Camera Review

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Nikon D90

Cover photo:
Camara Nikon D90 with 18-105mm
f/3.5-5.6 G ED AF-S VR DX.
Photography taken by:
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Introduction

The Nikon D90 was released in August 2008. This camera came as a similar and upgraded version of the Nikon D80. Similar in many ways to the Nikon D80, the Nikon D90 offers new and interesting functions, that will be discuss in this report.

Here we will focus on the functions that the camera has to offer, and how these functions can be compared with photo editing software.

Lenses are also a huge factor that will be also discussed, according to the capabilities of the camera.

Nikon D90 is a semiprofessional camera, equip with several features that makes it very versatile. In my experience, it's a great camera, with so much to offer, and the image quality is really great.

What to look for in the D90

Video Recording in HD-resolution

One of the first things that are discussed about the D90, is the video recording. This was the first SLR camera capable of recording HD-resolution video.

It has three ways of recording movies in JPEG formats:

• 320 x 216 pixels
• 640 x 424 pixels, and
• 1,280 x 720 pixels

Nikon D90 with 18-105mm f/3.5-5.6 G. ED AF-S VR DX

Its very versatile in the sense that you can use several lenses to record your movies, and also has a great ISO performance if you are thinking of making night videos. You can also use the Picture Control selection to make your videos with the tone and color that you prefer.

White Heron (*Ardea alba*)

Picture Control

The Picture Control utility can be really helpful in video recording and also for JPEG photos. This application is very easy to use and is available in the Nikon D90 system, and also in the ViewNX and the Capture NX 2 software. You can program the settings that you want to use in this software, or in the camera.
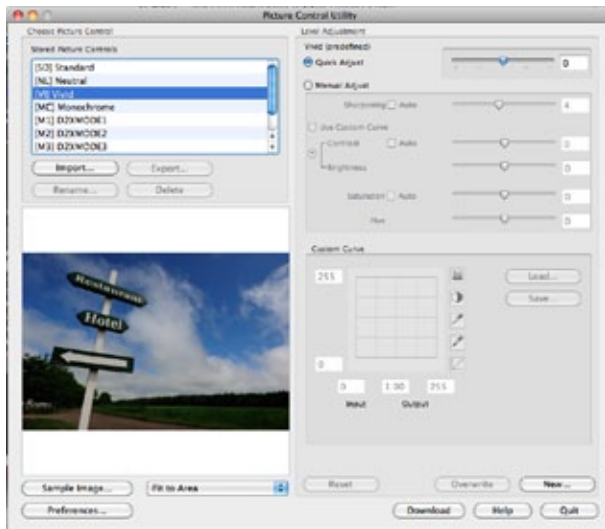
Picture Control Utility software available in ViewNX 2 Software.

Picture Control Utility avilable in the camera's software.

D-Lighting

Another new feature in the Nikon D90 is the D-Lighting system. The Active D-Lighting can preserve details in highlights and shadows, for better image quality especially in high-contrast situations. It's suggested that the matrix metering is selected when using the Active D-Lighting. It's also recommended that this feature is used with low ISO, because it tends to produce noise if the ISO is high. In exposure mode M, the Active D-Lighting setting of Auto is equivalent to Normal.

Clean Image Sensor

This camera also has a Clean Image sensor. This option is available in the Setup Menu of the camera. This feature has two options, the "clean now" option, and the "clean at start/shutdown" option. It is recommended that the camera is placed base down when you start the cleaning.

Live view

Nikon D90 also has a live view option so you can look at your subject on the screen instead of the viewfinder. In this option, the mirror will be raised and the view through the lens will be displayed in the camera monitor. The subject will no longer be visible in the viewfinder.

Live view button

File formats

With this camera you have the option of saving your photos in JPEG (normal, basic and good), and in a NEF (RAW) format. You can also save your photos in NEF + JPEG, that way you will have both type of files; although I don't like this option so much, because it tends to occupy to much memory from your computer or from your external disc.

