Conventional autofocus has until now dealt with space alone.

Sony goes one step further — a big step, with an innovative image sensor that picks up both space and time to capture moving subjects with new clarity.

4D FOCUS allows you to take crisper photos than ever. Plain old autofocus is a thing of the past. The future of photography is in motion.

Sony spells the beginning of a new autofocus era.

**4D FOCUS**

**What is 4D FOCUS?**

*Space: 3D*

**Area**

The wide AF area, covering nearly the entire frame, allows focusing on a subject positioned even off the center of the frame.

**Depth**

Fast Hybrid AF, combining phase-detection AF and contrast-detection AF, instantly detects distance to the subject to focus accurately.

*Time: 4D*

**Time**

An advanced AF algorithm accurately predicts subject’s next move. Precise AF tracking allows focus to be maintained even on fast-moving subjects.

**Steadfast**

Fast Hybrid AF, combining phase-detection AF and contrast-detection AF, instantly detects distance to the subject to focus accurately.
Meeting your focusing demands

Basic AF performance of α6000

**Wide**

Focusing over wide area

The α6000 employs a focal plane phase-detection AF sensor with 179 AF points spread to cover nearly the entire frame. The wide AF area allows instant AF response to a subject positioned even off the center of the frame.

**Fast**

Instant focusing!

Advanced Fast Hybrid AF combines phase-detection AF and contrast-detection AF to achieve incredibly fast 0.06 sec.* AF performance.

* Measured using CIPA internal measurement method with E PZ 16-50mm F3.5-5.6 OSS lens mounted, Pre-AF off and viewfinder in use.

Fast Hybrid AF system

Automatically selects optimal AF method depending on scene

Focal plane phase-detection AF only

Focal plane phase-detection AF + Contrast-detection AF

**Steadfast**

Once it’s focused, it never lets go

With Focus Mode set to AF-C, the camera displays one or more small green frames over the area of focus when (and maintains focus on that subject as long as) the shutter button is pressed halfway down. Such steadfast tracking sticks to a subject like glue.

Maximum 11fps (approx.) high-speed continuous shooting with AF/AE tracking never misses a decisive moment

Fast Hybrid AF is great for movies, too

High-speed, highly accurate Fast Hybrid AF works as well for shooting movies as it does for shooting still photos. Depending on the scene, phase-detection AF or contrast-detection AF may be used for very precise focusing.
There are **4 points to check.**

Basic settings for shooting a moving subject

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**Focus Mode**

Select AF-C that continuously maintains focus on a moving subject while the shutter button is held halfway down.

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**Focus Area**

Select Wide that automatically focuses on a subject, wherever it is positioned within the frame.

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**Drive Mode**

When shooting a moving subject, select Continuous Shooting that takes continuous shots while the shutter button is held all the way down.

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**Shutter Speed**

Try to select a fast shutter speed, so that the subject doesn’t become blurred.

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It is easy to shoot moving subjects with the α6000, since it employs 4D FOCUS system. Simply select AF-C for Focus Mode and Wide for Focus Area. Also, select Continuous Shooting for Drive Mode, and choose a fast shutter speed. These convenient settings can basically be used for shooting moving subjects in general. Other practical camera settings are introduced starting on P.10.
Capture more opportunity.
Take the lead with 4D FOCUS from Sony.
Shooting dynamic sports scenes

**Shooting tips**

Use of Lock-on AF (P.34) is recommended when shooting with potential obstacles around your subject. Once focus is locked on the intended subject, this function maintains steadfast focus so you won’t miss a good chance to take a clear shot. A frame with double green lines appears to indicate Lock-on AF target.

**For optimal use!**

Lock-on AF function is always ready to use at your convenience. Select a mode, and Lock-on AF will be activated when you press the shutter button halfway down; press the MENU button, go to Lock-on AF and set to On (Start w/ shutter).

**Recommended settings**

- **Shooting Mode:** Shutter Priority
- **Drive Mode:** Continuous Shooting
- **Focus Mode:** AF-C
- **Focus Area:** Wide
- **Face Detection:** Off
- **Shutter Speed:** 1/500 to 1/2000 sec.

