

Canon

SUPER E20



**A Higher Standard in Studio Lenses
That Will Not Compromise Your Budget**



SUPER E20

A Higher Standard in Studio Lenses
That Will Not Compromise Your Budget

E20x8B IE 8-160mm 1:1.5



Canon proudly announces the latest addition to our line of economical yet high quality studio lenses, "SUPER E20". The "SUPER E20", also known as the E20X8BIE, incorporates many of the same features and functions as the J20 Super, the standard of the broadcast industry with more than 2000 units sold worldwide.

Those features include our exclusive "IF" Internal Focus System and the optional "CROSSOVER" System for seamless 4X3 and 16X9 production on switchable cameras.

When used in conjunction with portable cameras, the "SUPER E20" features a unique Built In Supporter for the lens and camera combination.

HIGH MTF PERFORMANCE

The height of the 16:9 format is 20% shorter than that of the current 4:3 format, thus the scanning lines are 20% greater. As a result, higher resolution is required for the 16:9 format. In order to achieve this, the "SUPER E20" Provides minimum aberrations by the employment of 3 group IF (Internal Focusing), Hi-UD glasses (High Index Ultra Low Dispersion glass) and Canon's unique fluorite. The "SUPER E20" succeeds in having higher MTF performance, correspondent to 6MHz, that is necessary for the 16:9 format.

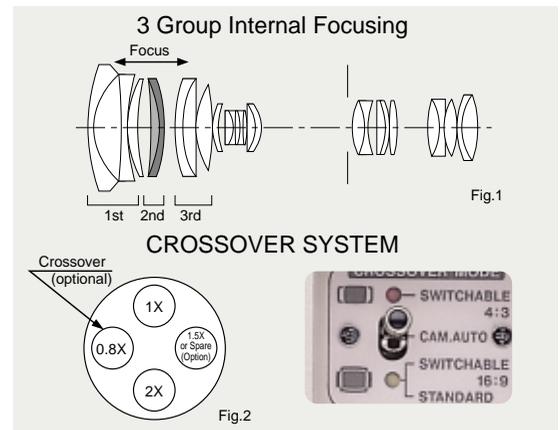
3 Group Internal Focusing

In Canon's unique IF system, the front section is divided into three groups-concave, convex convex-and the middle lens moves for focusing. (Fig.1) By employing the 3 group IF system, the lens can achieve minimized variation

of aberrations while focusing, minimized distortion and a high optical performance even though SUPER E20 has a wide angle that starts from 8mm.

