MLMUG Journal
MAIN LINE MACINTOSH USERS GROUP

FOUNDED MAY 1989
MEETINGS - SECOND SATURDAY OF THE MONTH

SOME WEBSITES

macOS Big Sur Review. For another extensive review of Big Sur from MacRumors, go to bit.ly/3qFztct.

New Malware Found On 30,000 Macs Has Security Pros Stumped. Extremely interesting article from Ars Technica. bit.ly/3pMzHx5.

Organize Your Photos With Albums And Libraries In The Photos App On Mac. A great, detailed explanation. Lots of photos to assist you. bit.ly/3pZXbyM.

27 Best Free Video Converter Programs And Online Services. Do you need an app to convert your videos? So why not get a free one? bit.ly/2NA9BjN.

How to Add, Customize, and Use Widgets on Mac. Another great, detailed explanation. Lots of photos to assist you, but too many for the Newsletter. bit.ly/3ux9FBA.

FOCUS - MAC MINI & BIG SUR

PIXIR - FREE PHOTO EDITING

Our main presenter will be Michael Blank. His topic will be Pixlr, the Free Web-Based Photo & Graphics Editing Program.

Adobe Photoshop has a well-earned reputation for being among the top photo and graphics editing programs. However, not everyone needs to use its powerful feature-set every day. Advanced users may also not be happy with Photoshop's subscription plan, nor find that free editing programs meet their needs.

One interesting alternative is Pixlr (pixlr.com,) a free Web-based program which can meet occasional photo and graphics editing needs, yet has some of Photoshop's more powerful features (like simultaneous crop & resize, layers, and masks.)

PMUG's Michael Blank will demonstrate Pixlr version E (pixlr.com/e/) -- he will start by introducing the program's interface and tools, show how to use it for basic photo editing tasks, go through some of its more advanced features, then show how to make graphics from scratch with it.

Michael Blank has been PMUG's Webmaster since 1995, and a member since 1989. He also manages the group's Twitter (twitter.com/pmugnj) and Instagram (instagram.com/pmugnj) accounts, and produces its Monthly Meetings Podcast. Michael is a Website designer for the Princeton Internet Group. (pingsite.com)

MARCH "LOCATION"
WE WILL MEET VIA ZOOM. GO TO ZOOM.US/DOWNLOAD TO DOWNLOAD THE APP. CLICK ON DOWNLOAD IN THE BIG BLUE BOX NEAR THE TOP CENTER.

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Membership Information

Membership dues are $30 for individuals and $40 for families. Memberships are based on your anniversary date, which is the month you joined. You will be e-mailed reminders when membership fee is due.

If you're just visiting to check us out, or if you've been visiting for some time, but haven't joined, consider these **BENEFITS OF MEMBERSHIP**:

- **Monthly meetings**, where you can learn, share, and meet everyone from working Mac professionals to new Mac users from all backgrounds.
- **Monthly newsletter,** which is full of interesting Mac news, tips, and information.
- Useful free items at the monthly **Raffles**.
- **Discounts.** Vendors offer special prices to User Group members.
- **Web Site** with 2-3 years of MLMUG newsletters, meeting information, a member directory, directions to our meetings, and much more! Our web site is www.mlmug.org.
- **MLMUG Mailing List**, to post technical questions or comments to each other and the experts within the group.
- **Reviewers** keep items reviewed.

Are you ready to join? Please make a check payable to MLMUG and bring it to a monthly meeting or mail it to:

Treasurer, MLMUG

P.O. Box 1374

Southeastern, PA 19399

Typical Meeting Agenda

9:00 - 9:05: Call to order in main meeting room.

9:05 - 10:15: Q&A Panel - 3 or 4 expert members will answer your questions about anything relating to your Mac, iPad, iPhone, iWatch, and any attached peripherals.

Questions can relate to the most basic items, equipment issues, Apple's operating systems, and all applications, including applications for photo, video, audio, and print media.

Answers are amazingly helpful and often in depth, exploring the subject beyond the question.

10:15 - 10:30: Welcome and other business.

10:30 - 11:50: Main Presentation (by a member or guest)

11:50 - Noon: Raffles and silent auctions.

Come join some fellow MLMUG members for lunch after the meeting at a nearby restaurant.

MLMUG Email list

The Main Line Macintosh Users Group has its own email list, hosted at Groups.io. Compose your letter and email it to MLMUG@groups.io and your message will be sent to everyone on the mailing list. Contact Bob Barton (barton@bee.net) if you are a member and you are not on the list.

Please observe good email etiquette. If your message is humor or not Apple-related (off-topic), please include "Humor" or "OT" in the subject line. The Groups.io Terms of Service are at groups.io/static/tos. Look for the section on "Conditions of Use"

The MLMUG list may be used to post Apple-related items for sale, but any solicitation of members through the list is forbidden without the written consent of a MLMUG officer. Violation of the Groups.io terms of service or good email etiquette may result in removal from the list.

New Users SIG

You don't have to wait a whole month to get answers to your basic Mac questions! Get together with other members on the fourth Saturday (i.e., two weeks after each regular meeting) for the Startup Folder Lite.

Many new users have said that they can learn much more from face-to-face meetings than they do from manuals or other sources. That's what this meeting is all about. Go to www.mlmug.org/nusfl.html for details.

Bookmarks

More Experiences With The Mac mini And Big Sur

By Mark Bazrod

I installed Big Sur on my new Mac mini a couple of weeks ago. It took about an hour or so to download and install, including automatically rebooting three or four times. I've had only a few problems and almost everything seems to be working as before.

One of the great new things about a M1 Mac is the ability to run iOS and iPadOS apps.

And the M1 chip makes Macs much faster while reducing their power consumption, which should lead to both longer battery life and cooler enclosures.

The vast majority of your existing Mac software will run on Big Sur (but not 32-bit apps) and will continue working on the new M1 Mac mini.

Many of the reviews spent a fair amount of time discussing subtle changes in the icons, their shape, their color, their shadowing. That means little to me and my guess is to many people. What I think made it worse was that many of the reviews started first discussing these changes rather than much more important changes in Safari.

For those doing the coding, these subtle changes are an indication of excellence. I think the pursuit of excellence is to be commended. I remember when I was in the leasing business I thought my lease documents and loan documents were excellent, the best in the business. I also thought that my leasing structures leasing, program structures and loan structures were not only excellent, but were elegant. They were copied by many in the business. As you might suspect, not everyone appreciated their excellence, not to say their elegance, but I did and I got a kick out of the work.

And so I think the coders do a great job in their area; some people appreciate it, and others such as I don't, perhaps because we don't have an eye for it or it's a detail we don't pay attention to.

BUT…

SuperDuper it's not working, at least for me. Some others have said that SuperDuper works for them, but only saves data, not system files and some other files. One Mac expert at Macs@Pacs indicated he was able to make a clone, but it was not easy. So the rest of us will have to wait to see what happens. For the current time, my back ups are limited to Time Machine while documents are also synced to iCloud, creating a secondary semi-backup..

A workaround is to create a duplicate of just the data volume and then install macOS onto the backup disk after the fact. (For details, read Creating and restoring data-only backups on the Carbon Copy Cloner site.) For additional information, go to the Tidbits article on pages 11-12.

I no longer see the flags on Apple Mail messages. What's going on?

What's even worse, again at least for me, is that Pages and Numbers no longer automatically save your changes! That's not the way it supposed to work. What happened? [Note - Answer - Unchecked the box "*Ask to keep changes when closing documents*" in System Preferences > General" and auto save worked again. No idea as to how the box got checked.]

If you're still using a FireWire hard drive to store your bootable duplicates, you'll need to switch to a USB or Thunderbolt storage

device, since Apple dropped support for booting from a FireWire device starting in Catalina.

Dan's Tutorials indicates and shows that Finder has icons which indicate whether a file is in Cloud only, on your Mac only, or in both places. I don't see the icons.

In a few words, Big Sur is no Big Deal - at least to me.

I did use Go64 to delete 32-bit programs, many of which were buried deep in application support folders. I found it very helpful that one of the menu items was Find in Finder so that I could go to the app to delete it. Most required me to authenticate my permission and insert my Mac password. I typed my password in Pages, copied it, and then had it available to insert when necessary to add some more.

I have yet to deal with it, but it seems that distinguishing between Thunderbolt 3, Thunderbolt 4 and USB C can be a bit daunting. If you want to understand the differences,I strongly suggest you carefully read the two articles by Simon Jary on pages 26-28.

And I have yet to figure out if might need Thunderbolt/USB C hubs. They are much more expensive than USB hubs. I did order two cables for connecting the Thunderbolt/USB C ports on the Mac mini to the HDMI Port on one monitor. I could connect the USB-A port on the Mac mini to the other monitor.

One other problem which I have to solve, which I don't think is related to the Mac mini or Big Sur is to attempt to connect my wired Apple keyboard to the Mac mini through a hub. I've tried two different USB 2.0 hubs and have been unsuccessful. But life goes on and also due course I'll solve that problem. [Note - I bought an Aukey 10-port USB 3.0 hub and now the keyboard works through the hub.]

I have the impression that Big Sur seems to have more problems that many new OSs, but since I don't closely follow new OS comments, I'm not sure.

Anyway, life with the new M1 Macs and Big Sur has certainly become more interesting. And I enjoy it.

But if you haven't yet installed Big Sur, I'd wait a bit, or at least until the issue of backups is solved.

SOME SPEAKER ROSTER DETAILS

January 11 - Dan Wissink. Owner of Dan's Tutorials.

February 9 - Terry Wilson. Creator of TightJacket customized covers for iPhone and iPad.

March 13 - Michael Blank. Webmaster of the Princeton Macintosh Users Group.

April 10- Gary Rosenzweig. Creator of videos for MacMost

May 8 - Dave Hamilton.

June 13 - Rob Golding. Past President of Princeton Macintosh Users Group

September 11 - Pending

October 10 - Pending

November 13 - Bob "Dr. Mac" LeVitus. Prolific speaker and author of more than 80 books.

December 11 - Pending

February 2021Meeting Minutes

By Mark Bazrod

The February meeting was held by a Zoom teleconference. Bob Barton acted as host for the meeting and opened the Expert Panel at about 9:00 AM. There were about 31 attendees.

Q & A Panel - Bob Barton, Nick Iacona, Mike Inskeep, and Adam Rice.

Mark Bazrod asked about completely wiping an iMac using Disk Utility before selling it back to Apple. He is getting a new M1 Mac mini. Mike noted that you must first boot into recovery mode by hitting Command + R, and then use Disk Utility to erase the hard drive. You then reinstall the operating system. [Note - Mark later did these operations, but he selected the basic system to delete, it deleted everything and did not allow him to reinstall the OS.] Nick suggested you might want to deactivate certain services which limit the number of devices which you can use to connect to the services, such as iTunes, iCloud and iMessage. The max used to be around 5 devices, but it appears that the limit is flexible.

Note - You need a wired keyboard and wired mouse to set up a Mac mini. Also, you may need Thunderbolt/USB to HDMI cables.

Mark used Migration Assistant with Ethernet connection to transfer his files to the Mac mini. It took about 1.5 hours and there were no problems. Linda McNeal also used Migration Assistant using a WiFi connection and it failed for unknown reasons. She did a fresh install. Elliot Cobin also did a fresh install and recommends it. Adam said Go65 and Silicon are useful to see what apps work in Big Sur. SuperDuper saves the data, although Mark's failed. For the moment SuperDuper and Carbon Copy Cloner can't make a bootable external clone. Also, Linda's Fujitsu Scansnap scanner did not work, but Mark's Brother scanner did.

Linda noted that Big Sur puts documents in the iCloud. [I'm not sure about that.]

South Jersey Apple Users Group will refurb donated used Macs and iPads. They are then donated to Macs for Students, Burlington County Library in Westhampton, NJ. Closer for us is Team Children, 960 Rittenhouse Rd, Audubon. 610-666-1795.

TurboTax requires Mojave or later OSs. Nick suggests, if you are using an older OS X, put Mojave in a partition and run TurboTax on it. Bob Barton said there is a way to install Mojave on some Macs that do not officially support it and he has done this on his 17" MacBookPro in order to run TurboTax 2020. Mark suggested using FreeTaxUSA, it's free, imports data from TurboTax, and has worked well for him for the past 3 or 4 years.

Ed Stevens says the 3 M1 machines are the fastest single core machines that Apple makes. He thinks the MacBook Air with only 8GB is probably sufficient for the average user. MacMarket sells used Macs, as does MacSensai, OWC, and GameSaver.

AppleCare now handles up to 2 accidental damages per year.

There was a long discussion of Thunderbolt and USB cables. For details go to the mlmug.com website and watch the video of the meeting.

For FTP on Big Sur, Transmit has worked well for several members.

Brave, a new browser, had good automatic ad blocking and no tracking. Built on Chrome, it is well regarded. What about Safari 14? Excellent no tracking, but no ad blocking.

What video formats are acceptable on Big Sur? MPEG4 and H264. To convert from old format, you might use Handbrake or MacX DVD Ripper Pro.

Terry Wilson was our Main presenter. She was a local, a former presenter, but has moved to California. She now uses Pages and Numbers. She had primarily used Quark Express, but

switched to Pages when Quark was no longer economical. It does everything that she needed. She got tired of Excel crashing so she tried Numbers and was very pleased.

