printout

May Meeting

This month our presentations include

- **Videos** of Apple's Showtime Event that was WEIRD.

- **Snazzy Labs** and cheap hackintoshes

1. build your own $450 mac mini!

2. and a Craigslist $350 hackintosh

- **Microsoft Edge Browser**

Microsoft Edge is a modern replacement for Internet Explorer, with Microsoft claiming that it's not only faster and more reliable but also more secure than the old browser.

- **Command Line**

Dennis will talk a bit about the command line and a few commands that every Mac user should know. ♻

Meet us at

Bethany Village Retirement Center

Education Room
5225 Wilson Lane, Mechanicsburg, PA 17055

Tuesday, May 21st 2019 6:30 p.m.

Attendance is free and open to all interested persons.

Contents

Keystone MacCentral Essentials

Meeting Place
Bethany Village West
Maplewood Assisted Living (Bld 21)
5225 Wilson Lane
Mechanicsburg, PA 17055

Web Site
http://www.keystonemac.com

Mailing Address
310 Somerset Drive
Shiresmanstown, PA 17011

by Josh Centers

Verizon Now Offering Free Call Filtering to Block Telemarketers

If you live in the United States, chances are you that dread answering your iPhone when it rings, if you even bother at all. For the past few years, we've been suffering a growing epidemic of spam calls — I get three to four a day, and Adam Engst has taken to sending all calls that aren't from contacts to voicemail (see "Beware "iCloud Breach" Phone Scam," 23 May 2018).

To address this scourge, cellular carriers have started offering free solutions for their customers: AT&T has Call Protect, and T-Mobile provides Scam Block. Until now, Verizon had been charging $2.99 per month for its customers to use its Verizon Call Filter app. That paid tier is still available, but Verizon now also offers a free tier that lets you identify, block, and report spam calls.

When you first open the Verizon Call Filter app, it prompts you to give it access to your contacts and enable Call Filter in Settings > Phone > Call Blocking & Identification. Like many other such apps, Call Filter works through the CallKit framework that Apple released with iOS 10, which also powers apps like Hiya and Robokiller.

could take up to an hour for the feature to be enabled on your account, so you might as well leave the app and go do something else for a while.

(If you don't see a free option, check the App Store to make sure you have the latest version installed. You may have to delete and reinstall the app for it to show up. If it's still not showing up, make sure you're not already subscribed to Verizon's paid tier and that you're running iOS 12.)

When you return, you'll know Call Filter is working if, in place of "You're not protected," you see "You're protected." By default, Call Filter will alert you only if it thinks an incoming call is spam; you can turn that off inside the app by going to the Settings screen and flipping the Spam Detection Alerts switch.

But if you want to get the most out of Call Filter, you want to enable spam filtering, which you can do by going to the Block view of the Screening screen, tapping Spam Filter Off, and then turning on "Auto-block spam calls by risk level." There are three levels of risk: All Spam Calls, Medium and High Risk, and High Risk Only, with All Spam Calls being the default. You might want to start with High Risk Only to avoid accidentally blocking legitimate calls and then dial it up if you keep getting bogus calls.
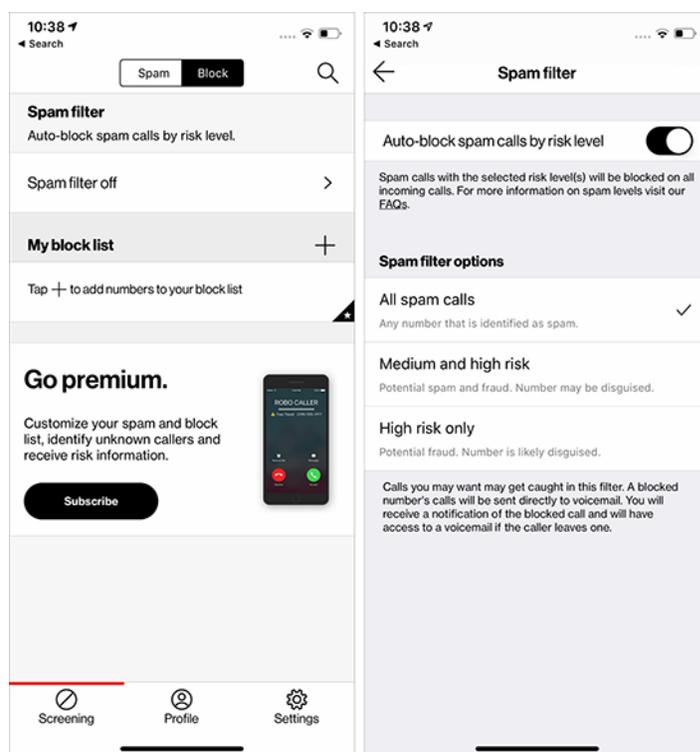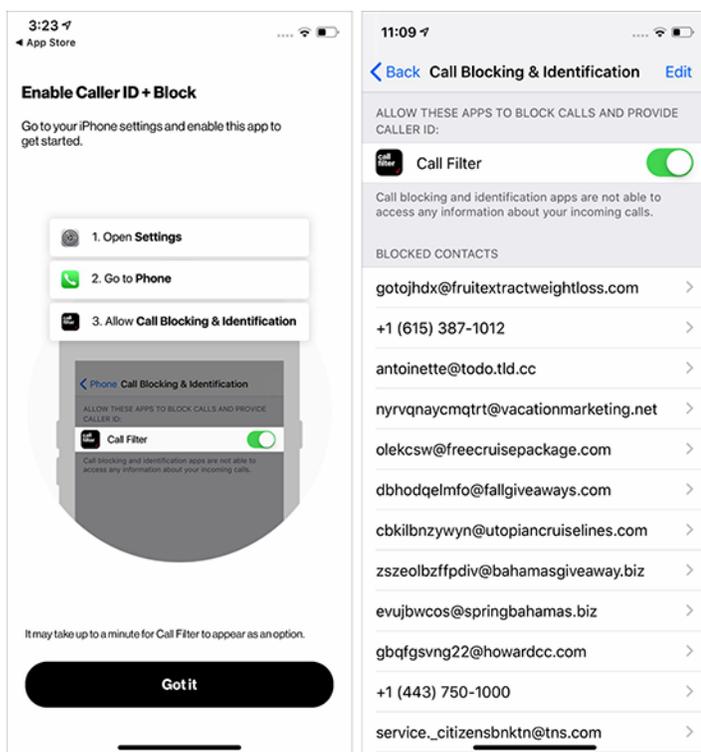
Next, you have to activate the feature in the Call Filter app itself. Open it, make sure you're in the Screening screen, and if it says at the top "You're not protected," tap "Turn on for free" and follow the prompts. Verizon says that it

After using Call Filter for over a week, I can confirm that it works: it blocked four spam calls in a couple of days.

For $2.99 per month, Verizon's Call Filter service will also let you customize the spam and block lists, identify unknown callers, and "receive risk information," whatever that means. It's a little chintzy of Verizon to charge extra in the app, but at least the basic features are free and all these apps charge some kind of monthly subscription fee, often to use the service at all.

While it's good that Apple has created CallKit and that carriers are offering these tools, nothing will truly change without government intervention or improvements to our archaic phone system. Fortunately, there is movement on both fronts.

As The Verge reports, part of the reason Verizon is offering Verizon Call Filter for free is because the US Federal Communications Commission has threatened to take action if the carriers don't put a stop to spam calls by the end of 2019.

One of the worst parts about these spam calls, and what makes them tricky to filter out, is that the perpetrators spoof legitimate numbers. I've received at least one profanity-laced tirade from someone who was sick of spam calls but didn't realize that the spammers steal legitimate numbers (mine, in this case). To deal with the spoofing, and to please the FCC, the entire industry is working on a new call authentication technology called STIR/SHAKEN (we're not making this up!), which will at least verify that a call is coming from the number it says it is.

