

# BUYING YOUR NEXT TV



Life Long Learning Club

Life is Too Short to Be Bored

# HANDOUTS

Download Today's  
Presentation at:  
[Life-long-learning.club](http://Life-long-learning.club)



An abstract graphic on the left side of the slide, featuring a vibrant red background with flowing, translucent green and yellow shapes that create a sense of movement and depth.

# QUESTIONS AND CONCERNS

- My new TV doesn't look like the demo at Costco or BestBuy. Why is that?
- Why are movies on Netflix (Disney+, etc.) so dark?
- I don't understand the technical jargon. Do I need to?
- I watch older movies and the picture looks so distorted. Why?
- If I 'Cut the Cord' what do I gain and what do I lose?



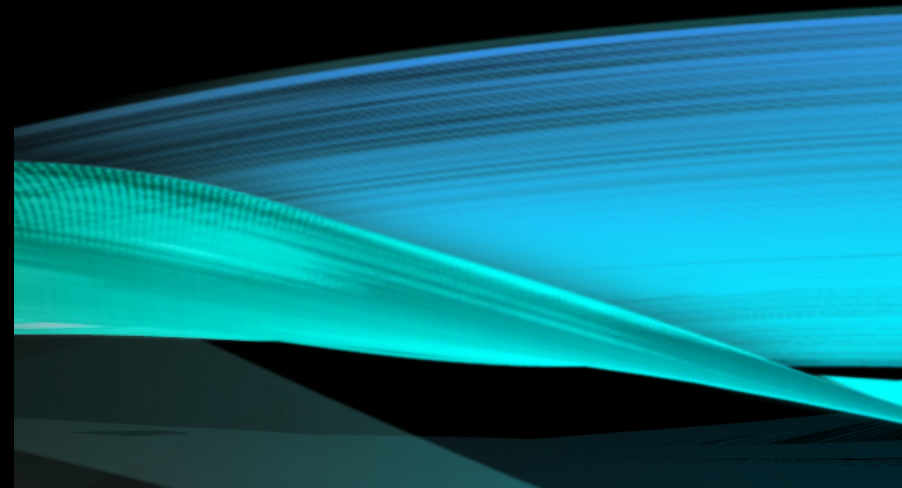
# TOPICS FOR TODAY

- Screen types
- Price
- Screen size
- Resolution
- Picture quality
- Source of video
- Smart TV





WHAT IS  
A PIXEL?





- CRT
- Plasma
- LCD
- LED
- OLED



# SCREEN TYPES



**LCD  
LED**



**OLED**

# SCREEN TYPES



LCD  
LED

## Transmissive Display

- relies on a separate light source to illuminate pixels

Polarizer   C/F Glass   Liquid Crystal   TFT Glass   Polarizer   Optic Sheets   Light

## Emissive Display

- Emit light & color from each pixel to create a picture.

OLED

Polarizer   OLED Cell   Back Cover

# SCREEN TYPES



# WHICH IS BETTER?

## LED (LCD) TV

- **Pros**

- Less expensive
- Bright picture
- Numerous choices

- **Cons**

- Requires a backlight
- Black not black
- Viewing angle
- Too many choices

## OLED TV

- **Pros**

- No backlight needed
- Ink black picture
- Viewing angle

- **Cons**

- Expensive
- Not as bright as LED
- Limited choices

COST

TYPE	COST
LCD	\$-\$\$
LED (LCD)	\$-\$\$
OLED	\$\$-\$\$\$\$



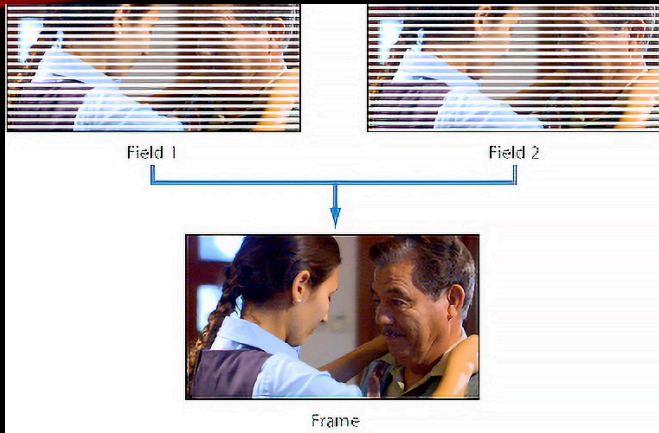


# NATIVE SCREEN RESOLUTION

- HD
  - 1,920 X 720 pixels
  - 1,920 X 1,080 pixels
- 4K – UHD
  - 3,840 X 2,160
- 8K – UHD
  - 7,680 X 4,320
- 12K ...



