

Canon

DIGISUPER 86AF

XJ86×9.3B AF 9.3-800mm 1:1.7



The Established Field Lens featuring Powerful HDTV Auto Focus technology and Superior Image Stabilizer



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XJ86×9.3B AF 9.3-800mm 1:1.7

Recently there has been a greater demand for broadcast HDTV production and the requirement for accuracy in focusing has risen in response to this demand. Canon has been and continues to be a pioneer in the design of broadcast lens and meets this demand with the introduction of a revolutionary HDTV Auto Focus System. For many years the market has been requesting this unique technology for HDTV production and the Auto Focus System has now been adapted into several of Canon's DIGISUPER HDTV zoom lenses. Canon has implemented Auto Focusing into the DIGISUPER 86 xs which is already known for its optical performance and ease of operation due to its optical image stabilizer. This technology assists professional camera operators in concentrating on the action/ beauty shots while maintaining the images in focus. Canon's advanced Auto Focusing for the DIGISUPER HDTV Zoom Lens employs the TTL-Secondary Image Registration Phase-detection system, originally developed for single-lens reflex still cameras, in order to pursue both high accuracy and a high tracking capability for broadcast HDTV.

Prominent features of DIGISUPER 86AF

Canon's unique "Power Optical System" and "X-Element" with a 86:1(9.3-800mm) focal length range has made it possible to maintain high optical quality while dramatically reducing chromatic aberration. Its superior optical capacity allows the lens to offer a maximum relative aperture of 1.7 and a minimum object distance of 3.0 meters.

Power Optical System and X-Element

- Breakthrough Power Optical System design
 - achieves higher specifications and quality
- The X-Element virtually eliminates aberrations

Internal Focusing System

(Advanced 3 group IF system)

- Achieves wide-angle with reduced distortion
- Minimal variation of chromatic aberration while focusing
- Minimal variation of the center of gravity while focusing
- Internal focusing system allows for Anti-Dust and Anti-fog



Optical Shift Image Stabilizer (shift-IS)

- Due to extreme telephoto focal lengths Canon created a superior optical image stabilization technology that prevents the picture from shaking due to even the slightest wind or operator movement

New Generation Digital Servo System

Servo System meets Robotic Requirements

- High resolution zoom and focus servo 13-bit repeatability

10-bit Iris Compatibility

- High resolution iris control

Wide Dynamic Range of Zoom and Focus Servo Speed

- From ultra slow to high Max speed: Zoom 0.6sec, Focus 0.8sec

CAFS (Constant Angle Focusing System)

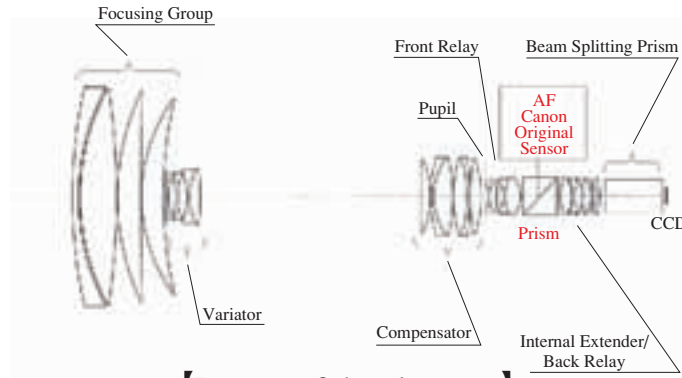
- 32-bit CPU calculates and controls the zoom when focusing to counteract "breathing" (phenomena where picture size/ angle of view changes when focusing) and has zero zoom effect

Outstanding features of Canon's HDTV Auto Focus System

Canon's Original Sensor Delivers High Focus Performance

- Focusing accuracy that meets full HDTV specifications (1920×1080 pixels)
- Ability to focus from a completely de-focused status without hunting
- Ability to focus on a high speed moving object

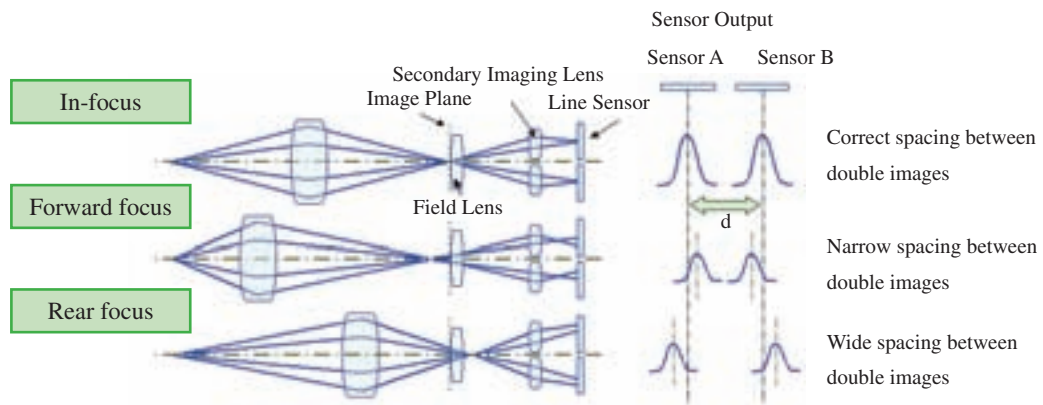
Structure of DIGISUPER HDTV Zoom Lens with Auto Focusing



【Layout of the elements】

TTL-Secondary Image Registration Phase-detection System

The light transmitting through a pair of the secondary imaging lenses focuses on separate sensors. The following figure illustrates this state of focusing. The TTL-Secondary Image Registration Phase-detection System determines the positional relationship between the two images (Refer to “d” in figure) to detect the amount and direction of defocusing.



