

# printout

Keystone MacCentral Macintosh Users Group ❖ <http://www.keystonemac.com>



**We are on  
summer break.  
We'll be back  
in September.**

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Meet us at

**Bethany Village Retirement Center**

Education Room

5225 Wilson Lane, Mechanicsburg, PA 17055

**Tuesday, September 19<sup>th</sup> 2017 6:30 p.m.**

**Attendance is free and open to all interested persons.**

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Keystone MacCentral is a not-for-profit group of Macintosh enthusiasts who generally meet the third Tuesday of every month to exchange information, participate in question-and-answer sessions, view product demonstrations, and obtain resource materials that will help them get the most out of their computer systems. Meetings are free and open to the public. The *Keystone MacCentral printout* is the official newsletter of Keystone MacCentral and an independent publication not affiliated or otherwise associated with or sponsored or sanctioned by any for-profit organization, including Apple Inc. Copyright © 2017, Keystone MacCentral, 310 Somerset Drive, Shiresmanstown, PA 17011.

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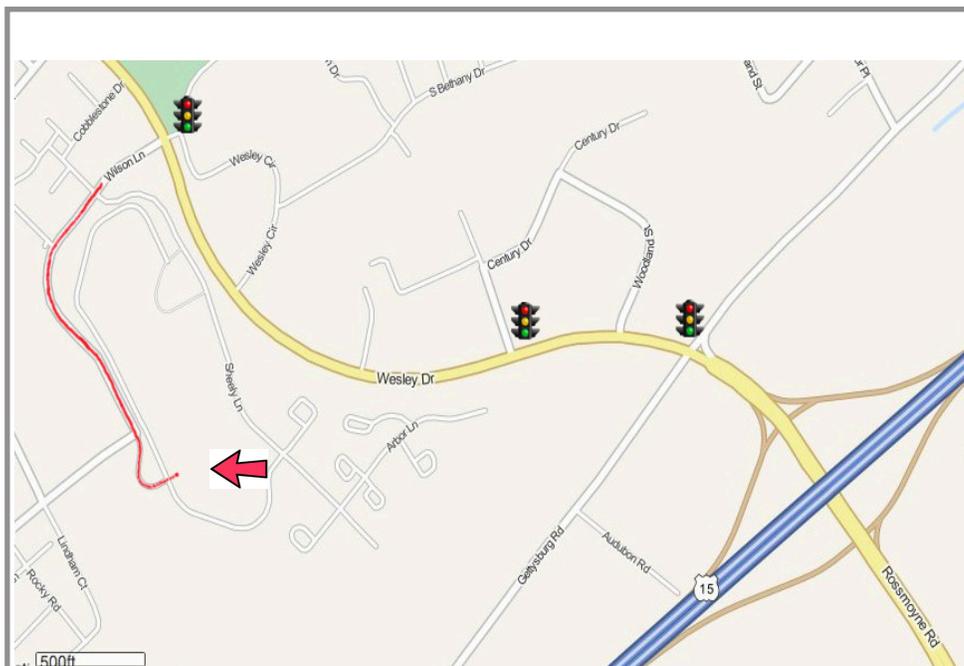
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# A Prairie HomeKit Companion: Two Smart Outlets

The Centers clan is in the midst of a move. We outgrew the old prairie home — my current office often looked like an outtake from the show “Hoarders” — so we’re moving on to greener pastures. But the hustle, bustle, and boxes (so many boxes) make it difficult to review HomeKit accessories properly until we get resettled.

That’s why I’d like to talk about one of the simplest types of home automation accessory you can buy: the humble smart outlet. Smart outlets are an excellent way to get started with HomeKit because they’re cheap, simple, and easy to reposition. Just plug a smart outlet into an ordinary wall outlet, plug an appliance into the smart outlet, do a little software setup, and you’re done.

Before you invest in a smart outlet, be aware of their limitations. All they do is toggle power on and off to any connected appliances. They won’t dim your lights or adjust the output of your heater. They work best with devices that activate when plugged in, especially those with “hard” switches like electric heaters, fans, lamps, and window air conditioning units.

Unsure if a particular appliance will work with a smart switch? Plug it into a power strip and turn on the device. Then turn the power strip off and back on. If your appliance kicks back on, you know that it will work well with a smart outlet.

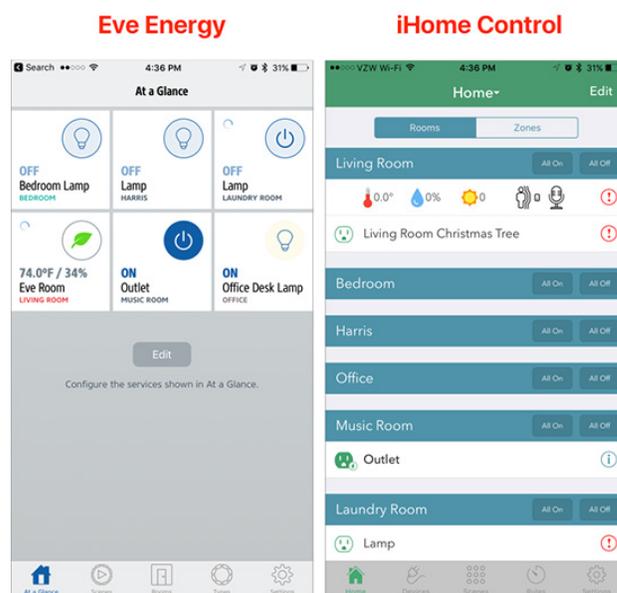
Which smart outlet should you buy? I’ll discuss two that I own: the [Elgato Eve Energy](#) and the [iHome iSP5](#). The kind folks at Tin Drum PR provided me with the Eve Energy — it retails for [about \\$50](#) — while I purchased the iHome iSP5 from Walmart for [about \\$40](#). iHome also offers the fancier [iSP8](#), which includes a physical remote control, for [about \\$50](#).

The Eve Energy and the iHome iSP5 are similar devices, but if you see them side by side, you immediately notice the size difference. The face of the Eve Energy is square — about 2.5 inches (6.35 cm) wide and long — and 1.125 inches (2.86 cm) thick. The iSP5 is about 2.75 inches (6.98 cm) wide, 1.375 inches (3.49 cm) tall, and 1.4375 inches (3.65 cm) thick. In other words, the iHome is about half as tall but a little thicker than the Eve Energy. Depending on your particular situation, one may fit better than the other. Even though the Eve Energy is larger overall, its thinner profile makes a better option in tight spaces such as behind bookcases.



Both smart outlets feature a manual power button. The iSP5’s button, which you press to turn the outlet on and off, is tucked away in the upper-right corner. The Eve Energy’s button is right on the front, but you must hold the button down for a few seconds to turn it on and off.

As far as setup and operation goes, both set up quickly in Apple’s Home app, which I covered in [“A Prairie HomeKit Companion: Setting Up Accessories and Rooms”](#) (16 January 2017). Both smart outlets also offer their own apps, but I usually don’t like to fool with them. They seldom provide any important advantage over Apple’s Home app and generally make things more complicated. The entire point of HomeKit is that you have a central interface for all of your home automation items, regardless of vendor. As far as using the smart outlets in Home, it’s as simple as tapping the icon to turn them on or off. Of course, you can also use them in Scenes and Automations.



