



At the heart of the image

D90

INNOVATE



60
million
NIKKOR

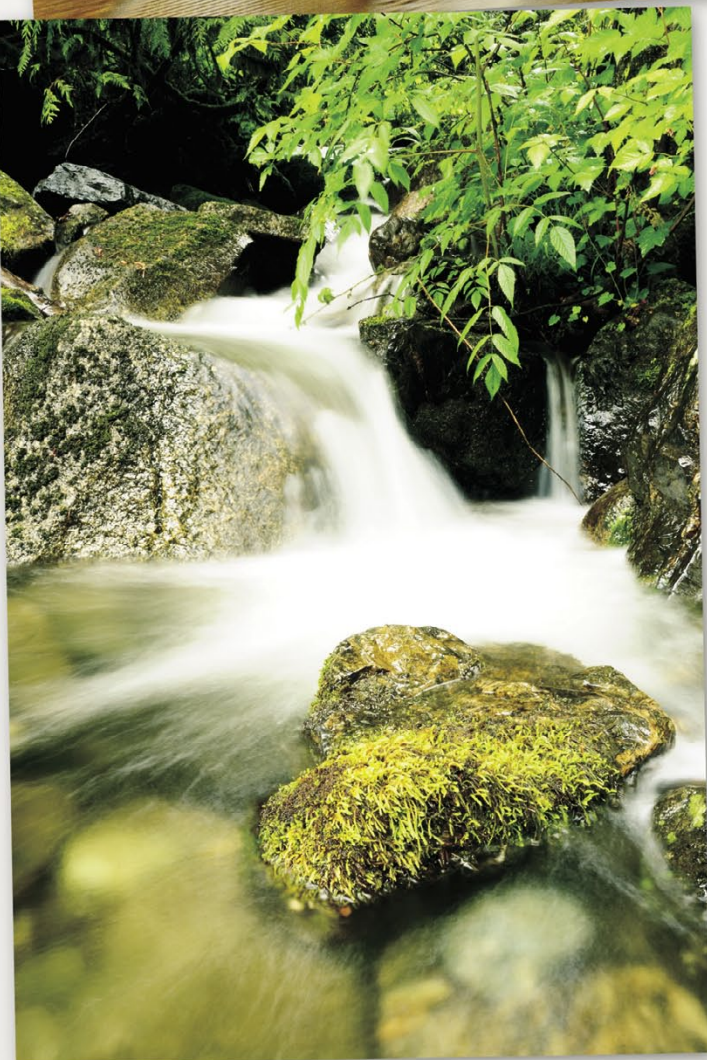






Take a bold approach to low-light scenes: low-noise from ISO 200 to 3200

• Lens: AFS NIKKOR 14-24mm f/2.8G ED
• Exposure: [M] mode, 1/30 second, f/2.8 • White balance: Auto • Sensitivity: ISO 3200 • Picture Control: Landscape



Pure, natural color: new Landscape Picture Control

• Lens: AFS DX NIKKOR 16-85mm f/3.5-5.6G ED VR • Exposure: [M] mode, 1.3 second, f/25
• White balance: Cloudy • Sensitivity: ISO 200 • Picture Control: Landscape



Capture the most important element clearly: Face priority AF in Live View

• Lens: AFS DX NIKKOR 18-105mm f/3.5-5.6G ED VR • Exposure: [A] mode, 1/250 second, f/5 • White balance: Cloudy • Sensitivity: ISO 200 • Picture Control: Standard





Photographers, take your passion further

Now is the time for new creativity, and to rethink what a digital SLR camera can achieve.

It's time for the D90, a camera with everything you would expect from Nikon's next-generation D-SLRs, and some unexpected surprises, as well.

The stunning image quality is inherited from the D300, Nikon's DX-format flagship. The D90 also has Nikon's unmatched ergonomics and high performance, and now takes high-quality movies with beautifully cinematic results.

The world of photography has changed, and with the D90 in your hands, it's time to make your own rules.

- Incredible image quality using 12.3 effective megapixels, Nikon's DX-format CMOS image sensor and exclusive EXPEED image processing
- Remarkable low-noise performance from ISO 200 to 3200
- D-Movie, an innovative movie shooting feature for digital SLR cameras
- Scene Recognition System integrated with Face Detection System
- Live View capability with 7.5 cm (3-in.), approx. 920k-dot high-resolution LCD and dedicated Live View button
- Compatible with the Picture Control System and offering new Portrait and Landscape modes for more vibrant, customized colors
- Bright pentaprism viewfinder featuring frame coverage of approx. 96%
- Active D-Lighting for high-contrast lighting situations
- In-camera retouch, including newly added features: Fisheye, Distortion Control and Straighten

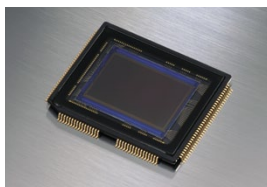


Challenge your perception of image quality



The newly developed Nikon DX-format CMOS image sensor with 12.3 effective megapixels and Integrated Dust Reduction System

The D90 incorporates a newly developed DX-format CMOS image sensor with technology directly inherited from the D300, Nikon's DX-format flagship. With its 12.3 effective megapixels and extraordinarily high signal-to-noise ratio, the D90 delivers low-noise images with detail and tonal gradation beyond your expectations, while Nikon's Integrated Dust Reduction System works to free image-degrading dust particles from the sensor's optical low-pass filter.



DX-format CMOS image sensor

EXPEED for smooth tones, rich colors and fine details

Nikon's comprehensive EXPEED technology is engineered to make the most of the sensor's rich, 12.3-megapixel data. The result — color, detail and high-speed processing inspired by the groundbreaking D300. The D90's image-processing engine produces high-resolution pictures at remarkable speeds, better enabling high-speed continuous shooting. EXPEED also contributes to the outstanding performance of other powerful features, including Live View and the new Face Detection System.



