Your Journey Has Begun. Let α Take You Farther.
### Lenses

Featuring superior optical characteristics to match your desire for photographic excellence. For added versatility, the α collection also offers large-aperture G Lenses and premium quality Carl Zeiss® lenses.

#### Zoom Lenses

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<td>SAL1118</td>
<td>DT 11-18mm F4.5-5.6 APS-C format Lens</td>
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<td>16mm F2.8 Fisheye</td>
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<td>SAL28F28</td>
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<td>SAL50F14</td>
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<td>SAL50F28</td>
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<td>15</td>
<td>SAL500F80</td>
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<td>SAL35F14G</td>
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<td>SAL70200G</td>
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<td>300mm F2.8G</td>
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#### Teleconverters

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<tr>
<td>19</td>
<td>SAL14TC</td>
<td>1.4x Teleconverter</td>
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<td>SAL20TC</td>
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#### Carl Zeiss Lenses

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<td>21</td>
<td>SAL85F14Z</td>
<td>Planar T* 85mm F1.4 ZA</td>
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<td>22</td>
<td>SAL135F18Z</td>
<td>Sonnar T* 135mm F1.8 ZA</td>
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<td>23</td>
<td>SAL1680Z</td>
<td>Vario-Sonnar T* DT 16-80mm F3.5-4.5 ZA APS-C format Lens</td>
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### Accessories

Supports the expansion of your α system to accommodate a variety of shooting styles and camera needs.

- 30-31 External Flash Units
- 32-33 Specialty Flashes & Accessories
- 33 Viewfinder Accessories
- 33 Carrying Cases & Straps
- 33 Remote Commanders
- 33 Batteries & Chargers
- 33 Lens Caps & Other
Welcome to a world of limitless photographic possibilities. From wide-angle to super telephoto, the α lens system offers a versatile collection of high-precision lenses that let you explore your creativity to its fullest. And with each shot, at any focal length, you’ll witness the superior clarity and color that comes from Sony’s advanced optical technology, which includes innovations such as aspheric lenses and ED (Extra-low Dispersion) glass.

Each of the 21 lenses in the α lens system—including the outstanding Sony® G series and Carl Zeiss® ZA series lenses—has been crafted with utmost attention to every factor. Superb sharpness and contrast. Beautiful defocusing effects. Optimum AF performance, ergonomic handling, and more. It all comes together in a lineup that brings out the best in your α Digital SLR. Spectacular results await you. Come explore the possibilities.

Super SteadyShot® image stabilization works wonders with any α lens.

Since image stabilization is built inside the α digital SLR camera body, you can harness the full potential of any α lens or compatible Dynax/Maxxum®/Alpha lenses from Minolta or Konica Minolta.

• Amount of stabilization will differ by lens and shooting conditions.
• Super SteadyShot feature is not compatible with Konica Minolta AF Macro Zoom Lens 3x-1x F1.7-2.8.
**Zoom Lenses**

SAL1118 (DT11-18mm F4.5-5.6)

- **Minimum focus:** 9-13/16" (0.2m)
- **Filter diameter:** 77 mm
- **Size:** (diameter x length): 3-1/8 x 3-3/16" (83 x 80. mm)
- **Weight:** 12.7 oz (360 g)

Super wide-angle zoom lens designed for SLRs with an APS-C size image sensor. Zoom range is equivalent to 16.5–27 mm in 35 mm format. High contrast is maintained throughout the zoom range, and features such as aspheric lens elements and ED glass serve to minimize flare, spherical aberrations, and coma aberrations. Includes circular aperture for beautiful defocusing, especially of point light sources in night scenes. Internal focusing optimizes AF operation.

**SAL1870 (DT 18-70mm F3.5-5.6)**

- **Lens groups/elements:** 9/11
- **Minimum focus:** 1-1/16" (0.38m)
- **Filter diameter:**  mm
- **Size:** (diameter x length): 2-/8 x 3" (66 x 77 mm)
- **Weight:** 8.3 oz (23 g)

Versatile zoom lens that covers many commonly used focal lengths. Range is from wide-angle to medium telephoto, equivalent to 27–105 mm in 35 mm format. This lens is a compact and lightweight zoom lens designed specifically for APS-C format SLRs. Includes aspheric elements and ED glass to correct various aberrations at wide-angle settings. Provides outstanding clarity at all focal lengths, and short minimum focusing distance. Ideal for a variety of subjects.

**SAL18200 (DT18-200mm F3.5-6.3)**

- **Lens groups/elements:** 13/15
- **Minimum focus:** 17-11/16" (0.45 m)
- **Filter diameter:** 62 mm
- **Size:** (diameter x length): 2-7/8 x 3-3/8" (73 x 85.5 mm)
- **Weight:** 14.3 oz (405 g)

A zoom lens designed specifically for SLRs with an APS-C size image sensor, featuring a wide zoom range that’s equivalent to 27–300 mm in 35 mm format. Includes aspheric lens elements and 2 ED glass elements to suppress flare and correct various optical aberrations. Capable of capturing images with high contrast and rich tonal variation. Its circular aperture makes for pleasing defocusing effects, and the internal focusing mechanism ensures smooth AF operation.

