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KEYSTONE MacCentral

printout

Keystone MacCentral Macintosh Users Group ❖ www.keystonemac.com

Keystone MacCentral January Program

Jan 18, 2022 06:30 PM

Please see your membership email for the links to this month's Zoom meeting or email us at KeystoneMacCentral@mac.com.

We plan to continue our exploration of Snap Seed

&

we will be discussing eight things you should not be doing with and to your Mac. Join us to learn these "do nots" and a few do's as well.

We have virtual meetings via Zoom on the third Tuesday of each month.

Emails will be sent out prior to each meeting. Follow the directions/invitation each month on our email – that is, just click on the link to join our meeting.

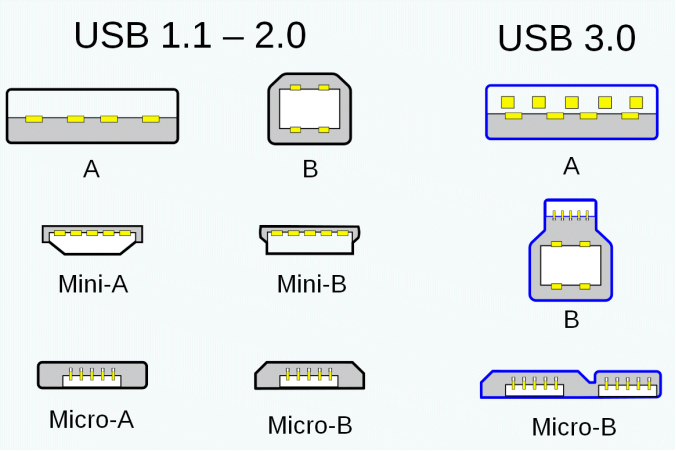
Contents

By Glenn Fleishman

USBefuddled: Untangling the Rat's Nest of USB-C Standards and Cables

It USB'd to be easy. Pardon the pun, but you know what I mean. USB used to mean one kind of connector for a computer: Type-A, which was flat, rectangular, and had one correct orientation. A peripheral either had a directly wired cord or sported a Type-B USB port: blocky, nearly square, and with only one correct orientation as well.

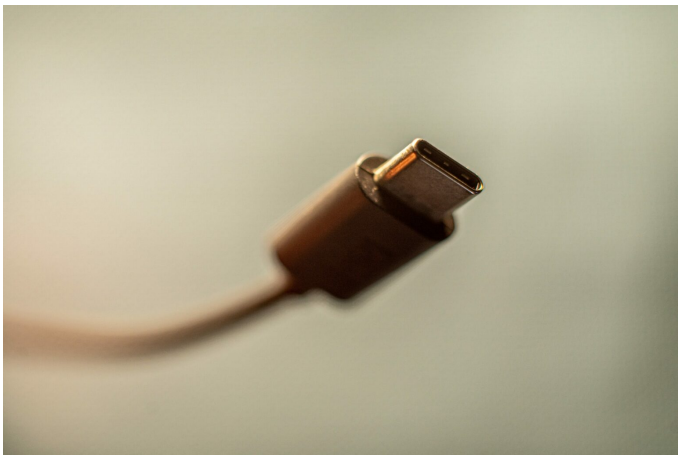
Along the way, though, we accumulated others: Mini-B, a thick trapezoid used by Texas Instruments graphing calculators, early Amazon Kindles, and other devices; and Micro-B, a slim trapezoid that became the de-facto charging shape for mobile devices, headphones, and other battery-powered hardware. More obscure connectors also appeared, like the wide and oddly shaped USB 3.0 Micro-B, which is most commonly seen on external hard drives.



Via Milos.bmx, used under CC-BY

The evolution to USB-C connectors just after the release of the USB 3.1 standard promised simplicity. Instead of host device Type-A and peripheral Type-B, Mini-B, Micro-B, and others, a single connector works for both ends of a connection and carries both power and data. Power can flow either way with the same cable: a computer charging a battery or phone; a battery charging a computer. It's also reversible across its long axis, so it's impossible to insert it in the wrong orientation.

USB-C was supposed to be the last cable you would ever need. It hasn't worked out that way.



USB-C Cable end.
(Photo by Marcus Urbenz on Unsplash)

The USB-Confusion

The hardware side works terrifically: a USB-C plug fits into any USB-C jack. But perhaps the USB Implementers Forum (USB-IF), the group that manages the development of the USB standard, didn't fully think through the complexity of what has to go *over* the USB wiring and how to communicate that effectively: power and video coupled with several different standards for data.

The problem is that USB-C has become a connector for distinctly different purposes and glancing at a port or cable rarely tells you enough to know what will happen when you plug in the cable. The USB-C connector is supported (but not required) by USB 3.1 and 3.2 and required by USB 4 (and Thunderbolt 3 and 4), even though until version 4

of each specification, they were distinct standards that intertwined.

