



Ditch the Dish!

Streaming Media 101



Hello!

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\$25.3 Billion

That's how much Americans spent on subscription streaming services in 2021, according to the Digital Entertainment Group (DEG) year-end industry data.

That's more than 78% of all consumer spending on home entertainment.



So many options!

Budget

How much do you want to spend each month?

What's your budget for a new streaming media device?

Internet speed

What speed do you have now?
Do you need to increase it?
Can you? If so, what will that do to the budget?

How do you watch?

Do you have an existing device to use, or do you need to purchase a new streaming device?

Will your current TV work with your preferred device?

Do you want to watch away from home? (Do you want to be able to download shows and movies to your device?)

What content do you want?

- Live or on-demand?
- Sports?
- News?
- Networks/local channels?
- Premium channels?
- Specific shows?
- What do you already have?

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What is streaming?



What is **streaming**?

“Streaming media is multimedia that is constantly received by and presented to an end-user while being delivered by a provider.”

- Wikipedia



Assumptions

- You have internet service at home
- You have an email account
- You have basic internet navigation skills



Photo by [Marcel Strauß](#)

What do I need?

Internet connection | Television | Streaming device | Streaming service

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Internet Service

Speed | Data usage | Connection types | Setup

Internet Service



Test your connection speed: [speedtest.net](https://www.speedtest.net)

CONNECTION

In order of speed:

- Ethernet
- Wifi 802.11ax
- Wifi 802.11ac
- 802.11n, a, b, or g

SPEED

Audio: **128 Kbps**

SD video: **3 Mbps**

HD (1080p) video: **5-8 Mbps**

4K video: **18-25 Mbps**

Multiple streams: **50 Mbps+**

DATA

Netflix

1 GB/hour in standard def
7 GB/hour for high def

YouTube

562 MB/hour for 480p,
3 GB/hour at 1080p,
16 GB/hour at 4K

Amazon Prime

800 MB/hour for 480p "good"
2 GB/hour for HD "better"
6 GB/hour for 4K "best"

Why is it **slow**?



Interference - Microwave ovens, cordless phones, etc.

ISP slow downs - Time of day, hardware/software problems, pandemics.

Busy source - Popular live events can get overwhelmed with data requests.

Your equipment - Older and less-powerful devices don't always stream well. Older Wifi router might be using a slower protocol.

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Television & other screens

Smart TVs | TV requirements & specs | Mobile devices & PCs

Smart TVs



What's a Smart TV?

One that can connect to the internet and install/run apps

Do I need one?

Nope! **60%** of Smart TV owners use another device anyway.

Security concerns, various quality of OS, automatic content recognition (ACR)

Can I use one anyway?

Sure! [TechRadar 2022 review](#) | [Tom's Guide 2022](#) | [Consumer Reports](#)

Be sure to change the admin password and keep the software updated,

TV Specs



Ports

High Definition Multimedia Interface (HDMI)

A USB port is useful if you have "stick" devices that need power



Other TV terminology

4K Ultra HD - Standard on most new TVs; about 4 times better resolution than 1080p.

High definition - 720p, 1080i, 1080p; **Standard def** - 576i, 480i

HDR - High dynamic range. Better contrast and more colors.

Dolby Vision - a dynamic HDR format.

Dolby Atmos - a high-end sound format.

Other Screens



Tablets and smartphones

Apps that work with most streaming services are free.

Just watch your mobile data consumption!

PCs, Laptops, and Chromebooks

Streaming services work through your browser or through apps on your PCs and Chromebooks.

Chromebooks can also use one of the least-expensive devices, the Chromecast, to send movies, TV, photos, and more to your television.

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Streaming media players

Amazon Fire | Roku | AppleTV | Google Chromecast | Nvidia Shield |
Mobile apps | Others

*Prices as of 17 Jan 2022

Amazon Fire TV



Fire TV Stick Lite - \$30

Supports HD video, no TV controls on the remote. (With Alexa Voice remote, \$38)

Fire TV Stick 4K - \$50

4K, HDR, and Dolby Atmos support

Fire TV Stick 4K Max - \$55

Ultra HD, Alexa Voice remote. Supports WiFi 6

Fire TV Cube - \$120

Ethernet adaptor, far-field voice control, 16GB storage, Dolby Atmos, 4K, HDR

Roku



Roku Express / Express 4K+ - \$30/\$40

Simple remote / Voice remote with TV controls,, 1080p

Roku Streaming Stick 4K / 4K+ - \$50 / \$70

Long-range Wifi, voice remote

Roku Ultra - \$100

Enhanced voice remote with "lost" feature, faster channel launch and "better experience"

Roku Streambar / Streambar Pro - \$130 / \$180

Sound bar plus streaming device, voice remote, headphones option..

