

Canon

SUPER 21



**STANDARD STUDIO LENS FOR
THE NEXT GENERATION**



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PJ21x7B IE 7-150mm 1:1.5



The next generation of broadcasting systems will be in the 16:9 format and an expansion of the luminance signal transmission bandwidth is being considered. The use of component signal is becoming more widespread and, therefore, an improvement in chromatic aberration is needed of a higher standard than that currently available today.

The new generation 3 group **IF**, pioneered by Canon, provides a higher optical performance with a wide angle of 7mm, without a significant change in length. The new lens is comparable in size to the successful J20xSuper.

By employing a 3 group **IF**, the SUPER 21 diminishes the variation of lateral and longitudinal chromatic aberration while focusing.

HIGHER MTF PERFORMANCE

The next generation 16:9 format will have a 20% reduction in height compared to today's 4:3 format and thus the density of the scanning lines will be 20% greater (Fig. 1).

Transmission bandwidth will, therefore, become 6MHz instead of the existing 4 or 5MHz.

As a result, higher MTF performance is required at these greater frequencies. In order to achieve this, the SUPER 21 was evaluated at every stage by MTF testing, given the optimum aberration balance, in addition fluorite and extraordinary dispersion glass is used in the focusing and variator groups. The SUPER 21 succeeds in having the higher MTF performance necessary for the coming 16:9 format correspondent to 6MHz.

10 BIT IRIS COMPATIBILITY

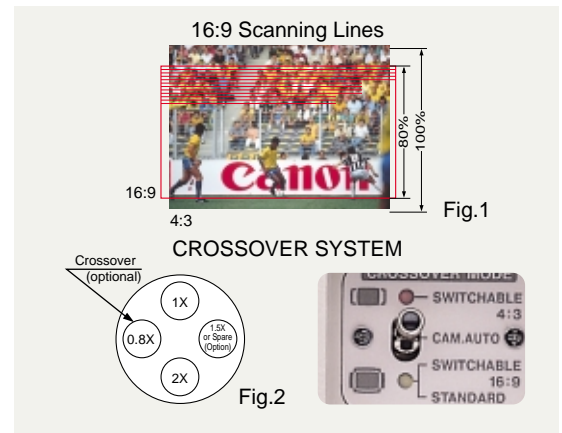
The use of cameras with high resolution 10 Bit iris control for camera colour matching is increasing in multi-camera studios. In

response to this, the SUPER 21 incorporates a new electrical and mechanical system for the lens iris, which achieves the high resolution and repeatability for either standard 8 Bit or the new 10 Bit iris control.

