their 3G/LTE cellular networks on devices without cellular antennas.

**MobileMe:** Apple’s now-discontinued \$99/year service that stores emails, photos, videos, music, contacts and calendars in a 20GB “cloud” account, letting you instantly sync email and other info to iPads, iPhones and iPod touches, as well as accessing media and documents stored online. Largely replaced by iCloud.

**MP3:** Also known as MPEG-3 (more accurately MPEG-2, audio layer 3), the breakthrough audio compression format that eventually led to digital distribution of music, albeit in other, more heavily DRMed audio formats such as protected AAC and Microsoft’s WMA.

**MPEG-4:** Also known as MP4, a video compression format that enabled huge movie and television files to be compressed into sizes that could fit on pocket-sized devices. One of two key video formats supported by Apple for iPads, iPods, iPhones, iTunes, and Apple TV; H.264 is a newer, superior format.

**MSRP:** Industry abbreviation for Manufacturer’s Suggested Retail Price. Virtually every product sold in the U.S. has one; SRP and RRP mean the same thing.

**Multitasking:** Refers generally to the ability of a computer to do several things at the same time, displaying one or more of them on screen at the same time while

others work in the “background,” invisible to the user but still occupying the computer’s processor and memory. Though all iOS devices multitask, only iOS 4 and later devices allow third-party applications to do so.

**Multi-Touch:** Apple’s term for the technologies it uses to enable touchscreens and trackpads to recognize more than one finger’s movement at a given time, enabling pinch zooming, two-finger scrolling, and other tricks.



**Nano-SIM:** The smallest SIM card standard, currently used by the iPhone 5 and iPad mini. See also Micro-SIM and SIM Card.



**Newsstand:** Apple’s virtual newspaper and magazine rack for iOS devices, containing app-based periodicals that can automatically download new issues and maintain recurring paid subscriptions through the iTunes Store/App Store.

**Nike + iPod (Sport Kit):** The 2006 fruit of a collaboration between

Apple and fitness apparel company Nike, combining an iPod-based receiver with a Nike shoe-based sensor to track the distance walked or run by the user. The iPod then synchronizes the workout data with iTunes and a Nikeplus.com web site, providing ongoing performance metrics. Current iPod touch and iPhone models have Nike+ wireless receivers built-in; the accessories are compatible with iPod nanos but not with iPod shuffles, classics, minis, or earlier iPhones. In late 2011, Apple enabled the sixth-generation iPod nano to offer Nike + iPod-like run tracking with its pedometer. A 2012 accessory called the Nike+ Sport Sensor added a pressure sensitive feature for basketball jump height measurement, and workout motion tracking.



**Notifications:** Previously displayed in a small blue box in the center of an iOS device’s screen, these text and image boxes can contain messages from other people, reminders,

mentions of past phone calls, updates from apps, and more, interrupting whatever else you’re doing on your device. As of iOS 5, all notifications are brought together in a Notification Center, and many are displayed on your Home Screen for immediate access.

**Office:** Refers to Microsoft Office, the dominant productivity suite for word processing (Word), spreadsheet (Excel) and presentation (PowerPoint) creation. iPad, iPhone and iPod touch can display Office documents for reading only.

**Oleophobic Coating:** A complex way of saying “oil-resistant.” Found on iPads, recent iPhones, and certain iPod touches, this coating makes it easier to remove finger and face smudges with a simple wipe of the display.

**Optical Audio:** Refers to the fiber optic cables used to connect certain AV receivers to components for a digital stereo or multi-channel audio signal. All Apple TVs, all AirPort Expresses, and most Mac computers are capable of optical audio output.

**Panorama:** An iOS 6 camera software feature supported by the iPhone 4S/5 and fifth-generation iPod touch, capturing super-wide or -tall photos that have been automatically stitched together into a (nearly) seamless image.

**PDF:** Portable Document Format. Created by Adobe, this standardized format enables text, bitmapped graphics, and vector artwork to be assembled into files that look the same from

machine to machine, and print in high-resolution on printers. iPads, iPhones and iPod touches can display PDFs, now within Apple’s iBooks application.

**Pedometer:** A piece of hardware that measures the number of footsteps taken by the user, assisting in calculations of calories burned during a given period of time. Found in the last several iPod nanos.

**Photo Stream:** Added in iOS 5, this iCloud-based feature automatically gathers photographs snapped by all of your iOS 5 devices, placing them in a “last 1,000 images” collection that can be viewed from your computer, Apple TV, or any other iOS 5/6 device. Also can share photos synced from your digital camera to your computer with iOS devices.



**Ping:** Added to iTunes 10 in September 2010, this music social network was designed to help iTunes Store shoppers get recommendations from friends, as well as follow the activities of artists selected by Apple to receive special accounts. Discontinued in September 2012 due to weak interest from users and participation from artists.



**Pixels:** The colored square dots that create images on computer and portable device screens. If two screens are the same size, and one has more pixels per inch (PPI, aka dots per inch or DPI) than the other, the first screen is capable of displaying pictures with a greater level of detail.

**Podcast:** Term that describes radio- or TV show-like audio and/or video recordings that are distributed solely over the Internet rather than on radio or TV. Podcasts can be found in the iTunes Store or on individual web sites, and are playable through iTunes, iPads, iPods, iPhones, and Apple TVs.

**PowerVR SGX:** The graphics processors used in third-, fourth-, fifth- and sixth-generation iPhones and iPod touches, as well as in all iPads. Developed by Imagination Technologies as energy-efficient alternatives to the massive, power-hungry graphics chips in Macs and PCs. Original versions had only one processing core; current versions have two, three, or four cores.

**Predictive Text:** A software technique to guess what you're trying to type or about to type from what you've already typed, sometimes enabling you to skip finishing words and just accept the software's guess as correct. Used often in searching.

**(PRODUCT) RED:** The official brand of the Global Fund to Fight AIDS, Tuberculosis and Malaria, licensed to partners who produce red versions of their products to sell with charitable proceeds given to the Fund.



Apple partnered with the Global Fund in 2006 and has released six iPod nanos, three iPod shuffles, one iPod touch, three iPad accessories, an iPhone 4S Bumper, and iTunes Cards with the (PRODUCT) RED logo.

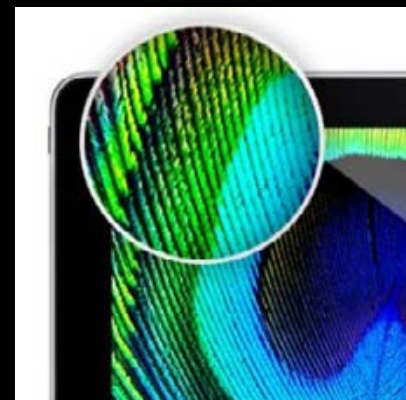
**Proximity Sensor:** Built in to every iPhone, proximity sensors enable the phones to deactivate and activate their screens when faces are brought close to the controls.

**Realtime:** Refers to the ability of a user to interact with or edit something as it's happening or with 1-to-1 speed rather than on a delay. Realtime video editing, as one example, means that changes are made without having to wait minutes or hours between edits; "slower than realtime" implies a wait.

