

- » Understanding the different Apple Watch models
- » Learning about the many features of Apple Watch
- » Navigating the Home screen
- » Exploring different parts of Apple Watch
- » Understanding wireless capabilities and sensors

Chapter **1**

Watch This: Introducing Apple Watch

So, are you excited or what?

You're a proud owner of the trendy Apple Watch. Or perhaps you purchased this book in anticipation of picking one up or receiving it as a gift. Either way, thank you for reading *Apple Watch For Dummies*, 4th Edition. This easy-to-read book has one goal in mind: to teach you everything you need to know about Apple Watch. With simple step-by-step instructions, clear images, and accessible tips and tricks, this book will help you gain the most from your new wearable gadget.

In this chapter, I walk you through the basics of Apple Watch to help you discover what this teeny wrist-mounted computer is capable of. You find out about the different parts of the watch — on the outside and inside — as well as the layout of the Home screen. From ways to interface with content on the watch to the hidden wireless technologies to integrated sensors that track your moves, you'll soon have a clear picture of the 21st-century magic you're wearing on your wrist.

It's a beefy chapter, so let's get to it.

Exploring the Different Apple Watch Collections

Apple Watch comes in a few different sizes and configurations. For Series 1, Series 2, and Series 3 watches, you have a choice of a screen that’s either 38 millimeters (about 1.5 inches) or 42 millimeters (roughly 1.65 inches).

For Apple Watch Series 6 and Apple Watch SE (a less expensive model introduced in 2020), sizes measure 40 mm (1.57 inches) or 44 mm (1.73 inches), but they have narrower “bezels” (borders); therefore, the watch face is virtually all screen (and it’s a beauty).



You measure the size of your screen from the top of the Apple Watch screen to the bottom and not diagonally — similar to how most screens from consumer electronics are measured (such as smartphones and tablets).

Although you’ve likely already bought a watch before buying this book, note that there are a few different versions of Apple Watch options available today — with the most popular version, Apple Watch Series 6, shown in Figure 1-1 — and a few accessories you can purchase to customize your watch. For a more extensive discussion about the Apple Watch collections, or for when you want to convince a friend or coworker that he or she needs an Apple Watch, visit apple.com/watch.



FIGURE 1-1: The most popular Series 6 Apple Watch has multiple band colors, styles, and material options, too.

Excluding the various bands you can buy from Apple, the five different Apple Watch options are:

- » **Apple Watch Series 3:** Although not the newest Apple Watch available, this model was the first to offer either a GPS chip — to accurately capture location information — or a GPS and cellular option. More on this later in this chapter.
- » **Apple Watch Series 6:** At the time of writing this book, this is the latest Apple Watch, which debuted in the fall of 2020. Along with new band materials and styles, it added an even better “always on” screen, blood-oxygen monitor, always-on altimeter, and more (which I cover in this book, of course).
- » **Apple Watch SE:** Much like the less expensive iPhone SE, Apple Watch SE is meant to give you premium features at a more affordable price. It includes a great-looking Retina display, advanced sensors to track your movement and sleep, and more.
- » **Apple Watch Nike+:** Ideal for fitness types who like the Nike brand, this special edition Apple Watch Series 4 (and special loop band) was designed to be your running partner and synchronizes with the Nike Run Club app and Nike Training Club app.
- » **Apple Watch Hermès:** A partnership between Apple and Hermès, this fashion-centric watch includes bold, colorful (and extra-long wraparound) leather bands and an exclusive new watch face.

You also have a ton of choice when it comes to material you want in an Apple Watch, and what style band to choose from. In fact, with Apple Watch Series 6, you can go with aluminum, stainless steel, titanium, or ceramic! See Figure 1-2.

In the fall of 2019, Apple also announced Apple Watch Studio, a website that lets you choose a case and pair any band. Try it out for yourself at apple.com/shop/studio.

LOCATION, LOCATION, LOCATION

Despite there being nearly 200 countries on Earth, only 9 of them received Apple Watch when it debuted on April 24, 2015: Australia, Canada, China, France, Germany, Hong Kong, Japan, the United Kingdom, and the United States. Now many dozens of countries sell and support Apple Watch — including models with cellular connectivity.



FIGURE 1-2: Wow! What a selection of different materials and bands to choose from with Apple Watch Series 6.

