Projector Types

Most common used projector types

1. LCD Projectors

LCD projectors, or Liquid Crystal Display projectors, utilize a system of liquid crystal panels to project images. These projectors offer vibrant colors and sharp image quality.

They are commonly used in classrooms, boardrooms, and home theaters. However, LCD projectors may suffer from the "screen door effect" and have limited contrast compared to other types.

2. DLP Projectors

DLP projectors, or Digital Light Processing projectors, employ tiny mirrors to reflect light and create images. They offer excellent contrast, high brightness, and smooth motion reproduction. DLP projectors are popular for home theaters and large venues. One drawback is the possibility of the "rainbow effect" that can be perceived by some individuals.

3. LCoS Projectors

LCoS projectors, or Liquid Crystal on Silicon projectors, combine the best features of LCD and DLP technologies. They provide high-resolution images, deep blacks, and accurate color reproduction.

LCoS projectors are well-suited for professional installations and high-end home theaters. However, they tend to be more expensive than other types.

4. Short-Throw Projectors

Short-throw projectors are designed to project large images in close proximity to the screen or wall. They are ideal for small rooms or environments where space is limited.

These projectors reduce the risk of shadows and provide a more immersive experience. However, they may have limited zoom capabilities and can be more expensive than regular projectors.

5. Ultra-Short-Throw Projectors

Ultra-short-throw projectors take the concept of short-throw projectors a step further by allowing even closer placement to the screen or wall. They offer convenience and versatility, making them suitable for interactive displays and interactive whiteboards. Ultra-short-throw projectors are widely used in classrooms and collaborative workspaces.

6. Laser Projectors

Laser projectors utilize laser diodes to generate light, resulting in vibrant colors, high brightness, and excellent image quality. They offer long-lasting performance with minimal maintenance requirements.

Laser projectors are known for their wide color gamut and superior color accuracy. They are commonly used in professional settings such as theaters, museums, and auditoriums.

7. LED Projectors

LED projectors use light-emitting diodes as the light source. They offer energy efficiency, long lamp life, and compact designs.

LED projectors are known for their quick start-up and cool-down times, making them convenient for on-the-go usage. These projectors are popular for portable applications, outdoor movie nights, and casual home entertainment setups.

8. 4K Projectors

4K projectors provide ultra-high-definition image quality with a resolution of 3840 x 2160 pixels. They deliver incredible detail and clarity, resulting in a truly immersive viewing experience.

4K projectors are favored by cinephiles, gamers, and professionals who require precise image reproduction. They offer a future-proof investment for those seeking the best visual performance.

9. Portable Projectors

Portable projectors are compact and lightweight, making them easy to carry and set up in different locations. They are designed for on-the-go usage, allowing users to project images and videos anywhere.

Portable projectors are popular for business presentations, outdoor events, and personal entertainment. They often come with built-in batteries and wireless connectivity options for added convenience.

Source: https://thepiqoprojector.com/blogs/news/types-of-projectors

Information resources about projector and image related topics

Websites

Common terminology used when working with projectors and video in general:

https://www.projectorcentral.com/glossary.cfm

Throw calculator when calculating the optimum projection distance of different brands and types of projectors:

https://www.projectorcentral.com/projection-calculator-pro.cfm

Overview of projector topics to take into consideration when using projectors:

https://bookstack.hku.nl/books/projection-mapping-oKq/page/choosing-video-projection-hardware-space

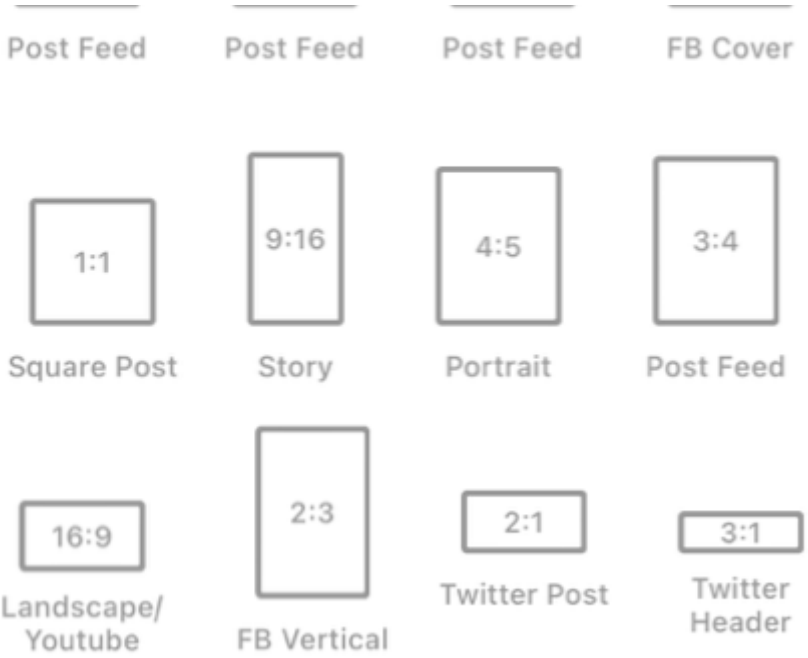
Websites for resolution, pixel and aspect ratio calculations:

https://calculateaspectratio.com/

https://pixelcalculator.com/en/index.php

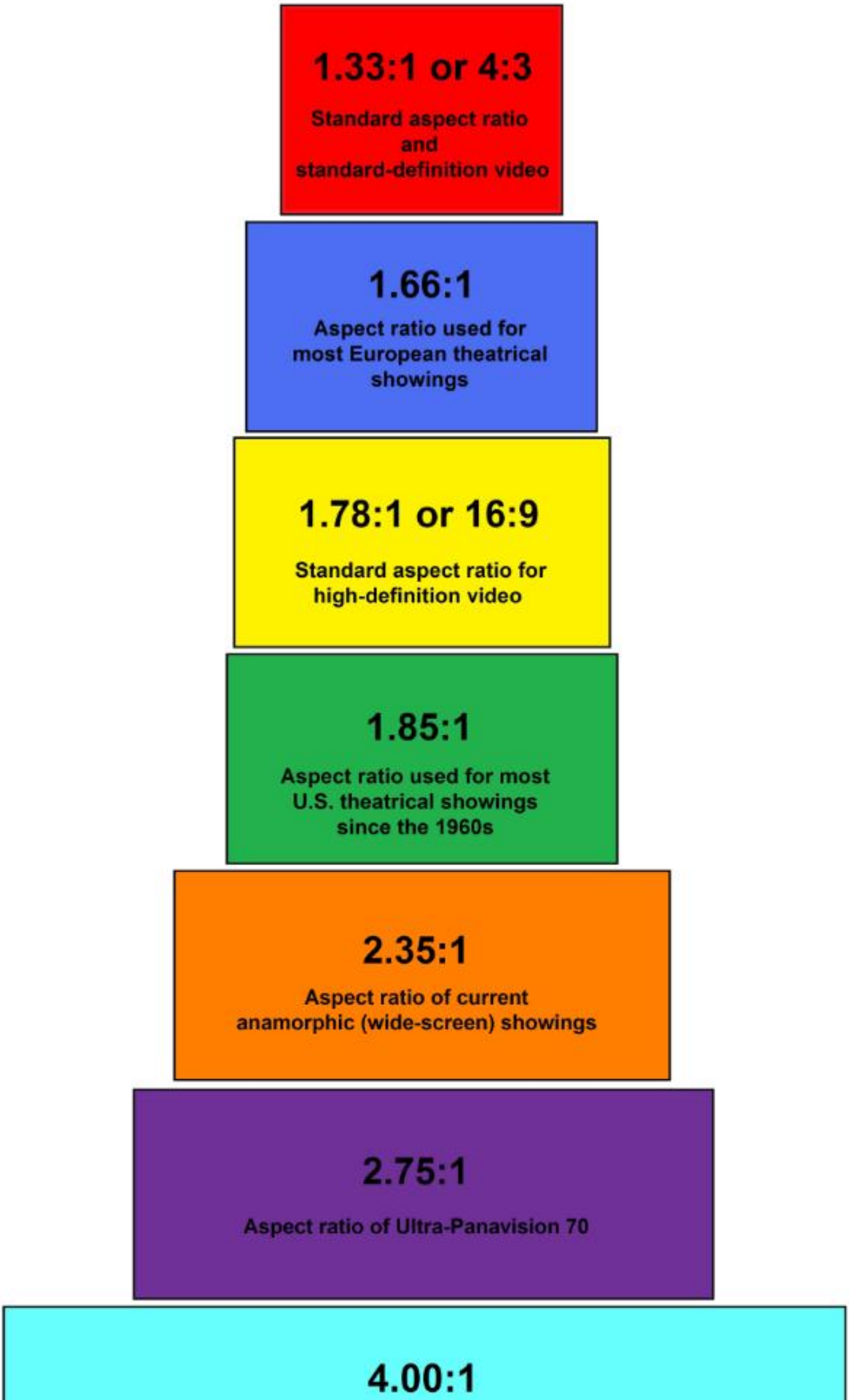
Different aspect ratio diagrams

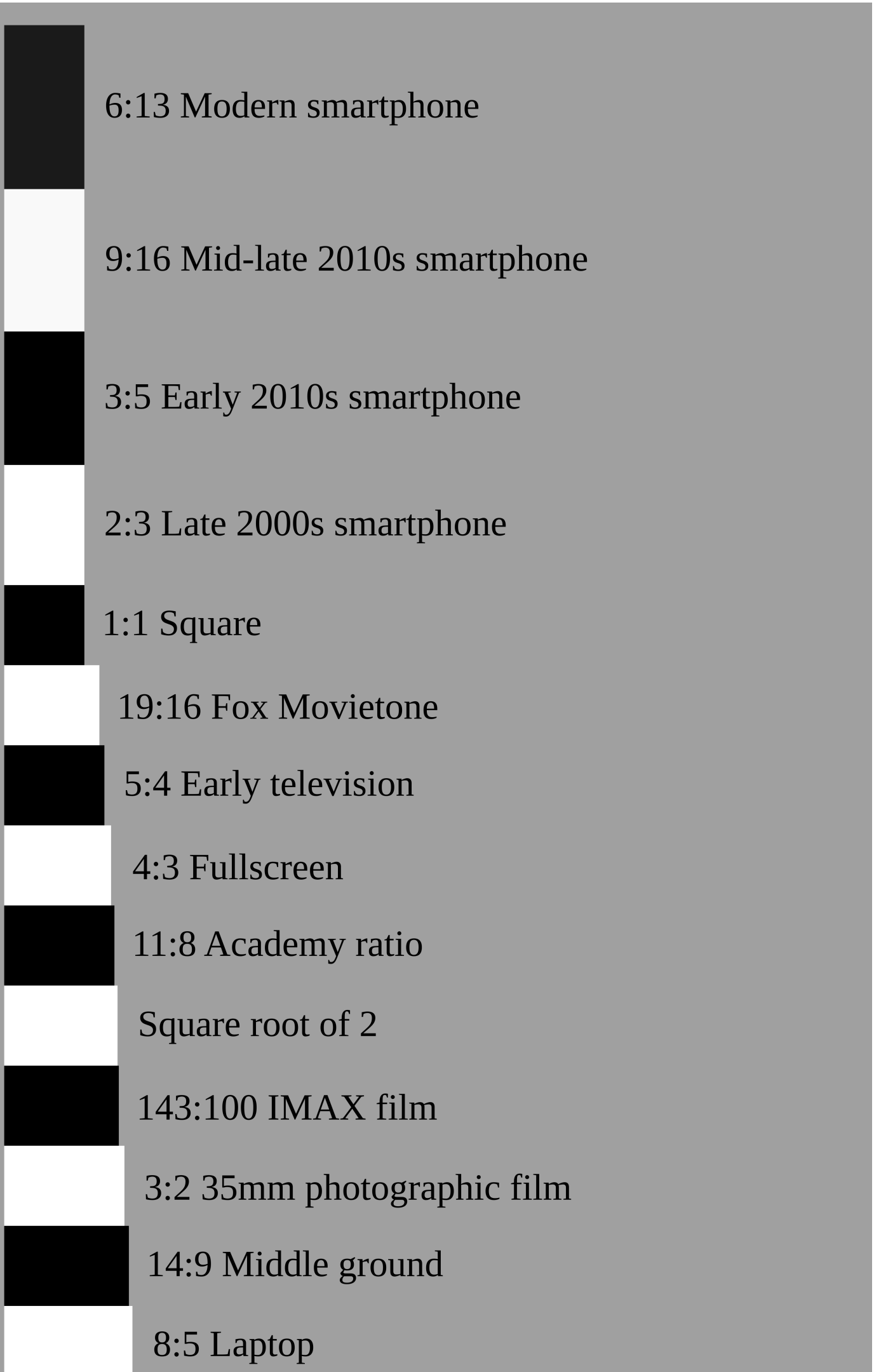
Most common used aspect ratio's:



source: https://collart.app/choose-aspect-ratio-social-media-guide/

Aspect ratio's used in film:


1.33:1 or 4:3
Standard aspect ratio and standard-definition video
1.66:1
Aspect ratio used for most European theatrical showings
1.78:1 or 16:9
Standard aspect ratio for high-definition video
1.85:1
Aspect ratio used for most U.S. theatrical showings since the 1960s
2.35:1
Aspect ratio of current anamorphic (wide-screen) showings
2.75:1
Aspect ratio of Ultra-Panavision 70
4.00:1


6:13 Modern smartphone
9:16 Mid-late 2010s smartphone
3:5 Early 2010s smartphone
2:3 Late 2000s smartphone
1:1 Square
19:16 Fox Movietone
5:4 Early television
4:3 Fullscreen
11:8 Academy ratio
Square root of 2
143:100 IMAX film
3:2 35mm photographic film
14:9 Middle ground
8:5 Laptop

Source: https://en.wikipedia.org/wiki/Aspect_ratio_(image)

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