EXPEED



Rich color and low noise at high ISO sensitivity

• Lens: AF-S NIKKOR 24-70mm f/2.8G ED • Exposure: [M] mode, 1/320 second, f/2.8 • White balance: Direct sunlight • Sensitivity: ISO 3200
• Picture Control: Standard



Picture Control [Vivid]



Picture Control [Monochrome]



■ Rich color and low noise from ISO 200 to 3200

The D90 gives you the freedom to shoot in a remarkably wide variety of lighting conditions, including dimly lit scenes, without worrying about image-degrading noise. ISO can be raised as high as Hi 1 (ISO 6400 equivalent) or lowered to Lo 1 (ISO 100 equivalent).

■ Customize the visual style of your images: Picture Control

Nikon's Picture Control System allows you to customize the look and mood of your images. Choose from six settings: Standard, Vivid, Neutral, Monochrome and the newly added Portrait and Landscape. Try using the Quick Adjust* function to easily make further adjustments according to your needs and preferences, then save the settings as Custom Picture Controls.

*Quick Adjust is not available with Neutral and Monochrome settings.

■ More sophisticated Active D-Lighting for high-contrast lighting situations

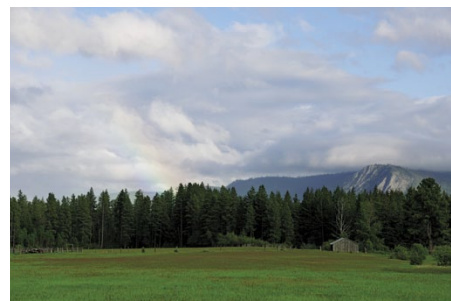
Details in the shadows and highlighted areas of your photos are often lost when strong lighting increases the contrast between the bright and dark areas of your image. Nikon's unique Active D-Lighting technology accurately restores these important details by localizing tone control while you shoot. Choose from four levels, including the new Extra High. Active D-Lighting can be used manually or set to Auto mode. It is also possible to bracket your pictures to get one with Active D-Lighting and one without.

*Matrix metering is recommended when using Active D-Lighting.



Picture Control [Portrait]

• Lens: AF Nikkor 85mm f/1.4D IF • Exposure: [M] mode, 1/800 second, f/5 • White balance: Cloudy • Sensitivity: ISO 200



Active D-Lighting [High]



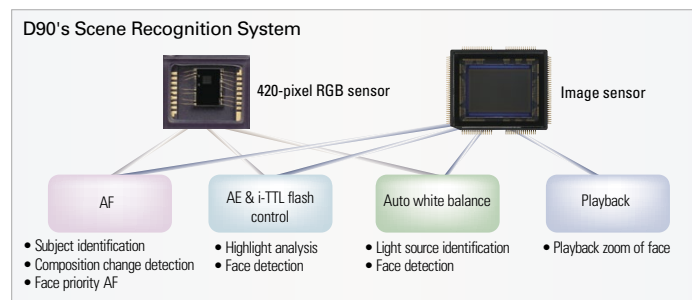
Active D-Lighting [off]

Treat every scene with astounding accuracy



Scene Recognition System with the Face Detection System

First introduced on the D3 and D300 flagship cameras, Nikon's breakthrough Scene Recognition System is also featured in the D90. This unique technology utilizes a 420-pixel RGB sensor to analyze immense amounts of scene and color information in order to understand what the camera is about to shoot. Milliseconds before the shutter is released, the camera optimizes the autofocus, auto exposure, i-TTL control and white balance. The D90 also uses Nikon's new Face Detection System to render human faces with a newfound sharpness and accuracy.



Improved autofocus performance

The D90 demonstrates amazing autofocus accuracy by utilizing color and brightness information from its 420-pixel RGB sensor. When shooting in Auto-area AF mode, the camera quickly focuses on the main subject by detecting foreground, background and subject position. When using 3D-tracking (11 points) mode, the camera uses your subject's color and brightness information to keep it in sharp focus as you change the composition.

Sophisticated auto exposure

Nikon's 3D Color Matrix Metering II became one of the most highly acclaimed metering systems by delivering consistently well-balanced exposures — even in lighting conditions that confuse other systems. Further extending its exposure capability, Nikon's Scene Recognition System evaluates each scene's highlights, delivering even more light metering precision. Moreover, the D90 detects faces when using face priority AF, giving you ideal exposures of your human subjects.



3D-tracking (11 points) maintains sharp focus when changing composition.



3D Color Matrix Metering II delivers consistently well-balanced exposures.



● Incredibly accurate auto white balance

Auto white balance combines with Nikon's Scene Recognition System to analyze each scene's light sources, cross-referencing this information with 5,000 actual picture data examples from over 20,000 images in its onboard white balance database. Even under mixed lighting or difficult light sources like mercury vapor lights, the D90 calculates an ideal white balance for remarkably faithful colors.

● Playback zoom

Utilizing information from the new Face Detection System, the D90 detects up to ten human faces during playback. Select one face and the D90 zooms in for faster focus confirmation.

■ Versatile, practical 11-point AF system

Thanks to Multi-CAM 1000 autofocus module, the D90's 11-point AF system has fast and precise autofocus coverage across the frame with the most sensitive AF sensor operating from the center. In addition, the D90 has versatile AF-area modes to handle most shooting situations: Single-point AF is recommended for stationary subjects, dynamic-area AF for moving subjects, auto-area AF for spontaneous shooting and 3D-tracking (11 points) AF for changing composition after focusing on your subject.



