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## TECHNICAL INFORMATION



### 11-110mm T2 VARIO-SONNAR

#### Optical Performance

The Carl Zeiss 11-110mm T2 Vario-Sonnar is a fast, compact zoom lens designed specifically to completely cover the Super 16 format throughout the entire zoom range. It perfectly matches the new, advanced ARRIFLEX 16SR 3 camera system. The high iris opening remains constant over the entire zoom range. The Vario-Sonnar has full macro functions. The ultraprecise flange focal distance guarantees maximum image sharpness – also during zooming.

The 11-110mm T2 Vario-Sonnar features Zeiss T\* multi layer coatings on all lens-to-air surfaces to optimize color saturation, enhance contrast and to reduce flare to a minimum. The neutral color correction of the lens, standard on all Zeiss lenses, guarantees the absolute interchangeability with all other Zeiss T\* multi layer coated lenses.

#### System Integration

The Zeiss 11-110mm T2 Vario-Sonnar zoom lens takes advantage of the 16SR 3's new 54mm PL lens mount, and is also available with the standard 41mm ARRIFLEX bayonet mount.

It has integrated gear rings for zoom, focus, and iris control, and is designed to utilize the new ARRI Lens Control System (LCS) for full microprocessor-based remote lens operation.

The Vario-Sonnar works with all ARRIFLEX matte box systems, and its internal, linear focussing mechanism permits the use of square matte boxes which can be mounted directly onto the front of the lens.

## User Instructions

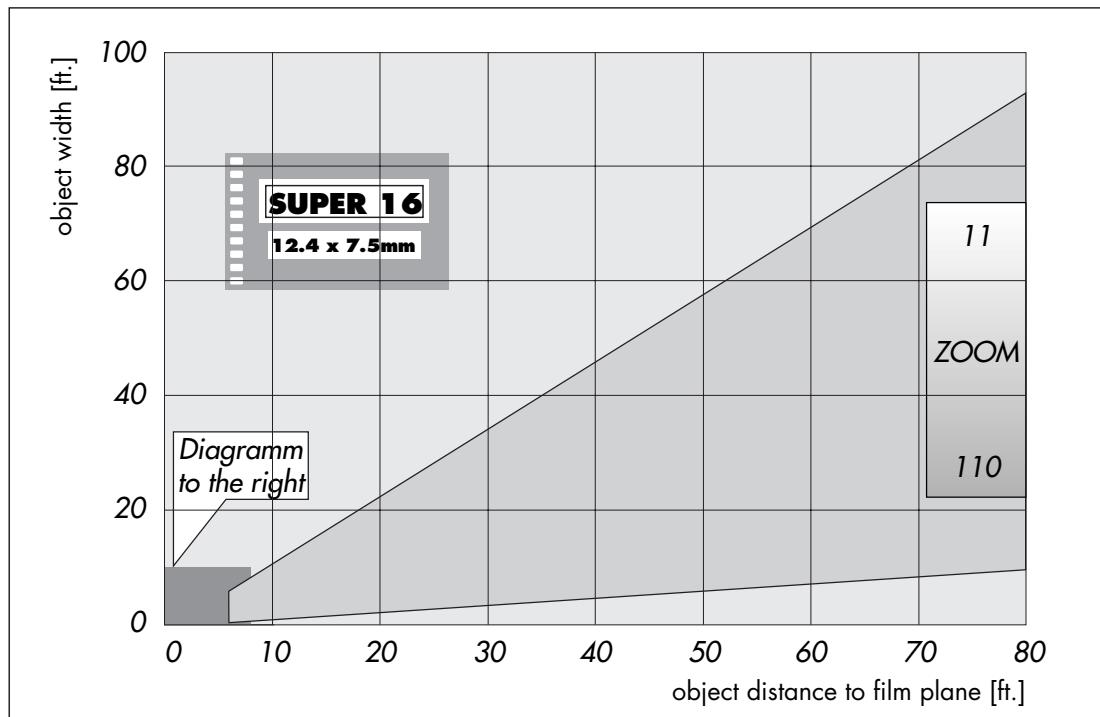
The focus scale of the lens is engraved from infinity down to 5 ft. (~1.5 m). The focus distance can be as close as 3 ft. 3 in. (1 m). Between 3 ft. 3 in. and 5 ft. optimum image quality is attained in the central area of the image field. In order to cover the entire Super 16 format in those situations, you must use a Proxar I supplementary lens.

