

LEARNING MADE EASY



Amazon® Fire TV

for
dummies
A Wiley Brand



Connect and configure
your Fire TV

Stream Prime Video,
Netflix, HBO, and more

Control Fire TV
with Alexa

Paul McFedries

Author of *Alexa For Dummies*



Amazon[®] Fire TV

by Paul McFedries

for
dummies[®]
A Wiley Brand

Amazon® Fire TV For Dummies®

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Contents at a Glance

Introduction	1
Part 1: Getting Started	5
CHAPTER 1: Understanding Streaming Media	7
CHAPTER 2: Getting to Know Fire TV	17
CHAPTER 3: Setting Up Fire TV	27
Part 2: Watching Fire TV	45
CHAPTER 4: Learning Fire TV Basics	47
CHAPTER 5: Watching Live TV	69
CHAPTER 6: Streaming Movies and TV Shows	83
CHAPTER 7: Watching and Recording Shows with Fire TV Recast	103
Part 3: Going Beyond the Basics	127
CHAPTER 8: Getting More Out of Fire TV	129
CHAPTER 9: Controlling Fire TV (And More) with Alexa	163
Part 4: The Part of Tens	191
CHAPTER 10: Cutting the Cord: Ten Steps to Going Cable-Free	193
CHAPTER 11: Ten Things That Can Go Wrong	205
CHAPTER 12: Ten Ways to Enhance Privacy and Security	219
Index	235

Table of Contents

INTRODUCTION	1
About This Book	1
Foolish Assumptions	2
Icons Used in This Book	2
Beyond the Book	3
Where to Go from Here	3
PART 1: GETTING STARTED	5
CHAPTER 1: Understanding Streaming Media	7
Introducing Streaming	8
Getting Clear on Streaming Media Devices	9
Understanding How Streaming Works	10
More about buffering	11
Streaming and data usage	12
Knowing What You Need to Stream: Apps and Hardware	13
CHAPTER 2: Getting to Know Fire TV	17
Getting Acquainted with Fire TV	17
Understanding What Fire TV Does	18
Fire TV components	19
How Fire TV works	20
Figuring Out Which Fire TV Device You Need	21
Learning What Fire TV Can Do	25
Watching movies and TV shows	25
Accessing other types of media	25
Watching and recording over-the-air TV	26
Connecting devices	26
Controlling your TV with Alexa voice commands	26
Controlling your smart home	26
CHAPTER 3: Setting Up Fire TV	27
Changing Your TV's Input Source	27
Setting Up Fire TV Stick or Fire TV Stick 4K	28
Connecting Fire TV Stick to your TV	29
Setting up Fire TV Stick	31
Setting Up Fire TV Cube	35
Positioning your Fire TV Cube	35
Getting to know your Fire TV Cube device's Alexa hardware	36
Connecting Fire TV Cube to your TV	38
Setting up Fire TV Cube	39
Setting Up Fire TV Edition	42

PART 2: WATCHING FIRE TV	45
CHAPTER 4: Learning Fire TV Basics	47
Getting to Know the Alexa Voice Remote	48
Touring the Fire TV Alexa Voice Remote	48
Touring the Fire TV Edition Alexa Voice Remote	50
Checking Out the Fire TV Mobile App Remote	52
Installing the Fire TV mobile app	52
Pairing your mobile device with Fire TV	54
Touring the Fire TV mobile app remote	55
Navigating the Fire TV Interface	57
Navigating with the Alexa Voice Remote	58
Entering text with the Alexa Voice Remote	59
Navigating with the Fire TV mobile app	62
Entering text with the Fire TV mobile app keyboard	62
Introducing Voice Control of Fire TV	64
Issuing voice commands using the Alexa Voice Remote	64
Issuing voice commands using the Fire TV mobile app	65
Learning some useful voice commands	65
Looking Around the Fire TV Home Screen	66
CHAPTER 5: Watching Live TV	69
Getting Live TV through an Antenna	70
Connecting your antenna	70
Scanning for channels	71
Checking channel signal strength	72
Getting Live TV Using a Third-Party App	73
Managing Live TV channels	74
Adding a live TV channel to your favorites	74
Hiding a live TV channel or app	76
Filtering live TV channels	76
Watching Live TV	77
Seeing what's on now	77
Navigating the live TV channel guide	78
Checking out the Live tab	80
Controlling live TV playback	81
CHAPTER 6: Streaming Movies and TV Shows	83
Installing a Streaming Media App	84
Searching for Movies and TV Shows	85
Searching the Amazon catalog	86
Searching within an app using Fire TV	88
Using an app's search feature	90