Apple TV

Apple TV HD - \$149

Siri remote, ethernet, built-in power supply, A8 chip, Dolby surround sound.

Apple TV 4K - \$179 (32GB) and \$199 (64GB)

Siri remote, 4K video, Dolby Atmos, A12 chip

This is the only device that gives you access to your iTunes library.
Usually includes 3 months of access to Apple TV+.



Chromecast



Google Chromecast with Google TV - \$50

Streams content from your phone or computer to your big screen.

Can integrate all of your streaming services, including YouTube TV. Remote with Google Assistant.

Offers several bundles and packages with Nest smart home products.

See https://store.google.com/product/chromecast_apps for Chromecast-enabled apps

Nvidia Shield

Nvidia Shield TV - \$149-\$199

Google TV streaming media player; Google assistant built-in.

Ethernet or Wifi

4K HDR, Dolby Vision and Dolby Atmos, fast processor.

The choice for streaming games from Google Play Games and GeForce NOW.

Supports a game controller.



Mobile Apps



If you plan to watch on your mobile device,
you're all set!



Watch for free

Over-the-air stations | PlutoTV | NewsON | Crackle, Tubi & others |
TV provider login credentials

Over-the-Air

Indoor antennas - \$35+

Not great range, but cheap and easy to install.

Outdoor antennas - \$40+

Better range. Can get expensive if you want to have a really big one installed.

PBS - 36 Park Falls

ABC - 34 Eagle River

CBS - 7 Wausau

NBC - 12 Rhinelander

Fox - 21 Hayward/Ashland

Duluth stations?

News websites

WJFW - Channel 12, Rhinelander

www.wifw.com

WSAW Channel 7, Wausau

www.wsaw.com

National news networks

Most of the major news networks will let you watch news clips on their websites.

Free streaming



100+ live channels of news, TV, movies, and entertainment. Owned by ViacomCBS. .

Free apps for most streaming devices.

CRACKLE

Crackle: free streaming of classic movies and TV, some original content.



Recent local news broadcasts from stations around the country, including Duluth, Green Bay, Milwaukee.



Tubi: movies and TV shows from several major studios including MGM & Lionsgate.

On-demand services

Netflix | Hulu | Amazon Prime | Disney+ | AppleTV+ | ESPN+ |
Premium channels: HBO, Starz, Cinemax, Showtime | All-access
subscriptions: CBS All Access, Peacock, PBS Masterpiece, BritBox, etc.

Netflix



Basic - \$9.99/month

One device, SD video, download titles to one device

Standard - \$15.49/month

Two simultaneous devices, HD when available, download to two devices

Premium - \$19.99/month

Four simultaneous devices, Ultra HD when available, download to two devices

Hulu



Hulu - \$6.99/month

Hulu (No Ads) - \$12.99/month

"No ads" only applies to on-demand content, and a few shows do still have ads.

These plans are STREAMING ONLY - No live broadcasts.

Prime Video



Amazon Prime membership - \$139/year

You can get just Prime Video for \$8.99/month, or pay by the month for your Prime membership at \$14.99/month.

Not all the video content on Amazon is included in your Prime membership

You can purchase or rent new movies and TV shows in addition to what you can watch for free with Prime Video.

AppleTV+



\$4.99/month

Purchase a new Apple device and get a free year subscription

This subscription gets you access to Apple's original content, including Ted Lasso, The Morning Show, Oprah's Book Club, and Snoopy in Space.

The Apple TV app allows you to watch Apple TV+ content if you are a subscriber, manage your premium and all-access subscriptions, and rent or purchase digital films and shows from the Apple Store.

Disney+

Disney+ - \$7.99/month

Bundle Hulu, ESPN+ and Disney+ starting at \$13.99/month

Generally the only place to stream Disney, Pixar, Marvel, Star Wars and National Geographic content



ESPN+



\$5/month

Bundle Hulu, ESPN+ and Disney+ starting at \$13/month

NOT the same as ESPN

Includes classic and original content.

Select live events from MLB, NHL, NBA, MLS, college sports, boxing, and Grand Slam tennis. Lots of soccer, too.

"Condensed" version of SportsCenter Roundup and NFL Prime Time

Premium & All-Access

\$5 to \$15/month

Premium channels: HBO, Starz, Cinemax. Showtime - \$10-15/month

All-Access channels give you on demand access to the back catalogs of popular channels. \$5-\$10/month. Examples:

- **Peacock** - Free, Premium (\$5/mo), Plus (\$10/mo) - Includes some live TV
- **PBS** - Stream live PBS feed for free. If you're a member of PBS Wisconsin, you can get access to more content online and using the PBS Video app. (\$60/year +)
- **BritBox** - BBC and iTV - \$6.99/month or \$69.99/year
- **Acorn TV** - \$5.99/mo or \$59.99/year
- **Paramount+** - \$5.99/mo, \$10/mo with no ads (includes CBS content)
- **Gaiam TV** - yoga - \$6.99/month or \$69.99/year
- 100+ channels!