**Sony DT Lenses**

The APS-C size image sensor used in digital SLRs has slightly different optical requirements than 35 mm format, as can be seen by comparing 2 images taken at the same focal length. DT lenses feature downsized optics that are optimized for the smaller angle of view of APS-C size image sensors. These optics also result in more compact lens bodies.

**Icons:**

- Circular aperture
- Internal focusing
- Focus Hold Button
- Focus Range limiter
- ADI flash metering
- SSM (Super sonic wave motor)

For details, please refer to the Lens Technology section on p.26–28.
### Zoom Lenses

**Extremely compact zoom lens that covers a broad range of focal lengths from wide-angle to medium telephoto. Excellent clarity at all focal lengths. Includes 2 aspheric lens elements to minimize spherical aberrations, coma aberrations, and lens flare. Also includes a circular aperture for natural off-subject defocusing. During AF operation, the manual focus ring does not rotate, which enhances the operability of the lens.**

- **SAL24105**
  - 24-105mm F3.5-4.5
  - Lens groups/elements: 11/12
  - Minimum focus: 19-11/16" (0.5 m)
  - Filter diameter: 62 mm
  - Size: (diameter x length): 2-13/16" x 2-11/16" (71 x 69 mm)
  - Weight: 13.9 oz (39 g)

- **SAL75300**
  - 75-300mm F4.5-5.6
  - Lens groups/elements: 10/13
  - Minimum focus: 7-7/8" (0.2 m)
  - Filter diameter: 62 mm
  - Size: (diameter x length): 3-1/16" x 2-1/8" (78 x 33.5 mm)
  - Weight: 10.1 oz (28 g)

### Fixed Focal Length Lenses

**Allows you to capture dynamic images with all the distinctive traits of a fisheye lens: curvilinear distortion, exaggerated perspective, and an extremely deep depth of field. The diagonal angle of view is 180° in 35 mm format (110° in APS-C format). Clear images can be obtained from 20 cm to infinity, even with the aperture wide open. The lens includes 4 internal filters to select from.**

- **SAL16F28**
  - 16mm F2.8 Fisheye
  - Lens groups/elements: 8/11 (including 1 filter)
  - Minimum focus: 7-7/8" (0.25 m)
  - Filter diameter: 72 mm
  - Size: (diameter x length): 3-15/16" x 2-5/8" (75 x 66.5 mm)
  - Weight: 14.1 oz (400 g)

- **SAL20F28**
  - 20mm F2.8
  - Lens groups/elements: 9/10
  - Minimum focus: 9-7/8" (0.25 m)
  - Filter diameter: 72 mm
  - Size: (diameter x length): 3-15/16" x 2-5/8" (75 x 66.5 mm)
  - Weight: 10.1 oz (285 g)

**Notes:**
- For details, please refer to the Lens Technology section on p.26–28.
**Fixed Focal Length Lenses**

- **SAL28F28**
  - 28mm F2.8
  - Lens groups/elements: 5/5
  - Minimum focus: 11-13/16" (0.3 m)
  - Filter diameter: 67 mm
  - Size: (diameter x length): 2-9/16 x 1-11/16" (68.5 x 48.5 mm)
  - Weight: 6.5 oz (185 g)

A wide-angle lens for capturing images with breadth and deep depth of field. It gives you a wider frame with which to compose your shots, so that more of the surroundings can be included in the image. Highly effective for architectural photography (both indoor and outdoor), as well as for street scenes and landscapes. Other benefits include a built-in lens hood, plus a compact and lightweight design that makes the lens wonderfully portable.

- **SAL50F14**
  - 50mm F1.4
  - Lens groups/elements: 6/7
  - Minimum focus: 17-11/16" (0.45 m)
  - Filter diameter: 58 mm
  - Size: (diameter x length): 2-9/16 x 1-11/16" (68.5 x 48.5 mm)
  - Weight: 7.8 oz (220 g)

A fast standard lens that lets you take full advantage of ambient lighting as well as beautiful defocusing at wide aperture settings. This lens is highly effective in low-light situations when used together with Super SteadyShot® image stabilization system, and is also recommended for portraits. Captured images exhibit high resolution from corner to corner, superior clarity, and low flare. A circular aperture is used to enhance the unique defocusing effect of large-aperture lenses.

**Macro Lenses**

- **SAL50M28**
  - 50mm F2.8 Macro
  - Lens groups/elements: 6/7
  - Minimum focus: 7-7/8" (0.2 m)
  - Filter diameter: 58 mm
  - Size: (diameter x length): 2-13/16 x 2-3/8" (71.5 x 60 mm)
  - Weight: 10.4 oz (295 g)

A compact macro lens with autofocus capability at all ranges between 1:1 magnification and infinity. Compared to a macro lens with longer focal length, this lens provides a wider frame for capturing more of the background in your images. Magnificent image quality comes from its double-floating lens construction, and a circular aperture ensures beautiful defocusing. Close-ups can be taken from just 20 cm. To optimize handling, the focus ring does not rotate during AF operation.