However, Apple's Home app lacks one nice feature available from both Elgato's [Eve Energy app](#) and the [iHome Control app](#): power consumption monitoring. iHome's app requires an online account, but Elgato's doesn't, so if you're interested in that feature, I recommend the Eve Energy. In fact, iHome Control won't even record those statistics until you create an account, but Eve Energy will quietly gather them in the background with no intervention necessary. I also find Eve Energy much better than iHome Control overall because it's a full-service HomeKit controller. In contrast, iHome Control seems to work with only a few of my HomeKit devices.

The main functional difference between these two smart outlets is that the iHome iSP5 relies on Wi-Fi, whereas the Eve Energy communicates via Bluetooth. The iSP5 is the winner here because Wi-Fi has much better range and responsiveness than Bluetooth. Elgato announced the [Eve Extend Bluetooth range extender](#) at CES 2017, but it has yet to materialize.

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by Josh Centers

## iLife and iWork Apps Now Free for Everyone

Once upon a time, Apple used to charge for nearly all its software, and especially productivity apps like the iLife and iWork suites. However, back in 2013, Apple made those apps free with the purchase of any new Mac or iOS device (see ["New Free iLife and iWork Apps Share across Devices and Platforms,"](#) 22 October 2013).

Now, with no announcement or fanfare, Apple has made the current iLife and iWork apps entirely free for all users. Just to be clear, the change affects the following apps:

- GarageBand for [macOS](#) (requires 10.10 Yosemite) and [iOS](#) (requires iOS 10.2)
- iMovie for [macOS](#) (requires 10.11.2 El Capitan) and [iOS](#) (requires iOS 9.3)
- Keynote for [macOS](#) (requires 10.12 Sierra) and [iOS](#) (requires iOS 10)
- Numbers for [macOS](#) (requires 10.12 Sierra) and [iOS](#) (requires iOS 10)
- Pages for [macOS](#) (requires 10.12 Sierra) and [iOS](#) (requires iOS 10)

This is good news for holdouts who haven't purchased a new eligible Apple device since 2013 but are running a supported version of the operating system and would like copies of the iLife and iWork apps. And it makes explaining the pricing easier for Apple.

Why didn't Apple just make these apps free for everyone in the first place? The answer likely lies deep within Apple's

Overall, I recommend the slightly cheaper iHome iSP5 over the Elgato Eve Energy unless Bluetooth is preferable to Wi-Fi in your environment, you're particularly interested in power consumption monitoring, or the iSP5 is too thick for a tight space.

If you're curious about HomeKit automation, you can't go wrong with a smart outlet like the iHome iSP5. It's cheap, easy to set up, simple to uninstall, and a breeze to operate. Not only that, but these outlets are versatile, working with many different plug-in appliances. They may not be as much fun as the Philips Hue lights, but they're easier on the bank account (see ["Getting Started with the Philips Hue Smart Light Bulbs,"](#) 1 August 2016).

That's all from the Prairie HomeKit Companion for now. I'll check in again soon once I've had a chance to experiment with an entirely new house layout. 🏠

accounting department. Back in 2013, Apple made iLife, iWork, and OS X 10.9 Mavericks free and bundled them with every new Mac and iOS device sold. That move enabled the company to delay recognition of a portion of its sales receipts. That's because the product (a Mac or iOS device) wasn't "fully delivered" without updates to the software — it's a "subscription accounting" approach. In its Q4 2013 financial quarter, Apple delayed recognition of \$900 million in revenue, in essence hiding that money from the quarterly report (see ["Apple Q4 2013 Results See Lower Profits Again,"](#) 28 October 2013).

That may answer the question of why Apple is now making these apps free for everyone. According to [Daniel Eran Dilger of AppleInsider](#), the deferred revenue trickles back into Apple's reported revenues over 2 years for iOS and 4 years for the Mac. It has been about 4 years since this deferral likely began, implying that Apple has finally cleaned the associated deferred revenue off its books.

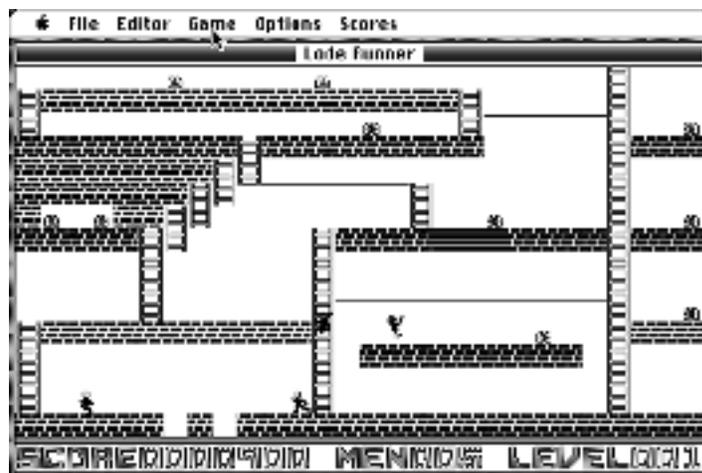
In the end, this change doesn't mean much. Any effects from iLife and iWork becoming free — on competing apps, on Apple's revenues, and on the perceived value of Apple hardware, for instance — have already taken place. Most people who want to use the iLife and iWork apps have likely either bought copies already or purchased new hardware since October 2013. We suspect that sales to owners of older Macs and iOS devices have dropped to the point where it was no longer worthwhile for Apple to bother charging for the apps anymore. 🏠

# Internet Archive Hosts Functional Classic Mac Apps

The estimable [Internet Archive](#) announced that it has added dozens of classic — and I mean classic! — Mac apps, games, and operating systems from 1984–1989 to its Software Library. It accomplished this minor bit of nostalgia magic thanks to a version of Hampa Hug’s PCE/macplus Macintosh emulator that was ported to JavaScript and can thus operate in a Web browser. That’s right, these are fully functional apps that you can run right within Safari, Chrome, or Firefox. (You can find more old Mac software accessible via PCE/macplus at the [RetroWeb Vintage Computer Museum](#), the maintainers of which helped the Internet Archive with their emulation system.)

PCE/macplus emulates a Macintosh 128K through Macintosh Classic, so we’re talking about a 9-inch, black-and-white screen here. The [Internet Archive’s Mac Software Library](#) has a package showing off [System 6.0.8’s](#) System Startup and System Additions disks and a more interesting one for [System 7.0.1](#) that includes a variety of apps, including BBEedit, HyperCard, Microsoft Word, Microsoft Excel, and more. Remember, you have to double-click quickly to open folders and launch apps, and selecting an item from a menu requires you to hold the mouse button down after clicking the menu title.

As amusing as it can be to fool around with those old apps, the real fun comes with the games of the 1980s. [Dark Castle](#), [Airborne](#), and [Wizardry](#) are all there for you to play, along with my favorite, [Lode Runner](#). Give them a try!



