

TAKE CONTROL OF

APPLE TV

COVERS 4TH GEN!
WATCH MOVIES & TV
RUN APPS
DISPLAY PHOTOS
AND LOTS MORE...

by **JOSH CENTERS**

\$15

2nd
EDITION

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Read Me First

Welcome to *Take Control of Apple TV, Second Edition*, version 2.1, published in December 2016 by TidBITS Publishing Inc. This book was written by Josh Centers and edited by Tonya Engst, with help from Lauri Reinhardt.

This book is your guide to the fourth-generation Apple TV, covering the gamut from basic features to importing content, running a home audio system, giving a presentation, and even gaming! (The first edition of this book covers the second- and third-generation Apple TV; to download a free copy, visit [Ebook Extras](#) and look in the blog.)

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What's New in Version 2.1

This new version of *Take Control of Apple TV* is updated for tvOS 10, which Apple released in September 2016. It's also generally updated to reflect the state of the Apple TV in late 2016:

- To find out what's new in tvOS 10, plus get clickable links to areas of this book where the content has changed significantly, see [What's New in tvOS 10](#).
- Apple has released the Apple TV Remote app, which runs on an iOS device and emulates the Siri Remote. The previous Remote app is still available as iTunes Remote. See [Run the Apple TV Remote App](#).
- I've added capsule summaries of a few new apps that are worth a look. These include [BitTorrent Live](#), [History Vault](#), [Lynda](#), and [NFL Sunday Ticket](#).
- I also added a short sidebar about [Cable TV Replacements](#) that run on the Apple TV.

Introduction

The nature of television is changing fast. More and more people are *cutting the cord*—a colloquial phrase for going without a cable or satellite TV subscription. Meanwhile, cable operators and entertainment networks are vying to stay relevant. It's impossible to say what the TV landscape will look like in a decade, or whether it'll even exist at all, at least as we know it.

Apple thinks apps are the future of television. The fourth-generation Apple TV, introduced in 2015, features a new voice-control remote, a faster processor, and more storage, but most importantly, it opens the door to app developers, bringing the App Store to the little big screen. The software in the Apple TV has been accordingly updated with a new operating system, dubbed tvOS. The Apple TV is no longer just a standalone device, but a platform.

But the more things change, the more they stay the same. If you're used to the second- or third-generation Apple TV, the fourth-generation won't feel alien. The Home screen and many of the built-in apps are as you remember them, only a bit shinier.

What is different is how you control the Apple TV. The new Siri Remote replaces the directional ring with a touchpad, adds volume control buttons, and, most notably, lets you talk to your Apple TV with Siri to find shows, play music, check the weather, and more.

AirPlay, an Apple feature that can stream content from computers and mobile devices to your Apple TV, is still around and still one of the best reasons to own an Apple TV.

Does the fourth-generation Apple TV represent the future of TV? No one can say for sure, but what it does represent is possibility. tvOS is the most flexible and full-featured TV platform ever conceived—for both content providers and end users—and it's still getting started.

Although this book is mostly about the Apple TV, some of it describes interactions between an Apple TV and a computer. In a few cases, such

as the topic about ripping DVDs, I assume you have a Mac. My Mac descriptions have been tested in OS X 10.11 El Capitan—and most of them were retested in 10.12 Sierra. For the most part, they'll work fine in other versions of OS X, and in some cases I've called out special details about older versions of OS X. However, the older your version of OS X, the less likely that it will match everything in this book.

Mac tip: To review background information that might help you understand this book better, such as finding System Preferences and working with files in the Finder, read Tonya Engst's free ebook [Read Me First: A Take Control Crash Course](#), available on the Web or as a standalone ebook.

Windows tip: iTunes in Windows works nearly identically to iTunes on the Mac. The main exception? To open the iTunes preferences in Windows, choose Edit > Preferences.

Some of my discussions of Apple TV content are based on what's available in the United States. The content on offer may differ in your country, but otherwise, the information in this book should be applicable worldwide.

The Apple TV and Storage

The fourth-generation Apple TV comes in two variants: 32 GB for \$149 and 64 GB for \$199.

Apple recommends the 32 GB model for those who primarily stream media and the 64 GB model for users who plan to install a lot of apps and games. But the reality is a bit more complex.

Initial App Store downloads are limited to only 200 MB, but apps can download an additional 2 GB of data after installation and access an additional 20 GB of data in iCloud. In plain English, this means that each app can take up as much as 2.2 GB of local storage at a time.

Although you can manually manage the Apple TV's storage, it will do most of the work for you, automatically flushing older content when it needs more space, and downloading it again when you need it.

Since the Apple TV relies so heavily on iCloud for app data, the limitations of your Internet connection will have more of an effect on your Apple TV experience than your storage space. If you have a fast connection with no data cap, you'll rarely notice when an app streams content from the cloud. However, if you have a slow connection, you could experience frustrating load times. And if you have a data cap, you could see a huge bill from your Internet service provider!

For most people, I recommend the 32 GB model to save money and because I haven't found much practical need for the 64 GB model. If your Internet connection is slower or is subject to a bandwidth cap, you might consider the 64 GB model so that your Apple TV can cache as much content as possible.

Apple TV Quick Start

You don't want to read a book—you want to watch TV and movies, listen to music, view photos, and play games! I've broken this book into bite-sized chunks, so you can find what you need quickly.

You're new to Apple TV:

- Plug it in, take note of what the different ports are designed for, and get started with [Set Up Your Apple TV](#).
- Become familiar with the Siri Remote and all the other ways to [Control Your Apple TV](#).
- Learn the basics of the Apple TV interface and find out about media that's available through the built-in apps in [Meet the Apple TV](#).
- Be sure to [Master AirPlay](#) so that you can beam the display of your Mac, iPad, iPhone, or iPod touch to your TV.

Tip: Print the [Cheat Sheet](#), and keep it by your Apple TV.

Once you have the basics:

- Learn how to watch movies and TV; read [Apple TV at the Movies](#).
- Turn your Apple TV into a home audio system in [Rock Out with the Apple TV](#).
- Learn how to [View Your Photos and Home Movies](#).
- Give stunning presentations as you [Present with the Apple TV](#).
- Take [A Look at Apple TV Apps](#).

To make the most of your Apple TV:

- Convert your video collection in [Rip DVDs for Apple TV](#).
- Expand your options by going [In the Plex](#) to set up a media server.
- Solve problems or prep your Apple TV for a new owner in [Restarting, Resetting, and Restoring](#).

What's New in tvOS

The Apple TV hasn't seen any earth-shattering changes since tvOS 9.2, but there are a number of much-welcomed improvements, including a Dark Mode that won't blind you at night, HomeKit support, limited Single Sign-on support, and a few niceties from iOS 10.

Tip: To see which version of tvOS your Apple TV is running, go to Settings > General > About, and view the version number on the tvOS line; to upgrade, go to Settings > System > Software Updates.