Until STIR/SHAKEN becomes standard, we'll have to rely on tools like Verizon's Call Filter, AT&T's Call Protect, and T-Mobile's Scam Block. 🕹

by Glenn Fleishman

How To Find the Best Deal on Digital Movie Rentals

More options for digital movie rentals exist now than ever before, but they're surprisingly uniform in price and duration. Yet, it's still worth shopping around to find a deal: either pay a buck less or get more time to watch a movie after starting playback instead of the usual 48 hours. In this article, we'll look at rentals from iTunes, Amazon Prime Video, Fandango Now, Google Play, Redbox on Demand, Vudu, and YouTube. (We wrote about finding deals when purchasing movies to own last year, in "Use Movies Anywhere to Take Advantage of Bargains," 31 August 2018.)

You may also find that you prefer or dislike a particular service's user experience, whether you watch in an Apple TV or iOS app, an app on your smart TV or another device, or in a Web browser. That can shift your usage, too. Most services have an Apple TV app, but some require AirPlay streaming or an app on a smart TV.

I can cut to the chase with the two best takeaways, however:

- iTunes is the only service that lets you rent movies directly in apps on your Apple devices. Because of Apple's 30% cut, all competing services require a rental payment via a browser (sometimes only a desktop browser) or a non-Apple device.

- YouTube almost always gives you 72 hours from when you start to watch a movie to finish it, as opposed to every other service's 48 hours. A few rental sites allow only 24 hours.

If you routinely watch movies on a variety of devices or prefer your smart TV's built-in or add-on apps for streaming, I get into the nitty-gritty of device support and best deals below, including some recommendations for free options.

Rental Prices and Time to Watch Are Similar Everywhere

A few years ago, there was more variation in pricing, but studios and services appear to have harmonized. However, it's always worth looking for sales and deals, as these

occur regularly, and often mix up relatively new films with classics. Many sites have $0.99–$2.99 HD rental pages that update periodically.

To check prices, I looked at the recently released *Aquaman* on several services along with *Tron Legacy* from 2010. *Aquaman* cost $5.99 nearly everywhere. Only Redbox on Demand offered an SD version for a buck less at $4.99; all the other services charged the same for SD and HD, or listed only HD and 4K. Meanwhile, *Tron Legacy* was $3.99 in HD and $2.99 in SD on all services. (All the services I checked charge sales tax in Washington State, too; I assume that's true in every state with sales tax given a 2018 Supreme Court decision.)

Aquaman costs $5.99 in HD everywhere, whether at Amazon Prime Video (shown) or another service, typically for a 48-hour viewing period.

Nearly every service had the same period of rental for both movies as well. From the time you check out, you have 30 days to start watching. With Aquaman, you then have 48 hours during which you could stream the film at nearly every service, even on YouTube. Vudu was the odd one out with just a 24-hour screening period.

Tron Legacy also limited viewing time to 48 hours every-where except at YouTube and Google Play, where you get 72 hours. Why would you want 72 hours? For the same price and quality, it's worth another 24 hours if you don't think you can get through the whole movie in a single night — an issue if you have kids or it's one of the increasingly common 2.5- to 3-hour movies now being made. (Google Play appears to have the same time-to-watch period as YouTube rentals, but less device support for playback.)
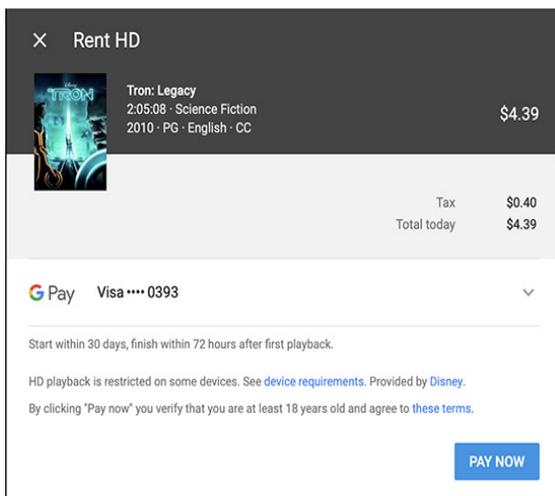
YouTube (and Google Play) typically offer a 72-hour viewing period for everything but the latest releases for the same price as 48 hours at other services.

When I spot-checked other movies, I found that Amazon Prime Video offers 72 hours to watch some films, but nowhere near as commonly as Google's services.

Each site is a little particular about where you can play back a movie, which might affect your purchase choice as well. Macs don't allow HD playback on external monitors from a Web browser, which might be a factor depending on your setup. Here are the possibilities:

iTunes: Apple TV, iOS, and macOS via iTunes. No browser-based playback. (In the future, some smart TVs will have an Apple TV app, however: see "Apple Opens iTunes Video and AirPlay Up to TV Rivals," 9 January 2019.)

Amazon Prime Video: Browsers; iOS, Android, and Fire tablets; Apple TV, Fire TV/Fire TV Stick, Roku, TiVo, and others (no Chromecast support); many smart TV and connected Blu-Ray models; PlayStation, Xbox, and Wii. (Amazon still hasn't updated its support page to include Apple TV.)

Fandango Now: Browsers; iOS and Android; Chromecast and Roku (Apple TV only via AirPlay); most smart TVs and game consoles.

Google Play: Browsers; iOS and Android; Android TV, Chromecast, and Roku (Apple TV only via AirPlay); LG, Samsung, and Vizio smart TVs.

Redbox on Demand: Browsers; iOS and Android; Apple TV, Chromecast, and Roku; LG and Samsung smart TVs.

Vudu: Browsers; iOS and Android; Apple TV, Chromecast, Roku, and TiVo; LG, Samsung, and Vizio smart TVs; Playstation, Nvidia, and Xbox consoles; LG, Samsung, and Sony connected Blu-Ray players.

YouTube: Browsers; iOS and Android; Apple TV, Android TV, Chromecast, and Roku; many 2013 and later smart TVs; Xbox and PlayStation.

If you have a 4K TV and appropriate hardware to play back UHD/4K movies, you'll need to dig into requirements further. Every service seems to have provisos and footnotes about device support, and some don't guarantee that every UHD/4K movie will play on every device because of licensing limitations. UHD/4K versions of movies may also offer less time to watch after a rental starts, which seems an odd quirk.

Your most reliable and consistent option for UHD/4K in the Apple ecosystem is almost certainly iTunes and an Apple TV 4K connected to a 4K display (but see "The Apple TV 4K's HDR Nightmare," 13 March 2018). However, if you have a 4K smart TV or a 4K streaming box from another company, you can certainly explore other options.

Every service has a way to request a refund if a movie doesn't play back as expected.

Note that some services won't let you rent at HD or UHD/4K on devices that don't support those resolutions. So you may need to rent using the right device, too, or you can wind up paying the same amount for a lower-fidelity version of a movie than the hardware of the device you want to watch it on can support!