**Remote and Mic:** As used by Apple, a short term to reference the current combination of a microphone with a three-button volume and multifunction track remote control on certain of its iPod/iPhone/iPad-compatible Earphones, as well as EarPods.

**Resolution:** The total pixel count of a screen, generally measured horizontally and then vertically. The iPod classic has a resolution

of 320x240 pixels, while older iPod touches (3G and older) and iPhones (3GS and older) have a resolution of 480x320 pixels. By comparison, the iPhone 4/4S and iPod touch 4G have resolutions of 960x640 pixels, with the iPhone 5 and iPod touch 5G at 1136x640 pixels. The iPad, iPad 2, and iPad mini have 1024x768 pixels, while the third- and fourth-generation iPad have 2048x1536 pixels. Higher resolutions make images and videos look more detailed, when screen size is held constant.



**Retina Display:** Apple's name for a screen with resolution so high that the human eye cannot perceive individual pixels. Currently used in the iPhone 4/4S/5 and iPod touch 4G/5G, which feature 326 pixels per inch in their 3.5"-4" displays, as well as the third- and fourth-generation iPads, which have 264 pixels per inch. The company has alternated capitalization on the word "Display," largely choosing to leave it all in lower case.

**Safari:** Apple's web browser, now found on iPads, iPhones, iPods, Macs, and PCs.

**Screen Mirroring:** The ability of a device to use an external screen (such as an HDTV or

computer monitor) to display whatever is on its own screen. The iPhone 4S, iPhone 5, iPod touch 5G, iPad 2, iPad mini, third-generation iPad, and fourth-generation iPad can do this. All of these devices can use the Apple TV for wireless AirPlay Mirroring, or one of Apple's VGA/Digital AV Adapters for wired mirroring.

**Season Pass:** The iTunes Store term for a subscription to an entire season of episodes that download one at a time as they're released into the Store.

**Shared Photo Stream:** Added to iOS 6, Apple TV software 5.1, and OS X Mountain Lion, an iCloud-based way to easily share specific photos with friends and family. Includes "like" and "comment" features akin to Facebook. Only for viewing by individuals you select, or on a public web page if you prefer.

**Shuffle:** To randomize the order of audio tracks or videos. The iPod shuffle took its name from this iTunes feature, which Apple started to give greater prominence in earlier iPods in the year leading up to the shuffle's announcement.

**SIM Card:** A Subscriber Identity Module; a tiny chip-based card that links a cell phone to a specific billing account for access to phone and data services. Almost every iPhone (except Verizon's iPhone 4) and all iPads with 3G/Cellular capabilities have a SIM card slot. See also Micro-SIM and Nano-SIM, smaller versions of the same SIM Card technology.



**Siri:** An extension of Apple's earlier Voice Control, combining impressive voice recognition, text-to-speech, and artificial intelligence technologies to create an "intelligent assistant" that listens to your voice and responds to questions with information. Based on a free app released for iPod touches and iPhones by Siri, a company Apple acquired; the free app has since been discontinued and the feature radically expanded as a key feature of the iPhone 4S/5, third-generation iPad, fourth-generation iPad, iPad mini, and fifth-generation iPod touch. Now can provide sports scores, movie showtimes, and restaurant information in addition to launching apps, playing music, dialing people on the phone, sending text-based messages, and assisting with driving directions. See also Dictation.

**Smart Case/Cover:** An Apple-developed accessory that covers an iPad's screen when the device is not in use, and enables the iPad to stand up or recline on an angle for typing. Also automatically unlocks the iPad's screen when opened, re-locking it when closed, using magnets to attach to

both the iPad's side and face. The Smart Cover was introduced with the iPad 2 and continued for the third-generation iPad, fourth-generation iPad, and iPad mini. A more protective version called the Smart Case was later released for the second- and third-generation iPads, eliminating the side-of-iPad magnets in favor of a soft body covering fabric shell.

**Spoken Menus:** Apple's accessibility technology for fourth- and fifth-generation iPod nanos, enabling users to hear all of the nano's menu options read through the headphones or integrated speaker. See also VoiceOver.

**Spotlight:** Apple's name for a system-wide search feature, found first on Macs before coming to iPod touches, iPhones, and iPads.

**Stabilization:** Accomplished through hardware or software with varying results depending on the specific method chosen, image or video stabilization attempts to reduce blur or jitter in images attributable to a shaky hand holding the camera during shooting. Hardware stabilization is generally superior to software stabilization, and found in better standalone still and video cameras; certain iOS devices have software stabilization for video, and do an OK job with it.

**Stainless Steel:** The metal used for the mirror-polished rear housings of original iPods, then original iPod nanos, iPod classics, and first- to fourth-generation iPod touches. Highly scratchable.



**Standby Time:** A measurement of the number of hours or days a cell phone's battery can last when the phone is turned on but not doing anything else, such as making or receiving calls, or in the iPhone's case, accessing the web, playing games, or performing audio and video.

**Three-Axis Gyro:** See gyroscope.



**Tweet:** Shorthand for posting a 140- or fewer-character message on Twitter, the social information service. Support for Twitter and tweeting was added to iOS 5.

**UMTS:** Universal Mobile Telecommunications System, the basis of many 3G and upcoming 4G cellular networks. Most iPhone and iPad models support UMTS networks.

**USB:** Universal Serial Bus, the dominant cable standard for all computers, and the only way to connect iPads, iPhones and most iPods for charging. Uses a rectangular metal box on one end to connect to your computer. USB replaced FireWire, the original charging and synchronization technology found in iPods and accessories.

**VGA:** Short for Video Graphics Array. Refers to 640x480 resolution, which at one point was the maximum resolution for computer screens; VGA-quality resolution is now considered to be lower than what is commonly called high-definition (HD). The iPod touch 4G, iPhone 4, iPhone 4S, iPad 2, and the third-generation iPad each have VGA-quality front video cameras and HD-quality rear ones.

**VGA/Dock Connector Adapter:** Originally only for the iPad, this cable also lets iPhone 4/4S, iPad 2, iPad (3rd-Gen) and iPod touch 4G output HD-quality video to TVs and monitors with VGA ports. A Lightning version will soon be available, as well.



**Voice Control:** Apple's iPhone 3GS, iPhone 4, and 2009-2010 iPod touch application, triggered by holding down the Home button, that uses a microphone to listen for the user's voice commands to choose music to play back, or in an iPhone's case, make phone calls. Replaced by Siri in iPhone 4S/5, the iPod touch 5G, and newer iPads, but still can be toggled back on.

**VoiceOver:** On earlier iPod nanos and current iPod shuffles, the term VoiceOver refers to Apple's

text-to-speech technology that tells the user the name of a currently playing song, and on the iPod shuffle, the potential names of selectable playlists. On iPads, current iPhones, and current iPod touches and nanos, VoiceOver refers to an accessibility option that lets the user hear text-to-speech for anything on the screen that's touched. See also Spoken Menus.

**Watt-Hour (Battery):** One way of stating the total power capacity of a battery. If an iPad consumes an average of 4.25 watts of power per hour and has a 42.5 Watt-Hour battery, it will run for 10 hours of average use; longer if it's doing things (such as only playing music) that consume less power, shorter if it's doing things (such as recording video) that consume more power.