Auto white balance for faithful colors

Freeze the moment, capture the movement — the tools are all here



■ Live View with 7.5 cm (3-in.), 920k-dot, high-density color LCD

Striking images often require uncommon perspectives. With the D90's Live View function, you can shoot effectively without looking through the viewfinder. Simply press Live View's dedicated button for instant access and the 7.5 cm (3-in.), approx.



Live View button for instant access

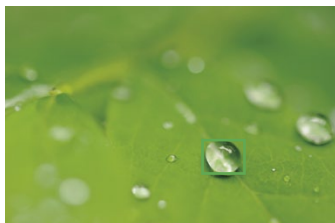
920k-dot LCD with its 170-degree viewing angle supports your Live View shooting. There are three contrast-detect AF modes which let you focus on any point in the frame: Face priority AF automatically detects up to five faces and focuses on the one calculated to be the closest. Wide area AF offers a large AF area suitable for handheld shooting and normal area AF provides focus with pinpoint accuracy when using a tripod.



Face priority AF



Wide area AF



Normal area AF

■ Quick responses and shooting at 4.5 frames a second

The D90 captures crucial moments thanks to its impressive 0.15-second start-up time, 65-millisecond shutter release time lag (CIPA standard) and ability to shoot at 4.5 frames a second for up to 100 shots*.

*Normal-Large image setting, using a Panasonic Pro HIGH SPEED 2 GB SD memory card.

■ Innovative D-SLR movie function: D-Movie

A new idea for D-SLRs, the D90 offers a movie function, allowing you to shoot movies in three different motion JPEG formats: 320 x 216 pixels, 640 x 424 pixels and HD720p (1,280 x 720 pixels). Now you can capture life's moving moments with added drama by using many of Nikon's NIKKOR lenses, including the AF DX Fisheye 10.5mm f/2.8G ED and the Micro-NIKKOR lenses. The shallow depth of field can give your movies a more creative and emotional impact. An additional benefit is the D90 image sensor, which is much larger than a typical camcorder for higher image quality and exceptional high ISO performance during low-light shooting.

*Autofocus is not available when recording movies. Matrix metering is used regardless of the metering method selected.



D-Movie can be played on the camera's LCD monitor, as well as on a computer, TV or HDTV screen.



■ Large, bright viewfinder features 96% frame coverage

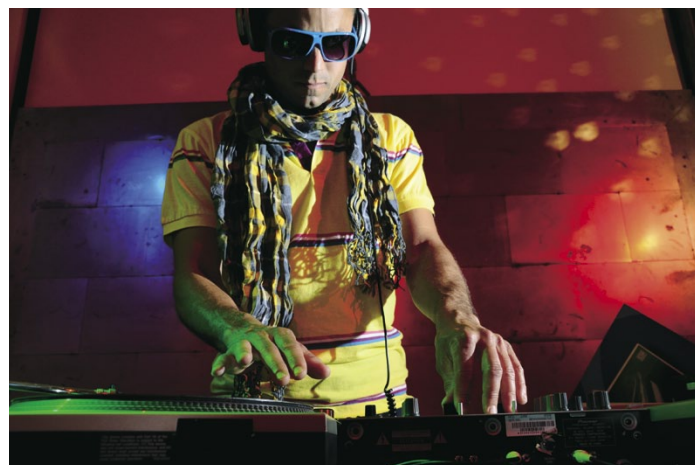
The D90 has a precise eye-level pentaprism viewfinder with approx. 96% (centered) frame coverage and an easy-to-view 19.5mm eyepoint (at -1.0 m^{-1}), so photographers can concentrate on capturing the moment. The built-in 16-frame grid display can be activated to align the horizontal and vertical lines in your image or assist in more pleasing compositions.



Pentaprism

■ Built-in, pop-up flash commands ■ Advanced Wireless Lighting

The D90 is equipped with Nikon's i-TTL flash control, renowned for consistently accurate and balanced flash exposures. The built-in flash has an 18mm lens coverage and works as a wireless commander, controlling up to two independent groups of an unlimited number of remote Speedlights and providing incredible creative lighting control — on location or in the studio.



Advanced Wireless Lighting
SB-600 controlled by the D90's built-in flash working as a commander.

• Lens: AF-S DX NIKKOR 18-105mm f/3.5-5.6G ED VR • Exposure: [A] mode, 1/60 second, f/5.6
• White balance: Direct sunlight • Sensitivity: ISO 800 • Picture Control: Standard

■ Ergonomic superiority in a light, compact body

At a remarkably light 620 g/1 lb. 6 oz., the D90 is designed to meld with a photographer's hands. Its compact body offers a stable grip and an intuitive layout of controls that make operation and creative flow natural and effortless.

■ New Advanced Scene Modes

When you're not sure which camera settings are appropriate, simply rely on the Advanced Scene Modes. Just turn the mode dial to the appropriate icon: Portrait, Landscape, Close-up, Sports or Night Portrait. Unlike traditional scene modes, the D90 will automatically optimize the exposure, image processing, Active D-Lighting, and Picture Control to get the most out of your subject matter. What's more, the D90 has exceptional low-noise performance and accurately adjusts the camera settings whether VR (Vibration Reduction) is activated or not, so you can expect beautiful, crisp images, even in many low-light scenes.



Portrait



Landscape



Close-up



Night Portrait

Maintain the excitement in-camera and online



■ Proven endurance: Resilient shutter units

Reliability is not a luxury — it's a necessity. That's why Nikon subjected numerous D90 shutter mechanisms to grueling 100,000-cycle shutter-release tests with the unit fully assembled in the camera.