The Best Ways to Rent or Watch

All other things being equal, here are my suggestions for the services to try, in order, with some usage tips:

iTunes: You can often find iTunes Store gift cards on sale for up to 20% off the face value, especially around holidays. That's a nice discount if you don't need 0 unofficial iTunes Card Deals on Twitter for bargains.) For Apple ecosystem folks, iTunes remains the best option, though YouTube is a close second.
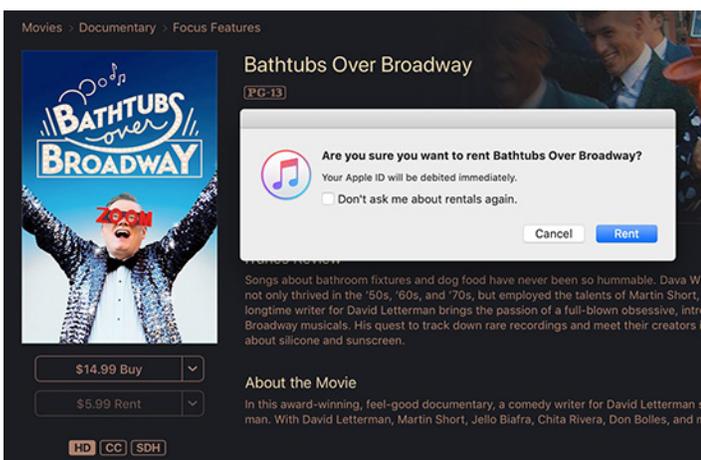
Renting a movie in iTunes on the Mac requires confirmation, though you can opt to rent with a single click in the future by checking a box.

YouTube: It takes a little extra effort to rent and watch a movie with YouTube, but that extra 24 hours for most films can make it worthwhile. Start in a desktop Web browser (not Safari for iOS) at YouTube's movies and TV page, search for the film you want, and rent the resolution you prefer. Now, close the browser window if it's anywhere near your TV, as YouTube starts to show distracting previews. You can proceed to watch the film in iOS or with an Apple TV. Finding your rental is a little hard in YouTube's Apple TV app: swipe right to get to the vertical navigation bar, swipe down to the folder icon, then swipe right and then down to the Purchases item. The recently purchased rental appears as the first item at the upper left. The rental period starts when you click the play button.
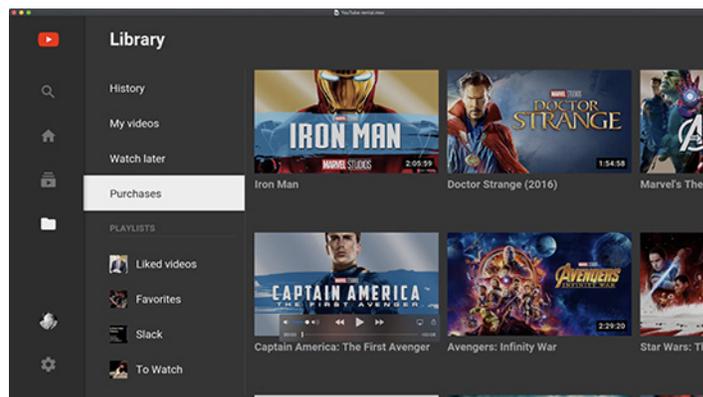
Playing a movie in YouTube's Apple TV app requires renting in a desktop browser and then a little navigation.

Amazon Prime Video: For those with an Amazon Prime subscription, the e-commerce giant offers a huge number of TV shows and movies for free viewing, including some original content. If you have a subscription, always check the site first to see if the movie you want to watch is available at no cost: go to the Amazon Prime Video page while logged in, and the site shows it as "Included with Prime" if it's free for Prime subscribers. (You can also browse a list of all movies and TV shows available for free.)
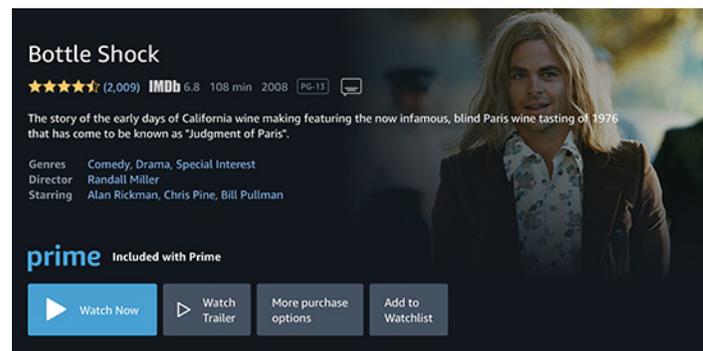
Movies and TV shows included with an Amazon Prime subscription show the "Included with Prime" label and have a Watch Now button with no cost displayed.

Vudu: Vudu offers nearly 4000 movies you can watch for free with interruptions for advertising. The titles vary from low-brow teen skin flicks to top-notch offerings that did well at the box office, such as the original *Paddington, An American Werewolf in London*, and *Platoon*. They do require that you watch a lot of ads, though.
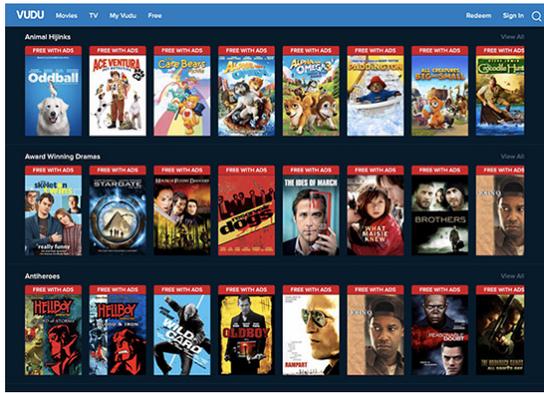
Vudu offers an extensive catalog of movies you can watch at no cost with ads. Many of the films are straight-to-video or poorly reviewed, but there are a lot of winners in there, too.

While digital movie rentals might seem like they're available at the same price and under the same terms everywhere, a little digging can save you a buck or two, buy you an extra day, or deliver a better experience. ⬥

by Adam Engst

Cardhop Rethinks How You Use Contacts in iOS

Few Apple apps are as user-hostile as Contacts on the Mac, which was why I was happy to see Flexibits release Cardhop for the Mac as an alternative interface to the Mac's system-level contact database (see "Cardhop Puts Contacts Front and Center," 18 October 2017). Cardhop's innovation is the way it lets you interact with your contacts using a natural language parser. Want to create a new contact with a company name, email address, Twitter handle, and phone number? Just type "Tim Cook Apple tcook@apple.com @tim_cook 408-555-1212." From then on, you can contact Tim with commands like "email Tim Cook." (So, Tim, about those butterfly keyboards…)

I've enjoyed using Cardhop, particularly once when I needed to enter a lot of names and postal addresses for runners to whom I had to send awards for a race, and again when I went through the envelopes for our Christmas cards to verify and update addresses. In both cases, Cardhop's natural language parser made it super easy to enter and update contact information, and it even fixed a lot of capitalization and punctuation errors in addresses that I pasted in from email.

However, in that article, I wrote:

Cardhop is a fine app, and a compelling rethinking of how you can interact with contact information, but it still faces an uphill battle for acceptance. The problem is that we've all built up habits that will be hard to break. For instance, if I'm going to send someone email, I'll switch to Mailplane, start a new message, and enter their name. If I want to call someone, I'll pull out my iPhone, tap the Phone app, tap Favorites or Contacts, and tap the appropriate item in the list. I'm not saying that these techniques are efficient, but they're what I've done for years.

In practice, apart from these few isolated examples, Cardhop didn't change how I generally interact with contacts. I still think of the app associated with the action I want to take — email, phone, etc. — as the first step, rather than starting

from Cardhop. Exacerbating this problem is the fact that many communications channels revolve around conversations, so if I want to text Tonya, I'll select our ongoing conversation in Messages rather than starting from Cardhop (which would, to be fair, reuse that conversation when it connected to Messages).

Flexibits has now brought Cardhop to iOS, where it's possible that contact usage follows a different pattern. It's too early to tell if that will be true for me since I'm still explicitly trying to use Cardhop while testing. Regardless, Cardhop for iOS looks and works very much like its Mac sibling (so go read "Cardhop Puts Contacts Front and Center" for more details; I'll wait).

If you've been frustrated by Apple's Contacts app on your iPhone or iPad, Cardhop will give you all that app can do and much more, all while working with the same system-level contact database.