What's New in tvOS 10

- **More Siri commands:** Siri can now search for content by topic or theme, and Siri can control HomeKit devices. See the sidebar [New-in-tvOS-10 Siri Commands](#).
- **Dark mode:** This new mode keeps the interface background from being blindingly white. See the sidebar [New! Dark Mode](#).
- **App downloads:** tvOS can now automatically download apps you obtain in iOS and vice versa. See the sidebar [Identifying and Installing Universal-purchase Apps](#).
- **Single Sign-on:** This feature allows you to sign in to a TV provider only once to use apps that are part of the entertainment plan that you are paying for. See the sidebar [About Single Sign-on](#) for more about how this feature could simplify your Apple TV life.
- **TV app:** With tvOS 10.1, Apple introduced the TV app, a new content-based front end for the Apple TV that aggregates video from a number of sources. See [TV](#).
- **Refreshed Music app:** The app has a new, fresh theme, and Apple Music subscribers can now find two personalized playlists on the For You screen, My New Music Mix and My Favorites Mix. See [The Music App](#).

- **Memories in the Photos app:** The new Memories feature of Photos organizes your photos (in iCloud Photo Library) automatically and can remind you of special trips and moments. See [Viewing Your Photos](#).
- **Game controllers:** Games can now require a dedicated game controller. See the sidebar [Game Controllers and the Apple TV](#).

What Was New in tvOS 9.2

Here's an overview of what was new in tvOS 9.2, with links to details elsewhere in the book:

- You can [Dictate Text with the Siri Remote](#).
- Bluetooth keyboard support is available for the fourth-generation Apple TV. See [Become an Apple TV Keyboard Jockey](#).
- You can create folders on the [Home Screen](#).
- Apple has redesigned the App Switcher to resemble the one in iOS. See [Switching between Apps](#).
- You can search the App Store with Siri. See [Searching with Siri](#).
- You must pause media before scrubbing, to prevent accidental swipes. See [Control Video Playback](#).
- iCloud Photo Library and Live Photos are supported in [The Photos App](#).
- Conference Room Display, which displays onscreen AirPlay instructions, has returned. See [Run a Conference Room Display](#).
- tvOS supports Apple's MapKit, which lets developers display [Maps on Your TV](#).

Set Up Your Apple TV

The Apple TV is simple to set up; just connect the proper cables and follow the onscreen instructions. But if you own an iOS device running iOS 9.1 or later—an iPhone, iPod, or iPad (except for the iPad 2) you can make that setup even easier by simply turning on your Apple TV and touching it with your device!

In this chapter, I offer advice on what to do if you own an older TV or receiver without HDMI inputs, the best places to buy an HDMI cable, whether to use a wired or wireless Internet connection, and the settings you'll want to look at right away.

Make the Connections

Before you can do anything with the Apple TV, you have to connect it to your television and to your network, as well as to power. Let's look at the ports on the back of your Apple TV (**Figure 1**).



Figure 1: Fourth-generation Apple TV ports, from left to right: power, USB-C, HDMI, and 10/100 Ethernet.

Dude, Where's My Optical Audio Port?

Many people who rely on optical audio (also known as S/SPDIF or TOSLINK) connections to send digital audio to their sound equipment were disappointed to learn that the fourth-generation Apple TV doesn't include an optical audio port. To work around this limitation, you can either route audio through your TV or use a device like the [ViewHD HDMI Audio Extractor](#) to extract an optical audio signal from the HDMI connection.

~ (Power)

Without electricity, the Apple TV is merely an attractive paperweight. Read through this chapter before plugging it in, as the Apple TV powers on right away. Insert one end of the included power cable into this port and connect the other end to a power outlet.

USB-C

You will probably never have to touch this port. It's needed only if you have to restore your Apple TV from iTunes (described in [Restarting, Resetting, and Restoring](#)) or install developer betas. It's also used for [Capturing Screenshots and Video](#).

About USB-C Cables

The Apple TV does not come with a USB-C cable. The USB to Lightning cable that came with your Apple TV isn't meant for this port. That cable is for charging the Siri Remote. If you want to use iTunes to restore the Apple TV or take screenshots with QuickTime, you'll need to buy a USB-C cable.

Try [Apple](#), or shop from your favorite cable purveyor if you have a different one. Julio Ojeda-Zapata discusses a few options, as well as cables to avoid, in the TidBITS article [MacBook Accessories Reduce Single USB-C Port Inconvenience](#).

Which type of USB-C cable you'll need depends on your computer—the 2015 MacBook has *only* a single USB-C port, so you'd need a USB-C to USB-C cable—the same applies to the ports on the 2016 MacBook Pro laptops. Most other Macs don't have any USB-C ports at all, just USB-A ports, so for those Macs you'd need a USB-C to USB-A cable.

HDMI

Without a display, there's little point in using an Apple TV. HDMI transmits both audio and video from your Apple TV to your television or receiver. Unfortunately, Apple doesn't include an HDMI cable, but the upside of that fact is that you can pick the length (and color) that will work best with your setup. After you track down an HDMI cable,

connect one end of it to the Apple TV and the other end to your television set or receiver (the connectors are the same on both ends).

Where to Buy an HDMI Cable

To be blunt, HDMI cables sold by many brick-and-mortar stores are a rip-off. You could end up paying \$150 for something that a \$5 cable can do just as well. In the analog days, signal quality mattered, but when it comes to digital connections like HDMI, the cable either works or it doesn't.

Apple will sell you an [HDMI cable for \\$19](#), but you can buy better-quality cables for less from these retailers:

- ✦ **Monoprice:** The king of cheap cables, [Monoprice](#) will sell you an HDMI cable for under \$3, not including shipping. I've ordered many cables from Monoprice, and they've all been high quality.
- ✦ **Amazon:** It's hard to beat [Amazon](#) if you subscribe to Amazon Prime and need an inexpensive cable quickly. I suggest sticking with the AmazonBasics brand, which starts around \$5. The build quality isn't quite as good as Monoprice, but it'll get the job done.

What to Do If Your TV Doesn't Have an HDMI Port

If you still have an older TV, you'll need an adapter that accepts HDMI output from the Apple TV and converts it to analog component, composite, and/or S-video input.

This [Musou HDMI to RCA](#) converter from Amazon reportedly does the trick. For those who prefer component video (which offers superior quality), this [Portta HDMI to 1080p Component Video](#) converter should work.

10/100 Ethernet

If you wish to connect the Apple TV to your network via Ethernet instead of using a wireless Wi-Fi connection, connect the Ethernet cable here. (If you don't know how to connect your Apple TV to your network with Ethernet, it's fine to use a Wi-Fi connection; if that's the case, skip this topic.)

Control Your Apple TV

The Siri Remote is simple, yet highly advanced. It's used to navigate the Apple TV's interface, summon Siri, play games, and even to control your home entertainment center! I explain how to use it in the pages that follow.

I also look at other remote options in these topics:

- [Use a Standard Apple Remote](#) describes how to use the older Apple remote that came with some older Macs or with an older Apple TV.
- [Use a Third-party Remote](#) talks about mapping pretty much any remote to an Apple TV.
- [Run the Apple TV Remote App](#) discusses the Apple TV Remote app. Designed for the fourth-generation Apple TV, this app is optimized for the iPhone and iPod touch. It can do nearly anything the Siri Remote can do, plus its software keyboard eases password entry.
- [Run the iTunes Remote App](#) looks at how to use this iOS app as an Apple TV remote. Like the Apple TV Remote app, this app simplifies password entry.
- [Use the Remote App on the Apple Watch](#) explains how to control your Apple TV from your wrist.
- [Become an Apple TV Keyboard Jockey](#) covers connecting a wireless keyboard to your Apple TV.