- **SAL100M28**
  - 100mm F2.8 Macro
  - Lens groups/elements: 8/8
  - Minimum focus: 13-3/16" (0.35 m)
  - Filter diameter: 58 mm
  - Size: (diameter x length): 2-1/16 x 3-7/8" (71 x 98.5 mm)
  - Weight: 1 lb 1.8 oz (505 g)

Telephoto macro lens with AF operation at all focal lengths from 1:1 magnification to infinity for close-ups of flowers and other small objects. Also, the 100 mm focal length lets you shoot subjects that you can’t get close to, such as insects. Double-floating lens elements ensure superior image quality, and 9-blade circular aperture provides natural defocusing. Operability is enhanced by a focus hold button, focus range limiter, and focus ring that does not rotate during AF operation.

**Icons:**
- Circular aperture
- Internal focusing
- Focus Hold Button
- Focus Range limiter
- ADI flash metering
- SSM (Super sonic wave motor)

For details, please refer to the Lens Technology section on p.26–28.
STF (Smooth Trans Focus) Lens

The special-purpose lens allows you to create truly unique images with exceptionally smooth transitions between in-focus and defocused areas. This is achieved through apodization optics, which gives your images added dimensionality and also contributes to the natural spread of highlights. Clarity at the point of focus is superb, and vignetting and double-line defocusing are avoided. A separate manual aperture ring gives you added control over defocusing of objects at the edges of the image.

**SAL13F28 (13mm F2.8 [T.] STF)**

- Lens groups/elements: 6/8
- Minimum focus: 3-1/8” (0.87 m)
- Filter diameter: 72 mm
- Size: (diameter x length): 3-1/8 x 3-7/8” (80 x 99 mm)
- Weight: 1 lb 9.7 oz (730 g)

In a conventional lens, the amount of light collected at the periphery of the lens is roughly equal to the amount of light at the center. This results in uniformly sharp objects at points b and c, below. The STF lens, however, uses a special filter called an “apodization optical element” that collects less light at the lens periphery, which results in diffusion at the edges of the objects instead. Smoother defocusing is due to this optical characteristic.

**STF Lens & T Numbers**

Because the STF lens collects less light overall than conventional lenses, F-stops are replaced by T (transmission) numbers. In practice, the two types of values can be used interchangeably to determine exposure.

**SAL500F80 (500mm F8 Reflex)**

- Lens groups/elements: 5/7
- Minimum focus: 11-1/2” (0.30 m)
- Filter diameter: 2 mm (rear slide-in type)
- Size: (diameter x length): 3-1/2 x 3-7/8” (89 x 118 mm)
- Weight: 1 lb 7. oz (66 g)

A unique reflex lens that provides autofocus through the innovative combination of a mirror lens system and the camera’s AF sensor. Captures impressively clear images with none of the chromatic aberration that often mars conventional refractive lenses, and produces distinctive ring-shaped defocusing effects. Light and compact for a super-telephoto lens, and thus an ideal option for nature and wildlife photography, especially as a means of minimizing gear. Includes focus hold button.

**Autofocusing in a Reflex Telephoto Lens**

In AF operation, distance is usually measured with a beam of light that transmits through the lens at around F6.7 to F8. If the aperture is any smaller, then AF cannot function. However, the SAL500F80 overcomes this limitation by using a modified optical design in combination with the camera’s highly sensitive AF sensor. First, the secondary mirror was reduced in size so as not to obstruct the making light. Next, the primary mirror was enlarged to improve light collection efficiency. Finally, aberrations were corrected at the rear of the lens to ensure high sharpness while also enabling AF.

**Icons:**
- Circular aperture
- Internal focusing
- Focus Hold Button
- Focus Range limiter
- ADI flash metering
- SSM (Super sonic wave motor)
- For details, please refer to the Lens Technology section on p.26–28.
Sony® G Lenses

The large-aperture G Lens series brings together a wealth of advanced technology to provide you with an exceptionally refined level of optical performance. Its aspherical lens elements improve lens performance; ED (Extra-low Dispersion) glass minimizes the chromatic aberrations that occur at large apertures; and the circular aperture makes smooth, beautiful defocusing possible. The resulting difference in quality is clear to see... and clearly breathtaking.

Sony® G Lenses

Modulation Transfer Function (MTF)

MTF is a measurement of how well a lens can reproduce fine details at a high level of contrast. The curves below show lens performance at two levels of spatial frequency (10 or 30 line pairs/mm) for two types of targets (radial R, tangential T). Performance is measured at two settings: open and F8. For each condition, contrast level changes at various points away from the center of the image.

Fast wide-angle lens with superior image quality at wide apertures thanks to glass-molded aspheric lens elements. Achieves high resolution and high contrast from corner to corner, with shallow depth of field also possible because of the large maximum aperture. This unique lens gives a special touch to portraits and landscapes, and is ideal for handheld shooting. For comfortable handling, includes a focus hold button and a focus ring that does not rotate during AF operation.