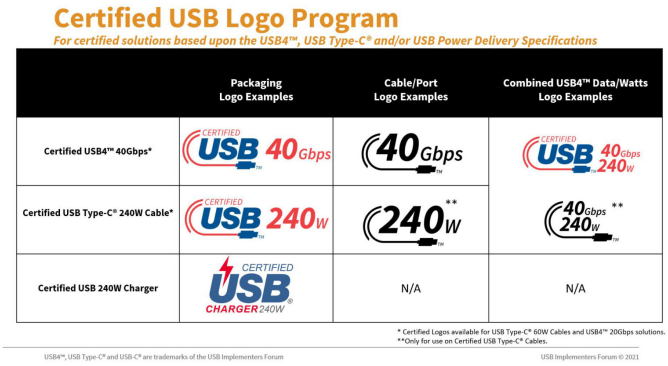
Plugging in a USB-C cable can raise all sorts of questions. Will you get the maximum speed between two devices? Will you get the wattage you need to power a computer or recharge a USB battery? Will nothing happen at all, with no clue as to why? There's often no way to know, even if the cable's long-ago-discarded packaging actually contained all those answers, because you have to know about the ports on both ends, too.

Much of the confusion that we all face stems from the fact that all the action happens deep within the innards of a computer, mobile device, or peripheral. Whatever data or power capabilities a USB-C port can offer over a cable to another device depend on the *host or peripheral controller*, a set of chips and power-management circuitry implementing USB, Thunderbolt, and other standards in hardware. A controller can range from a standalone module added to a motherboard to deep integration into a system-on-a-chip like Apple's M1.

The cable is the external mediator between two devices; it knows only about carrying data, not encoding or decoding it. The cable's tips inform the devices on either end about what kinds of data it can carry from one end to the other. This relies on a tiny chip built into every USB-C plug. (Many other kinds of plugs, such as USB 3.1 Type-A and Lightning, also contain chips, which is one reason cables are more expensive than they used to be.) Controllers can transfer different standards over the same "line," and they rely on cables to help them negotiate the best common method of speaking to each other.

The trouble is that we often don't know offhand the set of protocols each device speaks and, even if we do, we may be unsure if the cable will let them talk at the fastest rate—or in rare cases, at all. For instance, Apple still ships what it calls a USB-C Charge Cable—designed in the early days of USB-C—with several models of its laptops. It's fully compatible with the USB-C specification and can carry power at up to 100 watts, yet it doesn't support video and passes data at only 480 Mbps (USB 2.0)! A Thunderbolt 3 cable from Apple can carry the same maximum power, plus video and 40 Gbps of data for Thunderbolt 3 and 10 Gbps for USB 3.1.

What we want is to look at a port and cable and know what they do. That shouldn't be so hard, but it apparently is, judging from a graphic released in late September 2021 by the USB-IF showing new labeling for power-cabling standards. This simple chart revealed way too much about the profusion of confusion than the organization could possibly have intended, along with the challenges past and present.



Goodness gracious. Let me help sort out USB-C confusion: how we got here, where we're at, and what to expect in the future.

USB Seizes All

USB Type-C, almost universally called USB-C for short, tried to solve multiple problems plaguing USB hardware connections for decades, as the USB data standard proceeded merrily along from 1.5 Mbps and 12 Mbps (1.0 and 1.1) to 480 Mbps (2.0) in one direction (less in the other) to symmetrical 5 Gbps data transfer (3.0).

As you can see in the below chart, via Wikipedia, all connectors that came before USB-C had significant limitations surrounding what the connector on the other end could be. Type-A was the closest match, but note Wikipedia's "Proprietary, hazardous" label for a USB Type-A to Type-A cable, defined as "not inter-operable with

USB-IF compliant equipment and possibly damaging to both devices when plugged in."

USB cables table

Plugs, each end	USB A Type-A	USB Mini-A Mini-A	USB Micro-A Micro-A	USB B Type-B	USB Mini-B Mini-B	USB Micro-B Micro-B	USB 3.0 Micro-B Micro-B SuperSpeed	USB C
USB A Type-A	Proprietary, hazardous	Proprietary, hazardous	Proprietary, hazardous	Yes	Yes	Yes	Yes	Yes
USB Mini-A Mini-A		No	No	Deprecated	Deprecated	Non-standard	No	No
USB Micro-A Micro-A			No	Non-standard	Non-standard	Yes	No	No
USB B Type-B				No	No	No	No	Yes
USB Mini-B Mini-B					OTG non-standard	OTG non-standard	No	Yes
USB Micro-B Micro-B						OTG non-standard	No	Yes
USB 3.0 Micro-B Micro-B SuperSpeed							OTG non-standard	Yes
USB C								Yes

A cable or adapter with Type-A on one end could have one of four other types of connectors on the other end before USB-C, but you can't have a Type-A to Type-A cable. In contrast, USB-C works on both ends of a connection, and it supports five other plug types: Type-A and the four Type-B connectors.

The USB-IF first introduced USB 3.1 in 2013, which bumped the top rate from 5 Gbps to 10 Gbps over Type-A, and paved the way for the introduction in 2014 of the USB-C connector. The connector type premiered in a limited set of devices in 2015, including the now-discontinued 12-inch MacBook, which sported only a USB 3.1 controller and required a USB 3.1 video adapter to attach an external display.

It's best to preface what comes next with these concise, wise words from Wikipedia: "The Type-C connector is common to several technologies while mandating only a few of them."

A USB-C connector initially worked only with USB 3.1, which came in Gen 1 and Gen 2 flavors, known respectively as SuperSpeed (5 Gbps) and SuperSpeed+ (10 Gbps). The 3.1 standard appeared shortly before USB-C, and its 5 Gbps and 10 Gbps rates didn't require USB-C: they work over Type-A, Type-B, and Micro-B, as well as USB-C.

