
ULTRA PRIME 8R
Distagon 2.8/8R T* XP

WIDE & STRAIGHT - A UNIQUE NEW LOOK

The Ultra Prime 8R/T2.8 is an extreme wide angle lens with a unique look unparalleled by any other lens in the film or video world. Because of its rectilinear design it shows an extremely wide angle of view without any of the commonly associated fisheye distortions.

This unique perspective opens new creative opportunities. The Ultra Prime 8R can be used for exhilarating high-speed point-of-view shots, amplifying the apparent speed of movement and putting the viewer right in the middle of the action. Since wide angle lenses exaggerate depth perception, this lens can make any space seem larger than it really is, without showing the telltale distortion of conventional wide angle lenses.

For grand establishing shots, walls will look straight even when they are at the edge of the frame. Because of its enormous depth of field and straight image geometry, it is also very useful for shooting miniatures.

The Ultra Prime 8R is the ideal lens for sweeping vistas, the interiors of cars, small rooms, unusual angles, wild music videos, underwater filming and many other applications where a fresh new look is required.

MAIN FEATURES

- **The highest quality extreme wide angle lens ever built**

- **Extremely wide, but straight lines stay straight**
  - unique look
  - covers Super 35
  - exaggerates speed:
    — ideal for chase sequences
  - exaggerates spaciousness:
    — ideal for establishing shots or small rooms
  - wide angle without fisheye distortions:
    — ideal for miniatures & underwater

- **Small size & light weight**

- **Ultra Prime optical quality:**
  - high contrast and resolution
  - T* XP coating ensures flare resistance for deeper, richer blacks
  - minimized chromatic aberration
  - minimized geometric distortion

- **Super Color Matched to**
  - Master Primes
  - Ultra Primes
  - Lightweight Zoom LWZ-1
  - Variable Primes
  - Ultra 16 lenses

This and all following wide angle shots were taken with an Ultra Prime 8R on 35 mm motion picture film.

OPTICAL QUALITY

With the Ultra Prime 8R, the latest technological advances have been used to maintain the high optical and ergonomic standards of the Ultra Prime family in an extreme wide angle lens. This was no easy feat since the wider a lens gets, the more difficult it is to keep image quality at an optimum.

Building the Ultra Prime 8R was only possible through new optical design techniques and the use of special optical glass with anomalous partial dispersion, exotic glass materials, a radical aspherical lens surface and a floating element.

As a result, the Ultra Prime 8R shows maximum contrast and resolution consistently over the entire focus range, including unrivaled close focus performance. It shows minimized chromatic aberration and almost no geometric distortion.

A MATTER OF PERSPECTIVE

The unique look of the Ultra Prime 8R is based on its rectilinear design (the "R" in its name stands for "rectilinear"). In contrast to the typical distortion of a fisheye lens, a rectilinear lens keeps straight lines straight. The Ultra Prime 8R is the widest rectilinear lens ever built that covers the entire Super 35 frame.

What is the T* XP anti-reflex coating?
Anti-reflex coatings ensure that the maximum amount of light reaches the film instead of being reflected away from the lens surfaces or, worse, bouncing around inside the lens. They are also an important contributor to proper color balance.

The new multi layer T* XP (Extended Performance) anti-reflex coating developed by Zeiss has been used on the Ultra Prime 8R to ensure maximum light transmission in a wide spectrum of wavelengths. The T* XP coating, which is also used for the Master Primes and other ARRI/Zeiss lenses, has been optimized with respect to the spectral sensitivity of motion picture film and the sensitivity of the human eye. In addition, a sophisticated new application process assures uniform performance across the whole lens surface. This is especially important on lenses with large, strongly curved surfaces, such as those used in the Ultra Prime 8R. When compared to conventional multilayer coatings, the T* XP coating has up to five times better transmission at the edges.

The result is higher contrast, deeper blacks and a great reduction of false light effects such as internal reflections, veiling glare, flare and narcissism. Thus the Ultra Prime 8R can catch subtle tones in the deepest shadows and fully utilize the high dynamic range of modern film stocks.