**Wi-Fi:** Refers to 802.11a, 802.11b, 802.11g, and 802.11n wireless connectivity standards that enable the iPod touch, all iPhones, and Apple TVs to send data back and forth from computers and the Internet without using cables, or relying on cellular networks. Old iPod touch and iPhone devices support only 802.11b and 802.11g, which are slower and older than 802.11n, a Wi-Fi

standard that is supported by all shipping Macs, iPod touches, iPhones, iPads, Apple TVs, and most PCs. A newer standard called 802.11ac is anticipated to spread in 2013.



**Widescreen:** Generally refers to a screen that is capable of displaying movies and in some cases TV shows with a 16:9 aspect ratio - wider than the 4:3 aspect ratios of pre-HDTVs. The iPhone 5 and fifth-generation iPod touch have roughly 16:9 aspect ratio screens, as seen in the top screenshot above, as compared with all iPads, which have 4:3 aspect ratio screens.

**Worldphone:** A cellular phone that can be used in most parts of the world. The term was once used to refer to GSM phones that worked on different frequencies in different countries, and later referenced support for both GSM and CDMA standards. Today, as incompatible 4G/LTE networks are spreading, the idea of a true LTE worldphone seems unlikely in the near future.

**WWDC:** Short for Worldwide Developers Conference, Apple's annual June event for Mac OS X

and iOS software developers to learn about the company's latest operating systems, software, and generally hardware as well.



**YouTube:** A Google-owned free hosting service for amateur and professional video content, uploaded by users, and viewable anywhere in the world on computers and Apple TVs. Until iOS 6, the iPhone, iPod touch, and iPad also had YouTube browsers built in; certain iPhones, iPod touches, and iPads can still upload videos directly from their cameras to the service.

**1080p:** The current peak HD video resolution for HDTVs in most of the world. Also known as "full HD," this is 1920x1080 pixels - 2 Megapixels per frame. The iPhone 4S/5, iPod touch 5G, iPad mini, iPad (3rd-Gen), and iPad (4th-Gen) can record videos at 1080p. Notably, the Retina screens on iPads have a higher resolution than 1080p, and so-called "4K" and "8K" television sets are being developed with "Ultra HD" 4- and 8-Megapixel capabilities, respectively.

**3G:** Understood in the cell phone context, a broad reference to "third-generation," broadband Internet-approaching cellular data services that are superior

to EDGE and earlier analog/digital cellular technologies. The iPhone 3G/3GS and iPad With Wi-Fi + 3G were named for these networks, as Apple sought to let users know that the new models would support 3G cellular Internet connectivity. In the iPod context, refers to third-generation iPods, iPod nanos, iPod shuffles, and iPod touches, which have sometimes been known as "iPod 3G," "iPod nano 3G," "iPod shuffle 3G," or "iPod touch 3G," or alternately called by new defining features or dates of release.

**4G:** In the cell phone context, a reference to "fourth-generation" cellular data services, which in some cases will be capable of rivaling or exceeding wired broadband speeds. LTE is considered a "true 4G" service, while HSPA+ and DC-HSDPA are stepping stones between 3G and 4G/LTE.

**30-Pin Connector:** See Dock Connector.

**720p:** Refers to 1280x720 video resolution, a high-definition standard with less detail than "full HD" 1080p (1920x1080).

**802.11b/g:** The Wi-Fi standards supported by pre-2010 iPhone and iPod touch models for accessing the Internet through a wireless router or hotspot.

**802.11n:** The faster, longer-distance, and newer Wi-Fi standard supported by 2010 and newer iPhone, iPod touch, and iPad models for accessing the Internet through a wireless router or hotspot; has been supported by Apple TV since the first model and numerous other Apple products for years.





# The iLounge Pavilion.

Held annually in Las Vegas, the International Consumer Electronics Show (CES) is the world's largest consumer technology trade show, fully occupying three separate halls at the Las Vegas Convention Center - and additional exhibition spaces at nearby hotels.

Three years ago, iLounge partnered with the Consumer Electronics Association to create the iLounge Pavilion, an area for new Apple-related products. Over 156,000 people from 150 countries attended CES last year.

Today, the iLounge Pavilion is CES's largest exhibition area, occupying roughly 120,000 square feet of the Las Vegas Convention Center and the adjacent LVH hotel. From January 8-11, 2013, over 450 iPad, iPhone, iPod, and Mac developers will show their latest accessories and apps, the most amazing collection of Apple product debuts anywhere in the world.

This year, iLounge's centrally-located booth (North Hall, 4314) will focus on the history of Apple's iPods, iPhones, and iPads, 2012's best accessories and apps, and the most promising new products debuted at the 2013 CES. The following pages include near-final maps, an exhibitor list, and twelve companies our editors selected based on past great CES product debuts.

iLounge is proud to have created the iLounge Pavilion for the Apple community's benefit, and does not sell booth space or otherwise profit from the area. Companies interested in joining the iLounge Pavilion's 2013 waiting list or exhibiting in guaranteed space for 2014 should contact the Consumer Electronics Association's Tira Gordon at [tgordon@ce.org](mailto:tgordon@ce.org) today.

## iLounge Pavilion: The (Really) Big Picture

Larger in size than two football fields, the iLounge Pavilion is a collection of small, medium, and large booths operated by the world's leading creators of new Apple accessories and software. During four days at CES, these companies put their current and new products on display, meeting with members of the press, retail stores, and other companies, building awareness and distribution for their brands and upcoming releases. Roughly two-thirds of the show's attendees are not exhibitors - they attend solely to see and go hands-on with the latest technology.

## Lay Of The Land: North Hall + LVH Hotel

The iLounge Pavilion's main area is in North Hall - over 95,000 square feet, all sold out for 2013 before the 2012 CES ended. To accommodate a massive waiting list, over 20,000 additional square feet were added in LVH (formerly Las Vegas Hilton).