**Mastering 4D FOCUS**

Lens: E 55-210mm F4.5-6.3 OSS
Focal length (35mm equivalent): 300mm
Shutter speed: 1/800 sec.
Aperture value: F6.3
ISO sensitivity: 400

Set Focus Mode to AF-C so the camera maintains focus on the subject. Select Wide for Focus Area so the camera can focus on the subject, wherever it is within the frame. These settings are very convenient. When shooting a sports scene, whereby several faces may enter the frame, set Face Detection to Off to avoid losing focus on the intended subject.
Shooting swimmers splashing water

Shoot closeups of splashes in the water. Depending on the distance from the subject, the shutter speed needs to be at least 1/1000 sec. or faster to freeze the splashes.

**Closeups are fun, too!**

**Recommended settings**
- **Shooting Mode:** Shutter Priority
- **Drive Mode:** Continuous Shooting
- **Focus Mode:** AF-C
- **Focus Area:** Flexible Spot
- **Face Detection:** Off
- **Shutter Speed:** 1/1000 sec. or faster
- **Focal length (35mm equivalent):** 300mm
- **Aperture value:** F4.5
- **ISO sensitivity:** 200

**Setting tips**
- When shooting swimmers splashing water, select Flexible Spot for Focus Area (see steps below) to narrow the focusing area.
- When shooting swimmers who are wearing goggles, Face Detection can be set to Off.

**How to select Flexible Spot**
1. Press the Fn button.
2. Choose Focus Area in the menu.
3. Choose Flexible Spot.
4. Move the AF range frame to the area that you want to focus on.

**Mastering 4D FOCUS**

**Shooting swimmers splashing water**

**Sports**

**Shooting tips**
With a selection of a shutter speed that is as fast as possible, such as 1/1000 sec. or faster, each drop of splashing water can be depicted. In a split second, you can capture a world that naked eyes cannot see, and experience more of photography’s wonderful appeal.
Capturing a moment from a dance scene

Shooting tips
Once you master autofocus, try to be meticulous with choice of background. For example, a simple, slightly dark background brings out the subject and enhances the artistic mood of the resulting photo.

Lens: FE 70-200mm F4 G OSS
Focal length (35mm equivalent): 282mm
Shutter speed: 1/500 sec.
Aperture value: F4.0
ISO sensitivity: 800

Recommended settings
Shooting Mode: Shutter Priority
Drive Mode: Continuous Shooting
Focus Mode: AF-C
Focus Area: Zone
Face Detection: On
Shutter Speed: 1/500 to 1/1000 sec.

Setting tips
To clearly capture facial expressions of a dancer, setting Face Detection to On is recommended. When using vertically oriented framing, a dancer’s face is likely to be positioned in the upper area of the frame, so select upper zone in the Zone setting (a Focus Area selection). A shutter speed of 1/500 sec. was used in the photo example to capture a moment of movement of the dress.

How to select Zone
1. Press the Fn button.
2. Choose Focus Area in the menu.
3. Choose Zone.
4. Move the AF range frames to the area that you want to focus on.
Shooting lively expressions with background

Shooting tips

The key to avoid missing a decisive moment is to take many shots using continuous shooting mode. The α6000 offers plenty of opportunities for you to capture such striking moments with liberal use of high-speed continuous shooting at 11fps in Hi mode — just keep the shutter button fully pressed down.