# 1080i vs. 720p



1080i



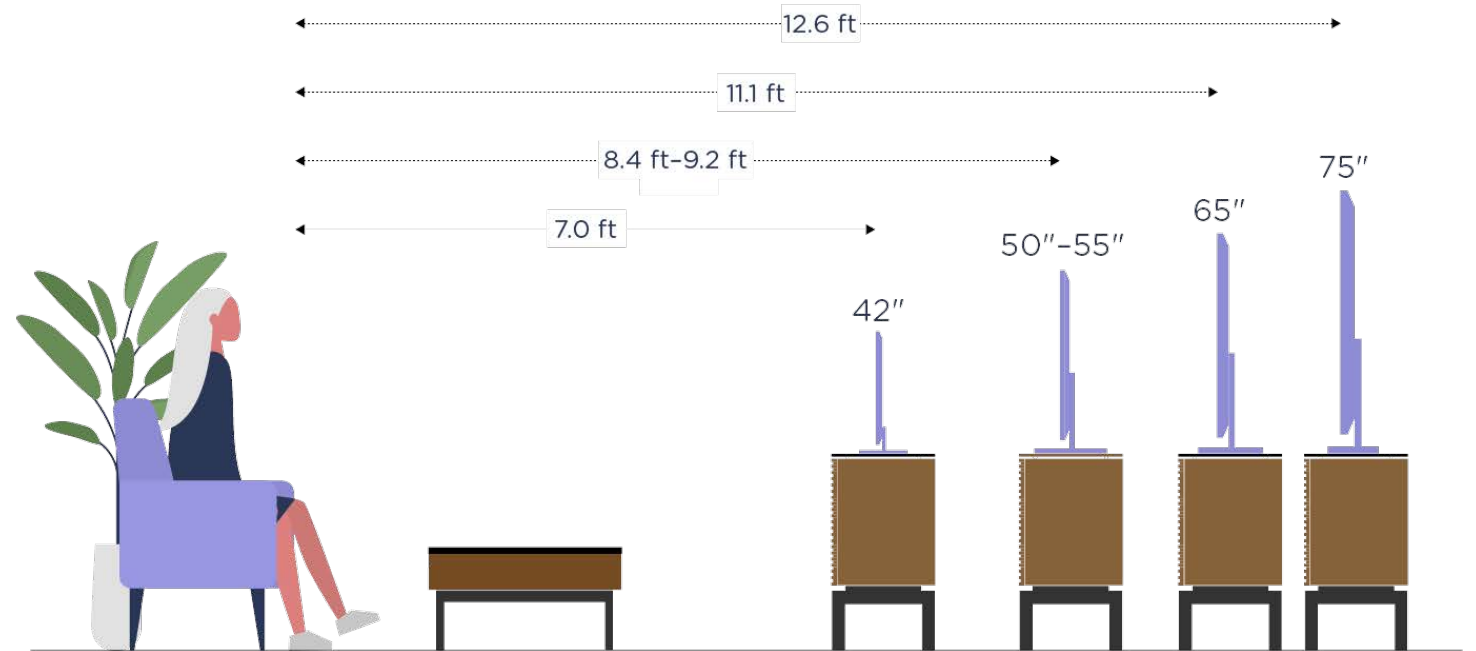
720p

TV Channel	Resolution
ABC	720p
CBS	1080i
NBC	1080i
FOX	720p
PBS	1080i
Discovery	720p
BBC America	1080i
CNBC	1080i
CNN	1080i
Disney (Not Disney+)	720p
E!	1080i
ESPN	720p
Food Network	1080i