In 2017, the USB-IF released a 3.2 specification that, with a USB 3.2 controller in a computer or mobile device, allows for 10 Gbps over USB-C and earlier connectors, and 20 Gbps only over USB-C. Dropping some of the earlier naming conventions, the trade group suggested catchy names like "SuperSpeed USB 5Gbps," "SuperSpeed USB 10Gbps," and "SuperSpeed USB 20 Gbps."

The group's language usage guidelines note (helpfully?), "USB 3.2 is not USB Type-C, USB Standard-A, Micro-USB, or any other USB cable or connector."

But wait, it quickly gets worse.

USB and Thunderbolt Converge on 4

Thunderbolt was also in the mix. Apple adopted Intel's Thunderbolt standard early as the successor to FireWire, but Thunderbolt's first two versions never gained widespread adoption. Reasons for this weak showing include USB being far more prevalent, USB 3.0 supporting 5 Gbps early enough, and Apple remaining the only monolithic computer maker that didn't race to the bottom on pricing and commoditization. Purchasing higher-speed bus cards or particular PC or server computer configurations that support Thunderbolt might make sense to specific users or market segments, but not to the non-Mac industry as a whole.

But Intel made a key move, likely in cooperation with Apple: along with doubling the data rate to 40 Gbps, Thunderbolt 3 would sport a USB-C connection, relying on something the USB-IF trade group calls Alternate Mode. Instead of carrying USB 3.1 or 3.2 data over USB-C, Alternate Mode allows the encapsulation of other standards. It's a kind of a second language for USB: a USB 3 controller passing Thunderbolt 3 in Alternate Mode can talk to a native Thunderbolt 3 controller using a Thunderbolt 3-compatible cable. They don't even have to know they're speaking different languages. (Intel's Thunderbolt 3 controllers also have backward compatibility with USB 3 and earlier versions, too, using a similar approach, but a Thunderbolt 3 cable remains a requirement.)

There's an Alternate Mode for DisplayPort and one for HDMI to pass video: that's how the 12-inch MacBook could pass video over USB-C. Another enabled PCI Express for high-speed data transfer, enabling external GPUs for computers that support it, and a final one provided for Thunderbolt 3.

One more thing: the USB-IF released USB 4 in 2019, and Intel released Thunderbolt 4 in 2020. USB 4 offers an optional implementation of Thunderbolt 3 inside the USB spec, while Thunderbolt 4 has a mandatory requirement for USB support through USB 4. A device that explicitly supports USB 4/Thunderbolt 4, like Apple's 14-inch and 16-inch M1 Pro and M1 Max MacBook Pro models, can handle every flavor of Thunderbolt and every flavor of USB with nearly every existing cable and adapter. (USB 4 support for Thunderbolt 3 is optional for host controllers, but mandatory for USB 4 hubs, just to make things a little more confusing. However, I expect that major computer and device makers include either USB 4/Thunderbolt 3 or USB 4/Thunderbolt 4 for compatibility.)

Thunderbolt 4 also requires all certified controllers to allow Thunderbolt hubs to add USB-C ports supporting up to 40 Gbps, external displays, and more via any Thunderbolt port on a computer. With Thunderbolt 3, hubs were optional, and some operating systems and computers ultimately allowed for them. You can plug a Thunderbolt hub into a device that supports it using Thunderbolt 3 (Apple added this in macOS 11.1 Big Sur for all Intel and M1 Macs) or Thunderbolt 4. Thunderbolt 4 also allows for display resolutions above 8K.

USB 4 requires USB-C for all connections and a minimum 20 Gbps data throughput, though it can also support the full 40 Gbps of Thunderbolt 3 and 4.

Cable length plays a role too. Thunderbolt 3 and 4 cables come in passive and active varieties: passive cables can carry 40 Gbps only up to 0.5 meters and 20 Gbps up to 2 meters; active cables can carry 40 Gbps to the maximum 2 meters. USB 3 and 4 cables can carry 10 Gbps up to 2 meters and 20 Gbps at up to 1 meter, but the 40 Gbps flavor works only with cables no longer than 0.8 meters.

(Don't stress too much about those cable lengths unless you need the maximum throughput. It's okay for a USB 4/Thunderbolt 4 controller to communicate at speeds below 20 Gbps or 40 Gbps with cables that are too long or aren't designed for those speeds: these version 4 standards are backward compatible with USB 2.0 and Thunderbolt 1.)

USB 4 also mandates support for Power Delivery. As the USB 3.2 guidelines drily noted, "USB 3.2 is not USB Power Delivery or USB Battery Charging." Power Delivery? Battery Charging? These are two other USB standards that caused the USB-IF to arrive at the labeling chart that introduced this article.

I Have the Power

Power over USB dates back to its earliest days, but wattage has typically been limited without the involvement of proprietary controllers and protocols. USB-C marked the first wide-scale availability of high-wattage cables that worked across many devices interoperably. The standard that allows this is called Power Delivery.

USB-C cables that support Power Delivery 2.0 and 3.0 are supposed to be capable of passing at least 60 watts (3 amps at 20 volts) but can optionally be designed for 100 watts (5A at 20V). USB-C ports on hosts and peripherals can be designed to draw far less—as little as 7.5W (1.5A at 5V) or 15W (3A at 5V). Power Delivery 3.1 added higher voltages alongside 5A, allowing up to 240W (5A at 48V). A 240W cable requires a new Extended Power Range (EPR) cable type.