Streaming on the Cheap with Free Services	90
Subscribing to TV and Movie Streaming Services.	91
Buying or Renting a Movie or TV Show	93
Watching a Movie or TV Show	93
Controlling playback	94
Setting playback options	96
Peeking at cast or music info.	96
Viewing mobile content on your Fire TV Stick device.	98
Connecting Fire TV to a second screen device	100
CHAPTER 7: Watching and Recording Shows	
with Fire TV Recast	103
What Is Fire TV Recast?	104
Getting Ready for Fire TV Recast.	105
Positioning Fire TV Recast	106
Setting Up Fire TV Recast	107
Watching and Recording Over-the-Air TV	109
Managing your over-the-air channels	109
Watching over-the-air shows live	111
Setting recording options.	115
Recording over-the-air shows	118
Watching recorded over-the-air shows	120
Managing Your Fire TV Recast.	122
Checking DVR storage.	122
Adding external DVR storage.	123
Checking scheduled recordings.	124
Changing recording priority.	124
Deleting recordings.	126
Rescanning channels.	126
PART 3: GOING BEYOND THE BASICS.	127
CHAPTER 8: Getting More Out of Fire TV.	129
Connecting Bluetooth Devices	130
Pairing your Bluetooth devices	131
Connecting to paired Bluetooth devices	135
Unpairing a Bluetooth device	136
Connecting USB Devices.	136
Adding a USB storage drive	136
Ejecting a USB drive.	138
Letting Your Kids Watch Fire TV.	139
Activating parental controls.	139
Configuring parental controls	140

Making Fire TV Accessible	142
Enabling the Fire TV features for the vision impaired	142
Checking out the Fire TV features for the hearing impaired	148
Browsing the Web	151
Surfing with Silk	151
Surfing with Firefox	153
Listening to Music	155
Touring the Amazon Music app	156
Controlling music playback	157
Viewing Your Photos and Videos	159
Viewing photos and videos using Fire TV Edition Media Player	159
Viewing photos and videos with the Amazon Photos app	161
Running a Fire TV slideshow	161
CHAPTER 9: Controlling Fire TV (And More) with Alexa	163
What Is Alexa?	164
Alexa's components	164
How Alexa works	165
Installing the Alexa App	166
Taking a tour of the Alexa app	167
Giving Alexa access to your device microphone	169
Connecting Your Alexa Device to Fire TV	169
Getting to Know Alexa	170
Getting Alexa's attention	171
Keeping Alexa's attention	171
Ending the conversation	172
Enabling Brief mode	173
Enabling Whisper mode	173
Watching Movies and TV Shows with Alexa	174
Navigating Fire TV tabs	175
Locating movies and TV shows	175
Watching a movie trailer	175
Playing movies and TV shows	176
Watching live TV	176
Controlling the volume	177
Movie and TV show info requests	177
Some movie Easter eggs	178
Some TV Easter eggs	179
More Useful Alexa Requests	179
Everyday-info requests	179
Information requests	180
Audio requests	180
Alarm and timer requests	181

Calendar, reminder, and list requests	181
Communication requests	182
Shopping requests	182
Using Alexa to Control Smart-Home Devices	183
Installing a Wi-Fi smart-home device	184
Making automatic network connections with Wi-Fi Simple Setup	185
Discovering smart-home devices using an Alexa skill	186
Controlling a smart-home device	188
Turning smart plugs on and off.	189
Working with smart lights	190
PART 4: THE PART OF TENS	191
CHAPTER 10: Cutting the Cord: Ten Steps to Going Cable-Free	193
Step 1: Decide If You Really Want to Cut the Cord	194
Step 2: Make a List of Your “Must-See” Shows (Or Not)	196
Step 3: Figure Out What Equipment You Need	197
Step 4: Check What’s Available Over-the-Air	198
Step 5: Make a Streaming Budget	200
Step 6: Subscribe to Streaming Services	201
Step 7: Set Up Fire TV Recast	202
Step 8: Put It All Together with Fire TV	202
Step 9: Do a Trial Run	203
Step 10: Say Goodbye to Your Cable Company	203
CHAPTER 11: Ten Things That Can Go Wrong	205
Troubleshooting General Problems	206
Restarting your Fire TV device	206
Checking your Fire TV device for software updates	207
Resetting your Fire TV device	208
You Can’t Connect to Your Wi-Fi Network	208
You’re Having Trouble Streaming Media	210
The Fire TV Mobile App Can’t Pair with Your Fire TV Device	212
Your Fire TV Screen Is Blank	212
You Don’t Hear Audio During Playback	213
You’re Having Trouble Connecting a Bluetooth Device	214
You don’t see a Bluetooth device	214
You can’t pair with a Bluetooth device	215
Your Fire TV Device Is Unresponsive	216
You Changed Your Wi-Fi Network Password	216
A Fire TV App Doesn’t Work Properly	217