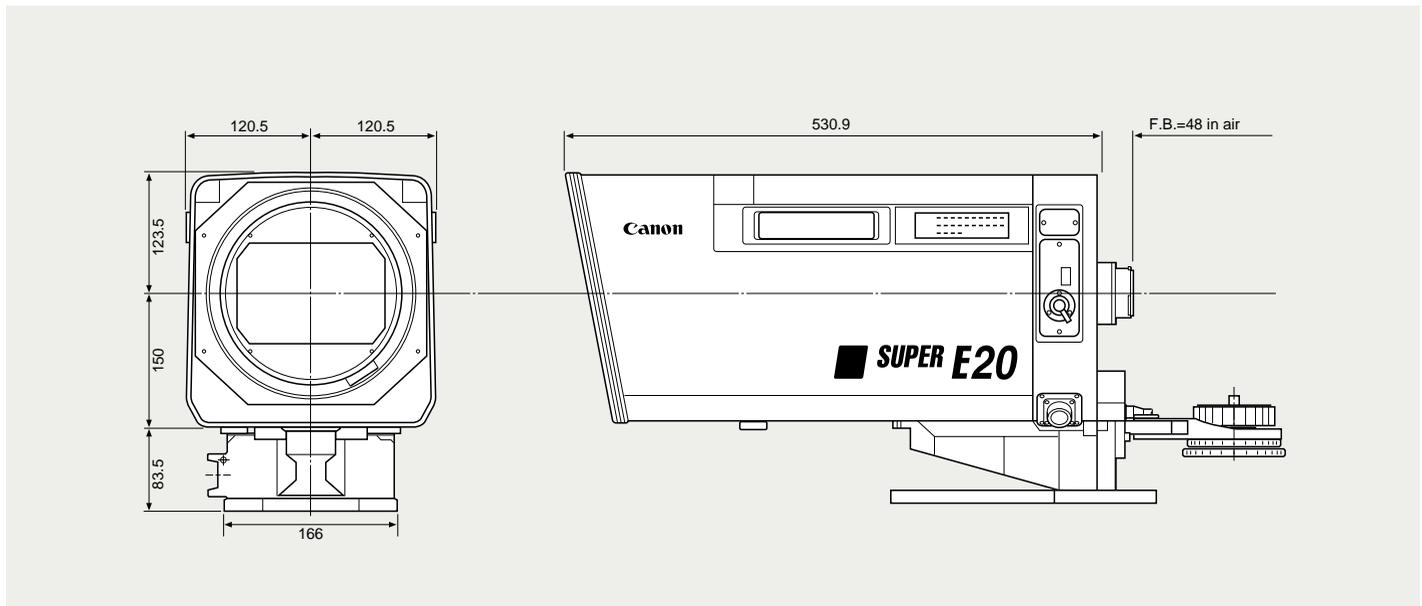
CANON "CROSSOVER" SYSTEM

All the Super series of lenses, including the new SUPER E20 are now optionally available with "CROSSOVER" compatibility for most 16:9/4:3. The 4 position extender turret incorporates a 0.8x "CROSSOVER" unit in addition to the normal extenders i.e. 1.0x, 1.5x, or 2.0x (Fig.2). When the camera switches to the 4:3 mode, the extender turret rotates to the 0.8x position. The 0.8x "CROSSOVER" unit reduces the diameter of the image from 11mm to 9mm thus shortening the focal length to produce an identical picture angle of view. In essence, the 0.8x "CROSSOVER" unit acts as a 1.0x extender for the switched 4:3 aspect ratio. (Fig.3)



16:9 (dia 11mm)			4:3 (dia 9mm)		
Extender	Focal Length	F stop	Extender	Focal Length	F stop
0.8X			1.0X	6.6-132mm	1.5
1.0X	8-160mm	1.5	1.2X	8-160mm	1.5
2.0X	16-320mm	3.0	2.4X	16-320mm	3.0

Fig.3





INTERNAL FOCUSING SYSTEM

(Advanced 3 group IF system)

- Realization of wide-angle with reduced distortion.
- Minimized variation of chromatic aberration while focusing.
- Higher MTF in R,G,B channels at M.O.D.
- Anti-Dust, Anti-Fog, thanks to a perfectly airtight Internal Focusing System.

WIDE ANGLE OF 8mm WITH REDUCED DISTORTION

HIGHER AND FLATTER MTF

- Computer aided design to improve the current 5MHz contrast to 6MHz.

COUNTERMEASURES AGAINST "GHOSTING" AND "FLARES"

- New coatings and anti-reflection paint achieve the elimination of "ghosting" and "flares".



4-POSITION TURRET

(built in extender, pattern projector, master lens, crossover unit).

- Micro Computer Controlled Turret.
- *Built in Effect Filter available as option e.g Cross, Sunny, etc.

VERSATILE ZOOM/FOCUS CONTROLLERS

(See figure on the next page)

- New ergonomic design.
- Countermeasures against dust, rain, and radio interference.

SERVO SYSTEM MATCHING ROBOTIC REQUIREMENTS

- High resolution zoom and focus servo-12 bit repeatability.

10 BIT IRIS COMPATIBILITY

- High resolution iris control.