In macro configuration the object can be as close as the front lens with a frame of 48 x 29 mm corresponding to the full Super 16 image format. The

macro range is locked in standard application. The macro lock is released by pressing the green button on the side of the lens, and turning the zoom ring beyond the normal zoom range into the macro range.

When in macro, focus is adjusted with the zoom control ring with additional fine tuning by the focus control ring.

## Mutar 2x Converter



Object width range determined by a fix focus distance of the Vario-Sonnar

## Optical Accessories

The Mutar 2x converter extends the 11-110mm T2 Vario-Sonnar to a small telephoto zoom 1:4/22-220 with very high performance in the upper focal length range. This small, compact teleconverter mounts between the lens and the camera mount. It consists of six individual elements in five element units and is optically matched to the Zeiss 11-110mm T2 Vario-Sonnar lens. As with all Zeiss lenses, exposure loss and internal reflections are virtually eliminated with the Zeiss T\* multi layer lens coating. The converter is

available in either 54mm PL-mount or ARRIFLEX 41mm bayonet mount.

**Mutar 2x Converter Note:**  
Lens iris calibrations are doubled when the Mutar 2x converter is used.

**Wide Angle Front Lens Mutar f6.6**

The 11-110mm T2 Vario-Sonnar can be converted to an extreme wide angle lens with the addition of the wide angle aspherical front lens Mutar. With it the zoom becomes an f6.6mm lens.

#### Wide Angle Mutar Note:

When using the Wide Angle Front Lens Mutar f6.6, the Vario-Sonnar has to be in the macro range. Place the focus ring at infinity, and use the zoom control ring for focus.

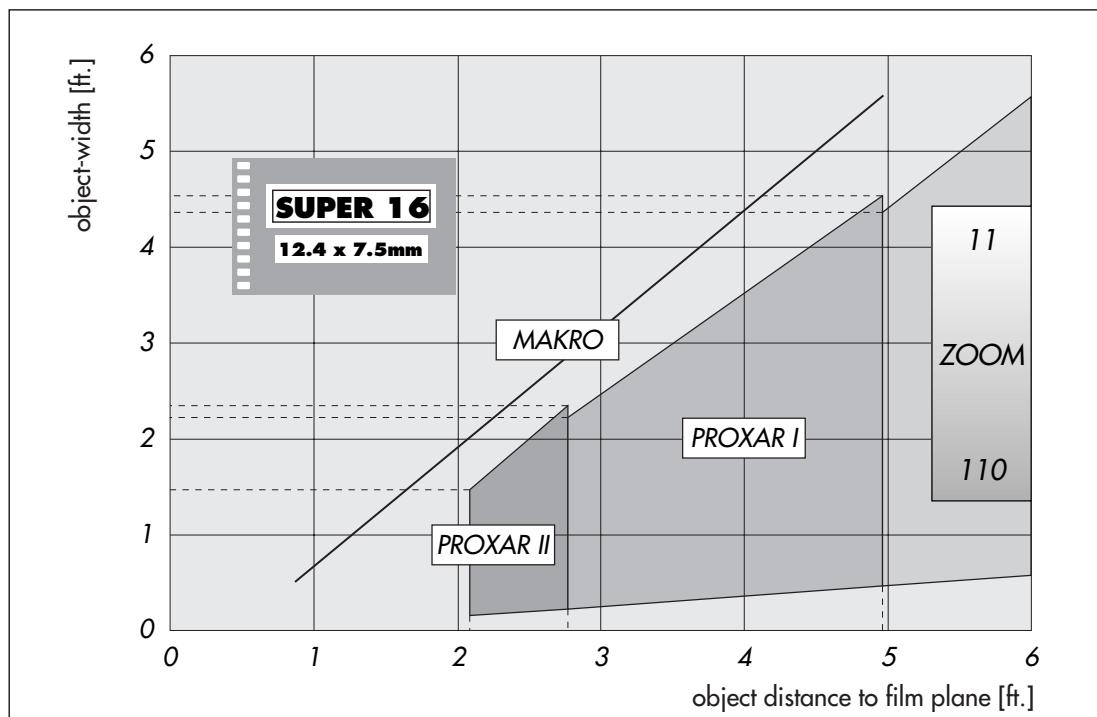
#### Proxar I and Proxar II Front Lenses

With the Proxar I and II supplementary lenses, the focus range of the 11-110mm zoom can be reduced to 2 ft. 2 in. (0.65 m). Proxar I covers the 4 ft. 9 in. (1.5 m) to 2 ft. 10 in. (0.86 m) focus range, and Proxar II covers the remaining area down to 2 ft. 2 in.