Despite the cable requirement, you may see cables for sale that seem to promise only up to 15W. Those might be 60W cables sold with devices that draw 15W of power, like the Belkin USB-C charger, or they may simply be out of compliance.

Power Delivery 3.1 also enables fast charging, something that doesn't yet have a trademark or particular label. Proprietary versions exist, including the one Apple added to the latest MacBook Pro models. Fast charging requires the 96W charger for a 14-inch MacBook Pro or the

140W charger that comes with all 16-inch MacBook Pro models. (The 14-inch MacBook Pro's entry-level model comes with a 67W charger that buyers can upgrade to 96W for $20.)

With those chargers, macOS automatically charges over MagSafe 3 (both 14- and 16-inch MacBook Pro models) or USB 4 (14-inch only) at the highest available wattage, allowing a depleted Mac to add 50% of its battery's charge in 30 minutes. Using a 67W charger with a 14-inch MacBook Pro or a USB 4 port with a 16-inch MacBook Pro limits charging to the "regular" speed, which is somewhat slower. (Also, all devices with lithium-ion batteries throttle charging speeds above 80% to prevent overheating.)

Finally, the USB Battery Charging spec enables a weirdly missing feature: a device plugged into a battery pack had no standard USB command it could issue that simply asked, "How much current can I draw?" Instead, different manufacturers came up with solutions that were not always compatible, limiting charging among certain devices.

With all this talk about charging, you might wonder: can I fry my expensive device by plugging in the wrong cable? The answer should be no, and it almost always is. USB-C ports and connectors negotiate rates they all agree on. Previous USB-C and Power Delivery specs were designed to avoid passing more power than a device could accept, and the Battery Charging upgrade improves on that. (In the early days of USB-C, Google engineer Benson Leung used his spare time to test and document cables because he found many cheap ones were poorly made, some of which could even fry a computer or start smoking. Those days now seem long past.)

Now let's get on to the meat of this article. What cables do what? What can you achieve now? What will the future bring?

What a Tangled Web We Weave 4.0

Here's a partial list of the possible data and power support you could find in a cable with USB-C connectors on both ends:

- **USB 3.2:** up to 20 Gbps and 15W (not in compliance with standards!)
- **USB 3.2:** up to 20 Gbps and 60W
- **USB 3.2**: up to 20 Gbps and 100W
- **Thunderbolt 3**, passive, less than 0.5m: up to 40 Gbps and 100W (power delivery)
- **Thunderbolt 3**, passive, 1 to 2m: up to 20 Gbps and 100W (power delivery)
- **Thunderbolt 3**, active, up to 2m: up to 40 Gbps and 100W (power delivery)
- **USB 4.0**: up to 20 Gbps and 60W
- **USB 4.0**: up to 20 Gbps and 100W
- **USB 4.0:** up to 20 Gbps and 240W
- **USB 4.0/Thunderbolt 4:** up to 40 Gbps and 60W
- **USB 4.0/Thunderbolt 4**: up to 40 Gbps and 100W
- **USB 4.0/Thunderbolt 4**: up to 40 Gbps and 240W

If that's not boggling enough, other, less common combinations are available, too; this list could be two, maybe three times longer. It also excludes proprietary cables, like Apple's MagSafe 3 to USB-C cables. How can you tell all these USB-C cables apart? It depends on whether computer and other device makers, cable creators, and peripheral manufacturers have marked their parts, manuals, and cable heads correctly and in accordance with the various specs that they allege to conform to.

- A USB 3.1 Gen 1 SuperSpeed port or cable should have an (unfortunately chosen) SS logo.
- A USB 3.1 Gen 2 SuperSpeed+ cable should show an SS+
- USB 3.2 cables use the labels "SuperSpeed USB" or "SS" plus "5Gbps," "10Gbps," or "20Gbps."
- Thunderbolt cables should be labeled with the lightning bolt logo and a 3 or a 4.

- USB 4 cables deprecate the SS and SuperSpeed logos, and should be marked using labels from the chart at the start of the article: "Certified" (optional) plus "USB" along with "40Gbps" and "240W," separately or together.
- A 240W charger (not cable) will have the "Certified USB Charger 240W" logo, with no simpler alternative.

I've collected some examples below, culled from photos across the Internet, that show a breadth of how and where cables are marked. Notably, Thunderbolt 3 cables that are marked appear fairly similar—unless you're a type snob like me who notices the many different sans serif fonts used.

These Thunderbolt 3 cables below are generally accurately marked: they sport both the Thunderbolt icon and the numeral 3. Most I found are like these, where the icon and number appear on both cable ends. However, none of these cables reveal whether they're active or passive, or give any clue as to their supported wattage.

It's easy enough to find Thunderbolt cables that are improperly marked or entirely unmarked. At least the Apple one (below left) and the generic one (below middle) have a lightning bolt—but no 3. So you know it's almost certainly Thunderbolt 3. The StarTech.com cable may have markings on the other side, but all the photos for that cable show only the logo.

USB 3.1 and 3.2 cables have their tips marked surprisingly well when they support 10 Gbps or faster flavors, though the numeral is tiny relative to the SS. And I don't even have to channel my inner type snob to complain that the numerals are sometimes printed in light grey on black or even grey on a different shade of grey.