### Pavilion

### North Hall

### LVH Hotel

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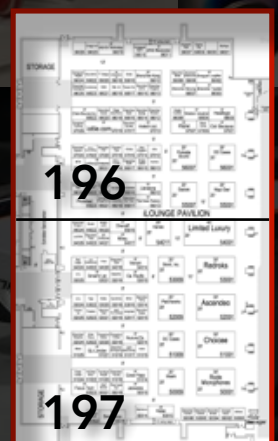
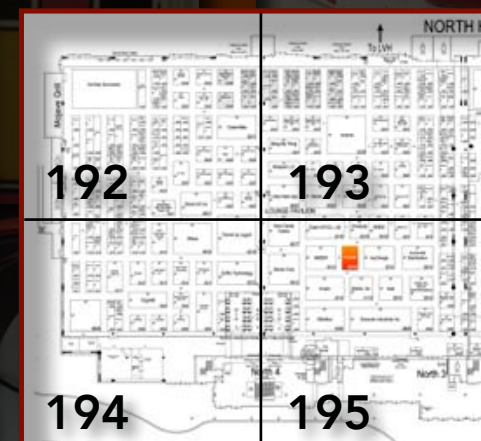
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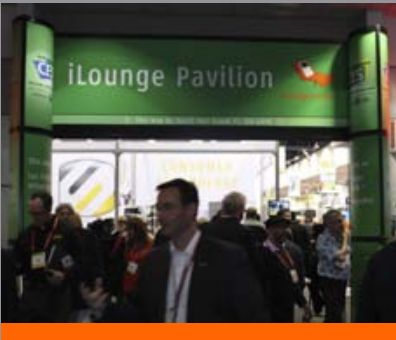
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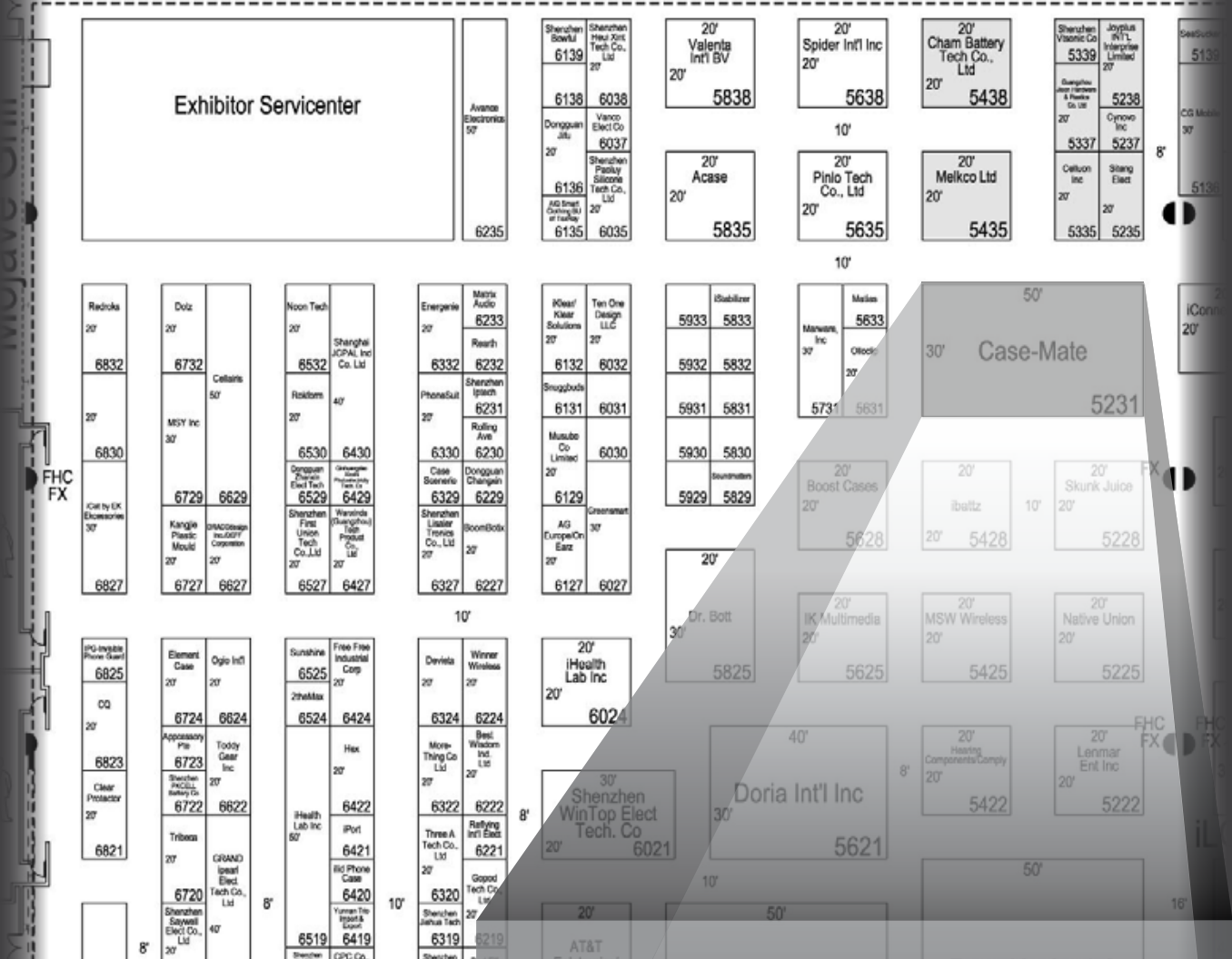
12 Apple Booths Worth Seeing At CES

With hundreds of booths to visit across two separate (but nearby) show floors, it's hard for even long-time CES attendees to know where to begin. We've divided the North Hall into four quadrants and LVH in upper and lower halves, spotlighting a handful of key Apple accessory developers in each area. These maps are current as of November 2012, but they're subject to change, so check iLounge for updates.



iSkin (North Hall #4626)

This long-time maker of Apple device cases will be showcasing Fuze 5 and Fuze SE for iPhone 5, featuring a soft inner core and hard outer shell with button and port covers. The company claims a number of improvements over the iPhone 4/4S version, as well as shock and impact protection.



Case-Mate (North Hall #5231)

We were impressed by the diverse lineup of iPhone accessories Case-Mate showed off last year, so we're expecting great things at the 2013 CES. The company recently partnered with Argentina's luxury leather case maker Vaja, so in addition to iPhone 5 cases, we're expecting to see some high-end protective covers for iPad and iPad mini as well.