Figuring Out What Apple Watch Can Do

Some may question why they *need* a smartwatch. Perhaps you traded your watch for a smartphone years ago and now wonder why you'd go back to the wrist? One word: convenience. Not having to carry anything is pretty darn handy, which you soon find out when using your Apple Watch. Simply glance at your wrist to glean information — wherever and whenever you need it. Not to mention your watch can *tap* you with a slight tactile vibration to let you know about something, such as a calendar appointment or a loved one giving you a virtual “poke.” Buying something at a vending machine or a retail store by simply waving your wrist over a sensor is also kind of awesome. Or having an airline attendant scan a barcode on your watch's screen to let you board a plane? What a timesaver.

You can thus keep your iPhone tucked away, preserving its battery for when you really need to access something with it. In fact, some Apple Watch models can make or receive calls and texts even without a smartphone nearby, which I get to in Chapter 5.

Perhaps, because you wear it on your wrist and will likely glance at it multiple times throughout the day, Apple Watch will become an extension of yourself. When you strap it onto your wrist, you're not going to want to take it off. Now, that's personal.

As you discover in this book, Apple Watch has many, many features. Some of its main categories include time, communication, information, navigation, fitness, entertainment, and finance (mobile payments). The following sections highlight Apple Watch's main features, but be aware a few may require the GPS + Cellular model (I indicate where).

Watch faces

Instead of a regular watch that simply shows one face, you can choose what you see on your Apple Watch. The watch has many styles to choose from right out of the box, as well as numerous downloadable apps that customize the look of the face. You can also change the color of the watch face to match your outfit. Chapter 4 walks you through it all.

Timers and alarms

Apple Watch also includes various stopwatches, timers, and alarms. Whether you use your fingertips or your voice, your Apple Watch can let you know when it's been 30 minutes so you can pull something from the oven. Or time your friend doing laps in a pool — from the comfort of your lounge chair. Apple Watch also lets you set an alarm to wake you up in the morning. You can use the Timer app as a game clock, for example, to tell you and your opponent when your time is up in a round of Scrabble. Check out Chapter 4 for all the details.

Caller ID, or even calls

See who's calling by glancing at your wrist. Apple Watch displays the caller's name (Caller ID) or perhaps just a phone number (which often happens if that person isn't in your iPhone's Contacts). You can also use the Apple Watch microphone to record and send sound clips to friends. Some Apple Watch models — those advertised as GPS + Cellular — let you leave your iPhone at home and take or make calls right from your wrist when you're out! Heed the call and go to Chapter 5 for details.

Walkie-Talkie

What's more fun and quicker than a phone call? The Walkie-Talkie feature built into Apple Watch. As the name suggests, Walkie-Talkie lets you press to talk to someone else who has an Apple Watch. Let go to listen for the reply. 10-4, good buddy? I cover this in Chapter 5, which is about the different ways to use Apple Watch to communicate.

Health and wellness

In case you weren't aware, Apple Watch has been morphing into a powerful health device that can monitor what's happening inside your body. Sounds like science-fiction, but the latest Apple Watch Series 6 model includes a heart rate monitor (measured in beats per minute), electrocardiogram (ECG), and even a blood O₂ monitor (to measure how well oxygen is being sent from the heart and lungs out to the rest of the body). Maybe not as impressive, but Apple Watch can now detect when you're washing your hands — an important habit now more than ever because of COVID-19 — and starts a 20-second timer.

Emergency SOS

In a nutshell, the Emergency SOS feature built into Apple Watch calls for help — when you can't. Whether it senses a troubling anomaly through the heart-rate or ECG sensors, or detects a fall, Apple Watch can dial emergency services, notify your contacts, send your current location, and even display your Medical ID badge for emergency personnel. I cover all of this in Chapter 8, which focuses on fitness and health.

Text messages and instant messages

You can read and reply to messages with Apple Watch, as shown in Figure 1-3. Hold your wrist up to read the message or lower your arm to dismiss it. Chapter 5 walks you through all the messaging functions for Apple Watch, including some models that don't require your iPhone to be near you at all!

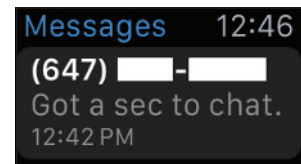


FIGURE 1-3:
Read and reply to messages on your Apple Watch.

Email

When an email comes in, you can read it on your wrist (scroll up and down the screen with your fingertip to see all the text), flag it as something to reply to later, mark it as read (or unread), or move it to the Trash. As with text messages and phone calls, you can transfer email from Apple Watch to your iPhone to pick up where you left off. I cover all of this in Chapter 5.

