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2009

The Lens Creates the Image

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After nearly a decade of advances in its worldrenowned optical R&D - and ongoing dialogue with hands-on users worldwide - Canon is introducing the evolutionary next-step in high definition imaging: the HJ14ex4.3B IRSE/IASE wide-angle portable HDTV lens. Totally new and unique in its design, the HJ14 is the product of Canon's very latest optical design tools, newly developed glass elements, and highly advanced optical coatings. In addition, the HJ14's newly developed Digital Drive unit provides improved operability and ergonomic advances for user comfort and convenient control of lens functions.

Wide, Advanced Optical Performance

Canon's new HJ14 wide-angle portable HDTV lens features a minimum focal length of 4.3mm and an angular field of view of 96.3° at the wide end of the 16:9 HDTV aspect ratio. This optical performance is combined with a 14x zoom range reaching to 60mm (120mm with extender), which greatly expands creative options for the acquisition of crystal-clear, and virtually distortion-free HDTV video images.

Improved Operability, Digital Drive, and Lighter Weight

Employing free-form curves based on the shape of human hands, Canon mechanically redesigned its new Digital Drive unit to be more ergonomically friendly, making it narrower and shorter, and opening more space for manual focusing. It also features newly developed coatings and a new rubber grip support for a better tactile interface. The overall result is the enhancement of user interface and the reduction of stress and fatigue, especially during prolonged shooting. The new HJ14ex4.3B also employs a smaller hood, which helps the camera operator view more of the actual scene.



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DIGISUPER 22xs HD Compact Studio Lens

DIGISUPER 27AF AND DIGISUPER 27 Auto-Focus Option

DIGISIPH 204

DIGG PER IT

HQ.



About $\frac{1}{3}$ the Weight of Standard Studio Lenses.

With Current DAG Demand (Standard)







Responding to increasing use of portable HD cameras in studios, Canon invented the entirely new product category of the HD Compact Studio Lens with the introduction of the DIGISUPER 22xs (model XJ22x7.3B IE-D).

SCALED FOR PORTABLE HD CAMERAS

The perfect complement to portable HD cameras configured for studio use, the DIGISUPER 22xs is engineered to be compact and lightweight.

SUPERB HD OPTICAL PERFORMANCE

The DIGISUPER 22xs offers higher contrast and resolution compared with portable HD lenses, but at the same time reduces Focus Breathing to a zero level.

STUDIO OPERATION

By adopting an "Encoder Servo System," the maximum servo speed has been improved to Zoom: 0.5 sec., Focus: 1.5 sec. Also, the DIGISUPER 22xs HD Compact Studio Lens' new encoder system enables it to be easily integrated into virtual studio applications. **STATUS AT A GLANCE**

The DIGISUPER 22xs is equipped with an

informational display, which enables the easy and precise use of diverse digital functions.

CONTROLLABILITY

TThe DIGISUPER 22xs can be used with Canon's current Studio/Field lens controllers as well as those for Canon ENG lenses. The DIGISUPER 22xs HD Compact Studio Lens also offers compatibility with our new digital demands by use of a conversion cable. The DIGISUPER 27 and DIGISUPER 27AF HD studio lenses (models XI27x6.5B IE-D

and XJ27x6.5B AF, respectively) deliver unprecedented performance for HD studio production applications. Both provide the widest angle of any lenses available, a focal length (zoom ratio) of 6.5mm to 180mm, and newly developed multi-layer optical coatings that dramatically reduce ghosting and flaring. Both also offer Canon's optional BWA-271 0.9x Wide Attachment, the industry's first wideangle attachment for an HD studio lens. This "zoom-through" Wide Attachment enables users to begin with a wide shot and go telephoto without compromising light transmission. This feature alters the range of the zoom on wide settings by ten percent toward the wide side, making a new zoom range of 5.85mm to 162mm.

Other innovations in the DIGISUPER 27 and DIGISUPER 27AF HD studio lenses include a servo-zoom speed of 0.5 seconds and a new optional remote-controllable macro-focus feature that allows the camera operator to perform macro focusing from the pan bar (a helpful tool for focusing on jewelry and other small objects).

Auto Focus Optimized for the HD Studio

The DIGISUPER 27AF HD studio lens delivers the benefits of Canon's Auto Focus technology to the HD studio environment. Utilizing sophisticated Auto Focus capabilities based on a proprietary HD implementation of Through-the-Lens Secondary Image Registration Phase Detection Method technology, the DIGISUPER 27AF HD lens is optimized for studio use. The tremendous picture detail contained in HDTV makes anything in less-than-perfect focus immediately obvious. The DIGISUPER 27AF HD studio lens assists camera operators in ensuring that sharpest focus on a chosen scene subject is achieved each and every time.



BU-50H Remote-Control Robotic Indoor PAN-TILT HD CAMERA SYSTEM

The new BU-50H remotecontrol robotic indoor pan-tilt HD camera

system is engineered

to provide exceptional HD video imagery and versatile performance in such indoor POV

(point-of-view) applications as houses of worship, legislative chambers, studio POV camera positions, indoor security areas, and many other environments. The BU-50H is an extremely quiet P/T system and features a maximum noise level of NC30. It is well suited for operation in very quiet environments, including studios, conferences, lectures, and classical music concerts.

The BU-50H incorporates a Canon HD camera equipped with three 1/3-inch (1.67 million-pixel) CCD sensors (1440 H x 1080 V), a Canon HD zoom lens with 20X optical zoom ratio (4.5 - 90mm), an advanced Canon Auto Focus function, and Canon's sophisticated Image Stabilizer technology.

Advanced connectivity features of the BU-50H provide the versatility to address a wide variety of video-capture applications. These include genlock input for video synchronization in broadcast television systems. Outputs include uncompressed HD-SDI with embedded audio, and composite NTSC video. The HD-SDI can be used for HD recording and the NTSC will support simultaneous SD monitoring. The BU-50H pan-tilt HD camera is capable of extremely smooth 300-degree pans and 40-degree tilts. Users can program the BU-50H for repeatable and simultaneous panning, tilting, and/or zooming to up to 32 preset coordinates the unit is AC powered(100-240V).

The BU-50H's control protocol is non-proprietary and open; users or system integrators can interface the camera with their own control system or that of third-party providers to operate the pan/tilt system while also facilitating remote operational control of the HD camera lens and video functions.

BU-45H REMOTE-CONTROL ROBOTIC PAN-TILT CAMERA SYSTEM



The new BU-45H remote-control robotic pan-tilt HD 16:9 camera system is an HD POV (point-of-view) solution for such specialized applications as traffic and weather monitoring, houses of worship, sports stadiums, high-resolution outdoor security locations, and remote-controlled Web cameras.

A turn-key product completely designed and manufactured by Canon, the BU-45H is encased in a rugged weatherproof housing and features a Canon HD camera equipped with three 1/3-inch (1,670,000-pixel) CCDs, a Genuine Canon HD zoom lens with 20X optical zoom ratio (4.5 - 90mm), and a remote-control ND (neutral density) filter. In addition to providing exceptional controllability and smooth pan-tilt motion, the BU-45H also offers Canon's Auto Focus Image Stabilizer technologies.