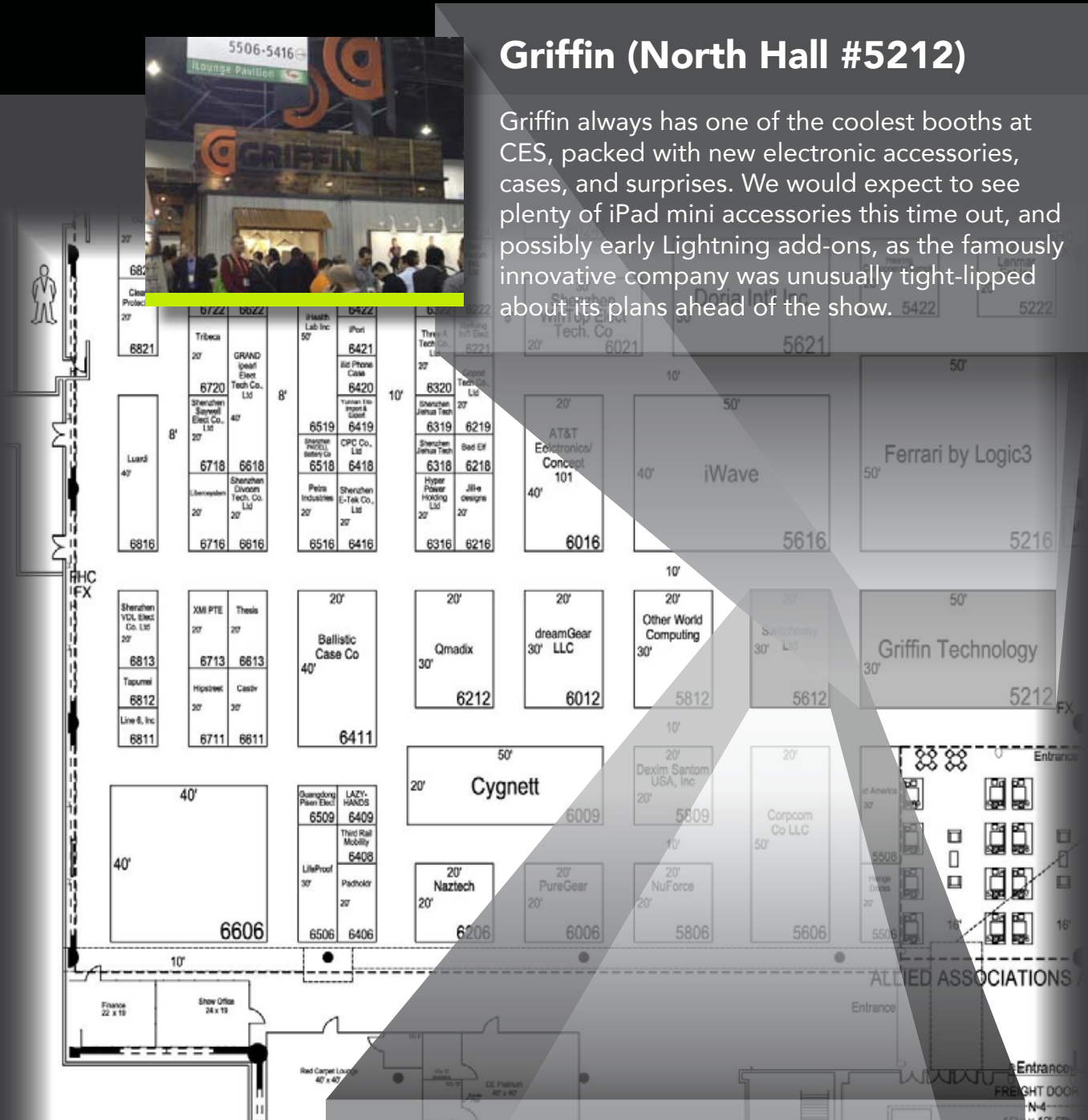


Just Mobile (North Hall #4222)

Just Mobile's Gum family includes some of the best portable battery packs, and Gum will expand in 2013 with the introduction of the new dual-port Gum Max. While the design looks similar to the prior iPad-ready battery of the same name, the new model is said to have an even larger capacity than before, which will let it do more for power-hungry Retina iPads.

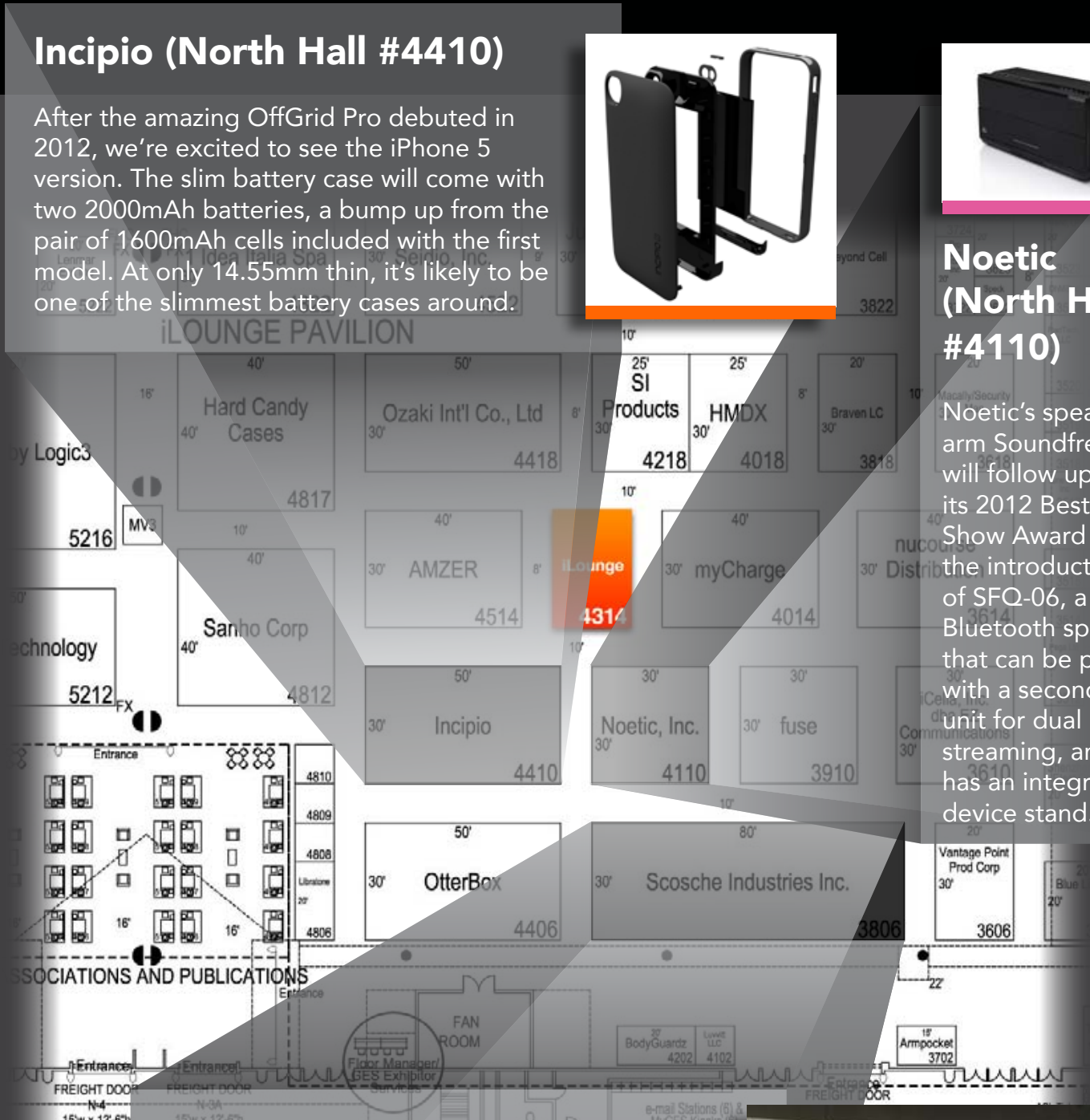






Griffin (North Hall #5212)

Griffin always has one of the coolest booths at CES, packed with new electronic accessories, cases, and surprises. We would expect to see plenty of iPad mini accessories this time out, and possibly early Lightning add-ons, as the famously innovative company was unusually tight-lipped about its plans ahead of the show.



Incipio (North Hall #4410)

After the amazing OffGrid Pro debuted in 2012, we're excited to see the iPhone 5 version. The slim battery case will come with two 2000mAh batteries, a bump up from the pair of 1600mAh cells included with the first model. At only 14.55mm thin, it's likely to be one of the slimmest battery cases around.



Noetic (North Hall #4110)

Noetic's speaker arm Soundfreq will follow up on its 2012 Best of Show Award with the introduction of SFQ-06, a new Bluetooth speaker that can be paired with a second unit for dual streaming, and has an integrated device stand.