Note: Although the Siri Remote can function as a game controller, better options are available. See [Game Controllers and the Apple TV](#).

Meet the Siri Remote

Let's take a look at each button on the Siri Remote (**Figure 6**).

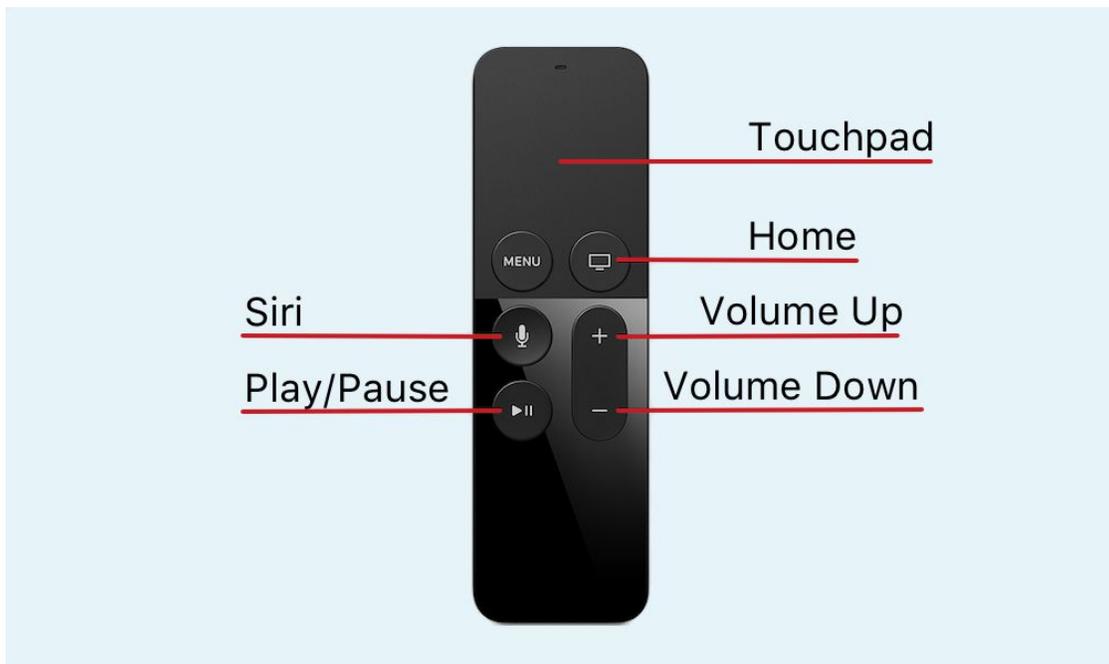


Figure 6: The Siri Remote has a: touch surface, Menu button, Home button, Siri button, Play/Pause, Volume Up, and Volume Down.

Here's what you can do with each button on the remote:

- **Touch surface (or touchpad):** Swipe up, down, left, or right to move the highlight. If you find swiping to be too fiddly, you can tap in the direction you wish to move instead. To select the highlighted item, click the touchpad.

Tip: You can adjust the touchpad's sensitivity in Settings > Remotes and Devices > Touch Surface Tracking.

- **Menu:** In the Apple TV interface, pressing the Menu button takes you back to the previous screen, but in some apps, it brings up a menu. Long-press Menu to return to the Home screen in one jump.
- **Home:** By default, one press will return you to the [TV](#) app. A second press will take you to the [Home Screen](#). A double press will bring up the App Switcher. Long-press the Home button to bring up the sleep menu.

Tip: The default behavior of the Home button changed in tvOS 10.1. The button used to bring up the Home screen with just one press. To revert to this behavior, go to Settings > Remotes and Devices and toggle the Home Button switch.

- **Play/Pause:** As you would expect, this button starts and suspends playback. It also acts as an action button in some apps.
- **Volume Up/Down:** The volume buttons control the loudness of your TV, receiver, soundbar, or other connected speaker. See [Control TV and Audio with the Siri Remote](#), slightly ahead.
- **Siri:** To speak a Siri request, hold the Siri button to see the Siri prompt and keep the button down while you speak into the Siri Remote. When you finish speaking, release the button. The main microphone is near the top front of the touchpad. The mic on the back is used to filter ambient noise. (For more about what to say, read [Dictate Text with the Siri Remote](#), [Searching with Siri](#), and [Siri Video Options](#), later.)

New-in-tvOS-10 Siri Commands

Siri has gained a lot of new smarts in tvOS 10:

- ✦ **Dark/Light mode:** Siri can switch between these two backgrounds for the Home screen and other related screens. Say “dark mode” or “light mode” to switch.
- ✦ **HomeKit:** You can control HomeKit devices on your Apple TV with Siri. The commands that work in iOS also work in tvOS, as long as your Apple TV is logged in to the same iCloud account as your iOS devices. Developers can now also create HomeKit control apps for tvOS, but the only one I’ve found so far is [Looming](#), and I don’t see any particular advantage to controlling HomeKit via an Apple TV as opposed to an iPhone or iPad.
- ✦ **Topic search:** Siri can now search for shows and movies by topic. For instance, “Siri, show me movies about politics.”
- ✦ **YouTube:** Siri can search for YouTube content, such as “Siri, search YouTube for Apple TV videos.” However, you will need to install the free [YouTube](#) app to view the videos.

Meet the Apple TV

Now that you've completed the basic set up for your Apple TV, it's time to learn how to handle your Home screen, get introduced to the [Built-in Apps](#) (including the [App Store](#) app, which you'll use to download more apps), and find content by [Searching with Siri](#).

Home Screen

Although it's easy to get around on the Apple TV Home screen by swiping on the touchpad, I want to bring to your attention a few subtle aspects of how it works:

- **App shortcuts:** At the top of the Home screen, you see the App Shortcuts area. This area changes depending on which app you've selected in the next row down on the Home screen (such as TV in [Figure 20](#)).