Watt's the Matter? Isn't 20 Gbps Enough?

All you hear regular users and techies talking about —and complaining about—is that the same simple connector can mean so many different things, and there's little visual way to determine what's possible by looking at a port or cable.

Even when you can find the necessary logos and symbols, you have to look up the interactions between port and cable, data rates, and power. You might even need a magnifying lens to read printed markings on the length of a cable to determine amperage or wattage.

How could the USB-IF improve on this, particularly in cooperation with Intel's Thunderbolt group? The labeling I mocked at the outset is actually the right direction. With the convergence of USB and Thunderbolt on cross-compatible, backward-compatible standards, there may be a chance for clarity in the future.

Ideally, the USB-IF would also propagate such labels backward, requiring manufacturers to print the maximum speed and wattage in legible letters. It would also be great to see an agreement with Intel to require manufacturers to mark Thunderbolt cables with both the version number and either 20 Gbps (long and passive) or 40 Gbps (short and active). This is the strategy the Wi-Fi Alliance took up to reduce confusion with 802.11n, 802.11ac, and 802.11ax, which were all "Wi-Fi": they rebranded those as Wi-Fi 4, 5, and 6.

In general practice, your best bet might be using old-fashioned sticky labels after purchasing a cable that fits your need or opening up a cable included with a product. Try a label maker to put flags on your cables or use zip ties that have a place to write on with a permanent marker. Future cables may provide clearer direction, but given how many cables we all have kicking around, we're still somewhat on our own.

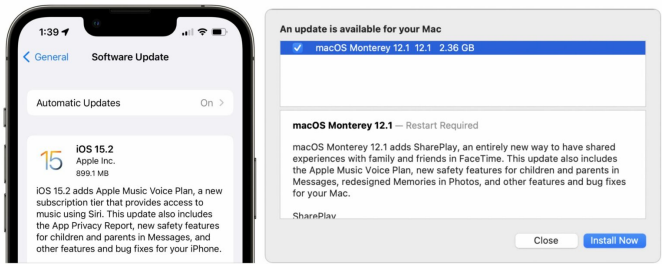
By Josh Centers

Apple Releases iOS 15.2, iPadOS 15.2, macOS 12.1 Monterey, watchOS 8.3, and tvOS 15.2

It's another manic Monday, with Apple releasing iOS 15.2, iPadOS 15.2, macOS 12.1 Monterey, watchOS 8.3, tvOS 15.2, and HomePod Software 15.2. While watchOS 8.3, tvOS 15.2, and HomePod Software 15.2 are minor updates, iOS 15.2, iPadOS 15.2, and macOS 12.1 Monterey bring major new features, some of which were delayed from their initial releases. These are sufficiently significant updates that we strongly recommend waiting for at least a week to see if major problems crop up.

As has become standard practice for Apple, these updates generally provide the same features throughout. In fact, the most significant change in macOS 12.1 Monterey is the delayed support for SharePlay, which appeared in the previous set of updates for the rest of the operating systems. We'll focus on the shared features first, and then touch on more focused changes and bug fixes.

You can install iOS 15.2 (899.1 MB on an iPhone 13 Pro) and iPadOS 15.2 (588 MB on a 10.5-inch iPad Pro) in Settings > General > Software Update. macOS 12.1 Monterey is advertised in System Preferences > Software Update as a 2.36 GB update (on an M1-based MacBook Air that proceeded to download 3.17 GB—why the discrepancy?).



App Privacy Report

iOS 15.2 and iPadOS 15.2 introduce the long-promised App Privacy Report, which helps you keep tabs on apps that are keeping tabs on you, itemizing which domains those apps contact and what device data they access. You must turn it on manually in Settings > Privacy > App Privacy Report. My guess is that logging all of this data

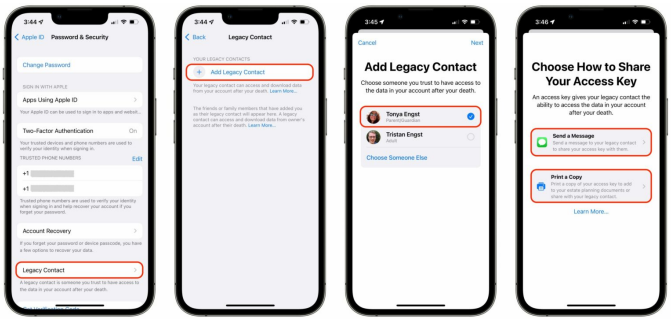
might impact battery life, which is why it's not on by default.

App Privacy Report has four main sections: Data & Sensor Access, App Network Activity, Website Network Activity, and Most Contacted Domains, and all of them let you drill in to see details. It'll be interesting to see if the data revealed by the report helps users understand what's happening and change their behavior or lobby for less intrusive tracking with developers.