Powered by 12V DC current, the BU-45H provides genlock input for video system synchronization. Outputs include HD-SDI and SD-SDI with embedded audio or SD composite NTSC. The BU-45H can output HD-SDI and NTSC simultaneously for HD recording and SD monitoring. Offering a choice of automatic or manual operation, the camera features a non-proprietary, opencontrol protocol for interfacing with third-party control systems. Short and long-distance control systems interface via RS-422. Third-party E/O (electrical-to-optical) converters are available for worldwide connectivity via fiber optics.





Canon first introduced its HDgc family of high definition lenses in 2006 in support of an important new trend in cost-effective HD camcorder designs by most of the major manufacturers. These camcorders were largely of the new generation of tapeless recording specifically targeted at HDTV broadcast newsgathering, and they emerged in a variety of image format sizes - 2/3-inch, 1/2-inch and 1/3-inch. The optical imperative was to create a family of lenses for each of these format sizes that would offer credible HD image performance but at a cost significantly lower than the contemporary 2/3-inch HD production portable lenses - thus offering a better match to the impressive cost-reductions achieved by the camera manufacturers. A variety of design strategies were mobilized to achieve this challenging goal and today a broad range of HDgc lenses are available.

Technology never rests and broadcaster feedback on these HDgc lenses imparted a range of helpful reports on real-world experiences. As a consequence, Canon in 2009 is introducing a second generation HDgc family of high definition lenses that reflect re-optimizations of a number of HD optical imaging parameters. Monochromatic and chromatic aberrations have been reduced, and new optical coatings have enhanced optical contrast. The affordable cost is a testament to new optical materials, design strategies, and evolving manufacturing experiences.

The first lens in the second generation of Canon's successful HDgc line is the KJ17ex7.7B IRSE/IASE. This is a general purpose HD lens that offers a generous focal range and a modest wide angle of view that can cover many ENG applications. The new HDgc family will shortly be broadened with the addition of a very wide angle lens and a telephoto lens. In addition, the KJ17's newly developed Digital Drive unit provides improved operability and ergonomic advances for user comfort and convenient control of lens functions.



HDgc Lenses Support The Expanding 2/3", 1/2" and 1/3" HD Acquisition Applications



2/3³KJ17ex7.7B IRSE/IASE





1/3²⁰ кт20x5B KRS

Canon engineered its HDgc line of cost-effecive HD zoom lenses to support the new generation of economical portable HD camcorders and HD POV cameras from all of the major professional camera manufacturers. Whether a camera uses a 2/3, 1/2, or 1/3-inch imager, there's a Canon HDgc portable lens that's just right for it. Canon's HDgc lens line offers a dozen models, some including Canon's exclusive eDrive feature enabling users to automate control of iris, zoom, focus, and position memory settings.

HJ18ex28B IRSE A/IASE A

SUPER TELEPHOTO PORTABLE LENS

DJ40x14B IASD-V



Day-Night Telephoto Lens



The HJ18ex28B IRSE A/IASE A Super Telephoto eHDxs portable HD lens provides an unprecedented focal-length range of 28mm to 500mm (1000mm with built-in 2X extender), weighs less than six pounds (less than half the weight of comparable lenses), and requires no supporter for maximum mobility. Ideal for sports, stabilized helicopter mounts, documentaries, special events, or live reality programming, this compact, lightweight Super Telephoto HD lens enables broadcasters and other content producers to capture those "really long-distance" shots with ease.

In addition to the standard version, a special remote controllable version of this lens is also available: the HJ18ex28B ITS-RE/ME lens. In place of its standard ENG drive unit, a Remote Control drive unit is attached to the lens, making it highly effective for POV (point of view) type camera operations, robotic cameras, and any application requiring remote control over zoom, focus, and iris. The lens is available in two versions; the "ME" version, with a built-in manual 2X extender; and the "RE" version, with a servocontrolled extender.



Canon HJ40x14B and HJ40x10B high definition long-zoom portable lenses have established a stellar reputation for facilitating challenging remote shooting. Now this powerful imaging system is being extended with the addition of a new family member -- the DJ40x14B IASD-V. This remarkable lens offers the additional capability of shooting subjects in total darkness when illuminated by near infrared light.

Special optical coatings have extended the spectral transmittance of the lens into the near infrared region. Over 60% transmittance is achieved at 900nm wavelength. This new lens is designed to work with the many Day/Night video cameras available from different professional camera manufacturers. In the case of longzoom lenses there is an unavoidable shift of the focal plane because of the different wavelengths when these cameras switch out their infrared filters to prepare the camera for nighttime IR imaging. The DJ40x has been developed with a Canon proprietary "back focus shift correction and control mechanism" which synchronizes the lens' back focus position correction with the camera when it is switched between day and night modes and automatically maintains a sharp focus under all conditions. The DJ40x lens retains the same built-in optical stabilization system for which the HJ40 lens family is well known. The stabilization on/off control and extender functions are also motorized to be controlled remotely. The combination of very long focal length, optical image stabilization, and infrared imaging has produced an important new lens that offers innovative imaging flexibility for addressing multiple applications.

CINE PRIME LENSES



CINE-STYLE LENS-HD-EC

VARIABLE FOCAL LENGTH LENSES HIJEC

Canon offers a family of three variable focal length lenses: • $5.5 - 44mm T2.1 \cdot 4.7 - 52mm T2.1 \cdot 7.5 - 158mm T2.1$ Their high performance is a coordinated optimization of MTF, image brightness, and contrast across the image plane that collectively contributes to outstanding picture sharpness. These lenses include dual large luminous scales for zoom, iris, and focus and a generous 270-degree rotation of the focus control.

HJ8x5.5B KLL-SC

Lens	HJ8x5.5B KLL-SC	
Range of Focal Length	5.5-44mm	
T-Stop	T2.1	
T-Stop Range	T2.1 - 16	
Angular Field of View	82.2° x 53.1° at 5.5mm	
16:9	12.5° x 7.9° at 44mm	
M.O.D.	1'11"	•
Size (W x L)	ø95 x 245.2mm	
Weight (approx.)	4.4lbs (2.0kg)	
Focus Rotation Angle	270°	
	Area:	



HJ21x7.5B KUL-SC

FIJEC

HJEC

Lens	HJ11x4.7B KLL-SC	HJ21x7.5B KLL-SC
Range of Focal Length	4.7mm - 52mm	7.5mm - 158mm
T-Stop T-Stop Range	T2.1 T2.1 - 16	T2.1 T2.1 - 16
Angular Field of view 16:9	91.2° x 59.8° at 4.7mm 10.5° x 5.9° at 52mm	65.2° x 39.6° at 7.5mm 3.5° x 2.0° at 158mm
M.O.D.	1'11"	3'10"
Size (W x L)	ø95 x 242mm	ø130 x 260mm
Weight (approx.)	3.52lbs (1.6kg)	5.28lbs (2.4kg)
Focus Rotation Angle	270°	270°

CINE PRIME LENSES



Canon offers a set of six third generation prime lenses spanning 5mm to 55mm. These are the most compact, lightweight and high-performance 2/3-inch prime lenses in the industry. Their performance is matchless in terms of MTF, contrast, and relative brightness distribution. There is a 280-degree rotation for the full focus control and the gearing for the controls meets film industry standards on positioning and threading.