How to select Continuous Shooting

1. Press the left side of the control wheel.
2. Select Continuous Shooting: Hi.

Recommended settings

- **Shooting Mode:** Program Auto
- **Drive Mode:** Continuous Shooting
- **Focus Mode:** AF-C
- **Focus Area:** Wide
- **Face Detection:** Off
- **Shutter Speed:** 1/500 sec. or faster

Mastering 4D FOCUS

Lens: E PZ 16-50mm F3.5-5.6 OSS
Focal length (35mm equivalent): 42mm
Shutter speed: 1/800 sec.
Aperture value: F8.0
ISO sensitivity: 200

Predicting movements of several children for a single photo can be difficult, so you may want to set Focus Area to Wide in such cases. Select AF-C for Focus Mode and Off for Face Detection. If you want to capture a wide shot including the scenery surrounding the subjects, a shutter speed of 1/500 sec. or faster is sufficient for blur-free results.
Shooting portraits with beautiful balances of bokeh and focus

**Recommended settings**
- **Shooting Mode:** Aperture Priority
- **Drive Mode:** Single Shooting
- **Focus Mode:** AF-S
- **Focus Area:** Wide + Eye AF
- **Face Detection:** On
- **Aperture Value:** As small a value as possible
- **Shutter Speed:** 1/100 to 1/1000 sec.

**Setting tips**
When shooting a stationary person, set Focus Mode to AF-S, which emits two short beeps (when Audio signals is set to On) to notify you when the subject is in focus. Basically, the face (the eyes, if possible) should be in focus when you shoot a portrait, so select Wide for Focus Area and On for Face Detection. Eye AF function (P.34) also comes in handy.

**Shooting tips**
When shooting a three-quarter-view portrait with different distances between the camera and each of the subject’s eyes, use Eye AF function that automatically focuses on the closer eye.

**Secrets for more beautiful results**
To capture a portrait with defocused background for a soft mood, shoot using a telephoto lens and an aperture value that is as small as possible. Setting the mode dial to A (Aperture Priority) allows you to freely adjust the aperture value (P.32).
Shooting tips

For a great shot of agile movement, aim to capture a peak moment of an animal yawning, playing, or, like the bear at right, shaking himself dry. There are three secrets for capturing the splash of water to create an impressive photo.

1. Focus accurately on the animal’s face by pressing the shutter button halfway down before the anticipated action.
2. Use a fast shutter speed to “freeze” clearly the water in motion. The photo at right was taken with a shutter speed of 1/1250 sec.
3. Make effective use of light. Shooting with slight backlight adds sparkle to the splashing.

Lens: FE 70-200mm F4 G OSS
Focal length (35mm equivalent): 132mm
Shutter speed: 1/1250 sec.
Aperture value: F4.0
ISO sensitivity: 160

Shooting Mode: Shutter Priority
Drive Mode: Continuous Shooting
Focus Mode: AF-C
Focus Area: Wide or Zone
Face Detection: Off
Shutter Speed: 1/500 sec. or faster

Recommended settings

To shoot animals that move unpredictably, setting Focus Mode to AF-C and Focus Area to Wide is recommended. This way, the camera can take care of focusing, so you can concentrate on your opportunity to take a clear shot.

Check the shutter speed, too

Even when the focus is right on the subject, inappropriate shutter speed setting may ruin the resulting photo. Try to shoot in bright light or at a high ISO sensitivity setting (P.27) so that you can use a relatively fast shutter speed to capture your subject clearly.
Shooting the peak of a sudden jump

Recommended settings

- **Shooting Mode**: Shutter Priority
- **Drive Mode**: Continuous Shooting
- **Focus Mode**: AF-C
- **Focus Area**: Zone or Wide
- **Face Detection**: Off
- **Shutter Speed**: 1/500 sec. or faster

Setting tips

To take pictures of a dog running around, use of AF-C is recommended to maintain focus on the subject while the shutter button is held halfway down. It is better to set Focus Area to Wide, since the movement of the subject will likely be unpredictable. A dog running around moves faster than most people might imagine, so use a shutter speed of 1/500 sec. or faster and set Drive Mode to Continuous Shooting in order to take as many clear shots as possible.

Shooting tips

Shooting at the eye level of your subject or from a low angle aiming slightly upward is recommended. This can provide a perspective that enhances a photo’s impact and make it easy to focus on the dog. When shooting with the camera at a low position, the screen tilts conveniently, allowing you to maintain comfortable posture.

