

Television Specs Guide

Television specifications can be overwhelming. With so many technologies and numbers, how do you know what's right for you? To make your purchase easier, we've defined some basic TV terms and explained the differences between common technologies.

TV CLASS (DISPLAY/SCREEN SIZE)

The actual measurement of the screen diagonally. Example: the measurement from bottom left corner of the screen to the top right corner of the screen. Display size is categorized by a rounded number, not the actual measurement. Example: a 32" TV might measure 32.6" diagonally. A 50" TV might measure 49.5" diagonally.

The size is generally determined by how far away you sit. TVs larger than 48" are best if you sit more than 6 feet away.



DISPLAY TYPE

LED Panel TVs labeled as LED are LCD panels with LED backlighting.

Pros: LED backlighting allows for a thinner display, consumes less power, adds brightness, offers better contrast levels and dissipates heat well.

Cons: lower quality black rendering (compared to OLED displays), ghosting issues with fast-moving images, prone to dead pixels.

OLED Display (Organic LEDs)

Pros: thinner than LED, lightweight, no backlighting required, very deep blacks, superior contrast ratio. Best picture available.

Cons: significantly higher cost, few choices at this time.

Curved Panel

Pros: slightly better viewer immersion, enhanced depth, wider field of view, elegant/modern look.

Cons: not recommended for wall-mounting, exaggerated reflections, benefits aren't noticeable on smaller screen sizes.



DISPLAY RESOLUTION

High definition (HD) refers to the level of detail in a screen. It is in relation to the number of pixels in a display, not the physical size of the screen. Pixels are the dots that make up the overall picture. The higher the number, the more crisp and sharp the picture can be (depending on the source).

The different resolution pixel counts are:

480p (SD): 720x480 pixels. Standard DVD resolution.

720p (HD): 1280x720 pixels. 2X more detailed than standard definition (SD). This is the typical format of HD broadcast stations.

1080p (Full HD): 1920x1080 pixels. 5X more detailed than standard definition (SD). Generally seen only in Blu-ray discs at this time.

4K (Ultra HD or UHD): 3840x2160 pixels. 4X more detailed than 1080p Full HD. Approximately 8 million pixels. UHD sources are extremely limited now, but will become more common in the future.

Keep in mind that watching low resolution sources (such as SD DVDs) on a high definition television does not increase the image quality.

SCREEN REFRESH RATE (or Motion Rate)

Refresh rate is the number of times a TV can display images per second. The higher the refresh rate, the better a TV can cope with motion blur. This is noticeable during fast-action scenes (movies, sports, gaming) and is measured in hertz (Hz).

60Hz: The most common refresh rate. Displays either 24 or 30 frames per second. Display may have some blurring during fast action scenes. Does not support 3D content.

120Hz: displays 120 frames per second. Smooth motion with less blurring. 3D content capable.

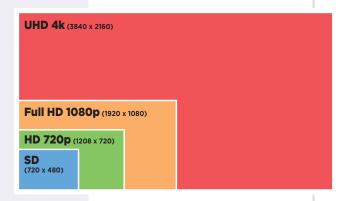
240Hz: displays 240 frames per second. Smooth motion with less blurring. 3D content capable. Highest upfront cost.

REMOTE CONTROLS

Traditional: traditional design with standard buttons and options.

Smart TV: creates a cursor on the screen for selecting apps, changing settings, and navigating the web. Often a "wand" style, moving the cursor with the motion of your hand. Operates in addition to a smaller selection of traditional buttons (volume, channels, etc.).

Smartphone app: a virtual remote control app for your smartphone or tablet using your home WiFi network. Allows for use of your remote control most places in your home and does not need to be near the TV. Usually offers standard remote control buttons and access to TV settings from your device.





60hz refresh rate



120hz refresh rate.



ADDITIONAL FEATURES

HDR (High Dynamic Range): displays a wider and richer range of colors. Brighter whites and deeper, darker blacks with more realistic, natural colors. Higher contrast. Currently available only in UHD displays.

Upscaling (or "upconversion"): converts lower resolution content into a higher resolution on the display. Most HD and UHD televisions have this built in.

Smart TV: connects to the internet for access to streaming media services. Runs entertainment apps, internet music stations, and web browsers. Uses a wired Ethernet connection or built-in WiFi to connect to your home network. Operating systems, processors, and interfaces vary.

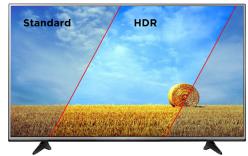
VESA Mount Compatibility: standard hole patterns found on TV mounts, measured in millimeters (mm). Flat panel TVs will have a specific VESA mount pattern on the rear of the TV. Common patterns include 75x75, 100x100, 100x200, and 200x200. The pattern will vary by TV class in order to properly support TV weight.

Energy Star Certified: meets strict energy standards set by the EPA. On average, Energy Star certified TVs are 25% more energy efficient than conventional models.

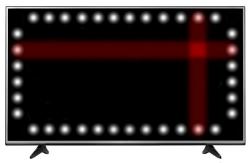
Local Dimming: lowers the backlight area in the dark sections of images while keeping bright parts bright. Increases the contrast ratio for a better image. Usually found on LED panels.

Full-Array Local Dimming (FALD): an array of individual LEDs behind the entire LCD panel. LEDs are usually separated into small zones for dimming, allowing for precise local dimming effects compared to edge lit displays.

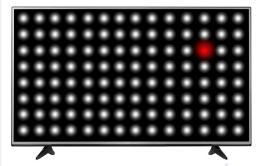
So what's right for you? See our TV buying guide to shop TVs by use!



Simulated HDR comparison.



Edge-lit dimming (in red).



Full array local dimming (in red).