

SONY

α Mount System

The Power of Imaging



A person wearing a red jacket and a helmet stands on a rocky bank in a shallow stream. In the background, a large, powerful waterfall cascades down a dark, craggy rock face. The water in the stream is dark and reflects the surrounding environment. The overall scene is dramatic and emphasizes the scale of the natural environment compared to the human figure.

Tomorrow's lenses today, from Sony

Lens standards are changing

Advances in camera performance and soaring creative ideals demand a new approach to lens technology. Lenses must evolve to remain ahead of the curve.

With a clear vision of cameras of the future, Sony now redefines the lens.

High resolution and appealing bokeh together at last, from the leader in imaging innovation.







A new standard for a high-resolution future

Resolution can give meaning to an image
Unlocking fine details that are the essence of beauty
50 line pairs per millimeter is a baseline for G Master™ design
Delivering breathtaking detail wherever you look



100% image display

Resolution that's ahead of evolution

What are the requirements for interchangeable lenses that will remain relevant in the face of continually evolving camera body performance? As a company that is largely driving that evolution, Sony has the answers. The G Master series elevates resolution to unprecedented heights thanks to new technology specifically developed

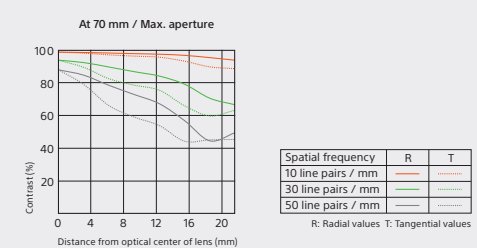
to accommodate the more exacting tolerances required. Sony has unreservedly applied the most advanced optical technology available in innovative lens elements, optical path design, simulation, testing, and calibration, achieving image detail and sharpness that reveal the essence of every scene and subject.



XA lenses for eye-opening detail

An essential ingredient of astonishing resolution is a new XA (extreme aspherical) lens element with better than 0.01-micron surface precision. Refined simulation software has also made a vital contribution, making it possible to predict and eliminate potential problems throughout the design and manufacturing processes and thereby

realize the highest design standards without compromise. Lens coatings can be included in the simulation, allowing designers to accurately predict how they will affect ghosting and color in the final product. That in turn has made it possible to use Sony's Nano AR Coating technology in the most effective way. Industry-leading actuator technology inherited from professional Sony movie equipment contributes too, providing the focusing precision needed to fully realize each lens's resolution potential.



50 lp/mm: Spectacular resolution wide open

It is not easy to achieve spatial frequency of 50 lines pairs per millimeter at a lens's widest aperture, but that is Sony's baseline for G Master design. Unprecedented resolution and other demanding design parameters yield outstanding reproduction of the most detailed subjects and scenes with superior contrast throughout every frame. G Master resolution is simply the highest in its class.





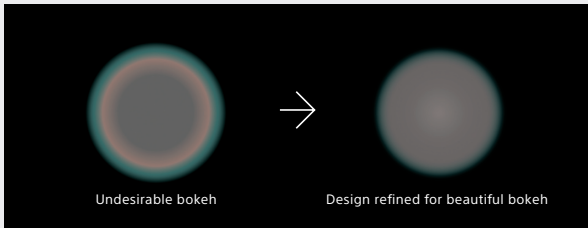
0.01 micron precision brings the world to life

Art is often a unique expression of reality
Beauty arising between keen detail and an evanescent background
Beyond the ordinary to a realm of visual enchantment
It takes 0.01-micron precision in new XA lenses
To capture truth and beauty in every image

The most expressive bokeh for art's sake

Sony's existing G Lens™ series is highly valued for its expressive blend of high resolution and beautifully smooth background bokeh, adding a sense of natural depth and dimension to well executed images. Continued pursuit of perfection has given the G Master series even more sophisticated expressive capability, with a newly

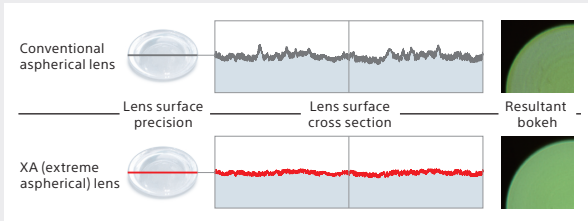
developed optical element, innovative new calibration techniques, and advanced optical simulation technology that elevates final quality right from the initial design stage. The resultant bokeh is simply stunning.