For those who remember them, the apps are worth visiting for nostalgic reasons alone. However, more interesting are what projects like this promise for the future of digital preservation. It’s increasingly hard to keep ancient hardware running, and unstable media renders long-term access to software and data questionable at best.

If the massive computing power of modern machines enables full emulation of older hardware, and files can be moved into the cloud while their floppy disks can still be read, perhaps we won’t lose nearly as much old data to bit rot as we would have otherwise. There isn’t much of a business model around loading of data and apps from long-stored floppies, but kudos to groups like the Internet Archive and the RetroWeb Vintage Computer Museum for showing that it can still be done. And if you’re interested in playing with your old apps and files, check out the [Macintosh Garden](#) for information on setting up your own emulator.

Now, if you’ll excuse me, I have another level of Lode Runner to attempt. 🎮



**MacOS System 7.0.1 Compilation**  
by Nuclei Computer  
Published 1997

DOWNLOAD OPTIONS

EMULATED CPU	1 TB
RAW DISK COMPILATION	1 TB

The parent compilation and disk are contained full copy of the OS 7.0.1, along with a range of games, applications, utilities and how to download to the website of using an early Macintosh's emulator.



# 4 Things to Consider Before Enabling iCloud Photo Library

The ability to take beautiful photographs — and look at them immediately — on a device that fits in your pocket has removed much of the friction surrounding storing, organizing, and sharing your personal works of art.

But this sea change in photography has created new issues, such as:

- Pictures are easier to take and retain. Your iPhone doesn't swell like an overstuffed photo album if you keep all those blurry photos that would be better off consigned to the dustbin of history.
- Camera capabilities have improved steadily over time, radically increasing storage requirements. Did you ever think you'd be able to shoot high-definition video on something like an iPhone?
- Thanks to the increased space requirements of photos and videos, our iPhones and iPads, not to mention some Macs, can't handle the size of our photo libraries.
- We want to access our photos and videos from any of our devices, at any time, and have any edits we make reflected everywhere.

**iCloud Photo Library** is Apple's solution to these issues. There are competing options, such as [Google Photos](#), [Lightroom mobile](#), [Mylio](#), and [Amazon Prime Photos](#) (all explained in Jeff Carlson's "[Take Control of Your Digital Photos on a Mac](#)"), but the idea behind all of them is basically the same:



## iCloud Photo Library

iCloud Photo Library stores every photo and video you take, and keeps them up to date on all your devices. Any edits you make are automatically updated everywhere. iCloud Photo Sharing makes it easy to share photos and videos with exactly the people you want to see them. Create a shared album and invite friends and family to add their photos and video clips as often as they want. And you can even take your entire photo collection everywhere without using up all the storage space on your iPhone.

- Provide more space to store our photos and videos in the cloud
- Allow us to access these photos and videos from any of our devices



This cloud-based approach has a couple of welcome byproducts. Although it shouldn't be seen as the backup, a cloud-based photo library certainly does provide another copy of everything in a location that's safe from fire, flood, or theft. Also, sharing photos with family and friends becomes a bit easier.

If you decide to use iCloud Photo Library, here are four things to think about before you flip that switch and turn it on.

**Cull Photos First... Or Not** — Many of the features of Apple's Photos app — automatic albums like Selfies and Screenshots, facial recognition, Memories, and searching for photos by generic categories like Mountains or Snow — eliminate much of the tedium of organizing photos and help us avoid throwing things away.

After all, why toss any photos when Photos can organize most of them automatically for later reference? It's much more fun to keep shooting than to engage in the chore of trashing photos that, upon further review, you'd be ashamed to admit you took.

How does this apply to iCloud Photo Library? If you have time now, you might want to delete unnecessary photos like the eight nearly identical photos I apparently just took of my sleeping cat (who, like most sleeping cats, didn't move the entire time). That will reduce the upload and download times for iCloud.

On the other hand, if you're thinking that it would be way more fun to clean up your photo collection while lounging on the couch with your iPad in the future, just leave all the cruft in place for now — you can always trash it later.

**Start with the Host with the Most** — It may take quite a bit of time to upload all your photos and videos to your iCloud Photo Library: days or even weeks, depending on

your upstream Internet speed and how many photos and videos you have.

In my case, the vast majority of my several thousand photos and videos were stored on my Mac. Many were duplicated on my iPad and iPhone because I had manually synced them there at some point in the past. So I started with the Mac, and even with the library culling that I performed, it still took several days to finish.

But there are plenty of people who have all or most of their photos on an iPhone or iPad, or maybe don't even own a Mac. If you're in that situation, start from the device that contains most of your photos and videos. Once that first upload is done, you can repeat the process with your other devices.

Happily, to make sure you don't chew through your monthly data limit uploading photos, iOS devices won't upload to the iCloud Photo Library using a cellular connection, just via Wi-Fi.

If you find your Mac or iOS device is getting bogged down, or your Internet connection has slowed considerably as a result of all the uploading, you can pause the upload. It will resume automatically after a day, or you can start it again manually before bed. On the Mac the Pause button is in Photos > Preferences > iCloud; in iOS look for it in Settings > Photos & Camera.

**Optimize Photos Where Appropriate** — iCloud Photo Library always stores your photos and videos in the cloud at their original full resolutions.

But you likely don't have enough space on your iPhone or iPad, or even possibly on a MacBook Air, to store all that data. That's why Apple gives you the option to instead store "optimized" versions (small thumbnails) on any of your devices. When you want to work with an optimized photo, Photos downloads the original.

Think carefully about where you store full-resolution and optimized versions of photos. I opted for optimized copies on my iPhone and iPad, but I chose to keep the full-resolution versions on my Mac. The Mac is where I tend to exercise my meager photo-editing skills, and I would prefer not to wait for each photo to download before I edit it.

In addition, I back up my Mac both locally via Time Machine and via the online service [Backblaze](#), which puts my full photo library in four different places — iCloud Photo Library, my Mac's drive, my Time Machine backup drive, and Backblaze. Should disaster strike, I'm confident that I won't lose any precious photos.

**Space Is Money** — My Photo Stream was Apple's initial foray into syncing a limited number of user photos via the cloud, and the photos it syncs do not count against an iCloud account's storage limits (it doesn't work with videos). In contrast, all the photos and videos in iCloud Photo Library do count against that storage limit.

A free iCloud account gives you 5 GB to get started. But, particularly if you're backing up an iOS device or two, a

photo library of any decent size won't come close to fitting in that space.

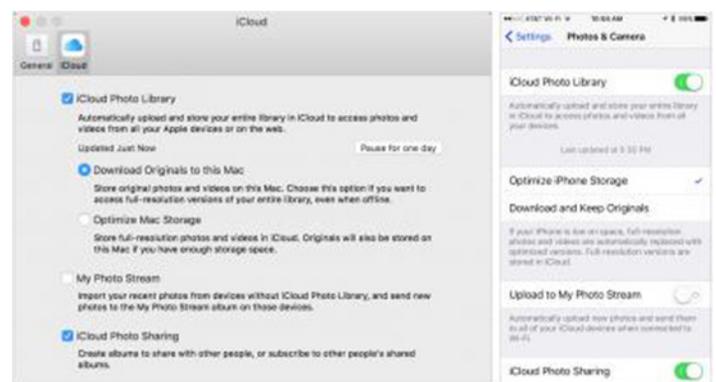
Fortunately, Apple notifies you before you start uploading if your iCloud account needs more storage space, and you can [buy additional iCloud storage](#) at a relatively low cost: \$0.99 per month for 50 GB, \$2.99 for 200 GB, \$9.99 for 1 TB, or \$19.99 for 2 TB.

