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## Nikon F6

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2004 marks the arrival of the long-awaited Nikon F6 - a new flagship model embodying all of the qualities that photography enthusiasts could desire in the ultimate film SLR camera. Here is the inside story behind the development of the F6.



### IKENO, Tomohisa

Development Division, Imaging Company  
Nikon Corporation

#### PROFILE:

Joined Nikon Corporation in 1980, dreaming of designing precision instruments, and was assigned to the 2nd Design Section of the Camera Development Division.

"When I joined the Company," he recalls, "my first job was to help out on the Nikon EM, which was in development. After that, the first design plan I created was realized in the form of the Nikon FG." His career at Nikon since then has focused on the development of film-based SLR cameras including the FG20, F-401, F-601, F70, F5, F3H and F100. His favorite cameras are the F100 and F3. "I use the F100 for everyday shooting, and the F3 excites me from the moment I touch it."

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**More than a beautiful ending—here's a great new beginning.  
Reach photography's peak with the ultimate film-based SLR camera.**

**Interviewer:** At long last, the F6, Nikon's latest F Series SLR camera has arrived.

In the eight years since the F5 was launched, the rapid spread of digital photography has transformed the camera market. How has this digitalization influenced you, F6 development and the new camera's market positioning?



The F6: Nikon's new flagship model has all the qualities that enthusiasts desire in the ultimate film SLR camera.

**IKENO, Tomohisa (I, T):**

It has been a crucial factor in the development of the F6. Digital cameras had already been introduced in the professional market when we started work on the F6, and the market, led mainly by the press, has been experiencing a shift from film-based to digital cameras.

There are many Nikon devotees within the ranks of news photographers, among whom digital cameras have rapidly become popular, since speedy results are so crucial to photojournalism. So Nikon has been meeting this demand step by step, by fostering the D Series brand of digital SLR cameras for professional use.

Given current trends, we had to carefully consider what the market required of the F single-digit series of Nikon film-based flagship cameras.

**Interviewer:** What are the advantages of choosing a film-based camera over a digital camera? And what added value should the F6 embody?

**I, T:** Well, when the F6 was in its development stages, we thoroughly inspected many factors in trying to determine the advantages and disadvantages of film-based cameras relative to digital cameras. Finally, however, we found that there is little point in considering which of these two types of cameras is superior.

In studying basic concepts for F6 development, we recognized the problem of digital camera shutter lag. But since progress was being made to solve this problem, we concluded that we should not worry too much about so-called disadvantages which, in time, were becoming less relevant.

On the other hand, however much digital cameras have penetrated the market, there are people who continue to use film-based cameras. We know that this group includes photographers who are inclined to try more creative approaches. After considering these facts, we again thought about the attractions of film-based SLR cameras. Now, I think the essence of this appeal can be summed up as "the value of unique pictures."

**Interviewer:** The value of unique pictures?

**I, T:** Yes. To explain, allow me to exaggerate a bit. With a digital camera, the number of pictures you can take is infinite, in the sense that there is no limit in the number of shots to take, unlike shooting with film. You don't have to hesitate when taking pictures. Just release the shutter, although later, you may find that you don't want to keep the results.

**Interviewer:** Certainly, we experience this carefree ease when shooting with a digital camera.

**I, T:** Exactly. But, on the contrary, some photographers reject the prospect of such ease, as they desire a more careful, rigorous approach to taking pictures. They want to treasure each picture-taking opportunity by etching their vision on film.

**Interviewer:** I see.

**I,T:** So, with the F6, we made it our first priority to satisfy customers who want to apply a certain degree of respect to taking each great picture. To realize this, a camera that allows a user to take a good picture is not enough. There are many important factors involved, including comfort of use, functionality as a tool, shooting feel, etc. And we want to make the F6 the best camera in every aspect.

**Interviewer:** Isn't the ultimate goal to offer the best camera?

**I,T:** Definitely. We already had a high-speed, high-performance camera, the F5, in our lineup. In developing the F6, we intended to create a camera giving users even more of what they want than the F5 does.

The development concept for the F5 was "high speed and high performance." With the F6, we aimed to offer the functions of the F5, and also enhance the advantages of "finesse and practicality."

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**The development concept for the F6 is "finesse."**

**Our pursuit of absolute user comfort never ends, but always delivers.**

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**Interviewer:** Please specify what you mean by "finesse".

**I,T:** Among the five human senses, sight, touch and hearing relate to camera operation. These three senses can distinguish this camera's finesse.

As a simple example, sight takes in the appearance of the camera body, and perceives with ease and precision every scene that can be seen through the viewfinder.

