

Canon

HJ18ex28B



HD XS

HJ18ex28B



Canon is proud to introduce the HJ18ex28B, the Portable Super Telephoto HDTV lens. The new HJ18ex28B surpasses conventional telephoto TV lens by offering the longest focal length of 500mm(1000mm with 2x extender) and HDTV performance based on Canon's innovative optical technology. Another remarkable feature of HJ18ex28B is the superior compact design and the light weight of only 2.5kg(IRSE type) which offers a high versatility to the lens without calling for a lens supporter.



Canon's Technology **e-HDxs**

Canon proudly offers our Broadcasting Lens Technology, the **e-HDxs**. The **e-HDxs** technology consists of two meanings that start with the letter "e". One is the "ecological design", a design harmless to the environment. The other is the "enhanced digital" technology which improves the performance of the digital drive unit. Of course the new technology inherits all the advantages of its predecessor, the HDxs technology, which includes the advanced optical design concept, based on the X-Element technology.

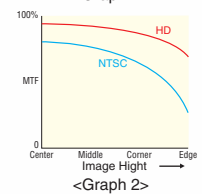
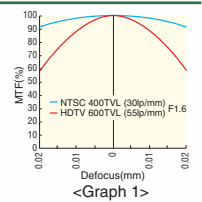
Enhanced Optical Technology

Special Optical Elements

Canon has always made an effort to research special elements since our beginnings in this industry with the goal of minimizing chromatic aberration. These efforts have included an artificial element, "Fluorite", with extraordinary dispersion characteristics and the newly developed "Hi-UD" (high index ultra low dispersion) glass. Canon has succeeded in the practical use of special elements along with advanced design techniques like "separate achromatism". Canon TV zoom lenses carry a "Green Ring" on the focus barrel, a symbol of our high quality. Canon has developed a break through in optical design technology known as the "Power Optical System" whose heart is the "X-Element". By using the "X-Element" to its maximum power in the specially designed optical layout, higher specifications and quality can be achieved in smaller and lighter lenses. The lenses designed using the "Power Optical System" are known as the "XS-series".

Aberration Correction for HDTV Lenses

The pixel size is about half in the HDTV system, and therefore the spread of a point image caused by a spherical aberration, coma, etc. should be diminished to about half. Even if the image is slightly out of focus, MTF is greatly influenced. The graph 1 shows how MTF varies when the focus changes. Canon HDxs series lenses employ the HD version of the Power Optical System, which incorporates the X-Element. HDxs greatly contributes to correcting and minimizing these aberrations at the same time, maintaining high MTF throughout the edge of the picture (graph 2).



Enhanced Digital Drive

The **e-HDxs** is equipped with an informational display and Digital Function Selector, an X-Y axis switch, so that the user can customize the enhanced digital functions much more easily and precisely. This new design enables the user to fully bring out the digital functions.

Main Features

Shuttle Shot

By memorizing any two focal lengths, the Digital Drive can automatically "shuttle" between the two points, moving in either direction.



Framing Preset

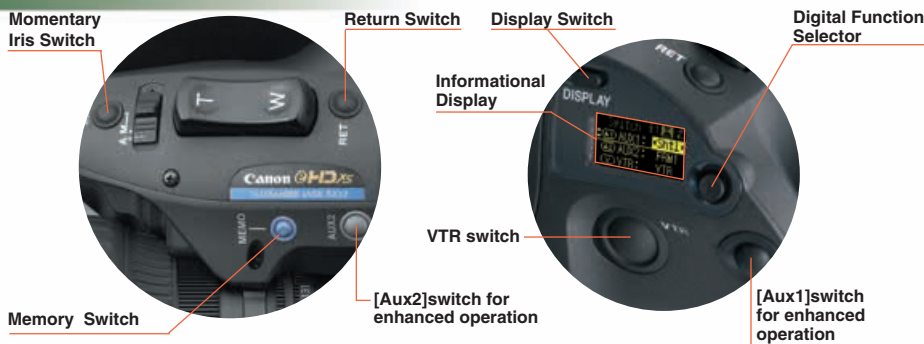
An angle of view can be preset in either of two memories and the lens will zoom to that position by pushing a simple button. During a performance, framing preset will reproduce the zoom position decided upon at the rehearsal. It's easy to repeat the same zoom as often as you like at the highest speed or in a preset zoom speed.