Shutter unit

■ Intelligent power management

Because of the D90's highly efficient energy-saving design, approx. 850 pictures can be taken on a single charge of the Rechargeable Li-ion Battery EN-EL3e. (CIPA standard, with AF-S DX NIKKOR 18-105mm f/3.5-5.6G ED VR, with 50% of pictures taken with flash)

■ More playback options

The D90 gives you ample options for viewing and selecting the right shot. Thumbnail display can show up to 72 frames at a time on the LCD, while Calendar playback arranges images in chronological order. You can also check the histograms of a magnified portion of an image. When selecting shots for deleting, hiding, printing and Pictmotion, you can also choose an image by specifying date of capture.



72-frame playback



Histogram of a magnified portion of an image

Memory card capacity

The following table shows the approximate number of pictures that can be stored on a 2 GB Panasonic Pro HIGH SPEED SD (secure digital) card at different image quality and size settings.

Image quality	Image size	File size*1	Number of available shots*1	Number of consecutive shots available*2
NEF (RAW) + JPEG fine*3	Large	16.9 MB	89	7
	Medium	14.4 MB	104	7
	Small	12.4 MB	118	7
NEF (RAW) + JPEG normal*3	Large	13.9 MB	106	7
	Medium	12.6 MB	116	7
	Small	11.6 MB	124	7
NEF (RAW) + JPEG basic*3	Large	12.3 MB	118	7
	Medium	11.7 MB	123	7
	Small	11.2 MB	128	7
NEF (RAW)	—	10.8 MB	133	9
JPEG fine	Large	6.0 MB	271	25
	Medium	3.4 MB	480	100
	Small	1.6 MB	1000	100
JPEG normal	Large	3.0 MB	539	100
	Medium	1.7 MB	931	100
	Small	0.8 MB	2000	100
JPEG basic	Large	1.5 MB	1000	100
	Medium	0.9 MB	1800	100
	Small	0.4 MB	3800	100

Approved memory cards

The following SD memory cards have been tested and approved for use in the D90. All cards of the designated make and capacity can be used, regardless of speed.

SanDisk	512 MB, 1 GB, 2 GB, 4 GB, 8 GB, 16 GB, 32 GB
Toshiba	512 MB, 1 GB, 2 GB, 4 GB, 8 GB, 16 GB, 32 GB
Panasonic	512 MB, 1 GB, 2 GB, 4 GB, 6 GB, 8 GB, 12 GB, 16 GB, 24 GB, 32 GB
Lexar Media	512 MB, 1 GB, 2 GB, 4 GB, 8 GB
	Platinum II: 512 MB, 1 GB, 2 GB, 4 GB, 8 GB, 16 GB, 32 GB
	Professional: 1 GB, 2 GB, 4 GB, 8 GB

Notes:

- Before 2 GB cards are used with a card reader or other device, verify that the device supports them.
- Cards with a capacity of 4 GB or more are SDHC compliant. Before using these cards with a card reader or other device, verify that the device supports SDHC.

*1 All figures are approximate. File size varies with scene recorded.

*2 Maximum number of exposures that can be stored in memory buffer. May vary depending on conditions.

*3 Image size applies to JPEG images only. Size of NEF (RAW) images cannot be changed. File size is the total for NEF (RAW) and JPEG images.



■ Extensive in-camera Retouch Menus

The D90's wide variety of image editing functions makes it possible for you to enhance your pictures without the need for a computer, making creative exploration easier than ever.

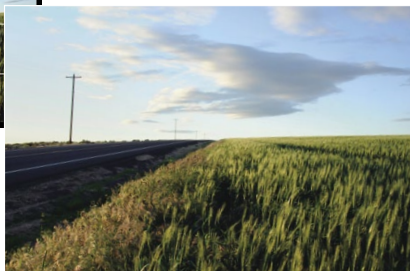
The editing menus

- Straighten (manual control in +/-5 degree)
- Distortion Control (automatic compensation using lens information and manual compensation selectable)
- Fisheye (optical effects similar to a fisheye lens, select from 10 levels)
- D-Lighting
- Red-eye Correction
- Trim
- Monochrome
- Filter Effects
- Color Balance
- Small Picture
- Image Overlay
- NEF (RAW) Processing
- Quick Retouch

• Straighten



Original



• Fisheye



Original



■ An exciting way to enjoy images: HDMI compatibility



You can enjoy both still images and movies shot with the D90 via HDMI (High-Definition Multimedia Interface) with the global-standard digital A/V signal transfer. Type C connector (mini size) is employed.

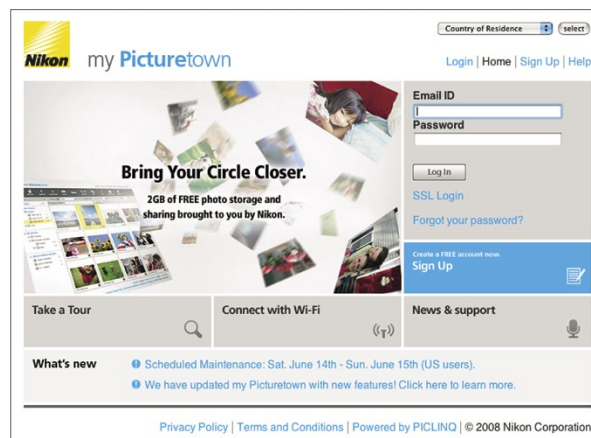
■ Original slideshow: Pictmotion

Try Nikon's easy-to-use Pictmotion function to create innovative slideshows combining five choices of both background music and image effects. You can watch the slideshow on your 7.5 cm (3-in.) LCD, a TV screen via video output or an HDTV set via HDMI output.