CHAPTER 12: Ten Ways to Enhance Privacy and Security	219
Make Sure Your Wi-Fi Network Is Locked Up Tight	220
Stop Saving Wi-Fi Passwords to Amazon	222
Delete saved Wi-Fi passwords via Fire TV	223
Delete saved Wi-Fi passwords via Amazon	224
Secure Your Amazon Account with a Strong Password	225
Enable Amazon's Two-Step Verification	226
Prevent Fire TV from Playing Previews Automatically	229
Remove Content from Your Fire TV	230
Prevent Amazon from Using Personal Data for Marketing	230
Prevent Amazon from Tracking Your App Usage	231
Prevent Advertisers from Tracking You	232
Deregister Your Fire TV Device	234
INDEX	235

Introduction

Many of the gadgets we use every day don't look all that sophisticated from the outside, but they're brimming with hidden features and options. Think of the average smartphone, which to the uninitiated (if such people still exist) looks like a shiny block of glass and metal, but is really a computer more powerful than the supercomputers of yesteryear. Think of Alexa, Amazon's voice assistant, which seems like the very definition of simplicity — "Alexa, bark like a dog" — but can do some truly amazing things (as I explain in my book *Alexa For Dummies* [Wiley]).

The pile of deceptively simple electronics also includes Amazon's Fire TV devices. The most basic of these devices — the Fire TV Stick and Fire TV Stick 4K — look like nothing more than oversized thumb drives, while the Fire TV Cube looks like it could play the role of an airplane's black box flight recorder in a TV movie. But within these nondescript exteriors lie some sophisticated hardware and software that can do some amazing — and surprising — things.

So, yep, the basics of Fire TV are readily mastered, but to get at the hidden depths and power of Fire TV, you need a guide. *Amazon Fire TV For Dummies* aims to be that guide.

About This Book

This book takes you on a complete tour of Fire TV's capabilities, features, tools, and settings. In this book, you find everything you need to know to get the most out of your Fire TV investment.

Amazon Fire TV For Dummies boasts 12 chapters, but you don't have to read them from beginning to end — you can start wherever you want. Use the table of contents or index to find the information you need, and dip into the book when you have a question about Fire TV.

If your time is very limited (or you're just aching to start bingeing that new hot show), you can also ignore anything marked by the Technical Stuff icon or the information in sidebars (the gray-shaded boxes). Yes, these tidbits are fascinating

(if I do say so myself), but they aren't critical to the subject at hand, so you won't miss anything critical by skipping them.

Finally, within this book, you may note that some web addresses break across two lines of text. If you're reading this book in print and want to visit one of these web pages, key in the web address exactly as it's written in the text, pretending as though the line break doesn't exist. If you're reading this as an e-book, you've got it easy — just click the web address to be taken directly to the web page.

Foolish Assumptions

This book is for people who are new (or relatively new) to using the Fire TV media-streaming device. Therefore, I do *not* assume that you're a Fire TV expert, a Fire TV connoisseur, or a Fire TV authority. However, I do assume the following:

- » You have a TV that's compatible with Fire TV (see Chapter 2).
- » You know how to connect devices to that TV.
- » You have a running Wi-Fi network with an Internet connection.
- » You know the password for your Wi-Fi network.
- » You have either an iOS or an Android mobile device (that is, a smartphone or tablet).
- » You know how to install and operate apps on your mobile device.