In my case, I needed to do only a little bit of editing to whittle my photo library down so it was comfortably below the 50 GB mark, giving me some room for short-term growth and saving me a couple of bucks a month. For me, it wasn't worth paying for the extra space up front with an eventual goal of taming the photo library later, especially since I hadn't been especially motivated to do so for several years. In addition, there are three other members of my family with their own iCloud accounts, so walking the talk was a factor in my decision.

That said, most people probably can't drop their library size significantly enough to fit comfortably into a lower pricing tier. And remember, at 2–3 MB per iPhone photo, library size can grow quickly. Still, there's no reason to pay more than necessary; Apple will happily tell you if you need to upgrade again in the future.

Annoyingly, there's no way to buy iCloud storage for a year at a time, so you'll be getting and accounting for a small iCloud storage payment every month no matter what.

**Flip the Switch** — Once you've thought about these things and are ready to go, turn on iCloud Photo Library in Photos > Preferences > iCloud on the Mac, or in Settings > Photos & Camera in iOS. Then reward yourself with a favorite beverage, particularly if you've done any pruning of your photo library.



While you wait for your photos to upload, which will take days or even weeks, you can still use your Mac or iOS device normally. Do not stare at the progress count or try to second-guess what's happening. And in particular, do not turn iCloud Photo Library off and back on, since that will force the system to evaluate every photo again, slowing the process further. Just let it run and it will finish eventually.

In the meantime, can I recommend a relaxing hobby that will get you away from the screen, like maybe photography? 🗑️

# Getting Your Devices and Data Over the U.S. Border

**Many** travelers have had the experience of showing documents and answering questions while crossing an international border. But these days most of us carry smartphones, tablets, and computers that can contain or access tremendous portions of our daily lives.

Sure, some data is innocuous, like snapshots of yesterday's lunch or last week's sports scores. But some of it can be deeply sensitive, including banking and financial information, medical histories, dossiers of our friends and acquaintances, private conversations — even records of where we have been.

As tensions rise over border and immigration issues (think walls, immigration bans, and terror threats), and as we become more dependent on our devices, demands to examine the contents of digital devices are becoming more common at the U.S. border and other border crossings around the world.

What would you do if a border agent wanted you to unlock your device? Or if they demanded passwords to your social media, email, or banking services?

If these questions give you even a moment's pause, it's best to give some thought to crossing into the United States before you actually get there.

**What Can Border Agents Do?** — Contrary to some popular opinion, the U.S. Constitution does apply at U.S. border crossings, so U.S. citizens have rights of free speech and association, freedom from unreasonable searches and seizures, and freedom from forced self-incrimination.

However, U.S. border agents also have broader powers than U.S. police officers, including the ability to conduct warrantless searches of vehicles, luggage, and other possessions. Put another way: in the United States a police officer can't pull you over, then search and disassemble your car unless they have probable cause and a warrant approved by a judge. However, a border officer can, no warrant needed.

U.S. border agents have these extended capabilities because courts have held the government's interest in maintaining border integrity is more important than an individual's privacy. In legal terms, these extended searches are considered "routine," and are meant to enable border agents to enforce trade and import laws, to prevent dangerous people from entering the country, and to ensure entrants are authorized and properly documented.

It's absolutely within a border agent's purview to inspect the physical aspects of any device you are carrying, whether that is a phone, tablet, laptop, camera, or any other digital gear. This includes not just inspecting its case and controls, but also removing batteries, memory, storage, and other components.

Moreover, Customs and Border Protection (CBP) directives grant border agents the authority to **examine any information "encountered" on devices**. That can mean flipping through pictures on your digital camera, and (if the device is unlocked) swiping through your phone and its apps, and poking around your computer.

Many travelers are perfectly OK with this. For instance, if a border agent wants to flip through my terrible pictures (Look, a blurry thumb!) or the massive list of blocked numbers on my iPhone, I don't particularly care: I'm nowhere near as dependent on devices as many people, and I don't really use social media.

But my computer often contains encrypted, confidential data belonging to my clients. If border agents wanted to look through that, I might have a legal obligation to refuse. Plenty of people — especially folks like doctors, attorneys, and journalists — would be very uncomfortable with border agents flipping through patient records, correspondence, photos, financial information, and more.

**Turn Off, Turn Down, or Turn a Blind Eye?** — So, if you don't want U.S. border agents going through your devices, the solution might seem easy: lock them or turn them off! That way, border agents won't "encounter" any information during their inspections, right?

That's true. But now imagine a border agent asks you to activate or unlock the device, or provide a code or password to do so? It's surprisingly common. Maybe the agent wants your Facebook or Twitter password so they can examine everything about your social media presence, not just what's public. Maybe they want your passwords to WhatsApp, iCloud, Dropbox, or your bank. Maybe these aren't requests: maybe they're orders.

Now things get tricky.

- If you agree, border agents can scrutinize and copy your information.
- If you refuse, border agents can seize your devices and even detain you. The CBP cannot refuse to let a U.S. citizen into the country; however, they don't have to make it easy, quick, or pleasant. The CBP can refuse entry to both foreign

nationals and lawful permanent residents. All of this increases pressure to comply.

- If you lie to border agents — “Uh, I forgot my password! That’s not my phone!” — you’ve committed a [crime carrying a prison sentence of up to five years](#).

**Requests, Orders, and Consent** — You can refuse to disclose passwords or unlock devices. The border agent might say “OK,” and move on to the next part of their inspection. Or, the agent may insist, perhaps suggesting that unlocking devices is in your best interest. If you unlock a device, that may constitute legal consent to being searched. With consent, border agents may search nearly any aspect of a person or their property.

If you refuse a request, border agents can escalate to an order. Agents are sometimes ambiguous about the distinction between a request and an order because implicit consent to a request gives them better legal footing. If in doubt, ask.

You can refuse an order to disclose passwords or unlock or activate devices, but border agents can seize your devices. How long can you go without your phone, computer, and the information they contain? Can you afford to replace them? Agents can also escalate the engagement to include additional officials or even detain you.

Once border agents have a device, they can copy its contents and share the data with other agencies or third parties for interpretation or forensic analysis. If the device is not unlocked, they may attempt to copy and store its data anyway, even if it’s encrypted. After all, if the government gets a password (or has/finds/buys a loophole or flaw in the software protecting the data), they may be able to decrypt it anyway. Same with any encrypted data on an unlocked device.