SAN PEDRO
TOMBSTONE AZ
SADDLERY
GUNS & AMMUNITION
BARBER SHOP
HAIR CUTS & SHAV
15¢
GUNS
1881
HOT EL & BATH
BORDELLO ROOMS


TOYOTA
TOYOTA

SIZE & WEIGHT

Because of its aspherical front element, the Ultra Prime 8R has both a high optical quality and substantially reduced size and weight. In fact, the Ultra Prime 8R weighs only 2/3rds of the weight of the Ultra Prime 10 mm. Its size is revolutionary for an 8 mm lens, being smaller than the 10 or 12 mm Ultra Primes. This small size can speed up work on the set, as it gives the cinematographer ample room to place lights when working close to the actors. Additionally, it can be used in unusual places and allows the lens to skim past objects that are very close to the optical axis, creating shots never before possible.

FAMILY IS IMPORTANT

The Ultra Prime 8R is Super Color Matched to the other Ultra Primes, to guarantee seamless cuts between scenes and to avoid time-consuming color matching in post. For quick and easy use on the set, it has focus and iris rings in the same position as the other Ultra Primes. It also shares the same robust and reliable construction that is appreciated by rental houses and customers worldwide, since it minimizes downtime.

The Ultra Prime 8R extends the range of Ultra Prime lenses at the extreme wide end. Together with the 10, 12, 14 and 16 mm Ultra Primes, these lenses provide the most complete wide angle selection in any modern prime lens set. The Ultra Primes offer 16 different focal lengths for every cinematic need, from the best telephoto lens designed specifically for motion pictures, the Ultra Prime 180 mm, to the new Ultra Prime 8R, giving you the flexibility to get the coverage you want.

The Ultra Prime 8R defines the wide end of modern 35 format prime lenses.

Its unparalleled image quality, extreme wide angle, small size and light weight make it ideal for fast moving action shots.

WHAT IS "RECTILINEAR," WHAT IS A "FISHEYE"?

When a lens projects a three-dimensional scene onto a two-dimensional piece of film, not all geometric properties of the original scene can be maintained. This is essentially the same problem as mapping the shape of the continents of our three-dimensional globe onto a two-dimensional map. The choices of lens design, focal length and distance to the subject determine the character of this mapping, which is commonly referred to as perspective, one of the cinematographer's most important tools. For wide angle lenses, the lens designer must make a choice between a rectilinear or a fisheye lens design, with different consequences for perspective. The most obvious differences can be seen by how straight lines and objects at the edge of the frame appear.

Since the human eye judges distance by the way elements within a scene diminish in size and the angle at which lines converge, most lenses are designed to duplicate those "natural" geometric relationships on film. This is called a rectilinear perspective, and to achieve it the lens will stretch the image so that vertical, horizontal and diagonal lines that we perceive as being straight are reproduced as straight lines on film.

There is, however, a limit as to how wide a lens with a rectilinear perspective can be, based on the limited amount of space available in front of the camera, and on various optical problems that get increasingly unwieldy as the angle of view increases. The 114° horizontal angle of view (for the Super 35 format) of the Ultra Prime 8R is already at the limit, making it a unique and unusual lens in the cine, video and still photography fields.

Because it is so difficult to design an extreme wide angle lens with a rectilinear perspective, many extreme wide angle lenses are designed as fisheye lenses. A fisheye lens can have a wider angle of view than a rectilinear lens, but it maps the scene to film differently than we perceive the world around us, because the focal length is actually changing within the image. The farther a straight line is from the center of the frame, the more it will be rendered as curved, with objects at the edges of the frame heavily distorted by a fisheye.

A rectilinear wide angle lens on the other hand renders all straight lines in the subject as straight lines in the image. To achieve this, though, there is linear stretching applied to the image that increases as an object gets closer to the frame edge. This effect tends to exaggerate perspective, i.e. it will make rooms appear larger than they are, enhancing the illusion of depth, or making speed appear greater if the camera moves. However, a circular object, like a ball or a person's head, located near the edge of the frame will appear to be somewhat enlarged and will have an oval shape.

Two different perspectives
The most obvious difference between rectilinear and fisheye lenses can be seen by how straight lines and objects at the edge of the frame appear.