Advanced computer simulation aids bokeh design

Balance is the key

Advanced simulation technology is employed to design superb bokeh into the optics right from the outset, achieving fluid, natural transitions from extremely sharp in-focus areas to luxuriously smooth, soft background bokeh without jarring lines or edges. Each lens is individually adjusted at the factory to minimize spherical aberration and optimize the balance between sharpness and bokeh.



Superior surface precision enhances bokeh

Previously unattainable surface precision

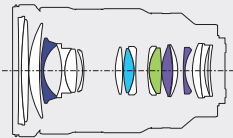
Aspherical lenses are much more difficult to manufacture than simple spherical types. New XA (extreme aspherical) lens elements achieve extremely high surface precision that is kept to within 0.01 micron by innovative manufacturing technology, for an unprecedented combination of high resolution and the most beautiful bokeh you've ever seen.





The G Master revolution has begun

Three extraordinary full-frame lenses announce the arrival of a new era of photographic and cinematographic expression. The G Master revolution begins with two large-aperture zooms covering 24 to 200 millimeters, and an 85mm F1.4 portrait lens. All three are ready to take your art to a higher level, now and for a considerable time to come.



■ XA Lens ■ Aspherical Lens
■ ED Glass ■ Super ED Glass

24-70 F2.8

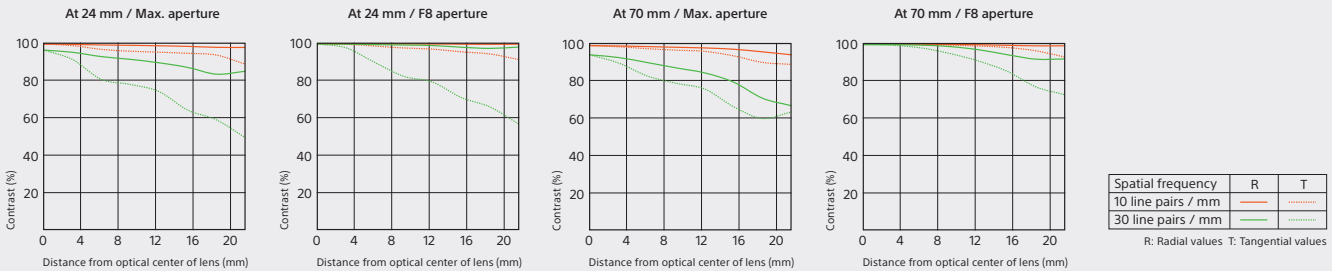


Groundbreaking resolution in an F2.8 standard zoom

FE 24-70mm F2.8 GM SEL2470GM

This large-aperture standard zoom lens takes the lead in an age when high-resolution camera bodies are evolving at an astonishing pace. Designed to resolve the highest possible spatial frequencies, the SEL2470GM achieves astonishing resolution from

corner to corner across its entire zoom range. Whether you shoot stills or movies, prepare for a totally new level of lens performance that is the exclusive realm of Sony's G Master series.



Designed to push the limits of resolution



Three aspherical elements, including one newly developed XA (extreme aspherical) element with superior surface precision, effectively eliminate astigmatism and field curvature. Sagittal coma is also thoroughly suppressed for extraordinary sharpness even at the widest aperture. Sony's original Nano AR Coating technology minimizes flare and ghosting, for dynamic range that achieves lifelike detail and gradation with advanced camera sensors. ED (Extra-low Dispersion)



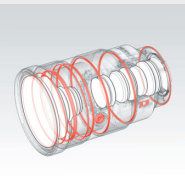
and Super ED glass elements take axial chromatic aberration and chromatic aberration due to differences in magnification out of the picture, leaving precisely rendered edges with no fringing or unnatural coloration. All of this works in harmony with the XA element and a 9-blade circular aperture to create gorgeous bokeh too.

Fast, precise AF supports stunning lens performance



High-resolution camera bodies demand absolute focus precision. The Direct Drive SSM focus system is more than up to the task for both stills and movies. DDSM has the capability to position the large, heavy optical assemblies required by large-aperture lenses with pinpoint precision, offering advantages for manual focus as well as autofocus. Manual focus response is also natural and intuitive.