# SCREEN SIZE

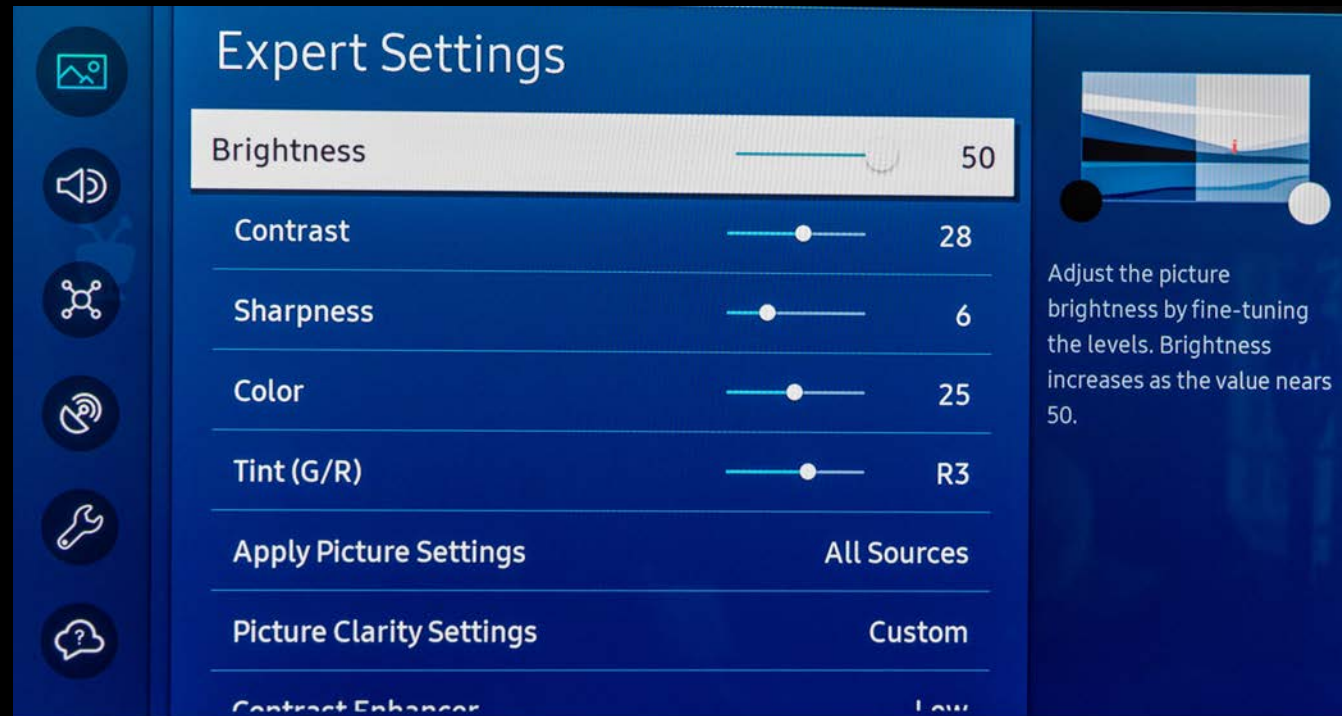
Is bigger always better?



# PICTURE QUALITY

That's what it's all about!

- Brightness and Contrast
- Color Accuracy
- Viewing Angles
- Motion Handling



The screenshot shows the 'Expert Settings' interface for picture quality. On the left is a vertical sidebar with icons for picture, audio, connectivity, motion, and help. The main area is titled 'Expert Settings' and contains several settings:

Setting	Value
Brightness	50
Contrast	28
Sharpness	6
Color	25
Tint (G/R)	R3

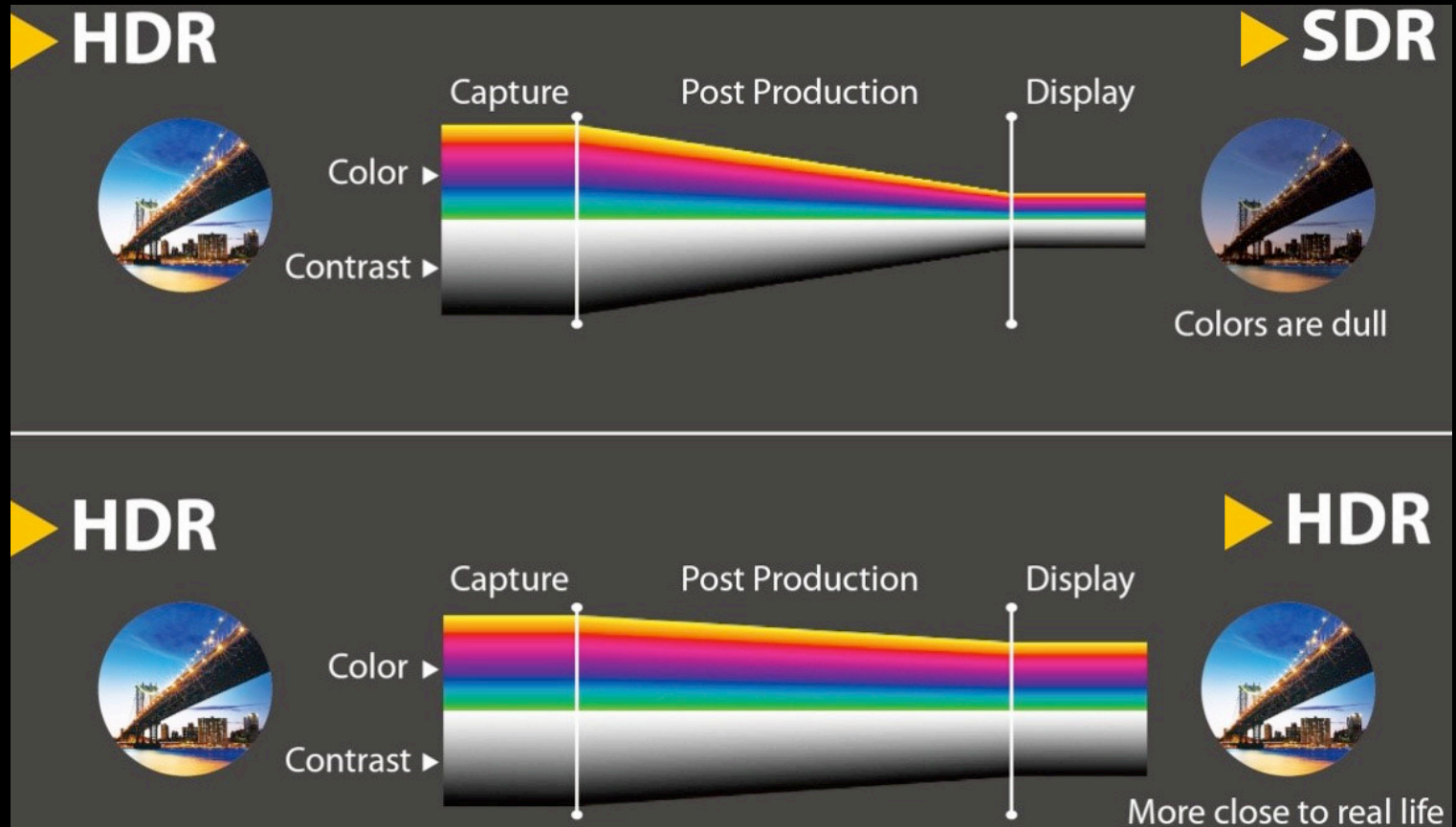
Below the sliders are two buttons: 'Apply Picture Settings' (set to 'All Sources') and 'Picture Clarity Settings' (set to 'Custom'). At the bottom, 'Contrast Enhancer' is set to 'Low'.

On the right side of the interface, there is a diagram illustrating the brightness adjustment. It shows a horizontal bar with a red vertical line indicating the current brightness level. Text next to it reads: 'Adjust the picture brightness by fine-tuning the levels. Brightness increases as the value nears 50.'