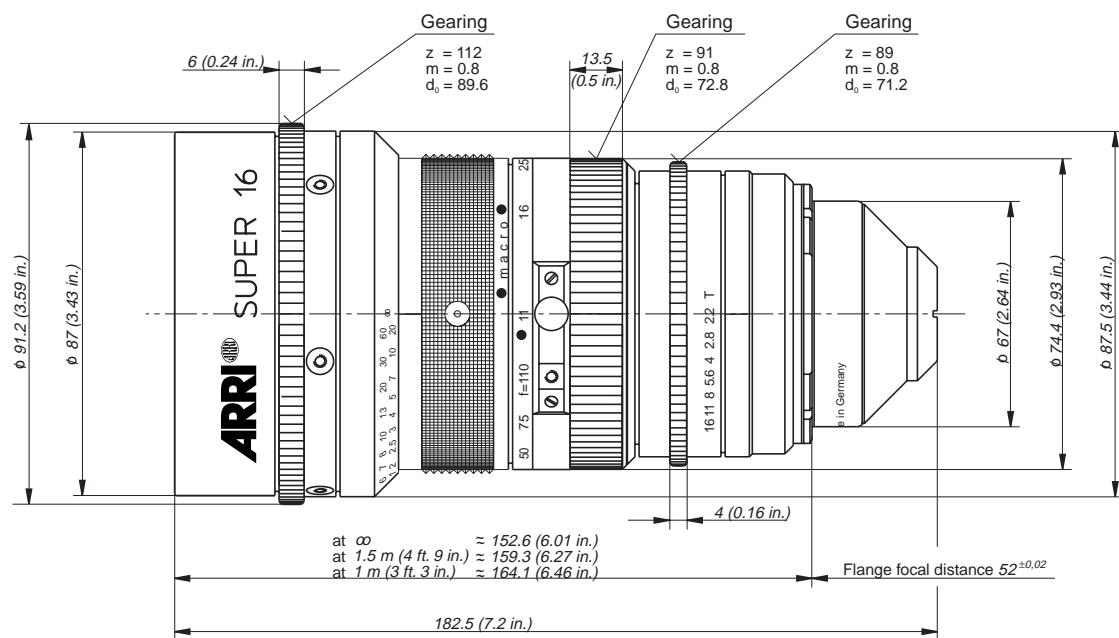
#### Proxar Note:

When using Proxar lenses, the engraved focus marks are no longer valid. It is recommended that you focus through the viewfinder of the camera.

#### Vario-Sonnar with Mutar 2x



Object width range determined by a fix focus distance for the close focus range of the Vario-Sonnar with or without use of the Proxar lenses.  
For macro range:  
Object width determined by a fix focus distance.  
The focus scale markings are not correct in the macro range or when used with Proxar Lenses.



# Technical Data

Number of Elements	19	19 + 6
Number of Components	14	14 + 5
Relative Aperture	F: 2.0 T: 2.2	F: 4.1 T: 4.2
Focal Length	11.4 – 107.8 mm	22.8 – 215.6 mm
Image Format Super 16	12.4 x 7.5 mm	12.4 x 7.5 mm
Image Format Standard 16	10.3 x 7.5 mm	10.3 x 7.5 mm
Angular Field 2w, Long Side	57.1° – 6.6°	30.5° – 3.3°

## Mechanical Data

T-stop-Scale	2.2 2.8 4 5.6 8 11 16
Focussing Scale	$\infty$ – 1.5 m (5 feet)
Focal Length Scale	11 16 25 35 50 80 110 Macro
Mounting Flange	54mm PL-Mount or 41mm ARRIFLEX Bayonet Mount
Filter Attachment Diameter	87 mm (3.43 in.)
Length from Flange with Focus at $\infty$	152.6 mm (6.01 in.)
Length from Flange with Focus at 1m	164.0 mm (6.46 in.)
Weight	1.5 kg with PL-Mount

## Vario-Sonnar

On both sides of the Mutar 2x:  
54mm PL-Mount or 41mm Bayonet

182.4 mm (7.18 in.)  
193.8 mm (7.63 in.)  
1.8 kg with PL-Mount

## Optical Data

Important: All figures for angular field and focal length are calculated values. Practical values may deviate slightly.



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