How long can the government hold on to data or devices? Generally, the CBP is supposed to destroy copies of data and return seized devices within five days, but retention of both can be extended almost indefinitely. Additional data about travelers and searches entered into a system called TECS — formerly known as the Treasury Enforcement Communications System — can be [retained as long as 75 years. This may include passwords and other credentials](#) revealed to disclosed agents.

**How to Protect Your Data** — If for any reason you don’t want to be put in the position of disclosing your entire digital life to U.S. border agents, you need to plan ahead. If you’re already in line at a border crossing and suddenly decide you want to protect your data, it’s too late.

First, assess your risks, perhaps by making a list of potential problems if your devices were seized or information on them was accessed (and potentially copied and shared) by border officials. For instance, if you rely on your iPhone to manage your boarding passes, lodging, and car rentals — or perhaps use Apple Pay while traveling — having your phone seized by border agents could present a major problem for the rest of your trip.

Worse, if you’re a physician traveling with patient records, an attorney with confidential documents, or a journalist with sensitive information, having the government leaf through your data could represent a huge professional and ethical problem.

Honestly, for most people, the risk analysis stops here. Even people who are tremendously reliant on their smartphones, devices, and social media rarely do anything sensitive. Sure, we might not want border agents reading text messages to our friends and relatives, but it’s not really a privacy disaster if they flip through selfies or uncover a group chat planning a surprise party for the grandparents.

However, if you feel the risks are significant — perhaps you’re party to a high-profile lawsuit, planning a divorce, work with classified information, have data on your device that is legal but perhaps controversial, or have legitimate worries about your status in the current political climate — you can take some steps to protect your data.

- Take fewer (or no) devices. You can’t be asked to unlock something you don’t have. A colleague who travels regularly between Japan and the United States has stopped carrying any devices at all. Another who does a similar commute from Sweden uses a travel-only phone.
- Use device encryption. iOS devices have had on-device encryption for most of your data enabled by default for years. On Macs, this means enabling whole disk encryption via FileVault, which has been available since 2011 (for assistance, see [“Take Control of FileVault”](#)). Then, turn your devices off. A device that’s merely asleep or locked is considerably more vulnerable to having its security compromised than an encrypted device that is fully shut down. This is probably the strongest (and easiest) thing most travelers can do to protect their data — as long as you’re using strong passwords and passcodes (for details, see [“Take Control of Your Passwords, Second Edition.”](#)) Do not rely on biometric security like fingerprint readers.
- Consider migrating some of your data to the cloud. In many cases, there’s no reason you need to carry your data with you on your devices: you can simply upload it to a cloud service — whether iCloud, Dropbox, or some other provider — then delete the data from your device, and re-sync with the cloud provider once you reach your destination. The process might take some time (or involve expensive data roaming charges), but it eliminates the need to physically transport your data over the border. There are two main potential problems with this approach. The first is that deleted data on a device can often be recovered via forensic analysis. Just because you delete an item from a device doesn’t mean it can’t be recovered by an expert. Second, border agents may just demand passwords to your cloud accounts. (Remember, lying to border agents is a crime.)
- Don’t know your passwords. This is perhaps the trickiest option — and takes the most planning — but an attorney

I've worked with occasionally over the years uses it. When he has had to travel with sensitive information recently, he has encrypted it with a strong password that is too long to remember, and then sent that password in an encrypted note to his own attorney. The result is that if he is asked to unlock the encrypted data, he can truthfully reply that he does not have the password. Further, if officials demand he retrieve the note that could reveal the password, it would be protected by attorney-client privilege.

You could use a similar approach to passwords used to unlock devices, email, social media accounts, banking information, and more. But doing so requires a great deal of effort and almost certainly needs a trusted third party. (And if that third party makes a mistake, you may lose access to your accounts altogether.) Moreover, border agents may regard it as highly suspicious if a traveler doesn't know the passwords to their own accounts or devices — and that may increase the likelihood of greater scrutiny or an escalated encounter.

**If Your Devices or Information Are Taken...** — If border agents seize your devices, politely insist on a property receipt. If you feel you are being mistreated by border agents or your rights are being violated, politely ask for their names, badge numbers, and agencies of the officers you encounter. Do not be rude, aggressive, or belligerent: it will never work in your favor. Also do not physically interfere with border agents: they can respond with physical force.

**Want To Know More?** — This article is just an overview of some issues involved with crossing the United States

border with your personal data. Furthermore, I am not a lawyer, so this article should not be construed as legal advice!

Fortunately, there are more-extensive guides to these topics written by real lawyers. If this topic is of particular interest to you, I recommend them highly:

- The American Civil Liberties Union has published a [detailed outline of issues surrounding border searches of devices and data](#). They also offer [information on all manner of border crossing issues](#).
- The Electronic Frontier Foundation recently published a guide to [Digital Privacy at the U.S. Border](#), available both on the Web and as a printable PDF.

Plus, many of the legal issues surrounding what border agents may and may not search on devices at the U.S. border are still poorly defined, with cases still working their way through courts, and members of Congress [introducing potential legislation](#) that would require a warrant before searching digital devices.

The situation is complicated and getting more so all the time. But if you're at all concerned about the privacy of your data while crossing the U.S. border, it's best to be prepared before you show your passport or identification. 🗑️

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by Julio Ojeda-Zapata

## Lightening the Vacation Tech Load

**F**or decades, I have tried to travel light but seemed genetically incapable of doing so. Regardless of the type of trip, I would pack two or three times more clothes than necessary. This also applied to my technology. I always took along a Mac, even on family vacations. Heck, beyond the laptop, I would bring along multiple gadgets like PDAs, tablets, and phones — the more the better!

In addition to saddling me with needless weight, packing all this gear created an endless temptation to tinker. I love to fiddle with my tech and have been known to wipe my Mac's hard drive and reinstall its operating system while on vacation.

If you're thinking, "He's nuts!" or something similar, I agree with you. As does my wife.

That's why a recent vacation to visit family in Florida was momentous. For the first time, I packed (somewhat) more sensibly. Oh, I don't mean clothing and footwear — I over-

did those yet again — but I tried to pare down my tech and succeeded, to a degree. It's a work in progress.

I stuck mainly to Apple gear for consistency and interoperability. For nearly two weeks in the Sunshine State, I had with me an iPad, iPhone, Apple Watch, and AirPods, but — drum roll — no Mac. Limiting myself to the minimalist iOS and watchOS meant fewer things to monkey with.

That kept me better focused on what really mattered: long naps and walks with my wife, swimming in the sea, catching up with a few favorite TV shows, leisurely meals with friends and relatives, and so on.

Pre-vacation prep was critical to avoid tech detours and distractions while on my journey. So I put in time beforehand setting up apps and services, and modifying my tech routine so my holiday would go more smoothly.

Consider this a travel-tech guide of sorts for Apple fans, though your details will likely vary. Toward the end, I'll mention a few non-Apple devices and accessories.

**iPad** — I insisted on taking along some kind of a computer, and an iPhone doesn't count. Other vacationers might happily do without for two weeks, but for both personal and professional reasons I can't — and I'll bet some of you feel the same.