Wrist-to-wrist communication

Along with the Walkie-Talkie feature, your smartwatch lets you communicate directly with someone else's wrist via a component called *Digital Touch*. For a sketch, use your fingertip to draw something, such as the heart shown in Figure 1-4, and the person who receives it will see it animate — just as you drew it. Or why not send some virtual kisses to let someone know you're thinking about them. As described in Chapter 5, you can even send your heartbeat to someone by pressing two fingers on the screen.

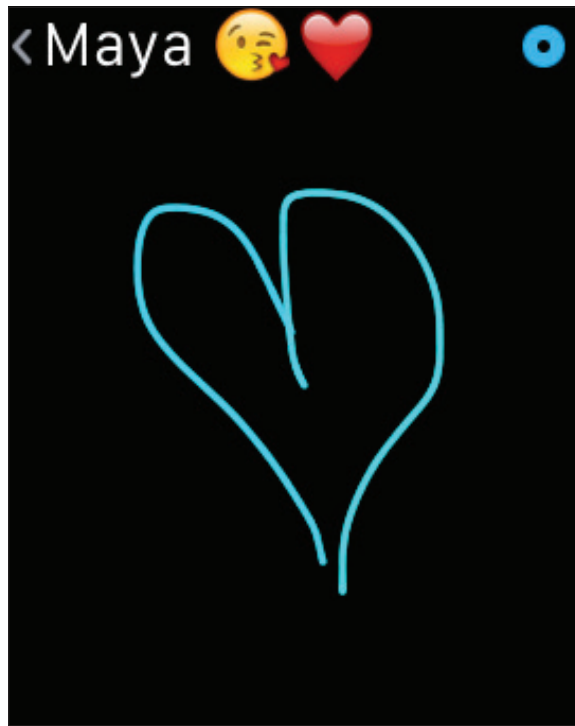


FIGURE 1-4: Sketch something on your Apple Watch and send it off to someone else's Apple Watch.

Dock

Naturally, a wearable watch is a convenient way to stay on top of important information. Apple Watch has a cool feature called *Dock* that lets you quickly open your favorite apps or go from one app to another. To launch the Dock, press the side button and swipe up or down (or turn the Digital Crown). See Figure 1-5. Chapters 3 and 6 discuss how to access Dock, customize what you see, and scroll through relevant information.



FIGURE 1-5: Dock allows you to quickly open your favorite apps or jump from one app to another.

Calendars

Apple Watch also has a Calendar app (with reminders) so you can stay on top of events throughout your day (or coming in the near future). Also, when you receive a calendar invitation, you can immediately accept or decline it on your wrist and even email preset responses to the organizer. Put Chapter 6 on your calendar for more information.

Maps

Your wrist is an ideal place to glance at a map. Get turn-by-turn directions from your current location — and you don't have to worry about having to stare at your wrist for visual cues (or fall down a manhole in the process) because Apple Watch gives you a tap on the wrist to let you know when it's time to turn left or right. Navigate to Chapter 6 for more. Beginning with Apple Watch Series 5, an integrated compass helps you navigate even further (unleash your inner Boy Scout or Girl Guide)! And with the latest operating system update, watchOS 7, Maps includes cycling directions, too.

Siri

Just as you can talk into your phone, Apple Watch also has a microphone, which means you can have access to your personal assistant known as Siri. Flip to Chapter 7 to find out more about what Siri can do for you. As the author of *Siri For Dummies*, I share some of my favorite Siri tips and tricks you can master with ease. Oh, and finally, in 2020, Apple has added language translation to Siri's long list of abilities.