Digital Legacy

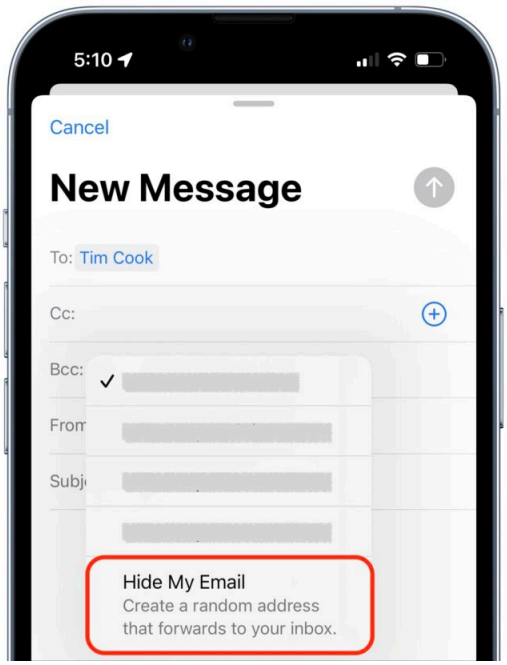
Another long-promised feature that has arrived in iOS 15, iPadOS 15, and macOS 12.1 Monterey is Digital Legacy, which enables you to designate someone to have access to your Apple data in the event of your death, including photos, emails, and notes.

To set it up on an iPhone or iPad, go to Settings > *Your Name* > Password & Security > Legacy Contact, and tap Add Digital Contact to get started. In Monterey, we would expect that you'd go to System Preferences > Apple ID > Password & Security, but there's nothing about Legacy Contact there. Follow the instructions to add a legacy contact, which will involve notifying them via Messages and sharing an access key that will automatically be stored in their Apple ID settings, assuming they accept. You can also print the access key in the form of a QR code, which enables you to share with someone who's not using Apple's latest operating systems and to keep a copy for your executor, just in case. Store it in a safe place alongside your will and other important papers! Upon your death, your legacy contact will have to provide Apple with that key and a copy of your death certificate to access your accounts and retrieve your data from Apple.



Hide My Email in Mail

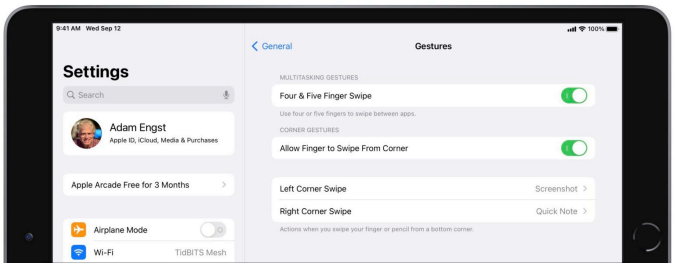
The Hide My Email feature lets you generate alternate email addresses that forward mail to your real address and that you can delete at any time (see "Cut Down on Junk Mail with iCloud+'s Hide My Email," 21 October 2021). You can now generate those addresses on your iPhone or iPad when composing a message in Mail by tapping the "Cc/Bcc, From:" field once to reveal the From field and then tapping the From field. Choose Hide My Email from the list. Hide My Email is also now available in Mail on the Mac.



iPad: Customize or Disable Quick Note

iPadOS 15 added the Quick Note feature, which lets you swipe from the lower-right corner of the screen to bring up a window that lets you quickly draft a note. I've recently been tracking complaints that the gesture is an annoyance, especially for those who don't use Notes or in games where you're often swiping wildly at the screen. I hadn't written anything yet because I was hoping Apple would let us disable it in the next major update. (In macOS 12 Monterey, Quick Note is a hot-corner action and is thus easy to configure or disable.)

Not only has Apple provided an option to disable the Quick Note gesture, it has also made it completely customizable. Go to Settings > General > Gestures, where you can customize both the Left Corner Swipe and the Right Corner Swipe, with options to take a screenshot, bring up Quick Note, or disable the swipe entirely.



If the screenshot gesture doesn't work at first with your finger, try turning Allow Finger to Swipe From Corner off and back on—that fixed it for us.

Child Safety Features

Back in August, Apple created an uproar when it announced features that would use on-device processing to detect CSAM uploaded to iCloud and to detect what it called "sensitive" material being sent or received using Messages on children's devices (see "FAQ about Apple's Expanded Protections for Children," 7 August 2021). After copious backlash, Apple delayed those features (see "Apple Delays CSAM Detection Launch," 3 September 2021).

Apple has now implemented a reconceived version of the Messages feature, known as Communication Safety. You can enable it in Settings > Screen Time > *Child's Name* > Communication Safety.

Originally, Apple planned the feature to have two aspects:

- If enabled by a parent, for any child 17 and under, Messages would warn the kid about sending or receiving sexual or sensitive images and offer them an opportunity to back out.
- Parents could choose to receive an alert that kids 12 and under had sent or viewed such images.

Apple has now dropped the parental notification part of Communication Safety entirely due to concerns about it exacerbating abusive situations.