Using Cardhop in iOS

Whereas Cardhop on the Mac is a menu bar app that focuses on favorite and recently used contacts, Cardhop for iOS provides four different contact views and a Settings screen, accessed by tapping toolbar icons at the bottom of its main list on the iPhone or the bottom of the left-hand sidebar on the iPad. The contact views are:

- **Favorites:** You get to populate this screen with the contact cards for those people you interact with the most. You can add and remove people, and tap Edit to rearrange them in the list. These sync across all copies of Cardhop on all your devices.

- **Recents:** I'm a big fan of this screen since I communicate with a relatively small number of people, and this will make it easy to call someone repeatedly because they're doing work on the house for a few weeks. At

least that's the theory; I haven't been using Cardhop long enough for it to reflect my behavior.

Contacts: This is the main screen that lists all your contacts; a strip of letters down the right side lets you navigate quickly through the list. You can also tap All Contacts at the top to filter the list to show only contacts in one or more of your groups.

Birthdays: If you are, or would like to be, one of those people who is always aware of people's birthdays, this screen can help. It lists everyone whose contact card contains a birthdate, in chronological order. Even better, you can swipe left on any contact in the list to remove the birthdate information if you don't know the person well enough to care.

Tapping a contact in any of these screens brings up its contact card (more on that shortly), but you can also tap a quick action button to repeat the last action you took with that contact, or swipe right on a contact to reveal four other quick action buttons, as I've done on Tonya's contact at the top of the Recents list below.

At the bottom of each of these screens is a search field that lets you use Cardhop's natural language parser for interacting with your contacts. This being iOS, it contains a microphone button you can tap to dictate into the field, making it trivial to say "Tim Cook" to search for a contact or "Email Tim Cook" to invoke an action. (So, Tim, about that whole AirPower debacle…)
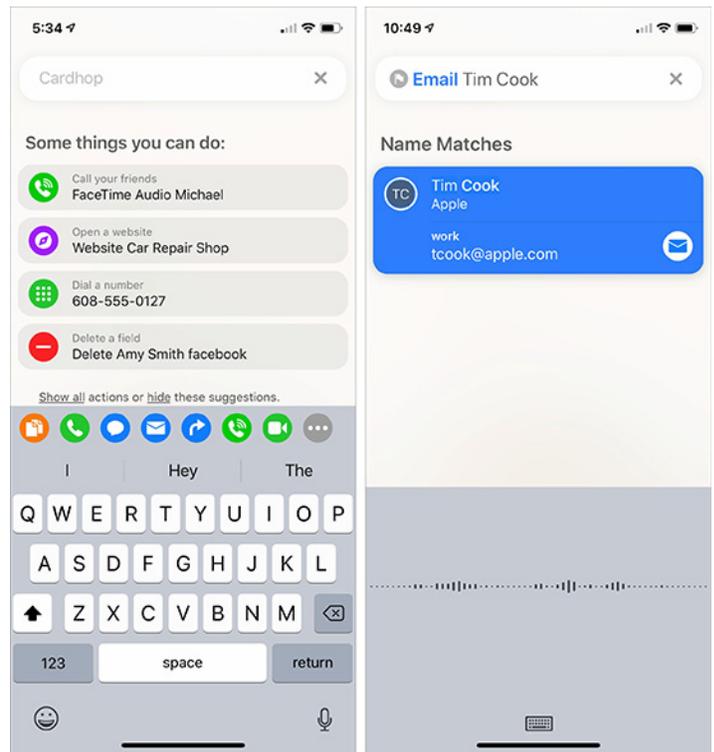
Tapping the search field brings up the keyboard with some suggestions and keyboard actions (left); instead of typing, you can tap the microphone button and dictate (right).

When you're viewing a contact card, note the four quick action buttons at the top; you can choose which appear there in Cardhop > Settings > Quick Actions. Also welcome is a big yellow notes field at the bottom that's always ready to take text, complete with a single-tap option to add a timestamp. If you do need to make changes, tapping Edit brings up a standard edit view (below right).
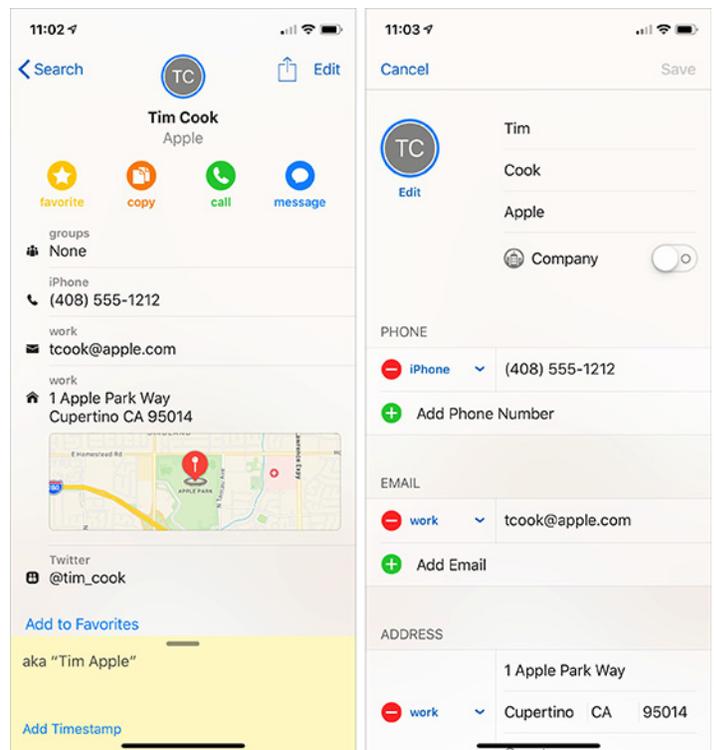
Cardhop for iOS supports all the actions in Cardhop for Mac (call, copy, email, facetime, message, skype, tweet, web, map, and show — see "Cardhop Puts Contacts Front and Center") along with a few new ones (facebook messenger, facetime audio, favorite, telegram, viber, and whatsapp). It's easy to bring up a full list of all actions and their synonyms at any time by typing a question mark (below left). You can also add buttons for each of these actions to the top of the iOS onscreen keyboard; tap the More button to configure which ones appear and what order (below right).
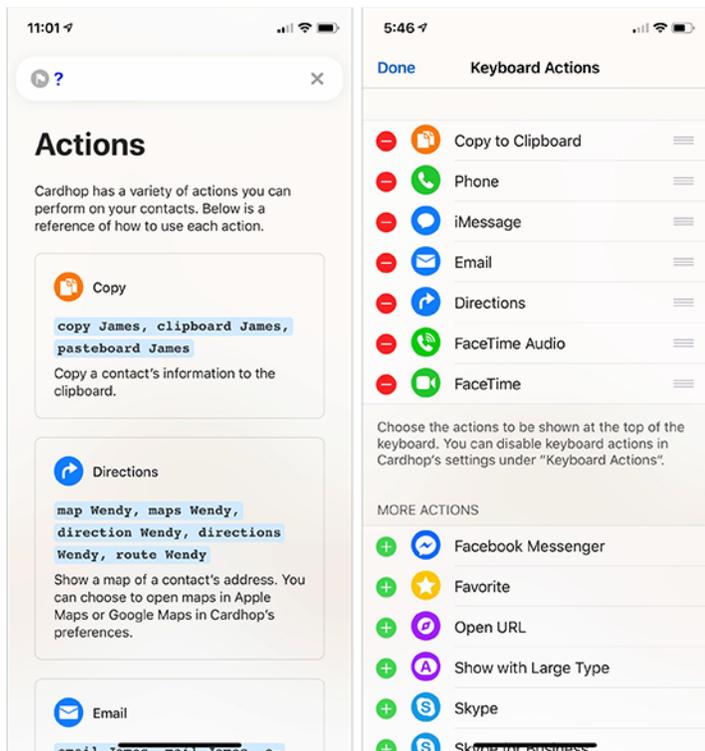
Notice how my contact card appears at the top of the Contacts list? On an iPhone, wherever you are in Cardhop, rotating the phone to landscape orientation displays your contact information — you pick the fields you want to share in Cardhop > Settings > Business Card — complete with a QR code to the information and a prominent Share button. It's one of the easiest ways to share a digital business card with someone in person that I've seen.
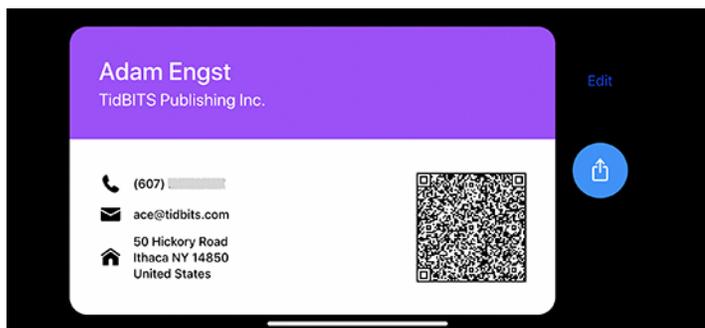
Beyond being able to dictate into the natural language parser, Cardhop boasts an impressive level of integration with Siri Shortcuts. Whenever you're viewing contact info, either within a contact card or within a result that the parser