PRIME LENS SERIES





280° Focus Rotation Angle

Lens	FJs5	FJs9
Focal Length	5mm	9mm
T-Stop	T1.7	T1.5
Angular Field of View 16:9	87.7° x 56.7°	56.1° x 33.4°
M.O.D.	0.5m	0.45m
Size (W x L)	ø95x177.0mm	ø95x134.5mm
Weight (approx.)	3.3lbs (1.5kg)	2.42lbs (1.1kg)
Focus Rotation Angle	280°	280°

Lens	FJs14	FJs24
Focal Length	14mm	24mm
T-Stop	T1.5	T1.5
Angular Field of View 16:9	37.8° x 21.8°	22.6° x 12.8°
M.O.D.	0.4m	0.45m
Size (W x L)	ø95x134.5mm	ø95x134.5mm
Weight (approx.)	2.42lbs (1.1kg)	2.42lbs (1.1kg)
Focus Rotation Angle	280°	280°

Lens	FJs35	FJs55
Focal Length	35mm	55mm
T-Stop	T1.5	T1.5
Angular Field of View 16:9	15.6° x 8.8°	10.0° x 5.6°
M.O.D.	0.5m	0.5m
Size (W x L)	ø95x134.5mm	ø95x134.5mm
Weight (approx.)	2.42lbs (1.1kg)	2.42lbs (1.1kg)
Focus Rotation Angle	280°	280°

HD-EC ANAMORPHIC CONVERTER ACV-235

Canon has developed a unique optical solution to digital capture of very wide aspect ratio (2.35:1) imagery. It is an optical converter that mounts between the 2/3-inch lens and the 2/3-inch camera mount. This anamorphic converter horizontally compresses the object image by a factor of 1.32 which fills the 16:9 camera imager with an image having a full height and a width that is effectively 1.32 x 1.78 times that of picture height. Overall picture sharpness is higher as a consequence. Additionally, this converter will work with all of the standard 2/3-inch lenses – cine zoom, HD-EC primes, and EFP – and with all available 2/3-inch 24P digital HD cameras.





Canon *e*Drive:

ENHANCING DIGITAL SERVO CONTROL OF ZOOM LENSES

CHDAS





SHARP, BRIGHT ELECTRO-LUMINESCENT USER INTERFACE





Intricate shots with highimpact production content-often impossible with manual controls-are now as easy as Canon's eDrive technology. This unique technology, available on all e-HDxs and e-IFxs and most HDgc portable zoom lenses, features Canon ultra-high-precision microprocessor-driven servo control of iris, zoom, and focus along with position memory and user-defined digital functionality. Users can now enjoy new capabilities in

motion control repeatability for hand-held, field, and studio production with features that include:

- Graceful "padded" zoom start/stops.
- Memorized focus and zoom positions.
- Repeatable focus with no mechanical play or gear "backlash."
- Steady, slow zoom creeps, and one-button start/stop.
- Assignable "soft" function buttons, including the rocker switch.
- 10 user-definable function profiles.
- Choice of manual, digitally assisted, and fully programmed control.
- Instant "Shuttle Shot" to longest focal length for quick check of focus, exposure, and back focus.

$\frac{2}{3}$ ENG/EFP ZOOM LENSES



EN 🕸	EFP TOX
Lens	HJ14ex4.3B IRSE/IASE
Zoom Ratio/Format	14X
Range of Focal Length (with Extender)	4.3-60mm (8.6-120mm)
Maximum Relative	1:1.8 at 4.3-40mm
Aperture (with Extender)	1:2.7 at 60mm (1:3.6 at 8.6-80mm) (1:5.4 at 120mm)
Angular Field of View 16:9 (with Extender)	96.3° x 64.2° 9.1° x 5.2° (58.3° x 34.9°) (4.6° x 2.6°)
M.O.D.	0.30m (10mm w/Macro
Size (W x H x L)	163.5 x 110.8 x 247.8mr
Weight (approx.)	4.387lbs (1.99kg)
Built-in Extender	2.0X

Lens Zoom Ratio/Format Range of Focal Length (with Extender) Maximum Relative Aperture (with Extender) Angular Field of View 16:9 (with Extender)

M.O.D. Size (W x H x L) Weight (approx.) Built-in Extender

HJ22ex7.6B IRSE A/IASE A 22x 7.6-168mm (15.2-336mm) 1:1.8 at 7.6-114.1mm 1: 2.65 at 168mm (1:3.6 at 15.2-228.2mm) (1:5.3 at 336mm) 64.6° x 39.1° at 7.6mm 3.27° x 1.84° at 168mm (35.1° x 20.1° at 15.2mm)

(1.64° x 0.92° at 336mm)

169.4 x 119.9 x 221.4mm

0.85m (10mm w/Macro)

4.02lbs (1.83kg)

2.0X

HOXS

HDXS

ENG

SUPER	TELE

Lens

Zoom Ratio/Format

Maximum Relative

(with Extender)

(with Extender)

Angular Field

of View 16:9

M.O.D.

(with Extender)

Size (W x H x L)

Weight (approx.)

Built-in Extender

Aperture

Range of Focal Length

Lens	HJ18ex28B IRSE A/IASE A
Zoom Ratio/Format	18x
Range of Focal Length	28-500mm
(with Extender)	(56-1000mm)
Maximum Relative	1:2.8 at 28-286mm
Aperture	1:4.9 at 500mm
(with Extender)	(1:5.6 at 56-572mm)
	(1:9.8 at 1000mm)
Angular Field	19.5° x 11.0° at 28mm
of View 16:9	1.1° x 0.6° at 500mm
(with Extender)	(9.8° x 5.5° at 56mm)
	(0.6° x 0.3° at 1000mm)
M.O.D.	2.2m (10mm w/Macro)
Size (W x H x L)	182.8x123.7x268.3mm
Weight (approx.)	5.74lbs (2.60kg)
Built-in Extender	2.0x



_	
	HJ40x10B IASD-V
	40X
	10-400mm
	(20-800mm)
	1:2.0 at 10-220mm
	1:3.65 at 400mm
	(1:4.0 at 20-440mm)
	(1:7.3 at 800mm)
	51.3° x 30.2° at 10mm
	1.4° x 0.8° at 400mm
	(27.0° x 15.4° at 20mm)
	(0.7° x 0.4° at 800mm)
	2.8m (10mm w/Macro)
	174.1 x 133 x 335.4mm
	11.90lbs (5.40kg)
	2.0X

ENG ENG	b XS

Lens	HJ17ex7.6B IRSE A/IASE A
Zoom Ratio/Format	17x
Range of Focal Length	7.6-130mm
(with Extender)	(15.2-260mm)
Maximum Relative	1:1.8 at 7.6 - 97.5mm
Aperture	1:2.4 at 130mm
(with Extender)	(1:3.6 at 15.2 - 195mm)
	(1:4.8 at 260mm)
Angular Field	64.6° x 39.1° at 7.6mm
of View 16:9	4.2 X 2.4 at 1301111
(with Extender)	(35.1° x 20.1° at 15.2mm) (2.1° x 1.2° at 260mm)
M.O.D.	0.56m (10mm w/Macro)
Size (W x H x L)	164 x 106.5 x 206.4mm
Weight (approx.)	3.56lbs (1.62kg)
Built-in Extender	2.0x

Lens Zoom Ratio/Format Range of Focal Length (with Extender) Maximum Relative Aperture (with Extender)

Angular Field of View 16:9 (with Extender)