Icons:
- Circular aperture
- Internal focusing
- Focus Hold Button
- Focus Range limiter
- ADI flash metering
- SAL (Super long wide ratio)

For details, please refer to the Lens Technology section on p.26-28.
High-performance lens for popular telephoto focal lengths that features fast, continuous F2.8 aperture and comfortable handling. Excellent contrast and clarity at all focal lengths, with minimal chromatic aberration because of its ED glass elements. Quiet, responsive focusing comes courtesy of the SSM (Super Sonic wave Motor) and internal focusing mechanism. Minimum focusing distance is a class-leading 2.0 m. Great operability comes from the pre-focus function, focus range switch; 2 DMF modes, lightweight design, and detachable tripod mount. A large carbon fiber hood provides effective light shielding.

**Sony® G Lenses**

**SAL70200G (70-200mm F2.8 G)**
- Lens groups/elements: 16/19
- Minimum focus: 7-1/8" (1.2 m)
- Filter diameter: 77 mm
- Size: (diameter x length): 3-7/16 x 7-3/16" (87 x 196. mm)
- Weight: 2 lb 1.3 oz (130 g)

**SAL300F28G (300mm F2.8 G)**
- Lens groups/elements: 12/13
- Minimum focus: 78-3/4" (2.0 m)
- Filter diameter: 42 mm (one slide-in type)
- Size: (diameter x length): 4-13/16 x 9-9/16" (120 x 246.4 mm)
- Weight: 8 lb 1.5 oz (2310 g)

**Teleconverters**

These attachments significantly boost the focal length of the primary lens, with no impact on resolving power. A handy tool for maximizing gear for landscape or sports photography.

**Compatible lenses**
- SAL70200G (70-200mm F2.8 G)
- SAL300F28G (300mm F2.8 G)
- SAL13F28 (13mm F2.8 [T.] STF)

**Technical Specifications**

**MTF**
- R10 line pairs/mm
- T10 line pairs/mm
- R30 line pairs/mm
- T30 line pairs/mm

**Contrast (%)**
- R10 line pairs/mm
- T10 line pairs/mm
- R30 line pairs/mm
- T30 line pairs/mm

(R: radial target, T: tangential target)

For details of MTF, please refer to p.17.
Carl Zeiss® Lenses

Unparalleled quality has long been the hallmark of Carl Zeiss lenses. And now, over 160 years of optical expertise has been distilled into a series of α mount lenses, jointly developed by Carl Zeiss and Sony. With exclusive T* (“T-star”) coating technology for higher light transmission, and minimal flare and ghosting. With marvelously faithful and luminous colors. And with extreme compensation of various optical aberrations. Discover some of the world’s finest lenses, and unlock your true artistic potential.

Carl Zeiss Lenses

Modulation Transfer Function (MTF)

MTF is a measurement of how well a lens can reproduce fine details at a high level of contrast. The curves below show lens performance at two levels of spatial frequency (10 or 30 line pairs/mm) for two types of targets (radial R, tangential T). Performance is measured at two settings: open and F8. For each condition, contrast level changes at various points away from the center of the image.

SAL85F14Z

Planar T* 85mm F1.4 ZA
- Lens groups/elements: 7/8
- Filter diameter: 72 mm
- Size (diameter x length): 3-3/16 x 2-1/16” (81 x 7 mm)
- Weight: 1 lb 6.6 oz (60 g)

Among the finest choices for portrait photography. The Carl Zeiss Planar T* lens for α digital SLRs is a new-generation model that allows gorgeous portraits to be captured at a relaxed distance from the subject, while providing superior image clarity and also smooth, natural defocusing that adds depth to your portraits. Optimum handling is ensured by features such as a focus hold button to lock focus and a focus ring that does not rotate during AF operation. With its large aperture, the SAL85F14ZA is ideal for handheld shooting in low light, especially when used in conjunction with Super SteadyShot, the in-camera image stabilization system of the α digital SLR.
Carl Zeiss® Lenses

**SAL13F18Z**

* Sonnar T* 135mm F1.8 ZA
* Lens groups/elements: 8/11
* Minimum focus: 28-3/8" (0.72 m)
* Filter diameter: 77 mm
* Size: (diameter x length): 3-1/2" x 1-1/2" (88. x 11 mm)
* Weight: 2 lb 3.2 oz (99 g)

A standout among medium telephoto lenses due to its large maximum aperture and 3 ED glass elements that compensate for chromatic aberration. Demonstrates high resolving power even at wider apertures and also sharpness from corner to corner, which allows for subtle details to be captured faithfully. Another key benefit is the powerful close-up capability, as 0.2x magnification can be obtained with high image quality at the lens' minimum focusing distance of 0.72 m. In terms of operability, the internal focusing mechanism provides fast autofocus, and the focus ring does not rotate during AF operation. Focus hold button is also included. When used in conjunction with Super SteadyShot™ image stabilization, this lens is excellent for handheld shooting in low-light conditions.

