

Hands-on with Microsoft's barrage of new Surface devices



Enlarge / That charging case uses USB-C.

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Microsoft on Wednesday unveiled a slew of laptops and tablets for its Surface line of Windows computers and related accessories. The announcements include the Surface Pro 7, the latest iteration of the company's popular line of 2-in-1 tablets; the Surface Laptop 3, a refresh of its traditional clamshell laptop; the Surface Pro X, a new 2-in-1 with a svelter design and a custom ARM-based chip called the

Microsoft SQL; and the Surface Earbuds, a pair of true wireless earbuds that integrate with the company's Office 365 software.

I attended Microsoft's reveal event in New York City and was able to get some hands-on time with the new hardware. Below you can find a few quick impressions.

Of note: perhaps the biggest news of the day was Microsoft's tease of the Surface Neo, its long-anticipated dual-screen PC, and a surprise reveal of the Surface Duo, essentially a smaller version of the Surface Neo that works as an Android smartphone. I wasn't able to get hands-on time with either of those devices beyond checking out a couple non-functional dummy models, but Microsoft says they are scheduled to release in late 2020. Regardless, here's what Microsoft has coming for the rest of 2019.

Surface Pro X: giving ARM another go

- The Microsoft Surface Pro X.
- It doesn't look crazy different from a standard Surface Pro at first blush.
- But the side bezels are thinner, allowing for a bigger 13-inch screen in a similarly sized form factor.
- And it's a good ways thinner.
- It also works with a new Surface Slim Pen stylus.
- It's flatter feeling, and drops right into a built-in charging port on a new Type Cover keyboard.
- There are two USB-C ports here, but no USB-A port or headphone jack.
- Much of the story here revolves around the custom ARM chip inside the device. We'll see how it performs in due time, but first impressions are solid.

Starting with the one genuinely new PC in Microsoft's lineup,

the Surface Pro X—pronounced “ex,” not “ten”—is a thinner take on the Surface Pro that runs on a custom ARM-based chip dubbed the Microsoft SQ1. Well, “genuinely new” is relative: Microsoft has tried selling ARM-based Surface PCs like the Surface RT and the Surface 2 before. But whereas those Nvidia Tegra-equipped devices were positioned as lower-end PCs, Microsoft is selling the Surface Pro X as Pro-level hardware that doesn’t run a handicapped version of Windows.

From afar, the Surface Pro X doesn’t appear terribly different from a standard Surface Pro. It’s still a 2-in-1 tablet with an adjustable kickstand and the option to use a detachable, “Alcantara” fabric-coated keyboard. It’s a noticeably slimmer device, however, at 7.3mm thick compared to the Surface Pro’s 8.38mm. (At 774g, though, it’s only one gram lighter.) The edges are more rounded and the bezels on the side of the 3:2, 2880 x 1920 resolution display are thinner. The latter allows it to fit a larger 13-inch panel than the Surface Pro 7’s 12.3-inch screen in a more minimal frame. There are two USB-C 3.2 Gen 2 ports, a nano SIM slot, and a Surface Connect charging port on the sides of the device, but no USB-A ports and no 3.5mm headphone jack. Microsoft says the Pro X also allows for removable M.2 SSD storage via a detachable plate at the bottom of the tablet.

The detachable Type Cover keyboard has been slightly modified as well. It now has a built-in slot to hold and automatically recharge a new Surface Slim Pen stylus. When you remove the Pen, Microsoft says Windows will immediately bring up a menu that suggests tasks you might do with the device. The Slim Pen itself has a flatter feel than its predecessors, and Microsoft says it has better latency and responsiveness to tilting.

The SQ1 chip is the main story here. Microsoft has been nudging Windows on ARM along for a good while now, but the Surface Pro X is its most forceful push yet. The company says it developed the new processor in conjunction with Qualcomm, and the SQ1 itself is a customized version of the Snapdragon

8cx chip that's made its way into other ARM-powered laptops as of late. It's a 7nm, 7-watt, eight-core processor with a 3GHz Kryo CPU and 2.1 teraflops of GPU performance. Microsoft is pushing it as the fastest chip to date in this class of Windows-on-Snapdragon devices and says the Pro X is three times more performant per watt than the Surface Pro 6.

Theoretically, nothing is stopping an ARM-based device from offering top-of-the-line performance (see: Apple's iPad Pro). And for what it's worth, perusing with the Pro X didn't feel noticeably different than using the Surface Pro 7 during my brief time with each device. For those who don't do much more than use Office apps and browse the Web with Chrome or Microsoft Edge, Pro X could present few issues.