Its better just to have your photos taken in NEF, and then you can edit them in the format that you prefer (TIFF, JPEG, etc.)

ISO performance

The ISO Performance of the Nikon D90 has a really low noise-performance. The ISO ranges from 200 to 3200; it can also be set to an ISO 6400 equivalent. You will see that some photos taken with this camera show this aspect. This is really great for night shots or low light places that you want to picture.

Image resolution and lenses

The Nikon D90 has also a DX-format CMOS image sensor with 12.3 megapixels. In this report it's discussed the use of 3 lenses: the Nikkor 18-105mm f/3.5-5.6 G. ED AF-S VR DX; Af Nikkor 50mm f/1.8D; and the Nikkor 70-300mm f/4-5.6G AF.

The first lens, the **Nikkor 18-105mm** is a very good lens, which is the one that comes with the camera when you buy it as a kit. This is a very versatile lens, which allows you to make close captures and general shots. I have used it for several shots in both automatic and manual. Here are some photos taken with this lens, all taken with manual exposition.

Puerto Viejo beach, Costa Rica. This photograph was taken with ISO 250, f/4.0, and 1/1600.

Classic car; Guatemala. This photograph was taken with ISO 250, f/5.0, and 1/1600.
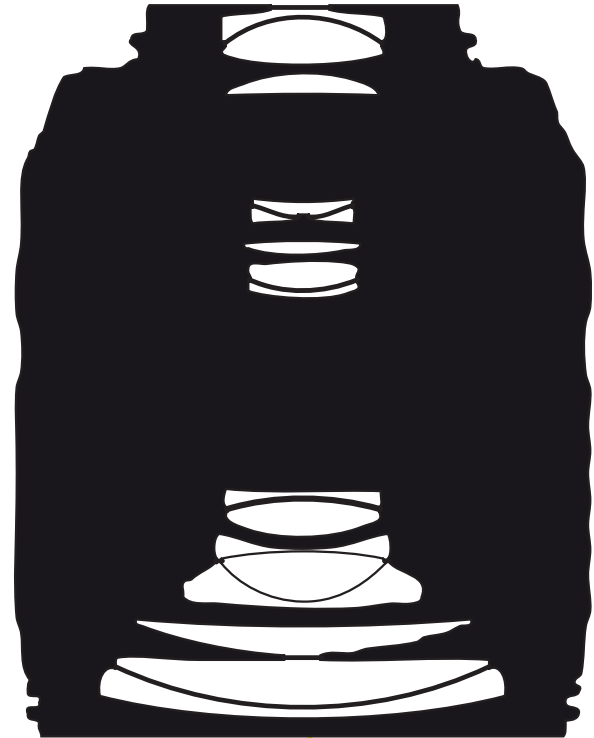
Nikkor 18-105mm f/3.5-5.6 G. ED AF-S VR DX. Image taken from the Nikon USA web page. Web page: http://www.nikonusa.com/Nikon-Products/Camera-Lenses/index.page

Mirador San Andrés Semetabaj, Sololá, Guatemala. This panoramic was made using 10 photographs, using the Photoshop's plugin, Photomerge. All photographs were taken with ISO 500, f/8.0, and 1/4000.