**SAL1680Z**

* Vario-Sonnar T* DT 16-80mm F3.5-4.5 ZA
* Lens groups/elements: 10/1
* Minimum focus: 13-3/8" (0.3 m)
* Filter diameter: 62 mm
* Size: (diameter x length): 2-13/16" x 3-1/8" (68.5 x 118 mm)
* Weight: 1.7 oz (49 g)

Zoom lens designed specifically for digital SLRs with APS-C size image sensor, with unusually wide angle to telephoto zoom range that’s equivalent to 24–120 mm in 35 mm format. Includes 2 glass-molded aspherical elements to deliver high contrast and a clear, luminous quality to your images. The optical system is optimized for digital SLRs, which ensures high optical performance even while overall lens size is kept small. Other advantages include comfortable handling and operation, plus a circular aperture for beautiful defocusing.
### Main Specifications of α Lenses

<table>
<thead>
<tr>
<th>Product</th>
<th>Model Name</th>
<th>Description</th>
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<tbody>
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<td>SAL11118</td>
<td>DT 11-18mm f/4.5-5.6</td>
<td>12/15 16.5-27 100°-76° - 7 (circular aperture) 22-29 0.125 9.8° / 0.25 m yes 77 petal/boynet 3-2/8 x 3-1/8 12-3/8 oz lens hood SHD009</td>
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<td>SAL18700</td>
<td>DT 18-70mm f/3.5-5.6</td>
<td>9/11 27-105 76°-23° - 7 (circular aperture) 22-36 0.25 17° / 0.38 m yes 55 round/boynet 2-5/8 x 3-1/8 8-1/8 oz lens hood SHD006</td>
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<td>SAL18200</td>
<td>DT 18-200mm f/3.5-6.3</td>
<td>13/15 27-300 76°- 7 (circular aperture) 22-40 0.27 17.7° / 0.45 m yes 62 petal/boynet 2-7/8 x 3-3/8 14-5/16 oz lens hood SHD008</td>
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<td>SAL24605</td>
<td>24-105mm f/3.5-4.5</td>
<td>11/12 36-197.5 84°-23° 84-23° 22-27 0.18 19.7° / 0.5 m yes 62 petal/boynet 2-13/16 x 21/16 13-15/16 oz lens hood SHD016</td>
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<td>SAL75300</td>
<td>70-300mm f/4.5-5.6</td>
<td>10/13 113.5-45 21°-5° 20' 32°-6° 15° 22-38 0.25 59° / 1.5 m yes 55 round/boynet 3-13/16 x 4-13/16 1 lb 1/4 oz lens hood SHD007</td>
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<tr>
<td>SAL16F28</td>
<td>16mm f/2.8 Fisheye</td>
<td>8/11 24 110° 180° 7 22 0.15 79° / 0.2 m - 4 colors (built-in) petal/boynet 2-13/16 x 2-1/8 14-1/8 oz -</td>
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<td>SAL20F28</td>
<td>20mm f/2.8</td>
<td>9/10 30 70° 90° 22 0.13 9° / 0.25 m - 72 petal/boynet 3-1/16 x 2-1/8 10-1/16 oz lens hood SHD013</td>
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<tr>
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<td>28mm f/2.8</td>
<td>5/5 42 54° 75° 22 0.13 11.8° / 0.3 m - 49 round/boynet 2-9/16 x 1-11/16 6-1/2 oz -</td>
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<td>SAL55F14</td>
<td>55mm f/1.4</td>
<td>6/7 75 32° 47° 22 0.15 17° / 0.45 m yes 55 round/boynet 2-9/16 x 1-1/16 7-3/4 oz lens hood SHD011</td>
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<tr>
<td>SAL50M28</td>
<td>50mm f/2.8 Macro</td>
<td>6/7 75 32° 47° 22 0.15 17° / 0.45 m yes 55 round/boynet 3-1/16 x 2-3/8 10-3/8 oz -</td>
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<td>SAL100M28</td>
<td>100mm f/2.8 Macro</td>
<td>8/8 150 16° 24° 32 1.0 7° / 0.2 m yes 55 - 55 round/boynet 3 x 4 1 lb 2 oz lens hood SHD007</td>
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<tr>
<td>SAL350F28 / SAL550F28</td>
<td>135mm f/2.8 [T3] STF</td>
<td>6/8 202.5 12&quot; 18° 31 [132] 0.34 24°.3 / 0.87 m - 72 round/boynet 3-1/8 x 3-7/8 1 lb 9-3/4 oz lens hood SHD004, case</td>
</tr>
<tr>
<td>SAL1870F80</td>
<td>50mm f/1.4 Reflex</td>
<td>5/7 75 3&quot;10&quot; 5&quot; - 8 (round) yes 157° / 4.8 m - 42 round/threaded 3-8/16 x 4-3/4 1 lb 7-1/8 oz lens hood SHD005, HD filter</td>
</tr>
<tr>
<td>SAL1670F28</td>
<td>16mm f/2.8</td>
<td>4/5 - - - - - - yes - - - 2-1/2 x 13/16 6 oz case</td>
</tr>
<tr>
<td>SAL20F28</td>
<td>2x Teleconverter</td>
<td>5/6 - - - - - - yes - - - 2-1/2 x 11/16 7-1/16 oz case</td>
</tr>
<tr>
<td>SAL35F14G</td>
<td>35mm f/1.4 G</td>
<td>8/10 52.5 64° 65° 22 0.2 11.8° / 0.3 m yes 55 petal/boynet 2-3/4 x 3 1 lb 2 oz lens hood SHD001, case</td>
</tr>
<tr>
<td>SAL70F200G</td>
<td>70-200mm f/2.8 G</td>
<td>16/19 105-300 23°-8° 34°-12° 30° 32 0.21 47.2° / 1.2 m yes 77 petal/boynet 3-1/2 x 7/8 2 lbs 15 oz lens hood SHD010, case</td>
</tr>
<tr>
<td>SAL100F28G</td>
<td>300mm f/2.8 G</td>
<td>12/13 450 5&quot;20&quot; 8&quot;10&quot; 32 0.18 78.7° / 2 m yes 42 round/boynet 5-1/16 x 9-3/8 5 lbs 1-7/8 oz lens hood SHD015, built-in flash, full-size (black) for use with Sony Digital SLR, APS-C size (23.6 mm x 15.8 mm) lens hood SHD001, case</td>
</tr>
<tr>
<td>SAL85F14Z</td>
<td>Planar T* 55mm f/1.4 ZA</td>
<td>7/8 127.5 19° 29° 32 0.13 33.5° / 0.85 m yes 72 round/boynet 3-1/4 x 3-7/8 1 lb 3-3/4 oz lens hood SHD002, case</td>
</tr>
<tr>
<td>SAL135F18Z</td>
<td>Sonnar T* 135mm f/1.8 ZA</td>
<td>8/11 202.5 12&quot; 16&quot; 22 0.25 26°.3 / 0.72 m yes 77 round/boynet 3-1/2 x 4-5/8 2 lbs 5 oz lens hood SHD003, case</td>
</tr>
<tr>
<td>SAL58Z2</td>
<td>Zeiss-Sonnar T* 75-150mm f/2.8-4.0 ZA</td>
<td>10/14 24-120 85°-20&quot; - 22-29 0.25 13.8° / 0.35 m yes 62 petal/boynet 2-7/8 x 3-3/8 15-1/2 oz lens hood SHD005, case</td>
</tr>
</tbody>
</table>