CANON "CROSSOVER" SYSTEM

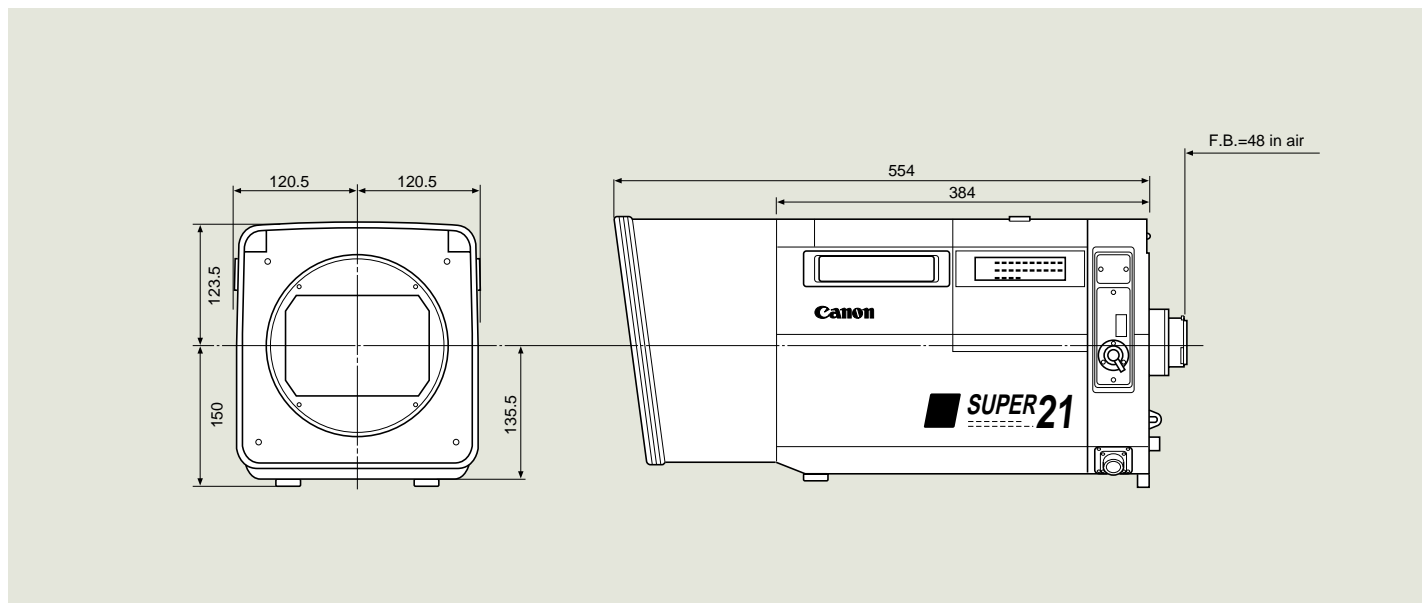
Optionally available for the SUPER 21 is the dual aspect ratio switching system, "CROSSOVER" for switchable 16:9/4:3 cameras. The 4 position extender turret incorporates a 0.8x CROSSOVER unit in addition to the normal extenders i.e. 1.0x, 1.5x, or 2.0x (Fig. 2).

When the CCD switches to the 4:3 mode, the extender turret rotates to the 0.8x position. The 0.8x CROSSOVER unit reduces the diameter from 11 mm to 9 mm thus shortening the focal length to produce an identical picture angle. 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	5.8-124mm	1.5
1.0X	7-150mm	1.5	1.2X	7-150mm	1.5
2.0X	14-300mm	3.0	2.4X	14-300mm	3.0

Fig. 3



ACCESS WINDOW FOR EASY MAINTENANCE



CROSSOVER COMPATIBILITY (Optional)

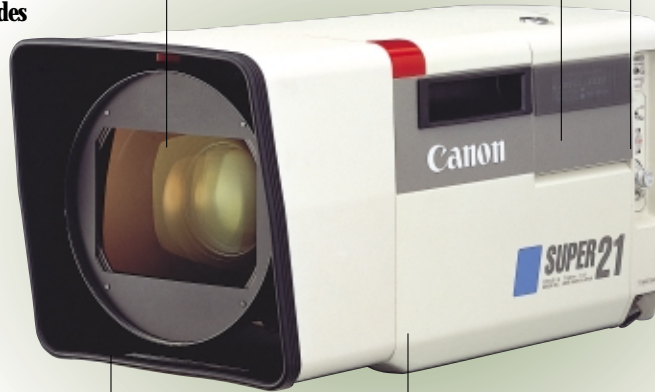
- For use with 16:9/4:3 switchable cameras.

MACRO FUNCTION-M.O.D.=0.2M



INTERNAL FOCUSING SYSTEM

- Advanced 3 group IF system provides high MTF and optical quality
- Realization of wide-angle with reduced distortion.
- Minimized variation of chromatic aberration while focusing.
- Higher MTF at R,G,B channels at M.O.D.
- Anti-Dust, Anti-Fog, thanks to a perfectly airtight Internal Focusing System.



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.

WIDE ANGLE OF 7mm 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".