As for the sense of touch, users feel the secure grip and surefire operability. Even the sounds of shutter-release and other operations provide a special sensation of quality. So what I mean by "finesse" is the comfortable, reassuring feel of flawless operation transmitted through these three senses.

**Interviewer:** Well, you took the tools of comfortable operation to the limit, didn't you?



The F6 is comprehensively designed to fit in hand.

**I,T:** Exactly. For example, even for the grip, we inspected all design elements, considering not only non-slip hand fit, but also minute aspects of design that might cause any kind of user fatigue.

We discovered many things that we could not have imagined finding if examined only from the perspective of design or data. We repeatedly performed trials, discussed issues exhaustively with designers and examined the grips of many prototypes. Finally, we were satisfied with the grip and operability of the final product.

**Interviewer:** When I take the F6 to shoot, it feels light. Is it meant to feel that way?

**I,T:** Yes, that's the essence of the F6.

Actually, the F6, with a battery, weighs almost the same as the F5. But it feels lighter, in the estimation of users.

I think this is because the F6 is designed in such a way that all fingers easily support the camera while it fits comfortably in the palm of your hand. Distribution of a camera's weight can tend to feel imbalanced in the hand, especially with a telephoto lens attached. But the F6 is designed to counteract this sense of imbalance, because it weighs evenly on the entire palm, not only on the thumb.

**Interviewer:** It was made with very careful consideration to detail, wasn't it?

**I,T:** We hope so. In developing the F6, we were very attentive to maximizing operating comfort, even when the camera is subjected to use under very tough conditions.

We also covered the dials and buttons with rubber, especially where users tend to touch them. For example, rubber evenly covers the entire area in contact with the palm, as well as the thumb.

**Interviewer:** In general, the F6 is miniaturized very much in comparison to the F5, isn't it?

**I,T:** It is almost as if we took that challenge to the limit. Actually, the size of the camera was mainly fixed, according to the size of the motor and shutter. So to minimize the entire size, we just packed everything into the available space as efficiently as possible. The inside of the camera is fully packed.

I must say that we reexamined all materials, although they had been used successfully in our existing cameras. Every single part was inspected from every aspect. We were not simply content with the current state of the art. Our attitude was to look for something better in order to create the best camera.

I know that we achieved this because we were afforded a longer period than usual to develop the best camera that we could create.



Careful, precise planning was applied toward selection and integration of every material.



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## Nikon F6

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**Larger buttons make for better operating comfort.  
An expanded viewfinder view makes every scene easier to see.**

**Interviewer:** Is the operation button layout almost the same for the F6 as for the F5?

**I,T:** There are few changes in the layout of basic operation buttons. With an SLR camera, a user performs operations while looking into the viewfinder, so the buttons should be positioned where the user can easily identify them, even without looking for them. But a small change has been made in the layout of buttons for detailed settings. We wanted to increase the size of all the buttons, so to make as much space as possible available on the top panel, we moved buttons for detailed settings from the top panel to the back panel.

**Interviewer:** Does the F6 have larger buttons?

**I,T:** Yes, we decided to do that for the sake of easier operations. Operations can be performed using gloved hands, as we assumed that the F6 would be used in cold places, given the camera's supreme environment-proof performance.

We put the priority on ease of operation, and made the buttons large and lockless.

**Interviewer:** How about viewfinder and autofocus function?

**I,T:** Frame coverage of the viewfinder should be 100%, of course. Our challenge was to make the viewfinder big enough to approach this full coverage. At any rate, we wanted the F6 to have a bright, big, easy-to-use viewfinder. Because many users of Nikon SLR cameras already have been using favorite lenses for a long time, we wanted to make an easy-to-see viewfinder allowing users to find focus points easily, even in manual focus operation using older lenses. Specifically, we used a high-quality glass with high refractive index for the pentaprism and successfully increased the viewfinder magnification.

To assure excellent AF operations, we use a Multi-CAM 2000AF Sensor Module offering an 11-Area sensor. The Multi-CAM2000 AF Sensor Module



An advanced high-precision 11-area AF system ensures sharp focus under all shooting conditions.

is our latest AF system used in the D2H.

**Interviewer:** How have mechanics been improved?

**I,T:** The F5 successfully minimized shutter lag. We carried this superior characteristic over to the F6, and also tried to maximize the finesse of the shutter. Specifically, we succeeded in our efforts to reduce vibration and improve the quality of mechanical sounds, especially from the moment the shutter is pressed to the moment it is released. This was achieved by changing the way the shutter is fixed to the camera body. Normally, the shutter is fixed to the body using screws. But with the F6, we use a floating mechanism, in which the shutter is hung with rubber. This rubber absorbs vibration when the shutter is released.