Speed Preset

A specific zoom speed can be preset in memory and it is possible to repeat the zoom speed as often as you like by pushing a simple button.

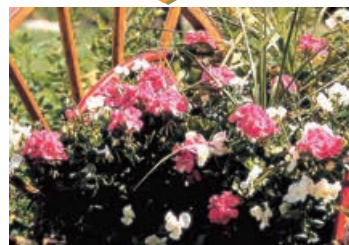




[Ultra long focal length]
f = 28mm



Zoom



f = 1000mm at the narrowest angle with 2x extender

Internal Rotary Encoder Devices **Ecological Design**



Built-in 2x Extender

Long Focal Length of 28-500mm (56-1000mm with 2x extender)

Countermeasures Against Ghosting And Flares

Zoom Ratio 18x

Dynamic Zoom Speed Range

* Zoom Speed from 0.5sec. to over 5 min. (From wide end to tele end)

Ecological Design

It is Canon's policy not to pollute the earth and the eHDx series have avoided using any materials or substances that could pollute the environment.

Rotary Encoder

Canon offers a complete series of eHDx lenses, which are equipped with an enhanced digital drive unit. Conventional potentiometers are analog positional sensors capable of only 8-10 bit equivalent resolution. Thus virtual ENG studio systems called for an optional Encoder Unit to be put on the zoom and focus ring of the lens. With the introduction of 16 bit resolution Rotary Encoder Devices built into the new enhanced digital drive unit, the lens can simply be integrated into a virtual digital studio system without any additions. The encoders also enable superior precise control. The zoom servo provides a dynamic range of 0.5 sec. to over a 5 min. super slow zoom. Repeatability in focus and iris control are also much more precise. Canon's unique technology has made the Encoder Device surprisingly small to be installed in the existing drive unit without changes in size or weight.



Lens with the Optional Encoder Unit

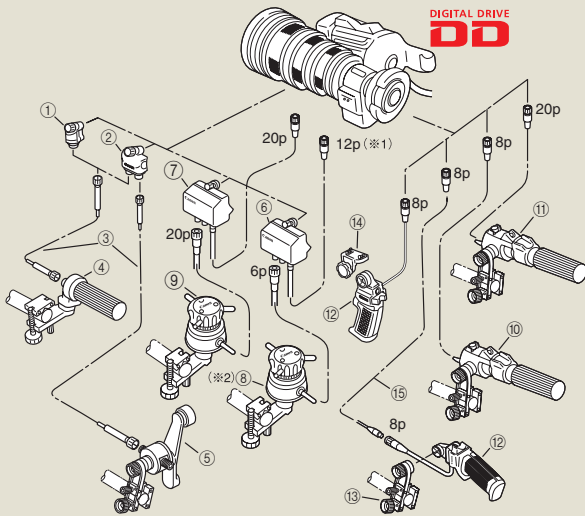


Lens with Encoder Devices included in the drive unit

SPECIFICATIONS

HJ18e×28B	16:9		NORMAL 4:3		SWITCHABLE 4:3	
	1.0X	2.0X	1.0X	2.0X	1.2X	2.4X
Built-in extender	1.0X	2.0X	1.0X	2.0X	1.2X	2.4X
Zoom Ratio	18X					
Range of Focal Length	28~500mm	56~1000mm	28~500mm	56~1000mm	28~500mm	56~1000mm
Maximum Relative Aperture	1:2.8 at 28~286mm 1:4.9 at 500mm	1:5.6 at 56~572mm 1:9.8 at 1000mm	1:2.8 at 28~286mm 1:4.9 at 500mm	1:5.6 at 56~572mm 1:9.8 at 1000mm	1:2.8 at 28~286mm 1:4.9 at 500mm	1:5.6 at 56~572mm 1:9.8 at 1000mm
Angular Field of View	19.5°×11.0° at 28mm 1.10°×0.60° at 500mm	9.8°×5.5° at 56mm 0.60°×0.30° at 1000mm	17.9°×13.4° at 28mm 1.00°×0.80° at 500mm	9.0°×6.7° at 56mm 0.50°×0.40° at 1000mm	14.7°×11.0° at 28mm 0.80°×0.60° at 500mm	7.4°×5.5° at 56mm 0.40°×0.30° at 1000mm
Minimum object Distance (M.O.D)	2.2m (10mm with Macro)					
Object Dimensions at M.O.D	71.1×40.0cm at 28mm 4.10×2.30cm at 500mm	35.6×20.0cm at 56mm 2.10×1.20cm at 1000mm	65.4×49.1cm at 28mm 3.80×2.90cm at 500mm	32.7×24.6cm at 56mm 1.90×1.50cm at 1000mm	53.5×40.1cm at 28mm 3.10×2.30cm at 500mm	26.8×20.1cm at 56mm 1.60×1.20cm at 1000mm
Approx. Size	W×H×L = 182.8×123.7×268.3 mm					
Approx. Mass (IRSE/IASE)	2.50Kg (5.52lbs) / 2.60Kg (5.74lbs)					