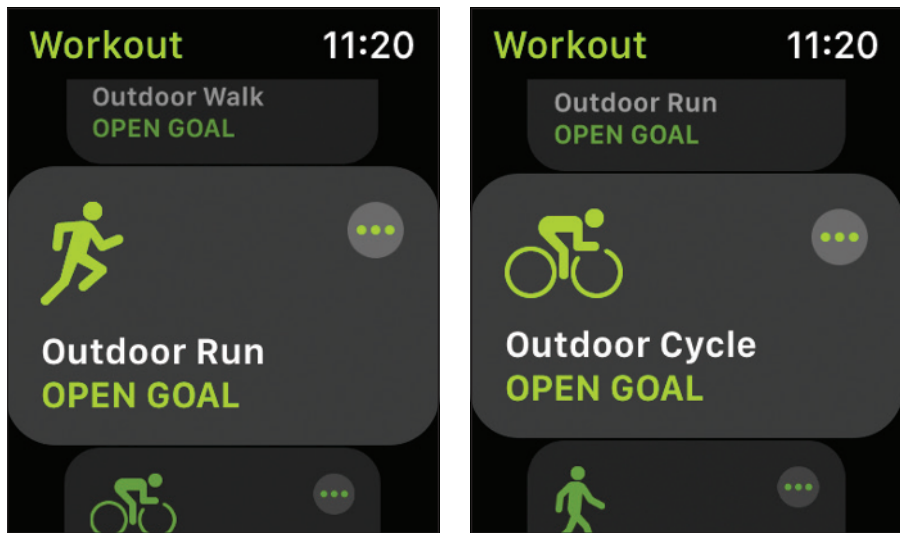
Fitness

One of the coolest applications for Apple Watch? Fitness. Chapter 8 looks at using the watch to measure your activity — steps, stairs, distance, time, calories burned, and heart rate information — and to display it in a meaningful way on your watch and smartphone. I cover the Activity app, shown in Figure 1-6, and its three rings, which show you relevant information on your daily activity (or lack thereof!). On the other hand, the Workout app (as shown in Figure 1-7) offers some workout routine options — including walking, jogging, running, and cycling — and shows real-time stats on your cardio session.



FIGURE 1-6: The Activity app shows three rings that summarize your daily progress — so far.

FIGURE 1-7: The Workout app offers you some different exercise routines to choose from.



Music connectivity and more

Chapter 9 teaches you how to use Apple Watch like a wireless remote. Control your music on your phone — from the convenience of your wrist — as well as listen to synced playlists on your watch *without* needing your iPhone (but with Bluetooth headphones). Along with talking about music streaming and downloads, I highlight how to manage podcasts, audiobooks, radio plays, and other audio. Chapter 9 also covers how to control Apple TV on your Apple Watch.

Apple Pay

Swiping your wrist at retail stores or at a vending machine is super cool, and Chapter 10 covers all the ways you can use your Apple Watch in this regard. Your watch lets you buy products and services via Apple Pay — and you don't even need your iPhone with you.

Other apps

Apple Watch is quite a versatile gadget, which means other apps can help enhance its convenience. Chapter 11 looks at a number of optional third-party apps you can download to further personalize the most personal gadget in the world.

Other functions

Chapter 12 takes a closer look at some of the extra fun things you can do with Apple Watch. I cover using your wrist to remotely snap a photo on your iPhone, as

well as look at photos on your wrist, including how to zoom into a photo (because maybe you're bored in line at the supermarket and want to see some smiling faces or furry pets). I also discuss Apple Watch as a gaming platform and what's available.

Bonus tips

Chapter 13 reveals the top ten things you should try with Apple Watch and, of course, how to pull them off with grace. I share the absolute coolest things this smartwatch can do and how to best demonstrate them to your friends — to the point they'll be boiling with envy.



Apple says you could squeeze up to 18 hours of battery life on Apple Watch (see apple.com/watch/battery), but be aware this varies greatly on how often you use the watch, the settings you choose (see Chapter 2), what apps you use, outside temperature, and other factors. Apple says 18 hours equates to “all day” performance, which could include 90 time checks, 90 notifications, 45 minutes of app use, and a 60-minute workout with music playback from Apple Watch via Bluetooth.

Determining What You Need for Your Apple Watch

The original Apple Watch didn't do too much on its own. Rather, think of it as more of a companion device to an iPhone. Oh, sure, it could do a few things by itself — such as show you the time, count your steps, make payments, and play music — but a wirelessly tethered iPhone was required for the overwhelming majority of features.

But now with Apple Watch Series 6 and Apple Watch SE, you can go with one of two models:

- » **GPS:** This is great for navigation.
- » **GPS + Cellular:** With this, you can pay your mobile phone provider to unlock the eSIM (a virtual SIM card inside Apple Watch) so you can use the Apple Watch on the go like a phone. It can take calls, text messages, stream music, and more! In North America, this service costs \$10/month because it's added to your existing smartphone plan.

This book is ideal for whichever model you have, so not to worry. As mentioned before, you do need an iPhone to set up Apple Watch, even if you have the version

that doesn't require one nearby to work. As you see in the next section, Apple also introduced Family Setup to those who own Apple Watch Series 4 (2018) or later. It lets family members who don't have their own iPhone, such as younger kids, still use an Apple Watch to make phone calls, send messages, and share location information. (After you set up a watch for someone in the family, you can use your iPhone to manage some of their watch's capabilities.)