■ Store your images online: Nikon's my Pictown

Transfer your memories instantly to my Pictown, Nikon's simple online storage and sharing site for photos and video. Nikon's my Pictown platform supports the following file formats: NEF (RAW), JPEG, MOV and AVI.

my **Pictown**
<http://mypictown.com>



A world of excellence at your command

■ NIKKOR lenses:

Exceptional image integrity on Nikon cameras

For over 75 years, NIKKOR lenses have delivered unmatched optical performance. From ultra-wide-angle to super telephoto, NIKKOR lenses have been praised the world over for their ability to deliver extraordinary sharpness, contrast, color accuracy and consistency. Many NIKKOR interchangeable lenses include the advantage of Nikon's VR (Vibration Reduction) system, allowing you to shoot up to three or four shutter speeds slower* than would otherwise be possible. This is just one of a host of innovative technologies that give NIKKOR lenses the level of quality that so many professionals demand.

*Under Nikon measurement conditions



AF-S DX NIKKOR 18-105mm f/3.5-5.6G ED VR

This is a versatile 5.8x zoom lens with VR (Vibration Reduction), making it ideal for a wide range of photography — from landscapes to portraits. The aspherical lens element and ED glass are used for superb sharpness. (Angle of view is equivalent to a 27-157.5mm lens in 35mm and FX formats.)



AF-S DX NIKKOR 16-85mm f/3.5-5.6G ED VR

This compact and lightweight lens covers the wide focal range of 16mm, and with VR II (Vibration Reduction), you can shoot at shutter speeds up to four stops slower* and ED glass elements control color aberration. (Angle of view is equivalent to a 24-127.5mm lens in 35mm and FX formats.)

*Under Nikon measurement conditions



AF-S DX Micro NIKKOR 85mm f/3.5G ED VR

This medium telephoto micro lens incorporates VR II (Vibration Reduction), which reduces the effects of camera shake to deliver sharp images even for handheld macro shooting. The blur-corrected image in the viewfinder also makes focusing and composition easy. (Angle of view is equivalent to a 127.5mm lens in 35mm and FX formats.)

Lens Compatibility Chart

Camera setting	Focus mode		Exposure mode		Metering system		
	AF	M (with electronic rangefinder)	M	AE-L/AF-ON, P.S.A	M	3D	Color
CPU lenses							
Type G or D AF Nikkor ² , AF-S, AF-I Nikkor	○	○	○	○	○	○	○ ³
PC-E NIKKOR series ⁴	—	○	○	○	○	○	○ ³
PC Micro 85mm f/2.8D ⁵	—	○ ⁴	○	—	○	○	○ ³
AF-S / AF-I teleconverter ⁶	○ ⁷	○ ⁷	○	○	○	○	○ ³
Other AF Nikkor (except lenses for F3AF)	○ ⁸	○ ⁸	○	○	○	—	○ ³
AI-P Nikkor	—	○ ⁹	○	○	○	—	○ ³
Non-CPU lenses							
AI-, AI modified Nikkor or Nikkor Series E lenses	—	○ ⁹	○	—	○ ¹¹	—	—
Medical-Nikkor 120mm f/4	—	○	○	—	○ ^{11,12}	—	—
Reflex-Nikkor	—	—	○	—	○ ¹¹	—	—
PC-Nikkor	—	○ ⁴	○	—	○ ¹¹	—	—
AI-type Teleconverter	—	○ ⁷	○	—	○ ¹¹	—	—
PB-6 Bellows Focusing Attachment ¹³	—	○ ⁹	○	—	○ ¹¹	—	—
Auto extension rings (PK-series 11A, 12, or 13; PN-11)	—	○ ⁹	○	—	○ ¹¹	—	—

NIKKOR

■ Nikon Creative Lighting System

The D90 works seamlessly with Nikon Speedlights such as the SB-900, SB-700, SB-400 and Wireless Speedlight Commander SU-800. It is also fully compatible with the Nikon Creative Lighting System and the built-in flash works as a commander for off-camera Speedlights to deliver accurate flash lighting via i-TTL flash control and Advanced Wireless Lighting.



SB-900



SB-700



SB-400

■ Multi-Power Battery Pack MB-D80

The MB-D80 gives you the choice of using one or two Rechargeable Li-ion Battery EN-EL3e or six R6/AA-size batteries*¹ to extend your battery life up to 1700 shots*². An ergonomically placed shutter-release button also allows for more comfortable vertical shooting.

*¹ Compatible R6/AA-size batteries: alkaline, Ni-MH, lithium and nickel-manganese

*² When using two Rechargeable Li-ion Battery EN-EL3e



■ Remote Cord MC-DC2

Ideal for tripod shooting, the MC-DC2 allows you to release the shutter when you want to avoid camera vibration or to shoot from a distance. It can also keep the shutter-release button pressed for long-time exposures (bulb).



■ GPS Unit GP-1

With the GPS Unit GP-1 attached to the D90, location information such as latitude, longitude, altitude and time are automatically recorded to each image's EXIF data.



¹ IX-Nikkor lenses cannot be used.

² Vibration Reduction (VR) supported with VR lenses.

³ Spot metering meters selected focus point.

⁴ Cannot be used with shifting or tilting.

⁵ The camera's exposure metering and flash control systems may not function as expected when the lens is shifted and/or tilted or an aperture other than the maximum aperture is used.

⁶ AF-S or AF-I lens required.

⁷ With maximum effective aperture of f/5.6 or faster.

⁸ When AF 80-200mm f/2.8, AF 35-70mm f/2.8, AF 28-85mm f/3.5-4.5 (New), or AF 28-85mm f/3.5-4.5 lenses are zoomed all the way in at the minimum focus distance, the in-focus indicator may be displayed when the image on the matte screen in the viewfinder is not in focus. Focus manually until image in viewfinder is in focus.

⁹ With maximum aperture of f/5.6 or faster.

¹⁰ Some lenses cannot be used.

¹¹ Electronic analog exposure display cannot be used.