SwitchEasy (North Hall #5612)

SwitchEasy always unveils cool new cases, and plans to show DoubleUp, its first battery case, and one of the earliest Lightning connector charging solutions we've heard about. DoubleUp will ship as an iPhone case with a polycarbonate back, a TPU bumper, and a removable battery pack that can be snapped into place as needed.



Scosche (North Hall #3806)

The prolific maker of Apple accessories will be showcasing its first Lightning-based products, including reVAMP car II, a car charger with a sliding adapter that can flip between Lightning and Micro USB charging tips, plus an extra USB port capable of delivering 10W of power.





Portable Sound Labs (LVH-56007)

PSL will be showing off a number of new Bluetooth speakers in a range of shapes and sizes, including Lynx. Unlike the company's past plastic speakers, it's constructed from wood, and uses four cone-shaped feet to reduce vibrations, improving sound quality. As the name hints, Lynx units can be paired with each other, with up to nine linked together at a time.



Moshi (LVH-50009)

Moshi is keeping its plans for CES largely quiet, but one of its star upcoming products is said to support multiple devices. We're excited to see what it does for the Mac, given the premiere of its illuminated Luna keyboard last year, and we expect to see iPad mini versions of its cases and screen films.



Kanex (LVH-54011)

Mac and iOS accessory maker Kanex will show MyDrive, a USB file server that turns flash drives and hard drives into network drives. Files can then be accessed by iPhones and iPads through a free app. The company suggests that it'll be a smart choice for users who want to share files between multiple devices, especially in classrooms.



Swissvoice (LVH-50018)

Having recently introduced its ePure Bluetooth Station and ePure Corded Mobile Handset, Swissvoice will be showcasing its product lineup in the iLounge Pavilion at the Las Vegas Hilton. Its accessories are based around well-designed phone handsets that double as speakers, and we're hoping for a Lightning version of its iPhone-docking ePure.





As of November 2012, the following companies will be exhibiting in the iLounge Pavilion at the 2013 International Consumer Electronics Show.

North Hall Exhibitors:

1 Idea Italia Spa  
2 the Max Asia Pacific  
Abel Tech  
Acase  
AG Europe/On.Earz  
AiQ Smart Clothing  
Amethyst Innovations  
Amzer  
Anokimobi  
App Creation Network  
Appcessory Pte.  
Arkon Resources  
Armpocket Enterprises  
Astro Payments  
AT&T Elec. / Concept 101  
Avance Electronics  
Bad Elf  
Ballistic Case  
be.ez  
Beijing Inforson  
Technology  
Bellno Technology  
Best Wisdom Ind.  
Beyond Cell  
Bling My Thing  
Blue Lizard  
Bluelounge  
BodyGuardz  
BoomBotix  
Booq  
Boost Cases  
Bosign AB  
Bracketron  
Braven LC  
Breffo  
CableJive  
Case Scenario  
Case-Mate  
Castiv  
Cellairis  
Celluon  
CG Mobile  
Cham Battery Technology  
China (Far East) Dist.  
China ETech Groups  
Clear Protector  
Cobra Electronics  
Concord Keystone Trading  
Corpcom Company  
CPC  
CQ  
Cygnett  
Cynovo  
DBest Limited  
DecalGirl  
Devieta

Dexim Santom  
Dongguan Changxin  
Dongguan Jifu Electronic  
Dongguan Zhanxin Elec.  
Doria International  
Dotz  
Dr. Bott  
DRACOdeshign  
dreamGear  
Dry Case  
Eaglecell  
Econology Limited  
Element Case  
Energenie  
Fast Cap  
Faze In Limited  
Ferrari by Logic3  
Free Free Industrial Corp.  
Free One Hand, LP  
fuse  
GeckoGear Australia  
General Displays/Hi-Tech  
Gopod Tech  
GoPoint Technology  
Gourmandise  
Grand iPearl Elec. & Tech.  
Greensmart  
Griffin Technology  
Guangdong Pisen Elec.  
Guangzhou Jison HW  
Guangzhou Luckysky Ind.  
Guangzhou Yicai Craft  
Hard Candy Cases  
HeadCase  
Hearing Comp. / Comply  
Henge Docks  
Hex  
Hipstreet  
HMDX  
Hyper Power Holding  
ibattz  
iCat / EK Ekcessories  
iCella / EZ  
Communications  
iConnectivity  
id America  
IDAPT  
iDevices  
iHealth Lab  
IK Multimedia  
iKlear/Klear Screen  
Ilid Phone Case  
iLounge  
Imego Infinity Limited  
in Car Bite  
Incipio  
Industrial Revolution

Infinite Peripherals  
IPG-Invisible Phone Guard  
iPort  
iSkin  
iStabilizer  
Ivyskin  
iWave  
Jill-e designs  
Joyplus Int'l Interprise  
Just Mobile  
Kangjie Plastic Mould  
KB Covers  
Kopi  
Lazy-Hands / Kernelope  
Lenmar Enterprises  
Liberosystem  
Libratone  
LifeProof  
LightSpeed  
Line 6  
Lingo Ltd.  
Loksak  
Luardi  
Lucky Goldjyx  
Lunatik  
Luvvitt  
Macally/SecurityMan  
Maclocks  
Magic Protection Tech.  
Marware  
Matias  
Matrix Audio Limited  
Max Movil  
MEElectronics  
Melkco  
Microchip Technology  
Mimoco  
mophie  
More-Thing  
MSW Wireless  
MSY Inc  
Musubo  
myCharge  
Native Union  
NAVJACK  
Naztech  
NewTrent  
Noetic/ Soundfreaq  
Noon Technology  
nucourse Distribution  
NuForce  
Octa  
ODOYO International  
Ogio International  
OhMiBod  
Olloclip  
Omicron International

Optrix  
Other World Computing  
OtterBox  
Ozaki  
Padholder  
Pega Limited  
Petra Industries  
PhoneSuit  
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Stiger Electronic Tech.  
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Sunshine Electronics Tech.  
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Zhuhai Huanso Industrial  
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ZING Revolution



# What's New in Mac.

Our iLounge + Mac gallery spotlights one cool Mac-related product every day, including accessories, decor, and apps. Here's what stands out now.



## Apple iMac

Though it cheats to achieve a 5mm-thick edge by bulging considerably at the back center, Apple's new iMac (\$1299+/21.5", \$1799+/27") is a stunner, achieving the sort of angled side profile normally reserved for paper thanks to advanced aluminum welding technology. Now offering a combined 128GB flash and traditional 1TB/3TB "Fusion Drive" as an option, the iMac promises faster speeds, more RAM, and cleaner-looking (but not Retina) screens versus last year's models.



## Space Inch Lost Photos

Before Facebook and Flickr, your old photos were shared in e-mails that you've long since forgotten. Lost Photos (\$3 via Mac App Store) helps you recover them, automatically searching your mailboxes and storing images.



## Apple MacBook Pro 13" with Retina Display

Unsurprising given the release of a 15" version months earlier, the 13.3" MacBook Pro (\$1699+) is more lustworthy due to its 3.57-pound weight, lower price, and 4-Megapixel display - all higher than the 13" MacBook Air, but justifiably so. For now.