WIDE DYNAMIC RANGE OF ZOOM AND FOCUS SERVO SPEED

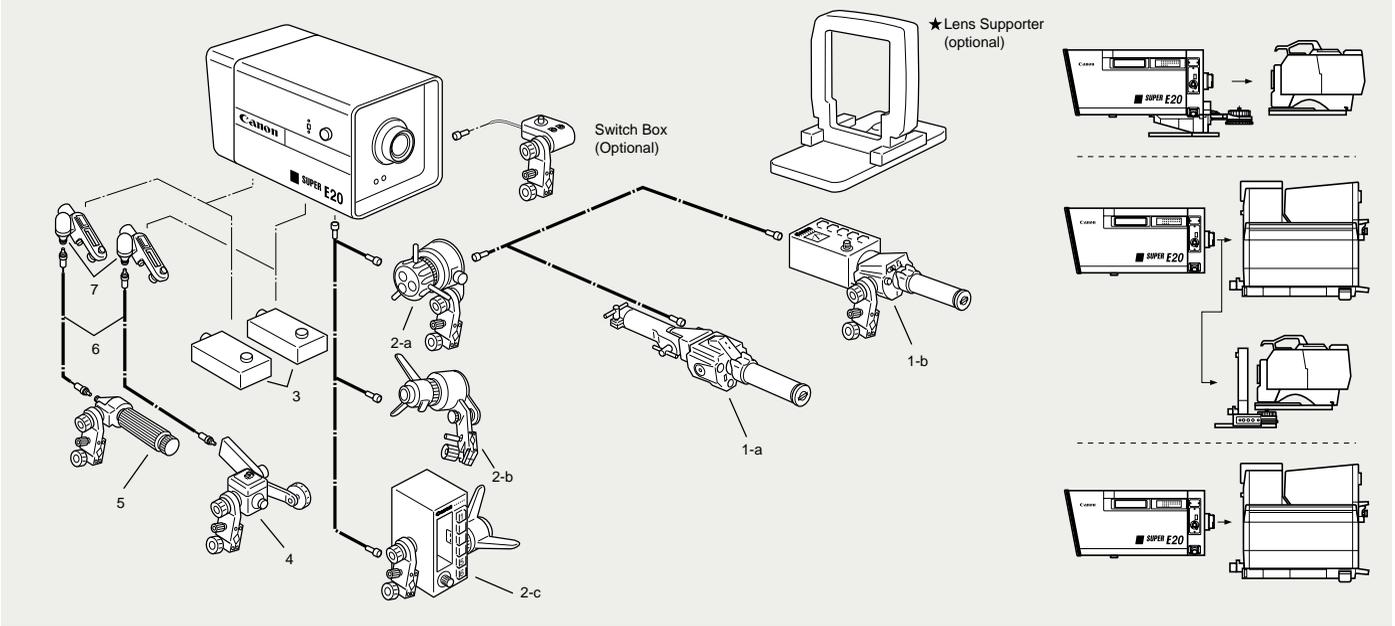
- From ultra slow to high speed. Max. speed:Zoom 0.6 sec, Focus 0.8 sec.

COUNTERMEASURES AGAINST RADIO FREQUENCY NOISE (INTERFERENCE)

	NORMAL 4 : 3		16 : 9		SWITCHABLE 4 : 3 (with crossover unit)		
	1.0×	2.0×	1.0×	2.0×	1.0×	1.2×	2.4×
Built-in Extender	1.0×	2.0×	1.0×	2.0×	1.0×	1.2×	2.4×
Zoom Ratio	20×						
Range of Focal Length	8~160mm	16~320mm	8~160mm	16~320mm	6.6~132mm	8~160mm	16~320mm
Maximum Relative Aperture	1:1.5 at 8~118mm 1:1.9 at 160mm	1:3.0 at 16~236mm 1:3.8 at 320mm	1:1.5 at 8~118mm 1:1.9 at 160mm	1:3.0 at 16~236mm 1:3.8 at 320mm	1:1.5 at 6.6~120mm 1:1.55 at 132mm	1:1.5 at 8~118mm 1:1.9 at 160mm	1:3.0 at 16~236mm 1:3.8 at 320mm
Angular Field of View	57.6°×44.8°at 8mm 3.15°×2.36°at 160mm	30.8°×23.3°at 16mm 1.58°×1.18°at 320mm	61.9°×37.3°at 8mm 3.44°×1.93°at 160mm	33.4°×19.2°at 16mm 1.72°×0.97°at 320mm	57.2°×44.5°at 6.6mm 3.12°×2.34°at 132mm	48.5°×37.3°at 8mm 2.58°×1.93°at 160mm	25.4°×19.2°at 16mm 1.29°×0.97°at 320mm
Minimum Object Distance (M.O.D.)	0.6m from front lens vertex (with macro M.O.D.:0.2m)						
Object Dimensions at M.O.D.	86.0×64.5cm at 8mm 4.3×3.2cm at 160mm	43.0×32.3cm at 16mm 2.2×1.6cm at 320mm	93.8×52.8cm at 8mm 4.7×2.6cm at 160mm	46.9×26.4cm at 16mm 2.3×1.3cm at 320mm	85.3×64.0cm at 6.6mm 4.3×3.2cm at 132mm	70.4×52.8cm at 8mm 3.5×2.6cm at 160mm	35.2×26.4cm at 16mm 1.8×1.3cm at 320mm
Size	241(W)×273.5(H)×530.9(L)mm						
Weight (Approx.)	16kg(35lbs)						
Built-in Pattern Projector	Optionally available						

Note ; SUPER E20 for 1/2 inch cameras is also available.
For details , please contact your local Canon office.