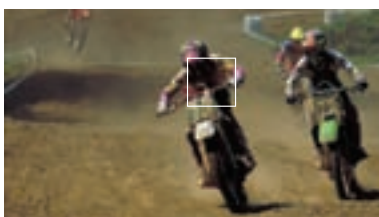
AF Operation Mode

The AF system’s two operation modes is the answer to a professional camera operator’s various demands.

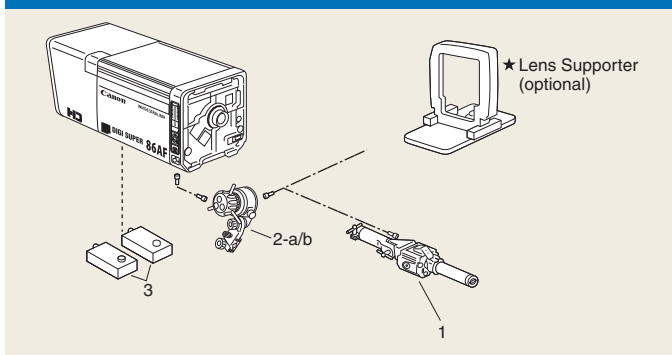
【2 kinds of AF Operation Modes with ACTIVE/HOLD switch】		
Mode	FULL TIME AF	PART TIME AF
How AF works	Usually activated Focus position is locked while the SW is pushed.	Usually off. Activated while the SW is pushed.
Recommended Application	Sporting event etc. To follow a moving object.	Studio production etc. To confirm the best focus position.

AF Frame

The camera operator can focus on a specific object by controlling the position of the AF Frame (target area) in the viewfinder from the Digital Focus Demand FDJ-P31/P41. The size of the AF frame (target area) can be changed in 3 steps allowing for different subjects and compositions.



RECOMMENDED LENS SYSTEM

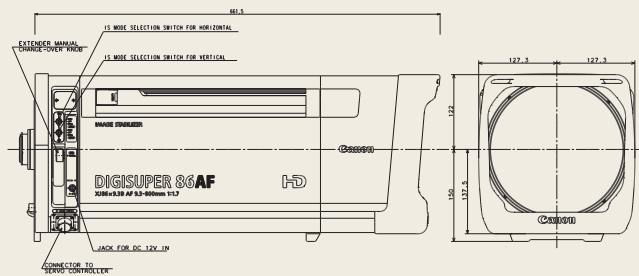


Compatibility of Accessories for DIGI SUPER 86AF

No.	DESCRIPTION	MODEL NAME
1	Digital Zoom Demand	ZDJ-D02
2-a	Digital Focus Demand for AF lens for Right hand operation for Left hand operation	FDJ-P31
2-b		FDJ-P41
3	Digital Servo Module	SMJ-E01

DIMENSIONS

DIGISUPER 86AF



SPECIFICATIONS

DIGISUPER 86 AF

	NORMAL4:3		16:9	
	1.0X	2.0X	1.0X	2.0X
Built-in extender				
Zoom Ratio	86X			
Range of Focal Length	9.3-800mm	18.6-1600mm	9.3-800mm	18.6-1600mm
Maximum Relative Aperture	1:1.7 at 9.3-340mm 1:4.0 at 800mm	1:3.4 at 18.6-680mm 1:8.0 at 1600mm	1:1.7 at 9.3-340mm 1:4.0 at 800mm	1:3.4 at 18.6-680mm 1:8.0 at 1600mm
Angular Field of View	50.6°x39.1° 0.63°x0.47°	26.6°x20.1° 0.32°x0.24°	54.6°x32.4° 0.69°x0.39°	28.9°x16.5° 0.34°x0.19°
Minimum object Distance (M.O.D.)	3.0m from front lens vertex			
Object Dimensions at M.O.D.	253.9x190.4cm at 9.3mm 2.96x2.22cm at 800mm	127.0x95.2cm at 18.6mm 1.48x1.11cm at 1600mm	276.4x155.5cm at 9.3mm 3.22x1.81cm at 800mm	138.2x77.8cm at 18.6mm 1.61x0.91cm at 1600mm
Size	250.6x255.5x661.5mm			
Mass	26.8kg (59.1 lbs)			

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Specifications subject to change without notice