M.O.D. Size (W x H x L) Weight (approx.) Built-in Extender

HJ21ex7.5B IRSE A/IASE A 21X 7.5-158mm (15-316mm) 1:1.9 at 7.5-116mm 1:2.6 at 158mm (1:3.8 at 15-232mm) (1:5.2 at 316mm) 65.2° x 39.6° at 7.5mm 3.5° x 2.0° at 158mm (35.5° x 20.4° at 15mm) (1.7° x 1.0° at 316mm) 0.85m (10mm w/Macro) 179.9 x 122.3 x 260.1mm

EFP

5.81lbs (2.63kg)

2.0X

HDXS

$\frac{2}{3}$ ENG/EFP Zoom Lenses



Lens
Zoom Ratio/Format
Range of Focal Lengtl
(with Extender)
Maximum Relative
Aperture
(with Extender)

Angular Field of View 16:9 (with Extender)

M.O.D. Size (W x H x L) Weight (approx.) Built-in Extender



HJ40x14B IASD-V TELE
40X
14-560mm
(28-1120mm)
1:2.8 at 14-307mm
1:5.1 at 560mm
(1:5.6 at 28-614mm)
(1:10.2 at 1120mm)
37.8° x 21.8° at 14mm
1.0° x 0.6° at 560mm
(19.4° x 11.0° at 28mm)
(0.5° x 0.3° at 1120mm)
2.8m (10mm w/Macro)
174.1 x 133 x 355.5mm
12.0lbs (5.45kg)
2.0X



Lens	DJ40x14B IASD-V
Zoom Ratio/Format	40X
Range of Focal Length (with Extender)	14-560mm (28-1120mm)
Maximum Relative Aperture (with Extender)	1:2.8 at 14-307mm 1:5.1 at 560mm (1:5.6 at 28-614mm) (1:10.2 at 1120mm)
Angular Field of View 16:9 (with Extender)	37.8° x 21.8° at 14mm 1.0° x 0.6° at 560mm (19.4° x 11.0° at 28mm) (0.5° x 0.3° at 1120mm)
M.O.D.	2.8m (10mm w/Macro)
Size (W x H x L)	184.9 x 140.8 x 355.4mm
Weight (approx.)	13.49 lbs (6.1 Kg)
Built-in Extender	2.0X

• Please see page 39 for explanation of Shift-IS image stabilizer.

HDgc $\frac{2}{3}$ ENG/EFP Zoom Lenses



Lens Zoom Ratio/Format

Range of Focal Length (with Extender) Maximum Relative Aperture (with Extender)

Angular Field of View 16:9 (with Extender)

M.O.D. Size (W x H x L) Weight (approx.)

Built-in Extender



Lens

Zoom Ratio/Format Range of Focal Length (with Extender) Maximum Relative Aperture (with Extender)

Angular Field of View 16:9 (with Extender)

M.O.D. Size (W x H x L) Weight (approx.) Built-in Extender

Lens

Zoom Ratio/Format Range of Focal Length (with Extender) Maximum Relative Aperture (with Extender)

Angular Field of View 16:9 (with Extender)

M.O.D.

Size (W x H x L) Weight (approx.) Built-in Extender

KJ17ex7.7 IRSE/IASE
17x
7.7 - 131mm
(15.4 -262mm)
1:1.8 at 7.7 - 102.5mm
1:2.3 at 131mm
(1:3.6 at 15.4 - 205.0mm)
(1:4.6 at 262mm)
63.9°x 38.6° at 7.7mm
4.20°x 2.36° at 131mm
(34.6°x 19.9°) at 15.4mm
(2.10°x 1.18°) at 262mm
0.6m (10mm w/Macro)
159.3 x 106.6 x 197.8 mm
3.263lbs (1.48kg)
2.0X



KJ10ex4.5B IRSE 10x 4.5 - 45mm (9 - 90mm) 1:1.8 at 4.5 - 34.5mm 1:2.35 at 45mm (1:3.6 at 9 - 68.9mm) (1:4.7 at 90mm) 93.7°x 61.9° at 4.5mm 12.2°x 6.9° at 45mm (56.1°x 33.4°) at 9mm (6.1°x 3.4°) at 90mm 0.3m (10mm w/Macro) 168.2 x 110.6 x 237.7 mm 4.04lbs (1.83kg) 2.0X



KJ21ex7.6B IRSE 21x 7.6 - 160mm (15.2 - 320mm) 1:1.8 at 7.6 - 112.9mm 1:2.55 at 160mm (1:3.6 at 15.2 - 225.9mm) (1:5.1 at 320mm) 64.6°x 39.1° at 7.6mm 3.4°x 1.9° at 160mm (35.1°x 20.1°) at 15.2mm (1.7°x 1.0°) at 320mm 0.8m (10mm w/Macro) 169.4 x 111.9 x 218.6 mm 3.95lbs (1.79kg) 2.0X



Lens	KJ16ex7.7B IRSE
Zoom Ratio/Format	16x
Range of Focal Length (with Extender)	7.7 - 124mm (15.4 - 248mm)
Maximum Relative Aperture (with Extender)	1:1.8 at 7.7 - 97mm 1:2.3 at 124mm (1:3.6 at 15.4 - 194mm) (1:4.6 at 248mm)
Angular Field of View 16:9 (with Extender)	63.9°x 38.6° at 7.7mm 4.4°x 2.5° at 124mm (34.6°x 19.9°) at 15.4mm (2.2°x 1.2°) at 248mm
M.O.D.	0.6m (10mm w/Macro)
Size (W x H x L)	163.9 x 106.3 x 197.4 mm
Weight (approx.)	3.24lbs (1.47kg)
Built-in Extender	2.0X

HDgc $\frac{1}{2}$ ENG/EFP Zoom Lenses

WIDE

Lens	KH10ex3.6 IRSE
Zoom Ratio/Format	10x
Range of Focal Length	3.6 - 36mm
(with Extender)	(7.2 - 72mm)
Maximum Relative	1:1.45 at 3.6 - 27mm
Aperture	1:1.90 at 36mm
(with Extender)	(1:2.9 at 7.2 - 55mm)
	(1:3.8 at 72mm)
Angular Field	88.1°x 57.1° at 3.6mm
of View 16:9	11.1°x 6.2° at 36mm
(with Extender)	(51.7°x 30.5°) at 7.2mm
	(5.5°x 3.1°) at 72mm
M.O.D.	0.3m (10mm w/Macro)
Size (W x H x L)	168.2 x 110.6 x 240.8 mm
Weight (approx.)	4.04lbs (1.83kg)
Built-in Extender	2.0X

ENG HDGC



Lens	KJ20x8.5 KRSD
Zoom Ratio/Format	20X
Range of Focal Length	8.5 – 170mm
Maximum Relative	1:1.8 at 8.5 – 113.3mm
Aperture	1:2.7 at 170mm
Angular Field of View	58.9° x 35.2° at 8.5mm
16:9	3.2° x 1.8° at 170mm
M.O.D.	0.9m (10mm w/Macro)
Size (W x H x L)	163.3 x 103 x 170.4 mm
Weight (approx.)	2.8lbs (1.27kg)



Lens Zoom Ratio/Format Range of Focal Length Maximum Relative Aperture Angular Field of View 16:9 M.O.D. Size (W x H x L) Weight (approx.)