¹² Shutter speeds slower than 1/60 s not available.

¹³ Attach in vertical orientation; can be used in horizontal orientation once attached.

■ Capture NX 2

Powerful tools for quick and easy photo editing

Nikon's latest non-destructive photo editing software gets the most out of your JPEG, TIFF and RAW (NEF) photographs. Like Nikon's Picture Control feature, Capture NX 2 is designed for photographers.

It features the award-winning

patented U Point technology, which enables you to:

- Modify and enhance color and details quickly and precisely with only a few mouse clicks
- Quickly fix blemishes and other distracting elements with the Auto Retouch Brush
- Easily select any area for adjustment without the need for complicated layers or masks
- Enjoy full support for all RAW (NEF) settings



■ Capture NX 2 system requirements

Windows

OS	Pre-installed versions Microsoft Windows 7 Home Basic/Home Premium/Professional/Enterprise/Ultimate*, Windows Vista Home Basic/Home Premium/Business/Enterprise/Ultimate (Service Pack 2)*, Windows XP Professional/Home (Service Pack 3)**
	* 32- and 64-bit versions are supported. However, with 64-bit versions, the software operates as a 32-bit application.
	** Only the 32-bit versions of Windows XP are supported.
CPU	Pentium 4 or better
RAM	768 MB minimum, 1 GB or more recommended
Hard-disk space	200 MB required for installation
Monitor resolution	1024×768 pixels or higher (1280×1024 or higher recommended) with 16-bit color or more (32-bit color recommended)

■ ViewNX

Browse and organize with ease

This powerful photo browsing and editing software is supplied with your D90. With one click, the browser allows you to work with your RAW (NEF) and JPEG files, which can also be used to adjust exposure compensation and white balance or optimize

images via the Picture Control utility. Labels can be added to help categorize, prioritize and filter your images. You can even create your own Picture Control settings and save the results for sharing with other D-SLRs that support Picture Control.



■ Camera Control Pro 2

Take control of your photography — remotely

With Camera Control Pro 2, you can remotely operate and adjust most of the D90's settings, including full control of Live View, Picture Control, white balance and the 11-point AF system.

Macintosh

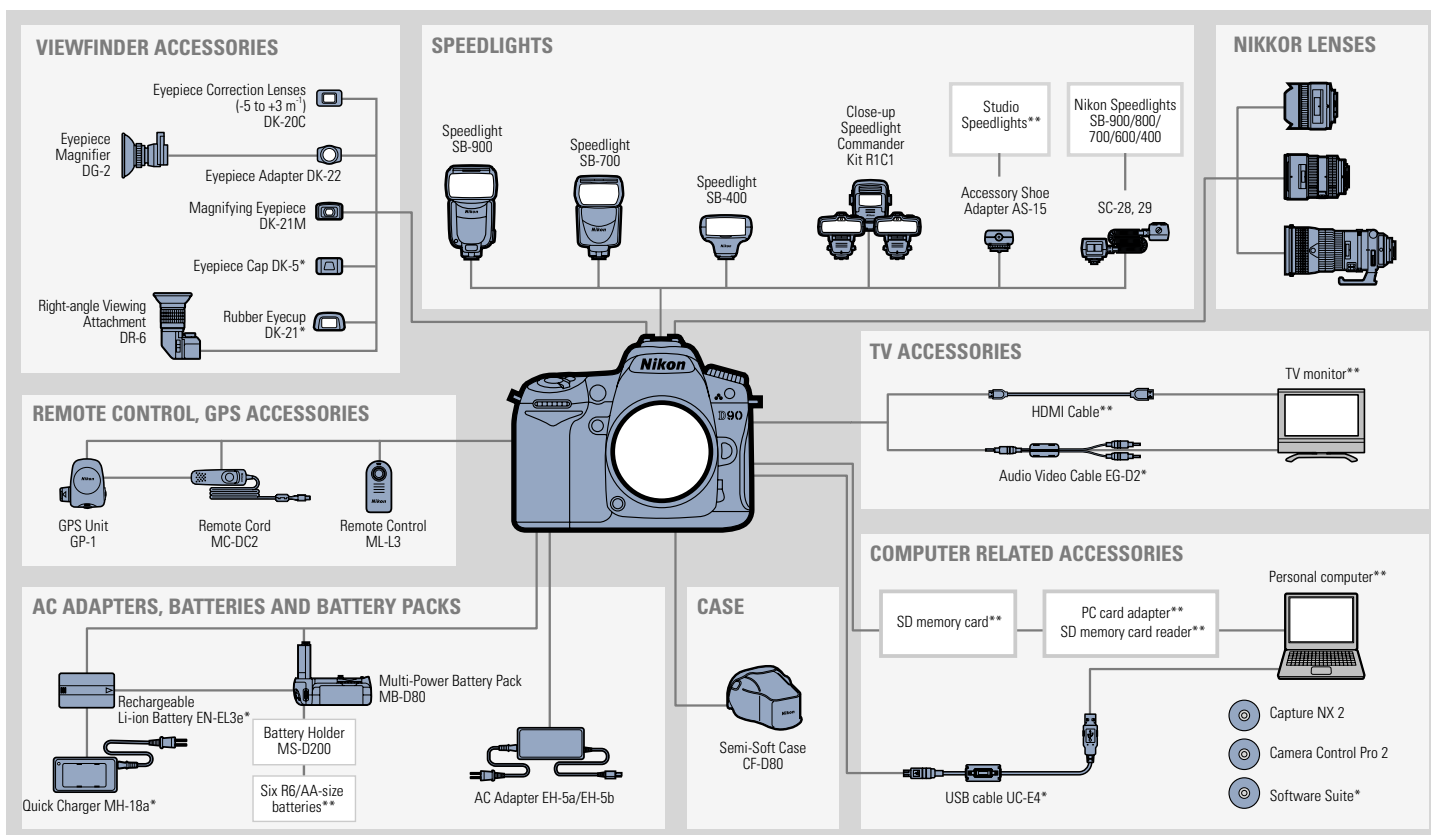
OS	Mac OS X (version 10.4.11, 10.5.8, 10.6.4)
CPU	Power PC G4/G5; Intel Core series/Xeon series
RAM	768 MB minimum, 1 GB or more recommended
Hard-disk space	200 MB required for installation
Monitor resolution	1024×768 pixels or higher (1280×1024 or higher recommended) with 64,000 colors or more (16.7 million colors or more recommended)