Neither fisheye nor rectilinear wide angle lenses represent reality in quite the same way as we see it. They provide two different ways to manipulate perspective, to change the illusion of space and distance.

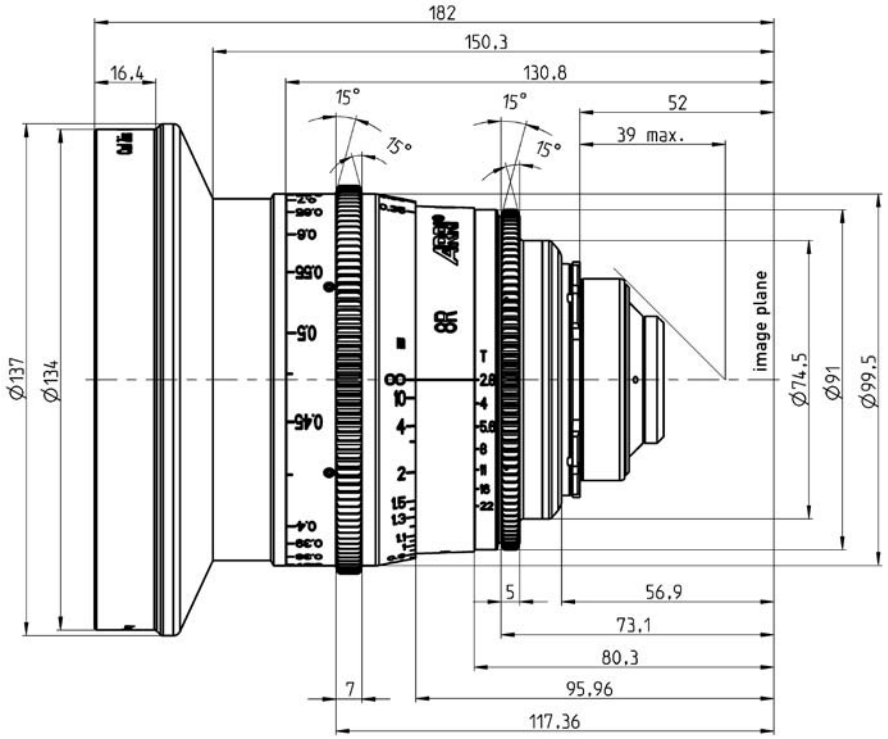
Left: Ultra Prime 8R (rectilinear)
Right: 8 mm Fisheye lens




TECHNICAL DATA

Name: ..... Ultra Prime 8R
Focal Length: ..... 8 mm
Lens Type: ..... Distagon
Aperture: ..... T2.8 to T22
Close Focus: ..... 0.35 m/1 foot
Length (front to PL mount flange): ..... 130 mm/5.1 inches
Front Diameter: ..... 134 mm/5.3 inches
Weight: ..... 2 kg/4.4 lbs
Horizontal angle of view: ..... 114° for ANSI Super 35 silent camera aperture
(24.9 mm x 18.7 mm/0.980" x 0.7362")
112° for DIN Super 35 camera aperture
(24 mm x 18 mm/0.944" x 0.7087")
107° for Normal 35 Academy camera aperture
(22 mm x 16 mm/0.8661" x 0.6299")
Front Element: ..... Radical aspherical lens
Lens Coating: ..... T* XP
Coverage: ..... The complete ANSI Super 35 image area
Matte Box: ..... LMB-4A (holds a maximum of two 6.6" x 6.6" filters)

All data subject to change without notice.



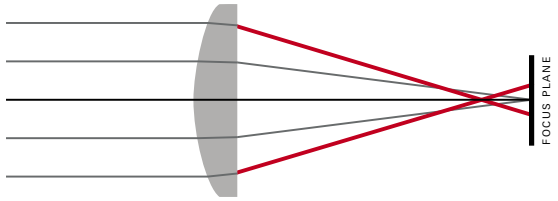
Ident. Numbers

Ultra Prime 8R/T2.8	K2.47613.0
Lightweight Matte Box LMB-4A	K2.47633.0
Wide angle replacement shade (makes LMB-4 into LMB-4A)	K2.65585.0
LMB-4A step down ring to 134 mm for Ultra Prime 8R	K2.47635.0
Mask set for LMB-4A for 12 and 14 mm prime lenses	K2.47634.0