Pro grade control and reliability



Sony's standard lens sealing is augmented by a lens mount seal that maximizes resistance to dust and moisture for reliable operation in challenging environmental conditions.* Additional details like rubberized rings that are easy to operate in low temperatures, a zoom lock that prevents unwanted lens extension during transport, and a hood lock button, all add up to professional control and convenience.

* Although the design is dust and moisture resistant, absolute protection from dust and moisture is not guaranteed.

Full

Circular Aperture

ED

Super ED

Aspherical

XA

Nano AR Coating

Internal Focus

Linear

SSM

DDSSM

OSS

FRL

FHB

Aperture Ring

AF/MF Switch

Full 35mm full frame

ED Super ED ED (Extra-low Dispersion) glass / Super ED

Aspherical Aspherical lens

XA XA extreme aspherical lens

Linear Linear motor

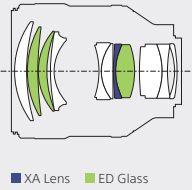
SSM Super Sonic wave Motor

DDSSM Direct Drive Super Sonic wave Motor

OSS Optical SteadyShot

FRL Focus range limiter

FHB Focus hold button



85 F1.4

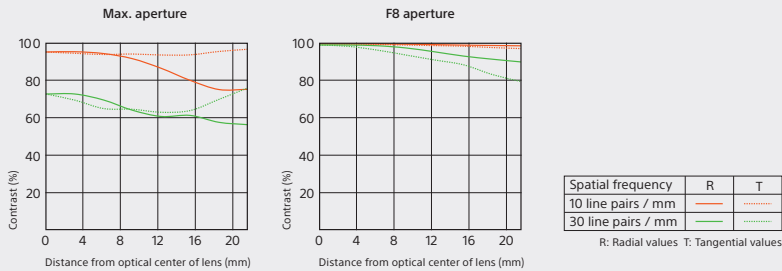


A transcendent F1.4 portrait lens

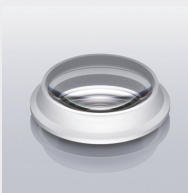
FE 85mm F1.4 GM SEL85F14GM

Portrait performance reaches a new pinnacle with astonishing resolution plus bokeh of unmatched beauty. This 85mm F1.4 portrait lens renders in-focus areas with unequalled resolution while the background dissolves into

the smoothest, lushest bokeh imaginable. All of this is by design, supported by manufacturing and testing technology that only Sony can provide, for new dimensions of photographic and cinematographic expression.

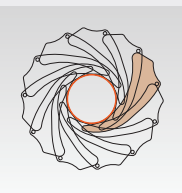


Performance in the service of art



This lens's nonpareil combination of resolution and bokeh is partly due to a new XA (extreme aspherical) element with unprecedented surface precision. Aberration is effectively suppressed while overwhelming resolution delivers striking detail at all focusing distances, even at the widest F1.4 aperture. Three ED (Extra-low Dispersion) glass elements additionally control axial chromatic aberration.

Lush, expressive bokeh



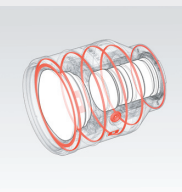
Complementing the performance of the XA element are the first 11-blade circular aperture ever implemented in an **α** lens, and exacting spherical aberration adjustment for each individual lens. The result is enchantingly soft-edged bokeh that is a hallmark of the Sony G Master series.

Precision AF ensures optimum resolution



Focus precision is vital when working with high-resolution images and a narrow depth of field. A ring SSM (Super Sonic Motor) yields the power and precision necessary to accurately and swiftly position one of the heaviest focusing groups in any interchangeable lens for mirrorless cameras, and a new multi-sensor system plus high-speed data processing provides the instantaneous feedback required for flawless autofocus precision.

Ready for any environment



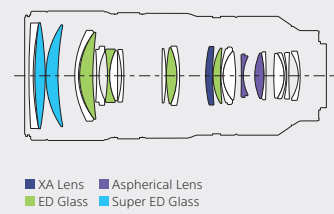
An on-lens aperture ring features click stop on/off switching to satisfy still photographers as well as moviemakers. Additional convenience is provided by AF/MF focus mode and hood lock buttons. Seals at the mount and control points ensure maximum dust and moisture resistance for reliable operation in the widest possible range of environments.*

* Although the design is dust and moisture resistant, absolute protection from dust and moisture is not guaranteed.