Río Dulce Bridge, Río Dulce, Guatemala. This photograph was taken with ISO 2000, f/7.1, and 6 seconds. This photo was made to see how the camera works with long exposure shots.
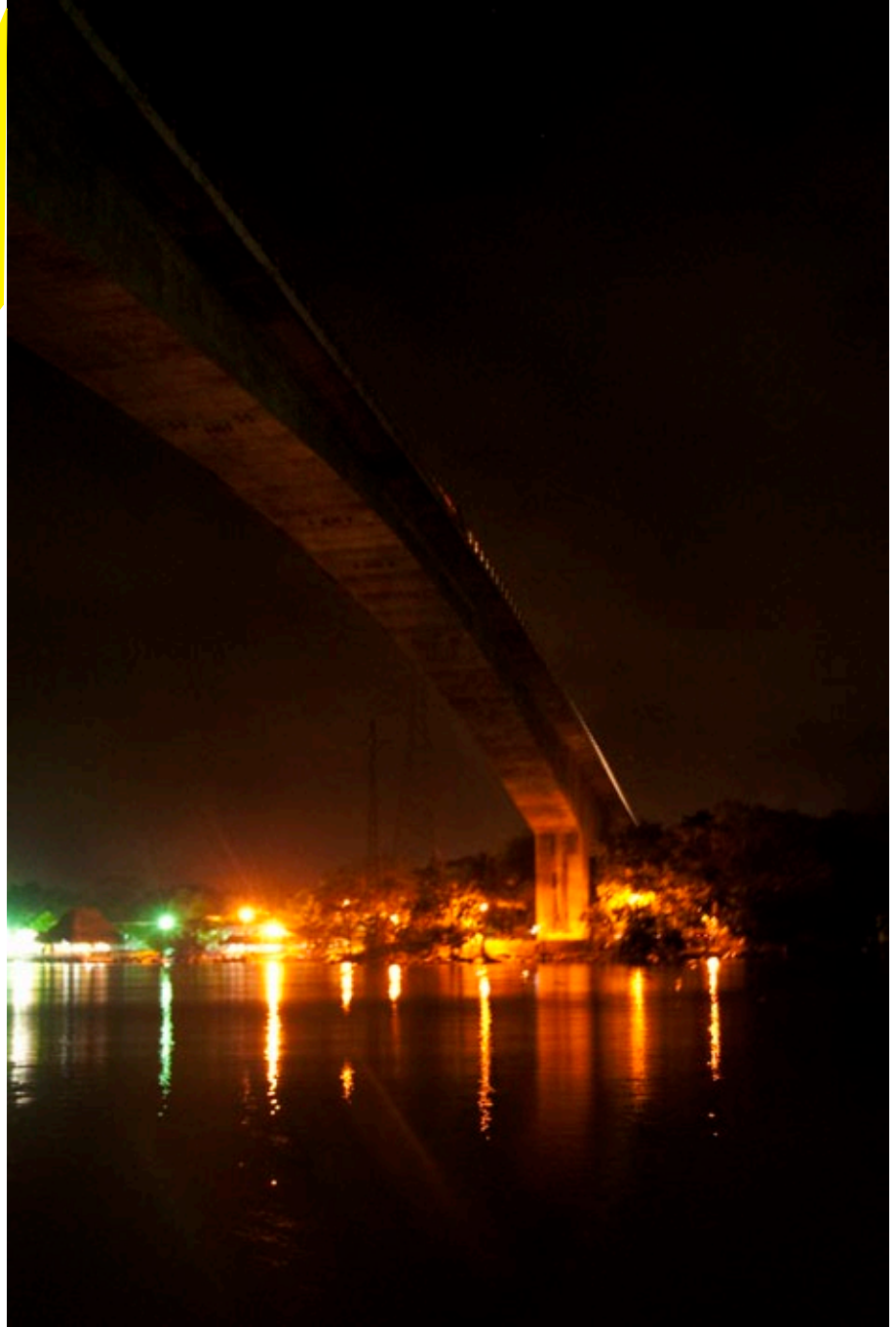
The other lens is the **Nikkor AF 50mm f/1.8D**. This lens is one of the favorites for several photographers, especially for it's sharpness and its price (about $130). You can use it with digital and film cameras, and in auto or manual mode. I really like this lens for night shots or low light photography; you can really get amazing photos. Here are some photos taken with this lens, all taken with manual exposition.

Red lored parrot (*Amazona autumnalis*); Guatemala. This photograph was taken with ISO 640, f/2.5, and 1/200.