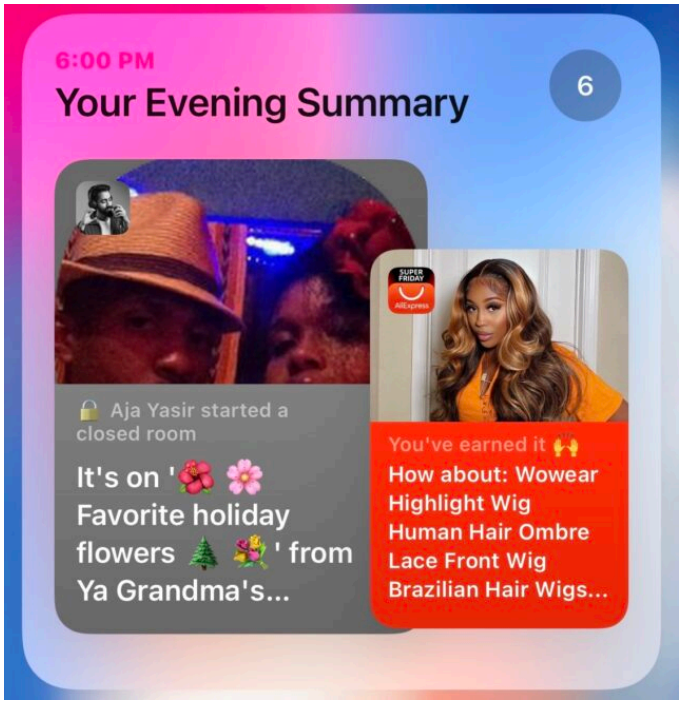
In the release version, Apple changed the language to use "naked" and "nude" everywhere, explaining that those terms refer to body parts typically covered by swimsuits. This seemed to be an attempt to turn down the temperature in case pictures were identified incorrectly as sexual or "sensitive," and potentially to match more photos so that kids will need to think more broadly about the images they send. It's also far easier to use machine learning to recognize nudity accurately than images that might be "sexual" in nature.

iOS 15.2 and iPadOS 15.2 also feature what Apple calls "expanded guidance" in Siri, Spotlight, and Safari search. We figure this means Apple will present children with a warning if they search for naughty things.

Redesigned Notification Summaries

Not mentioned in the release notes are redesigned notification summaries. We haven't covered notification summaries in TidBITS yet, but I describe them in *Take Control of iOS 15 and iPadOS 15*. Basically, you can bundle unimportant notifications together so that you receive them only a few times a day instead of being barraged by a constant stream of alerts.

Apple has now redesigned those summaries. Previously, they were smaller and arranged in a grid. Now they're presented on larger, more colorful cards that overlap.



Parts and Service History

Also not mentioned in the release notes is a new Parts and Service History section in Settings, discovered by MacRumors. If you have had any parts replaced on your iPhone, you can view that in Settings > General > About. Under Parts and Service History, it will list any replaced parts and whether or not they're genuine Apple parts.

This feature is most useful if you're buying a used device. You can now easily tell if someone bought a broken iPhone and fixed it up with cheap parts.

Apple Music Voice Plan

With this round of operating system updates, Apple has launched the Apple Music Voice Plan, which may be Apple's strangest service offering. Here's the pitch: for $4.99 per month, you get complete access to the Apple Music library, with one major caveat: you must access all of it through Siri with no visual browsing allowed. There's also no spatial or lossless audio.

This is a perfect Apple Music tier for those who want a cheap music service on their HomePods but don't care otherwise. It has a place and is a welcome benefit for those HomePod owners, but the lack of a visual interface is an odd restriction.

You can sign up either through the Music app or by asking Siri to start your Apple Music Voice trial.

Other Changes in iOS 15.2 and iPadOS 15.2

Smaller feature changes in these releases include:

- Better macro photo controls on the iPhone 13 Pro and iPhone 13 Pro Max
- A new Store tab in the TV app makes it easier to buy and rent content
- The new enhanced city view for Maps is now available in CarPlay
- Find My can now locate an iPhone for up to 5 hours when it's in Power Reserve
- The Stocks app lets you see a ticker's currency and track year-to-date performance
- You can now delete and rename tags in Reminders and Notes

Apple also calls out a handful of bugs that it fixed:

- Siri not responding when VoiceOver is enabled and the iPhone or iPad is locked
- ProRAW photos appearing overexposed in third-party apps
- HomeKit scenes with a garage door not running from CarPlay when the iPhone is locked
- CarPlay not updating Now Playing for certain apps
- Video streaming apps not loading content on the iPhone 13
- Calendar events showing the wrong day for Microsoft Exchange users

iOS 15.2 and iPadOS 15.2 have 38 security updates.

macOS 12.1 Monterey

The big news in macOS 12.1 Monterey is the addition of FaceTime screen sharing and SharePlay. We still need to test these in Monterey, but in the meantime, you can read our existing coverage in "How to Use FaceTime Screen Sharing and

SharePlay" (8 November 2021). We expect Monterey's version to be very similar.

Photos in macOS 12.1 also adds the new Memories design that debuted in iOS 15 and iPadOS 15 and that Apple added in tvOS 15.2 (see below for details), but unfortunately with generic music instead of tracks from Apple Music.