The **9.7-inch iPad Pro** was my obvious choice. It's light-weight and compact, slipping into a mini-messenger bag that's too small for any portable Mac. I paired the tablet with Apple's **Smart Keyboard** — a prescient move, as it turned out — and used a matching **Silicone Case** for protection.

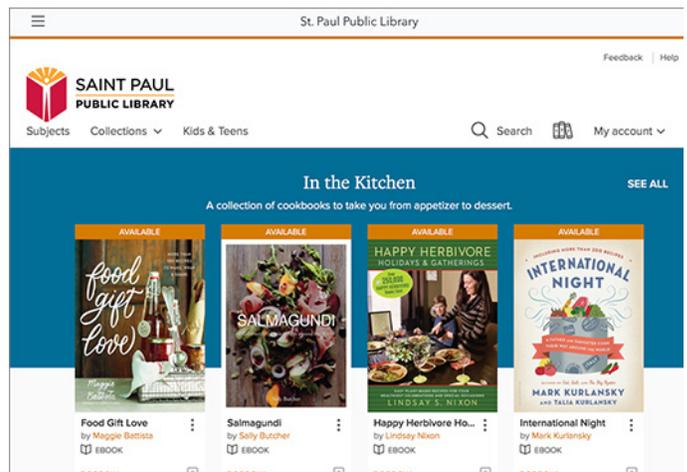
I planned to use the iPad primarily for reading and video watching. I also wanted to stay on top of the news, since not knowing what's going on stresses me out. Here's how I set things up to facilitate these uses.

I started with cellular data. I don't normally enable it on an iPad, but I deemed it essential for this trip. There's nothing worse than an endless search for reliable Wi-Fi, an issue I've often faced while traveling. So I temporarily put AT&T cell service on the device.

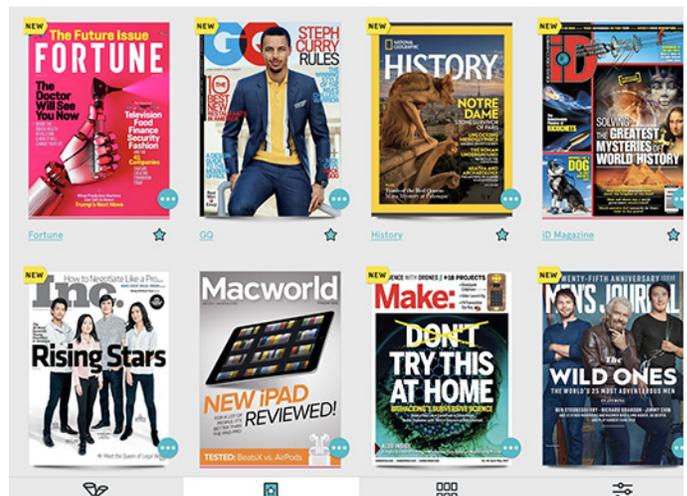
I worried about chewing through my data too quickly, though, so I took the precaution of downloading video for offline use. You can do this with iTunes purchases and rentals, of course. What I didn't know until I did my research is that offline downloading is also possible with streaming services like **Netflix**, **Amazon Prime Instant Video**, and my Comcast cable-TV provider's **Xfinity** service (for details about Netflix, see "**Netflix Introduces Offline Viewing for iOS**," 30 November 2016). Not all streamable titles on these services are downloadable, but I found plenty to keep me entertained.

Ebooks are faster to download, but I still made sure all the titles I wanted to read were stored on my iPad before leaving. Again, books purchased from the iBooks Store (or rivals like Amazon and Google) are the obvious options here, but I'm a cheapskate and went another way.

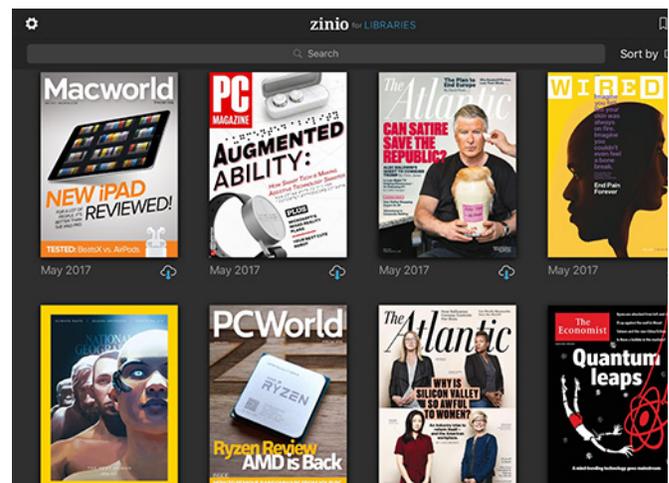
My public library offers ebook checkouts for free via **OverDrive** and **Cloud Library**. It's a good bet your public library offers at least one of these services or another called **Hoopla**. (The image below is of my library's OverDrive home screen, also see "**OverDrive, Bluefire, and the EPUBLIC Library**," 18 February 2011.)



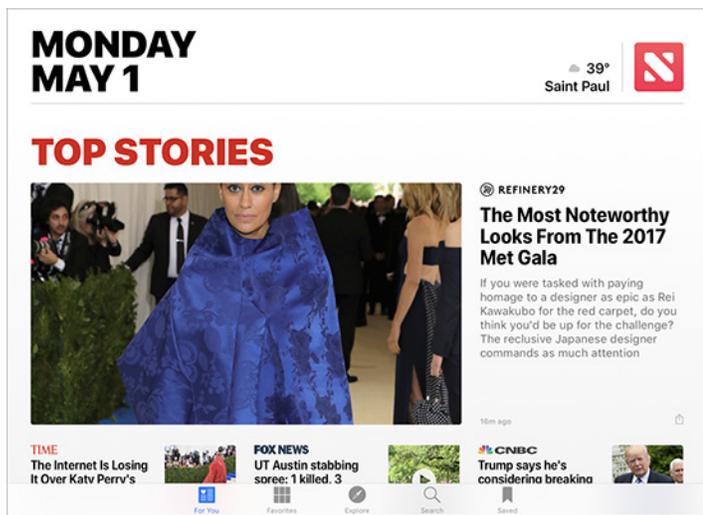
I'm also a magazine junkie, and in the past I'd carry stacks of them onto planes. Now I use my iPad as a magazine reader. For my trip, I tried a couple of magazine sources. One is **Texture**, a service with dozens of titles for as little as \$9.99 a month. I signed up for a trial and like it, but I'm not sure I'll keep it.



That's in large part because the St. Paul Public Library offers magazines via **Zinio for Libraries**. It's missing some of my favorite titles but the price is right: free. See if your public library has this. (There's also a non-library **Zinio** consumer service that is very much like Texture.)

