HDGC

Canon's New HDgc Lenses

for Sony's XDCAM HD

Canon

*image*ANYWARE

Canon's New HDgc Lenses Let You Maxim

KH16ex5.7 IRSE
- 16X zoom ratio and a 2X extender
- Lightweight for both ENG and EFP applications
- Canon's eDrive and Shuttle Shot technology
- Dynamic zoom speed range: 0.5 seconds - 5 minutes

KH10ex3.6 IRSE
- 10X zoom ratio, and a 2X extender
- Wide-angle version (3.6mm wide angle)
- Canon's eDrive and Shuttle Shot technology
- Dynamic zoom speed range: 0.5 seconds - 5 minutes

KH21ex5.7 IRSE
- 21X zoom ratio and a 2X extender
- Ideal for both ENG and EFP applications.
- Canon's eDrive and Shuttle Shot technology
- Dynamic zoom speed range: 0.5 seconds - 5 minutes

Whether you own or plan to buy the Sony PDW-F350 or the PDW-F330 XDCAM HD Camcorder, you'll want to make sure there's a new Canon HDgc lens out in front. HDgc lenses combine the best features of Canon's remarkable lens technologies to deliver HD optical quality and other higher-end advancements. The HDgc line's lenses for 1/2-inch CCD cameras include: the KH21ex5.7 IRSE (telephoto lens), the KH10ex3.6 IRSE (wide-angle lens), and the KH16ex5.7 IRSE (standard lens). Canon's exclusive Digital "eDrive" is included in all three of these lenses, and is a principal difference (along with zoom speed range and a built-in 2X extender) between these models and the more economical 1/2-inch KH20x6.4 KRS and KH19x6.7 KAS lenses.

All HDgc lenses feature:

Canon's innovative technology enhancing optical performance and user benefits.

Well-Controlled MTF (Modulation Transfer Function) plus excellent contrast performance over their entire respective image planes, and minimized chromatic aberrations.

Compact design lightweight in direct response to the equally compact new tapeless HD camcorders.

Minimizing environmental impact Canon is manufacturing all of its lenses, including the new HDgc models, without lead, cadmium, mercury, and other toxins as part of the company's policy to minimize the impact on the environment.

The KH16ex5.7 IRSE, KH10ex3.6 IRSE and KH21ex5.7 IRSE lenses feature:

Canon's exclusive eDrive provides nine user-definable function profiles; a choice of manual, digitally assisted, or fully programmed control; and instant "Shuttle Shot" to zoom to the longest focal length for quick check of focus and back focus. Digitally assisted shooting techniques offered by Canon's eDrive include graceful "padded" zoom start/stops so that zooms begin and end softly and without jerkiness. Canon's eDrive provides for memorized focus and zoom positions, repeatable focus with no mechanical play or gear backlash, steady and slow zoom creeps, and one-button on/off.

nize The Potential Of Your Sony XDCAM HD

The KH20x6.4 KRS and KH19x6.7 KAS lenses offer unique features:

Canon's exclusive Shuttle Shot function (available on the KH20x6.4 KRS), an advanced servo system that facilitates zooming back and forth between any two focal length positions and brings an entirely new range of value-added creativity to hand-held acquisition systems. The KH19x6.7 KAS lens is compatible with Sony's Auto-Focus system.

A new ergonomic drive unit a new, smaller drive unit that not only comfortably fits into the palm of the user's hand, but also improves the feeling of unity between the drive unit and your hand. These drive units, featuring a grip support and ribbed surface, are tilted at an ideal angle in order to achieve a better balance and to provide more comfort and reduce operator fatigue.

KH20x6.4 KRS

- 20X zoom ratio
- Wide angle of 6.4mm for a focal length of 6.4-128mm
- Canon's Shuttle Shot technology
- Dynamic zoom speed range: 1.2 seconds - 1 minute

KH19x6.7 KAS

- 19X zoom ratio
- Wide angle of 6.7mm for a focal length of 6.7-127mm
- Compatible with Sony's auto-focus system
- Dynamic zoom speed range: 1.2 seconds - 1 minute

HDGC

Specifications

Lens	KH10ex3.6 IRSE	KH21ex5.7 IRSE	KH16ex5.7 IRSE	KH20x6.4 KRS	KH19x6.7 KAS (Auto Focus Feature)
Zoom Ratio/Format	10x	21x	16x	20x	19x
Range of Focal Length (with Extender)	3.6 - 36mm (7.2 - 72mm)	5.7 - 120mm (11.4 - 240mm)	5.7 - 92mm (11.4-184mm)	6.4 - 128mm	6.7 - 127mm
Maximum Relative Aperture (with Extender)	1:1.45 at 3.6 - 27mm 1:1.90 at 36mm (1:2.9 at 7.2 - 55mm) (1:3.8 at 72mm)	1:1.4 at 5.7 - 86mm 1:1.95 at 120mm (1:2.8 at 11.4 - 172mm) (1:3.9 at 240mm)	1 : 1.4 at 5.7 - 71.6mm 1 : 1.8 at 92mm (1 : 2.8 at 11.4 - 143.2mm) (1:3.6 at 184mm)	1:1.4 at 6.4 - 89.6mm 1:2.0 at 128mm	1:1.6 at 6.7 - 96.8mm 1:2.1 at 127mm
Angular Field of View° (with Extender)	88.1° x 57.1° 11.1° x 6.2° (51.7° x 30.5°) (5.5° x 3.1°)	62.9° x 38.0° 3.3° x 1.9° (34.0° x 19.5°) (1.7° x 0.9°)	62.9° x 38.0° 4.3° x 2.4° (34.0° x 19.5°) (2.1° x 1.2°)	57.1° x 34.1° 3.1° x 1.8°	55.0° x 32.6° 3.14° x 1.77°
M.O.D.	0.3m (10mm with Macro)	0.8m (10mm with Macro)	0.6m (10mm with Macro)	0.9m (10mm with Macro)	0.9m (50mm with Macro)
Size (WxHxL)	168.2 x 110.6 x 240.8mm	169.4 x 111.9 x 217.5mm	163.9 x 106.3 x 196.7mm	163.3 x 103 x 182.5mm	112 x 88 x 171.8mm
Weight (approx.)	4.1lbs (1.87kg)	3.9lbs (1.79kg)	3.24lbs (1.47kg)	2.8lbs (1.27kg)	2.8lbs (1.27kg)
Built-in Extender	2.0x	2.0x	2.0x		

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 long be necessary. By applying the same formula, F-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.

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.

Canon USA Inc.
Broadcast and Communications Division
65 Challenger Road, Ridgefield Park, NJ 07660
1-201-807-3300 / 1-800-321-4388
bctv@cusa.canon.com

Canon
imageANYWARE

www.canonbroadcast.com