WIDE

ENG HOGC

KJ13x6B KRS
13X
6 – 78mm
1:2.0 at 6 – 58mm
1:2.7 at 78mm
77.3° x 48.5° at 6mm
7.0° x 4.0° at 78mm
0.4m (10mm w/Macro)
165.4 x 105.1 x 211.7 mm
3.5lbs (1.59kg)



ENG HDGC

ENG HOGC

Lens
Zoom Ratio/Format
Range of Focal Length
(with Extender)
Maximum Relative
Aperture
(with Extender)
Angular Field
of View 16:9
(with Extender)

M.O.D. Size (W x H x L)

Weight (approx.) Built-in Extender

Zoom Ratio/Format

Maximum Relative

Size (W x H x L) Weight (approx.)

Angular Field of View

Range of Focal Length

Lens

Aperture

16:9

M.O.D.

KH16ex5.7 IRSE
16x
5.7 - 92mm
(11.4-184mm)
1 : 1.4 at 5.7 - 71.6mm
1 : 1.8 at 92mm
(1:2.8 at 11.4 - 143.1mm)
(1:3.6 at 184mm)
62.9° x 38.0° at 5.7mm
4.3° x 2.4° at 92mm
(34.0° x 19.5°) at 11.4mm
(2.1° x 1.2°) at 184mm
0.6m (10mm w/Macro)
163.9 x 106.3 x 196.7 mm
3.24lbs (1.47kg)
2.0X

KH20x6.4 KRS

1:2.0 at 128mm

KH13x4.5 KRS

1:1.5 at 4.5 - 44mm

6.8° x 3.8° at 59mm

75.7° x 46.9° at 4.5mm

0.4m (10mm w/Macro)

165.4 x 105.1 x 215.3 mm

4.5 – 59mm

1:2.0 at 59mm

3.50lbs (1.59kg)

13X

1:1.4 at 6.4 - 89.6mm

6.4 – 128mm

20X

HDgc $\frac{1}{3}$ ENG/EFP Zoom Lens

	eng Hogc
and a second	
Lens	KT20x5B KRS
Zoom Ratio/Format	20X
Range of Focal Length	5~100mm
Maximum Relative	1:1.4 at 5.0-90.3mm
Aperture	1:1.55 at 100mm
Angular Field	51.9°x 30.6°at 5mm
of View 16:9	2.8°x 1.6° at 100mm
M.O.D.	0.9m (10mm w/Macro)
Size (W x H x L)	163.3 x 103 x 171.2 mm
Weight (approx.)	2.62lbs (1.19kg)

SDTV ENG/EFP ZOOM LENSES

EFP	
Lens	J35ex11B IASD
Zoom Ratio/Format	35X
Range of Focal Length	11-385mm
(with Extender)	(22-770mm)
Maximum Relative	1:2.0 at 11-226.5mm
Aperture	1:3.4 at 385mm
(with Extender)	(1:4.0 at 22-453mm)
	(1:6.8 at 770mm)
Angular Field	47.1° x 27.6° at 11mm
of View 16:9	1.43° x 0.80° at 385mm
(with Extender)	(24.6° x 14.0° at 22mm)
	(0.71° x 0.40° at 770mm)
M.O.D.	2.2m (50mm w/Macro)
Size (W x H x L)	169.5 x 143 x 316mm
Weight (approx.)	9.9lbs (4.5kg)
Built-In Extender	2.0x



	Zoom Ratio/Format
57.1° x 34.1° at 6.4mm 3.1° x 1.8° at 128mm	Range of Focal Length (with Extender)
0.9m (10mm w/Macro) 163.3 x 103 x 182.5 mm 2 8lbs (1 27kg)	Maximum Relative Aperture
2.0.00 (.1.2.1.9)	(with Extender)
ENG HOGC	Angular Field of View 16:9 (with Extender)
	M.O.D.
KH13x4.5 KRS	Size (W x H x L)

Lens Zoom Ratio/Format Range of Focal Length Maximum Relative Aperture Angular Field of View 16:9 M.O.D. Size (W x H x L) Weight (approx.)

WIDE

FEATURING AF **TECHNOLOGY**



Lens	KH19x6.7 KAS
Zoom Ratio/Format	19x
Range of Focal Length	6.7 - 127mm
Maximum Relative Aperture	1:1.6 at 6.7mm-96.8mm 1:2.1 at 127mm
Angular Field of View 16:9	55.0° x 32.6° at 6.7mm 3.14° x 1.77° at 127mm
M.O.D.	0.9m (50mm w/Macro)
Size (W x H x L)	112 x 88 x 171.8mm
Weight (approx.)	2.78lbs (1.26kg)

ENG HDGC

Zoom Ratio/Format
Range of Focal Leng
(with Extender)
Maximum Relative
Aperture
(with Extender)
Angular Field
of View 16:9
(with Extender)
MOD

Lens

M.O.D. Size (W x H x L) Weight (approx.) Built-In Extender

EFP

_ength



J35ex15B IASD 35X 15-525mm (30-1050mm) 1:2.7 at 15-301.5mm 1:4.7 at 525mm (1:5.4 at 30-602mm) (1:9.4 at 1050mm) 35.5° x 20.4° at 15mm 1.05° x 0.59° at 525mm (18.2° x 10.3° at 30mm) (0.52° x 0.29° at 1050mm) 2.2m (50mm w/Macro) 169.5 x 143 x 330mm 9.94lbs (4.51kg) 2.0x

HDTV/SDTV Field Lenses



DIGISUPER 100AF

HJ XS

IMAGE

STABILIZER

Canon's DIGISUPER 100AF and DIGISUPER 86AF Auto Focus HD long-zoom field lenses are engineered to assist camera operators in capturing shots that are always in exact focus, even in challenging situations.