has revealed, you can press and hold any piece of information to bring up a popover with Copy, Share, and Add to Siri commands. Tap Add to Siri and you can create a Siri Shortcut that calls or texts the number, creates email, copies the address (perhaps you send it to vendors regularly), or whatever.

In Cardhop > Settings > Siri Shortcuts, Cardhop suggests some more general shortcuts you can create. Particularly useful is "Show my business card," which lets you use Siri to bring up that screen with your contact info. I also like the "Type to Cardhop" Siri Shortcut that brings up the Cardhop search field immediately.
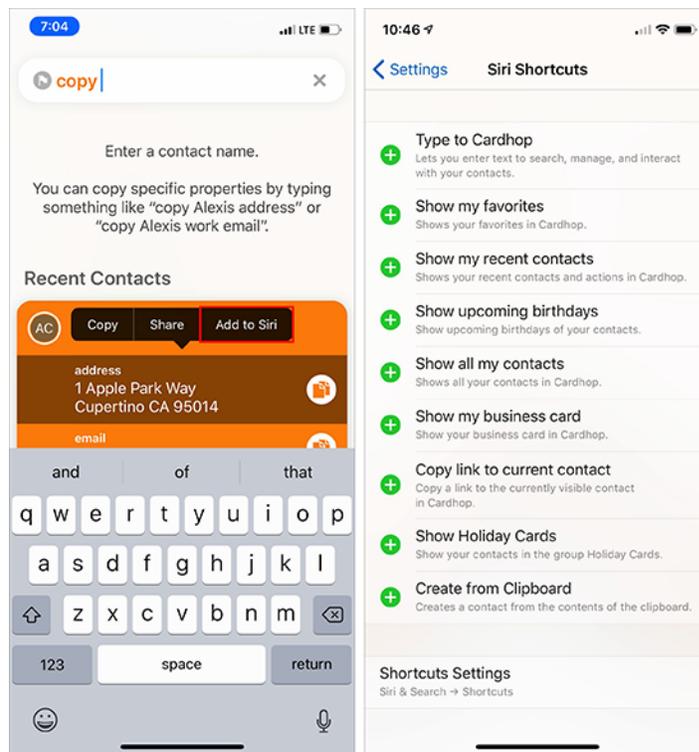
Cardhop has suggested the address of a recent contact to copy, and I'm adding it to Siri (left). Cardhop's Settings screen lists a number of Siri Shortcuts (right).

Cardhop Settings and Limitations

Interesting settings abound in Cardhop's Settings screen. You can choose whether you want to sort lists by first name or last name, display names in various formats, and choose country-specific address formats. A particular nicety is the option to set which Web browser, email app, mapping app, and Twitter app Cardhop should use — since I use Gmail, I appreciate not being dumped into the Mail app like so many other apps do. Also, Cardhop can optionally detect clipboard content when you open the app; it essentially pastes that clipboard into the search field automatically.
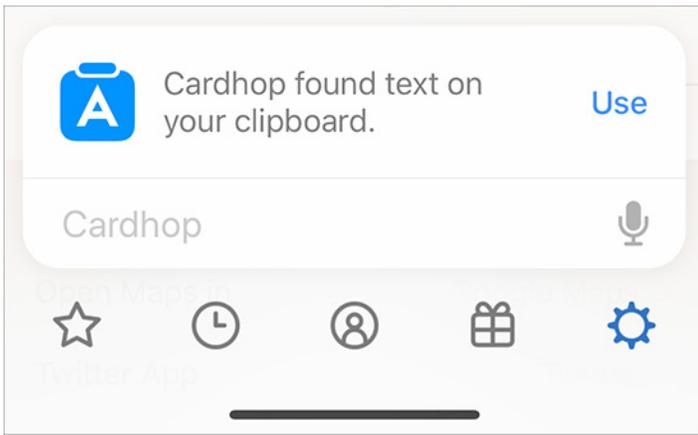
For those who prefer a darker look than the screenshots I've shown here, Cardhop offers three themes — the Light look I use, a Dark version that reverses all the type out of a black background, and the default version that uses a dark look for lists and a light look for contact cards. Since the human visual system is much more capable of processing dark-on-light, I always avoid dark modes (see "Better than the Printed Page: Reading on an iPad," 15 March 2018).

Like the recently updated Cardhop for Mac (see "Cardhop 1.2.1," 30 March 2019), Cardhop for iOS can search for contacts in a variety of online directories, including Google Contacts, G Suite, Microsoft Exchange, and Office 365. I have no sense of how well this works since I don't use any directory services.

One limitation I have run into is that Cardhop doesn't interact with Google Hangouts, which I use to communicate with several Android-using friends — it would seem sufficiently popular to include alongside WhatsApp and Viber. Flexibits says they're looking at adding support for it. The other complaint I've seen is that Cardhop makes it easy to call the same number for a contact, but doesn't make it easy if you regularly have to call a person at different numbers. The workaround is to make separate Siri Shortcuts for each number, but at that point, it's probably easier to use Siri to dial the number as you would without Cardhop.

Regardless of these minor nits, Cardhop 1.0 for iOS is a worthwhile alternative to Apple's Contacts app in iOS, and doubly so if you already like using Cardhop on the Mac.

Cardhop for iOS works on both the iPhone and iPad with iOS 12.0 or later. It's regularly priced at $4.99, although there's a launch special that drops the price to $3.99 for a limited time. ♦

by Julio Ojeda-Zapata

Should You Pay For Apple News+? Warning: It Has Issues

Of the services Apple revealed at its 25 March 2019 special event, only one — the Apple News+ digital magazine service, a paid add-on to the company's free News app — was actually made available (see "Apple News+ Debuts With Magazines, Newspapers, and Web Sites," 25 March 2019).

This was great news for information junkies who gained access to a treasure trove of additional content — primarily magazines, with a handful of newspapers and news Web sites thrown in. At $9.99 per month — with multiple members of a Family Sharing household able to maintain their own reading preferences for that single fee — Apple News+ will strike many as tempting.

However, the service has omissions, compromises, and a few rough edges, and some of these might prevent you from subscribing. It's easy to check for yourself — the first month is free — but I recommend setting a reminder to cancel the subscription before you're charged in case you don't find it meets your needs.

Some Content Is Missing

Apple News+ seems like a bargain because it provides access to top publications like the New Yorker and the Wall Street Journal that cost more than all of Apple News+ if procured individually elsewhere.