She gave quite a presentation, but these minutes cannot adequately describe the presentation without you seeing the graphics. Again, go to the mlmug.com website and watch the video of the meeting.

Pages

Pages has many templates to use and learn from. It's worth exploring them. Pages has many command key shortcuts and makes good use of the alpha channel. Masks in Preview probably carry over to Pages. You can change the shape of a text box by double clicking on text box points. Shapes can be edited. Terry showed how to use tables and charts. Backgrounds can be changed and varied.

You can collaborate with others, using. iCloud. Changes occur on the original, but you can revert to prior versions.

Numbers

Numbers has menus similar to Pages and many templates. It can open Excel files. You can easily add rows or columns to a table. Numbers can produce various types of charts from data. There are a number of ways to sort data.

Formats can be customized so that all items in a field are the same. Collaboration is similar to Pages. Numbers can read a tab delimited or CSV file exported by FileMaker.

Numbers has 2 new functions to add stock values to a table.

SPEAKER ROSTER FOR
MLMUG'S 2021 MEETINGS

January 11`	Dan Wissink - Dan's Tutorials
February 9	Terry Wilson - Cut the Cord to Microsoft Office - Pages/Numbers
March 13	Michael Blank - Pixlr.com Graphics
April 10	Gary Rosenzweig - Fun With Text In Pages
May 8	Dave Hamilton - Plex: Stream…
June	Rob Golding TBD
July	Recess - Summer
August	Recess - Summer
September 11	Pending
October 10	Pending
November 13	Bob "Dr. Mac" LeVitus - TBD

Sandy Writtenhouse posted the following article to lifewire.com on January 26, 2021. bit.ly/3pModKe. © iDownloadBlog.com. Sandy has been writing about technology since 2012. Her work has appeared on MakeUseOf, iDownloadBlog, groovyPost, and many other websites.

How To Control Alt Delete on a Mac

There are alternative keyboard shortcuts to force quit Mac apps

By Sandy Writtenhouse

What To Know

- Use **Command+Option+Escape** to display the Force Quit Applications window.
- Use **Command+Shift+Option+Escape** to close the app immediately.
- Alternatively, right-click the application's icon in the Dock, hold the **Control** key and select **Force Quit**.

This article provides several ways to force quit an unresponsive application on a Mac, including keyboard shortcuts, the dock icon, the Apple icon, and the Activity Monitor.

Use a Keyboard Shortcut To Force Quit an App

While you can use the Control+Alt+Delete keyboard shortcut to close an unresponsive application on Windows, the key combination is different for that action on a Mac. As you may have already noticed, Macs don't have an Alt key. {Editor - but on some keyboards, the "option" key also has "alt" on it.]

Shortcut Method One

The Command+Option+Escape keyboard shortcut is convenient if you have more than one unresponsive app that you need to close.

1. Use the keyboard shortcut **Command+Option+Escape** to display the Force Quit Applications window.
2. When the window pops open, select the application, and click **Force Quit**.
3. Confirm the action by clicking **Force Quit**.

Shortcut Method Two

Alternatively, you can close the app immediately. Make sure the app is active and use the keyboard shortcut **Command+Shift+Option+Escape**.

This will bypass the Force Quit Applications window and close the active app.

Use the Dock Icon To Force Quit an App

Your open and active apps display in your Dock, which also gives you a quick and easy way to quit an app that's not responding.

1. Right-click or hold your **Control** key and click the icon in the Dock. The context menu will appear with an option to **Quit** at the bottom.
2. Hold your **Option** key and you'll see that Quit is replaced with **Force Quit**, so select it to close the application.

Use the Apple Icon in the Menu Bar

You can also use your menu bar to force quit an application on your Mac, one of two ways.

Menu Bar Method One

1. Click the **Apple icon** on the top left of your menu bar and select **Force Quit.**
2. When the Force Quit Applications window appears, select the application, and click **Force Quit**.
3. Confirm the action by clicking **Force Quit**.

Like the first keyboard shortcut mentioned above, this is handy when you need to quit more than one app.

Menu Bar Method Two

Alternatively, you can assign the force quit action directly to the selected app and bypass the Force Quit Applications window.

1. Make sure the application is active and click the **Apple icon** in your menu bar.
2. Hold your **Shift** key and you'll see Force Quit replaced with **Force Quit *Application***. Click it to quit the app.

Use the Activity Monitor To Force Quit

One more way to force quit an unresponsive application is with the Activity Monitor. You can access the Activity Monitor from the Utilities folder.

1. Click **Go** > **Utilities** from the Finder menu bar and double-click **Activity Monitor** to open it.
2. Select the app that you want to force closed. You can do this from any of the tabs at the top of the Activity Monitor window.
3. Click **Stop** (**X**) in the toolbar.
4. Confirm that you want to close the application by clicking **Force Quit**.

Evan Killham posted the following article to lifewire.com on February 5, 2021.bit.ly/3ktQDaw. © about.com. He is a Lifewire writer that has been writing all over the internet since 2009. Evan has been an Apple user since the original iMac G3 came out.

How to Use Split Screen on a Mac

Work in multiple programs at the same time

By Evan Killham

What to Know

- Mouse over the green full-screen button to access the tile menu in each app.
- Not every app works with Split View. Check for an icon with two arrows to ensure compatibility.

Here's how to use the Split View feature to be more productive on your Mac. Instructions in this article apply to macOS El Capitan (10.11) and later.

How to Use Split View in macOS Catalina (10.15) and Later

Starting in macOS Catalina, Apple made it quick and easy to tile windows using Split View, a feature that lets you quickly take advantage of your Mac's large screen and use two apps simultaneously. Follow these steps to split your screen.

1. In the first program, hover your mouse over the green **full-screen** icon next to the close and minimize buttons.
2. A menu will appear. The two relevant options are **Tile Window to Left of Screen** and **Tile Window to Right of Screen**. Choose which side of the screen you want to tack this app to.
3. The window will resize and move to the side you chose. On the other half of the screen, you'll see the other available apps you can use in Split View.
   Not every app works in Split View. Incompatible options will appear in a stack in the lower corner of the screen with a label that says, **Not Available in This Split View**.
4. Click the second app you want to open, and it will fill the other side of the screen.
5. Click and drag the **divider icon** to adjust the balance (that is, how much of the screen each app takes up) of the two windows.

6. To exit Split View, press **ESC** on your keyboard or click the **full-screen** button in either app.

How to Use Split View in macOS El Capitan (10.11) Through Mojave (10.14)

The steps for using Split View in earlier versions of macOS are a little different (and less automatic), but they still use the full-screen button.

1. In the first app, click the **full-screen** button and hold it.
2. The window will "detach" from the workspace. Drag it to the side of the screen you want to use it on.
3. Drop the window. It'll stick to that edge of the display, and the other compatible apps will appear on the other side.
4. Click the second app you want to open in Split View.

What to Do if Split View Doesn't Work

In some cases, you might be unable to use an app with Split View. The first thing you should check is the icon on the full-screen button. If an app is compatible, the icon will look like two arrows pointing away from each other. If it isn't, the icon will be an X.

You may also need to adjust Settings. Here's what to check:

1. Select System Preferences under the Apple menu.
2. Click Mission Control.
3. Make sure the box next to **Displays have separate Spaces** has a checkmark in it.

What Can You Do With Split View?

With two apps open in Split View, you can do various tasks more easily without using the **Command+Tab** keyboard shortcut to switch between them. Some examples are:

- Drag and drop a picture from Photos into a new message in Apple Mail.
- Quickly copy text between programs like Safari and Pages.
- Resize or write notes on an image in Preview and then drop it into another document.
- Work while watching a movie on a streaming service like Netflix in a larger window than you can with Picture in Picture.
- Transcribe an audio file into a word-processing document while keeping the audio player controls on-screen at all times.

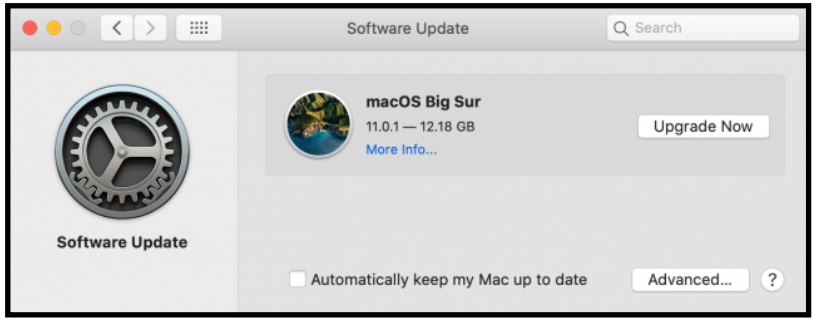
Josh Centers posted the following article to tidbits.com on November 13, 2020. bit.ly/3kHg7Qm**.** © TidBITS Publishing Inc. He is the managing editor of TidBITS, as well as a contributor to Macworld and Sweethome.

Big Sur Is Here, But We Suggest You Say “No Sir” For Now

By Josh Centers

As Apple promised, macOS 11 Big Sur launched on 12 November 2020. The actual release was version 11.0.1, skipping 11.0 entirely. We’re curious to see if Apple’s new M1-equipped Macs ship with 11.0 or 11.0.1.

The download weighs in at an eye-watering 12.18 GB. You can update directly from macOS 10.14 Mojave or macOS 10.15 Catalina from System Preferences > Software Update. You can also install Big Sur from the Mac App Store, which is the route you need to take if you want to put the installer on a USB thumb drive for a clean install or installation on multiple Macs without additional downloads.



Delay Upgrades to Production Macs

We advise everyone to delay upgrading production Macs for now. We always recommend delaying major macOS upgrades until Apple has had a chance to address early problems, and Big Sur has several big behind-the-scenes changes that are causing more headaches than usual.

Plus, there were numerous first-day reports of problems installing Big Sur, including failed installations and extremely slow downloads. Such issues aren't unusual with a new version of macOS, when Apple's servers are being hammered. With luck, Apple has already resolved the network problems that were likely at the heart of many of these issues.

The most concerning issue reported so far is that the Big Sur update is bricking many late-2013 and mid-2014 13-inch MacBook Pro models. Users are reporting black screens after the update, and none of the typical remedies—resetting SMC and NVRAM or booting in Safe mode or Recovery mode—are helping. Apple has escalated the issue to its engineering team, and the company is currently telling users to bring their MacBook Pros in for repair.

Also concerning, though not something that most people need to worry about, is a warning from Native Instruments, a manufacturer of professional audio devices, has warned that Big Sur could damage hardware.

Big Sur, Big Backup Problems

With 10.15 Catalina, Apple split the macOS boot drive into separate System and Data volumes, the former of which holds the operating system files and is typically read-only. Big Sur further secures the System volume by applying a cryptographic hash to every file on it, as Howard Oakley explains. That makes it incredibly difficult for an attacker to hijack your Big Sur install, but it has caused headaches for many apps, especially those that make (and restore) bootable backups.

The good news is that Mike Bombich, developer of Carbon Copy Cloner, has worked with Apple to resolve the issues. Carbon Copy Cloner 5.1.23-b1 includes full support for making bootable backups in Big Sur. However, we can't recommend upgrading to an operating system that requires a beta release to make bootable duplicates.

Similarly, Dave Nanian, the developer of the SuperDuper cloning utility, has said, "it's going to be a while" before SuperDuper works with Big Sur. He recommends waiting to upgrade or using Time Machine, although Time Machine backups serve a different purpose than a bootable backup.

Econ Technologies has developed a technique for creating bootable backups with ChronoSync, but it's complicated. In short, you install Big Sur on the backup drive and then copy over the contents of the Data volume (see "ChronoSync 4.9.12," 13 November 2020).

What's New in Big Sur

We don't want to be all doom and gloom. Big Sur is the most significant change to macOS in years, most notably because it runs natively on (and is required for) Apple's new M1 chips. More obviously, Apple overhauled the entire user interface to more closely resemble the iPhone and iPad.

Here are some of the features that are new to Big Sur:

- **Control Center:** Big Sur features an iOS-style Control Center that lets you quickly control things like Bluetooth, Wi-Fi, and AirDrop.

- **Notification Center:** No longer split into separate columns for notifications and widgets, Notification Center now puts everything into a single column, with notifications at the top and widgets at the bottom. Widgets also now resemble those in iOS 14 and iPadOS 14.

- **Messages and Maps overhaul:** Apple rewrote the Messages app in Mac Catalyst, which gives it feature parity with the iOS and iPadOS versions. Messages now supports thread pinning, Memojis, animated GIF inserts, and message effects. Apple similarly re-implemented the Maps app in Mac Catalyst.
- **Automatic AirPods switching:** As with iOS 14 and iPadOS 14, your AirPods should connect to your Mac automatically when Big Sur detects that you've moved to your Mac from another device.

There are many more small features, and Apple provides a full list of what's new in Big Sur. As you prepare for an eventual upgrade, we recommend that you read Joe Kissell's *Take Control of Big Sur*.

72 Comments not included.

In addition to the sheer amount of demand for new phones, 5G handsets require two to four times more power management chips than 4G phones do because of the complexity of the wireless technology, he said. Those power management chips, which tell batteries when to send power and where, are also used in automobiles. Washington Post article.