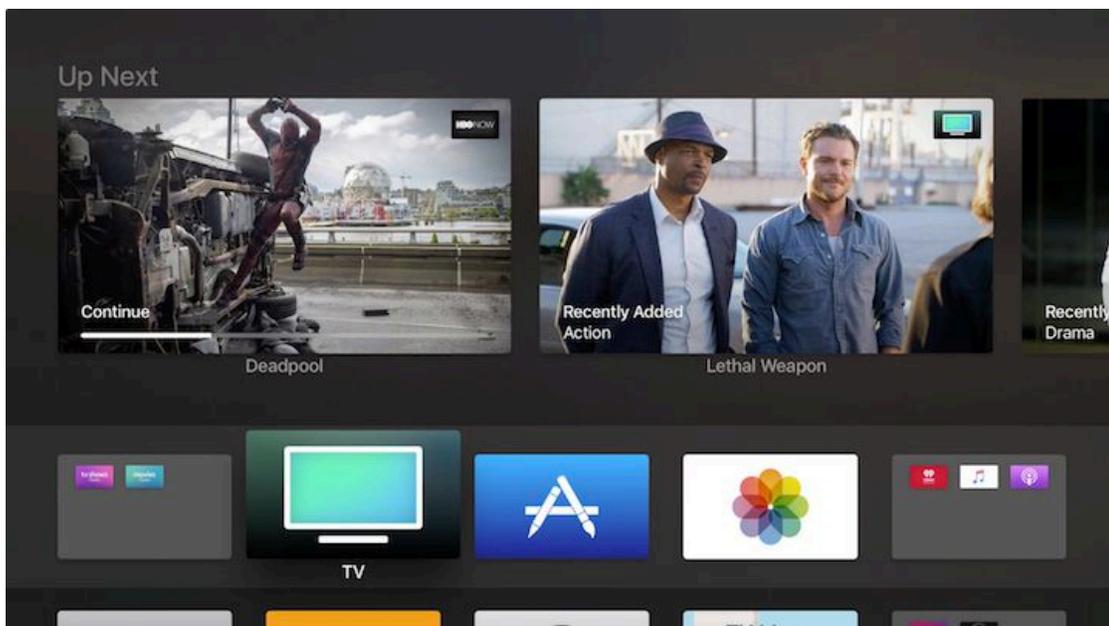


Figure 20: The top of the Home screen displays app shortcuts for the selected app below, such as the TV app in this image. The app shortcuts for TV provide one-click access to items in your Up Next queue. (This screenshot was taken in Dark mode; see [New! Dark Mode](#).)

With apps such as TV or iTunes Movies, you can navigate up to the app shortcuts icons and click one, or swipe left or right to access additional shortcuts. But, for some apps, such as the Settings app, the App Shortcuts area displays just a single image.

- **Moving an icon:** To move an icon, select it and then press and hold the touchpad until the icon shakes. Swipe the touchpad to move the icon, and press the touchpad to set it in place.
- **Deleting an app:** Select the app's icon and press and hold the touchpad until the icon shakes. Press Play/Pause and choose Delete. *You can't delete the built-in apps.*
- **Keeping it quiet:** If the sound bothers you as you scroll through the menus and apps, turn it off in Settings > Audio and Video > Navigation Clicks.
- **Making a folder:** Highlight an app icon, and press and hold the touchpad until the icon shakes. Either use the touchpad to move the icon over another icon to form a folder or press Play/Pause and choose New Folder. Press Menu to set the app in place.
- **Populating a folder:** Highlight an app icon, and press and hold the touchpad until the icon shakes. Use the touchpad to drag the app into the folder (**Figure 21**), or press Play/Pause and choose Move to *Folder Name* (**Figure 22**).

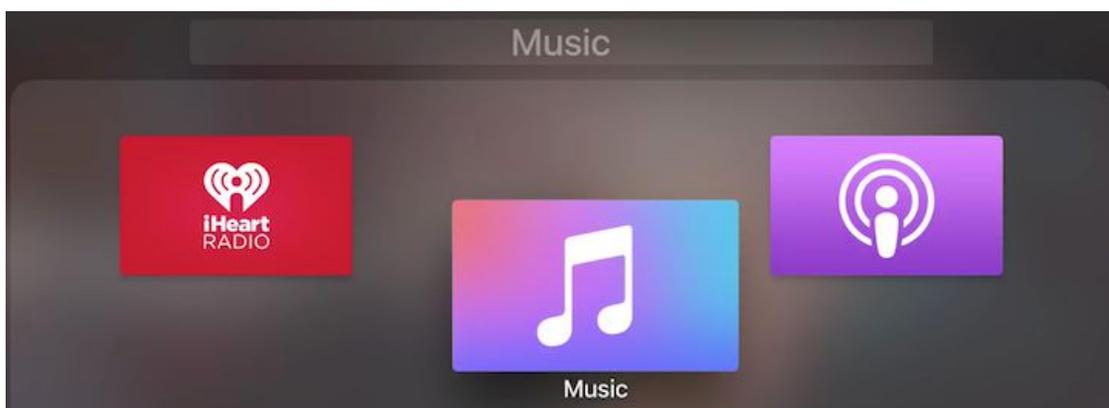


Figure 21: To move an app into a folder, highlight it, press and hold the touchpad until the icon shakes, and then drag it into the folder.

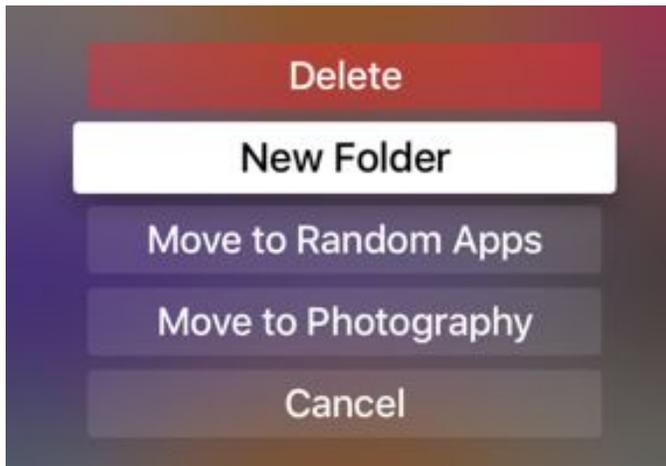


Figure 22: Once an app’s icon is shaking, you can press Play/Pause to open a menu with choices for creating a new folder or moving the app into an existing folder.

- **Moving an app out of a folder:** Highlight the app’s icon, press and hold the touchpad until the icon shakes, press Play/Pause, and select Move to Home Screen. Press Menu to make the icon stop wiggling on the Home screen.
- **Renaming a folder:** Open the folder, and swipe up to reveal a text input box (**Figure 23**). Either press the Siri button and dictate a new name or use the onscreen keyboard to delete the old name and type a new one (the Delete button is at the far right of the keyboard). Swipe down to return to the folder.



Figure 23: To rename a folder, enter the folder and swipe up to reveal a text-entry box.

- **Delete a folder:** Remove all apps from the folder, either by moving them to the Home screen or deleting them. Once the last app is removed, the folder deletes itself.

Master AirPlay

With AirPlay, you can play audio and video content from your Mac or iOS device on your Apple TV, streaming it over your local Wi-Fi network. AirPlay is such a great feature that I've decided to use it as a verb—it's more elegant to write "you can AirPlay a video to your Apple TV" than "you can stream a video to your Apple TV using AirPlay."

In this chapter, I first look at how to control just who gets to AirPlay to your Apple TV. I then look at the different permutations of what's possible with AirPlay: how to [AirPlay from iOS](#); [AirPlay from Mac Apps](#); [Mirror Your Mac Desktop](#), so that your entire video and audio output is copied onto the Apple TV; or [Use Your TV as Another Mac Monitor](#).

And, for those who want to mix it up more, I talk about how to [Mirror from Lion, Windows, and Chrome](#) and how to make your Apple TV the *source* of an AirPlay stream, in [AirPlay from an Apple TV](#).