But what is it missing? TidBITS reader Duane Williams noted that the version of the New Yorker offered via Apple News+ is missing some of the features found in the print magazine and on the magazine's own site. These largely New York City-specific omissions may not trouble you — the main columns and articles seem to be present — but know that you're not getting exactly what you would in print. (And as reader Marilyn Matty, who worked in advertising for many years, explains in that discussion and one other, many magazines produce multiple editions even in print, so there may not be a single canonical version.)

The Wall Street Journal is an even more extreme example of this "curation." On the face of things, it offers only a selection of its articles via Apple News+. Other content is supposed to be lurking below the surface, and available via searching, but articles I've wanted to read have sometimes proven elusive. And those are just the ones that I knew to

search for. And the accessible archive will reportedly contain only 3 days of content from the newspaper.

However, TidBITS reader Doug Miller found a clever way to search better (the Apple News search is weak at best) and to access at least some articles that are older than 3 days, though not the full archive. He wrote:

You can go to the WSJ.com Web site in Safari in iOS, open any article there, and if it is for subscribers only, hit the share icon, share to Open in Apple News, and it will open the full article in Apple News if you are a News+ subscriber.

Is Apple News+ a Good Value?

Not necessarily. As we noted in our earlier coverage, public libraries offer online versions of magazines for free via digital partners such as Flipster and RBdigital. But whether you regard these as acceptable alternatives to Apple News+ depends on which magazines you like to read.

I was excited about Apple News+ at first. After doing an inventory of my preferred magazines, however, I realized it might be a waste of money.

Many of my favorite titles, such as Macworld and Wired, are available to me using RBdigital via the St. Paul Public Library or at the Minneapolis Public Library. Others, including Fortune, Fast Company, and Bloomberg Businessweek aren't — but I can get much of their content for free on their Web sites. All public library systems are different, so check with your library to see what it offers in terms of digital magazine services and how they line up with your preferences.

Libraries aside, the real question is if you're spending more than $120 per year on periodicals. In our recent survey, only about 25% of TidBITS readers said they spent more than that each year (see"Survey Responses: Apple Music and Apple News+," 8 April 2019). If you're getting all you want to read for less money, there's little advantage to Apple News+.

In fact, for many news junkies, the News app's plethora of free news content might be more than sufficient without all the additional titles available in Apple News+. Do you have time to read more than you're reading now?

A Suboptimal Reading Experience

An advantage of Apple News+ over other digital magazine services is formatting. Many publications on the service have been reworked and made adaptable for a range of Apple's devices, from a 27-inch iMac to a 4-inch iPhone SE. Some titles even have animated covers.

However, many titles — about half of the roughly 250 magazines available — have not received this retooling. Time and time again, I found issues that provided little more than digital snapshots of their original printed pages, which are all but impossible to read on smaller screens.

Even reformatted content looks lousy on the Mac, but that's a general problem with the Mac's awkward "Marzipan" News app ported from iOS. It's a terrible Mac app, with no attention to the sort of conventions and user-interface niceties Mac users expect.

Beyond the comparison with other digital magazine services, Apple News+ isn't entirely successful in expanding from a collection of articles to an interface for reading a coherent magazine. Although most magazines seem to have a table of contents, at least the New Yorker's editors chose, oddly, to rearrange the table of contents to focus on feature articles, thus confusing the structure of the magazine. Others may have done so as well.

Speaking of which, when you're in a magazine, the News app doesn't help you understand where in the issue you are in terms of what articles came before or come next, or how much you have left to read overall. (There is a bar on the right edge of each article that shows roughly where inside an article you are.) Such confusions don't exist when reading unrelated individual articles in Apple News as it has been up to this point, but they're disconcerting when you expect the full magazine experience.

Finally, magazines in Apple News+ still have ads — you didn't think you were going to get away without ads, did you? — and in some cases, like Runner's World, they can be difficult to distinguish from the reformatted article leads. And if you were interested in a shoe ad, don't bother tapping or clicking to learn more — it won't do anything.

Where Are My Favorites?

Apple News+ is derived from Texture, a digital magazine service that Apple bought a year ago (see "Apple Acquires the Digital Magazine Service Texture," 12 March 2018). Texture fans might find Apple News+ a bit confusing and possibly disappointing.

For instance, Texture collected users' favorite magazines — both current and back issues — in a My Library section for convenient access. Apple News+ has no such thing. Apple News+'s My Magazines area does something different, showing current and recent reads regardless of whether these are users' favorites. I have no interest in Elle, but it's now shown annoyingly at the top of my app's main screen because I happened to read an Elle story that looked interesting.

Apple News+ has a workaround, but it's clunky; go to a magazine's homepage within the app, tap the heart-shaped "like" button at the top, and the magazine gets added to the app sidebar along with items in the free portion of the News app. That's fine, but this approach does not scale well. The sidebar quickly becomes long and cluttered.

By the way, Apple is shutting down Texture on 28 May 2019.

Will Apple News+ Help Publishers?

Some might subscribe to Apple News+ as a way to help magazine and newspaper publishers in what has been an increasingly embattled journalism industry. As a reporter and Web producer at a major metropolitan newspaper, I thank you for that impulse!

However, Apple News+ isn't likely to help publishers in a major way. Most seem to see it as a necessary evil that may generate some revenue and that they hope will increase direct subscriptions. Over at Digiday, one publisher was quoted as saying "You're not generating subscribers [with Apple News+], you're getting revenue. It's going down a rabbit hole." Another was even blunter: "Their pitch was we are going to take over the news business. Join us or get left in the dust."

Direct subscriptions are a far more effective way to support your favorite publications. Otherwise, Apple takes a cut of your $9.99-per-month payment, and what's left has to be shared among all the Apple News+ publications you read. It will be a pittance.

Direct subscriptions needn't be expensive, either; a New York Times digital-only subscription was just $1 per week

the last time I checked, and I got a similar $1-per-week deal from the Washington Post through June. And again, how much time do you really have to read ephemeral content?

The Bottom Line

Apple News+ needs work.

Current and would-be subscribers deserve a more complete accounting of what they get and don't get for their money — that's a little thing we in the journalism business call transparency.

It would be nice if the full catalog received a digital revamping for comfortable reading on a variety of display sizes, but that's largely up to the magazines, not Apple. Such a move is important to set Apple News+ apart from free services available via the public libraries you support with your tax dollars; those services are a bit crude.

And while an Apple News+ subscription may be better than nothing when it comes to supporting the struggling journalism industry, it's far from a panacea. ⬙

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by Geoff Duncan

What Does the T2 Chip Mean for Mac Usage?

Beginning with the iMac Pro in December 2017 — and continuing with Mac mini, MacBook Air, and MacBook Pro models introduced in 2018 and onwards — Apple has packed Macs with its own homegrown T2 chip. Like its predecessor, the T1, the T2 is designed to shift responsibility for security-critical aspects of Mac hardware out of the hands of the Mac CPU and traditional computing components — where they can be subject to hacks and malfeasance — into a "secure enclave," a separate environment inaccessible to hacks, malware, and even hardware-based security risks. Even if macOS were somehow completely "pwned" by a security flaw or attacker, the critical functions and data handled by the T2 would be completely unaffected.

These days, it's safe to say most technology users are interested in more security, rather than less, so the benefits of the T2 seem clear, if decidedly nerdy. But that doesn't mean a T2-equipped Mac is the right choice for every Mac user right now — even those who want to be as secure as possible.

Why Does Apple Need Security Chips?

It's no secret Apple's hardware group has been on a roll for the last several years: it currently makes five processor lines (the A, H, S, T and W chips) that power everything

from iPhones and iPads to the Apple Watch and AirPods. So it's not surprising Apple would bring its own silicon to the Mac to enable Apple-exclusive features.