Lance Whitney posted the following article to cnet.com on December 9, 2020. bit.ly/3qSCeaC. © CBS Interactive Inc. He writes forCNET and other technology sites and publications.

Apple MacOS Big Sur: 9 Settings to Tweak and Features to Try

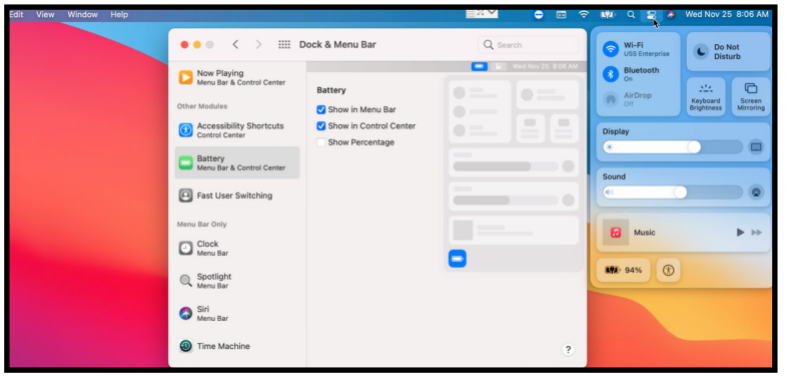
Big Sur brings a fresh look, as well as new controls and customization options to macOS. Our tips outline how to make the most of Apple's latest operating system.

By Lance Whitney

Apple's Big Sur OS update is now available for download for all Mac users, but what does version 11 of macOS actually offer, and how can you take advantage of the new features? Rather than hunting around on your own to see what's new and different, peruse our tips to see what awaits you in Big Sur, and how you can get the most out of the new OS.

If you haven't already updated to Big Sur, click the Apple icon in the upper-left corner and select About This Mac. At the macOS window, click the button for Software Update, then click the button to Update Now and follow the prompts to install the update.

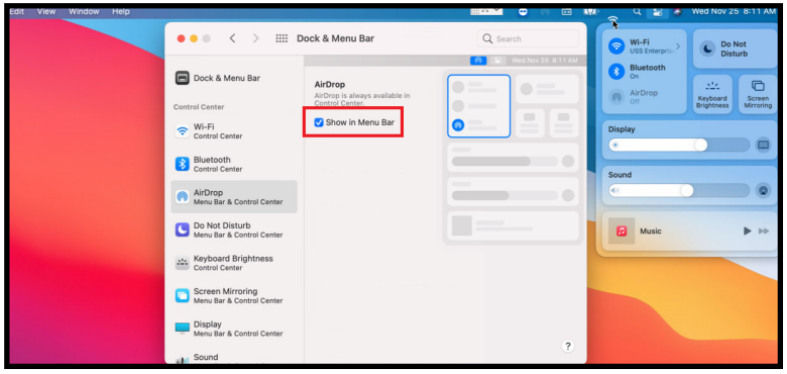
Use the New Control Center



Taking a page from iOS and iPadOS, Big Sur adds its own Control Center, which displays icons for commonly used features. On the menu bar, click the Control Center icon (it looks like two horizontal bars). You can now quickly access controls for Wi-Fi, Bluetooth, AirDrop, Do Not Disturb mode, Keyboard Brightness, Screen Mirroring, Display, Sound, and Music. Click a control to expand and use it.

You can add more options to Control Center under **System Preferences > Dock & Menu Bar**. In the left pane, scroll down to the section for Other Modules. You can then select Accessibility Shortcuts, Battery, or Fast User Switching, and check the box for "Show in Control Center."

Pin Controls to the Menu Bar



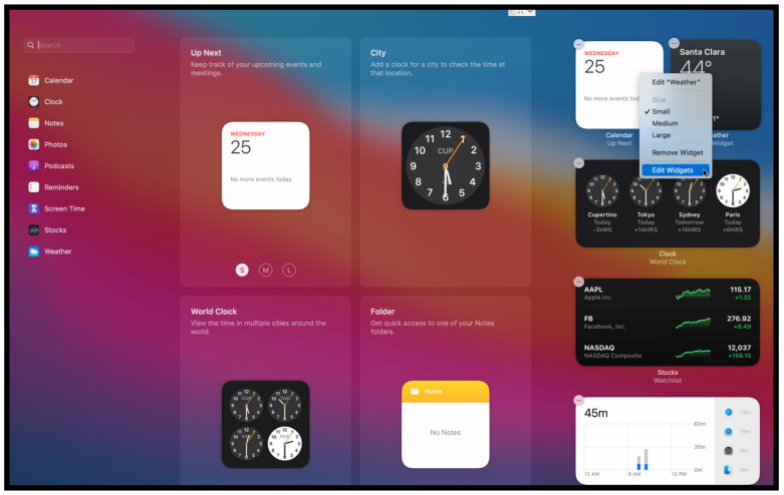
Pin controls from Control Center to the Menu Bar for even quicker access. And you can do this one of two ways. Click the icon for Control Center, then drag and drop a specific icon to the Menu Bar. Alternatively, go to **System Preferences > Dock & Menu Bar**. In the left pane in the Control Center section, select a specific control and then check the box to "Show in Menu Bar."

There's one more trick here: You can hide the entire Menu Bar so it appears only when you move your cursor to the top of the screen. This feature was already available in past versions of macOS, but in Big Sur, you enable this differently. To set this, go to **System Preferences > Dock & Menu Bar** and check the box for "Automatically hide and show the menu bar."

View Notifications and Widgets

Borrowing another feature from iOS/iPadOS, Big Sur now displays notifications and widgets in the same section. Click the date and time in the Menu bar to view any notifications and see the default widgets, such as date, weather, World Clock, and Screen Time. Click a widget to open the corresponding app.

Customize Your Widgets

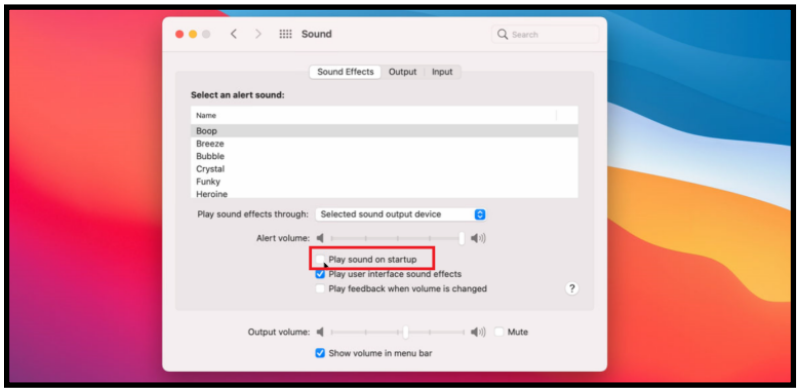


You can tweak specific widgets in a number of ways. Right-click on any widget to change the size, edit details, or delete it from the screen. As an example, you can edit the weather widget to change the location. You can also reorder your widgets by dragging and dropping them to different spots.

To add widgets, click the Edit Widgets button at the bottom or right-click on any widget and select Edit Widgets. Scroll down the screen to see all the widgets you can add, or select a specific category in the left pane. You can also search for a widget by name. Hover over a widget you want to add and click the green plus icon in the upper-left corner of its icon, or just drag it to the Widgets pane.

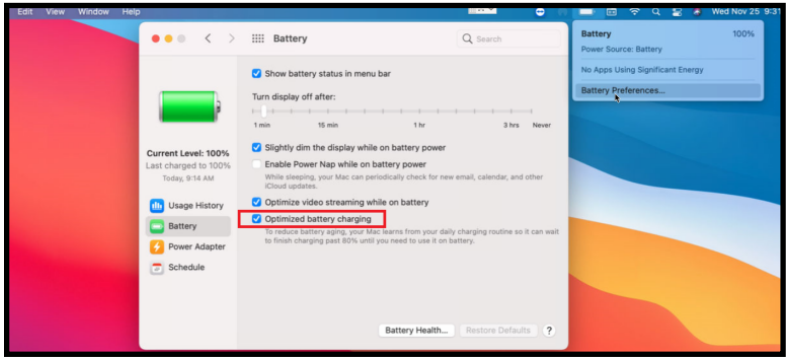
Even cooler, you can download widgets from third parties by searching "widgets" in the Mac App Store. You can then use the app as a widget in the Notification center or on the Menu bar.

Turn Off Startup Sound



You can now disable the built-in chime sound that plays when your Mac fires up. Go to **System Preferences > Sound** and uncheck the box for "Play sound on startup." Now your Mac will remain quiet whenever you boot it up.

Check Your Mac's Battery



Big Sur now offers more details and a dedicated system preference just for your battery. Click the battery icon on the Menu bar to see the percentage of charge left. Then select the option for Battery Preferences to determine when the display shuts off battery power, enable Power Nap in battery mode, and optimize video streaming on battery power.

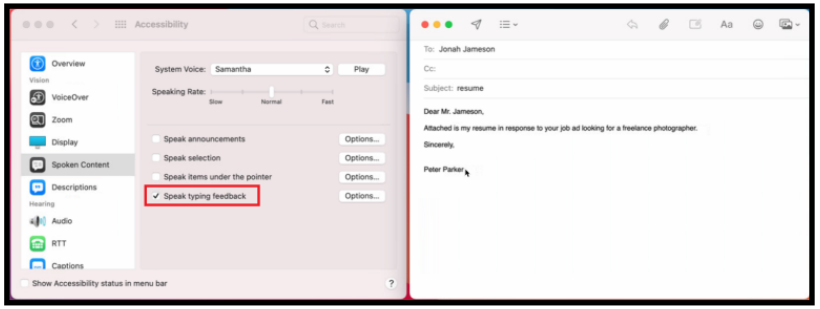
Even better, you can take certain measures to preserve your battery life. Make sure the option for "Optimized battery charging" is on. This feature will learn your daily charging routine so your Mac won't be charged past 80% until you need the extra boost.

Related

- What Is the Apple M1 Chip?
- How to Set Up an Apple Watch for Your Kid
- Apple's AirPods Max Over-Ear Headphones Are Here, and They're Expensive

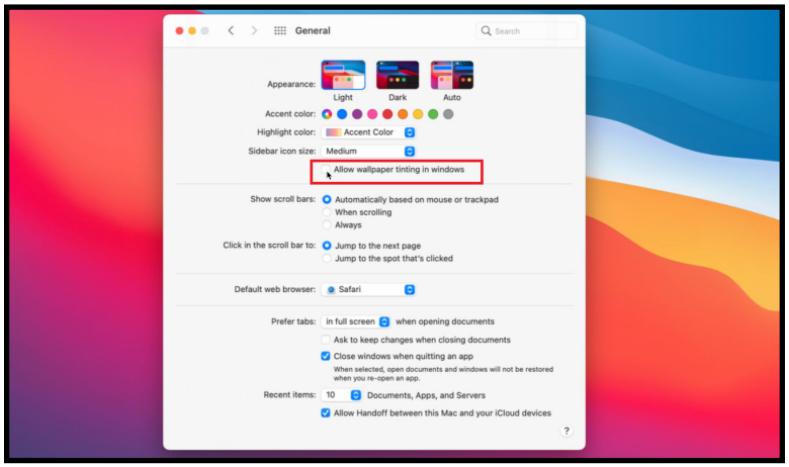
Click the button for Battery Health and be sure the option for "Manage battery longevity" is on. This will try to reduce the rate at which your battery chemically ages. Back at the Battery screen, click Usage History to see your battery level and usage for the last 24 hours or 10 days.

Hear What You Type



If you have trouble seeing the screen, you can now hear letters and words spoken aloud as you type them. To set this up, go to **System Preferences > Accessibility**. In the Spoken Content section, check the box for "Speak typing feedback." Now open any app in macOS into which you can type. As you type a letter, the feature reads it aloud. After you've typed a word, that word is read aloud. Enter a space, new paragraph, punctuation marks, or other entries, and those are read aloud as well.

Adjust the Colors



Big Sur offers a new accent color known as multicolor, which determines the color that appears in buttons, menus, and other elements. The multicolor option changes the accent color for an app based on the developer's preferences, so each app can sport its own unique color. To set this up, go to **System Preferences** > **General**. For Accent color, choose the first icon.

Further, the default setting for wallpaper tinting can be annoying as it changes the shading of windows, apps, and other items in macOS. To switch the display of windows to a more neutral color, go to **System Preferences** > **General** and uncheck the box for "Allow wallpaper tinting in windows."

Try the New Wallpaper

Under **System Preferences > General**, Big Sur adds several new images that you can set up as your wallpaper. As in previous versions of macOS, you can choose a dynamic wallpaper that changes between light and dark as the day and night progress. There are a greater variety of pictures, though, including cool variations on the usual scenic themes.

