

# The Canon LO-32BMT



The **Canon LO-32BMT** adapter allows you to mount a 2/3" B4 bayonet lens onto any Sony 1/2" proprietary mount camera such as the new XDCAM HD series, PDW-F330/F350 while not affecting the optical quality of the lens. It is important to consider the following information when using a 2/3" lens with a LO-32BMT adapter mounted to a 1/2" camera.

1. The images produced will appear visually more telephoto by a factor of 1.38x.
2. The actual F-Number of a lens does not change when mounted on a different format size camera.  
If the lens is F1.9 in the 2/3" format, the lens is also F1.9 in the 1/2" format.
3. The Focal Length and F-Stop markings on the 2/3" lens are correct in either format.
4. It is highly recommended that HDTV lenses always be employed on HDTV cameras.

## Focal Length

When using a 2/3" lens with a LO-32BMT adapter mounted to a 1/2" camera, the actual focal length of the lens does not change. However, the angle of view associated with that focal length changes. In this case, the lens will visually be more telephoto, by a factor of 1.38x. As an example, the 2/3" KJ20x8.5B HDTV lens (58.9° angle of view at 8.5mm when mounted on a 2/3" camera) will visually appear to have a 44.6° angle of view, that equates to an equivalent focal length of 11.7mm (8.5mm x 1.38 = 11.7mm)

2/3" HD Lens KJ20x8.5B Focal Length at Wide Angle	2/3" HD Camera Angle of View	1/2" HD Camera Angle of View with LO-32BMT	Visual Equivalent Angle of View in 2/3"
8.5mm	58.9°	44.6°	11.7mm



2/3" HD Camera Angle of View  
58.9°



1/2" HD Camera Angle of View  
with LO-32BMT  
44.6°

## F-Number

The actual F-Number of a lens does not change when mounted on a different format size camera. Using the 2/3" KJ20x8.5B HDTV lens as an example, its maximum aperture is F1.8. When that lens is mounted on the 1/2" camera with the LO-32BMT adapter, the focal length and effective aperture of the lens do not change.

The formula for deriving the F-Number of any lens is as follows:

**F-Number =  $f / D$**       **$f$  = Focal Length**      **$D$  = Effective Aperture**

Since neither the focal length nor the effective aperture has changed, the F-number remains the same, F1.8. Thus, there is no optical sensitivity "loss" involved when using a 2/3" native lens with the LO-32BMT on a 1/2" camera. As a comparison, if instead of using the 2/3" KJ20x8.5B lens and LO-32BMT adapter, you were to substitute a 1/2" KH20x6.4 HDTV lens, the adapter would no longer be necessary. By applying the same formula,  $F\text{-Number} = f/D$ , to the 1/2" KH20x6.4 lens, the lens will have a faster F-Number, F1.4, compared to the 2/3" lens and LO-32BMT combination.

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2/3" HD Lens KJ20x8.5B with LO-32BMT Zoom Ratio: 20x Wide Focal Length: 8.5mm F-Stop: F1.8
1/2" HD Lens KH20x6.4 Zoom Ratio: 20x Wide Focal Length: 6.4mm F-Stop: F1.4

The 2/3" KJ20x8.5B lens  
with LO-32BMT as compared  
to the 1/2" KH20x6.4 lens.