### Focal length vs. angle of view (when used with APS-C size image sensor DSLR)

<table>
<thead>
<tr>
<th>Focal Length</th>
<th>Angle of View</th>
</tr>
</thead>
<tbody>
<tr>
<td>11 mm, 10°4'</td>
<td>10 mm, 9°4'</td>
</tr>
<tr>
<td>18 mm, 76°</td>
<td>16 mm, 72°</td>
</tr>
<tr>
<td>24 mm, 61°</td>
<td>22 mm, 58°</td>
</tr>
<tr>
<td>35 mm, 44°</td>
<td>33 mm, 42°</td>
</tr>
<tr>
<td>50 mm, 33°</td>
<td>48 mm, 32°</td>
</tr>
<tr>
<td>50 mm, 33°</td>
<td>48 mm, 32°</td>
</tr>
<tr>
<td>70 mm, 23°</td>
<td>68 mm, 21°</td>
</tr>
<tr>
<td>85 mm, 16°</td>
<td>83 mm, 15°</td>
</tr>
<tr>
<td>100 mm, 16°</td>
<td>98 mm, 15°</td>
</tr>
<tr>
<td>200 mm, 8°</td>
<td>198 mm, 7°</td>
</tr>
<tr>
<td>300 mm, 3°10'</td>
<td>298 mm, 3°</td>
</tr>
</tbody>
</table>

*Angle of View: * Equivalent focal lengths in 3 mm format

Related documents:
- [Main Specifications of α Lenses](#)
- [Focal length vs. angle of view](#)
- [Lens Hood](#)
- [Description](#)
In general, if an aperture uses 7 or 9 aperture blades, then the shape of the aperture becomes a 7-sided or 9-sided polygon as the aperture is made smaller. However, this has a certain undesirable effect in that the defocusing of point light sources appears polygonal and not circular. α lenses overcome this problem through a unique design that keeps the aperture almost perfectly circular from its wide-open setting to when it is closed by 2 stops. Smoother, more natural defocusing can be obtained as a result.

**Circular aperture**

As focal lengths get longer, lenses built with conventional optical glass have difficulties with chromatic aberration, and as a result, images suffer from lower contrast, lower color quality, and lower resolution. To counter such problems, ED glass was developed and is included in select α lenses. It dramatically improves chromatic aberration at telephoto ranges, and provides superior contrast across the entire image, even at large aperture settings.

**Multi-layered coating**

Although most of the light that falls on an optical glass element passes through directly, some of it reflects at the surface to cause flare or ghost images. In order to avoid this problem, a thin layer of anti-reflective coating must be applied to the lens surface. Lenses use multi-layered coating to effectively suppress such problems over a wide spectrum of wavelengths.

**Internal focusing**

Only the middle groups of the optical system are moved to achieve focusing, which leaves the total length of the lens intact. Benefits include fast autofocusing and a short minimum focusing distance. Also, the filter thread at the front of the lens does not rotate, which is convenient if you’re using a polarizing filter.

**Rear focusing**

By moving only the rear group of lenses to focus, the lens allows for speedy AF operation and a shorter minimum focusing distance. Also, because the front of the lens does not rotate, operability is improved when you’re shooting with a polarizing filter attached.

