iPadOS on the iPad Air 2: Old tablets can still learn new tricks

Enlarge / Add a Bluetooth keyboard to an iPad Air 2 running iPadOS 13 and you've got a surprisingly capable device for browsing and shooting off emails and Slack messages.
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Starting today, iPads run something called "iPadOS" rather than iOS, but the change has more to do with branding than functionality. Apple's tablets might get a few more keyboard shortcuts and some multitasking features; maybe they'll diverge more in the future. But for right now, iPadOS is still fundamentally iOS.

That means, as with iOS, Apple is in total control of what hardware can run the new operating system (unlike the Mac, where you can occasionally get around Apple's restrictions and run new software on unsupported Macs or hardware that isn't Apple's at all). The original iPad Air and the iPad Mini 2 and Mini 3 have all been dropped, because of their slower Apple A7 processors and (more importantly) their 1GB of RAM. Today, the iPad Air 2 and the iPad Mini 4 are the oldest, slowest tablets that run iPadOS 13.

The Air 2 was Apple's first iDevice to include 2GB of RAM and the first iPad to support multitasking features like Split

View that were introduced in iOS 9 (the first iPad Air got a more limited subset of those features, but its 1GB of RAM wasn't enough to support two apps running side by side simultaneously). It was arguably over-powered at the time of its release, but its forward-looking specs have helped it bridge that gap between the full-screen, one-app-at-a-time model that still existed in iOS 8 and the still-limited but generally more computer-y iPadOS experience.

Performance

The iOS 13 update runs just a bit slower than iOS 12 running on the same device, but the A9 chip in the iPhone 6S and SE is fast enough that a little bit of slowdown doesn't make the phones feel slow. The A8 doesn't have as much power to spare these days; its single-core performance is 40% or 45% slower than the A9's, even though the triple-core A8X is still about as fast as the dual-core A9 when all the cores are being used.

With that in mind, we used the same app-launching performance test that we did for the iPhone 6S and SE to examine how iPadOS works on one of the oldest eligible devices. We also spent several weeks testing the iPadOS 13.0 and 13.1 betas. Note that all of this testing was performed using iPadOS 13.1 Developer Beta 4, because Apple didn't release a Golden Master build of iOS or iPadOS 13.1 before releasing it today. The build is only a week old, however, so it's presumably pretty close to the one Apple has released to the public.

iPad Air 2 performance			
Application	**iOS 12.4.1**	**iOS 13.1 b4**	**Difference (%)**
Safari	0.92 seconds	0.98 seconds	+6.5%
Camera	1.30 seconds	0.94 seconds	-27.7%
Settings	0.82 seconds	0.77 seconds	-6.1%
Mail	1.36 seconds	1.42 seconds	+4.4%

Messages	1.15 seconds	1.09 seconds	-5.2%
Calendar	0.74 seconds	1.11 seconds	+50%
Maps	1.65 seconds	1.82 seconds	+10.3%
Notes	1.58 seconds	1.48 seconds	-6.3%
TV app	2.79 seconds	2.76 seconds	-1.1%
Cold boot	19.5 seconds	19.1 seconds	-2.1%

Performance on the iPad Air 2 actually isn't bad, and iPadOS doesn't slow things down much compared to iOS 12. Some things launch more slowly, but generally launch times are similar (or in a couple of cases, a little better). As with the iPhone 6S and SE, if you're happy with how iOS 12 runs, you should be happy enough with how iPadOS runs.

The only unpleasant surprise I ran into when using the iPad Air 2 with iPadOS was with "desktop-class browsing." It was certainly possible to load pages like the Google Drive apps or the WordPress CMS—things that were difficult or impossible with previous versions of mobile Safari—but compared to my newer iPad Air 3, scrolling through and editing large documents sometimes felt jerky and clumsy. After all, the Air 2 is working with considerably slower hardware and less RAM than actual desktops or newer iPads.

Missing (and not-missing) features

There are a few things that the Air 2 just can't do, aside from just running slower than modern iPads. An Apple A9 or newer chip is required for a handful of software features, including capturing HEIF images and HEVC video and anything that has anything to do with ARKit. A lack of Apple Pencil support means that you miss out not only on Pencil support, but also Sidecar support for macOS Catalina, which (as of this writing) appears to require an iPad with Pencil support. And iPads with more RAM can load more Safari tabs and other apps before the OS needs to reclaim that memory for other uses,

making multitasking just a bit more laborious.

But the Air 2 (and the Mini 4, though we couldn't test it) still benefits from the vast majority of the additions that make iPadOS worth installing. It still gets a new, denser Home screen that can fit more icons, plus a Today View column; it can still read files from USB drives and SD cards with a Lightning adapter; it can still connect to remote servers via SMB; it still gets a ton of new, genuinely useful keyboard shortcuts and text editing improvements; Safari still gets a download manager and "desktop-class" browsing (performance issues aside); and it still gets the Slide Over multitasking view and the ability to open the same app twice.

I don't think I've ever ended one of these articles by telling people *not* to upgrade, even in the cases where performance is worse than it was before. There's definitely a case to be made for waiting until iPadOS 13.2 or some future release, when Apple will have had some more time to eradicate bugs that it couldn't get rid of during iOS/iPadOS 13's unusually chaotic beta process. And people who will *really* benefit from iPadOS 13's new, more computer-y features, especially the ones targeted toward photo editors, would be better served by a newer iPad with more processing power—this recommendation includes every iPad for sale today, including the $329 version.

But despite the A8X's advancing age and the features missing relative to what you get on newer iPads, I do think anyone with an iPad Air 2 should install iPadOS 13 as soon as they're comfortable. When paired with an inexpensive Bluetooth keyboard, the tablet is still a surprisingly compelling budget computer, fully capable of browsing, word processing, emailing, social media, multitasking, watching videos and viewing photos, and casual gaming—in other words, most of the things that normal people use their computers for.

But if you want to do serious photo or video editing (and you

don’t want to use a Mac, which remains a much more flexible platform with more complex and flexible third-party apps), if you’re a Web developer, or if you’re an artist or note-taker who might benefit from the Apple Pencil, it may be time to upgrade. The iPad Air 2 still feels modern in a lot of ways, but newer iPads have achieved laptop-like performance to go along with some of these laptop-like features.

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