Shooting with a shutter speed of your choice

To control the shutter speed freely, shooting in S (Shutter Priority) mode is recommended. With the α6500, turn the mode dial to S and choose a shutter speed value using the control wheel.
Taking a panning shot to capture a sense of speed

**Shooting tips**

Swing the camera right and left in synchronization with the car’s movement. The key to a successful shot is to track the movement with the camera starting before and continuing even after the shot is taken.

**Secrets for more beautiful results**

Once you basically become accustomed to shooting for background blur, try doing it using slower shutter speeds. As the challenge rises accordingly, so does your opportunity to achieve more artistic-looking photos! So take advantage of chances to shoot cars, people and pets in such ways.

**Recommended settings**

- **Shooting Mode:** Shutter Priority
- **Drive Mode:** Continuous Shooting
- **Focus Mode:** AF-C
- **Focus Area:** Wide or Zone
- **Face Detection:** Off
- **Shutter Speed:** 1/10 to 1/100 sec.

**Setting tips**

Set Focus Mode to AF-C in order to continuously maintain focus on a car. Select Wide for Focus Area. When you are able to anticipate a particular composition in advance, Center may also work, depending on the composition. Choose as slow a shutter speed as possible, such as 1/30 sec., and take a panning shot for a blurred background effect.

**Mastering 4D FOCUS**

- **Lens:** E 10-18mm F4 OSS
- **Focal length (35mm equivalent):** 19.5mm
- **Shutter speed:** 1/10 sec.
- **Aperture value:** F7.1
- **ISO sensitivity:** 400
Vehicles

Making the scene come alive from a cloud of dust

Recommended settings

- **Shooting Mode**: Shutter Priority
- **Drive Mode**: Continuous Shooting
- **Focus Mode**: AF-C
- **Focus Area**: Zone
- **Face Detection**: Off
- **Shutter Speed**: 1/1250 sec.
- **Focal length (35mm equivalent)**: 111mm
- **Aperture value**: F4.0
- **ISO sensitivity**: 200

Setting tips

Select AF-C for Focus Mode. When you can anticipate a composition and where in the frame to focus, set Focus Area to Zone. Also, choose a shutter speed of 1/1000 sec. or faster in order to capture the subject clearly. If you are initially unable to do so, select a higher ISO sensitivity (see steps below), then select such a fast shutter speed.

Shooting tips

The impact of clarity can make an image of movement come alive. As seen in this photo, creative composition, such as inclusion of a cloud of dust from spinning wheels or use of a tilted frame, makes the action look more dynamic.

How to set ISO sensitivity

Press the right side of the control wheel, then choose an ISO value using the control wheel.

Lens: FE 70-200mm F4 G OSS
Focal length: 111mm
Shutter speed: 1/1250 sec.
Aperture value: F4.0
ISO sensitivity: 200

Include a cloud of dust

Tilt the frame

Press the right side of the control wheel, then choose an ISO value using the control wheel.
Capturing familiar scenery dramatically at sunset

Shooting tips

If image quality is the top priority for a scenic photo, it’s a good idea to set the ISO sensitivity as low as possible. But when shooting in the gentle, dramatic-looking light of morning or evening, the shutter speed in use may be too slow for handheld shooting. Or, you may want to frame the shot steadily before precisely choosing a point of focus. In such cases, having a tripod and remote commander for the camera provides greater assurance that you can clearly capture the shot that you want.

Optional accessories

VCT-VPR10  RM-SPR1

Recommended settings

- Shooting Mode: Program Auto
- Drive Mode: Single Shooting
- Focus Mode: AF-S
- Focus Area: Flexible Spot
- Face Detection: Off
- Shutter Speed: 1/x sec. or faster (whereby x = lens focal length in mm)

Setting tips

Select AF-S for Focus Mode when shooting a stationary subject. When autofocus focuses against your will on the background such as the sky, select Flexible Spot, which enables accurate focusing on a specific point that you choose. For handheld shooting, it is convenient to know the rough shutter speeds (1/x sec. or faster, whereby x = lens focal length in mm) that deliver photos without blur from camera shake. It means the shutter speed is 1/50 sec. or faster when using a 50mm lens.