**Floating mechanism**

Ideally, lens aberrations can be adequately compensated at any shooting distance. In reality, compensation is quite difficult at close distances. The floating mechanism addresses this problem by allowing groups of lens elements to move closer or farther apart, which makes it possible to correct various aberrations at practically all focusing distances. A double floating mechanism is included in the SAL50M28 and SAL100M28.

**Focus range limiter**

This function saves you a bit of time during AF operation by setting a limit on the focusing range. In macro lenses, this limit can be on either the close or distant range (as pictured). In the SAL70200G, the limit is set on distant ranges only. In the SAL300F28G, focusing can be limited either to a distant range or to a range that you specify yourself.

**Distance encoder**

The distance encoder is a lens component that directly detects the position of the focusing mechanism, and sends a signal to the CPU in order to measure distance to the subject. During flash photography, this data is very useful in calculating how much flash output is appropriate to the scene. The distance encoder plays an integral part in ADI flash metering, which delivers high-precision flash metering that is unaffected by the reflectance of subjects or backgrounds.

**ADI flash metering**

Advanced Distance Integration flash metering is available when the built-in flash, HVL-F58AM external flash, or HVL-F36AM external flash is used together with a lens that has a built-in distance encoder. It provides automatic metering that is virtually unaffected by the reflectance of subjects or backgrounds. Precise distance information is obtained through the encoder, and this data is used to compensate the flash output accordingly. This yields accurate exposures more reliably than conventional TTL flash metering, which can be thrown off by overly reflective or overly dark subjects and backgrounds.

**SSM (Super Sonic Wave Motor)**

SSM is a piezoelectric motor that contributes to smooth and silent AF operation. The motor produces high torque at slow rotation, and provides immediate start and stop responses. It is also extremely quiet, which helps keep autofocusing silent. Lenses that feature SSM also include a position-sensitive detector to directly detect the amount of lens rotation, a factor that improves AF precision overall.
Angle of view
How much of a scene fits into your frame is expressed as an angle of view, which changes according to focal length. A “standard” lens is one with an angle of view of about 47°, which approximately the scope of human visual perception. A wide-angle lens is a lens that has a wider angle of view, whereas a telephoto lens is a lens with a narrower angle of view.

Depth of field
Depth of field refers to the area around your subject that appears to stay in focus. How “shallow” or “deep” it is can be independently affected by various factors such as aperture, focal length, and focusing distance. For example, depth of field gets deeper at smaller apertures, shorter focal lengths, or longer focusing distances. Conversely, it shrinks as you open the lens, use a longer lens, or get closer to your subject.

Focal length
A camera lens is constructed from many lens elements, but in principle it acts like a single convex lens. Focal length is the distance (in millimeters) that light travels from the center of this idealized lens to where the image forms on the focal plane. Subjects appear larger at longer focal lengths, and smaller at shorter focal lengths. At any given focal length, the overall scope of the image will vary in relation to the size of the image sensor.

F-number
F-numbers (or “stops”) represent a ratio of the size of the aperture relative to the focal length of a lens. Because the aperture regulates the amount of light passing through the lens, each successive F-stop represents a halving or doubling of the brightness. Because an F-number is actually a fraction, smaller F-stops correspond to larger apertures. Lenses with smaller F-numbers are considered “fast” as they gather more light, permit the use of faster shutter speeds and provide a brighter viewfinder image.

Magnification ratio
Magnification compares the actual size of an object with how big the object appears on the image sensor. In macro photography, 1:1 magnification means that the object is just as big in the image as it is in real life. Lenses specifications usually indicate the maximum magnification of a lens as either a rate or ratio.

Perspective
Perspective is the visual effect of how far apart foregrounds and backgrounds appear with respect to each other. It can be seen clearly in images taken with a wide-angle lens: foreground objects are big while background objects look small, which creates a sense of distance between them. This effect diminishes at longer focal lengths, as the distance between foreground and background gets compressed.

Glossary

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**Accessories**
Expand the range of what, how and where you can shoot with α system accessories for your camera. Available accessories include a variety of high-performance flash units, cables, and connectors, as well as viewfinder optics, carrying cases, and other essential items.
Flashes

**Advanced flash functions for superior control of lighting.**

**ADI (Advanced Distance Integration) flash metering**

A high-precision TTL flash metering method that works in conjunction with the built-in distance encoder of the lens. Flash output is based on an accurate measurement of distance-to-subject, and therefore is not affected by the reflectance of subjects or backgrounds.

**High-speed sync operation**

Flash operation can be synchronized to all shutter speeds, which offers a distinct advantage over conventional day/night sync operation in which the shutter speed must be equal to or slower than the speed of the flash. With high-speed sync, you can work at faster shutter speeds and thus open up the aperture to obtain diffused backgrounds for more pleasing portraits. High-speed is compatible with wireless flash operation.

- HSS is not compatible with ADI metering and bounce flash (in upward direction).

**TTL (through-the-lens) wireless flash**

Wireless functionality lets you set the position and direction of off-camera lighting in any way you like. By lighting from different angles, you can create soft shadows to add depth to your images, and avoid the strong shadows and hot spots that occur with front lighting. Compatible with high-speed sync.