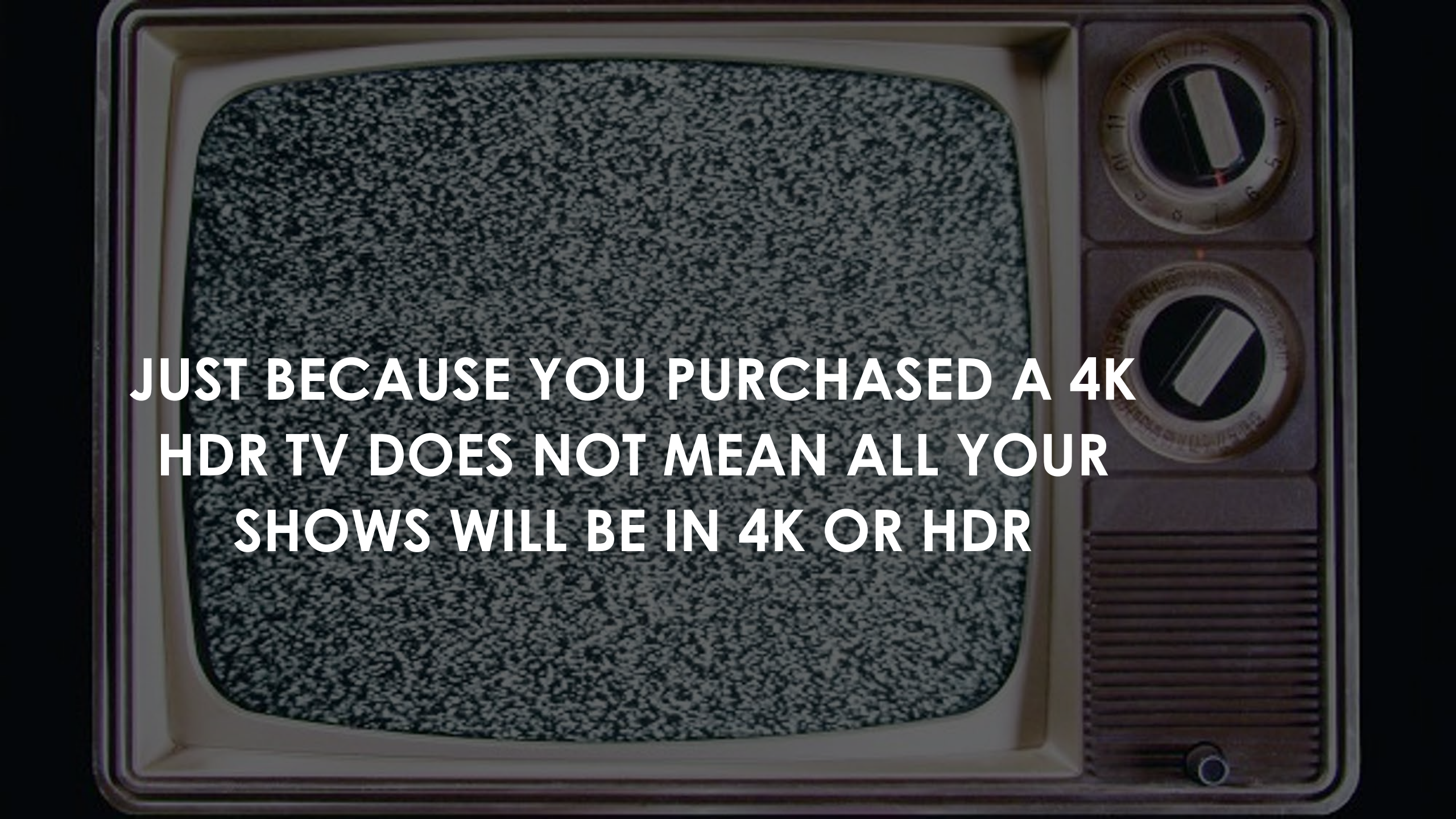


# HDR

- Don't confuse HDR with HD
- HDR Provides better color and brightness
- Not all TVs support HDR
- Not all TV shows are HDR
- HDR10, HDR10+, Dolby Vision