DIGISUPER 100AF

Lens
Zoom Ratio/Format
Range of Focal Length
(with Extender)
Maximum Relative
Aperture
(with Extender)
````

Angular Field of View 16:9 (with Extender)

M.O.D. Size (W x H x L) Weight (approx.) Built-In Extender

100x 9.3-930mm (18.6-1860mm) 1:1.7 at 9.3-296mm 1:4.7 at 930mm (1:3.4 at 18.6-592mm) (1:9.4 at 1860mm) 54.6° x 32.4° at 9.3mm 0.59° x 0.33° at 930mm (28.9° x 16.5° at 18.6mm) (0.30° x 0.17° at 1860mm) 3.0m 250.6 x 255.5 x 661.5mm 59.1lbs (26.8kg) 2.0X

XJ100x9.3B AF



Lens
Zoom Ratio/Format
Range of Focal Lengt
(with Extender)
Maximum Relative
Aperture
(with Extender)
(

Angular Field of View 16:9 (with Extender)

M.O.D. Size (W x H x L) Weight (approx.) Built-In Extender



86x 9.3-800mm

3.0m

2.0X

XJ86x9.3B AF

(18.6-1600mm) 1:1.7 at 9.3-340mm 1:4.0 at 800mm

(1:3.4 at 18.6-680mm) (1:8.0 at 1600mm)

54.6° x 32.4° at 9.3mm

0.69° x 0.39° at 800mm

250.6 x 255.5 x 661.5mm

59.1lbs (26.8kg)

(28.9° x 16.5° at 18.6mm) (0.34° x 0.19° at 1600mm)

HJ xs IMAGE STABILIZER

### **DIGISUPER 100xs**

Zoom Ratio/Format Range of Focal Length (with Extender) Maximum Relative

Lens

Aperture

(with Extender) Angular Field

Size (W x H x L)

Weight (approx.) Built-In Extender

of View 16:9 (with Extender)

M.O.D.

 $\square$ 



XJ100x9.3B IE-D
100x
9.3-930mm
(18.6-1860mm)
1:1.7 at 9.3-296mm
1:4.7 at 930mm
(1:3.4 at 18.6-592mm)
(1:9.4 at 1860mm)
54.6° x 32.4° at 9.3mm
0.59° x 0.33° at 930mm
(28.9° x 16.5° at 18.6mm)
(0.30° x 0.17° at 1860mm)
3.0m
250.6 x 255.5 x 591.5mm
51.8lbs (23.5kg)
2.0X

#### **DIGISUPER 86 TELEXS DIGISUPER 86xs**



FJXs
IMAGE
STABILIZER

Lens	XJ86x13.5B IE-D TELE	XJ86x9.3B IE-D
Zoom Ratio/Format	86x	86x
Range of Focal Length	13.5-1161mm	9.3-800mm
(with Extender)	(27-2322mm)	(18.6-1600mm)
Maximum Relative	1:2.4 at 13.5-480mm	1:1.7 at 9.3-340mm
Aperture	1:5.8 at 1161mm	1:4.0 at 800mm
(with Extender)	(1:4.8 at 27-960mm)	(1:3.4 at 18.6-680mm)
	(1:11.6 at 2322mm)	(1:8.0 at 1600mm)
Angular Field	39.1° x 22.6° at 13.5mm	54.6° x 32.4° at 9.3mm
of View 16:9	0.47° x 0.27° at 1161mm	0.69° x 0.39° at 800mm
(with Extender)	(20.2° x 11.4° at 27mm)	(28.9° x 16.5°) at 18.6mm
	(0.24° x 0.13° at 2322mm)	(0.34° x 0.19°) at 1600mm
M.O.D.	3.0m	3.0m
Size (W x H x L)	250.6 x 255.5 x 618.4mm	250.6 x 255.5 x 591.5mm
Weight (approx.)	53.6lbs (24.3kg)	51.8lbs (23.5kg)
Built-In Extender	2.0X	2.0X

DIGISUPER 75xs	IMAGE STABILIZER
Lens Zoom Ratio/Format Range of Focal Length (with Extender)	XJ75x9.3B IE-D 75x 9.3-700mm (18 6-1400mm)
Maximum Relative Aperture (with Extender)	1:1.7 at 9.3-331mm 1:3.6 at 700mm (1:3.4 at 18.6-662mm) (1:7.2 at 1400mm)
Angular Field of View 16:9 (with Extender)	54.6° x 32.4° at 9.3mm 0.79° x 0.44° at 700mm (28.9° x 16.5° at 18.6mm) (0.39° x 0.22° at 1400mm)
M.O.D. Size (W x H x L) Weight (approx.) Built-In Extender	2.8m 250.6 x 255.5 x 591.5mm 48.5lbs (22.0kg) 2.0X

• Please see page 39 for explanation of Shift-IS image stabilizer.

### **DIGISUPER 60xs**

of



### HJ xs

FJ xs

Lens Zoom Ratio/Format	XJ60x9B IE-D 60x
Range of Focal Length (with Extender)	9-540mm (18-1080mm)
Maximum Relative Aperture (with Extender)	1:1.7 at 9 - 306mm 1:3.0 at 540mm (1:3.4 at 18 - 612mm) (1:6.0 at 1080mm)
Angular Field of View 16:9 (with Extender)	56.1° x 33.4° at 9mm 1.02° x 0.57° at 540mm (29.9° x 17.1° at 18mm) (0.51° x 0.29° at 1080mm)
M.O.D.	2.8m
Size (W x H x L)	250.6 x 255.5 x 547.8mm
Weight (approx.)	43.8lbs (19.9kg)
Built-In Extender	2.0x

### **DIGISUPER 27**



Lens	XJ27x6.5B
Zoom Ratio/Format	27X
Range of Focal Length	6.5-180mm
	(13-3001111)
Iviaximum Relative	1:1.5 at 6.5-123mm
Aperture	1:2.2 at 180mm
(with Extender)	(1:3.0 at 13-246mm)
	(1:4.4 at 360mm)
Angular Field	72.9° x 45.1° at 6.5mm
of View 16:9	3.1° x 1.7° at 180mm
(with Extender)	(40.5° x 23.5° at 13mm)
	(1.5° x 0.9° at 360mm)
M.O.D.	0.6m
Size (W x H x L)	250.6 x 255.5 x 550mm
Weight (approx.)	48.3lbs (21.9kg)
Built-In Extender	2.0X

# **DIGISUPER 23xs**



F	<b>-13</b> xs	

HJ xs

HJ_{Xs}

Lens	XJ23x7B IE-D
Zoom Ratio/Format	23X
Range of Focal Length	7-161mm
(with Extender)	(14-322mm)
Maximum Relative	1:1.6 at 7-132mm
Aperture	1:1.95 at 161mm
(with Extender)	(1:3.2 at 14-264.2mm)
	(1:3.9 at 322mm)
Angular Field	68.8° x 42.1° at 7mm
of View 16:9	3.4° x 1.9° at 161mm
(with Extender)	(37.8° x 21.8° at 14mm)
	(1.7° x 1.0° at 322mm)
M.O.D.	0.6m
Size (W x H x L)	254.6 x 272 x 525mm
Weight (approx.)	42.9lbs (19.5kg)
Built-In Extender	2.0X



	And a second second
Lens	XJ22x7.3B IE-D
Zoom Ratio/Format	22X
Range of Focal Length	7.3-161mm
(with Extender)	(14.6-322mm)
Maximum Relative	1:1.8 at 7.3-111.5mm
Aperture	1:2.6 at 161mm
(with Extender)	(1:3.6 at 14.6-223mm)
	(1:5.2 at 322mm)
Angular Field	66.7° x 40.6° at 7.3mm
of View 16:9	3.4° x 1.9° at 161mm
(with Extender)	(36.4° x 21.0° at 14.6mm)
	(1.7° x 1.0° at 322mm)
M.O.D.	0.8m
Size (W x H x L)	165 x 175 x 336mm
Weight (approx.)	13.4lbs (6.1kg)
Built-In Extender	2.0X

# **HDTV/SDTV Studio Lenses**

### **DIGISUPER 27AF**

Lens	XJ27x6.5B AF
Zoom Ratio/Format	27X
Range of Focal Length	6.5-180mm
(with Extender)	(13-360mm)
Maximum Relative	1:1.5 at 6.5-123mm
Aperture	1:2.2 at 180mm
(with Extender)	(1:3.0 at 13-246mm)
	(1:4.4 at 360mm)
Angular Field	72.9° x 45.1° at 6.5mm
of View 16:9	3.1° x 1.7° at 180mm
(with Extender)	(40.5° x 23.5° at 13mm)
	(1.5° x 0.9° at 360mm)
M.O.D.	0.6m
Size (W x H x L)	250.6 x 255 x 567mm
Weight (approx.)	51.4lbs (23.3kg)
Built-In Extender	2.0X

8HUTTLE 8HOT

### **CROSSOVER TECHNOLOGY**

### For 2/3" Pro-Video



### WIDE ANGLE QUALITY FOR 2/3" PRO-VIDEO



### FOR 16:9/4:3 SWITCHABLE CAMERAS

#### **Crossover Technology At Work**



As Switchable Cameras change from 16:9 to 4:3, the CCD cuts the 16:9 image at both ends, leaving the center portion as the effective area of the 4:3 mode. This is why the 4:3 image shifts to telephoto for 20% (in the diagonal angle), compared with the 16:9 image. To compensate for this wide angle loss, Canon has engineered an exclusive line of "Crossover" lenses, which widen the picture 20% at the 4:3 mode to restore the same angle of view of a conventional or standard CCD camera.