- Guide number 56, 30 ft (9 m)
- Power levels 1/1 to 1/32
- 15-step selectable flash frequency (1/2 to 1/100 Hz)
- Auto power-off (selectable: 1 min, 5 min, 10 min, OFF)
- Choice of feet or meters to indicate distance
- Auto power-off during wireless operation (60 min. or OFF)
- Allows manual flash setting with camera in either M mode or any exposure mode*.

**Wide focus area-compatible AF Illuminator (HVL-F56AM)**

The AF Illuminator complements the camera’s wide focus area, and enables fast and accurate focusing in dim conditions.

**Modeling flash function (HVL-F56AM)**

Two types of modeling flash help you refine your lighting setups. One type fires 3 short bursts in 1 second, so that you can check the size and direction of shadows on the subject. Ideal for wireless flash photography. The other type produces 160 bursts in 4 seconds (40 Hz), which mimics the effect of ambient lighting and allows for even finer checking of shadows.

**Comparison with the built-in flash**

The α100’s built-in flash has a guide number of 12*, which can reach subjects at about 10 ft (3 m) (F4 ISO 100). This is highly practical in most situations, but in longer shooting distances an external flash can provide great flexibility. The HVL-F56AM features guide number 56, and can reach 96 ft (14 m) at the same camera settings. In addition, this unit’s high flash output can be used to bounce light off the ceiling or walls, which adds diffuse light to the scene to create pleasing, very natural illumination without harsh shadows.

* Guide number for 100 ISO, mm

**Comparison of illumination ranges (65mm ISO 100, m)**

- **HVL-F56AM**
  - Guide number 56, 90 ft (27 m)
  - Power levels 1/1 to 1/32
  - Auto power-off (selectable: 1 min, 5 min, 10 min, OFF)
  - Choice of feet or meters to indicate distance
  - Auto power-off during wireless operation (60 min. or OFF)
  - Allows manual flash setting with camera in either M mode or any exposure mode*.

**Custom Settings**

- Wireless channel settings (channels 1 to 4)*
- Choice of feet or meters to indicate distance*
- Auto power-off (selectable: 4, 15, 60 minutes or OFF)
- Auto power-off during wireless operation (60 min. or OFF)
- Allows manual flash setting with camera in either M mode or any exposure mode*

* HVL-F56AM only

- To confirm which lenses include a distance decoder please see the α Lens specifications chart on p. 24-25.
Macro Flash, Ring Light

Vivid lighting for high-quality macro photography, plus the freedom to control the balance of light and shadow for added effect.

HVL-MT24AM
Macro twin flash kit
Kit includes 2 powerful flash units (guide number 24, combined ) that can be mounted at various positions around the lens holder. Flash units can also be attached to arms that extend to two positions—a useful feature for putting a bit of distance between the camera and subject. Other features include a modeling function that lets you check beforehand how shadows will fall, positions—a useful feature for putting a bit of distance between the camera and subject. The ring light delivers constant illumination, so you can check illumination to produce shadowless lighting.

HVL-RLAM
Ring light
Offers an easy way to effectively light your subjects for macro shots. The entire ring can be illuminated to produce shadowless lighting. Alternatively, half-illumination creates shadows and contrast, which brings out added dimensionality in the subject. The ring light delivers constant illumination, so you can check the effect of your lighting at any time. In addition to flowers and collectibles, this unit is ideal for shooting small objects that move.

Flash Accessories

FA-EB1AM External battery adapter
• Adapter for quick-charging flash unit HVL-F60M
• Uses Al Alkaline (not included)

FA-CS1AM Off-camera shoe
• For use with off-camera flash units that have shoe

FA-CC1AM Off-camera cable
• Connector cable for external flash units (HVL-F60M connects directly via high-speed USB cable)

FA-MC1AM Multi-flash cable
• Connector cable that enables flash illumination from multiple flash units.

Other Accessories

NP-FM55H Rechargeable battery pack
• Voltage/capacity: 2.5 V/5.7 Wh

AC-VQ900AM AC adapter/charger
• For quick-charging of battery pack NP-FM55H

FDA-M1AM Magnifier
• Magnifier for focusing (30x)
• For precise focusing of macros or telescopic images

FDA-ECF10 (+1) Eyepiece
• For information on accessory connections and system expandability, please refer to the System Chart on p.35.
Sony α System

Creative Freedom. Under Your Control.

A Complete Line of SLR System Accessories

Flash / Flash Accessories

Lens System from SONY

Carl Zeiss Lenses

Macro Flash / Ring Light

Finder Accessories

Remote Commanders

Battery / Charger

Removable Memory

G Lenses

Finder Accessories

Remote Commanders

Battery / Charger

Removable Memory

Cases / Straps

Carl Zeiss Lenses

Memory Stick PRO Duo / Duo Compact Flash-Comaptible Memory Stick Duo Adapter

Memory Stick PRO Duo / Duo Compact Flash-Comaptible Memory Stick Duo Adapter

Battery / Charger

Removable Memory