How to select AF-S

1. Press the Fn button.
2. Choose Focus Mode in the menu.
3. Choose AF-S.
Flowers

Expressing a closeup shot softly

Set Focus Mode to AF-S. For Focus Area, choose Flexible Spot that allows you to choose a specific point of focus within the frame. A small aperture value (wide aperture opening) defocuses the foreground and background to give the resulting picture a soft look.

Shooting tips

Shooting using a macro lens depicts a world, as seen in the photo above, that naked eyes cannot see. However, focusing is difficult when shooting with a macro lens, so it is important to steady the camera by supporting it with arms fixed, or by using a tripod.

Lens: E 30mm F3.5 Macro    Focal length (35mm equivalent): 45mm    Shutter speed: 1/13 sec.    Aperture value: F4.5    ISO sensitivity: 100

Food

Focusing on a specific point to make a dish more appealing

Recommended settings

Shooting Mode: Aperture Priority
Drive Mode: Single Shooting
Focus Mode: AF-S
Focus Area: Flexible Spot
Face Detection: Off
Aperture Value: As small a value as possible
Shutter Speed: Set to any speed

Lens: E 18-200mm F3.5-6.3 OSS    Focal length (35mm equivalent): 79mm    Shutter speed: 0.5 sec.    Aperture value: F5.6    ISO sensitivity: 100
Easy setting guide

Dials and buttons frequently used for AF shooting

Command the camera with button customization function

According to preferences and conditions of use, you can freely assign a function of your choice to each of seven customizable buttons: the C1 (Custom 1) button and C2 (Custom 2) button, AEL button, center button, and left/right/down sides of the control wheel. There are 48 assignable functions, and you can instantly call up frequently used functions.

Press the MENU button and select Custom Key Settings. Then choose a button and a function for assignment.

Handy Fn button for quick, easy resetting

Pressing the Fn (Function) button displays a set of 12 functions that you have assigned, any of which you can quickly access and set. It is not necessary to call up the function through the MENU button, so changing settings is very user-friendly.

Press the MENU button and select Function Menu Set. Then, choose an area and a function for assignment.

Shooting Mode

To freely control the AF setting, shooting in P, A, S or M mode is recommended, rather than Intelligent Auto or Superior Auto mode.

P (Program Auto) Allows you to shoot with the exposure adjusted automatically (both the shutter speed and the aperture value). Also, you can select various settings using the menu and adjust them as desired.
A (Aperture Priority) Allows you to adjust the aperture and shoot when you want to blur the background, etc.
S (Shutter Priority) Allows you to shoot fast-moving subjects, etc. by manually adjusting the shutter speed.
M (Manual Exposure) Allows you to shoot still images with a desired exposure by adjusting the shutter speed and the aperture value.
Intelligent Auto Allows you to shoot still images with the settings adjusted automatically.
Superior Auto Allows you to shoot still images of higher quality with the settings adjusted automatically than you could with Intelligent Auto mode.
MR (Memory recall) Allows you to shoot an image after recalling often-used modes or numeric settings that have been registered in advance.

Focus Mode

Choose a focusing method depending on the subject movement. The methods mainly used as examples in this booklet are AF-C and AF-S.

AF-S Single-shot AF Locks the focus when focus adjustment is achieved. Use Single-shot AF when the subject is stationary.
AF-A Automatic AF Switches between Single-shot AF and Continuous AF according to the movement of the subject. When the shutter button is pressed halfway down, the camera locks focus when it determines that the subject is stationary, or continues to focus while the subject is in motion. During continuous shooting, the camera automatically shoots with Continuous AF starting from the second shot.
AF-C Continuous AF Continues to focus while the shutter button is held halfway down. Use this when the subject is in motion.
DMF Allows you to use a combination of manual focus and autofocus.
MF Manual Focus Allows focus to be adjusted manually.

Focus Area

Focus Area settings let you choose the area within the frame to focus on. The basic choice is Wide, but you can choose Zone, Center or Flexible Spot, as necessary.