Icons Used in This Book

Like other books in the *For Dummies* series, this book uses icons, or little pictures in the margin, to draw your attention to certain kinds of material. Here are the icons that I use:



REMEMBER

Whenever I tell you something useful or important enough that you'd do well to store the information somewhere safe in your memory for later recall, I flag it with the Remember icon.



TECHNICAL
STUFF

The Technical Stuff marks text that contains some for-nerds-only technical details or explanations that you're free to skip.



TIP

The Tip icon marks shortcuts or easier ways to do things, which I hope will make your life — or, at least, the Fire TV portion of your life — more efficient.



WARNING

The Warning icon marks text that contains a friendly but unusually insistent reminder to avoid doing something. You have been warned.

Beyond the Book

In addition to what you're reading right now, this product comes with a free access-anywhere Cheat Sheet that includes the most useful Fire TV settings, an exhaustive list of Alexa voice commands for controlling Fire TV, and a glossary of Fire TV terms to drop casually at your next cocktail party. To get this Cheat Sheet, go to www.dummies.com and type **Amazon Fire TV For Dummies Cheat Sheet** in the Search box.

Where to Go from Here

If you've had Fire TV for a while and you're familiar with the basics, you can probably get away with skipping the first five chapters and then dive into any part of the book that tickles your curiosity bone.

However, if you and Fire TV haven't met yet — particularly if you're not even sure what Fire TV *does* — this book has got you covered. To get your relationship with Fire TV off to fine start, I highly recommend that you read the book's first two chapters to get some of the basics down cold. Then read Chapter 3, 4, or 5, depending on which Fire TV device you've got. From there, you can head anywhere you like, safe in the knowledge that you've got some survival skills to fall back on!

1

Getting Started

IN THIS PART . . .

Find out what Fire TV is, what Fire TV can do, and what hardware you need to use Fire TV.

Welcome Fire TV into your home by learning where to put your Fire TV device, getting your device on your network, and customizing Fire TV.

Discover some crucial basics about your Fire TV device.

- » Getting a grip on streaming media
- » Figuring out streaming media devices
- » Making sense of how streaming works
- » Talking about streaming apps and hardware

Chapter 1

Understanding Streaming Media

Electronics such as Amazon's Fire TV devices — the Fire TV Stick, Fire Stick 4K, and Fire TV Cube — are streaming media devices.

If that sentence makes perfect sense to you, then you may want to move on to Chapter 2 because the next few pages probably won't tell you anything you don't already know. However, if you're scratching your head in bafflement, get comfy and prepare to be de-baffled!

In this chapter, you explore the two-sides-of-the-same-coin ideas of *streaming media* and *streaming media devices*, which are at the core of the Fire TV experience. Do you really need to know this background to use Fire TV? Will having a working definition of *streaming* benefit you when you're binge-watching *Fleabag*? Well, okay, the honest answer is “No” on both counts. Or, I should say, the answer is “No” if you don't care about getting the most out of your Fire TV investment, you're not the least bit curious how this technology works, or you're 100 percent certain that you'll never have problems with Fire TV. If that's you, start flipping ahead to the next chapter; otherwise, it's time to discover what this streaming business is all about.

Introducing Streaming

If you were around for the early days of the web — I’m talking about the mid to late 1990s — then you probably remember when the web pages of that era, which contained mostly text with a few images, started giving way to pages that contained *media* — music, TV shows, and even short movies. That was a fun development, but no one would have described it as “on-demand” entertainment because it could take anywhere from a few minutes to an hour or more for the media you clicked to download to your computer. Crucially, you had to wait until the entire media file was downloaded before you could start the playback. Inevitably, with Murphy’s Law (“Anything that can go wrong will go wrong”) in full effect back then (as it is today), the longer you had to wait for a media file to download, the more likely it was that the download would crash when it was 99 percent complete.

The molasses-in-January pace and the don’t-breathe-until-it’s-done fragility of media downloads were facts of online life back then, but a few nerds started thinking there had to be a better way. They realized that for most people, however slow their download speed, it was still faster than the rate at which they listened to or watched whatever media was being downloaded. Why was this speed difference important? Because it meant that after at least *some* of the media was downloaded, it could start playing from the beginning and the rest of the download could continue in the background without fear that the user would “catch up” to the download and be forced to wait. (To be sure, there was always *some* fear involved; see Murphy’s Law.)