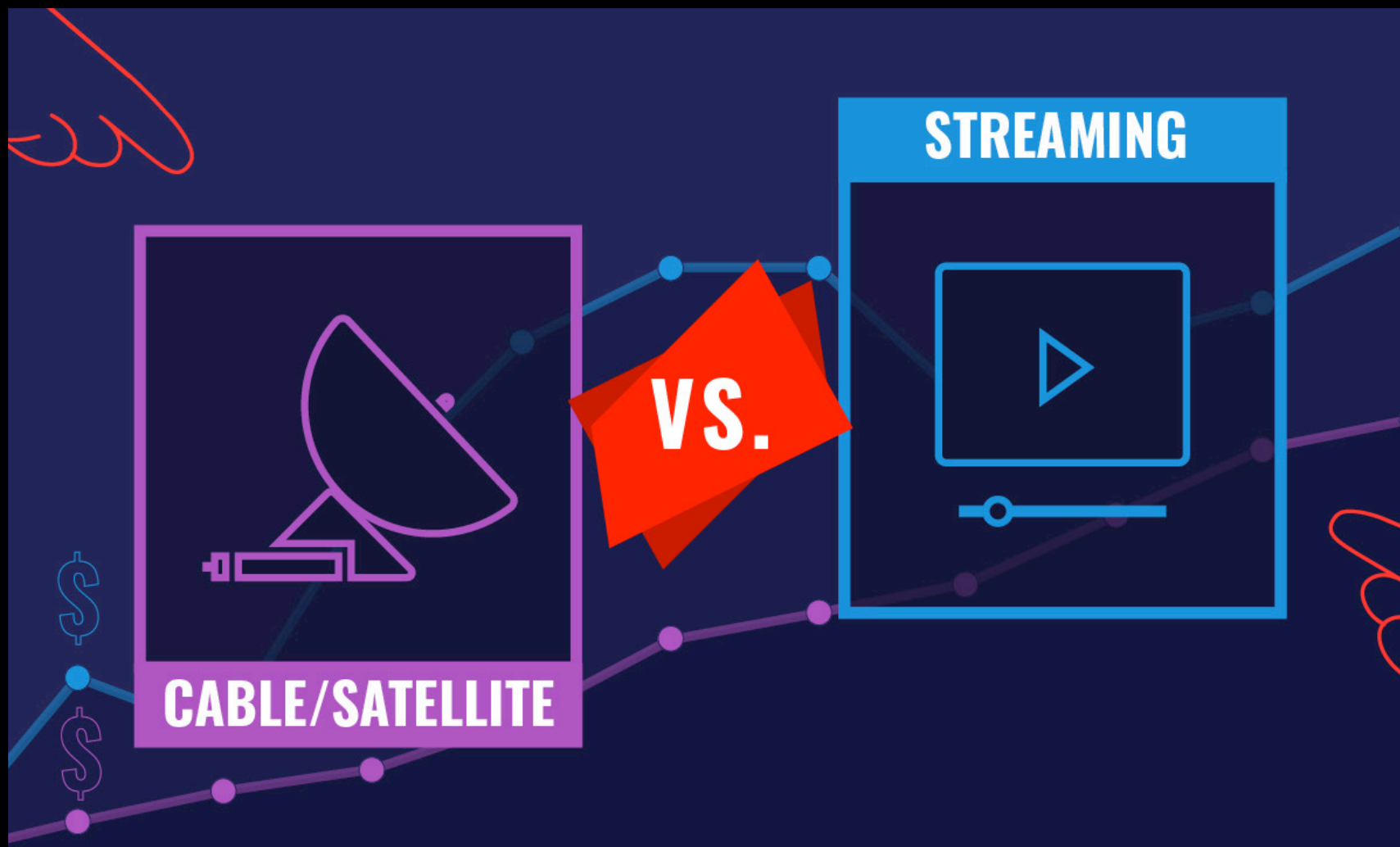


A vintage television set with a dark, grainy screen. The right side of the TV features two large analog dials with numbers 1 through 12, and a speaker grille below them. The text is overlaid in the center of the screen.

**JUST BECAUSE YOU PURCHASED A 4K  
HDR TV DOES NOT MEAN ALL YOUR  
SHOWS WILL BE IN 4K OR HDR**



# THE SOURCE MATTERS!



# IT CAN BE COMPLICATED

SOURCE	HD	HDR	4K	COST
Spectrum Cable <sup>1</sup>	✓	✗	✗	\$\$\$
Streaming <sup>2</sup>	✓	✓	✓	\$ - \$\$\$
DirectTV / Dish	✓	✓	Very Few	\$\$\$
Over-the-Air (OTA) <sup>3</sup>	✓	✓	✓	Free
Blu-ray DVD	✓	✓	✓	N/A

1. Spectrum and Frontier are similar in performance. Spectrum and Frontier offer HDR and 4K using their streaming service.
2. Streaming includes Netflix, Disney+, Apple TV, Roku, YouTube TV, Amazon Fire, etc.
3. FCC authorized 4K and HDR for over-the-air in 2022. However very few stations offer such programming at this time.

# BROADCAST CHANNELS

TV Channel	Resolution	HDR?
ABC	720p	NO
CBS	1080i	NO
NBC	1080i	NO
FOX	720p	NO
PBS	1080i	NO
Discovery	720p	NO
BBC America	1080i	NO
CNBC	1080i	NO
CNN	1080i	NO
Disney (Not Disney+)	720p	NO
E!	1080i	NO
ESPN	720p	NO
Food Network	1080i	NO

Do you see a pattern?



# QUIZ

- What will ABC news look like on the new TV?
  - SD
  - HDR
  - HD
  - 4K
  - Dolby Vision