If you do own an older model (Series 1 or Series 2), you need at least an iPhone 5 to use Apple Watch. For those who own a Series 3, Series 4, Series 5, or Series 6 model, you need an iPhone 6 or newer. You also need to download and install the latest iOS operating system from Apple — whether you do it on your iPhone or on iTunes (on a PC or Mac) — and then connect the iPhone to your computer with a USB cable. After you download the latest operating system, an Apple Watch app — a white watch against a black background — appears on your iPhone's Home screen, as shown in Figure 1-8.



FIGURE 1-8: Whether you own an Apple Watch or not, an Apple Watch app (shown at top right) appears on your iPhone's Home screen.

In fact, you can now install the latest watchOS update “over the air” (OTA) without using a physical connection at all!

Getting to Know the Apple Watch Home Screen

As shown in Figure 1-9, the main Home screen of Apple Watch is populated by a number of small bubble-like icons. It's quite neat actually, not to mention functional. Simply tap an icon with your fingertip to open an app, or slide around the Home screen to see other icons pop up and grow larger (you want the app centered on the screen for easy access).



FIGURE 1-9: Press and move your finger around to see all the apps on your Home screen (or twist the Digital Crown button to zoom in and out).












If you're an iPhone user, the icons should be familiar to you; therefore, you know what built-in and third-party apps launch when you tap a specific icon. Table 1-1 shows some of the built-in apps. See Chapter 3 for more on the native Apple Watch apps.








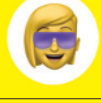





REMEMBER

You no longer need a nearby iPhone to install new Apple Watch apps — so long as you're running the watchOS 7 operating system or later. (You can tell which version you're running by going on the Apple Watch to Settings → General → About.) In Chapter 11, I cover both ways to install new Apple Watch apps, whether you want to still use an iPhone (or Mac/PC), via the Apple Watch Store, or download directly to the device.












TABLE 1-1**Built-In Apple Watch Apps**






App	Icon
Activity	
Alarm	
App Store	
Apple Store	
Audiobooks	
Blood O2	
Breathe	
Calculator	
Calendar	
Camera	
Clock	

App	Icon
Compass	
Cycle Tracking	
Find People	
Heart Rate	
My Home	
Mail	
Maps	
Memoji	
Messages	
News	
Noise	

(continued)

TABLE 1-1 (continued)

App	Icon
Now Playing	
Phone	
Photos	
Podcasts	
Radio	
Reminders	
Remote	
Settings	
Shortcuts	
Sleep	
Stopwatch	

App	Icon
Walkie-Talkie	
Wallet & Apple Pay	
Weather	
Workout	
Voice Memos	

And, of course, third-party apps have their familiar icons, such as a big P for Pinterest, a “swoosh” for Nike, a green leaf for the Mint app, and so on.

Learning about Apple Watch’s Parts

Okay, so you’re all geared up to test drive all that Apple Watch can do, but if you’re using it for the first time, you may not even know all the parts of the watch and what they do.

Fair enough. In this section, you discover the basics of the hardware itself. I start with a look at the various parts of the watch on the outside and what they do.

Watch face

Regardless of which size you opted to go with — 40 mm or 44 mm model (referring to its vertical height) — the Apple Watch face is entirely digital; therefore, you won’t find any buttons of any kind. Use your fingertip to move around the icon bubbles and tap an app to launch it. You can also tap, press, and swipe inside an app to perform a task.



WARNING

You don't need to press hard on these buttons or on the watch face. You want to minimize the wear and tear of your new (and pricey!) gadget. Just a simple press on the buttons and watch face will do. And although Apple Watch Series 2 and newer are waterproof, try to avoid touching the screen and buttons with wet or damp hands. (Apple says “we recommend not exposing Apple Watch to soaps, shampoos, conditioners, lotions, and perfumes as they can negatively affect water seals and acoustic membranes.”) See Chapter 3 for more on these buttons and using your fingers with your Apple Watch.

Digital Crown button

Seasoned watch owners are familiar with the small rotary dial on a watch's right side (left-handed people may flip the watch around so it's on the left side), which is used to either wind it up (for the old-school ones anyway) or set the time. Apple Watch has one too. Called the *Digital Crown button* — shown in Figure 1-10 — this dial can be pressed, tapped, or turned forward or backward, with each change resulting in a different action. See Chapter 3 for more on what the Digital Crown button can do.