Full	Circular Aperture	ED	Super ED	Aspherical	XA	Nano AR Coating	Internal Focus	Linear	SSM	DDSSM	OSS	FRL	FHB	Aperture Ring	AF/MF Switch
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Full 35mm full frame ED Super ED ED (Extra-low Dispersion) glass / Super ED Aspherical Aspherical lens XA XA extreme aspherical lens Linear Linear motor SSM Super Sonic wave Motor DDSSM Direct Drive Super Sonic wave Motor OSS Optical SteadyShot FRL Focus range limiter FHB Focus hold button

Limitations apply to AF operation when shooting movies with certain camera bodies. See the Sony support site for lens/body compatibility details.



70-200 F2.8

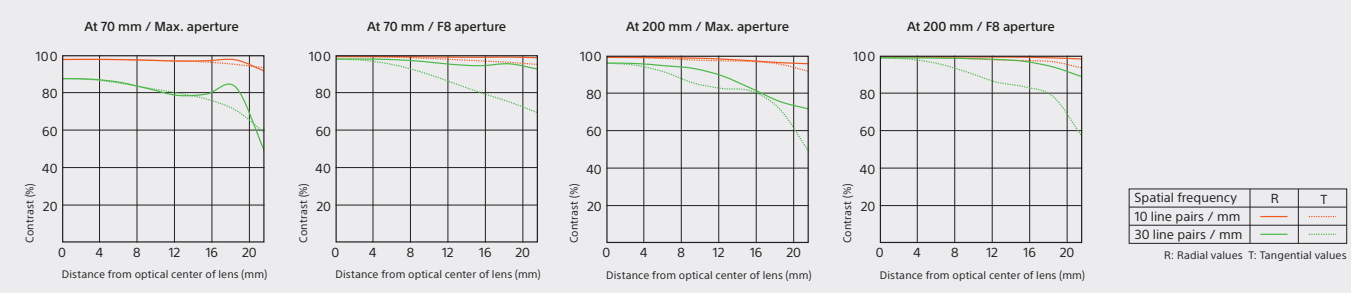


Spectacular AF and imaging in an F2.8 telephoto zoom

FE 70-200mm F2.8 GM OSS SEL70200GM

This superb telephoto zoom lens covers 70 to 200 mm at a constant F2.8 maximum aperture with incomparable G Master series optical performance, spectacular autofocus, built-in image stabilization, and more. At the same time it offers remarkable mobility

plus design and features that make it ideal for professional still photography and movie applications.



Forward-looking design for unbeatable images

In addition to a new XA (extreme aspherical) lens element, four ED (Extra-low Dispersion) and two Super ED glass elements, Sony's Nano AR Coating technology, and an 11-blade circular aperture add up to extraordinary image quality at any zoom or focus setting. High in-focus resolution smoothly dissolves to luscious bokeh.

Class-leading close-up performance

Class-leading close-up performance with a minimum focusing distance of 0.96m and 0.25x maximum magnification is perfect for portraits, telephoto macro, and more. Contributing refinements include ED glass elements and a floating focus mechanism controlling aberration that can be problematic in close-up applications.

Fast, accurate AF plus built-in image stabilization



A powerful ring SSM actuator drives the front focus group, while a double linear motor actuator drives the rear focus group in an advanced focus mechanism. Fast, precise positioning allows the body's AF system to operate at full capacity for stills or movies. Built-in image stabilization makes it easy to capture sharp images, and 5-axis image stabilization becomes available with α series bodies that feature built-in image stabilization.

Built for speed and efficiency in the field



A focus hold button, focus range limiter, the first revolving removable tripod mount in an α lens, dust/moisture resistant design*, and a fluorine front element coating add up to significant advantages in the field.

* Although the design is dust and moisture resistant, absolute protection from dust and moisture is not guaranteed.