Sexta avenida, zona 1, Guatemala city, Guatemala. This photograph was taken with ISO 2500, f/2.8, and 1/320.

Nikkor 50mm f/1.8D lens construction. Image taken from the Nikon USA web page. Web page: http://www.niko-nusa.com/Nikon-Products/Camera-Lenses/index.page
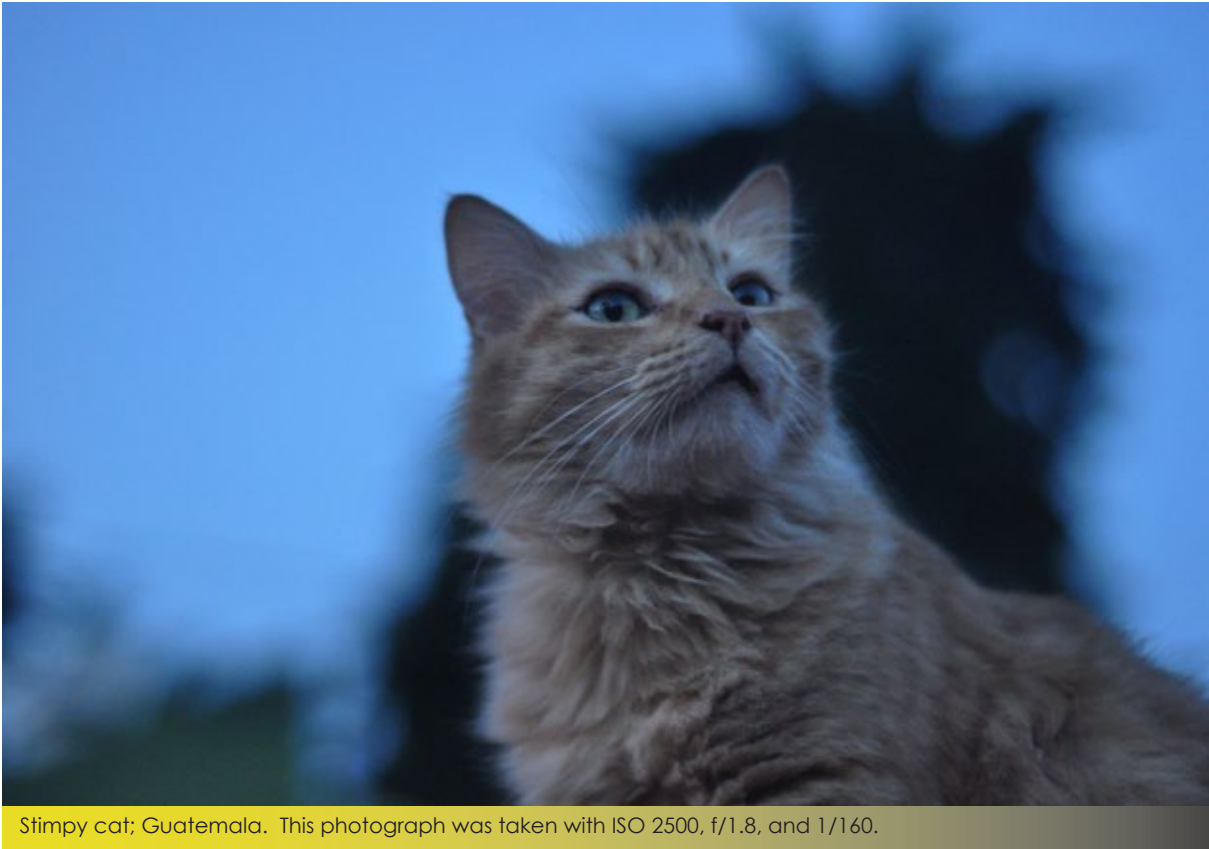
Stimpy cat; Guatemala. This photograph was taken with ISO 2500, f/1.8, and 1/160.