Canon's VRS/VAS series lenses feature this Crossover technology utilizing a 0.8X "Shrinker" Position in addition to Normal/Extender positions as shown in the chart below.





### **HDTV OPTICAL ACCESSORIES**

### **Tele-Side Converter**



# SDTV OPTICAL ACCESSORIES

### **Tele-Side Converter**



	Combination	M.O.D.	Eclipse Point
	J17ex7.7B + T15-II/85II	1.35m	f : 60mm
T15-II	J22ex7.6B + T15-II/98II	1.8m	f : 60mm
	YJ20x8.5B + T15-II/85II	2.00m	f: 80mm



### Wide Converter



	Combination	Master Lens	With Wide Converter Attached
	J17ex7.7B + W80-IIIB/85II	7.7 to 131mm	6.2 to 104.8mm
	J22ex7.6B + W80-IIIB /98II	7.6 to 168mm	6.0 to 132mm
W80-III B *W80Y-85	YJ20x8.5B + W80Y-85	9 to 171mm	7.2 to 136.8mm



Focal Length	0.8X
Minimum Object Distance	(Magnification) ² X (Minimum object distance of master lens)
Zooming	Usual operation
F-number	Same as usual

*W80Y-85 is exclusively for 20X and 19X series and does not require an adapter.

### Wide Attachment

	WA75-II		Changes caused by attachment	Example: when used w/ J17ex7.7B lens
A COLOR		Focal Lens	Fixed Focal Length (magnification) X (wide angle focal length)	Fixed focal length Approx. 5.8mm
		Close-Up distance	Close-Up distance of Macro feature	30mm
Ada	05 11	Zooming	Not possible	Not Possible
	Adapter 98 II	Focus adjustment	By Macro mechanism F.B. adjustment	By Macro mechanism

### Fish-Eye Attachment



FEA-III B

Adapter 85 II

Example: J17ex7.7B with fish-eye attachment		
Focal Length	4.6mm, fixed focal length	
Zooming	Not possible	
Focus adjustment	By Macro mechanism	

### Wide Attachment

Wide Converter

W80 HD

Adapter 85 II



- WA75 HD • The zoom lens becomes a wider fixed focal length lens with the wide attachment
  - The focal length is widened by a factor of 0.75x that of the original lens

• Focal length becomes wider by a factor of 0.8X that

of the original lens with W80 HD •F No. of the original lens is not affected

· Focus is adjusted by use of the macro lever

### **Fish-Eye Attachment**

Adap



FEA HD	Example: HJ17ex7.6B with fish-eye attachm		
	Focal Length	4.6mm, fixed focal length	
	Zooming	Not possible	
oter 85 II 98 II	Focus adjustment	By Macro mechanism	



### **ENG ZOOM AND FOCUS ACCESSORIES**

# HJxs HDGC OIFxs

#### For Digital and Analog ENG/EFP Lenses

	Description	Model Name
ZSD-300D	Digital Zoom Servo Demand	ZSD-300D

#### For Digital and Analog ENG/EFP Lenses

	Description	Model Name
З	Flexible Focus Module	FFM-100
FC-40	Flexible Cable 32"	FC-40
[®] FFC-200	Focus Manual Controller	FFC-200
FPM-420D	Focus Positional Servo Module	FPM-420D
FPD- 400D	Focus Positional Servo Demand	FPD-400D

For a complete list of all accessories, please contact a CANON sales office.

# SS41-IASD for use with Compact Studio Kit or ENG lens

- A. FPD-400D Focus Demand
- B. ZSD-300D Zoom Demand
- C. CR-10 Clamper (Included with A and B)

#### MS-210D

- D. FC-40 Flexible Cable 32
- B. ZSD-300D Zoom Demand
- K. FFM-100 Flex Focus Module
- E. FFC-200 Flex Focus Controller
- C. CR-10 Clamper (Included with B and E)

#### MS-22M

- D. FC-40 Flexible Cable 32
- E. FFC-200 Flex Focus Controller
- F. ZSG-200M Zoom Grip
- G. EC-80 Extension Cable
- H. FM-12 Flexible Focus Module
- C. CR-10 Clamper (Included with E)

#### MS-15

D. FC- 40 - Flexible Cable 32
I. ZSD-15M2 - Zoom Demand
J. FFC-15 - Flex Focus Controller
H. FM-12 - Flexible Focus Module
C. CR-10 - Clamper (Included with I)

#### MS-21D

D. FC-40 – Flexible Cable 32 B. ZSD-300D – Zoom Demand H. FM-12 – Flexible Focus Module E. FFC-200 – Flex Focus Controller C. CR-10 – Clamper (Included with B and E) CC-0820 Conversion Cable not pictured

#### FPM-420D



Focus Positional Servo Module for use with IRSE lenses









#### FFM-100

Flex Focus Module for use with Semi Servo controls.



### **Studio/Field Zoom And Focus Accessories**



- A. Servo Cable
- B. Servo Cable
- C. CR-30 Clamper
- D. SMJ-D02 Servo Module
- E. SMJ-E01 Servo Module
- F. Manual Zoom/FocusCable
- G. FMJ-702 Manual Outlet
- H. CR-10 Clamper
- I. ZSD-300D Zoom Demand
- J. FPD-400D Focus Demand
- K. ZDJ-D01 Zoom Demand
- L. ZDJ-A01 Zoom Demand
- M. ZDJ-P01 Zoom Demand
- N. FDJ-P01 Focus Demand
- O. CR-30 Clamper
- P. FDJ-P41 Focus Demand AF
- Q. FDJ-D02 Focus Demand
- R. FZP-T61 Zoom Controller

#### SMJ-D02 Servo Module

Digi Servo Module for Zoom and Focus. For use with XJ72x, 75x, 86x, 100x lens

#### SMI-E01 Servo Module

For use with XJ23x, 27x, 27xA 60x, 86xAF, 100xAF lens



V. ZDJ-P21 - Zoom Servo Controller

T. SBJ-101 - IE SW Box

W. Zoom Demand Sleeve

U. IE SW Box Cable

SUP-NS3 Supporter For use with box style lens and ENG camera

#### Servo Zoom Control with Manual Style Handle

Servo Cable ZDJ-P21 - Zoom Servo Controller CR-30 - Clamper

#### **AF Servo Focus**

CR-30 - Clamper FDI-P41 - Focus Demand AF Servo Cable



#### **DIGI Focus Control**

An innovative servo focus demand with the precise movement of a manual control

CR-30 - Clamper

FDJ-D22 - Focus Demand

Servo Cable



**Battery Adapter Plate** 

#### For Use With SUP-NS3. Recommended to use when a box lens is mounted on a supporter



Focus Demand FDJ-P01 - Focus Demand CR-30 - Clamper Servo Cable





**DIGI Zoom Demand** ZDJ-D01 - Zoom Demand Servo Cable



DIGI P01 Zoom Demand ZDJ-P01 - Zoom Demand Servo Cable

### HJXS, HDGC AND IFXS REMOTE CONTROL SYSTEMS

#### **REMOTE CONTROL LENS SERIES**

The Canon Remote Control Series offers a wide variety of lenses and accessories that have been designed for various applications such as broadcasting, teleconference, distance learning and other remote control purposes. The lenses provide quiet and fast servo control of Zoom, Focus and Iris.



### **HDgc Lens Series**



### **H3**xs, HDGC and IFXs Remote Control Systems

#### **EXTERNAL EXTENDER CONTROL UNIT**

RE: motorized 2X extender ME: manual 2X extender

#### **CLOSE-UP LENS**

(not available for HJ18ex / HJ14ex) Four types (82CL-UP800H / 82CL-UP1300H / 105CL-UP900H / 105CL-UP800HD) are available.

#### Remote Controller

Several models are available. *The controllers are also applicable to remote control pro-video lenses.

#### **CONNECTING CABLE**

5m, 10m, 20m, 50m and 100m cables are available. Maximum cable length is 150m by connection of these cables.