FIGURE 1-10: If worn on the left wrist, the side button is on the right-hand side of the watch case. The Digital Crown button is the ridged dial.

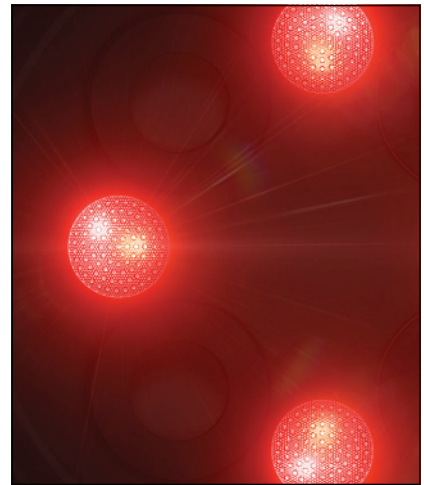
Side button

Along the side of the watch is a long button, called “side button” (how imaginative!), as shown in Figure 1-10. From the Home screen and in any app, press this button to pull up your Dock (more on this later). Press and hold the side button to use SOS; double-click to use Apple Pay; or press and hold to turn your Apple Watch on or off.

Back sensors/charger

On the back of Apple Watch, as shown in Figure 1-11, are multiple sensors to monitor your heart rate, blood-oxygen level, and more. In fact, the addition of the blood-oxygen monitoring in Apple Watch Series 6 has changed the back crystal underneath the watch; now it’s made up of four LED clusters and four photodiodes. See Chapter 2 for more on the sensors and the charger.

FIGURE 1-11:
The sensors on the back of Apple Watch can, among other things, calculate your heart rate and measure your blood-oxygen percentage.



Watch band

Every wristwatch has a band to keep the screen snug on your wrist. You chose a specific band when you bought Apple Watch — whether a leather strap, a link bracelet, a classic buckle, a silicone band, or other materials and styles — but you can change bands later if you desire. Apple introduced a slew of new bands in the fall of 2020, too. It’s all about selection and customization.

Using Apple Watch's Touchscreen

Just like you can interface with a smartphone, tablet, and laptop in different ways — based on the task at hand — Apple Watch gives you three ways to use the small screen on your wrist:

- » **Tap:** Tapping with one finger on Apple Watch performs the same function as you'd expect on a smartphone: It selects whatever you're tapping, such as an icon to launch an app, a song to play a track, a link to a website, a photo to enlarge, or virtual buttons, such as on a calculator. On the Home screen, you tap and slide your finger around to move the icon bubbles. A tap is like a left-mouse click on a computer.
- » **Press:** Apple Watch knows the difference between a quick tap and a longer press — usually when you need to open some additional menus. Think of it as a kind of right-mouse click. For example, tapping a song plays the track, but pressing and holding it opens a set of options: Shuffle, Repeat, Source, and AirPlay. The technology that senses the difference between a tap and a press is called *Force Touch*.
- » **Swipe:** Many of the areas of Apple Watch — like Dock — and most of the apps you can access let you swipe left and right or up and down to navigate between different screens. For example, in Workout mode, you can see time elapsed as well as heart rate info, but swipe to the side to pull up music that you can pause and play. Swipe one more time and you'll see some options, including the ability to lock your watch so you don't accidentally tap the screen during rigorous exercise, to pause your counter, and so on.



TIP

Some features are activated with two fingers pressed on the screen. In Chapter 5, you can find out how to record and send your heart rate or heartbeat to a loved one's Apple Watch.

Understanding Apple Watch's Wireless Functions and Internal Sensors

Oh, Apple Watch, you cleverly hide so much of your magic under your skin.

Apple uses an integrated computer inside the Apple Watch, described as a “System in Package” — or “SiP,” for short — that includes the main processor (the main engine that drives the watch's performance), along with memory, storage, support processors for wireless connectivity, sensors, and input/output (I/O) tech. Yes, it's a lot of geek speak, which you don't need to know about to use it.

Fun fact: Apple Watch Series 6's dual-core processor is based on the same A13 Bionic chip in iPhone 11. Cool! Apple says it's upgraded S6 SiP runs up to 20 percent faster than the previous generation, while maintaining the same all-day 18-hour battery life.