And last but not least, the **Nikkor 70-300mm AF G.** This lens has also a great prize (at about $140), its lightweight, and has a very good zoom range.   Many people say, and I also agree, that for the prize it has, it has really good optics. This lens help me out big time for bird photography. All of the pictures shown next were taken with manual exposition, and manual focus (I consider it more easy that way, but automatic also a good choice).

Nikkor 70-300mm f/4-5.6 G. AF. Image taken from the Nikon USA web page. Web page: http://www.nikonusa.com/Nikon-Products/Camera-Lenses/index.page
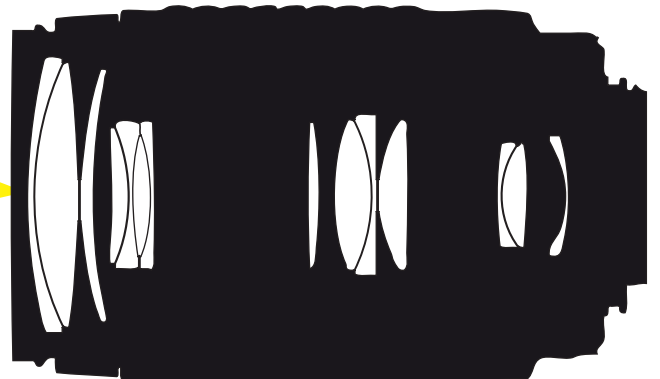
Blue heron (*Egretta caerulea*); Monterrico mangroves; Guatemala. This photograph was taken with ISO 800, f/7.1, and 1/2000. Photograph taken at 6:30am.

Sailboat; Livingston, Guatemala. This photograph was taken with ISO 640, f/7.1, and 1/1250.

Green heron (Buto ridesvirescens); Monterrico mangroves; Guatemala. This photograph was taken with ISO 800, f/5.6, and 1/1000. Photograph taken at 7:30am.

Other lenses

Nikon has a wide variety on lenses that can be used in the Nikon D90. The following chart explains the lenses compatibility.

White heron (Ardea alba). This photograph was taken with ISO 800, f/8.0, and 1/3200. Photograph taken at 8am.

Lens Compatibility Chart

Camera setting	Focus mode			Exposure mode		Metering system		
Lens/accessory	AF	M (with electronic rangefinder)	M	📷🏃🌄🌸🌙, 🌃🌇,P,S,A	M	3D	Color	[·]
CPU lenses Type G or D AF Nikkor[2], AF-S, AF-I Nikkor	O	O	O	O	O	O	—	O[3]
PC-E NIKKOR series[4]	—	O	O	O	O	O	—	O[3]
PC Micro 85mm f/2.8D[5]	—	O[4]	O	—	O	O	—	O[3]
AF-S / AF-I teleconverter[6]	O[7]	O[7]	O	O	O	O	—	O[3]
Other AF Nikkor (except lenses for F3AF)	O[8]	O[8]	O	O	O	—	O	O[3]
AI-P Nikkor	—	O[9]	O	O	O	—	O	O[3]
Non-CPU lenses[10] AI-, AI modified Nikkor or Nikkor Series E lenses	—	O[9]	O	—	O[11]	—	—	—
Medical-Nikkor 120mm f/4	—	O	O	—	O[11,12]	—	—	—
Reflex-Nikkor	—	—	O	—	O[11]	—	—	—
PC-Nikkor	—	O[4]	O	—	O[11]	—	—	—
AI-type Teleconverter	—	O[7]	O	—	O[11]	—	—	—
PB-6 Bellows Focusing Attachment[13]	—	O[9]	O	—	O[11]	—	—	—
Auto extension rings (PK-series 11A, 12, or 13; PN-11)	—	O[9]	O	—	O[11]	—	—	—

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.