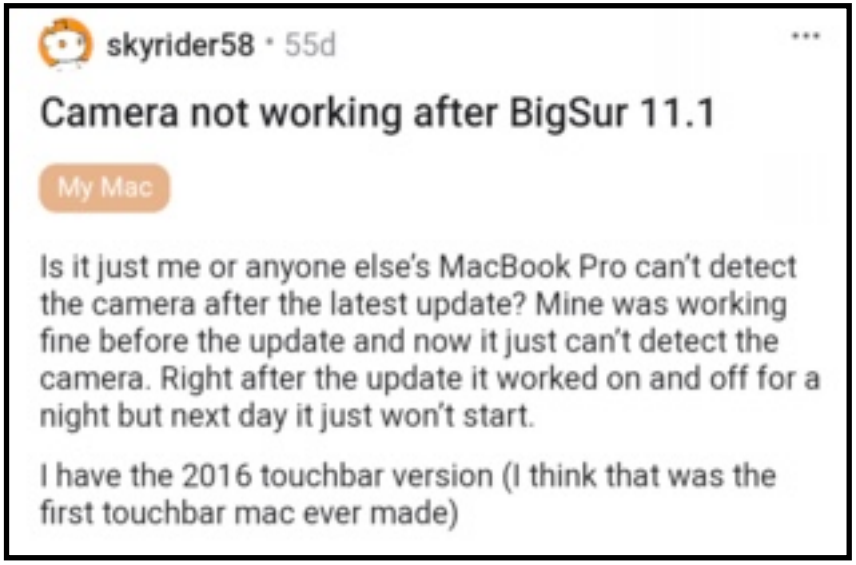
Zohaib Ahmed posted the following article to plunikaweb.com on February 10, 2021. bit.ly/3uq2k6l.

macOS Big Sur Camera Not Working Issue Troubles Many; Facetime, Zoom, & Other Video Calling Apps Affected

Big Sur is perhaps one of the biggest updates macOS has seen in the past few years. In the words of Apple, it "elevates the most advanced desktop operating system in the world to a new level of power and beauty".

However, with every new major software update comes a range of bugs and issues, and macOS is no exception. We even have a dedicated section for the bugs and issues introduced with the Big Sur update.

That said, a new issue has now come to light pertaining to the camera/webcam on MacBooks. Many users report that following the macOS Big Sur update, their cameras have simply stopped working. Source



Hey Apple, after updating to OS X Big Sur my camera has stopped working. This goes for every application, including FaceTime, Zoom, Teams etc. I have tried rebooting to no avail. Can you please help?Source

This may or may not lead to error messages like "No video capture devices were found" or "No camera available" when trying to use the camera.

Many users have already tried common workarounds like resetting SMC, NVRAM, PRAM, and even reinstalling Big Sur, all to no avail. But if you haven't done so, then you would want to check this.

Moreover, a few users have also stated that running diagnostics yields nothing and it simply displays a "No issues found" message. For details on how you can do the same, head here.

Now, it could be possible that the firmware version 429.60.3.0.0 is to be blamed for the matter, as many users have implied on the forums, but there isn't exactly solid proof to back this. Also, the Big Sur 11.2 update doesn't help at all.

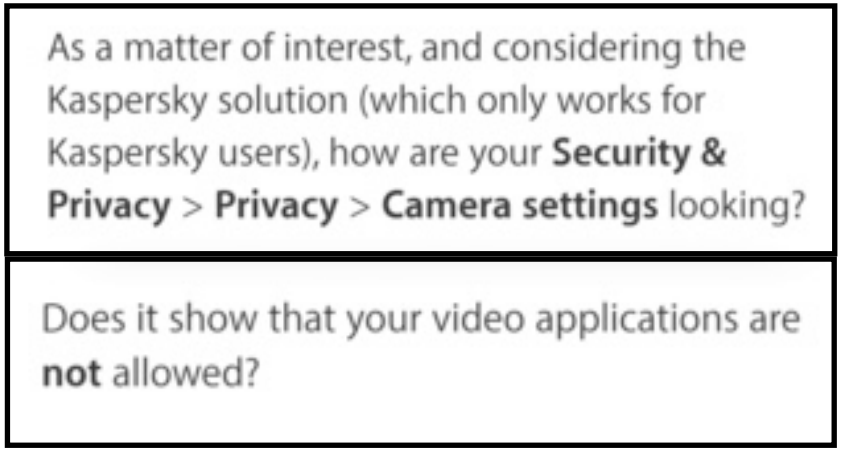
Nonetheless, we have curated a list of workarounds given by the users themselves that have worked for many. And you are free to give them a go.

Workarounds for the macOS Big Sur camera not working issue

1. Check your anti-virus: It could be possible that your anti-virus software is restricting the use of your camera hardware for some unknown security reasons. Many users have especially blamed Kaspersky for the issue.

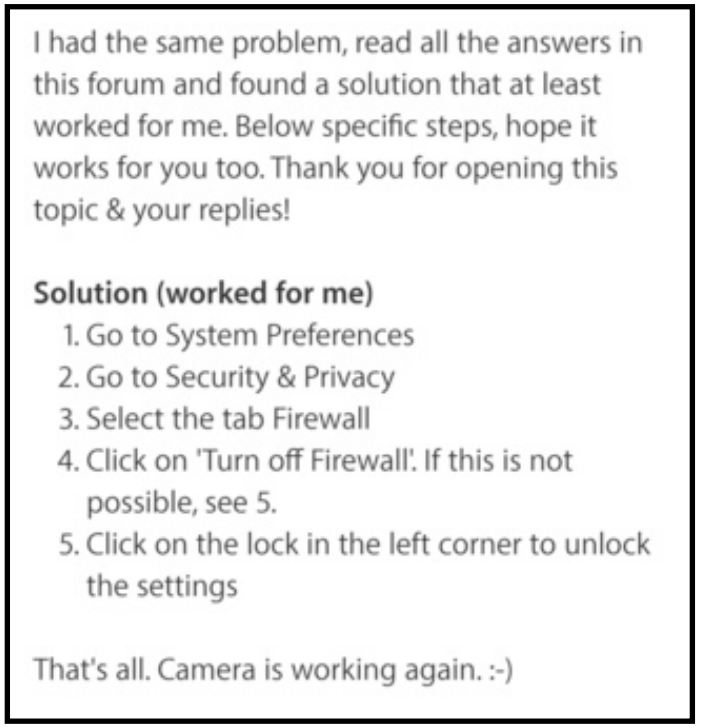
If you are a Kaspersky user, try to change your privacy settings in the Kaspersky's menu of your computer. I had the same problem for weeks until I discovered it was I had the camera locked by the antivirus. It worked for me. Source

2. Check camera permissions: If your camera fails to work for certain apps like FaceTime, Zoom, or Google Meet, then it could be possible that Big Sur has restricted the camera access for that particular app.



Alternatively, you can also make sure that your app permissions are proper. You can do this by heading over to **System Preferences > Screen Time > Content & Privacy > Apps > Allow: Camera**

3. Check firewall settings: Lastly, be sure to check your firewall settings as the following user did to success.



Source

Hopefully, one of the above workarounds solved the issue for you. If it did not, then it could be possible that the issue is indeed hardware related. In such a case, it would be best to contact Apple.

Matt Hanson posted the following article to techradar.com on November 19, 2020. bit.ly/3soleZQ. © Future US, Inc. He is TechRadar's Computing editor and has written for a number of magazines and websites.

Apple MacBook Air (M1, 2020) review

Same, but different

By Matt Hanson

Our Verdict

The MacBook Air (M1, 2020) is easily one of the most exciting Apple laptops of recent years. Its M1 chip is a real game-changer, and the ability to run both legacy apps, new M1-optimized apps and iOS apps is very impressive. Battery life is also great, and performance is excellent as well.

For

- macOS Big Sur is fast and responsive
- Battery life is great
- Silent in use
- Keyboard remains very good

Against

- No new design
- Fanless design could impact performance

Two-minute review

Apple is billing the MacBook Air (M1, 2020) as a radical reinvention of its thin and light laptop. This is because, unlike earlier models, the new MacBook Air ditches the Intel processor for Apple's own ARM-based chip, the new Apple M1. It also comes with macOS 11 Big Sur preinstalled.

According to Apple, this custom chip will allow the new MacBook Air to perform better and run longer while on battery, while bringing other big performance benefits too. Now that we've had the MacBook Air (M1, 2020) in our hands, we've been able to put those claims to the test.

Launching for the same price as the previous model ($999 / £999 / AU$1,599), Apple has made an incredibly compelling 13-inch laptop. For the same asking price, you're getting the refreshed model with Apple's new hardware, and while that doesn't mean the earlier MacBook Air (2020) model is now obsolete, if you were not entirely convinced by that release, then this new version may change your mind.

That price point is also incredibly competitive compared to premium Windows 10 laptops like the HP Spectre x360 (2020) and Dell XPS 13 (Late 2020), which are both more expensive.

You can also go for a more powerful MacBook Air with extra storage for $1,249, and both of these can further customised with more memory and even more storage.

Price-wise, then, we think Apple has nailed it. Of course, this certainly isn't a cheap laptop, but nor does it feel overpriced, especially compared to its similarly specced rivals - something that Apple has been accused of in the past.

Apple has also been accused of caring more about aesthetics of its products than the actual features and functions, but with the MacBook Air (M1, 2020), we actually think the opposite is true. This is because while the new MacBook Air has some huge

changes on the inside - most noticeably the with new M1 chip - on the outside, nothing has really changed.

So, this model looks (and feels) just like last model (and the model before that). For people who love the look of the MacBook Air, this may be good news, but we feel it's a bit of a missed opportunity. The M1-based MacBook Air is such a revolutionary and exciting device, we'd have loved to have seen Apple take a few risks with the design as well, even if it was just by making it lighter, or slimming the bezels down that surround the screen.

The fact is, HP and Dell have now over taken Apple when it comes to designing thin, light and gorgeous laptops - a fact that would have seemed unthinkable a few years ago.

When it comes to performance, however, we have no qualms. The M1 has proved to be a complete beast that puts Intel to shame in many respects. During our time with the MacBook Air (M1, 2020), we were incredibly impressed with how it performed.

Big Sur runs well, and the visual overhaul of the operating system offers a nice change, while still feeling familiar. The fact that both new and legacy apps run well on the M1 chip is very commendable, and so far there don't seem to be any issues with running apps built for Intel Macs using Rosetta 2, the tool used by Apple to allow older Mac apps to run on the M1. Also, the fact that you can now run thousands of iOS apps and games pretty much flawlessly is a huge win as well.

Battery life also seems to be fantastic, and the fanless design is nice, as it means the laptop runs silently; we do have our concerns about how it manages heat, however.

In the end, we'd have liked Apple to have been a bit more ambitious with the design of the MacBook Air (M1, 2020) – a bold reinvention of the laptop to match the internal hardware and software overhauls would have made this an even more exciting device.

Spec sheet

Here is the MacBook Air (M1, 2020) configuration sent to TechRadar for review:

CPU: Apple M1 (8-core)
Graphics: Integrated 7-core GPU
RAM: 8GB Unified PDDR4X-4266 MHz SDRAM
Screen: 13.3-inch, 2,560 x 1,600 Retina True Tone display (backlit LED, IPS)
Storage: 256GB PCIe SSD
Ports: 2x Thunderbolt 3 (USB-C), 3.5mm headphone jack
Connectivity: Wi-Fi 6, Bluetooth 5
Camera: 720p FaceTime HD webcam
Weight: 2.8 pounds (1.29kg)
Size: 11.97 x 8.36 x 0.63 inches; W x D x H

Price and availability

Apple made preorders for the MacBook Air (M1, 2020) available as soon as it was announced, with units shipping from November 17 worldwide. Many Apple Stores are closed due to the global pandemic, so your best option for getting one right now is by ordering online.

Prices for the new MacBook Air (2020) start at $999. As usual, there are a number of specifications available at launch, and you can further customize these to get the MacBook Air (2020) that best suits your needs and budget.

The base model features an M1 chip with an 8-core CPU and 7-core GPU, 8GB of RAM and 256GB SSD.

There's also a higher-specced model, priced at $1,249, which has an M1 chip with an 8-core CPU and 8-core GPU, 8GB of RAM and 512GB of storage. So, for that extra money you're getting an additional core in the GPU, and double the storage.

You can also configure these models to have 16GB of RAM (for $200), and up to 2TB of SSD storage (for $800).

For comparison, the MacBook Air (2020) launched earlier this year for $999, which was actually cheaper than the launch price of the MacBook Air (2019).

So you're getting the new MacBook Air (M1, 2020) for the same price as the earlier model, which we commend Apple for. If you bought a MacBook Air a few months ago, however, you may feel a little annoyed that it's already outdated.

That $999 entry point isn't just the cheapest way of getting a new Apple laptop; it's an incredibly competitive price point that undercuts many of the best 13-inch laptops running Windows 10, such as the Dell XPS 13. If you thought Apple's laptops were overpriced compared to the competition, think again.

Design

We've mentioned how, thanks to its competitive price, the MacBook Air (M1, 2020) is helping challenge people's preconceptions about MacBooks – but the new MacBook Air, along with the MacBook Pro 13-inch (M1, 2020) and Mac mini (M1, 2020), also offer strong rebuttals to the criticism, often leveled at the Apple, that its products are more style than substance.

People often dismiss Apple as making products that look good, but that don't do anything particularly revolutionary when it comes to the actual hardware. With the MacBook Air (M1, 2020), however, it's the complete opposite.