This breakthrough meant that most media would start playing within a few seconds. It also meant that, usually, the media was never really “downloaded” to the user’s computer; instead, when the media started playing, it would continue to play until it was over or the user moved on to something else. Consuming media online became like sitting on the bank of a stream watching the water flow by, so some sensitive poet of an engineer coined the term *streaming* to describe this new way of listening to and viewing media.

Nowadays, streaming has gone, well, mainstream for a couple of reasons. First, many users now have computers and/or mobile devices that are powerful enough to process even the largest and most complex incoming audio and video signals. Second, lots of people (at least in the developed world) have speedy Internet connections and home networks, which means that streams usually start within a few seconds and the streaming *buffer* — the area of memory that’s used to store the next few seconds or minutes of the media (more on this a bit later) — is always full, which results in a continuous and glitch-free playback.

Streaming today usually comes in one of the following forms:

- » **Audio streaming:** Mostly prerecorded music through services such as Amazon Music and Spotify, as well as podcasts through services such as myTuner Radio and Plex.
- » **Video streaming:** Mostly prerecorded TV shows and movies through services such as Amazon Prime Video and Netflix.
- » **Live streaming:** As-it's-happening audio or video, such as on-the-air TV programs delivered by your cable provider or Fire TV Recast, live concerts or sporting events, Internet-based audio or video phone calls, or video feeds of a specific place or scene.

Getting Clear on Streaming Media Devices

Imagine yourself sitting on the bank of a fast-running stream. Your eyes see the water whooshing by; your ears hear the babbling of the brook; your nose smells the wonderful scent of clean water; if you feel like it, you could also use your hands or feet to sense the coolness of the stream and your tongue to taste the freshness of pure water. In much the same way that your senses give you “access” to a stream, you need a special device to “access” an online media stream.

Sometimes that device is just a piece of software. For example, when you click to play a YouTube video, the YouTube site streams that video using special playback software that runs right in your web browser.

Increasingly these days, however, that device is a piece of hardware called a *streaming media device*, and it offers two main features:

- » **Streaming service interface:** A method for discovering and interacting with services that offer audio, video, or live streams. This feature is incredibly useful because there are dozens — nay, *hundreds* — of streaming services out there, so having a way to bring all your favorite services together in a single interface is mind-blowingly convenient.
- » **Streaming media playback:** The capability of playing, pausing, rewinding, and fast-forwarding an incoming media stream, usually by pressing buttons on a remote control that comes with the streaming media device.

Amazon gadgets such as the Fire TV Stick, Fire TV Stick 4K, and Fire TV Cube are streaming media devices that use your TV or a mobile device to display a streaming service interface and play audio, video, and live streams, which you can control using either the bundled remote or Alexa voice commands.

Understanding How Streaming Works

As you might imagine, streaming media is a hideously complex bit of business that requires extremely sophisticated hardware and software to make everything work as well as it does. The good news is that you don't need to know anything about that complexity, so you can shut off all those alarm bells going off in your head. Instead, this section provides you with a very basic overview of how streaming performs its magic.

The general process for streaming a prerecorded audio or video file is illustrated in Figure 1-1.