You can look at this chart also in the Nikon web page. Web page: http://imaging.nikon.com/products/imaging/lineup/d90/en/system-accessory/#c-5

Chart system

The following chart is available in the Nikon web page. This chart is an easy way to know what accessories can be used with the Nikon D90.
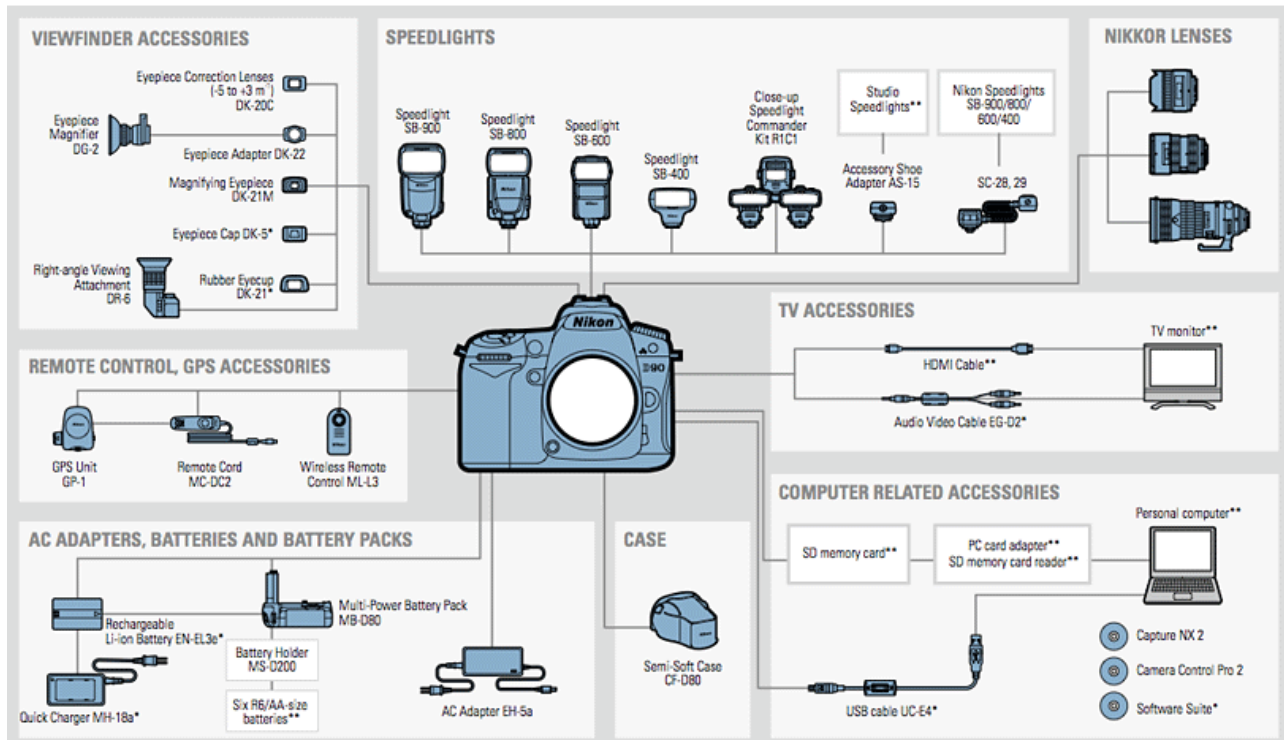

Chart system also available in Nikon's web page. Web page: http://imaging.nikon.com/products/imaging/lineup/d90/en/system-accessory/#c-5