With this laptop, Apple has actually done some really exciting things on the inside – switching to its own M1 chip, and building macOS Big Sur from the ground up to take advantage of it – while leaving the actual design of the device completely unchanged. This is both good news and bad news.

First, the good news. For many people, the iconic design of the MacBook Air is pretty much perfect, so they don't see the need for any radical change. At the same time, by simply offering minor spec bumps every year, the MacBook Air was in danger of

being outclassed by more ambitious rivals. So, by concentrating on revolutionizing the hardware of the MacBook Air, and not tinkering with the design, Apple is doing something many of its critics have argued it should do: focus on the unglamorous, yet essential, stuff.

But what about the bad news? Well, because the MacBook Air (M1, 2020), along with macOS Big Sur, promises to be such a big revolution, the fact that it looks – and feels – exactly the same as previous MacBook Airs is a little disappointing, to put it mildly.

The MacBook Air (M1, 2020)'s dimensions of 0.16–0.63 x 11.97 x 8.36 inches (0.41–1.61 x 30.41 x 21.24cm) and weight of 2.8 pounds (1.29kg) are *exactly* the same as those of both the MacBook Air (2020) and the 2019 model, and virtually the same as those of the 2018 Air, which is a bit lighter.

On the outside, then, this new MacBook Air looks identical to the three previous models – and it means that the excitement that comes with pulling the new MacBook Air from its packaging is somewhat dulled, particular if you've owned one of those earlier machines.

There had been rumors that the move to Apple's own silicon would result in lighter devices, but this isn't the case. One big design change that has been enabled by the M1 chip, though, is that the MacBook Air (M1, 2020) is now fanless. This means the

internals keep cool enough under workloads without the need for fans to kick in and cool them down. There's a catch to this (which we'll get to in a bit), but it means the MacBook Air (M1, 2020) runs virtually silently, and it's very impressive.

The lack of fans could have allowed Apple to make the new MacBook Air thinner and lighter, so it's interesting that it remains the same size and weight as its predecessors.

On opening up the MacBook Air (M1, 2020) you're again presented with a sight that's familiar, and in a good way. The best addition to the previous MacBook Air's design, the new Magic Keyboard, is again included here. It really is a lovely keyboard to work on, feeling tactile and responsive despite how flat the keys are.

A Touch ID button is again situated above the keyboard, and it remains the best fingerprint scanner we've used on a laptop. Too many of the fingerprint scanners on Windows laptops struggle to log us in reliably, but the Touch ID button here logged us in successfully pretty much every time, even when we'd not completely covered the scanner with a finger.

The screen is also virtually the same as the one on the MacBook Air (2020), except for one big difference. So, it's still 13.3 inches with a 400-nit LED backlit display, and a Retina display of 2560 x 1600 resolution, and comes with Apple's True Tone technology, which automatically adjusts the color temperature on the screen based on the ambient light.

What's new here is that the MacBook Air (M1, 2020)'s screen now supports the P3 wide color gamut, which results in more accurate, true-to-life images. P3 support used to be only found in the more expensive MacBook Pros, so it's great to see Apple bring this feature to its more affordable MacBook Air lineup. If you're a photographer or video editor who requires accurate colors, you no longer have to automatically go for a MacBook Pro.

The screen is also surrounded by those big thick bezels that have been a staple of the MacBook Air's design for ages now, and which leave this laptop feeling a little dated. Devices such as the Dell XPS 13 and the Huawei MateBook X (2020) offer incredibly thin bezels around the display, and not only does it make these devices look more modern, it means the makers can actually reduce the overall size of the laptop further while offering the same-size screen.

Yep, you read that right: we think Huawei has the edge over to Apple when it comes to thin and light laptop design. Strange times indeed.

The webcam above the screen is also unchanged from last time, with the same 720p FaceTime webcam. The 720p resolution feels distinctly outdated when most competitors offer 1080p, and with more people spending more time working from home these days, we'd have liked Apple to have given the webcam a boost.

However, the company claims that thanks to the M1 chip, the image signal processor has been overhauled, giving the webcam supposedly better noise reduction and dynamic range, along with auto white balance. We've only used the webcam for a limited time so far, and it seemed fine, if not mind-blowing.

Port-wise you get the same two Thunderbolt 3 ports and an audio jack as on recent MacBook Airs. The Thunderbolt 3 ports support charging, and can be used to power external monitors, and transfer data up to 40Gb/s. We're glad to see that Apple's move to its own M1 chip, rather than Intel, hasn't meant the loss

of the Thunderbolt ports (Thunderbolt is an interface developed by Intel).

Performance

As soon as we began using the MacBook Air (M1, 2020) we were impressed. It boots up quickly (an additional benefit of the M1 chip), Big Sur feels fast and responsive, and the new look for the operating system really impresses. The interface has a more modern look, with bright, vibrant colors that really show off the MacBook Air's screen. It's also less cluttered, so you're not overwhelmed by icons and options, while the Control Center has been redesigned based on the version in iOS. It looks neater, and it's easier to use.

All applications that you usually run in macOS on Intel-based MacBooks should work fine with the new MacBook Air (M1, 2020), thanks to some software wizardry using Apple's Rosetta 2 tool, which allows apps to run on the new architecture.

We tried a mix of both new apps built for the M1 chip, as well as legacy apps built for Intel Macs, and running via Rosetta, and there was no noticeable difference in terms of performance. The fact that you can seamlessly run older apps on the new MacBook Air really is commendable – the M1 chip is based on ARM architecture, and one of the biggest drawbacks of Windows 10 on devices running on ARM-based chips is that you're limited to running only ARM-compatible apps from the Windows Store. There's a rather sparse selection of these, and this severely limits the usability of these devices. Microsoft needs to come up with its own Rosetta, pronto.

Not only can you run pretty much any existing Mac app on the MacBook Air (M1, 2020), but thanks to the M1 chip using similar architecture to iPhones, you can now run any iOS app or game as well. This brings a huge amount of new tools to the MacBook, and is genuinely exciting. iOS apps and games are more feature-rich and graphically impressive than ever before, and having access to these could be a game-changer. We played a few iOS games, and they ran perfectly on the MacBook Air – suddenly, the MacBook has become a decent gaming machine.

We were able to have quite a few apps running all at once, swapping between them with ease, and the Apple MacBook Air (M1,2020) kept up brilliantly. Throughout our tests it felt fast and capable. Moving a large 14GB file from an external SSD took less than a minute, for example. This really does feel like a fast and spritely machine.

Apple claims the new MacBook Air is three times faster than other laptops in its class, and faster than 98% of PC laptops sold in the past year. It also says the neural engine is nine times faster than the one in the previous MacBook Air, and its SSD is up to twice as fast thanks to the M1 and the latest flash technology.

One thing to note is that the fanless design of the MacBook Air (M1, 2020) could mean that performance is throttled when it's performing demanding tasks over long periods of time. Because there are no fans to stop it overheating, the only thing it can do is reduce the performance of the components – known as throttling – to control temperatures.

In fact, that’s why pros may want to go for the new MacBook Pro 13-inch. It has the same M1 chip as the MacBook Air, but it has fans, which means it can be used for intensive tasks over longer periods of time, without, Apple claims, throttling.

However, in our tests we didn't notice any major incidents of throttling, and as you can see from the benchmark tests, the MacBook Air (M1, 2020) came impressively close to the performance of the more expensive 13-inch MacBook Pro (M1, 2020).

In both Geekbench 5 and Cinebench, the single-core performance of the MacBook Air was pretty much on par with the MacBook Pro, and multi-core scores weren't that much different either.

This is great news for the MacBook Air - and slightly less good news for the 13-inch MacBook Pro (M1, 2020). Because the

MacBook Air (M1, 2020) is *such* a good laptop, it almost makes the MacBook Pro feel unnecessary. Performance seemed pretty similar in our day-to-day use, and we even played around with 8K video editing in Final Cut Pro, and while Apple seems keen to stress that the Air is capable of 4K video editing - it actually did a great job at 8K as well, allowing us to scrub through multiple 8K sources with ease. Very impressive.

So, with that boost in performance, along with the new P3 color gamut support, the MacBook Air (M1, 2020) is a brilliant choice for video editors who want a more affordable laptop than the MacBook Pro. It makes the MacBook Pro 13-inch a slightly harder to justify purchase, though it does have a few key features that the Air misses, such as the TouchBar and better cooling. Having both MacBooks churning through high intensity tasks for long periods of time should show a bigger performance gap in the Pro's favor. But for most people, the MacBook Air (M1, 2020), will offer plenty of power and performance.

Battery life

As for battery life, we knew that the new 'Apple silicon' would be more power-efficient, so it's no surprise to find that the new MacBook Air has the longest battery life of any MacBook Air yet – up to 15 hours of wireless web browsing, or up to 18 hours of video, according to Apple.

We've been very impressed with the MacBook Air's battery life – even after a few hours of work (and web browsing), the battery only dropped a few percentage points, and even if you leave it on standby for a day and come back to it, the battery level remains high.

In our official battery test, where we run a looped 1080p video at 50% brightness until the battery dies, the MacBook Air (M1, 2020) lasted a very impressive 11 hours and 15 minutes.

That's a lot longer than the previous model lasted in the same tests (7 hours 55 minutes), and it just beats the latest Dell XPS 13 as well (11 hours 1 minute).

This means you should be easily able to go a full work day (and more) without needing to charge the MacBook Air - though obviously the battery will deplete quicker if you're doing more intensive tasks with it.

It doesn't quite reach the huge 13 hours and 22 minutes the new 13-inch MacBook Pro (M1, 2020) managed, but we can't imagine anyone having any complaints with the MacBook Air (M1, 2020)'s battery life.

Buy it if...

You want an affordable MacBook

The MacBook Air (M1, 2020) isn't just one of the best MacBooks Apple has ever made, it's also the cheapest. This is fantastic value.

You want a powerful thin and light laptop

The performance of the MacBook Air (M1, 2020) really is impressive, so much so that many people thinking about buying the MacBook Pro should actually consider this instead.

You want a long-lasting battery

The MacBook Air (M1, 2020) has a brilliant battery, and will be able to power through a work or school day with ease. Really impressive stuff.

Don't buy it if...

You want a budget laptop

The MacBook Air (M1, 2020) is a great value laptop, but it is still very expensive. There are some brilliant budget laptops out there these days that offer excellent performance for a lot less.

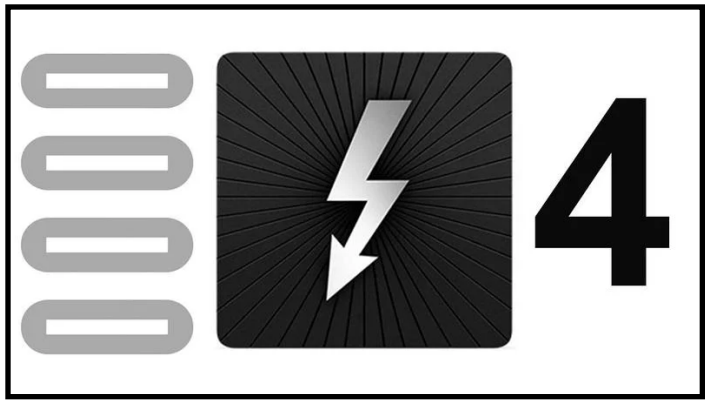
You don't like Macs

The MacBook Air doesn't have a revolutionary design, nor does it try to win over Windows users too much. If you weren't a fan of previous MacBook Airs, the new 2020 model won't really persuade you otherwise.

Simon Jary posted the following article to macworld.com on January 11, 2021. bit.ly/37DvWnH. © IDG Communications Ltd. He is SVP Consumer Worldwide of Macword. Today he specialises in accessories - USB-C docks, battery cases and chargers - that make life much easier for Mac and iPhone users.

Thunderbolt 4 vs Thunderbolt 3 vs USB

What is the difference between Thunderbolt 3 and Thunderbolt 4, and then what about USB 4?



By Simon Jary

Apple has changed its MacBook connection standard from Thunderbolt 3 to “Thunderbolt / USB 4”.

What does this mean? What is the difference between Thunderbolt 3 and Thunderbolt 4? And then what is USB 3?

As if USB and Thunderbolt couldn’t get any more confusing with many different speeds (from 5Gbps to 40Gbps) and functions possible using the same “USB-C” connection.

Calm down, Mac fans. From an Apple user’s point of view, there isn’t a great deal in Thunderbolt 4 that’s new or different from Thunderbolt 3, with which it is backwards compatible.

Indeed, in its M1 MacBook tech specs, Apple doesn’t even call it Thunderbolt 4, listing it as “Thunderbolt / USB 4” including Thunderbolt 3.

What is the difference between Thunderbolt 3 and Thunderbolt 4?

Thunderbolt 4 is only really different for Windows PCs, whose Thunderbolt 3 variations were often limited in features - where Apple always gave its users the full Thunderbolt 3 feature set.

Thunderbolt 3 on a Windows laptop could lack the full 40Gbps bandwidth, or maybe not support multiple displays or power delivery.

Poor PC users, you’ve got to feel for them.

Thunderbolt 4 requires mandatory certification for all computers, which means Windows users finally get all the great features Apple users got with Thunderbolt 3. So Thunderbolt 4 standardises Thunderbolt 3 for all computer users.