ABC news in HD



YouTube streaming supports HDR and 4K



Your new TV supports HDR and 4K

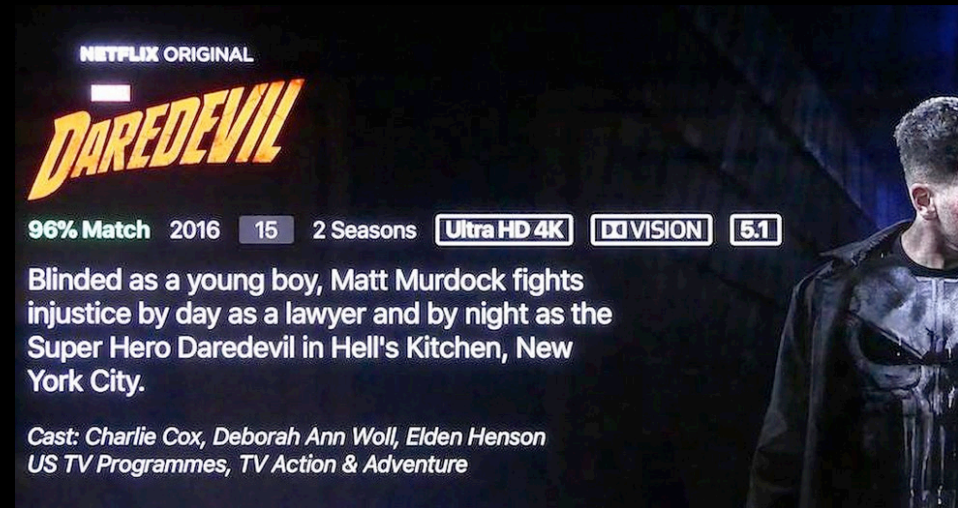
The background features a dark purple grid pattern. Overlaid on this are several translucent, wavy bands of color: a bright orange and yellow band at the top, a red band at the bottom left, and a cyan and blue band at the bottom right. A large, thin blue circle is positioned on the left side of the image, partially overlapping the grid and the colored bands.

UPSCALE



# NETFLIX 4K HDR EXAMPLE

How do I know if my show is  
in 4K and/or HDR?



4K and Dolby Vision (HDR)



HDR (no 4K)



# SCREEN RATIOS

Why so many?

- 4:3
- 16:9
- 2.35:1
- ...





4:3 Aspect Ratio - Pillarboxed



4:3 Aspect Ratio - Stretched to 16:9

# VIEWING OLDER SD SHOWS

Stretch or not?

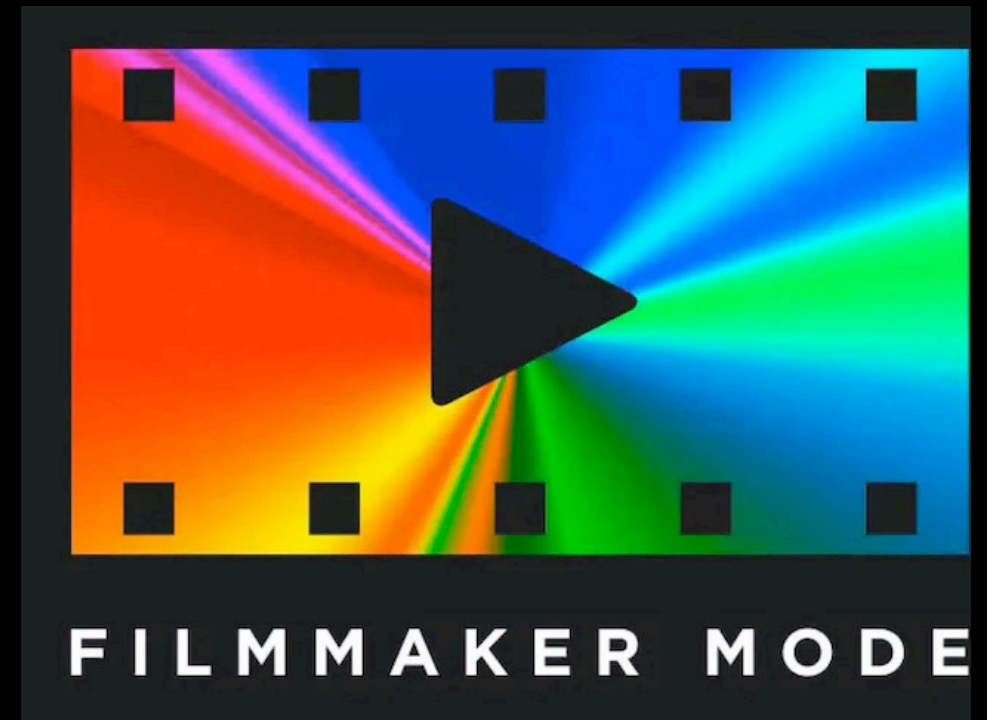


WHY IS MY PICTURE SO DARK?