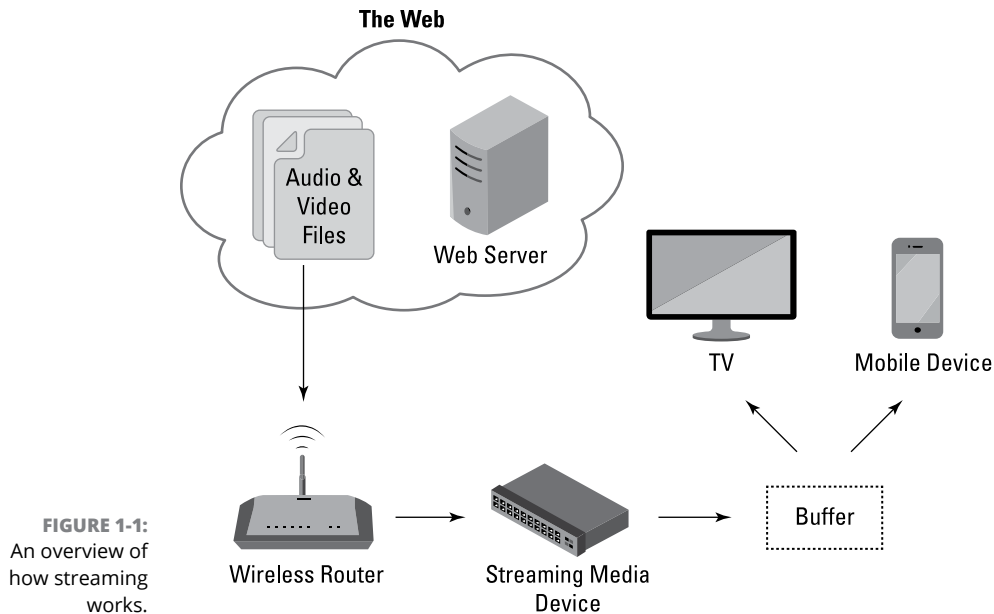


FIGURE 1-1:
An overview of
how streaming
works.

As Figure 1-1 shows, streaming is a five-step process

1. For prerecorded audio or video, the media file is stored on the web using a special computer called a *web server*.
2. When a user requests the media, the server begins sending the first few seconds of the audio or video file to the user.
3. When the data reaches the user's network, the network's wireless router passes the data along to the streaming media device.

Note that the router is usually wireless, but it doesn't have to be.
4. The streaming media device waits until it has a certain amount of the media before it starts the playback.

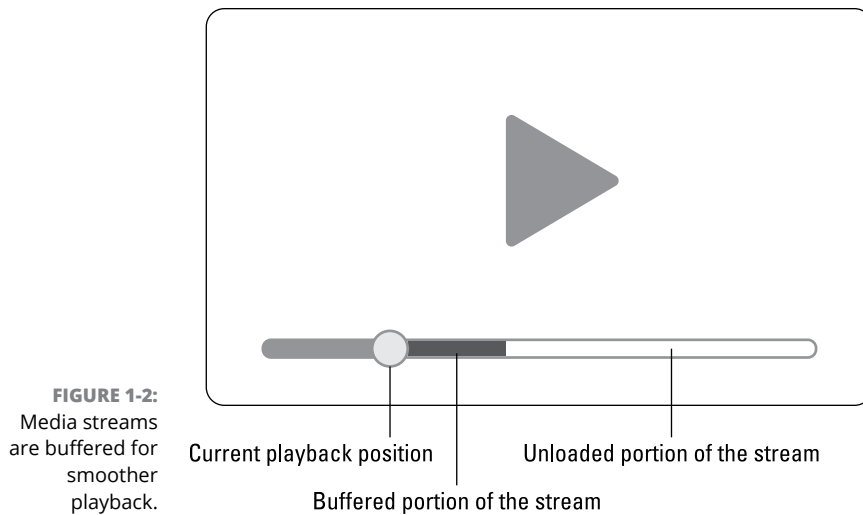
The saved data is stored in a special memory location called a *buffer*. (See the next section, "More about buffering," for, well, more about buffering.)
5. When the buffer contains enough data to ensure a smooth playback, the stream is sent to the user's TV or mobile device, and the entertainment begins.

More about buffering

The buffering process that occurs in steps 4 and 5 of the previous section is such a crucial part of streaming that it goes on throughout the playback, not just at the beginning. For example, when you examine the current progress of the playback, you usually see a progress bar that's similar to what I've illustrated in Figure 1-2. The circle shows your current position in the playback. Just ahead of the circle is a dark portion of the progress bar, which shows you how much of the upcoming stream is stored in the buffer; the rest of the progress bar is white, which tells you that part of the stream hasn't yet been received by the streaming media device. (The colors may vary on your TV or mobile device.)

Why not just play the media as it arrives and skip the buffer altogether? That would be nice, and it just might work in an ideal world, but the world we actually inhabit is far from ideal. In real life, media streams can suffer from a number of problems:

- » The server may be slow to respond if it has to deal with a large number of media requests.
- » Your Internet connection speed may be slow.
- » Your network speed may be slow.
- » Glitches between the server and your network may mean that large parts of the media stream are delayed or missing.