The company introduced the T1 in late 2016 to handle the fingerprint processing for Touch ID sensors in the first Touch Bar-equipped MacBook Pros, and it also helped lock down sensitive components like the built-in microphones and cameras. Further, the T1 took over the System Management Controller (SMC), which is responsible for heat and power management, battery charging, and sleeping and waking the Mac. Finally, the T1 determines if macOS is running on actual Apple hardware.

The T2 picks up from there, with four major capabilities:

- It takes over all access to built-in solid-state drives, enabling real-time encryption and decryption so your data is never stored in the clear

- It provides the processing power that lets you invoke Siri with "Hey Siri"

- It offers image enhancement for built-in FaceTime HD cameras

- It can optionally lock down a Mac's boot process — so if someone were to steal your Mac, they wouldn't be

able to start it up using an external drive and steal your data

The T1 and T2 can do all these things because they're basically separate computers with their own isolated memory and storage: they're ARM chips running Apple's bridgeOS. The T2 is based on the A10 processor that shipped in the iPhone 7, and bridgeOS derives from Apple's watchOS. In some ways, the T1 and T2 act as independent co-processors, enhancing performance by handling common tasks for the Mac and enabling the CPU to focus on other things. But in other ways, they significantly beef up security, since they offer a fully independent system that remains secure even if macOS is compromised.

What Does The T2 Do For You?

Apple has published an overview of the T2 chip spelling out some of its technical details, but here are the main points:

Secure Boot: The T2 ensures all components of the startup process — including firmware, the kernel, any kernel extensions, and bootloaders — can be cryptographically verified as trusted by Apple before booting. The idea is to prevent the Mac from being started up on compromised low-level software, thereby exposing users' data. Secure Boot also covers Recovery Mode, Diagnostics mode, and Internet Recovery mode. By default, Secure Boot trusts only software signed by Apple or — get this — signed by a Microsoft certificate to authenticate Microsoft bootloaders. That means Boot Camp installations of Windows 10 on the internal SSD have all the benefits of Secure Boot, but anything else — like Linux — is currently out in the cold. Macs with T2 chips also have the Startup Security Utility available in Recovery Mode. Users (with a valid admin password!) can set a firmware password and/or downgrade some Secure Boot functionality. However, the No Security setting doesn't necessarily enable untrusted operating systems to start up using the internal SSD, since they'd have to support the T2 as a storage controller (sorry, Linux). Using other operating systems seems to be possible only from external drives, and they gain virtually none of the benefits of the T2, including fingerprint authentication.
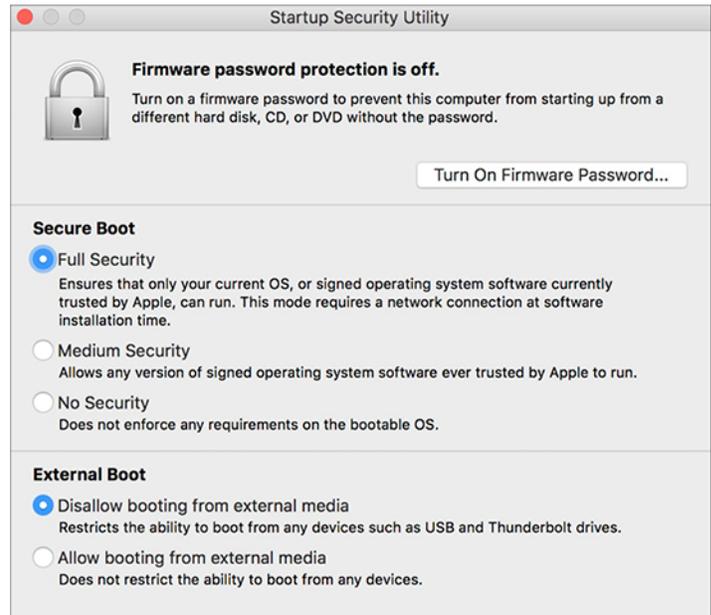
Secure Startup Utility is available in T2-equipped Macs

Encrypted Storage: The T2 enables on-the-fly encryption and decryption of data on a Mac's built-in solid-state drive. The encryption uses the same technology as FileVault and requires a valid password to boot up. Because the T2 is a separate system, it can enforce delays on failed password attempts: there's a limit of 30 password attempts on the Login window or in Target Disk Mode, with a 1-minute delay on each after 14 failures. More attempts are available in Recovery Mode and FileVault recovery (including iCloud recovery), but the delay can grow to as much as an hour between allowed password attempts. This sort of delay makes brute-force password attacks impractical. However, don't expect to see the T2's on-the-fly encryption on anything but internal SSDs: Macs with traditional hard drives (some new iMacs still have them!) will probably never see this benefit. External drives don't gain this protection, either.

Touch ID: On the MacBook Pro and MacBook Air, Touch ID works much as it does on iOS devices: you get five tries to match a fingerprint, and the odds of any random fingerprint matching one stored in Touch ID are about 1 in 50,000. (So if you set up 5 fingerprints, roughly 1 in 10,000 will unlock your Mac. That's a lot of grubby hands on your Mac.) The Mac will still require a password at startup if it hasn't been used in 2 days, or if no password has been used in roughly a week. (The real criteria are that a password hasn't unlocked the Mac in 6.5 days and no fingerprint has unlocked it in 4 hours.)

Hush, Now: All T2-equipped MacBook Pro and MacBook Air models have a hardware disconnect for the built-in microphone whenever the lid is closed. That means even if some malware were able to take control of your microphone and surreptitiously listen or record through it, the microphone is essentially physically

unplugged from the Mac when you close the lid. The same can't be said of headsets, external microphones, or other audio gear, though. There's no hardware disconnect for the FaceTime HD cameras: closing the lid blocks them effectively.

Downsides of the T2

For most Mac users, the benefits of the T2 are clear, particularly for notebook users who take their Macs with them wherever they go. If your new MacBook Air is stolen, the T2 offers decent assurance that sensitive data — like email, passwords, credit card numbers, social media accounts, super-secret projects, or those pictures — won't fall into the wrong hands.

The T2 isn't without trade-offs, however:

Less Repairability: The T2 chip requires technicians to run a proprietary diagnostic tool to replace certain components like flash storage, the Touch ID sensor, and the main logic board, which means repairs or replacement of those components can only be done at Apple Stores or by Apple Authorized Service Providers. Most Mac users will never need to replace those components, but it's yet another way Macs are becoming less repairable.

Goodbye, NetBoot: T2-equipped Macs can't boot from network volumes, which could be a serious issue for organizations and schools that still rely on the now-deprecated NetBoot. If you need NetBoot, take note: Apple's recently refreshed iMac line does not have the T2 chip (see "Apple Boosts iMac Performance with Faster Multi-Core CPUs," 19 March 2019).

Data Recovery As-Good-As Impossible: That on-the-fly encryption and decryption the T2 chip provides for the SSD means the T2 is the only way to get data off the internal drive. If the T2 is damaged or becomes inoperable, your data is inaccessible, even to top data forensics experts, so have a solid backup strategy in place — check out Take Control of Backing Up Your Mac, Third Edition for all you need to know in that department.

Linux & Older Windows Boot Issues: Lots of software developers — particularly Web developers — prefer to work in Linux or other operating systems, even if they own a Mac. T2-equipped Macs can only boot Linux or versions of Windows prior to Windows 10 from external drives after disabling the T2's Secure Boot feature. If you need to run one of these operating systems, get used to doing it in a virtual machine. If you must run one of these systems on "bare metal," a T2 Mac is not for you.

So What's With These Audio Problems?