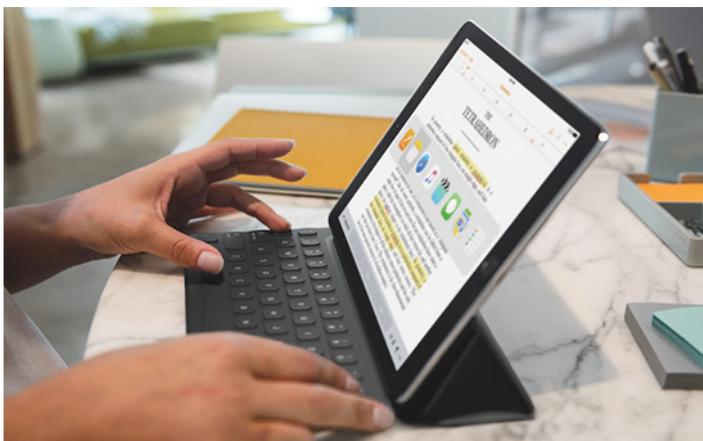


For news, I was already set up with my favorite apps and Web sites, like [Feedly](#), [Flipboard](#), [Memeorandum](#), [Techmeme](#), and [Mediagazer](#). As an experiment, I tried relying on [Apple's News app](#), which I hadn't used in ages, as my primary news app for the trip. It still has issues but has come a long way, and I found it useful and enjoyable for news scans.



Out of the blue, my iPad was pressed into service to get some hardcore work done midway through our vacation. And for once, it wasn't me, it was my wife.

She unexpectedly had to help my parents with my recently deceased brother's complicated estate, a job that required her to pore over and modify documents. My wife has never been sold on the iPad for productivity – she'd much rather use her MacBook Air – but she had no trouble adapting to the iPad Pro and Smart keyboard, spending hours on it with nary a complaint.



The biggest test for both of us was that my mother's MacBook Pro with Retina display was nearby and often idle, so you'd think we would have been tempted to use it instead. I did once, briefly, but for the most part we were fine sticking to the iPad.

**iPhone** – To a great extent, my iPhone 7 Plus was a smaller version of my iPad, with virtually all of the same apps and services.

Some things didn't work well. Reading magazines via Texture is too much of a chore on the smaller screen, for instance. But I enjoyed reading books on the iPhone, and occasionally used it to watch videos.

I also used the iPhone as my only camera for the trip. It's no DSLR, but it takes nice photos, and I am addicted to the Camera app's [Portrait mode](#) that blurs the background of photos impressively, if not always flawlessly (see "[Behind the iPhone 7 Plus's Portrait Mode](#)," 24 September 2016).



I was paranoid about losing photos in a catastrophic mishap (for good reason, as you will soon discover!), so I used Apple's [Lightning to USB 3 Camera Adapter](#) to transfer pictures from the iPhone to my iPad regularly. Had there been reliable Wi-Fi access, I would have done automatic uploads to Google Photos like I do at home, but on the trip, I was worried about chewing through my cellular data. (Of course, you could also use Apple's solutions: My Photo Stream and iCloud Photo Library.)

For extra protection, I swapped out my standard Apple leather case for a beefier, more rugged [Tech Armor Shock Flex Case](#) model. Nice idea, but the Tech Armor case doesn't claim to protect against what I was about to do to my iPhone.



One day, I dove into the pool, swam around, toweled off, sank into a reclining chair, and groped around in my bag for my iPhone. It was nowhere to be found, but I was sure the handset wasn't back at the condo.

Then, with a sick feeling, I realized it was in one of my swim trunks' pockets. I was certain it was a goner. But it kept going, and it's still working perfectly as I type this, weeks later. Apple doesn't certify the iPhone 7 as waterproof, just water resistant – so this isn't your cue to take yours for a swim – but looks like it's pretty doggone resistant.

Could I have managed with just the iPhone 7 Plus as my main travel computer, maybe with an external keyboard? It's not out of the question (see "[Physical Keyboards for the iPhone 6 Plus](#)," 25 October 2014), and I may work up the nerve to try it someday.

**Apple Watch** – Of all the gear I brought, the [Apple Watch Series 2](#) was the most interesting to me because I tried extra-hard to make it relevant and useful. I've never been the biggest of Apple Watch fans, so I wanted to see whether the trip would inspire a greater appreciation for Apple's wearable. (Spoiler: it did.)

Here's how my use of the Apple Watch (one of those [Nike-branded models](#)) went down.

I took many walks with my wife, as noted, and for the first time became obsessed with filling those [three concentric rings](#) for exercise (red), movement (yellow), and standing time (blue). We are of Latino persuasion, so I called them los circulitos, Spanish for "the little circles." I've remained interested in keeping up with the rings since the trip, which I didn't expect.



In fact, since my trip, I have for the first time fully incorporated the Apple Watch into my fitness (mostly bicycling) routine, tracking my post-vacation exercise with the watch's stock [Activity](#) and [Workout](#) apps along with the third-party [Strava](#) service much beloved among bicyclists and runners.

When possible, I wanted to have entertainment options at my fingertips without searching for my iPhone. That's the key reason for the Apple Watch, right? Figuring out the options took a little research, but I found a few doozies.

Most notable among these is Marco Arment's [Overcast](#) podcast app. Overcast won me over because it provides its own Apple Watch control screen instead of making its users rely on Apple's inferior Now Playing interface. So I switched over from [Pocket Casts](#), which lacks Apple Watch support.



Overcast also has a Smart Speed feature to compress long silences and reduce listening time, plus a Voice Boost feature that makes spoken podcasts louder and clearer. I love both.

Arment has since added another nice feature, an option to load podcasts right on the Apple Watch so its companion iPhone can be left behind. That would have come in handy on my vacation and possibly even averted my iPhone's dunking.

I use the [Pandora](#) service occasionally, so I installed its Apple Watch app to keep all my customized stations handy.

I also wanted to catch up on the news of the day simply by glancing at the Apple Watch. A headline complication for the device's Modular face makes this possible, but I was shocked at how few options exist. [CNN](#) is one, but the [Washington Post](#) is better.

The Post's Apple Watch app is a tiny adjunct to the newspaper's iPhone and iPad apps, which rely on square photos or illustrations with overlaid text that tell a quick story. Tapping a graphic loads the corresponding article.

On the Apple Watch, the square graphics are smaller, but still quite readable. Tapping the headline in the Modular face's complication leads to one of the graphics. Tapping the graphic loads a mini-story that is enough to get you up to speed until you can pull out your iPhone or iPad for the full text.



If you want to stay on the Apple Watch, you can scroll through a bunch of these textual mini articles or take the graphical approach by scrolling through a series of infographics as if they were a slide show.

It's really quite ingenious. Imagine me half-submerged in a swimming pool, basking in the tropical sun, while languidly flipping through the app's picture stories to get a basic understanding of what was going on (with a mental note to follow up on the iPad later for a more complete picture).

Alas, the Washington Post app sometimes failed to update, meaning the news headline shown in the complication was hours or days old, which caused me no end of frustration. I'd have to fiddle endlessly with the watch to get the app working again, exactly the sort of thing I had wanted to avoid on vacation.

I had one other news app on the Apple Watch: [National Public Radio's NPR One app](#), which is the height of simplicity. Push an on-screen button to start audio playback, then flip through stories until you find something you like. It's the perfect audio app for vacationing news junkies.



The Apple Watch Series 2 is waterproof, so I kept it on my wrist even when I dove into the pool or plunged into the ocean. Grains of sand sometimes got stuck in its nooks and crannies, annoyingly, but I was otherwise delighted with my aquatic sidekick.