FLAAR Reports
Digital photography

Comparing different Nikon models

	D90	D80	D7000	D100	D300s	D700
Sensor	12.3 million effective pixels 23.6 x 15.8 mm CMOS (DX format)	10.2 million effective pixels 23.6 x 15.8 mm CCD (DX format)	16.2 million effective pixels 23.6 x 15.6 mm CMOS (DX format)	6.1 million effective pixels 23.6 x 15.8 mm CMOS (DX format)	12.3 million effective pixels 23.6 x 15.8 mm CMOS sensor	12.1 million effective pixels full-frame sensor (8 µm pixel pitch) 36x23.9 mm CMOS
Sensor cleaning	Image sensor cleaning; Image dust off reference data (optional capture NX2 software required).	Image dust off reference data (optional capture NX software required).	Image sensor cleaning (sensor shake)	——————	Image sensor cleaning (sensor shake)	Image sensor cleaning (sensor shake)
AF Sensor	11 AF Points 1 cross-type sensor	11 AF Points 1 cross-type sensor	39 AF Points 9 cross-type sensor	5 AF Points 1 cross-type sensor	51 AF Points 15 cross-type sensor	Multi-CAM 3500FX 51 AF Points 15 cross-type sensor
Sensitivity (ISO)	ISO 200 - 3200 ISO 100 - 6400 with boost	ISO 100 - 1600 Up to 3200 with boost	ISO 100 - 6400 ISO 12500 and 25600 expansion in H1 & H2	ISO 200 - 1600 Boosted ISO	ISO 200 - 3200 Up to ISO 6400 with boost	ISO 200 - 6400 ISO 100 - 25600 with boost.
White blance	Auto; 6 presets; Color temperature; and Manual preset	Auto; 6 presets; Color temperature; and Manual preset	Auto; 6 presets; Color temperature; and Manual preset	Auto; 6 presets; Color temperature; and Manual preset	Auto; 6 presets; Color temperature; and Manual preset	Auto; Color temperature; and Manual preset
Price	$900 (with kit lens) $759 (body only)	$1,885 (with kit lens) $1,350 (body only)	$1,500 (with kit lens) $1,200 (body only)	In 2005: $999 Now you can find it for sale (used)from $250	$2,059 (with kit lens) $1,419 (body only)	$3,150 (with kit lens) $2,349 (body only)
Video mode	1280 x 720p (24 fps) 640 x 424p (24 fps) 320 x 216p (24 fps)	——————	1920 x 1080p (24 fps) 1280 x 720p (30, 25, 24 fps) 640 x 424 (30, 25 fps)	——————	1280 x 720p (24 fps) 640 x 424p (24 fps) 320 x 216p (24 fps)	——————
Live view	Yes	No	Yes	No	Yes	Yes
LCD Monitor	3.0" TFT LCD 920,000 pixel TFT (RGB x 3 colors). 170 degree viewing angle. Removable protective cover.	2.5" TFT LCD 230,000 pixel TFT. 170 degree viewing angle. Removable protective cover.	3.0" 921k dot LCD screen	1.8", 120,000 dot, low-temp. polysilicon TFT LCD with LED backlight	3.0" TFT LCD monitor 920,000 dots.	3.0" 922,000 pixel LCD monitor.
Memory format	SD memory card and SDHD memory card	SD memory card and SDHD memory card	SD memory card and SDHD memory card; twin slot	Compact Flash memory card. Type I & II	SD card and Compact Flash (1 slot for each one).	Compact Flash memory card.

Conclusions

In over all, I think this camera is a good buy for someone who is taking photography more seriously than a simple amateur. It has also a great prize, starting at $750, which is really good for the things that the camera has to offer.

There are only a few things that need consideration, for example, when it comes to recording video, the camera has no provision for external audio input. I think is a convenient way to record simple videos, or experimental videos, but you can not compare the video recording of this camera with video cameras that are specially made for video recording.

Something else that I think is important to discuss is the retouch options that the camera has to offer. These options are important for someone who doesn't know how to use an image editing software (like Photoshop, Lightroom, or the ViewNX 1 or 2 –from Nikon-, among others). With the retouch options of the Nikon D90, which are several features like, D-lighting, red-eye correction, trim, monochrome, color balance, quick retouch, etc. These features are easy to use, but in my opinion the quality isn't that great. I prefer use Photoshop to edit my photographs, because there's so much you can do, to get an outstanding result. But remember, its not always about how much you can retouch an image, for me, the less you do in editing is the best; that's what makes a great picture.