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

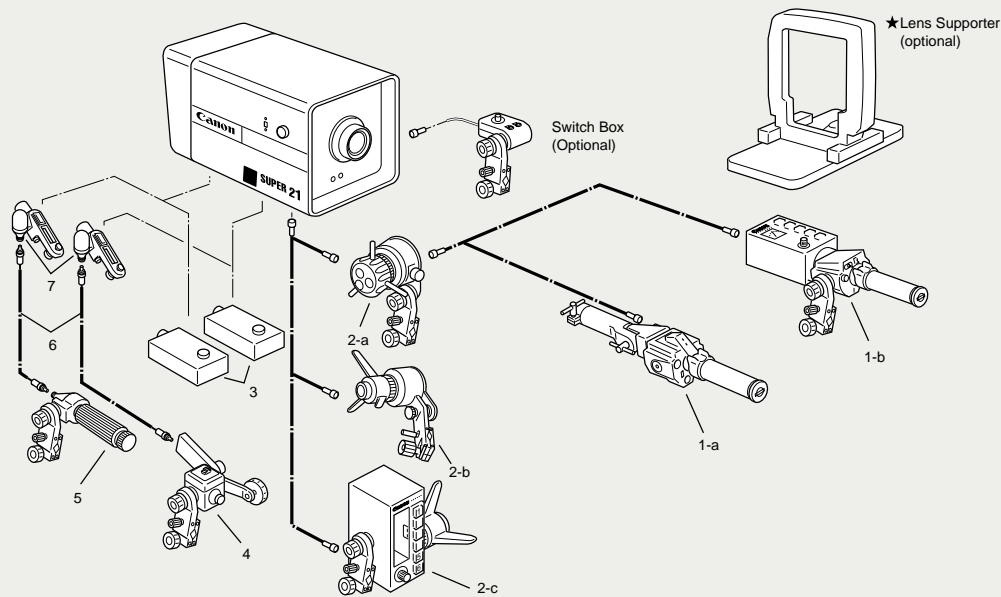
- From ultra slow to high speed. Max. speed:Zoom 0.6 sec, Focus 0.8 sec.

COUNTERMEASURES AGAINST RADIO FREQUENCY NOISE (INTERFERENCE)

	NORMAL 4 : 3		16 : 9		SWITCHABLE 4 : 3 (with crossover unit)		
Built-in Extender	1.0×	2.0×	1.0×	2.0×	1.0×	1.2×	2.4×
Zoom Ratio	21×						
Range of Focal Length	7~150mm	14~300mm	7~150mm	14~300mm	5.8~124.2mm	7~150mm	14~300mm
Maximum Relative Aperture	1:1.5 at 7~120mm 1:1.9 at 150mm	1:3.0 at 14~240mm 1:3.8 at 300mm	1:1.5 at 7~120mm 1:1.9 at 150mm	1:3.0 at 14~240mm 1:3.8 at 300mm	1:1.5 at 5.8~120.2mm 1:1.55 at 124.2mm	1:1.5 at 7~120mm 1:1.9 at 150mm	1:3.0 at 14~240mm 1:3.8 at 300mm
Angular Field of View	64.3°×50.5°at 7mm 3.4°×2.5°at 150mm	34.9°×26.5°at 14mm 1.7°×1.3°at 300mm	68.8°×42.1°at 7mm 3.7°×2.1°at 150mm	37.8°×21.8°at 14mm 1.8°×1.0°at 300mm	64.3°×50.5°at 5.8mm 3.4°×2.5°at 124.2mm	54.4°×42.2°at 7mm 2.7°×2.1°at 150mm	28.8°×21.8°at 14mm 1.4°×1.0°at 300mm
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.	97.2×72.9cm at 7mm 4.5×3.4cm at 150mm	47.7×35.8cm at 14mm 2.3×1.7cm at 300mm	106.4×59.9cm at 7mm 4.9×2.7cm at 150mm	52.1×29.3cm at 14mm 2.5×1.4cm at 300mm	97.2×72.9cm at 5.8mm 4.5×3.4cm at 124.2mm	78.5×58.9cm at 7mm 3.7×2.7cm at 150mm	38.8×29.1cm at 14mm 1.9×1.4cm at 300mm
Size	241(W)×259(H)×554(L)mm						
Weight (Approx.)	17kg(37.5lbs)						
Built-in Pattern Projector	Optionally available						

Note: SUPER 21 for 1/2 inch cameras is also available. For details, please contact 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/Pre-set 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"	BG2-5731
2-c	Focus Demand W/Pre-set Box FPJ-K01	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	1, 3	5, 6, 7
Full-Servo	Servo	Servo	1, 3	2, 3

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Specifications subject to change without notice.