The Two AirPlays

In practice, AirPlay has two primary forms: content streaming and device mirroring. AirPlay can stream audio or video content directly from a single app, or it can mirror an entire device by streaming all audio and video from all apps, so what you see and hear on the device is exactly what you see and hear on the Apple TV.

Turn On AirPlay

Although an out-of-the-box Apple TV has AirPlay on, it's worth checking that it hasn't been switched off. On your Apple TV, go to Settings > AirPlay and verify that AirPlay is on. While you're on the AirPlay screen, you can change the name of your Apple TV. The name shown here is the name that you'll see in the AirPlay menus on your computer and iOS device.

Lock Down AirPlay

AirPlay is great, but unless you take preventive measures, anyone connected to your Wi-Fi network can AirPlay to your Apple TV. AirPlay always takes precedence, so if you're trying to watch a movie, a merry prankster could butt in with a [music video](#).

The Apple TV has three options for preventing AirPlay interlopers:

- **One-time device verification:** This option makes it so that only “verified” devices can AirPlay to your Apple TV. With device verification, you could prevent neighbors in an apartment building from accidentally sending media to your Apple TV by verifying your devices—but not theirs. If a person can see the Apple TV screen, they can verify their device, so verification won't lock out people in the same room as the Apple TV.

To turn on Require Device Verification, select Settings > AirPlay > Require Device Verification. The next time you try to AirPlay to the Apple TV, you'll see a 4-digit code on the TV screen. Enter it on your device, and you're done. After that, you can AirPlay from that device without verifying.

Note: You can turn on Require Device Verification *and* turn on a passcode or password, if you wish. Or you can just turn on verification on, but leave the passcode or password off.

- **Passcode:** A passcode is good for when you want everyone in the room, such as a conference room, to have access to AirPlay, while denying access to anyone else. With a passcode, when you initiate AirPlay on your device, a 4-digit passcode appears on the TV screen, where everyone in the same room can see it. You enter the passcode on your device, and playback begins. The passcode is different each time. To turn on the Passcode option, select Settings > AirPlay > Security > Passcode.
- **Password:** A password is the best choice when you want only a few select people to be able to AirPlay, such as instructors in an

educational setting. With a password set up, when you try to AirPlay to the Apple TV, you are asked to enter the password. Unlike the passcode, the password doesn't appear on the TV screen. To specify a password, select Settings > AirPlay > Security > Password.

If you've turned on a passcode or password, the next time you AirPlay to the Apple TV, you'll be prompted to enter the passcode (**Figure 36**) or the password.



Figure 36: An AirPlay passcode makes it easy for everyone in the room to share to the screen, but prevents distractions from outsiders.

To turn off Require Device Verification, return to Settings > AirPlay and select Require Device Verification to toggle the setting off.

To turn off a passcode or password, return to Settings > AirPlay > Security and select None for that option.

AirPlay from iOS

In iOS, AirPlay is supported by many apps. In this topic, I look at two ways to turn it on from within the iOS Control Center. With mirroring, everything that happens on your iOS device, the screen display and any sound, are duplicated on the Apple TV; with media, whatever is playing on your iOS device plays on the Apple TV instead.

To AirPlay with mirroring:

1. Bring up Control Center by placing your finger below the bottom edge of the display and swiping up.

Apple TV at the Movies

The marquee feature of the Apple TV is watching movies and TV shows. In this chapter, I show you how to control video playback using both the Siri Remote's touchpad and Siri, [Buy iTunes Movies and TV Shows](#), [Access Purchased Movies and TV Shows](#), and [View Videos with Home Sharing](#).

Of course, you're not limited to iTunes content. In addition to streaming video from Netflix, Hulu, HBO GO, and more (see [TV](#), earlier, as well as [A Look at Apple TV Apps](#), much later in the book), you can [Rip DVDs for Apple TV](#), [Rip TV Shows](#), and deal with [The Blu-ray Bag of Hurt](#). I show you not only how to rip the discs, but also how to add cover art and metadata (and [Improve iTunes Import with iFlicks](#)). Ripped movies can be enormous, so I explain how those of you with cramped system disks can [Offload Movies to Another Disk](#).

Control Video Playback

To watch a movie, TV show, or other video content, open a video app, such as [TV](#), and select the video. No matter how you view a video, the playback controls are identical: to begin, press Play.

While you watch a video, to quickly find out how much has played, lightly touch the touchpad to display the timeline for 3 seconds.

Tip: The timeline fills as video is cached by the Apple TV, so any hollow portion of the timeline represents video that is still being loaded from the server.

Basic Video Navigation

While a video is playing, you can navigate quickly to an earlier or later point in the video with a variety of techniques, which I've listed here with the simplest first:

- **Press to jump by 10:** To skip backward or forward by 10 seconds, press the left or right side of the touchpad (this “press” should be a quick click, don't hold down). Playback resumes automatically.
- **Hold for rewind or playback:** Press and hold down the left or right side of the touchpad to rewind or fast-forward. Release the touchpad to resume playback.
- **Swipe to scrub:** *Scrubbing* is the modern-day equivalent of old-style rewinding and fast-forwarding. First pause, and then swipe left or right to scrub to an earlier or later part of the show. The playhead moves as you swipe and a thumbnail appears above the timeline, displaying the frame at the playhead's current position (not all apps or videos support this feature).

When you begin scrubbing, your current position is marked, and if you move the playhead back to the mark, it will lock into place so you can continue playback at your original position (**Figure 46**). Once the playhead is where you want it, press the touchpad to start playback from that frame. You can also press Menu to start playback again from your original position.



Figure 46: While watching a video, pause and then swipe left or right to reveal the timeline and rewind or fast-forward. A thumbnail appears over the playhead showing the selected frame. Your original position is marked (circled with red here)—move the playhead to that mark to return to your original position.

Tip: Worried that you'll forget how to get around in videos on your Apple TV? Download the [Cheat Sheet](#) that comes with this book, and keep it handy by your TV.

More Video Options

To view details about the currently playing video, swipe down on the touchpad. Swipe horizontally as needed to select a panel:

- **Info:** The Info panel tells you about the video, such as its title, rating, and description (**Figure 47**). For even more information, swipe down once to highlight the description and click it. If the video has chapters (most iTunes movies do), they appear at the bottom of the panel—click a chapter to play it.