### Mount Converters for Different Image Format Size Cameras

Canon offers a variety of Mount Converters to be used between a lens and a camera of different image format sizes. Each converter will extend the effective angular field of view of the associated lens according to the Shift Ratio listed below

	IMAGE SIZE CONVERSION			
Converter	LENS	Camera	SHIFT RATIO TO TELEPHOTO SIDE	Electronic Conversion
LO-32	2/3" B4 Mount	1/2" SONY *1	approx. 1.4x	
LCV-40	2/3" B4 Mount	1/2" Standard Mount *2	APPROX. 1.4X	
LCV-42T	2/3" B4 Mount	1/3" Standard Mount	approx. 1.8x	
LCV-41E	2/3" B4 Mount	SONY PMW-EX3	approx. 1.4x	Lens Cable (12pin)→EX3 Hot Shoe(14pin)
LCV-20E	1/2"	SONY PMW-EX3		Lens Cable (12pin)→EX3 Hot Shoe(14pin)

*1 SONY's Hot Shoe mount camera, excluding PMW-EX3

*2 1/2" Camera of standard type mount (Panasonic, JVC, Grass Valley, Ikegami)

*3 The servo functions will only activate when used with KH10ex/KH16ex/KH21ex lenses. For the 1/2" mount lenses only manual operation is facilitated

NOTE: The converters are to be used with lenses weighing less then 2.0kg (4.4lbs)





### **IF pro** Remote Control Systems:

Canon proudly offers several IFpro remote control lenses designed to offer remote zoom, focus and iris control. The YJ20x8.5B KTS and YJ13x6B KTS models are both for 2/3" SDTV cameras. In addition, also for 2/3" cameras, there is the YJ19x9B ITS with built-in motorized 2X extender. A full line of remote control accessories are also available.



#### **CLOSE-UP LENS**

Two types (82CL-UP800H / 82CL-UP1300H) are available.



# MAGE OPTICAL SHIFT IMAGE STABILIZER (SHIFT-IS) TECHNOLOGY

The history of field lenses is a history of zoom ratio/focal length extension. It came to a point where the industry thought it would be impossible to push the envelope any further. The telephoto focal length of the lens became so long that even the slightest amount of wind or operator movement would cause image shake and viewing the picture became intolerable. This was before Canon announced the incredible magnification of the DIGISUPER 86xs zoom lens. Canon, renowned for its optical image stabilization technologies, developed another new stabilization solution for the broadcast field lens, a built-in Optical Shift Image Stabilizer (Shift-IS) to overcome image shaking at telephoto focal lengths. Now, the Shift-IS is employed in the following lenses:

DIGISUPER 100AF DIGISUPER 100xs DIGISUPER 86AF DIGISUPER 86xs DIGISUPER 86TELExs DIGISUPER 75xs HJ40x Series



#### How the Optical Image Stabilizer (Shift-IS) Works.

When the lens moves, the light rays from the subject are bent relative to the optical axis, resulting in an unsteady image because the light rays are deflected. By shifting the IS lens group on a plane perpendicular to the optical axis to counter the degree of image shake, the light rays reaching the image plane can be steadied. Since image shake occurs in both horizontal and vertical directions, two shake-detecting sensors for yaw and pitch, detect the angle and speed of movement and send this information to a high-speed 32-bit microcomputer, (which converts the information into drive signals for the IS lens group). Then, the actuator moves the IS lens group horizontally and vertically, thus counteracting the image shake and maintaining a stable picture. The Shift-IS component is located within the lens groups and is most effective for lower frequency movements caused by platform vibration or wind effect without increasing the overall size and weight of the master lens.



DIGISUPER 100xs/AF, DIGISUPER 86xsII/AF and DIGISUPER 75xs are fully compatible with the Vinten Vector 950 OE Pan&Tilt Head System

# Canobeam DT-150 HD

Free Space Optics Wireless Transmission

# CANOBEAM

The Canobeam DT-150 HD provides reliable uncompressed twoway, high-bandwidth (HD-SDI and SD-SDI) digital video transmission for situations where fiber-optic cables or microwave links are impractical or impossible. The Canobeam DT-150 HD operates at 1.5 Gbps and transmits digital HD/SD video, audio, and control signals bi-directionally without delay via line-of-sight Free Space Optics at a distance of up to 1 kilometer.

- The Canobeam DT-150 HD can relay HD-SDI and SD-SDI video, along with embedded return video and audio to the camera operator, as well as camera-control signals, and robotic camera-control data.
- Canon's exclusive Auto Tracking feature—standard on all Canobeam systems—maintains precise beam alignment despite vibrations due to wind, heavy vehicle traffic, or unsteady camera platforms.
- Small Form Pluggable fiber interface. (Connector: LC)
- Can interface with either simple media converters for one-way/two-way video transmission or SMPTE hybrid cable emulation boxes.
- Housing designed for outdoor or indoor installations.
- Offers management capability via SNMP.
- The Canobeam DT-150 HD's Free Space Optics technology uses a beam of infrared light, which doesn't require RF licenses or coordination, and is virtually free from interception.
- The Canobeam DT-150 HD's sets up quickly and is simple to operate.

### **CANON PORTABLE HD LENS HIERARCHY**

HD Lens Category	IMAGE FORMAT SIZE 2/3-inch 1/2-inch 1/3-inch		
<ul> <li>PRODUCTION PLATFORM 1         Highest Optical Performance Possible With Contemporary Optical Technologies     </li> <li>Most Advanced Optical Technologies</li> <li>Rugged Magnesium Optomechanics</li> <li>With 2x Extender</li> <li>Precision Digital Servos for Zoom, Iris, and Focus</li> </ul>	HDXS FIJxs FIJEC		
<ul> <li>PRODUCTION PLATFORM 2</li> <li>Lowest Cost Possible With Credible HD Performance</li> <li>Cost-Effective Optics</li> <li>Rugged Magnesium Optomechanics</li> <li>With 2x Extender</li> <li>Precision Digital Servos for Zoom, Iris, and Focus</li> </ul>	њос	ЮGC	
<ul> <li>PRODUCTION PLATFORM 3</li> <li>Significant Cost Reduction</li> <li>Cost-Effective Optics</li> <li>Lower-cost Optomechanics (Aluminum and Plastic)</li> <li>No Extender</li> <li>Analog Servos for Zoom, Iris, and Focus</li> </ul>	HDGC KRS	HDGC KRS/KTS HDGC KAS	₩GC KRS/KTS

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