No Contracts



Yes, you really can subscribe for just one month!

Many services have 7-day free trials, too.

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Live streaming services

SlingTV | Hulu Live | Philo | DirecTV Stream | YouTube TV

SlingTV

\$30-\$50/month depending on package

- \$5-\$10 extra packages for kids, sports, news, lifestyle
- A la carte packages also available
- Watch for deals:
currently offering a free Chromecast
- Local channels only with an HD antenna



Hulu Live



\$54.99 - \$60.99/month

- Pretty comprehensive channel package
- Available entertainment and Spanish language add-ons, add-on for unlimited screens
- Local channels where available

Philo



\$25/month

- 64 "basic cable" channels - Hallmark, MTV, Discovery, etc.
- No local channels and no ESPN.
- Only news is BBC
- Works on most streaming devices.
- Add-ons for \$3 - \$9/month

fubo

fubo^{TV}

Another comprehensive cable replacement option

Plans start at \$65/month and include lots of news, sports, and entertainment channels

Add-one for additional sports, other language packages, add'l screens, DVR space, and premium channels



DirecTV Stream

\$69.99 to \$149.99/month

- The most expensive live TV option, but also the most comprehensive
- Some packages include premium channels like HBO and Cinemax
- Sports packages (NBA League Pass and others) available
- Local networks and regional sports networks included
- Channel lineup :

https://www.directv.com/dtvassets/pdfs/channel_lineups/DIRECTV_STREAM_Channel_Lineup.pdf

YouTube TV



\$65/month

- 85+ channels
- Includes local channels and news networks
- Includes league networks: NFL, MLB, NBA
- Add-ons available for extra sports, premium channels
- 4K is add-on for approx \$10/month
- Unlimited DVR storage space
- Works with most streaming devices
- Not the same as YouTube Premium, which allows you to watch online YouTube videos without ads.

How to choose

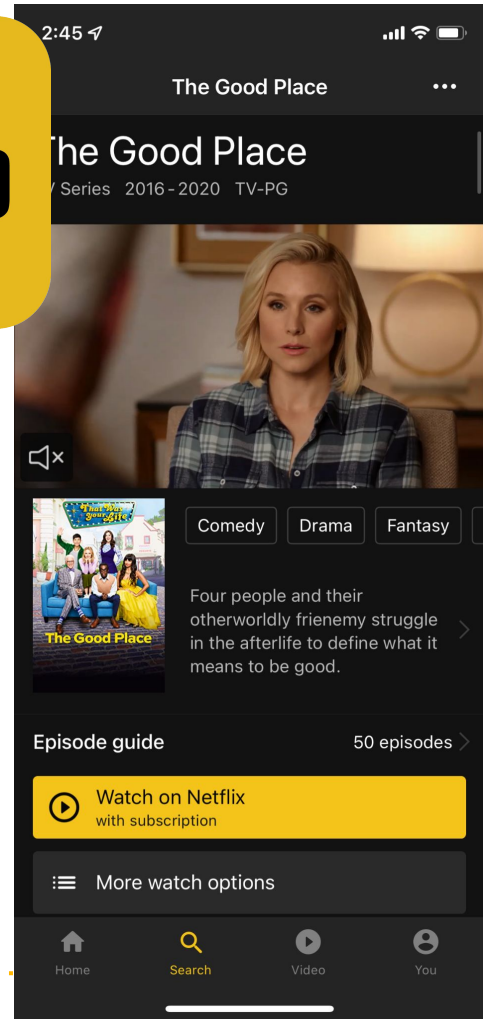
Budget | Internet speed | Devices | Content

IMDb.com

"Who is that guy? Where have I seen him before?"

Also includes a guide to Watch Options - will show you all the places you can stream or purchase the movie or show you're looking at.

IMDb



Just Watch

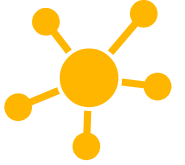
Free app for iOS, Android, FireTV, Samsung, LG, Xbox

Helps organize your streaming services, figure out where you can watch the show or movie you want.

Also includes info on where you can rent or purchase the digital titles you're looking for.

Include all your service playlists in one place





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Don't forget

You can always check out DVDs at the library!



Thanks!

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