Still, past ARM-based Windows devices have had problems with compatibility and general stability with some apps compared to machines running on traditional x86 chips. And while Microsoft is talking up the relatively boosted GPU performance, don't expect much in the way of gaming. A demo space is no place to truly judge performance, so we'll have to get our hands on the Pro X for a more extended period before making any proclamations.

Most likely, the Pro X will appeal more than the Pro 7 if you value the things ARM-based notebooks typically excel at. The thin and quiet design is one, but battery life is another—Microsoft rates the Pro X as getting up to 13 hours of power per charge with typical use. The company also says it can get up to 80% battery back in about an hour of recharging. There's also built-in LTE-A Pro connectivity for connecting to the Internet on the go via a Snapdragon X24 LTE modem.

The Surface Pro X is up for pre-order now, and it will be fully available on November 5. The Pro X will start at \$999.99, but the Type Cover keyboard will cost \$139.99, and the Surface Slim Pen will go for \$144.99. Microsoft will sell the accessories bundled together for \$269.99. The tablet will

only come with the SQ1 chip and a black finish, but it will have options for 8GB or 16GB of LPDDR4x RAM and either 128GB, 256GB, or 512GB of SSD storage.

Surface Pro 7: finally, a USB-C port

- The Microsoft Surface Pro 7.
- Yep, still a Surface.
- Still uses the detachable Type Cover keyboard.
- And the Surface Pen stylus.
- But there's a USB-C port, at long last.

As for the more traditional Surface Pro 7, there isn't a ton new to say. The big addition is that it finally has a USB-C port. There's just the one, and it's not a Thunderbolt 3 port, but it at least will allow you to connect whatever USB-C accessories you've already invested in. You can charge the Pro 7 via the USB-C port as well, but the Surface Connect charging port is still there, as is one USB-A port, a microSD card reader, and a headphone jack. The Mini DisplayPort is now gone.

Beyond that, we're mostly looking at a spec bump. The Surface Pro 7 jumps the line to Intel's 10th-gen Ice Lake processors, starting with a dual-core Core i3-1005G1 processor and giving the option to upgrade to a quad-core Core i5-1035G4 or a quad-core Core i7-1065G7. There's also Bluetooth 5 and WiFi 6 support. The tablet itself will come in either black or silver, with Type Cover keyboards available in red, grey, and a lighter blue.

The Pro 7's design is almost identical to that of the Surface Pro 6 otherwise, with the same dimensions, virtually the same weight, the same 12.3-inch 2736 x 1824 resolution display. It works with the same Surface Pen that attaches magnetically to the side of the tablet. Microsoft rates the Pro 7's battery

life at 10.5 hours with typical use.

All of this will start at \$749, but that configuration will only get you 4GB of RAM and 128GB of SSD storage. Options with 8GB or 16GB of RAM and either 256GB, 512GB, and 1TB of storage will also be available. The whole thing is available to pre-order now and will be widely available on October 22. The Type Cover keyboards will start at \$129.99, with Alcantara models available for \$159.99.

Surface Laptop 3: Aluminum and AMD power

- The 13.5-inch Microsoft Surface Laptop 3.
- It's not a drastic change from the Surface Laptop 2 in terms of design.
- But there is a (non-Thunderbolt 3) USB-C port now.
- Plus a 20% larger touchpad, according to Microsoft.
- And it can be bought with an aluminum finish, though the usual Alcantara fabric is still available in other colors.
- There's a 15-inch model, too.
- Also with a USB-C port.
- The real excitement is in the specs here, as the 15-inch model uses new souped-up "Surface Edition" Ryzen 5 and Ryzen 7 chips.

The Surface Laptop 3, meanwhile, gets a few noteworthy upgrades over last year's Surface Laptop 2. It now comes in a 15-inch model alongside the usual 13.5-inch form factor, for one. But the silicon powering the 15-inch notebook is likely the biggest news here, as Microsoft has partnered with AMD exclusively for that model's CPU and GPU. You'll get a "Microsoft Surface Edition" Ryzen 5 (3580U) or Ryzen 7 (3780U) chip there, with Surface Edition Vega 9 or RX Vega 11 graphics. These come with an extra core on the GPU compared to

their standard mobile Ryzen counterparts, though they're still 12nm, 15-watt processors using AMD's Zen+ architecture, not the anticipated 7nm Zen 2.

There's no discrete graphics a la the Surface Book—which Microsoft has no plans to phase out, according to a company representative—but for this class of thin and light ultrabooks, it *should* be a bit more robust for media editing and other creative tasks. Microsoft is very much aiming at the MacBook Pro here. The company suggested the 15-inch model would be capable of lighter gaming during its presentation, too, though I wouldn't expect to play much more than some *newish* titles at lower detail settings. Again, we'll have to use the notebook more extensively before judging how far it can go. Either way, the partnership looks to be a big win for AMD.

