

PANAVISION'S ANAMORPHIC LENSES



The new G-Series Anamorphic Prime Lenses

KEY FEATURES

- Complete new set of anamorphic primes and zoom lenses
- High performance
- The new G-series primes: 35, 40, 50, 60, 75, 100mm
- G-series primes are T2.6 and close focus under 3 feet
- Wide-angle zoom: AWZ2 40-80mm T2.8
- Telephoto zoom: ATZ 70-200mm T3.5
- Front anamorph design on zooms for better image quality

A NEW GENERATION OF LENSES

Once again Panavision® expands the range of anamorphic lenses for filmmakers. Our latest generation of anamorphic lenses feature two Panavision zooms and six new G-Series primes. These eight lenses represent the foundation for a new range of high performance, compact anamorphic optics. Thanks to advanced computer-aided design, internal mechanical improvements, and modern optical glass, these lenses expand the cinematic capabilities of the anamorphic format.

All of the new anamorphic lenses are engineered to produce superior image quality, and feature high contrast and resolution, minimal aberrations, and excellent field illumination, as well as low veiling glare, ghosting, and distortion. The lenses utilize Panavision's patented anti-mumping technology, but unlike previous series, there is no hump for the gear-set, so the lenses maintain their cylindrical profile.



A G-Series 35mm anamorphic lens during the manufacturing process

THE G-SERIES PRIMES

The initial G-Series set of anamorphic primes is 35mm, 40mm, 50mm, 60mm, 75mm, and 100mm, with more focal lengths to be added in the near future. These primes are typically T2.6 with close focus under 3 feet. All the prime lenses in the set have a common front diameter of 4.440 inches, (the same as our spherical Primo primes) so lens changes won't mean finding a new rubber donut or bellows for the matte box. Focus and T-stop scales are engraved on both sides of the lens, and focus and T-stop gears are in the standard Panavision locations.

Performance and size make these prime lenses comparable to Panavision E-Series anamorphic primes, but in a lightweight, compact format similar to our C-Series primes.

All Panavision lenses are assembled by hand at our factory in Woodland Hills. All optical mechanical parts are manufactured at the factory, while the glass is made outside according to specifications from our optical engineers. Panavision is the only company in the world that designs and manufactures both 35mm film cameras and lenses.

THE NEW ANAMORPHIC ZOOMS

The two new zooms are the wide-angle AWZ2 40-80mm T2.8, and the telephoto ATZ 70-200 T3.5. The AWZ2 close-focuses to 3 1/4 feet and the ATZ to 5 1/2 feet.

The AWZ2 (Anamorphic Wide-Angle Zoom), which was introduced last year, was the first modern zoom lens to use anamorphic elements at the front of the lens. The new Panavision ATZ (Anamorphic Telephoto Zoom) lens is the second modern zoom lens to do so. The AWZ2 is familiarly known as the "Bailey zoom" after John Bailey, ASC, who was among the first cinematographers to ask Panavision to develop a wide-angle anamorphic zoom.

The front anamorph design substantially reduces stop loss, and produces superior image quality, with minimal aberrations and improved field illumination. Both zooms have a constant aperture at all zoom and focus positions, and constant focus at all zoom positions. Because of their high performance imaging, these zooms are not restricted to use as variable

primes but are fully usable as in-shot zooms. Performance and size make these zoom lenses comparable to our E-Series anamorphic primes.

SPECIFICATIONS

- Exceptional sharpness and contrast
- Minimal breathing, aberrations, veiling glare, distortion
- Even illumination across the entire image
- Superior mechanics for precise repeatable focus (zero-backlash)
- Symmetrical housing prevents mechanical interference with camera viewing systems



The "Bailey zoom", 40-80mm

G-SERIES ANAMORPHIC PRIMES

- 35, 40, 50, 60, 75, 100mm
- T2.6
- Close focus to less than 3 feet
- Typically 4.5 lbs
- Typically 6 inches long
- All primes have the same front diameter 4.440 inches
- Performance comparable to E-Series, size similar to C-Series

Additional prime focal lengths to be added.

ATZ ANAMORPHIC TELEPHOTO ZOOM

- 70-200mm
- T3.5
- Close focus to 5 1/2 feet
- 12.75 lbs
- 15 inches long

AWZ2 ANAMORPHIC WIDE-ANGLE ZOOM

- 40-80mm
- T2.8
- Close focus to 3 1/4 feet
- 10.4 lbs
- 10 1/2 inches long

FILMED IN PANAVISION

For the past five decades, Panavision has established itself as the undisputed world leader in anamorphic lenses with the C-Series, E-Series and Primo anamorphics.

Today, the majority of feature films shot in anamorphic use Panavision anamorphic lenses. The credit "Filmed in Panavision" represents the anamorphic standard of the industry.



The outer rectangle of the Panavision logo is an anamorphic frame. The inner rectangles are 1.85 and TV.