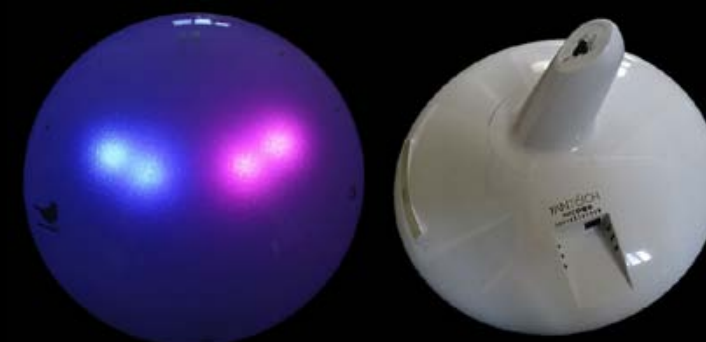
## Valve Counter-Strike: Global Offensive

Few multiplayer first-person shooters have the cachet of Counter-Strike, a tactical military Half-Life mod that became a standalone hit thirteen years ago. Valve's new Global Offensive (\$15 via Steam) radically improves the graphics, expands the maps, and broadens the weapons of the counter-terrorist and terrorist forces. You still work with other players to complete objectives and off opponents; it's just a lot more realistic and balanced than before.



## Cooler Master L-Stand

MacBooks are becoming more powerful every year, reducing or eliminating the need for standalone desktop computers. Made from Mac-matching aluminum with polished edges and rubber padding, L-Stand (\$65) offers a beautiful way to hold a MacBook alongside a larger desktop monitor, providing minimalist vertical and more substantial horizontal support.



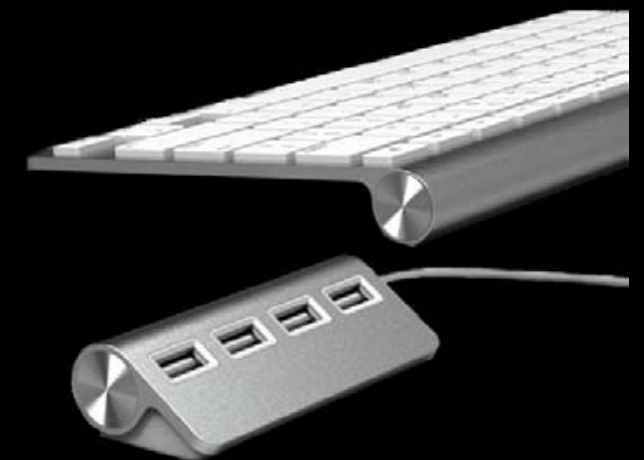
## Yantouch JellyWake (2012)

Taiwanese light creator Yantouch continually iterates on earlier designs, and the 2012 version of JellyWake (\$129) is the latest example. Pared down from earlier, similarly-shaped mood lamps, this new version is an LED-illuminated analog clock that you can leave on a desk or mount on a wall with included hardware. Like its predecessors, it includes a gradual wake-up alarm with colorful sunrise effects and audio of chirping birds. It's a fascinating decor piece.



## Incase DSLR Sling Pack

Love isn't too strong of a word to use for DSLR Sling Pack (\$90), the first bag we've seen with enough room for a MacBook Air/iPad, a large DSLR camera, four total lenses, and small accessories. Capable of being slung over your shoulder with a cross-body strap, the Pack closes securely and opens naturally. We've been relying upon it for serious photojournalism and fun, finding it to be a nearly perfect camera bag.



## Satechi Premium 4-Port Hub

Even if Apple's increasingly pushing wireless technologies and devices, there are times - many times - when you'll need to connect USB cables to your computer. The Premium 4-Port Aluminum USB Hub (\$28) matches the look of Apple's keyboards and Magic Trackpad, splitting one port into four.



# What's New in iPad.

Announced in late October, Apple's newest iPads will arrive November 2. Here's a peek at what's coming soon, plus some recent accessories + apps.



## Apple iPad (Fourth-Generation)

It's probably not going to be the most popular iPad with people who purchased its predecessor six or fewer months earlier, but the fourth-generation iPad (\$499-\$829) is quintessentially Apple: relentlessly marching forward, iteratively, even when the new features mightn't have justified billing as a sequel. Cosmetically almost identical to and weighing the same as the third-generation model, the new iPad bumps the processor up to an Apple A6X for what's claimed to be twice the CPU and twice the graphics performance, giving this model the ability to do more with the Retina display its predecessor introduced. Also added are faster Wi-Fi, broader LTE network compatibility, and a much-improved 720p FaceTime HD camera. The only external change is the replacement of the classic 30-Pin Dock Connector with a Lightning port, precluding the new iPad from working with most past accessories unless users purchase \$29-\$39 Lightning to 30-Pin Adapters from Apple. Inside the box are a single Lightning to USB Cable and a brand new 12W (2.5A) Power Adapter, replacing the 10W (2.1A) Adapter included with the third-generation model. The 12W Adapter cuts recharging speeds for the third-generation iPad by around an hour, from 6.5 hours down to 5.5 hours; we'll see how the fourth iPad does.



## Apple iPad mini

Challenging 7" Android tablets with a larger 7.9" screen, 10-hour battery, and regrettably higher \$329 starting price, Apple's iPad mini preserves the 16-64GB storage capacities and \$130 LTE cellular options of the full-sized model, while falling back to a 1024x768 resolution. Adopting both features and industrial design cues from the fifth-generation iPod touch, the iPad mini includes an older A5 processor, a new FaceTime HD front camera, and a 5-Megapixel rear iSight camera, arriving in your choice of white/silver or black/slate colors.



## Apple Lightning Adapters

Alongside the new iPads, Apple debuted the Lightning to VGA Adapter (\$49), Lightning Digital AV Adapter (\$49), Lightning to USB Camera Adapter (\$29), and Lightning to SD Card Camera Reader (\$29), all pricier than earlier versions.

## 2013 BUYERS' GUIDE



## XtremeMac Tango TT

Better sounding than would be expected for the \$150 price, Tango TT places four speakers inside a tray that lets you turn the iPad on either orientation, and prop it up with a stand while charging using a cable. We're hoping for a Lightning version.



## Twelve South BookBook for iPad

Previously released for everything from iPhones to MacBook laptops, BookBook (\$80) has benefitted from continuous improvements, such that every iteration is better than its predecessors. The latest iPad version is available in three colors, each designed to resemble an aged leather hardcover book, with two zippers using bookmark-like pulls to keep it closed. New inside is a much-improved iPad holder that operates as a two-position stand, making video viewing and typing easier for users. Only the case's awkwardness for rear camera use may be an issue for iPad-reliant photographers; otherwise, this is a really impressive folio.



## Logitech Solar Keyboard Folio for iPad 2/3rd-Gen

Sold in four colors, the combination keyboard case Solar Keyboard Folio (\$130) recharges using any light, runs for two years on a single charge, and has great keys. But the magnetic auto-Sleep/Wake feature could use some fine-tuning.