Most of the other features match those in the iOS 15.2 and iPadOS 15.2 updates. Those include:

- Support for the Apple Music Voice Plan
- Communications Safety features, accessible in System Preferences > Screen Time. Choose a child from the drop-down menu, Communications Safety from the sidebar, and then select Check for Sensitive Photos.
- Digital Legacy support, though there doesn't seem to be a setting in System Preferences
- A Store tab in the TV app
- Hide My Email support in Mail: click the From field when composing a message and choose Hide My Email
- Ticker currency and year-over-year performance in Stocks
- The capability to rename and delete tags in Reminders and Notes

macOS 12.1 also fixes a few bugs:

- The Desktop and Screen Saver preference pane going blank after picking custom photos
- Unresponsive trackpads
- External displays not charging Apple notebooks through Thunderbolt or USB-C
- YouTube HDR videos causing kernel panics on 2021 MacBook Pro models
- Menu bar items being obscured by the notch on 2021 MacBook Pro computers
- MagSafe failing to charge 2021 16-inch MacBook Pro models when the lid is closed and the computer shut down

macOS 12.1 includes 42 security fixes.

watchOS 8.3

The watchOS 8.3 update is pretty minor, with support for the Apple Music Voice Plan and recording app data and sensor access for the App Privacy Report. You must enable the App Privacy Report on the Apple Watch itself, in Settings > Privacy > App Privacy Report, after which you can see which apps have accessed your data or sensors in the past week and save the report to your iPhone, where it will be in the Watch app, in My Watch > General > Diagnostic Logs. watchOS 8.3 also prevents notifications from interrupting Mindfulness sessions, which seems only polite.

But wait a minute! The last update was watchOS 8.1, wasn't it? Yes, it was—see "macOS 12 Monterey, iOS 15.1, iPadOS 15.1, watchOS 8.1, and tvOS 15.1 Arriving Next Week" (18 October 2021). It seems that Apple skipped version 8.2 entirely.

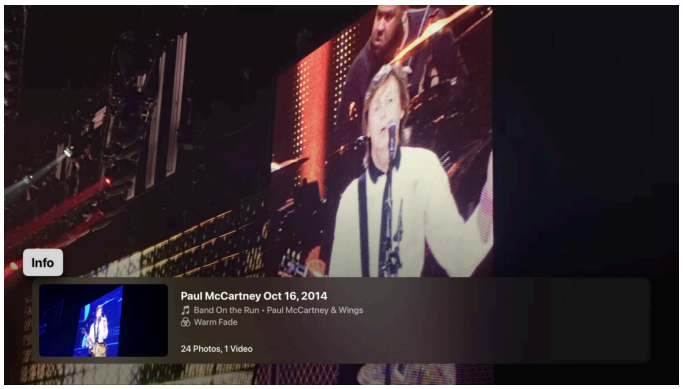
The watchOS 8.3 update weighs in at 327 MB on an Apple Watch Series 4. You can find it in the Watch app in Settings > General > Software Update. To install the update, your Apple Watch must be on a charger and have at least a 50% charge.

watchOS 8.3 has 25 security updates.

tvOS 15.2

tvOS 15.2 is surprisingly substantial. Along with support for the Apple Music Voice Plan and new Aerial screensavers of Iceland and Scotland, the redesigned Memories feature from iOS 15 has arrived in the tvOS Photos app.

In short, the original Memories created an album based around a certain day or theme, generating a pre-rendered video of the photos in that album. The new Memories simplifies this, so it's just a slideshow with music, without the clunky and enormous video as well. Another nice touch is that instead of generic music, it pulls potentially relevant tracks from Apple Music. It can work pretty well. For me, it created a Memory of a 2014 Paul McCartney concert, selecting as the music *Band on the Run* from his band Wings. I'm not yet sure if tvOS Memories are as customizable as the ones in iOS 15, which I cover in *Take Control of iOS 15 and iPadOS 15*.

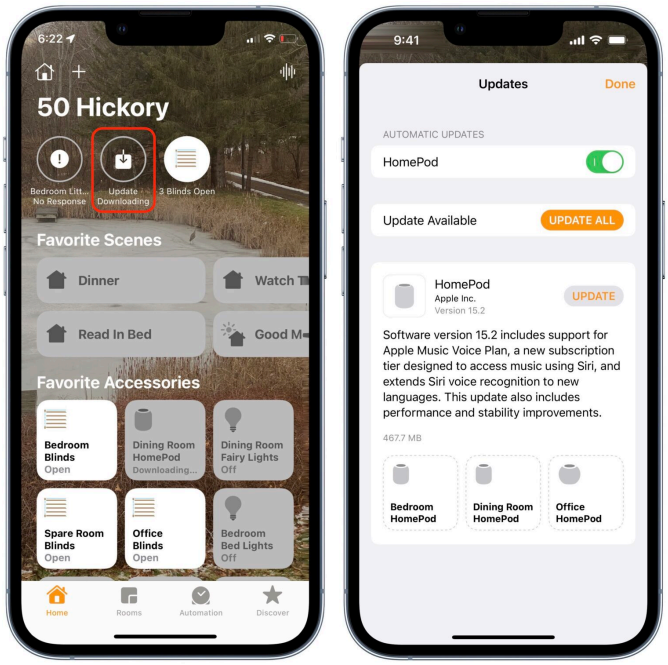


The Store tab is also in the tvOS Apple TV app, which seems more relevant than having it in the iOS Apple TV app.

tvOS 15.2 has 22 security updates.

HomePod Software 15.2

Last and least is HomePod Software 15.2, which adds support for the Apple Music Voice Plan and adds more languages to Siri. The 467.7 MB update will eventually install on its own, but you can force it to install right away by opening the Home app, tapping the Update button at the top of the screen, and then tapping Update or Update All.



Apple Updates

Security Update 2021-008 (Catalina)

System Requirements
macOS 10.15

Dec 13, 2021 – 1.49 GB

macOS Catalina Security Update 2021-008 (19H1615) is recommended for all users and improves the security of macOS.