It's backwards compatible, but buying Thunderbolt 4 devices will also future-proof your setup.

So if your Mac has “just” Thunderbolt 3, don’t worry. It’s just that Windows PCs can now join in the fun without limitations, where in the past PC manufacturers could claim theoretical specs but not deliver the best they could by being merely “compatible” rather than “certified”.

It should be noted that the latest MacBooks with Apple’s own M1 chip do have a significant limitation: they can’t run more than one external display natively. However, there is a workaround that allows M1 MacBooks to run more than one external display.

In fact, Thunderbolt 3 was required to support only one external 4K monitor, where every Thunderbolt 4 laptop has to support two 4K displays or one 8K display.

Thunderbolt 4 now ensures that you can wake a computer with the shake of a mouse or the tap of a keyboard on Thunderbolt 4 docks. This wasn't always the case with Thunderbolt 3.

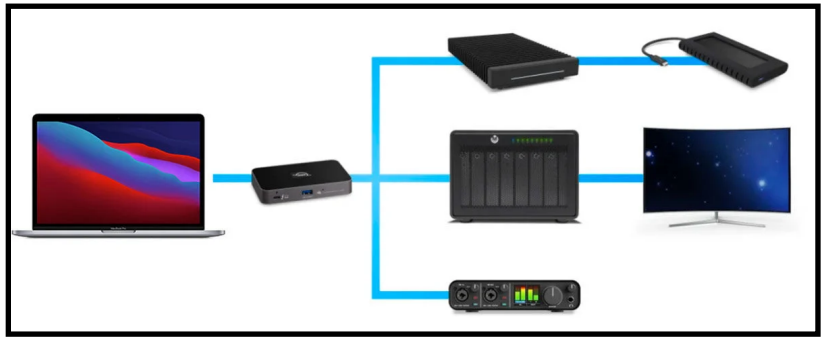
T4 is also a more data-safe technology, as it requires Intel VT-d-based direct memory access (DMA) protection, also known as DMA remapping.

What else? Well, Thunderbolt 4 requires PCIe (peripheral component interconnect express) at 32Gbps for storage speeds up to 3,000MBps, which is double the minimum requirements of Thunderbolt 3, although Apple's recent MacBooks did have this already. Some of the early Thunderbolt 3 MacBooks had less bandwidth available on the right-hand-side Thunderbolt ports.

Here we are talking about the portion of total Thunderbolt bandwidth allocated for PCI Express data transfer. With Thunderbolt 4, you're assured to have all four lanes of PCI Express available - so PCIe can consume up to 32Gbps of the total 40Gbps Thunderbolt bandwidth. With Thunderbolt 3, depending on your laptop manufacturer and model, some implementations offer only 16Gbps of PCIe bandwidth.

Other advantages of Thunderbolt 4 include that hubs and docks can now have more than two Thunderbolt ports, and that T4 cables can be up to 2 metres long and still handle the 40Gbps bandwidth. Previously, passive T3 cables had to be 0.7m or under to handle full bandwidth.

But there is just one more thing about Thunderbolt 4 that's a little bit special…



What is Thunderbolt 4 hubbing?

Thunderbolt 4 is, in some ways, just a software upgrade for Mac users. You need Apple's latest operating system, Big Sur, to get its new hubbing functionality.

Hubbing does away with the risks of Thunderbolt device daisy-chaining.

You've always been able to connect multiple Thunderbolt devices but in a potentially long chain, which meant that if you removed any one of them (except the last one in the chain) all the others became unusable until the chain was re-established.

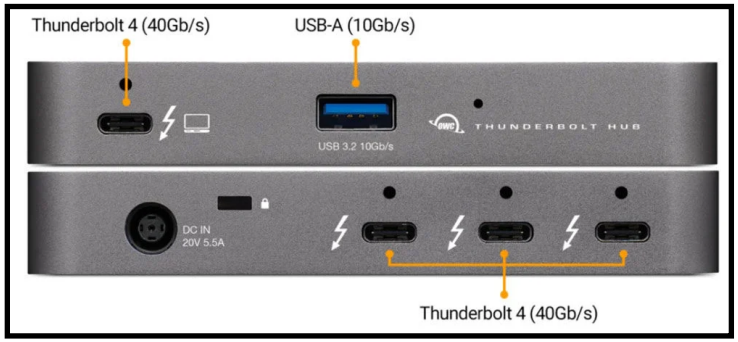
Now, with Thunderbolt hubbing, you can have up to four Thunderbolt ports in a hub or dock – each a separate "branch" that can be disconnected without affecting any other Thunderbolt devices connected in the other ports.

Thunderbolt docking station specialists will be releasing Thunderbolt 4 hubs in 2021.

The first we've seen is from OWC. Its Thunderbolt 4 Hub features four Thunderbolt 4 ports, including one to connect to the host laptop.

The OWC Thunderbolt Hub is slated to become available in "early February 2021", costing US$149, and will certainly be followed by others.

The same company will also offer its OWC Thunderbolt Dock with 11 ports, including four Thunderbolt 4 ports.



What is the difference between USB4 and Thunderbolt 4?

You will also see this written as “USB4”, but we are sticking with “USB 4” as it’s just easier to read. Intel didn’t want there to be a confusing USB 4.1, 4.2, etc, so it jammed the 4 right next to the USB.

Both use the same USB-C-type connector, just like Thunderbolt 3, too.

Thunderbolt 4 is based on the same underlying protocol as USB 4 - the two are tightly connected, with all Thunderbolt 4 devices supporting USB 4. If someone has a USB 4 laptop, they can use a TBT4 device, and the other way around.

In fact, Thunderbolt 4 is USB 4 with all the trimmings.

Not all USB 4 devices will be as powerful as the fully certified Thunderbolt 4, however.

Just like Apple’s version of Thunderbolt 3, Thunderbolt 4 will always have a full 40Gbps bandwidth.

USB 4, however, starts at 20Gbps but can also reach Thunderbolt 4’s 40Gbps.

Look out for USB 20 or USB 40 in the product marketing.

A USB4 port can only support one display. Thunderbolt 4 can support two 4K displays.

The good thing about USB 4 is that it will mean that manufacturers can release more powerful hubs and docks that are not Thunderbolt, at a cheaper cost.

However, since Thunderbolt products are certified, it means that they are of the highest standard. USB 4 devices don’t need to be certified and so eventually we will see many USB 4 devices flooding the market with varying degrees of quality, as we see with USB-C hubs today.

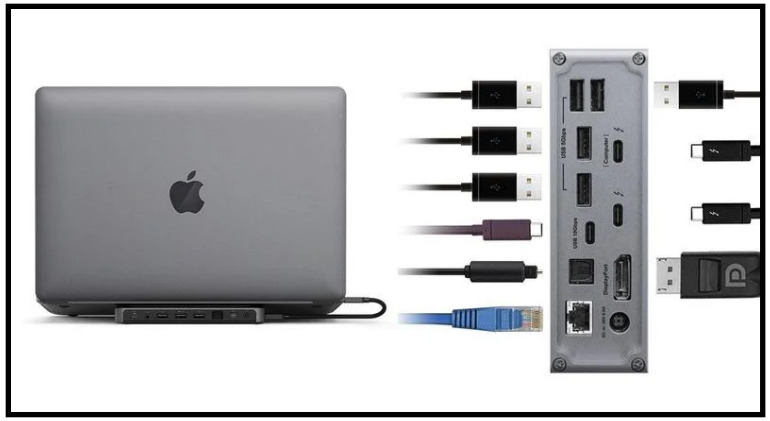
Note: We may earn a commission when you buy through links on our site, at no extra cost to you. This doesn't affect our editorial independence. Learn more.

Simon Jary posted the following article to macworld.com on February 10, 2021. bit.ly/37DvWnH. © IDG Communications Ltd. He is SVP Consumer Worldwide of Macword.

Best USB-C and Thunderbolt 3 docking stations for MacBook, Pro and Air

Use your MacBook/Air/Pro just like a desktop by adding multiple ports in an easy-to-connect setup

By Simon Jary



Plug your MacBook in and out of a multi-port docking station to swiftly add devices and external displays to your laptop. We tested a bunch to find the best Thunderbolt 3 and USB-C docks available to owners of the latest MacBook, MacBook Air and MacBook Pro.

Apple's 12in MacBook features one 5Gbps Gen 1 USB-C port, while the latest MacBook Air (2018 and later) and MacBook Pro (from 2016) boast either two or four 40Gbps Thunderbolt 3 ports.

Add external displays to your MacBook

If you use your laptop as your principal computer, you would do well to consider attaching at least one larger display to create a hybrid desktop/laptop setup (with a keyboard, mouse and printer all available via a single connection to your MacBook). You can turn that 13in laptop screen into an iMac-sized 27in or even larger monitor by adding an extra display – or connect two large screens to extend your screen across your whole desk.

If you want to connect more than one external display to your MacBook you'll need a Thunderbolt 3 dock, rather than a USB-C dock. Natively over USB-C, Macs can only connect to one external display in **Extended mode** (where the screen extends beyond what you can see on the laptop screen, as opposed to **Mirrored mode** that replicates exactly what you get on the laptop screen) but you'll get two Extended mode screens over a Thunderbolt 3 connection.

There are ways around the limitation, using DisplayLink software, but we recommend a Thunderbolt dock if you want multiple Extended mode displays.

While Apple's very latest MacBooks, featuring the company's own M1 Silicon chip, are super speedy compared to the models sporting Intel processors, they come with an incredible limitation: they don't support more than one external display in Extended Mode even via their Thunderbolt 3 ports. This means that when using any docking station, M1 MacBook Pro users cannot extend their desktop over two or more displays, and will be limited to either dual Mirrored displays or one external display - although there is a software workaround to add more than one external monitor to an M1 MacBook.

If you want to attach more than one external display, we recommend you stick with Apple's Intel-based laptops for the time being: see M1 MacBook Pro vs Intel MacBook Pro, with a Thunderbolt 3 dock.

Whole lotta ports

One problem with using a MacBook as your main PC is its lack of ports. The 12in MacBook has just one USB-C port, the new MacBook Air boasts two Thunderbolt 3 ports, and the latest

MacBook Pro models feature either two or four Thunderbolt 3 ports.

You need one port for charging (albeit not all the time), and likely at least another to attach further devices (memory sticks, hard drives, Ethernet, external display).

There are many cheap adapters that let you add more devices to a USB-C or Thunderbolt MacBook (see our roundup of the best USB-C adapters for Macs), but for maximum flexibility check out these docking stations that take care of all your extra port requirements, and allow you to simply attach it to your laptop with just one cable when you get to the office or come home.

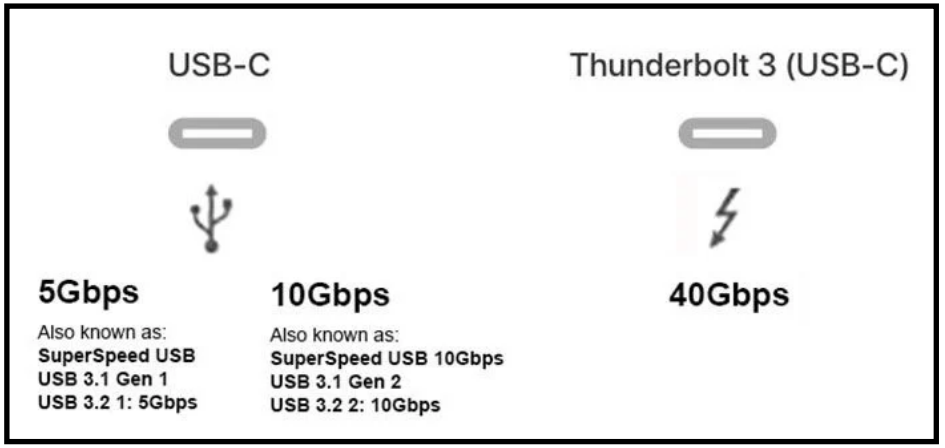
Here we concentrate on Thunderbolt 3 docks, but also include cheaper USB-C docks - which Thunderbolt 3 MacBooks can use, but at the cost of reduced bandwidth and display limitations. For more non-T3 USB-C-only docks check out Tech Advisor's roundup of the best USB-C docking stations for laptops.

Docks with a **Titan Ridge** chipset will work with both T3 and USB-C laptops. Other T3 docks won't work with USB-C laptops, such as the 12in MacBook. With Titan Ridge, you get all the benefits of a T3 dock, but can use it with non-T3 laptops, too.

Mac mini (2018 and later) and iMac (2017 and later) owners may also consider expanding their ports with a Thunderbolt 3 docking station.

Note that the 12in Apple MacBook supports only dual mirrored monitors when connecting two displays - a limitation now sadly carried over to Apple's latest M1-based laptops.

USB-C and Thunderbolt 3 speeds



Thunderbolt 3 vs USB-C dock compatibility

Plain **USB-C** runs at either 5Gbps or 10Gbps, while **Thunderbolt 3** (T3) hits speeds of 40Gbps. You can hook up a T3 laptop to a USB-C dock but you won't access the faster speeds unless you buy a true Thunderbolt 3 dock.