Since the introduction of the iMac Pro — and continuing with newer T2-equipped Macs — users have reported occasional audio glitches: little clicks, pops, or bursts of noise that seem to happen at irregular intervals. They occur with both audio playback and audio recording, and can happen using any app, whether listening to Apple Music, watching a video on YouTube, playing a game, or — uh oh! — playing a hot DJ set at a party or recording a live symphony orchestra.

The problem seems most common with USB-connected audio devices — whether consumer-grade headsets, podcaster-level microphones, or professional audio gear — but the glitches also happen with built-in speakers and microphones as well as audio devices connected via Thunderbolt. How often do they happen? Hard to say. Some users see a few every hour, others maybe only one per day.

Many Mac users won't care. If there's a little pop while streaming "Baby Shark" for the thirty-first time, it's not the end of the world, am I right? OK, maybe I'm right?

However, for others, these glitches are literally showstoppers. If you're using your Mac to process live audio — maybe you're a DJ, or a musician using your Mac to run software instruments with programs like Ableton Live or Apple's MainStage — blasting your audience with random pops, clicks, and bursts of sound is a Very Bad Thing. If you are recording music — whether in your bedroom using GarageBand or burning through hundreds of dollars per hour in a professional studio — those glitches will inevitably happen during critical moments, often destroying your recording. Imagine telling a legendary performer: "Hey, that was great, but the Mac glitched. Let's go again, maybe it'll record OK this time!" It's a quick way to end a career. For musicians and audio professionals, this problem makes T2 Macs unreliable and untrustworthy — an irony, since many of these people use Macs to avoid the famous undependability of audio setups under Windows.

A T2 audio glitch captured during recording. The entire waveform should be smooth and uninterrupted. Some glitches like this could probably be edited, but errors like these can destroy a recording.

For professional recording studios, the T2 chip isn't yet much of a problem. (No joke: plenty of Mac-based recording studios are still using decade-old Mac Pro towers.) But a tremendous amount of amateur, enthusiast, and professional audio work — whether music, podcasts, mixing, or DJing — doesn't happen in professional studios: it happens on notebooks and in small Mac-based project studios. Plenty of musicians take their Macs on stage with them to perform in real time. The T2 is spreading across ever-greater swaths of Apple's Mac lineup, which makes choosing a new Mac difficult.

What to do? The T2 audio problems have been known for well over a year, and Apple has been utterly silent about them save for a vague claim that macOS Mojave 10.14.4 "improves the reliability" of USB audio devices used with T2-equipped Macs. Some audio developers (like Germany's RME) have reported improvements with USB audio, but my limited testing with a T2-equipped MacBook Pro found no discernible improvement using 10.14.4 with USB or Thunderbolt audio devices.

Some T2 users have been able to reduce the frequency of glitches by killing the built-in timed process (which synchronizes the Mac clock with a time server) and/or **locationd** (which tries to determine a Mac's location for Location Services). Some folks have had good luck with these workarounds; others still experience problems. Unfortunately, stopping these background processes is non-trivial and requires disabling macOS's System Integrity Protection. In other words, not recommended.

Is A T2 Mac Right For You?

For most Mac users, the T2 chip offers clear benefits: not only does it power spiffy fingerprint detection on the MacBook Pro and MacBook Air, but it also provides fully encrypted storage and hardens the Mac against a range of sophisticated attacks — including the sorts of things that a government might carry out if one were to seize a computer.

But the T2 also highlights how fragile the Mac world can be. Users who don't have easy access to an Apple Store or authorized repair shop may encounter real problems getting a T2 Mac fixed. Users who don't have a good backup strategy probably won't be able to recover any data at all if the T2 chip fails — even if they turn to data recovery experts. And developers who want to run anything but macOS or Windows 10 natively are basically out of luck. So if your Mac has a T2 chip, figure out in advance where you'll get it repaired if necessary, make sure you're backing up regularly to multiple locations, and stick with virtualization for guest operating systems.

All that said, if you rely on your Mac for audio — whether recording podcasts, DJing parties, or as a professional engineer or musician — I recommend avoiding T2-equipped Macs until audio issues have been verifiably resolved for quite some time. If you need a new Mac before that happens, consider one of the few remaining models without a T2 chip, or perhaps an older pre-T2 Mac — sometimes Apple offers a good deal on refurbished and clearance models. 🏀

by Tim Sullivan

Rumors and Reality

Researchers and college students can talk to your internet connected devices. They have demonstrated that they can send hidden commands that are undetectable to the human ear to Apple's Siri, Amazon's Alexa and Google's Assistant. They have been able to activate the artificial intelligence systems on smartphones and smart speakers, making them dial phone numbers or open websites. In the wrong hands, the technology could be used to unlock doors, wire money or buy stuff online — simply with music playing over the radio.

Following the removal of the LG UltraFine 4K Display earlier this year, Apple's online store indicates that the UltraFine 5K is also now unavailable. This change comes as Apple is rumored to be readying its own 31.6-inch 6K display.

If you are using iOS 11 or later, you may notice that some of your apps disappear.

Apple introduced the *Offload Unused Apps* feature with iOS 11. This feature automatically removes unused apps, but keeps all documents and data. Reinstalling the app will place back your data, if the app is still available from the App Store.

Check the setting of this feature:

> Head to Settings
>
> Swipe down and tap on iTunes & App Store
>
> Swipe down if needed and look for Offload Unused Apps

Turn this feature off if you'd like to keep all of your apps permanently on your device

Apple will hold its annual WWDC beginning June 3rd. We can expect a bunch of changes. Rumor is that the company

will be announcing new apps and updated software across all of its major platforms.

New in iOS 13:

An official Dark Mode will be enabled from the Control Center. iOS users have previously had to use color inversion to achieve a sort of dark mode.

There's a revamped Health app, with a new homepage for daily activity, a "hearing health" feature, and "more comprehensive menstrual cycle tracking."

The updated Reminders app has a new main screen with four default options: tasks to be done today, scheduled tasks, flagged tasks, and all tasks. The update allows Alpple to "better compete with the several to-do list programs available on the App Store."

The updated Maps app has easier options for setting frequent locations, creating groups of favorite locations, and navigating to suggested and past destinations.

The addition of profile pictures and display names in iMessages includes a dedicated menu for sending sticker versions of Animoji and Memoji.

Find My Friends and Find My iPhone will be combined into a single app. Previously rumored by 9to5Mac, it also suggested that Apple was working on a physical tag similar to Tile that would let users track the location of any devices — not just Apple phones and computers.

Native support to use an iPad as a secondary Mac screen will be introduced, which is similar to the functionality offered by third-party apps like Luna and Duet Display. This was also previously rumored by 9to5Mac.

There's a selection of iPad-specific updates, including a better interface for multitasking and an updated home screen.

New in watchOS 6:

App Store access on-device means you'll be able to update and install new apps without using the Watch companion app on the iPhone.

Transplanted apps from iOS include Voice Memos, Apple Books (for audiobooks), and the Calculator app.

New apps including Dose for pill reminders and Cycles for tracking menstrual cycles will be introduced.

New Complications (including ones for showing the battery life of hearing aids, rainfall data, and external noise) and new watchfaces (including one with extra-large numbers) will arrive.

New in macOS 10.15:

iPad apps on the Mac was previously rumored. It reported that Apple will allow developers to create (essentially) a single app that runs on iPhones, iPads, and Macs. This process will need some work from developers, though, who will also have to submit multiple versions of the app to the iOS and Mac App Stores. The feature will be expanded to iPhone apps "by next year." Apple has already made iOS apps available on the Mac itself, including News and Stocks with macOS Mojave.

A new Apple Music app could be part of the rumored break-up of iTunes.

Apple iPad apps that will be initially available on the Mac include the Podcasts app and newly merged Find My iPhone / Find My Friends app. Apple's Screen Time, Siri Shortcuts, and updated Reminders app will also be available on the Mac. 🖤

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