Apple Watch indeed houses a good number of wireless radios beneath its surface, including Bluetooth, Wi-Fi, GPS, NFC, and more. To better understand what they do, consider the following sections.

Bluetooth 5.0

Bluetooth makes a local wireless connection between two or more devices. Just as your wireless headset is paired with your smartphone so you can make hands-free calls, Apple Watch wirelessly communicates with a nearby iPhone. This lets you see texts on your watch, receive phone calls, control your music on your phone, and more. Bluetooth 5.0 works with devices up to 800 feet away (about 240 meters), which is significantly farther than earlier versions. If you have an Apple Watch that supports cellular connectivity and pay for the service, you can perform many of these features — calls, texts, and accessing online music — without a nearby iPhone.

Wi-Fi

Even if you don't have a cellular model, Apple Watch features Wi-Fi, which gives it online connectivity — even when no iPhone is in sight. As long as you're on a wireless network, such as your home's Internet connection or a coffee shop's hotspot, you can access such information as email, live sports scores, mapping information, and so on. A feature called *Continuity* — introduced in iOS 8 — means you can also receive messages and take calls on multiple iOS devices (such as answering a call on your iPad) as long as you're in range of your Wi-Fi network; and Apple Watch can do this, too. See Chapter 5 for how to take advantage of Bluetooth and Wi-Fi connectivity.

Cellular

As I mention previously in this chapter, Apple Watch Series 6 and Apple Watch SE have models called GPS and GPS + Cellular. As you can guess, the GPS + Cellular watches cost a little more, but it means you can make a call, send a text, and stream Apple Music from your wrist — all without your iPhone. You will need to pay your mobile phone provider an extra amount per month (usually \$10/month) to activate the eSIM inside Apple Watch. That is, you don't need to insert a physical SIM card, like the one in your iPhone, to access LTE and UMTS cellular bands. That said, be aware there is no Apple Watch model that supports worldwide roaming.

For business travelers, Apple watch models can be purchased for specific locales: Europe/Asia Pacific and China mainland, for example.

Beginning with Apple Watch Series 5, emergency calling now works in countries outside of the U.S. (see Chapter 5).

NFC (near field communication)

NFC is a short-range radio technology (like Bluetooth) that has a number of applications but is most commonly associated with mobile payments. Similar to waving or tapping your iPhone on a contactless terminal at retail locations (or a compatible vending machine) to make a secure purchase, Apple Watch also uses NFC to make a *digital handshake* with the terminal to complete the transaction. Yep, it's all in the wrist. This is part of Apple Pay, Apple's mobile payment solution for secure cash- and card-less payments. Check out Chapter 10 for more on Apple Pay.

GPS

Except for the first Apple Watch (Series 1; from 2015), Apple Watch has an integrated GPS chip to identify its location on Earth down to a few meters of accuracy. Therefore, when coupled with mapping applications, GPS can help you see your location on a map, get directions from point A to point B, look for local businesses of interest, and more. GPS can also help with tracking fitness data when measuring steps won't help (such as in cycling). Along with the accelerometer (discussed next), built-in heart rate sensor, and Wi-Fi, Apple Watch's GPS can help measure distance traveled. Jog on over to Chapter 8 to learn more about the Activity and Workout apps.



TIP

Ever want to take a screenshot of something on your Apple Watch, such as an impressive day of physical activity? Press and hold the side button and then tap the Digital Crown. You'll hear a shutter button, the watch face will flash white, and the image will appear wirelessly in your iPhone's photo gallery. You may need to first enable screenshots by opening the Apple Watch app on an iPhone, and then tapping My Watch ⇨ General ⇨ Enable Screenshots.

Accelerometer, gyroscope, barometric altimeter, compass

As with other smartwatches and activity bands on the market, Apple Watch has an accelerometer that measures movement — whether you're lifting the watch to

your face to turn on the screen, lowering your wrist to not accept a call, or calculating fitness activities, including your steps taken (like a 21st-century pedometer), total distance traveled, time spent exercising, and estimated calories burned. Beginning with Apple Watch Series 3 (2017), the watch also has an integrated barometric altimeter for measuring elevation — like counting the steps you climb or descend — as well as calculating altitude, for those who ski, hike, or mountain climb!

Beginning with Apple Watch Series 6, it's now an “always-on” altimeter for all-day real-time elevation data captured on your wrist.