And you can't connect a 5GBps or 10Gbps USB-C laptop to a Thunderbolt 3 dock - except for those with the Titan Ridge chipset which handily work with both USB-C and T3

In the review list below, we state at the top which type of laptop (USB-C or Thunderbolt 3) each docking station is compatible with.

USB PD: Power Delivery for your laptop

Look out for a dock with USB PD. The **PD** stands for **Power Delivery**.

Charging the laptop: The 12in MacBook and 13in MacBook Air require a PD with at least 30W power. The 13in MacBook Pro charges at full speed at 61W; the 15in MacBook Pro at 87W; the 16in Pro at 96W.

An 87W/96W MacBook Pro can be charged by a 30W or 60W charger, but slower than it would be with its native charger. A larger MacBook with a heavy workload might start fading on a lower wattage charger.

Charging the docked devices: Some docks don't feature an external power supply but actually use your laptop to draw power from. Add too many devices to one of these docks and you may well experience power issues, as USB-C can handle just 7.5W bus-device power while Thunderbolt 3 can pass back 15W.

T3 and USB-C docking station benefits

A docking station makes it much easier to use your laptop in two locations, as it can easily be connected into and out of the dock - although you might need a dock at each end for similar setups. And you can use it as a base for hot-desking or multi-laptop home-office setups where one person can quickly attach their laptop to the mouse, keyboard, screen and printer as soon as another has detached.

The inclusion of an SD or microSD Card reader isn't just for camera buffs. It's a convenient and affordable way to add storage to your laptop setup. We found a 512GB Samsung Evo microSD card on Amazon for under £150 in the UK and $130 in the US. That's a very cheap way of adding half a terabyte of portable storage. For more details read up on our best microSD cards.

These MacBook docking stations look and work great with a laptop stand, and we've also tested some MacBook-friendly stands that lack all the extra ports but keep your MacBook/Air/Pro upright and out of the way: further saving valuable desk space, reducing clutter, keeping your laptop cool, and saving it from spills.

Our favourite Thunderbolt 3 and USB-C docks are from Caldigit, Plugable, Anker, Hyper and Belkin, but there are many to choose from. Fuller reviews are linked to underneath most of the tested docks.

CalDigit TS3 Plus - Best Thunderbolt 3 dock for Macs. RRP: $310.

CalDigit Thunderbolt 3 mini Dock - Best portable Thunderbolt 3 dock RRP: From $120.

Plugable TBT3-UDZ Thunderbolt 3 Docking Station - Best hybrid dock for Thunderbolt 3 and USB-C RRP: £299

Anker PowerExpand Elite 13-in-1 Thunderbolt 3 Dock - Best hybrid Thunderbolt 3 & USB-C dock with two T3. RRP: $299

CalDigit USB-C HDMI Dock - Best value Thunderbolt 3 & USB-C HDMI dock with SD. RRP: $220.

CalDigit USB-C Pro Dock - Best value Thunderbolt 3 & USB-C DP dock with SD. RRP: $250.

HyperDrive GEN2 16-Port Thunderbolt 3 Dock - Best T3 dock with digital audio. RRP: $300.

Belkin Thunderbolt 3 Dock Pro - Powerful hybrid dock for Thunderbolt 3 and USB-C with two T3. RRP: $300.

Twelve South StayGo - Best portable USB-C dock. RRP: $100.

OWC Thunderbolt 3 Pro Dock - Best dock for 10Gb Ethernet RRP: $320.

OWC Thunderbolt 3 Dock - ports aplenty. RRP: $299.

StarTech.com Thunderbolt 3 Dual-4K Docking Station - Packed with ports RRP: $379.

Plus a number more.more.

Glenn Fleishman posted the following article to macworld.com on February 19, 2021. bit.ly/37W8u4W. © IDG Consumer & SMB. He is a Senior Contributor to Macworld and others. He appears regularly on public radio to discuss the tech industry.

How To Start Up Your M1 Mac From An External Drive

It's not as easy as it used to be, as it likely requires you purchase new hardware.

By Glenn Fleishman_

Apple's relatively new M1 Macs that rely on Apple silicon have a number of usability differences from previous Intel-based Macs. One difference that's tripped some readers up is how to start up or boot the M1 Mac from an external drive. Intel Macs generally make this easy.

You might want to use a bootable external drive to have a higher-capacity SSD than is offered or affordable via Apple's pricing. Or you want one for backup in case something goes very pear shaped with your M1 Mac.

Testing indicates that the following are required to start up from an external volume:

[Further reading: Learn more about macOS Big Sur]

- A Thunderbolt 3 drive. That's not just one that uses the USB-C connector, but is a native USB 3.1 or 3.2 drive. Nor can you use a Type A adapter for a USB 3.0 or later drive. Success appears to require a *native* Thunderbolt 3 drive.
- Erasing the drive completely, then formatting it as APFS.
- Obtaining a Big Sur installer, and then installing Big Sur from your M1 Mac directly onto the external drive. (This will allow only an M1 Mac to boot from the drive; Intel Macs will be unable to start up from your M1-prepared external drive.)

Let's expand on each point.

Thunderbolt 3 drive

Most inexpensive external drives use a flavor of USB 3 to connect over USB-C. Thunderbolt 3 is generally reserved for high-performance drives and arrays of drives used for graphics and video purposes. However, One World Computing offers a specific line of lower-cost, bus-powered Thunderbolt 3 SSDs. (Some people have apparently been able to get a USB 3 drive to work for this, but no one has narrowed down which ones or why, so it's impossible to recommend it as a course of action.)

With an SSD inside, OWC charges $199 for 480GB and $299.75 for 1TB. You can purchase higher capacities, or just get its Envoy Express enclosure, which runs $79, to which you can add any SSD that's designed for the 2280 M.2 NVMe standard. (That sounds like a mouthful, but you can search on that to find compatible SSDs.) OWC says it supports current capacities up to 4TB, and is designed to support future higher capacities, too. I opted to buy a relatively inexpensive 500GB SSD for now (about $75) so I could have a bootable option.

Erase and format as APFS

To use Big Sur, the drive has to be formatted as APFS. But reports indicate that you may not be able to just change the formatting on an existing drive, as invisible partitions used for purposes related to booting from an Intel drive from a previous macOS installation on the drive could cause issues. To avoid that, select the drive in Disk Utility, click *Erase*, and follow prompts to create a single APFS container. This should wipe out any conflicting data structures.

Obtain the Big Sur installer

Since you have to be running Big Sur on an M1 Mac, you should be able to download the installer directly from the Mac App Store via this link. Big Sur 11.1 or later is required.

Install Big Sur onto the external drive

Launch the Big Sur installer, and select the external drive as the target. Follow the prompts and steps. When your Mac restarts, it will boot from the external drive to complete the installation.

Restart from your internal drive or switch between

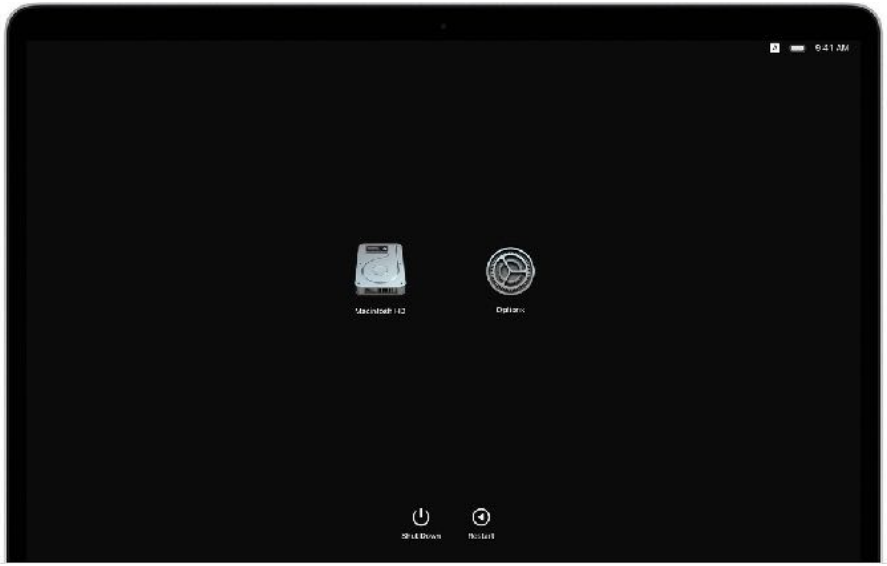
To get back to your internal drive as the startup volume, you can open the Startup Disk preference pane while macOS is running on the external drive and select the internal drive. Then click *Restart*.

You'll have to unmount the external drive after the restart is complete, and some people have reported that Big Sur says one of its partitions remains in use. (Catalina and Big Sur invisibly divide a macOS into a volume containing system files and a volume with your user data; the data volume may not unmount correctly.) You might prefer to shut down at that point, unplug the external drive, and start up again.

You can also use recovery mode to change the startup disk. This is a bit more complicated with an M1 Mac than an Intel one, where you could simply hold down the Option key while restarting and select a drive (unless you had turned on certain security settings, in which case you'd need to use recovery mode to disable them).

Here's how you change the startup drive from recovery mode with an M1 Mac:

1. If macOS is running, you need to shut down. A restart doesn't work. Select > *Shut Down*.
2. When you see your Mac has powered down, hold down the power button until you see a prompt that says "Loading startup options."
3. When the Options icon appears, you will also see a list of volumes next to it that you can select. Select the volume that you want to start up from.
4. Click *Continue* and the Mac restarts from that volume.



The startup screen for recovery mode on an M1 Mac lets you pick an alternative startup drive.

Zohaib Ahmed posted the following article to plunikaweb.com on January 22, 2021.bit.ly/3upPBAW.

Apple Mac Mini M1 dual display support issues come to light (green tint, pink squares, lag, & more) [Update: Jan. 22]

By Zohaib Ahmed

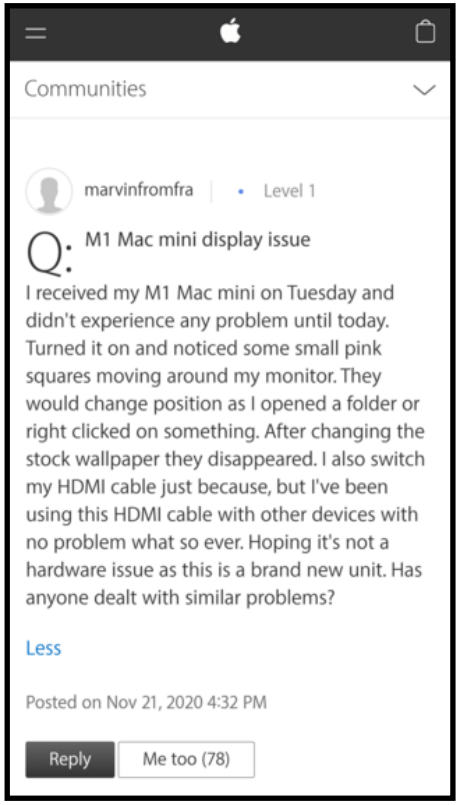
New updates are being added at the bottom of this story……

Original story (published on December 10, 2020) follows:

The new Apple Mac Mini M1 seems to be giving dual/multi-monitor users a really hard time with a range of display issues which include green tint, pink squares, and random lag.

As a result, there has been a slew of complaints on official Apple forums, Reddit, and MacRumors forums. Source

I'm enjoying my Mac mini with the M1 soc but unfortunately connecting two monitors does not work. Upon fresh boot, both monitors display correctly on login screen. However, when logging in, both monitors start flickering. I have to disconnect and reconnect one hdmi cable for displays to work again.Source



I have 2 displays plugged in:1x USBC/Thunderbolt3 24inch LG Ultrafine 4k screen (bought through Apple last year) 1x LG 27inch 4k display, plugged in via HDMI.

The issue I am having is that the 27inch display has a really horrible display lag, moving the mouse, dragging windows round the screen and anything I doSource

As apparent from the above complaints, users seem to be facing a variety of problems but with the exception of one commonality – most of them, if not all, have a dual-monitor setup.

The issues include:

1. Pink squares or dots that appear during boot and the first few minutes after logging in. Some have also reported that they only

appear on the login page. Changing the wallpaper has helped a couple of users though, for some reason.

2. Weird green tints that may be coupled with static in the display. These too may last for only a few minutes during and after a boot-up. Replugging the HDMI cable makes the problem vanish temporarily.

3. One or both the monitors not working at all. And even if they do, there may be plenty of flickering. Again, replugging the cables solves the issue temporarily. The screen may also go black after a wake-up from sleep mode.

4. Horrible display lag that can be reproduced by simply moving the mouse around or dragging windows.

5. Unsupported 5120×1440 screen resolution. This is not related to multi-monitor setups but is a display issue nonetheless, and hence had to be included here.

Workarounds for dual display issues on Mac Mini M1

While there isn't much that can be done about the matter apart from waiting for an official acknowledgment from Apple, we still managed to pull out a few workarounds from the forums.

1. Turn separate spaces off: This has reportedly worked for a few users for some reason. You can try your luck by heading over to System Preferences > Mission Control and turning "Separate spaces" off, or turning it on if it's already off.