Wide

Focuses automatically on a subject within all ranges of the image. One or more green frames are displayed around the area that is in focus.

Zone

Select a zone on the monitor on which to focus. You can choose among nine zones. The camera focuses on a subject in the chosen zone.

Center

Focuses automatically on a subject in the center of the image.

Flexible Spot (S/M/L)

Lets you move an AF range frame (select S, M, or L size) to a desired point on the screen and focus on a very small subject within a narrow area.
Easy setting guide

Lock-on AF

Lock-on AF function tracks the subject and maintains focus on it. Position the target frame over the subject to be tracked, then press the central button of the control wheel to start the subject tracking. Also, there’s a convenient Lock-on AF activation setting (only available when the camera is in AF-C mode) to start tracking by pressing the shutter button halfway down.

Eye AF

Eye AF is a function to precisely focus on a subject’s eye. Once focus is achieved, a green rectangular frame appears over the eye that is in focus. Eye AF is only available when it is assigned to one of the assignable buttons.

Smile/Face Detect.

Face Detection function detects subjects’ faces, adjusts focus, exposure, and flash settings, and performs image processing automatically. When the camera detects a face (up to eight are detectable at a time), the gray face detection frame appears. When the camera determines that autofocus is enabled, the face detection frame turns white. When the shutter button is pressed halfway down, the frame turns green.

Menu item details

<table>
<thead>
<tr>
<th>Mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>OFF</td>
<td>Face Detection function not in use.</td>
</tr>
<tr>
<td>On (Regist. Faces)</td>
<td>When detecting faces, assigns higher priority to faces registered in Face Registration.</td>
</tr>
<tr>
<td>On</td>
<td>When detecting faces, does not assign higher priority to registered faces.</td>
</tr>
<tr>
<td>Smile Shutter On</td>
<td>Automatically detects and shoots a smile.</td>
</tr>
</tbody>
</table>

Drive Mode

Allows you to choose among various drive mode options such as Continuous Shooting and Self-timer shooting.

<table>
<thead>
<tr>
<th>Mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single Shooting</td>
<td>Shoots one still image. Mainly used when shooting a stationary subject.</td>
</tr>
<tr>
<td>Continuous Shooting</td>
<td>Shoots images continuously while you press and hold down the shutter button. Enables maximum 11fps continuous shooting in Hi setting. Hi, Mid or Lo settings are available.</td>
</tr>
<tr>
<td>Self-timer</td>
<td>Shoots an image after 10 or 2 seconds.</td>
</tr>
<tr>
<td>Self-timer (Cont.)</td>
<td>Shoots 3 or 5 images continuously after 10 seconds.</td>
</tr>
<tr>
<td>Single Bracket</td>
<td>Shoots images, each with a different degree of brightness, while you hold the shutter button down.</td>
</tr>
<tr>
<td>White Balance Bracket</td>
<td>Shoots a total of three images, each with different color tones, according to selected settings for white balance, color temperature and color filter.</td>
</tr>
<tr>
<td>DRO Bracket</td>
<td>Shoots a total of three images, each with a different degree of D-Range Optimizer used.</td>
</tr>
</tbody>
</table>

AF Track Duration (movie shooting)

You can choose between two degrees of duration for AF tracking when recording a movie. With High setting, the AF quickly focuses and tracks on a subject within close proximity. Normal setting enhances stability of tracking on the intended subject in situations where objects cross in between the subject and camera.

AF drive speed (movie shooting)

You can select focusing speed when using autofocus in movie mode.

<table>
<thead>
<tr>
<th>Mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fast</td>
<td>Sets the AF drive speed to fast. This mode is suitable for shooting active scenes, such as sports.</td>
</tr>
<tr>
<td>Normal</td>
<td>Sets the AF drive speed to normal.</td>
</tr>
<tr>
<td>Slow</td>
<td>Sets the AF drive speed to slow. With this mode, the focus switches smoothly when the subject of focus changes. Also, this mode is useful for shooting impressive movies.</td>
</tr>
</tbody>
</table>