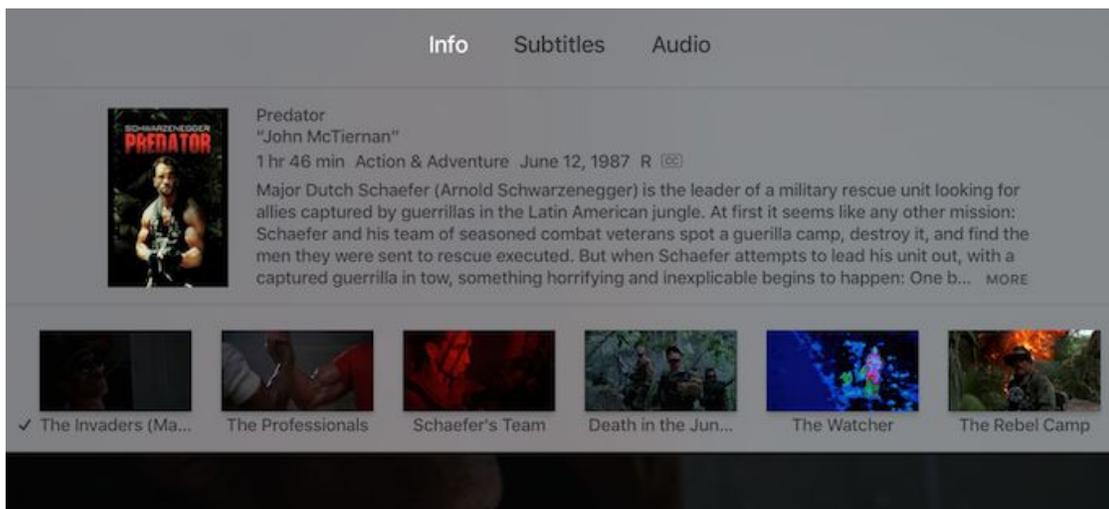


Figure 47: The Info panel displays basic video information, and for supported videos, lets you choose chapters.

- **Subtitles:** Here, you can choose whether to display subtitles or closed-captioning for the currently playing video (**Figure 48**). The exact options available here depend on the particular video. Read [More about Subtitles](#), ahead.

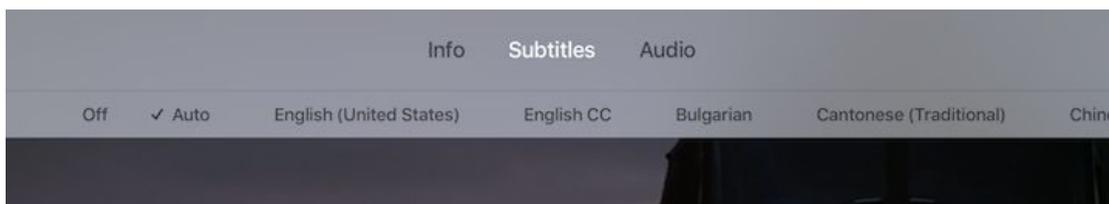


Figure 48: The Subtitles panel shows all the subtitle and closed-caption options for the video.

Rock Out with the Apple TV

The Apple TV isn't just a great device for watching movies and TV—it's also a fantastic hub for audio. This chapter kicks off with a quick look at improving sound quality and then cruises through the built-in audio apps on the Apple TV: [The Music App](#) and [The Podcasts App](#).

Of course, you can also [Listen to Music with Home Sharing](#), even if it's not from Apple, or you may want to [Rip CDs for the Apple TV](#). Finally, the chapter closes with a look at various ways to [AirPlay Audio from a Mac](#) to an Apple TV.

Take the Sound to Eleven

The Apple TV is a fantastic home audio system, but it needs speakers to sound its best. Modern flat-screen televisions don't have great sound quality. To improve your audio, consider adding more hardware:

- **Receiver and speakers:** A home theater receiver with speakers is the traditional answer to improving the sound from your TV, but a downside to this solution is cost and complexity. Also, music is usually recorded for stereo speakers, so an entire 5.1 surround system can be overkill. If you're interested in going this route, look at The Wirecutter's current recommendations for [receivers](#), [bookshelf speakers](#), and [surround-sound speaker systems](#). Expect to spend at least \$400, though you could spend many thousands.
- **Soundbar:** A *soundbar* is a compact set of speakers, crammed into one bar, that addresses the problems of traditional home theater receivers. A soundbar is a better solution than a receiver for most people, since you don't have to string wires all over your living room. Some soundbars feature “wireless” 5.1 surround, so you can have surround sound with fewer wires (These systems aren't truly wireless—usually the only wireless connection is between the soundbar and the subwoofer, which is admittedly convenient.)

Soundbars aren't much cheaper than a receiver/speaker combination; expect to spend anywhere from \$100 to \$1000 on a good soundbar. I recommend reading The Wirecutter's current picks for [The Best Budget Soundbar](#) and [The Best Soundbar](#).

- **AirPlay speakers:** AirPlay speakers are an interesting option. Since your Apple TV can output sound over AirPlay, it can output to a wireless speaker that acts as an AirPlay receiver. Although the selection is limited, many cost less than \$200 and can also work with a Mac or iOS device. The downside is that you can't use an AirPlay speaker for the TV's audio itself, or anything else connected to the TV. (See [AirPlay from an Apple TV](#) for setup help.)
- **AirPort Express and speakers:** Apple's [AirPort Express](#) isn't just a router—it's also an AirPlay receiver. It can receive audio wirelessly via AirPlay and then route it to wired speakers. Its 3.5 mm audio minijack port (headphone jack, in plain English) can output analog audio or optical audio, depending on the type of cable you connect. For example, you can make an optical audio connection with PTC's [TOSLINK to Mini-TOSLINK cable](#).
- **Bluetooth speakers and headphones:** The fourth-generation Apple TV can now output audio to Bluetooth speakers and headphones. I don't recommend Bluetooth speakers for general-purpose listening because Bluetooth audio is often inferior to the above connection methods, but Bluetooth headphones can be a handy option when you don't wish to disturb others.

For most living rooms, a soundbar is the way to go; they're inexpensive and simple, and sound much better than TV speakers. [Vizio](#) makes good soundbars for the money—I purchased an older model 5.1 Vizio soundbar system for under \$200 and have been quite happy with it.

No soundbar can approach the quality and flexibility of a receiver, but receivers are expensive and complicated. I recommend them for enthusiasts, but even then, only begrudgingly. I've owned receivers for many years, and it was always a pain helping family members use them. (Not to mention the utter chaos a toddler can cause by smashing the receiver's buttons.)

Connecting Bluetooth Audio Devices

Turn your Bluetooth audio device on, put it in pairing mode, and go to Settings > Remotes and Devices > Bluetooth on the Apple TV. Choose the device from the list, and it should pair after a few moments.

To choose where Apple TV audio goes, go to Settings > Audio and Video > Audio Output and choose the appropriate device, like your Apple TV (default) or a Bluetooth speaker. To control your speaker's volume, either use the volume controls on the device, the Siri Remote, or, failing those, adjust volume in Settings > Audio and Video > Volume.

The Music App

The Music app is built around the [Apple Music](#) streaming service, which provides access to over 30 million songs and syncs your music among your devices via iCloud Music Library (so long as they are logged in to the iTunes Store with the same Apple ID).

If you subscribe to [iTunes Match](#) (but not Apple Music), you can access your synced songs and playlists with the Apple TV Music app, but the For You, New, and Radio screens will be largely useless (as described in the TidBITS article [Like iTunes Radio? Prepare to Pay or Switch](#)).

In this topic, I assume that you subscribe to Apple Music. If you don't, that's fine, but some features won't work as I describe or as you might expect. If you want to play your Apple/iTunes music without the Music app, you can [Listen to Music with Home Sharing](#).