2. Make sure that you are using proper cables: You can read all about the supported cable connections here.

talking with senior support today..seems like the culprit is these usb c to HDMI adapters…not supported as of now…however I can make it work by toggling the refresh rate. Source

I was on phone with Apple Support and it said that with 2 monitors we have to use the 2 thunderbolt output, not mixed with hdmi output.Source

3. Reinstall macOS: Oddly enough, a couple of users reported that a Big Sur re-install fixed the problem for them. This is not recommended though.

If you still want to give it a go, you need to firstly reboot and immediately hold down the Command + R or Command + Option + R keys. Next, click on the "Reinstall macOS" option that appears in the recovery.

Hopefully, Apple addresses the matter and releases a bug fixing update for the same if it truly is software related. For now, be sure to check out our dedicated macOS Big Sur bugs/issues tracker.

Update 1 (December 24)

06:17 pm (IST): Apple has acknowledged one of the problems given above — the unsupported 5120×1440 screen resolution issue — and is likely to release an update soon to fix it. This is apparent from a new support document:

If you connect an ultrawide or super-ultrawide monitor to your Mac with Apple M1 chip, some resolutions supported by your display may not be available. Apple is aware of this issue and resolution is planned for a future macOS update.Source

Hopefully, this update will also address the other display issues faced by Mac Mini M1 users as well.

Update 2 (January 22, 2021)

01:14 pm (IST): As per macOS Big Sur 11.2 release notes, Apple has now fixed one of the many display issues plaguing the Mac mini M1 wherein external displays showed a black screen when connected using an HDMI to DVI converter.

Glenn Fleishman posted the following article to macworld.com on September 11, 2020. bit.ly/2P51EDP. © IDG Consumer & SMB. He is a Senior Contributor to Macworld and others. He appears regularly on public radio to discuss the tech industry.

How To Make A Local Backup Of Your iCloud Photos Synced Library

You can overcome one of iCloud Photos limitations and limited storage with a bit of effort.

By Glenn Fleishmann

iCloud Photos is a great way to have all your images and videos across all your iCloud-linked devices. Apple lets you select an optimized option for storage, which ensures the full-resolution of your media is uploaded to iCloud and retained there (and accessible via icloud.com) while each end point, like an iPhone or Mac, has just a set of vastly reduced thumbnails. When you want to work with or view the full-sized photo or movie, double clicking or tapping retrieves it. You can have your cake (preserve storage on devices) and eat it too (have a huge Photos library).

The fly in that ointment is that with optimized image storage set on all your devices, you cannot make a local backup of all your media, as I explain in a 2017 column. I offered one full download strategy in 2018 for a reader who wanted to move from iCloud Photos to another service. Neither of these help with ongoing backups.

Reader Todd wrote in recently with a question and suggestion that's brilliant. He pondered a solution:

- Create a second account on a Mac intended just for iCloud Photos backup and log into that account.
- Via the iCloud (Mojave and earlier) or Apple ID (Catalina) preference pane, log in to the same iCloud account used for iCloud Photos
- Connect an external drive and use Photos to create its library there.
- Launch Photos and configure it to perform full-resolution downloads in *Photos* > *Preferences* > *iCloud*.
- Wait until the initial synchronization is finished, so all the images are downloaded.
- Log out of the second macOS account and back into the primary one.
- Eject the external drive.

The next time you want to back up your Photos library, you log back in to that second account with the drive attached, launch Photos, and it should update just as you expect.

This strategy checks all the boxes. It lets you keep an optimized library on your Mac, having sync via iCloud Photos, and create a full, local backup as an extra guard against anything happening to Apple's redundantly backed-up servers or your account.

Jason Snell posted the following article to macworld.com onJanuary 8, 2021. bit.ly/3kqGmMz. © Mac Publishing, LLC. Jason was lead editor at Macworld for more than a decade and now writes about Apple at Six Colors, podcasts at Relay FM and has been a technology writer for more than 20 years.

It's Time For The Mac To Undergo A Product-Design Renaissance

Now it's the Mac's turn to flourish again.

By Jason Snell

Just as I wrapped up a series I worked on most of last year about the most notable Macs of all time, I received a comment on Twitter about a specific peculiarity about my list that I'd never considered.

"It's super interesting to me that only one Intel machine made it on," wrote Jay Parlar.

I looked and—yep. Despite the Intel Mac era lasting 15 years, the only Mac on my list that originated in that era was the second-generation MacBook Air. I considered several others, but they didn't make the cut.

[Further reading: Learn more about macOS Big Sur]

I was surprised by Jay's comment, but the more I thought about it, the more it made sense to me. During the 2010s, Apple took a remarkably conservative approach to the Mac—with a few oddball exceptions that prove the rule.

Eye off the ball

Apple invested a huge amount of effort in renovating the Mac in the early days of Steve Jobs's return to Apple. After introducing the original G3 iMac, Apple turned over the entire product line multiple times in just a few years. (There were also some failed forays, now largely forgotten, into areas like server hardware.)

This was the biggest creative flourishing in the Mac ever. The iMac added fashion colors, morphed into a round computer with a floating display, and then took up the computer-within-display approach that we still see today. The PowerBook became rubbery black with a shiny white Apple logo, then transformed again into a thin silver metallic model that's not too far off from today's MacBook Pros. The iBook was introduced as a brightly colored portable iMac, then moved to a monochrome plastic enclosure. Power Macs were introduced with plastic handles and bright colors—and then the colors were slowly muted away until the plastic was replaced with a perforated aluminum shell.

But by the time of the Intel transition, the complete revamp of the Mac was largely complete. The iPod had become a huge hit, and Apple's most intense design focus turned to new products—leading to the arrival of the iPhone and iPad.

Apple used to regularly offer new designs of its Macs. Then Apple turned its focus to the iPhone,

What would have happened if Apple had kept intently focusing on evolving Mac designs? We'll never know, but given the importance of the iPhone and iPad to Apple's bottom line, de-emphasizing the Mac was probably the right call during that era.

Frozen in time

Now consider the current Mac product line. It would be instantly recognizable to a visitor from the early 2010s.

Apple introduced the first all-screen iMac in 2004, though it was made of white plastic. It's probably fair to call the 2007 aluminum iMac the true progenitor of all current iMacs, though in 2012 it reached its final form, dropping the internal optical drive and turning into the very iMac models still being sold today. Even charitably measuring from the 2012 model, it's been nine years since the iMac design changed.

The Mac mini looks more or less identical to how it looked in 2005 when it was introduced. It got thinner and flatter and switched from a plastic and aluminum case to all aluminum in 2010, but since then there's been nothing to report.

The Mac Pro—well, here's that exception that proves the rule. In 2013 Apple introduced a new, clyndrical Mac Pro—Apple's first major Mac design change in several years. It was a flop, and six years later Apple replaced it with a new model equipped with handles and a perforated design that are very clearly just a new take on the "cheese grater" Power Mac G5 enclosure introduced in 2003.

The Mac Pro is the only Mac that has had a major design change in recent years.

On the laptop side, the second-generation MacBook Air was the definitive Mac of the 2010s and influenced the design of modern laptops immensely. But it was introduced in 2010. Even if you don't consider the Titanium PowerBook G4 the originator of Apple's laptop designs, it's hard not to look at the Air and see it as the source of every single thin, light, (mostly) silver laptop that Apple makes to this day.

Of course, Macs have evolved a lot in the intervening years on the inside. But the exteriors of Apple's Macs look remarkably like they did in 2012, if not 2007. It's been a decade or more of quiet iteration without really rethinking the fundamentals of the product—except that one time, which Apple rapidly came to regret.

Into the 2020s

Perhaps Apple's burst of creativity in the first decade of this century was enough. Perhaps it solved computer design, and there's no point in trying to re-think things. But I don't think it works that way.

While Apple has seemingly been content to continue selling its thin, silver laptops, PC-makers have been trying new things, convertibles and detachables and two-in-ones and all sorts of other approaches. Do they work? Maybe, maybe not.

The Apple silicon transition has begun in the most conservative fashion—just as it did the Intel transition. The first M1 Macs are comfortable and familiar—nothing changed on the outside, everything different on the inside. They couldn't be more emblematic of the Mac's last decade.

With all of this said, it might surprise you to discover that I'm actually optimistic about the future of Mac design. The arrival of Apple silicon feels to me like an immense opportunity. I think Apple has been gearing up for this switch for a long time, and the move to a hardware platform Apple completely controls should leave to another flurry of creative activity that will shape the Macs we use for the next decade or more.

It's time for Apple to put it all on the table. What does the definitive laptop of the 2020s look like? How can the iMac be reinvented, based on how users and technology have changed between 2007 and now? Can the rise of touch, the unassuming cleverness of the Apple Pencil, the easy and secure power of Face ID, and the versatility offered by an avalanche of smart connectors and sensor technologies, help redefine what it means to use a Mac?

These aren't easy problems to solve, but Apple has some of the best people in the industry working on their product design. We've seen enormous innovation in most of Apple's product lines over the last decade. Now it's the Mac's turn to flourish again.

AI and Humans

Political Intelligence

By Kathy Garges

Analyzing and captivating American voters has become almost as daring a game as international espionage — and artificial intelligence is central. It's not just commercial advertisers who use the Internet and social media to learn about, and appeal to, consumers. Since the late 1990s, politicians of both major political parties have been increasingly doing the same. Political campaigns can buy the same information and functions as commercial advertisers: AI-gathered private data about us and sophisticated programs for experimenting on us with test marketing messages.

Internet platforms use AI to collect our private data, place us in categories, and identify our psychological vulnerabilities. Then they offer this data to advertisers and political campaigns along with AI features to test marketing messages. Before Trump, politicians used these methods to craft messages about what other people "like me" are doing — using shaming techniques and social pressure to increase voter turnout, for example.

Trump took these tactics much further in his 2016 presidential campaign. The campaign gathered private information when a visitor to its Facebook page clicked on a video game app. It then used Facebook's Ad Auction system to test the response of target voters to varied messages. Some of the results were: "She would be in jail;" "Lock her up;" and the "Again" concept in "Make America Great Again."

The Ad Auction system is complex, but if the user carefully tunes the tests, it can optimize the power of marketing messages. Facebook says: "For each ad impression, our ad auction system selects the best ads to run based on the ads' maximum bids and ad performance. All ads on Facebook compete against each other in this process,…" "Use ad relevance diagnostics to diagnose whether the ads you ran were relevant to the audience you reached."

Wonder why Trump often says things that are false and/or outrageous while showing no signs of concern or regret? It's apparently because these phrases have already tested well with groups he wants to appeal to.

The Trump campaign also used the Facebook Lookalike Audience feature — in this case to determine which messages discouraged likely Clinton supporters from voting in the election. Facebook says: "We identify the common qualities of the people in…[your source audience] (for example, demographic information or interests). Then, we deliver your ad to an audience of people who are similar to (or "look like") them." That's right. The Trump campaign paid to send messages to likely Clinton supporters that were designed to get them not to vote. Russian interference in the election used the same tactic.

Shoshana Zuboff, professor emerita at Harvard Business School, recently published a nearly 800-page tome on how Internet companies created this new "surveillance capitalism." She writes in detail about how Google, followed by Facebook and a few other companies, based their business models on selling users' private information to advertisers. These companies have successfully protected and expanded their control over the past several years by, among other strategies, insisting that loss of privacy is necessary and inevitable, dragging out lawsuits that

object to their practices, and evading efforts to find out what they are doing.

A forthcoming book by international AI expert Kate Crawford focuses on AI as a "technology of extraction," which exploits workers, mines energy and materials for its infrastructure, and appropriates our personal data. Business columnist and economic analyst Rana Foroohar recently suggested that Facebook and other Internet companies are reluctant to respond to fake news and other controversial political uses of their platforms because these issues also expose the invasive and manipulative algorithms that use our personal data to generate their advertising revenues. And, of course, politicians are another revenue source for these enterprises.

These privacy-invading businesses are thriving even though their claims about advertising effectiveness are questionable. Several advertisers have dared to test the self-fulfilling nature of Internet advertising by reducing their online budgets without negative effect. And, of course, Hillary Clinton won the popular vote in the 2016 presidential election, and Donald Trump lost the 2020 election.

While commercial advertising has always been subject to realistic cynicism among the populace, the results of AI-powered online political advertising may be more sinister. Psychologists report that the overall online surveillance we are under has strong negative effects, even if we erase it from conscious awareness. It tends to create ongoing anxiety and inhibit behavior. It seems likely that this continual stress could be feeding into, intensifying — even creating — acceptance of conspiracy theories, bigotry, and destructive behavior by some people.

There are some practical responses to the invasive irritation of online advertising. In addition to ad blocking software, and search engines that do not track users, like DuckDuckGo, at least one company is taking a guerrilla approach it terms "obfuscation." AdNauseam is free browser extension software, available for Chrome, Firefox, and Opera browsers, that foils surveillance by registering a click for every online ad. Google claims it can detect and remove these clicks, but test results say otherwise.

Apple has a strong business model with a core principle of protecting user privacy. It recently announced tighter disclosure rules about privacy and new user opt-in requirements for apps in its app store — and Facebook is planning to respond with an antitrust suit.

With the recent light shed on online privacy issues, both commercial and political, by multiple sources, the battle to limit appropriation of personal information by Internet companies has been joined. Perhaps we can even protect our elections from future hidden online manipulation.

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