The 13.5-inch model is getting upgraded to Intel's 10th-gen Ice Lake chips, though, with options for a quad-core Core i5 1035-G7 or a quad-core Core i7-1065G7. It also gets WiFi 6 support, whereas the 15-inch model supports up to WiFi 5 (or 802.11ac).

With both notebooks, you get a USB-C 3.1 port in place of a Mini DisplayPort. Again, though, it's not Thunderbolt 3, so you won't be able to connect an external GPUs. There's one USB-A port, a headphone jack, and a Surface Connect charging port beyond that. Microsoft said it's made the trackpad 20% larger as well, but the Alcantara fabric surrounding it—which is known to pick up grime and stain more readily than traditional notebook materials—is no longer standard. Instead, you'll be able to choose an aluminum finish for the 13.5-inch model, while the 15-inch unit doesn't offer Alcantara whatsoever. The smaller Laptop 3 will come in silver, blue, gold, and black, with the first two giving the fabric coating, while the 15-inch model will be available in black and silver.

The rest of the hardware is very similar to before. For the

most part, we'd say that's a good thing—while the Surface Laptop 2 didn't necessarily demand it was worth buying over the best from Dell, Lenovo, HP, and the like, we've never found its slim chassis particularly offensive. In any case, the 13.5-inch model's dimensions are the same as those of the prior model and both have displays with 3:2 aspect ratios and pixel densities of 201 pixels per inch. Key travel has been slightly reduced from 1.5mm to 1.3mm, but it still felt smooth and responsive in my brief time with the device.

Microsoft says both will get up to 11.5 hours of battery with typical usage and that, again, they can get up to 80% juice back in about an hour of recharging. The smaller model weighs 2.79 lbs. (2.84 lbs. if you get an aluminum unit), while the larger one comes in at 3.4 lbs. You can get either with 8GB or 16GB of RAM, and 128GB, 256GB, 512GB, or 1TB of SSD storage. The 13.5-inch Surface Laptop 3 will start at \$999, while the 15-inch model will start at \$1,199. Both are available to pre-order now and will be available on October 22.

Surface Earbuds: Office integration and big battery life

- The Microsoft Surface Earbuds.
- They have big white circular touch panels on the sides.
- Microsoft says they get 8 hours of battery on their own, and 24 hours through their charging case.
- They're earbuds, not earphones, so they aren't designed to isolate tons of noise.
- The company promises Office 365 integration and better pairing with Windows devices, too.
- That charging case uses USB-C.

Finally, Microsoft launched a premium pair of true wireless earphones, because that's just what every tech company does these days. The Surface Earbuds and their huge disc-shaped

touch panels certainly look different than their peers, though, and functionally they have a few distinguishable features. Chief among those is integration with Microsoft's Office 365 software suite: during my demo I was able to speak into the earbuds and then transcribe that text onto a PowerPoint presentation in real time. It was far too loud in my demo space to expect pinpoint accuracy, but given the setting this actually worked relatively quickly and smoothly. Microsoft says it's possible to have this speech immediately translated to one of roughly 60 languages, in the event that you have to present to a group of people you can't communicate with natively, and a company rep told me other apps like Word will support similar dictation as well.

There are two microphones built into each earbud, which should help with this and, presumably, improving call quality. Microsoft is also pushing native integration with Spotify, saying that Android users with Spotify Premium can launch the streaming app and play music from the earbuds with a couple taps, without having to open your phone. This won't work on iPhones right away, but a rep says Microsoft is shooting to add the feature for iOS users sometime next year. Pairing to Windows and Android devices is said to be simplified as well.

These are earbuds, not earphones, so they're designed to rest just outside the ear canal instead of being inserted within it. That means they'll let in outside noise more readily, which is usually preferable for those who want to stay aware of their surroundings but means louder environments will make it harder to hear your music. I can't tell you much about how well the Surface Earbuds sound because of this, but I can say that they were more comfortable and lighter weight than they might look. The bigger-than-usual touch panels also made it easier to make various touch commands for pausing, skipping tracks, and adjusting volume, but it's clear that this design won't be for everyone. Still, if Apple's AirPods can become a cherished fashion accessory, I suppose we can't rule anything

out for Microsoft.

One key selling point is battery life: Microsoft claims the Surface Earbuds will get eight hours on a charge. That would be fantastic for the category and second only to the Beats Powerbeats Pro if true. The company says the included charging case will add 24 hours of battery life in total. That case charges over USB-C.

The hangup might be price. The Surface Earbuds will cost \$250, which matches the Powerbeats Pro but is much more than the AirPods and Amazon's upcoming Echo Buds, the latter of which include a modicum of active noise cancellation. Microsoft says its pair will arrive at some point later this year; we'll see if it's worth the premium then.

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