LENS SYSTEM



NO.	DESCRIPTION	CODE	NO.	DESCRIPTION	CODE
1-a	Zoom Demand ZDJ-A01	BG2-5122	3	Servo Module SMJ-N02	BG2-5205
1-b	Zoom Demand W/Shot Box ZPJ-A01	BG2-5529	4	Flexible Zoom Controller FZP-T61	BG2-1558
2-a	Focus Demand FDJ-I01	BG2-5001	5	Flexible Focus Controller FFP-T61	BG2-1557
2-b	Focus Demand FDJ-H01	BG2-5003	6	Flexible Cable 30"	
2-c	Focus Demand W/Shot Box FPJ-K02	BG2-5506	7	Flexible Module FMJ-452	BG2-5305

APPLICATION	OPERATION		COMPOSITION	
	ZOOM	FOCUS	ZOOM	FOCUS
Manual	Flexible Cable Drive	Flexible Cable Drive	4, 6, 7	5, 6, 7
Semi-Servo	Servo	Flexible Cable Drive	1, 3	5, 6, 7
Full-Servo	Servo	Servo	1, 3	2, 3

North & South America
 Canon USA, Inc.
 Broadcast Equipment Div. (Headquarters)
 400 Sylvan Avenue Englewood Cliffs, NJ 07632
 Tel:(201)816-2900/(800)321-4388
 Fax:(201)816-2909
<http://www.canonbroadcast.com/>

Chicago
 100 Park Blvd. Itasca, IL 60143
 Tel:(770)849-7895 Fax:(770)849-7888

Atlanta
 5625 Oakbrook Pkwy. Norcross, GA 30093
 Tel:(770)849-7895 Fax:(770)849-7888

Los Angeles
 15955 Alton Parkway Irvine, CA 92618
 Tel:(949)753-4330 Fax:(949)753-4337

Dallas
 3200 Regent Blvd. Irving, TX 75063
 Tel:(972)409-8871 Fax:(972)409-8879

Latin America
 Tel:(954)349-6975 Fax:(201)816-2909

Canada
 Canon Canada, Inc.
 Optics Division 6390 Dixie Road Mississauga,
 Ontario Canada, L5T 1P7
 Tel:(905)795-2012 Fax:(905)795-2140

Brasil
 Canon Do Brasil Industria
 Comercio Ltda Av. Do Caf, 277 6-Andar Torreé
 B Vila Guarani, Sao Paulo Cep:04311-000
 Tel:55-11-5070-7103 Fax:55-11-5070-7301

Europe/Africa/Middle East
 The Netherlands Headquarters
Canon Europa N.V.
 TV Products Department Bovenkerkerweg 59-61
 1185 XB Amstelveen
 Tel:+31(0)20-5458905 Fax:+31(0)20-5458203
 Email:tvprod@canon-europa.com
<http://www.canon-europa.com/tv-products/>

Australia
 Canon Australia Pty. Ltd.
 Optical Products Division 1 Thomas Holt Drive North
 Ryde, NSW 2113
 Tel:+61(0)2-9805-2000 Fax:+61(0)2-9805-2444

Asia
 Canon Singapore Pte. Ltd.
 No.1 Jalan Kilang Timor #03-01 Pacific Tech Centre
 Singapore 159303
 Tel:(65)276-6864 Fax:(65)271-4226

Japan
 Canon Inc.
 20-2, Kiyohara-Kogyo-Danchi, Utsunomiya-shi,
 Tochigi-ken, 321-3292
 Tel:+81(0)28-667-8669 Fax:+81(0)28-667-8672

Distributed by

Broadcast Equipment Group home page address
<http://www.canon.com/bctv/>

Specifications subject to change without notice.