Others (Windows/Macintosh)

- CD-ROM drive required for installation
- Internet connection required to utilize Nikon Message Center 2
- Environment for recognizing operation-guaranteed memory cards required to import/export Custom Picture Controls

For details on system requirements and compatible functions, see the instruction manual.

SYSTEM CHART



Nikon Digital SLR Camera D90 Specifications

Type	
Type	Single-lens reflex digital camera
Lens mount	Nikon F mount (with AF coupling and AF contacts)
Effective picture angle	Approx. 1.5 x lens focal length (Nikon DX format)
Effective pixels	
Effective pixels	12.3 million
Image sensor	
Image sensor	23.6 x 15.8 mm CMOS sensor
Total pixels	12.9 million
Dust-reduction system	Image Sensor Cleaning, Image Dust Off reference data (optional Capture NX 2 required)
Storage	
Image size (pixels)	4,288 x 2,848 [Large], 3,216 x 2,136 [Medium], 2,144 x 1,424 [Small]
File format	• NEF (RAW)* • JPEG: JPEG-Baseline compliant with fine (approx. 1:4), normal (approx. 1:8), or basic (approx. 1:16) compression • NEF (RAW) + JPEG: Single photograph recorded in both NEF (RAW) and JPEG formats * Can be processed with in-camera NEF (RAW) Processing function, or by using software such as ViewNX (supplied) or Capture NX 2 (optional).
Picture Control System	Can be selected from Standard, Neutral, Vivid, Monochrome, Portrait, Landscape; storage for up to nine custom Picture Controls
Media	SD memory cards, SDHC compliant
File system	DCF (Design Rule for Camera File System) 2.0, DPOF (Digital Print Order Format), Exif 2.21 (Exchangeable Image File Format for Digital Still Cameras), PictBridge
Viewfinder	
Viewfinder	Eye-level pentaprism single-lens reflex viewfinder
Frame coverage	Approx. 96% horizontal and 96% vertical
Magnification	Approx. 0.94 x (50mm f/1.4 lens at infinity; -1.0 m ⁻¹)
Eyepoint	19.5 mm (-1.0 m ⁻¹)
Diopter adjustment	-2 to +1 m ⁻¹
Focusing screen	Type B BriteView Clear Matte screen Mark II with focus frame (framing grid can be displayed)
Reflex mirror	Quick-return type
Depth-of-field preview	When depth-of-field preview button is pressed, lens aperture is stopped down to value selected by user (A and M modes) or by camera (other modes)
Lens aperture	Instant return, electronically controlled
Lens	
Compatible lenses	Refer to page 14
Shutter	
Type	Electronically controlled vertical-travel focal-plane shutter
Speed	1/4,000 to 30 s in steps of 1/3 or 1/2 EV, Bulb
Flash sync speed	X = 1/200 s; synchronizes with shutter at 1/200 s or slower
Release	
Release mode	Single-frame, continuous low speed, continuous high speed, self-timer, delayed remote, quick-response
Frame advance rate	Continuous high speed: up to 4.5 fps, continuous low speed: 1-4 fps
Self-timer	Can be selected from 2, 5, 10 and 20 s duration
Exposure	
Metering	TTL exposure metering using 420-pixel RGB sensor
Metering method	• Matrix: 3D color matrix metering II (type G and D lenses); color matrix metering II (other CPU lenses) • Center-weighted: Weight of 75% given to 6-, 8- or 10-mm circle in center of frame • Spot: Meters 3.5-mm circle (about 2% of frame) centered on selected focus point • Matrix or center-weighted metering: 0-20 EV • Spot metering: 2-20 EV
Range (ISO 100 equivalent, f/1.4 lens, 20°C/68°F)	
Exposure meter coupling	CPU
Exposure modes	Auto modes (auto, auto [flash off]), Advanced Scene Modes (Portrait, Landscape, Sports, Close-up, Night Portrait), programmed auto with flexible program (P), shutter-priority auto (S), aperture-priority auto (A), manual (M)
Exposure compensation	±5 EV in increments of 1/3 or 1/2 EV
Exposure bracketing	2 or 3 frames in steps of 1/3, 1/2, 2/3, 1 or 2 EV
Exposure lock	Luminosity locked at detected value with AE-L/AF-L button
ISO sensitivity (Recommended Exposure Index)	ISO 200 to 3200 in steps of 1/3 EV, can also be set to approx. 0.3, 0.7 or 1 EV (ISO 100 equivalent) below ISO 200, or to approx. 0.3, 0.7 or 1 EV (ISO 6400 equivalent) over ISO 3200. ISO sensitivity auto control available
Active D-Lighting	Can be selected from Auto, Extra high, High, Normal, Low or off
Active D-Lighting bracketing	2 frames
Focus	
Autofocus	Nikon Multi-CAM 1000 autofocus module with TTL phase detection, 11 focus points (including 1 cross-type sensor) and AF-assist illuminator (range approx. 0.5-3 m/1 ft. 8in. -9 ft. 10 in.)
Detection range	-1 to +19 EV (ISO 100 equivalent, 20°C/68°F)
Lens servo	• Autofocus: Single-servo AF (AF-S); continuous-servo AF (AF-C); predictive focus tracking automatically activated according to subject status (AF-A) • Manual (M): Electronic rangefinder supported
Focus point	Can be selected from 11 focus points
AF-area modes	Single-point AF, dynamic-area AF, auto-area AF, 3D-tracking (11 points) AF
Focus lock	Focus can be locked by pressing shutter-release button halfway (Single-servo AF) or by pressing AE-L/AF-L button