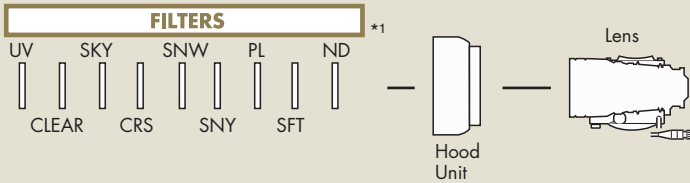
Control Accessories



#	Unit	Description	CODE
①	FFM-100	Flex Focus Module	1824A015
②	FFM-200	Flex Dual Module	1824A013
③	FC-40	Flex Cable	1824A010
④	FFC-200	Flex Focus Controller	1824A014
⑤	FZC-100	Flex Zoom Controller	1824A021
⑥	FPM-420	Focus Positional Servo Module	1824A026
⑦	FPM-420D	Focus Positional Servo Module	1824A129
⑧	FPD-400	Focus Positional Demand	1824A018
⑨	FPD-400D	Focus Positional Demand	1824A124
⑩	ZSD-300A*M	Zoom Demand	A 1824A066 M 1824A067
⑪	ZSD-300D	Zoom Demand	1824A123
⑫	ZSG-200A*M	Zoom Servo Grip	A 1824A068 M 1824A069
⑬	CR-10	Clamper	1824A007
⑭	ZGA-600	Grip Adapter	
⑮	EC-80	Zoom Extension Cable (8P)	1824A009
⑯	CC-2006	Conv. Cable (20pM-6pF)	1824A125
⑰	CC-2012	Conv. Cable (20pM-12pF)	1824A126

(#1) ⑰ CC-2012 conversion cable is necessary to connect between IRSD Digital Drive Lens and FPM-420.
 (#2) ⑯ CC-2006 conversion cable is necessary to connect between IASD Digital Drive Lens and FPD-400.

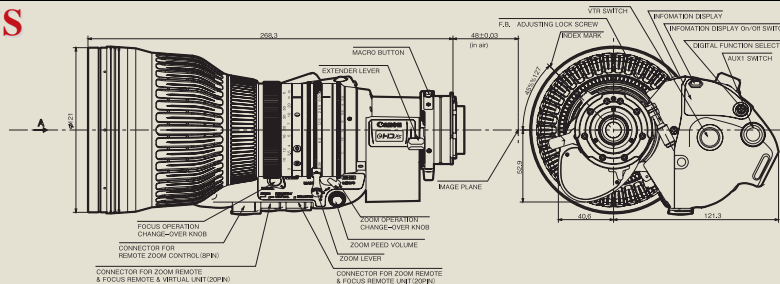
Optical Accessories



TYPE	MODEL
Ultra Violet	UV/127mm
ND8(12.5% Transmittance)	ND8/127mm
Softon	SFT/127mm
Cross Screen	CRS/127mm
Snow Cross	SNW/127mm
Sunny Cross	SNY/127mm
Polarized Light	PL/127mm

*1 The filters are to be attached to the threaded hood unit.

DIMENSIONS



HJ18ex28B IRSE/IASE (Unit:mm)

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