Any one of these problems could cause the stream playback to be interrupted for anything from a split second to a few seconds. Without a buffer to fall back on, your show or song would have to stop mid-playback to wait for the delay to resolve itself. However, with anywhere from a few to a few dozen seconds stored in the buffer, the streaming media device can keep the stream playing, and you remain blissfully unaware of any problems because they happen in the background, without affecting your enjoyment of the media.

Streaming and data usage

When you're looking to sign up for an account with an Internet service provider (ISP), you're usually presented with several plans of varying prices. One of the features that varies with the price of each plan is the amount of data per month that you can transfer between the Internet and your modem. This is called *usage* or *monthly usage*, and the cheaper the plan, the lower the usage limit you get per month. That limit is important because if you go *over* that amount in a given month, the ISP will charge you a small fortune for each gigabyte (GB) that you exceed your cap.



WARNING

Overage fees can easily run to several dollars per gigabyte, and Internet forums are awash in tales of people getting dinged \$100 or \$200 for going way over their monthly allowance. So, yes, for all but the most well-heeled, this is big bucks I'm talking about here.

I'm telling you all this because it's important to know early in your streaming career that streaming media is very data-intensive, meaning it requires tons of usage. For example, here are the data usage values for some popular music streaming services:

Music Service	Data Usage per Hour
Amazon Music	0.11GB
Apple Music	0.11GB
Google Play Music	0.14GB
Pandora	0.57GB
Spotify	0.14GB

Similarly, here are the data usage values for various types of video stream qualities (most video streaming services give you the option of streaming video in two or more of these values):

Video Quality	Data Usage per Hour
Low	0.3GB
Standard Definition (SD)	0.7 GB
High Definition (HD)	1.0GB to 3GB
4K Ultra-High Definition (UHD)	7GB

Based on these usage values, you can see that it wouldn't be that hard to use anywhere from 5GB to 10GB of streaming media a day. That translates to 150GB to 300GB a month, which is bad news, indeed, if your ISP's monthly usage cap is 100GB!



TIP

My advice? Get an unlimited Internet plan if you can afford it. If that's too pricey for your budget, then keep an eagle eye on your daily usage (most ISPs offer a tool that lets you view your daily usage). If you see that things are getting out of hand, usage-wise, dial back the streaming for a few days or a week to make sure you don't go over your cap.

Knowing What You Need to Stream: Apps and Hardware

What you need to get into the world of streaming varies widely depending on a number of factors, including what streams you want to check out, your budget, your tolerance for complexity, and your desire for convenience.

At the simplest end of the streaming world, all you need is an Internet connection and a web browser. In this bare-bones scenario, you surf to a streaming site (such as Netflix, Spotify, or YouTube), sign into your account (if the site requires an account, as most do), and then use the site's interface to find and play the streams you want. Many streaming sites offer free accounts (supported by the ads you're forced to view), so you can get into streaming without forking over any extra cash.



TIP

Jumping around from one streaming website to another isn't hard, but it tends to get cumbersome as your stable of streaming services gets larger (as it inevitably will). One easy way to get around the inconvenience of multiple websites is to use the apps that most streaming services provide. Install the app on your smartphone or tablet, use the app to sign in to your account on the streaming service, and — *voilà!* — you can now locate, curate, and watch streaming media on your mobile device!

Viewing streaming media on a mobile device might seem like the perfect solution for an age obsessed with its smartphones and tablets. There's also something wonderfully intimate about watching a TV show or movie on a mobile device. That said, scratching the streaming itch using only mobile device apps does have its downsides:

- » You may end up with apps scattered across multiple devices.
- » If you're not connected to Wi-Fi, overindulging your mobile streaming media habit may put you over your cellular plan's monthly usage cap.
- » You may prefer to watch a particular show on a large TV screen.
- » It's hard for multiple people to watch a stream on a relatively small mobile screen.



TIP

There are ways to send a mobile device's video stream to a TV (this is called *mirroring*), but an easier way to solve all these problems is to throw more hardware at them. I speak, in particular, of a streaming media device, which, as I describe earlier, is designed to take an incoming stream and display it on a connected TV screen (or mobile device). Even better, all streaming media devices come with a large collection of apps for streaming services. For example, Figure 1-3 shows a portion of the Fire TV Home screen, which includes a row labeled *Your Apps & Games*. In the example, this row includes apps for the streaming services Amazon Prime Video, Netflix, TuneIn Radio, YouTube, and TED TV.