**Interviewer:** What is the advantage of less vibration?

**I,T:** Minimizing vibration effectively prevents the camera from shaking. Camera shaking has less influence than hand shaking on picture taking, so users seem not to care about it much. But on occasion, as little vibration as possible should occur during shutter release - when you use a slow shutter speed, for example.

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**"Listen carefully to the sound of the F6 in operation."**

**I,T:** Not only did we minimize vibration, we spared no effort to keep operation quiet. To let users concentrate on shooting, we wanted to eradicate any unnecessary sounds as much as possible, as well as minimize vibration. We were determined to follow a principle of keeping operating sound, even those heard only by the photographer, to an absolute minimum. Among camera sounds, the loudest is from the motor, but actually, there are many sounds from a camera's inner mechanisms that reach a user's ears.

**Interviewer:** Oh, are there? How can you get rid of such sounds?

**I,T:** It depends on the types of parts making the sound. For certain types of parts, we thoroughly enclosed them with insulation and for others, we used buffers to reduce the sound, and so on. Overall, we've taken action to suppress the sound and vibration of every part.

**Interviewer:** I would imagine that insulation would pose problems for you in terms of minimizing the camera body size.

**I,T:** That's true. We restudied not mechanisms themselves, but the many materials used for the F6. Specifically, we selected materials which maintain their strength and could function in thinner designs. We tested quite a lot of highly reputable materials, including materials which are not normally used in cameras. For sounds we couldn't get rid of, no matter what we did, we reformed their qualities to make them sound comfortable and reassuring. Please try to listen carefully to the operating sounds of F6. They are subtle, so you have to concentrate, but the sounds you hear are different from the sounds of other cameras.

**Interviewer:** That's great. Is there anything else particularly special about the F6?

**I,T:** I must say that all F single-digit series models, not only the F6, have shutter-release buttons which have been carefully made and designed using theoretical measurements as well as adjustments for "hand feel." We have

standards of measurements for the points at which the shutter-release button is pressed halfway and pressed all the way down, respectively. But we tend to feel at a touch the difference between a button made only using these measurements and the actual button used in the F5. In those cases, through a very precise measuring process, we modified our standard measurements by a mere few dozen microns to achieve optimal "feel".

**Interviewer:** It's amazing how designers can have such an intricate sensitivity toward a camera.

**I,T:** Of course, adjustment for a difference of a few dozen microns should be exactly accounted for in the standard sizes. Basically, the shutter-release buttons of F single-digit series cameras have a characteristically shallow design, and adjustments for this characteristic are always made very carefully and thoroughly. Intense concentration is required in shooting, especially at the moment the shutter is released. So we must never neglect a photographer's great sensitivity to the fine, subtle feeling of his fingertips releasing the shutter. Materials used for the F6 shutter-release button have been newly developed. The shutter film material has also been changed for enhanced durability. The strictest Nikon standards have been applied to make the F6 a most reliable and durable camera.



A rigorously designed shutter unit contributes to the superior performance of the F6.

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**You cannot discover the essence of the F6 simply in its specifications.**

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**Interviewer:** The design of F6 looks as if it is a definitive "standard," compared with the F5.

**I,T:** I am confident that we have developed it carefully and conscientiously, making practicality the first priority, while maintaining and even improving upon the high performance of the F5. Originally, we had a few different ideas on ways to make the F6 even better than the F5. For example, since up to 8fps of continuous shooting had been achieved with the F5, we discussed the possibility of enabling the F6 to shoot up to 10fps.

**Interviewer:** So you did consider making the F6 faster than the F5?

**I,T:** Yes. But I concluded that this was not a good approach. Is it necessarily reasonable to upgrade from a shooting speed of 8fps to 10fps in order to expand the range of a film-based camera's capability? I don't think so. We should remember that a camera should be a practical device. A consumer may buy a camera of excellent performance, but if it is also big and complicated to use, he will just put it away and not use it. So we wanted the high performance and high



Mr. Ikeno strongly recommends trying the F6 for yourself.

speed to be eminently practical. We thought it very important to introduce "a camera of great substance".

Actually, since more and more news photographers have come to use digital cameras, some were of the opinion that the F6 would not require 8fps speed. But we decided to enable 8fps continuous shooting optional rather than standard as with the F5.

**Interviewer:** Would you like to offer a closing comment?

**I,T:** I ask customers to try holding the F6, look into the viewfinder, and release the shutter. I am confident that the F6 has achieved a new peak in its mechanics. But you cannot fully appreciate what the F6 can actually do, or how you can use it to greatest advantage, just by looking at its specifications table.



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