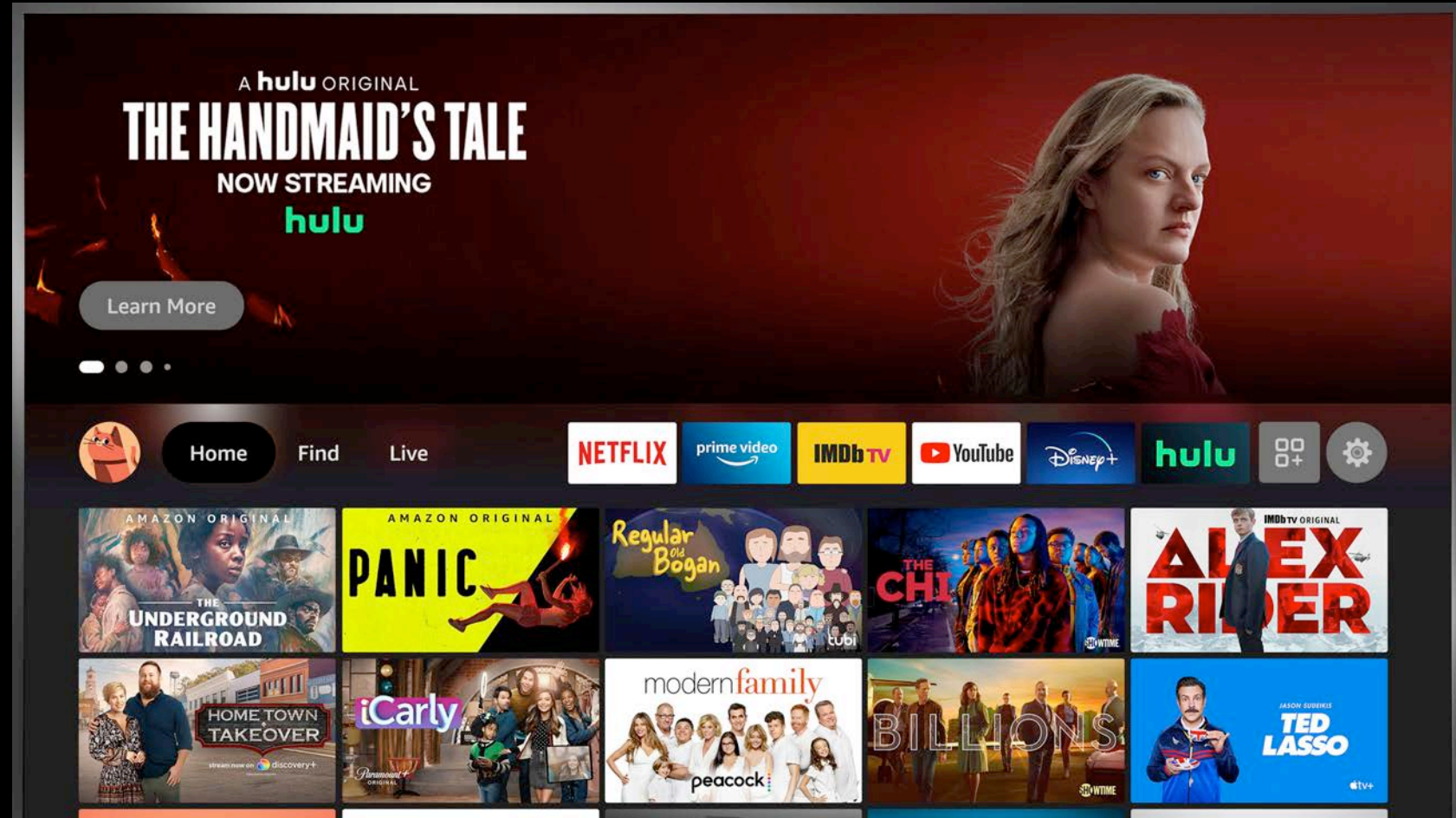
# DARK PICTURE

- TV adjustment with contrast and/or brightness
- TV is using “Cost Savings” or ECO mode
- TV is automatically adjusting brightness to match the environment sometimes called “Ambient Mode”
- The Filmmaker (Creator) is using HDR, HDR10, HDR10+ or Dolby Vision. ***Let's talk about this one!***



# SMART TV

IT'S ALL ABOUT THE  
APPS WITH  
STREAMING BUILT IN



# USE ONLY HDMI 2.1 OR BETTER

HDMI 2.1 is the only  
connection for 4K and HDR





# SUMMARY

- Be knowledgeable of the jargon when shopping for a new TV in 2023 and beyond
- What works for you may not work for others
- Remember the source of your show is as important as the technical capability of your new TV. Weakest link!