Before I talk about the various Music app screens, I want to mention that once you start playing something in Music, it will keep on playing even as you navigate to other screens or apps on the Apple TV. It will stop only if another app wants to play audio or if you press the Play/Pause button on the remote. To resume playback, you usually need to return to the Music app, which you can do by pressing and holding the Play/Pause button for several seconds (see [Control Your Apple TV](#) for more remote tips and shortcuts).

View Your Photos and Home Movies

Nothing says “Party!” like 700 vacation photos! All kidding aside, the Apple TV makes it easy to display your photos on your TV. And, you can easily AirPlay photos and home movies from your iPhone, iPad, or iPod touch. tvOS 10 introduced a new feature, called Memories, that helps automatically sort your best photos.

I also show you how to use your photos for [Customizing the Screensaver](#) and [Making Slideshows](#).

Home movies are great on the Apple TV. I explain how to [View Photos and Videos via AirPlay](#) directly from your iOS devices and even view iMovie projects in [The iMovie Theater App](#).

The Photos App

The Photos app displays photos from three different iCloud services: iCloud Photo Library, My Photo Stream, and iCloud Photo Sharing.

Note: If none of these iCloud-related services seem like a good option for you, you can use Home Sharing from a computer in your home or AirPlay from your iOS Device. I talk about those options later in this chapter. I also discuss non-Apple alternatives in [Photos](#).

You may already have one or more of these photo services enabled on the Apple TV—if that’s the case, when you open Photos, you’ll see photos. But if you need to tweak your setup, here’s the basics of how to turn on each of these services (to go beyond the basics, read [Take Control of iCloud](#)).

Note: While iCloud Photo Library counts against your iCloud storage quota, My Photo Stream and iCloud Photo Sharing do not.

Setting up iCloud Photo Library

This Apple service can sync all your photos and videos between all your Apple devices (and Windows PCs).

To set a device to sync photos and videos with iCloud Photo Library:

- **Mac:** Open Photos, go to Photos > Preferences > iCloud, and check iCloud Photo Library. All your photos and videos in Photos will be uploaded to your iCloud Photo library.
- **iOS:** Go to Settings > iCloud > Photos, and turn on iCloud Photo Library.
- **Windows:** Install and configure the [iCloud for Windows app](#).

To enable iCloud Photo Library on the Apple TV, go to Settings > Accounts > iCloud. Ensure that you are signed in with the same iCloud credentials that you are using with iCloud Photo Library elsewhere and turn on iCloud Photo Library. In my testing, pictures and albums appeared quickly, if not quite instantaneously.

Setting up My Photo Stream

With this Apple service, new photos taken with an iOS device or imported into a Mac or Windows PC are automatically copied to Apple's iCloud servers and then spread to all your other devices. There are a few fussy rules for how this works, exactly, but for most people the upshot is that My Photo Stream simply and automatically displays all your recent photos on a variety of devices, including the Apple TV.

Note: If iCloud Photo Library is enabled on the Apple TV, you can't enable My Photo Stream.

To set a device to add new photos to My Photo Stream:

- **Mac:** Turn on My Photo Stream in order to add imported photos from a non-Apple camera. Go to the preferences for your app (iPhoto, Aperture, or Photos) and select the My Photo Stream checkbox (in Photos, choose Photos > Preferences and look in the

iCloud pane). Now, newly imported photos will appear in your My Photo Stream and you can view your My Photo Stream on your Mac.

- **iOS:** Go to Settings > iCloud > Photos and turn on My Photo Stream. Now, newly taken photos will appear in your My Photo Stream and you can view your My Photo Stream in the Photos app.
- **Windows:** You can access My Photo Stream through the [iCloud for Windows app](#).

To view your My Photo Stream in the Photos app on your Apple TV, on the Apple TV, go to Settings > Accounts > iCloud. Ensure that you are signed in with the same iCloud credentials that you are using with My Photo Stream elsewhere.

It may take a few hours or even overnight before you see your photos. In testing, one of my editors didn't see any photos even after waiting until the next day. She solved the problem by returning to the iCloud screen on her Apple TV, turning off the My Photo Stream switch for a moment, and then turning it back on.

Note: For a quick primer on My Photo Stream, consult the free online chapter [Sync Photos and Video across Devices](#), which is part of [Digital Sharing for Apple Users: A Take Control Crash Course](#).

Setting up iCloud Photo Sharing

Albums from iCloud Photo Sharing include albums that you've created and albums that have been shared with you. You may also see these albums referred to as "streams." You can create these albums on a Mac or an iOS device, and you can share them with your friends and family. You can also view them on your Apple TV.

To turn on iCloud Photo Sharing:

- **Mac:** Go to System Preferences > iCloud, click the Photos Options button, and select the checkbox for iCloud Photo Sharing.
- **iOS:** Go to Settings > iCloud > Photos, and turn on iCloud Photo Sharing.

Present with the Apple TV

With AirPlay and the Apple TV, it's easy to put what you want on a big screen, making the Apple TV fantastic for presentations.

In this chapter, I show you how to connect an Apple TV to a projector or SMART Board (an interactive whiteboard and projector commonly used in schools), as well as suggest what a traveling presenter should assemble to [Make an Apple TV Presentation Kit](#).

I also explain how to [Run a Conference Room Display](#), a feature found in previous Apple TV models and reintroduced in tvOS 9.2, which displays onscreen AirPlay instructions.

Finally, I give you some ideas about how you can use an Apple TV to project paper documents, engage in video conferences, and even keep a rowdy class in line.

Connect the Apple TV to a Projector

If your projector or SMART Board has an HDMI input, you're all set! But chances are good that you'll need an adapter to connect from the HDMI port on your Apple TV to a VGA or DVI port on the projector or SMART Board.

It's easy to see the difference between a VGA and a DVI port. A VGA port has 15 pins arranged in a trapezoid (**Figure 99**), while a DVI connector has 24 pins in a rectangular array, with an extra 4 pins on the side (**Figure 100**).

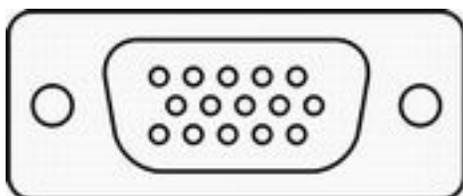


Figure 99: The older, more common VGA connector has 15 pins, arranged in a trapezoid.

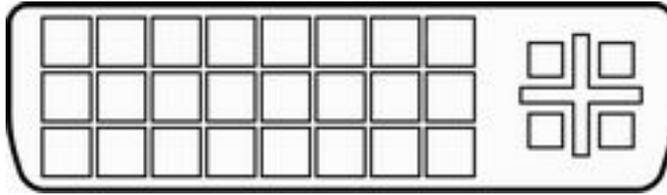


Figure 100: The more recent DVI connector features 24 pins in a distinctive rectangular pattern, with an extra four pins on the side.

To connect the Apple TV to a VGA port, you need a box that can convert the Apple TV's digital signal into old-fashioned analog. The [J&D HDMI to VGA with Audio Adapter Cable Converter](#) is inexpensive and well-reviewed on Amazon. It plugs directly into your Apple TV, outputting video to your projector as VGA and audio through a 3.5 mm (headphone) audio jack. Of course, you will also need a VGA cable to make the connection.