I had two Apple Watch bands on my trip, a [Nike-branded Sports Band](#) and an Apple [Woven Nylon band](#), but the sporty Nike band worked in every situation.

**AirPods** — I packed a pair of [AirPods](#), thinking my wife and I could use them to watch videos together, each with one of the buds. It was a good idea, but we never got around to it. I adore the AirPods and use them nonstop at home, but I regret taking them on the trip because I was petrified about losing one or both — I lose stuff with astonishing ease.

That didn't happen, but in a cruel irony, I misplaced one of the AirPods after my trip. I'm pretty sure it's in the house somewhere, but several weeks later, it has yet to reveal itself. I haven't been able to find it with the new Find My AirPods feature because, in an epic bit of bad timing, I had unpaired the AirPods from my iPhone just prior to the loss.

For the trip, I stuck with my trusty old [LG HBS900](#) earphones, the kind that rest around the neck in a collar-like, open-in-the-front arrangement, with earbud cords sprouting from either side. They're harder to lose than AirPods, and the rubber bud tips offer a better ear canal seal for use on a noisy plane. I'd take just these on my next trip.

**Gear from Outside Cupertino** — I used the iPad, iPhone, and Apple Watch as my primary technology arsenal, but I couldn't resist a few extras from other companies.

The iPad and iPhone are my main devices for reading ebooks, but they are nearly worthless in bright sunlight. That's inconvenient on a tropical vacation. I fixed this problem

by packing a [Kindle Oasis](#), Amazon's most compact ebook reader, which has a cover that doubles as a battery for more longevity. I used the Kindle a lot.



I was paranoid about running out of juice, so I overdid it with the charging gear. The list here is long:

- Not one, not two, but three Apple 12W USB power adapters. It's an illness, I know.
- The [Anker PowerCore 20100mAh Portable Charger](#) power pack with two USB ports for charging the iPhone and iPad on the go. It's similar to [Anker's PowerCore+ 20100 USB-C Premium Ultra-High-Capacity Portable Charger](#), which I reviewed recently (See "[MacBook Accessories Reduce Single USB-C Port Inconvenience](#)," 10 March 2016).
- [Nomad's Car Charger with Battery](#), a gadget that plugs into a car accessory port for iPhone or Kindle charging and doubles as an external battery away from the car.
- [Nomad's NomadPlus for iPhone](#) accessory that adds a small battery to Apple's regular iPhone charging plug for phone charging on the go.
- [The Belkin Valet Charger Power Pack 6700 mAh for Apple Watch + iPhone](#), a smaller power pack with one USB port for on-the-go iPhone or Kindle charging, plus a built-in Apple Watch charging disc.
- One each of Nomad's three Ultra Rugged Cable Series charging cables: the Lighting Cable, Battery Cable, and Universal Cable. I needed the Universal Cable, with its three interchangeable charging prongs – Lightning, USB-C, and micro-USB – to charge the Anker, Belkin, and Nomad products. (Note that I reviewed the Nomad cables along with the Belkin and Nomad chargers not long ago see "[Nine Accessories for Charging Apple Devices](#)," 17 March 2017).

Unsurprisingly, I went way overboard. I could have easily made do with the Belkin Valet Charger Power Pack, two

Apple USB power adapters, and the Nomad Lightning and Universal Cables.

For those keeping score, the Belkin Valet charged from the Nomad Universal Cable, which was plugged into a 12-watt Apple USB brick. The Valet charged the Apple Watch at night and I could bring it on outings in case some other device died. Another Apple USB plug and the Nomad Lightning cable charged the iPad by day and the iPhone by night.

**How'd I Do?** — Looking back on the trip, it's clear that I was on the right track with leaving the Mac home and bringing the iPad, iPhone, and Apple Watch. The Mac

would also have caused me to want another charger and more cables and adapters — it was a relief not to have to think about all that. If you've been struggling to leave your Mac at home on a family trip, give it a try — I think you'll find that it works out fine.

However, my paranoia about power led me to overcompensate when it came to charging gear. One charger and cable for each device would have been more than enough, with some sort of external battery pack just in case.

Hopefully I'll get it right next time. And I promised my wife I won't bring so many shoes, either. 🗑️

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## Software Review

### Apple Updates

#### Apple Remote Desktop 3.9.3 Client

**Jun 21, 2017– 9.3 MB**

System Requirements

- macOS 10.10.5 or higher
- Apple Remote Desktop (ARD) 3.0, 3.1, 3.2 or 3.2.1.
- An Ethernet (recommended), AirPort, or FireWire over IP network connection.

This update is recommended for all Apple Remote Desktop users and addresses several issues related to compatibility, reliability, and usability.

#### Pages EndNote Plug-in 3.0

**Jun 13, 2017– 202 KB**

System Requirements

- macOS 10.12

If you're using Pages 6.2 or later and want to insert citations from EndNote\* you will need to install the Pages EndNote Plug-in v3.0.

\*EndNote sold separately

#### MacBook Pro (13-inch, 2017) with Touch Bar Update 1.0

**Jun 5, 2017– 608.5 MB**

System Requirements

- macOS Sierra 10.12.5

This update resolves issues with system stability and graphics corruption on the MacBook Pro (13-inch, 2017) with Touch Bar.

#### macOS Sierra 10.12.5 Update for 2017 iMacs

**Jun 5, 2017– 1.61 GB**

System Requirements

- macOS Sierra 10.12.4

The macOS Sierra 10.12.5 update improves the security, stability and compatibility of your Mac, and is recommended for all users.

This update:

- Fixes an issue where audio may stutter when played through USB headphones
- Improves reliability when connecting an external display or waking it from sleep
- Enhances compatibility of the Mac App Store with future software updates
- Adds support for media-free installation of Windows 10 Creators Update using Boot Camp

#### Security Update 2017-002 (Yosemite)

**May 15, 2017– 421.1 MB**

System Requirements

- OS X Yosemite 10.10.5

Security Update 2017-001 is recommended for all users and improves the security of OS X.

#### macOS Sierra 10.12.5 Combo Update

**May 15, 2017– 2.15 GB**

System Requirements

- macOS Sierra 10.12

The macOS Sierra 10.12.5 update improves the security, stability and compatibility of your Mac, and is recommended for all users.

This update:

- Fixes an issue where audio may stutter when played through USB headphones
- Enhances compatibility of the Mac App Store with future software updates

- Adds support for media-free installation of Windows 10 Creators Update using Boot Camp

**iTunes 12.6.1**

**May 15, 2017**

This update includes minor app and performance improvements.

**macOS Sierra 10.12.5 Update**

**May 15, 2017– 1.57 GB**

System Requirements

- macOS Sierra 10.12.4

The macOS Sierra 10.12.5 update improves the security, stability and compatibility of your Mac, and is recommended for all users.

This update:

- Fixes an issue where audio may stutter when played through USB headphones
- Enhances compatibility of the Mac App Store with future software updates
- Adds support for media-free installation of Windows 10 Creators Update using Boot Camp 

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