## Download the New iPad Buyers' Guide!

Published in late May, our 156-page New iPad Buyers' Guide focused on Apple's third-generation tablet computer, as well as its top accessories, games, and apps. In addition to purchasing advice for iPad products, we examined the new third-generation Apple TV and its accessories - worth every iOS device user's attention. Five new iDesign articles include interviews with leading third-party developers Bloomberg, Geneva Lab, Inkling, Mobile Roadie, and Soundfreak. The New iPad Buyers' Guide is a free download from iLounge, so grab your copy today!





### Hard Candy Bubble 360 Case

Combining the best features of two prior case designs, the resilient new Bubble 360 Case (\$60) sports a golfball-like rear texture and a drop-resistant rubber/hard plastic design. Built as a less expensive rival to OtterBox cases, Bubble 360 offers flip-open port protection, rubberized button shields, and full screen coverage, the latter with a moderate prismatic effect on new iPads; iPad 2 users won't mind as much.



### Incipio Fixie

Many good stands are now available for iPads, so new entries need a novel feature or two in order to stand out. Fixie (\$40) has both portability and color options on its side: black, blue, silver, or red aluminum forms one half, while an adjustable black plastic leg lets you choose from four different iPad angles. Want to carry it around? The leg folds into the stand, requiring only 5.4" x 4" x 1.4" of bag space.



### Fireproof Games The Room

Few games have good reason to be iPad-exclusive, but an incredible puzzler named The Room (\$5) is justified: the finely-detailed 3-D puzzles are built into ornate objects that require you to see and interact with the larger iPad screen, including turning keys and dials, using pushbutton panels, and spinning boxes around.



### Power Support AFP Crystal Film

High-quality screen protectors aren't cheap, which explains the cost of AFP Crystal Film (\$33) from Power Support. Known for years as a leading producer of Japanese-made film shields, Power Support has continued to produce its products in Japan despite historically brutal exchange rates, citing quality as a chief concern. The Film is atypically easy to install without bubbling, and leaves even iPad Retina displays looking as glossy as Apple designed them to be.

## iPads, iPhones, and iPods Around the World Photo Galleries

Apple's devices have become so ubiquitous that it's easy to find them anywhere you travel. Here are some recent reader-submitted images of their favorite devices on the road.



**Top Left: Andy Has An iPhone?**  
Google HQ, Mountain View, CA

**Top: Go U.S.A. iPad + iPhone**  
Olympic Training Center, Colorado Springs, CO

**Top Right: iWrangler at the National Park**  
La Marquesa, Mexico

**Middle Right: iPhone at Stonehenge**  
Wiltshire, UK

**Bottom: iPhone at Douro River**  
Miranda do Douro, Portugal





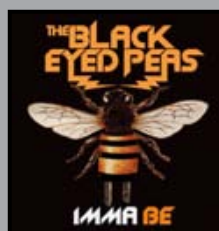
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## COLOPHON

The 2013 Buyers' Guide was created using Adobe **InDesign CS5** on two 27" **iMacs** and a **Mac Pro** with a 30" Cinema Display. We listened to The Black Eyed Peas' **Imma Be** for energy, Passion Pit's album **Gossamer**, and the **80's Alternative Channel** on Pandora.



# Closing the Curtain.

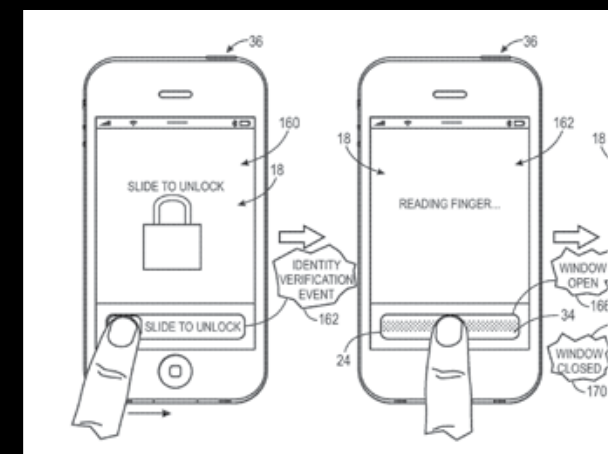
Now that new iPhone, iPod touch, and iPad models have been released, what could Apple possibly do next with its devices? Here are our guesses.

## iPads: Lighter, Faster + Thinner



Iterative tweaks in the rapidly-released second, third, and fourth iPads suggest that Apple plans a bigger shift for the fifth-generation model. Early bets are on a shift to Sharp's IGZO screen technology, which consumes less battery power than rival displays, in a thinner profile, resulting in a tablet with all of today's power - or more - in a smaller package. Depending on the number of screens Sharp can produce, and demand for iPad minis, Apple might try IGZO in the second-generation mini before the full-sized iPad.

## iPhone: Faster + More Secure?



Improving on the iPhone 5 isn't going to be incredibly difficult for Apple if it sticks to past convention and releases an iPhone 5S in 2013 - the most likely scenario given the scale of the iPhone 5 redesign. A tweaked 5S model with even better battery life and a next-generation version of the A6 processor could deliver even better graphics for games; we'd expect further rear camera improvements, possibly a move to support 802.11ac Wi-Fi, Near-Field Communications (NFC) for payments, and new security features such as fingerprint recognition.

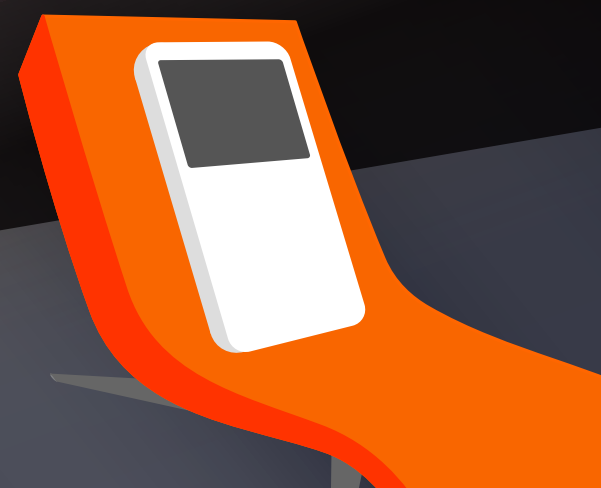
## iPod touch: Colors, Pricing + A6



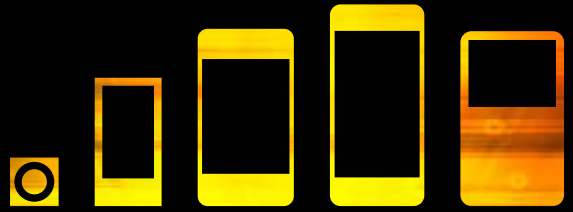
The iPod touch has never been Apple's key priority; once described as "training wheels for the iPhone," it's deliberately made to be a step behind Apple's flagship devices. After 2012's completely new body design, we'd expect the 2013 touch to see color changes, a low-end version for \$199 or \$229, and maybe an update to the A6 processor with related improvements in speed and battery performance. Apple has no problem leaving this device unchanged for two years; that may be enough, given weak rivals.

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Since 2001, the world's leading resource for iPod, iPhone & iPad news, reviews, forums, photos, guides, tricks, software, and much more.







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