PANAVISION'S ANAMORPHIC LENSES

DOUBLE HORIZONTAL SQUEEZE

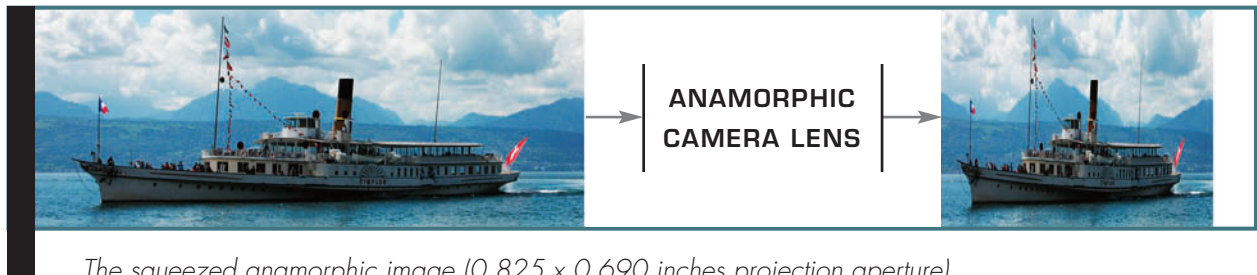
An anamorphic lens does a twofold horizontal squeeze of the image, leaving the vertical height unchanged. The tall, thin, squeezed image has an aspect ratio of 1.2:1. This image is then un-squeezed horizontally with a lens during projection of the film print. This "de-anamorphosis" is similarly applied to the video image for release.

2.39 TO 1

Although the final anamorphic image is sometimes loosely referred to as "2.35" or "scope", the modern anamorphic aspect ratio is actually 2.39:1. This is sometimes approximated as "2.40:1". In the past, anamorphic films were letter-boxed to fit on the 1.33 TV screen, or worse, a 1.33 shaped portion of the image was "pan and scanned". The advent of modern 1.78:1 video monitors makes for a suitable letter-boxed presentation of the 2.39 image.

REAL WORLD

35MM FILM
WITH SQUEEZED IMAGE
1.20:1 aspect ratio



The squeezed anamorphic image (0.825 x 0.690 inches projection aperture)

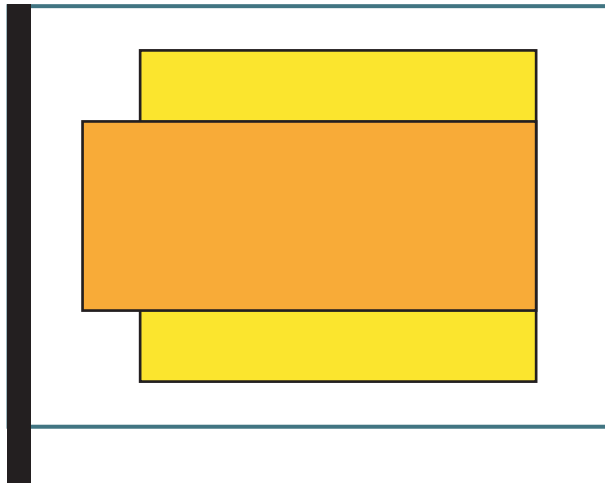


A 1.78 screen with 2.40 "letterbox" inside it



ANAMORPHIC VERSUS SUPER 35

In production, anamorphic release can be achieved by two ways: with anamorphic taking lenses, or with spherical lenses using the Super 35 format.



A 2.39 Super-35 frame (orange) in front of an anamorphic frame (yellow).

The negative area of the anamorphic frame is 52% larger than Super-35, which makes for a sharper, less grainy image.

The anamorphic frame has the largest size of any 35mm format.

THE MAGIC OF ANAMORPHIC

Why do so many directors and cinematographers choose to shoot in the anamorphic format? It is difficult to analyze what is essentially an artistic decision, but some of the qualities of anamorphic cited by filmmakers are:

- **WIDE SCREEN**—For many, the wide-screen format is quintessentially cinematic. Some even argue that the wide-screen format is closer to the way we see than 1.85.

Of course, anamorphic's broad canvas evokes dozens of film classics like *The Magnificent Seven* (director John Sturges, DP Charles Lang), *Contempt* (Jean-Luc Godard, DP Raoul Coutard) or *Blade Runner* (Ridley Scott, DP Jordan Cronenweth). But anamorphic is a vibrant contemporary format used on recent films like *Memoirs of a Geisha* (Rob Marshall, DP Dion Beebe), *The Prestige* (Christopher Nolan, DP Wally Pfister), or *The New World* (Terrence Malick, DP Emmanuel Lubezki).

- **RICHER COMPOSITION**—Many filmmakers say that the wider format allows for a more complex frame, with more elements. Others add that anamorphic is well-suited to both landscapes and faces.
- **SIMPLER SEQUENCING**—Some filmmakers say that they use fewer lenses when shooting anamorphic, and also have fewer set-ups, because the anamorphic format allows actors to play within the frame, rather than cutting to another shot.
- **TWO-SHOTS**—One example often cited by filmmakers is the ease of composing an anamorphic shot with two actors facing each other.
- **LONGER FOCAL LENGTHS AND SHALLOW DEPTH OF FIELD**—Because of the squeeze, anamorphic lenses have twice the focal length of spherical lenses for a similar horizontal angle of view. Many filmmakers like the shallow depth of field of these long lenses, and most agree that they are more flattering for close-ups. This quality is not available when shooting Super-35mm with standard spherical lenses.

Whatever the reasons, the magic of anamorphic is both technical and aesthetic, and the choice of anamorphic taking lenses can help define the unique "look" of a film.