Flash	
Built-in flash	Auto, Portrait, Close-up, Night Portrait modes: Auto flash with auto pop-up P, S, A, M: Manual pop-up with button release
Guide number (m/ft.) at 20°C/68°F	• At ISO 200: Approx. 17/56, 18/59 with manual flash • At ISO 100 equivalent: Approx. 12/39, 13/43 with manual flash
Flash control	• TTL: i-TTL balanced fill-flash and standard i-TTL flash for digital SLR using 420-pixel RGB sensor are available with built-in flash, SB-900, SB-800, SB-700, SB-600 or SB-400 • Auto aperture: Available with SB-900, SB-800 and CPU lenses • Non-TTL auto: Supported flash units include SB-900, SB-800, SB-28, SB-27 or SB-22s • Range-priority manual: Available with SB-900, SB-800 and SB-700
Flash modes	Front curtain sync, slow sync, rear-curtain sync, red-eye reduction, red-eye reduction with slow sync
Flash compensation	-3 to +1 EV in increments of 1/3 or 1/2 EV
Flash bracketing	2 or 3 frames in steps of 1/3, 1/2, 2/3, 1 or 2 EV
Flash-ready indicator	Lights when built-in flash or SB-900, SB-800, SB-700, SB-600, SB-400, SB-80DX, SB-28DX or SB-50DX is fully charged; blinks for 3 s after flash is fired at full output in i-TTL or auto aperture modes
Accessory shoe	Standard ISO 518 hot-shoe contact with safety lock
Nikon Creative Lighting System (CLS)	Advanced Wireless Lighting supported with built-in flash, SB-900, SB-800, SB-700 or SU-800 as commander and SB-900, SB-800, SB-700, SB-600 or SB-R200 as remotes; Auto FP High-Speed Sync and modeling illumination supported with all CLS-compatible flash units except SB-400; Flash Color Information Communication and FV lock supported with all CLS-compatible flash units

White balance	
White balance	Auto (TTL white-balance with main image sensor and 420-pixel RGB sensor); 12 manual modes with fine-tuning; color temperature setting; preset manual white balance
White balance bracketing	2 or 3 frames in steps of 1, 2 or 3

Live View	
AF modes	Face priority AF, wide area AF, normal area AF
Focus	Contrast-detect AF anywhere in frame (camera selects focus point automatically when face priority AF is selected)

Movie	
Image size (pixels)	1,280 x 720/24 fps, 640 x 424/24 fps, 320 x 216/24 fps
File format	AVI
Compression format	Motion-JPEG, with monaural sound

Monitor	
LCD monitor	7.5 cm (3-in.), approx. 920k-dot (VGA), low-temperature polysilicon TFT LCD with 170° viewing angle, approx. 100% frame coverage, and brightness adjustment

Playback	
Playback function	Full-frame and thumbnail (4, 9 or 72 images or calendar) playback with playback zoom, movie playback, Pictmotion, slide show, histogram display, highlights, auto image rotation, and image comment (up to 36 characters)

Interface	
USB	Hi-Speed USB
Audio video output	Can be selected from NTSC and PAL; simultaneous playback from both the audio video output and on the LCD monitor available
HDMI output	Type C HDMI connector; camera monitor turns off when HDMI cable is connected
Accessory terminal	• Remote Cord MC-DC2 (Optional) • GPS Unit GP-1 (Optional)

Supported languages	
Supported languages	Chinese (Simplified and Traditional), Danish, Dutch, English, Finnish, French, German, Italian, Japanese, Korean, Norwegian, Polish, Portuguese, Russian, Spanish, Swedish

Power source	
Battery	One Rechargeable Li-ion Battery EN-EL3e
Battery pack	Multi-Power Battery Pack MB-D80 (optional) with one or two Rechargeable Li-ion Battery EN-EL3e, or six R6/AA-size alkaline, Ni-MH, lithium or nickel-manganese batteries (Battery Holder MS-D200 is required when using R6/AA-size batteries.)
AC adapter	AC Adapter EH-5a/EH-5b (optional)

Tripod socket	
Tripod socket	1/4 in. (ISO 1222)

Dimensions/Weight	
Dimensions (W x H x D)	Approx. 132 x 103 x 77 mm (5.2 x 4.1 x 3.0 in.)
Weight	Approx. 620 g/1 lb. 6 oz. without battery, memory card, body cap or monitor cover

Operating environment	
Temperature	0-40°C/32-104°F
Humidity	Less than 85% (no condensation)

Accessories	
Supplied accessories (may differ by country or area)	Rechargeable Li-ion Battery EN-EL3e, Quick Charger MH-18a, Eyepiece Cap DK-5, Rubber Eyecup DK-21, USB Cable UC-E4, Audio Video Cable EG-D2, Camera Strap AN-DC1, LCD Monitor Cover BM-10, Body Cap, Accessory Shoe Cover BS-1, Software Suite CD-ROM

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**WARNING**

TO ENSURE CORRECT USAGE, READ MANUALS CAREFULLY BEFORE USING YOUR EQUIPMENT. SOME DOCUMENTATION IS SUPPLIED ON CD-ROM ONLY.

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