



Lens Systems for CRT-Based Rear Projection Televisions

Short Focal Length Lens System



How the lenses work

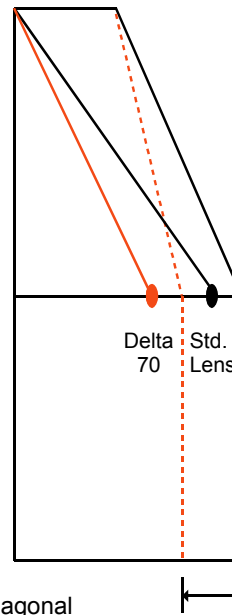
The lenses reduce the image distance (TCL-Total Conjugate Length) by several inches while achieving the same HD quality resolution of longer focal length lenses.

The short focal length lenses have four elements. The optics are designed to achieve 5-element performance at a superior value. The lenses are available with our patented ECP (Enhanced Color Purity) filters that significantly increase the purity of the red and green CRT's.

How Vikuiti™ Delta 70 lenses make RPTV more appealing to consumers

The Vikuiti™ Delta 70 lenses offer high resolution and a shorter focal length allowing for a more compact cabinet design that is able to have storage and other features built-in. It can also be used in a table-top design.

Vikuiti™ Delta 70 lenses have a very high contrast ratio of 250:1 making a crisper, sharper picture that is ideal for HD and HD-ready projection televisions. The design provides better performance for smaller screen sizes than alternative lenses.



For a 40" diagonal television, the average improvement is over 2".

Lens Specifications and Comparisons

Vikuiti™ Delta 70 Vikuiti™ Delta 72 Vikuiti™ Delta 240

Screen Diagonal/TCL (raster 4.8")

38"	670 mm	675 mm	760 mm
39"	685 mm	690 mm	775 mm
40"	700 mm	705 mm	790 mm

Optical Performance

Contrast	250:1	250:1	250:1
f/#	1.04	1.04	1.06

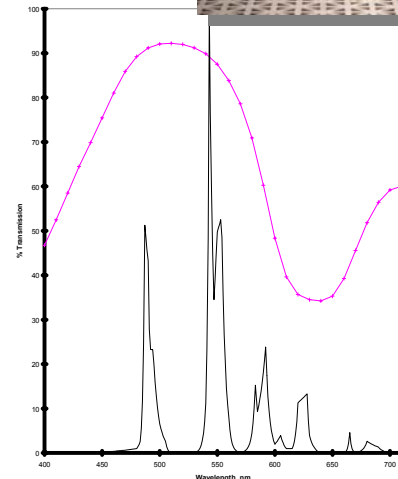
Other

Focal Length	69mm	69 mm	77 mm
CRT Size	7"	7"	7"

How Enhanced Color Purity (ECP) Filters Work

The CRTs in rear projection televisions (RPTV) display more colors than desired. Years of research have resulted in the color filtration in our patented ECP filters. ECP minimizes the transmission of unwanted wavelengths while maximizing the transmission of desired wavelengths and the optical performance of the lens system. Red and green filters are available and are incorporated into the C element. ECP increases the color palette of the RPTV, resulting in brilliant colors that more accurately reproduce the image.

This graph shows the spectral output of a typical green CRT. As you can see, there are more colors produced than green (about 540nm). The green line shows the percentage of light transmitted by our ECP filters.



3M Precision Optics, Inc.
3997 McMann Road
Cincinnati, Ohio 45245
Phone: 513-943-5621
Fax: 513-943-5505
E-mail: 3MPO-info@mmm.com
www.3mprecisionoptics.com

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