With the Apple Watch's accelerometer and gyroscope sensor, Apple Watch Series 4 (2018), Apple Watch Series 5 (2019), Apple Watch Series 6 (2020), and Apple Watch SE (2020) all can detect if you've fallen, and you can initiate a call to emergency services (or dismiss the alert). If you're unresponsive after 60 seconds, Apple Watch automatically places the emergency call and sends a message with your location to your emergency contacts.

A compass has been added to Apple Watch Series 5 and Series 6, which always points you north inside of apps like Maps, plus there's a dedicated Compass app, too. (Cue the song “Go West” by the Pet Shop Boys or the Village People before that!)

Heart rate sensor

A custom heart rate sensor included with Apple Watch helps you in two ways.

- » **Gauging your exercise intensity and tracking overall calorie burn:** (This is an estimation based on info you first input, required only once, such as your height, weight, gender, and age.) Apple Watch listens to your heart's beats per minute (BPM) and shows you data on the screen — if and when you call for it.
- » **Tracking your heart rate throughout the day:** Apple Watch can alert you if it detects unusually high or low heart rates — and yes, you can set the parameters if you want, even if you don't feel symptoms. Behind the watch are multiple sensors that measure your pulse through your skin. Going beyond fitness are the fun applications too, such as sharing your heartbeat with someone — felt on his or her Apple Watch — to show you're thinking about that person. See Chapter 5 for how to share this information to your heart's content.

Electrocardiogram (ECG)

Apple Watch Series 4, Apple Watch Series 5, and Apple Watch Series 6 models all include an electrical heart rate sensor that can take an electrocardiogram (ECG) using an ECG app; the built-in sensor and the electrodes are included in the Digital Crown button. You take an ECG reading by placing a finger on the Digital Crown while wearing Apple Watch and the reading is completed within just 30 seconds. The ECG app tracks whether your heart is beating in a regular pattern or if you have signs of atrial fibrillation, a clear indicator of serious health problems.

Blood O2 monitor (pulse oximeter)

Beginning with Apple Watch Series 6, your wearable device is capable of detecting blood oxygen levels. When initiated by the user by tapping the Apple Watch app, green, red, and infrared LEDs shine light into your wrist, and photodiodes measure the amount of light reflected back. Advanced algorithms then calculate the color of your blood, which indicates the amount of oxygen present. Wow. Blood oxygen levels between 95 and 100 percent are considered healthy — a lower percentage *could* indicate compromised heart, lungs, or brain functionality — but be sure to consult with your doctor. In fact, Apple stresses the Blood Oxygen app is not intended for medical use, but rather, designed for general fitness and wellness purposes.

Ambient light sensor

Finally, Apple Watch has an ambient light sensor under the glass, which samples the environmental light falling on the screen and then automatically adjusts the brightness up or down to improve viewing comfort (so it's not too dim or too bright, based on where you are). An ambient light sensor also helps to regulate the power that the display uses, thus squeezing more battery life out of the watch.

In fact, with Apple Watch Series 5, the Retina screen is always on — just dimmed — until you turn it towards your face to read the time or other info. In previous Apple Watch models, the screen goes to black when you're not looking at it, and takes a split second to wake up and turn on when you turn it towards you.

Tapping with Apple Watch's Haptic Feedback

You can tap Apple Watch's screen, but guess what? It can tap you, too.

As with video game controllers that vibrate (when your soldier gets shot) or some smartphones and tablets (that *buzz* slightly when you tap a letter on the virtual keyboard), Apple Watch employs *haptic technology* to apply light force to your skin about relevant information.

Apple calls it *Taptic Engine*, a linear actuator inside the watch that produces discreet haptic feedback.

Consider this slight vibration a third sense (touch), along with sight and sound, to give you information. The physical sensation of a tap tells you something, such as a warning that an important meeting is about to start without you even having to look down at your wrist. It can also be a silent alarm clock to wake you up in the morning instead of bothering your significant other. Or it can transmit the feeling of your loved one's heartbeat even though he or she may be miles away.

What's more, Apple Watch can tap different patterns based on who's reaching out to you (such as two taps for your spouse and three taps for your boss), or perhaps the haptic pattern tells you what the information is (one tap for the time on the hour, four taps for a calendar appointment, and so on). Neat, huh?

In the near future, Apple Watch's haptic feedback may let you know about important health information — perhaps when working in conjunction with sensors. Imagine if someone living with diabetes could feel a haptic tap on the skin to tell him or her it's time to take insulin based on the body's blood sugar levels.