If your projector takes only DVI input, there's good news and bad news. The good news is that the Apple TV HDMI port is compatible with DVI signals, so a simple [HDMI Female to DVI Male Video Adapter](#) will do the trick. The bad news is that it won't carry the audio signal, so you need an HDMI audio extractor like the [ViewHD HDMI Audio Extractor](#), which pulls the audio from an HDMI connection and sends it out either via an optical or RCA connection. Remember to get a pair of RCA male-to-male audio cables (or an optical audio cable) as well.

Note: To review the ports on the Apple TV, go back to [Make the Connections](#).

About HDCP

You buy the equipment to connect your Apple TV to a non-HDMI display, you hook it up and try to play a video, and a nasty message appears: “This content requires HDCP for playback.” Ouch.

HDCP, or High-bandwidth Digital Content Protection, is a form of digital rights management (DRM) that’s built into the HDMI protocol. HDCP is about the content owner’s rights, not your rights as hardware owner and content purchaser. HDCP is designed to prevent viewing or recording content on unauthorized devices.

I’m all for paying content creators and discouraging piracy, but HDCP can be a severe hindrance to legitimate users. Fortunately, like most forms of DRM, HDCP is easy to work around. You simply need an HDMI “splitter” device that sits between the Apple TV and the display that routes around HDCP, like this [Sewell HDMI Splitter](#).

Please use this knowledge for good and not evil. Don’t steal from the people who work hard to bring you the content you enjoy.

Make an Apple TV Presentation Kit

If you frequently travel to give presentations, the Apple TV is a great device to take along. With AirPlay, you can throw any content you like on the screen from an iPhone or iPad and be free to walk about the room, unencumbered by wires. Although you should add or exclude items to suit your needs, here’s a checklist of what I suggest you bring when presenting in unknown environments:

- **Apple TV:** Whatever you do, don’t forget it! Be sure to pack its power cable too.
- **Siri Remote:** Ditto! But since the Siri Remote is a whopping \$79 and is easy to lose, it may be smarter to bring along a relatively cheap Apple Remote instead, or use the Remote app for iOS or Apple Watch—see [Run the iTunes Remote App](#).
- **Two HDMI cables:** Why two? First, it’s always good to have a spare. Second, if you have to use an HDMI splitter to make your Apple TV work with a display or projector that isn’t HDCP compliant, then

A Look at Apple TV Apps

The biggest change in the fourth-generation Apple TV over prior models is the addition of the App Store, which adds thousands of apps previously not available for the Apple TV, as well as your old favorites.

The downside is that if you depend on a certain app, like Netflix, it's no longer pre-installed—you have to find and download it yourself. And because there are so many apps in the App Store, it can be difficult to know where to even start.

To that end, this chapter lists some of the best apps. I also discuss the Plex media management system, which is now native to the Apple TV. For directions for finding and downloading an app from the App Store, see [Finding Apps in the App Store](#).

Note: This chapter is written from my perspective as a United States resident. App and content availability will differ by country.

Cable TV Replacements

Have you cut the cord, miss live TV, but don't want to go crawling back to a cable or satellite provider? The Apple TV now supports three services that serve as alternatives to traditional TV packages: [DirecTV Now](#), [PlayStation Vue](#), and [Sling TV](#). All three have different pros and cons that are explained in these TidBITS articles:

- ✦ [Sling TV, a Cord Cutter's Delight, Arrives on Apple TV](#)
- ✦ [PlayStation Vue Wins Cord-Cutter Option for News and Sports](#)
- ✦ [DirecTV Now Joins the Scrum of Cord-Cutting TV Services](#).

Paid Video Apps

The Apple TV offers several video apps that work independently of any cable or satellite service, for either a one-time payment or a monthly fee. Check in each app to find out what the current rates are.

CBS

Access live CBS broadcasts in select viewing areas, as well as on-demand CBS shows with the CBS app. A monthly subscription to [CBS All Access](#) is required, though a 1-week free trial is available.

Channels

This app is a bit different than the others in this section, because it requires extra hardware: an HDHomeRun tuner. If you have one, and the paid Channels app, you can access live TV via an antenna or cable subscription. For details, see Glenn Fleishman's TidBITS article [Channels App Adds Live TV to the Apple TV's Capabilities](#).

Crunchyroll

If you're an anime fan, check out [Crunchyroll](#), which offers streaming anime for \$6.95 per month. For \$11.95 per month, you can purchase an All-Access package, which includes live-action Asian dramas. A 2-week trial is available, and you can sign up through the Apple TV. Or, check the [Premium Membership Plan Comparison](#) page to sign up and compare the two paid options.

History Vault

The History Channel has an enormous archive of historical documentaries, and now with [History Vault](#), you can watch them commercial free, without a cable or satellite subscription for \$4.99 per month after a 7-day free trial.

NHL

The NHL app offers free statistics and video highlights. For an annual fee, you can subscribe to [NHL.TV](#), which provides access to live video and archives, subject to [blackout restrictions](#). Playoff games are not available, nor is any other game that is nationally televised.

Hulu

[Hulu](#) is akin to Netflix in that it offers movies and TV shows for a monthly fee, though Hulu specializes in offering TV shows shortly after they air. Hulu unfortunately also shows ads, although there is a semi-ad-free option for an additional monthly fee. Hulu has recently boosted its selection of exclusives, like the sitcom classic *Seinfeld* and films from The Criterion Collection.

HBO NOW

Want HBO originals like *Game of Thrones*, but don't want to go through a cable or satellite provider? [HBO NOW](#) lets you cut the cord, getting full access to HBO content as it airs for a monthly fee. If you already subscribe to HBO through a TV provider, you'll want to instead check out [HBO GO](#).

Lynda

[Lynda](#) offers paid online courses in business, technology, and creative skills. The average monthly cost is \$20 or \$30 after a 10-day free trial.

MLB.tv

The MLB.tv app provides free scores, standings, and video recaps for Major League Baseball games. If you subscribe to [MLB.tv Premium](#), you can watch every live regular season MLB game, subject to blackout restrictions. Unfortunately, this subscription doesn't cover playoff games, which require a separate subscription to watch them later in the United States and Canada.

MLS

The MLS app offers free stats and highlights for Major League Soccer. Access to live games is available for a monthly fee via [MLS Live](#), subject to blackout restrictions. There are also free shows, such as MLS Insider.

NBA

As with the other sports apps on the Apple TV, the NBA app offers free stats and highlights. For an annual subscription fee, you can buy [NBA League Pass](#), which lets you watch all regular season, out-of-market games.

Netflix

The overlord of streaming services, [Netflix](#) is available in almost every country (except China) and seemingly on every device capable of playing video. Your monthly subscription entitles you to a plethora of movies and TV shows, including several fantastic Netflix originals, such as *Daredevil*, *Grace and Frankie*, *House of Cards*, *Jessica Jones*,

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About the Author



Josh Centers is the managing editor of TidBITS and a freelance writer who has contributed to several publications, including Macworld, The Magazine, Boing Boing, and The Sweethome. He has been featured on Daring Fireball, The Loop, and Scientific American.

Josh lives in Tennessee with his wife and son.

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