

## Summarit

Miles Steininger

October 5, 2005, rev. August 27, 2007.

Prior to 1960, the Leica speed lens was the 50mm  $f/1.5$  Summarit. It is a coated version of the Schneider Xenon lens of 1936. This lens was first available in screw mount under the Schneider, or Taylor & Hobson brands. Variations included the models built in, and engraved, 'Midland Canada'. Earlier units were marked 'Taylor & Hobson' or included the U.S. Patent 2,019,985. The aperture scale is: on the ring for the Canadian lenses; and on the barrel for the German lenses.

The optical formula is a double Gauss with 7 elements. The elements are arranged in 5 groups (one positive, two negative, two positive, moving from object to image). This makes for 10 air glass surfaces. Given the Xenon was created prior to the advent of optical coating<sup>1</sup> it was not a super speed lens. In that respect, the Zeiss Sonnar 50mm  $f/1.5$  with 7 elements in 3 groups or 6 air glass surfaces was faster. [The values for Xenon/Summarit and Sonnar are  $T=1.89$  and  $T=1.72$  at 4.5% loss per surface for uncoated surfaces, and  $T=1.66$  and  $T=1.59$  at 2.0% loss per surface for (not multi-) coated surfaces.<sup>2</sup>]

The Summarit was sold from from 1949 through to 1960. In 1954, the Summarit was released in the M bayonet mount. The replacement 50mm Summilux of 1960 is much the same lens, though with extra speed owing to the use of newer optical glasses. Now a coated Summilux is faster than a Sonnar with greater correction, although less contrast.

The Summarit is a good fast lens and certain lenses can be good performer. However, some hold that Jupiter-3 (a Soviet Sonnar copy) is better. Leitz marketed this lens in its various incarnations for 24 years. It is a good fast lens for occasional available light shooting. It is better for portraits than scenics.

<sup>1</sup>In 1935, Dr. A. Smakula of Zeiss filed for a patent, German Patent 685,767. It was allowed but held in secret until Dec. 1939.

<sup>2</sup>The definition of a T-stop is  $T \equiv \frac{F}{\sqrt{t}}$  where  $F$  is the value of an f-stop,  $T$  is the value of a T-stop,  $t = (1 - L)^N$ , with  $N$  being the number of surfaces, and  $L$  being the loss at each surface. The definition of a T-stop comes from the fact the light through a lens is proportional to  $\frac{1}{F^2}$  that is the area of the lens opening. The light through a lens is equal to  $\frac{1}{T^2}$ , and by inserting a constant  $t$  into the f-stop expression making it an equality, and equating the two expressions, the definition is arrived at. Further, the constant  $t$  must be the transmission factor of the lens.

Lens	50mm $f/1.5$ Summarit
Production years	1949–1954(S)/1954–1960(M)
Finish	Chrome
Mount	Screw or M Mount
Barrel	Rigid, non-removable head
Optical Construction	7 elements in 5 groups(+--++)
Filter Size	41 mm
Apertures	$f/1.5$ – $f/16$
Angle of View	45°
Minimum Focus	1 m
Lens hood	XOONS
Units Produced	39,181 (S)/25,689 (M)
Mass	320 g

The Summarits sell for less than the Summilux. However, the relative price difference is reversing as users are starting to buy these in favour of the more expensive counterpart. A Carl Zeiss Sonnar is worth more than a Summarit and a Jupiter-3 sells for less.

The Summarit (& Xenon) lenses have an external bayonet fitting, or a 41 mm thread for hoods and filters. The XOONS lens hood used the bayonet fitting. Marc James Small (Leica Users Group, 2005/03/21) recommends.

A Tiffen 41F or Ednalite 602 Series VI adapter will work, incidentally, and new 41mm Series VI adapters, hoods, and filters are available from Harrison & Harrison in California<sup>3</sup> at a *very* reasonable price – the Series adapter, hood, and two filters will probably run around \$35 or so.

Alternatively one can get a SNHOO adapter and use E39 filters. The SNHOO accepts the 12585 lens hood or equivalent. As for a front cap scrounging is the cheapest option. Dr. Joseph Yao notes<sup>4</sup>

Replica Leitz 41 mm metal front caps are available from many Leica dealers in Tokyo for approx. US\$30. I picked up a few for my Summarits when I was there last year. They look just like the real thing, even down to the maroon felt lining inside the rim!

<sup>3</sup>Harrison & Harrison Optical Engineers  
Unit "E" 1835 Thunderbolt Drive, Porterville California  
93257, Tel: 559-782-0121, T/F (USA only): 877-213-6787, Fax:  
559-782-0824, e-mail: [harrisonOP@aol.com](mailto:harrisonOP@aol.com)

<sup>4</sup>See, <http://www.nemeng.com/leica/023b.shtml>,  
[joseph@yao.com](mailto:joseph@yao.com), Nov 2000.