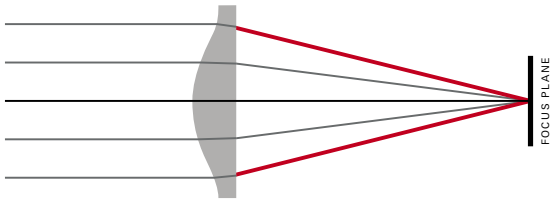
What is a radical aspherical lens surface?
Most lenses use only spherical lens elements, which have a surface with a constant curvature. Aspherical lens elements have complex curved surfaces. The sophisticated technology for creating such lenses was originally developed for lenses for computer chip manufacturing. By using aspherical lens surfaces, the optical designer can create a lens that is smaller, lighter and optically better than lenses using only spherical surfaces.

Aspherical lens surfaces offer excellent correction of spherical aberration (improving resolution performance) and powerful correction of geometric distortion. The front element of the Ultra Prime 8R is an aspherical lens element of extreme curvature, known as a "radical aspherical lens". Its primary function is to ensure the rectilinear image geometry of the Ultra Prime 8R, while reducing size and weight at the same time.

SPHERICAL LENS



ASPHERICAL LENS



Germany

Arnold & Richter Cine Technik
(Headquarters, Sales & Service)
Türkenstraße 89, D-80799 Munich, Germany
Vice President Sales & Marketing:
Serge Giordano, sgiordano@arri.de
Tel: +49 (0)89 3809 0
Fax: +49 (0)89 3809 1791

Great Britain

ARRI GB Limited (Sales & Service)
2 Highbridge, Oxford Road, Uxbridge, Middlesex,
UB8 1LX, England
Film Equipment Sales:
Alan Fyfe, afyfe@arri-gb.com
Tel: +44 (0)1895 457 000
Fax: +44 (0)1895 457 001

Italy

ARRI Italia S.r.l. (Sales & Service, Milan)
Viale Edison 318, 20099 Sesto San Giovanni
(Milano), Italy
Vice President:
Antonio Cazzaniga, acazzaniga@arri.it
Tel: +39 (02)262 271 75
Fax: +39 (02)242 1692

ARRI Italia S.r.l. (Sales & Service, Rome)
Via Placanica 97, 00040 Morena (Roma), Italy
Camera Sales:
Mauro Sembroni, msembroni@arri.it
Tel: +39 (06)79 89 021
Fax: +39 (06)79 89 02 206

USA

ARRI Inc. (Sales & Service, East Coast)
617 Route 303, Blauvelt, NY 10913-1109, USA
Vice President:
Jürgen Schwinzer, jschwinzer@arri.com
Tel: +1 (845)353 1400
Fax: +1 (845)425 1250

ARRI Inc. (Sales & Service, West Coast)
600 North Victory Blvd., Burbank,
CA 91502-1639, USA
Vice President: Bill Russell, brussell@arri.com
Tel: +1 (818)841 7070
Fax: +1 (818)848 4028

Canada

ARRI Canada Limited (Sales & Service)
415 Horner Ave. Unit 11 & 12, Toronto, Ontario
M8W 4W3, Canada
Accounts Manager, Camera & Digital Systems:
Sébastien Laffoux, seb@arrican.com
Tel: +1 (416)255 3335
Fax: +1 (416)255 3399

Australia

ARRI Australia PTY Limited (Rental & Service)
Unit 6C, 5 Talavera Road,
Macquarie Park, Sydney.
NSW 2113 Australia
General Manager:
Clemens Danzer, cdanzer@arri.de
Tel: +61 (2)9855 4300
Fax: +61 (2)9855 4301

This Ultra Prime 8R product brochure (K5.40058.0) is published by:
Arnold & Richter Cine Technik, April 01, 2006

Arnold & Richter Cine Technik GmbH & Co. Betriebs KG
Türkenstrasse 89 / D-80799 Munich

phone +49 (0) 89 3809 0 / fax +49 (0) 89 3809 1245
www.arri.com