Full

Circular Aperture

ED

Super ED

Aspherical

XA

Nano AR Coating

Internal Focus

Linear

SSM

DDSSM

OSS

FRL

FHB

Aperture Ring

AF/MF Switch

Full

 35mm full frame

ED

 Super ED ED (Extra-low Dispersion) glass / Super ED

Aspherical

 Aspherical lens

XA

 XA extreme aspherical lens

Linear

 Linear motor

SSM

 Super Sonic wave Motor

DDSSM

 Direct Drive Super Sonic wave Motor

OSS

 Optical SteadyShot

FRL

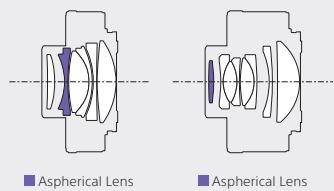
 Focus range limiter

FHB

 Focus hold button

1.4x/2.0x

Teleconverters



1.4x Teleconverter SEL14TC
2.0x Teleconverter SEL20TC

The SEL14TC and SEL20TC are the first optional teleconverters designed specifically for E-mount lenses, offering 1.4x and 2x increases in focal length respectively. Both types maintain the full image quality and AF performance of the lens, and feature a dust and moisture resistant design for maximum reliability when shooting outdoors.

* As of February 2016 these teleconverters are compatible with the SEL70200GM only.
* Although the design is dust and moisture resistant, absolute protection from dust and moisture is not guaranteed.
* 1-stop (1.4x) and 2-stops (2x) light loss with SEL70200GM



SEL70200GM + SEL14TC



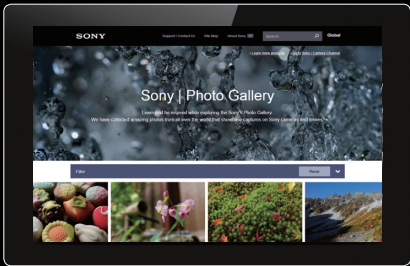
SEL70200GM + SEL20TC

G Master Specifications

Lens					
Model name	SEL2470GM	SEL85F14GM	SEL70200GM	SEL14TC ^{*2}	SEL20TC ^{*2}
Lens mount	Sony E-mount	Sony E-mount	Sony E-mount	Sony E-mount	Sony E-mount
Format	35mm full frame	35mm full frame	35mm full frame	35mm full frame	35mm full frame
Focal-length (mm)	24-70	85	70-200	-	-
35mm equivalent focal-length (APS-C) (mm)	36-105	127.5	105-300	-	-
Lens construction (groups-elements)	13-18	8-11	18-23	5-6	5-8
Angle of view (APS-C)* ¹	61°-23°	19°	23° -8°	-	-
Angle of view (35mm)	84°-34°	29°	34° -12° 30'	-	-
Maximum aperture (F)	2.8	1.4	2.8	-	-
Minimum aperture (F)	22	16	22	-	-
Number of aperture blade	9	11	11	-	-
Circular aperture	Yes	Yes	Yes	-	-
Minimum focus distance (m)	0.38	AF 0.85, MF 0.8	0.96	-	-
Minimum focus distance (ft)	1.25	AF 2.79, MF 2.63	3.15	-	-
Maximum magnification ratio (x)	0.24	0.12	0.25	-	-
Filter diameter (mm)	82	77	77	-	-
Image stabilization (SteadyShot)	-	-	Optical SteadyShot	-	-
Zoom system	Manual	-	Manual	-	-
Teleconverter compatibility (x1.4)	Incompatible	Incompatible	Compatible (SEL14TC)	-	-
Teleconverter compatibility (x2.0)	Incompatible	Incompatible	Compatible (SEL20TC)	-	-
Hood type	Petal shape, bayonet type	Round shape, bayonet type	Petal shape, bayonet type	-	-
Dimensions dia. x length (mm)	87.6 x 136	89.5 x 107.5	88.0 x 200	62.4 x 33.6	62.4 x 42.7
Dimensions dia. x length (in.)	3 1/2 x 5 3/8	3 5/8 x 4 1/4	3 1/2 x 7 7/8	2 1/2 x 1 3/8	2 1/2 x 1 11/16
Weight (approx.) (g)	886	820	1480 (without tripod mount)	167	207
Weight (approx.) (oz.)	31.3	29	52.3	5.9	7.4

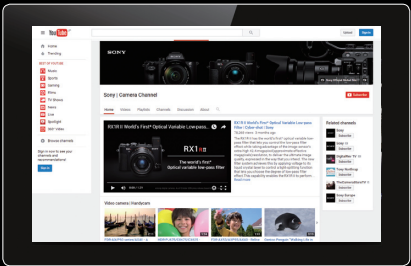
*1 With interchangeable-lens digital camera incorporating APS-C type image sensors. *2 Compatible lens: SEL70200GM only as of February 2016

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