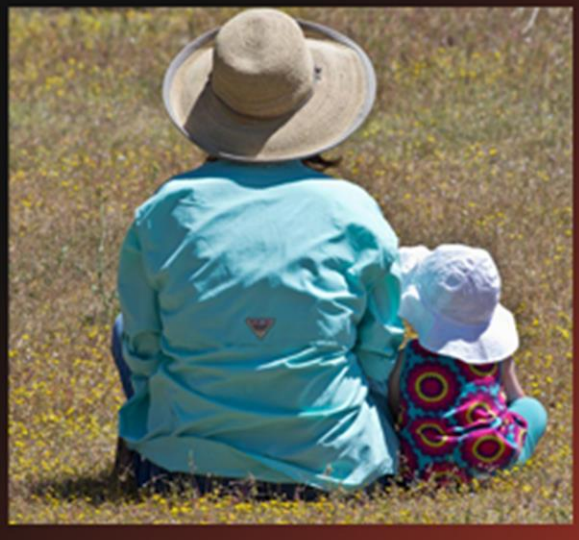
PENTAX K-50 & K-500

"Everything you need to know... and then some"



By: Yvon Bourque

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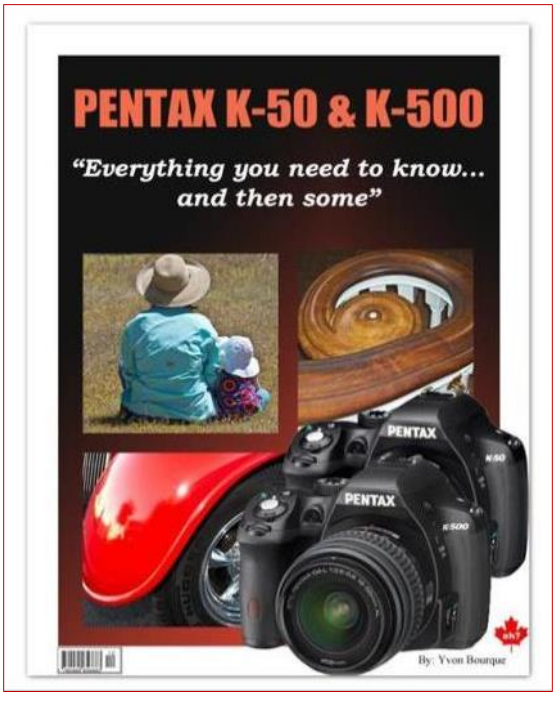
I am pleased that you purchased one of our ***Pentax K-50/K-500 – Everything you need to know…..and then some*** e-book. As an enthusiastic photographer for many years, I have had many Pentax cameras. My first "new" camera was a Pentax Spotmatic, purchased when I was still in Junior High.



When Pentax stepped into the Digital SLR market, I was delighted. Their first few DSLRs (The *ist series) were the smallest DSLRs on the market but were not particularly special with the 6MP CCD. When the K10D was introduced, everything changed and Pentax was suddenly a major player. The K10D was a breakthrough, in my opinion. It had the capabilities of Professional DSLRs with the price of entry-level DSLRs. It had some unique features found nowhere else at any price. In January of 2008, Pentax announced the K20D. It was not a revolution as the K10D was, but it certainly was an evolution of the revolution. The K200D and the K2000/KM, the K-x all followed with no exceptional or marginal improvements. On May 2009, Pentax made history again by introducing the Pentax K-7. On October 2010, the K-5 is announces as the flagship of the company.

As I write this e-book, the K-5/K-5II and K-5IIs are still available and so is the K-30. Pentax has just announced the ***K-50/K-500***. It's amazing to me how Pentax keeps breaking barriers. The ***K-50/K-500*** has a front and rear e-dials, which are usually only found on much more expensive cameras. It is also weather sealed (***K-50*** only) and at the current selling price, it's unique.

This book is not about me as a photographer. It is about you and what information you will need when using this marvel of engineering that the ***K-50/K-500*** is. The book complements the Pentax user's manual and explains in simple terms how to use the camera. It contains techniques, shortcuts, explanations, tips, examples and photographic information applicable to the ***K-50/K-500*** as well as other DSLRs in general.

We offer the ***K-50/K-500*** book in a downloadable e-book form only. We save production costs and you save money, and get you book much quicker.

Your feedback is always important to me.

Yvon Bourque

I always appreciate comments from my readers, including those who let me know about typos, misspellings, and grammatical errors. However, please understand that English is not my first language. You can always let me know by emailing me directly at: brqyvn@gmail.com

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Yvon Bourque
PENTAX *K-50/K-500*
Everything you need to know…
and then some.

Foreword

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About the Author:

Back when most of his classmates were dealing with growing up, the author was nurturing a serious enthusiasm for photography. Son of a Montreal carpenter, he enrolled in photography courses, soaked up theory, bought his first camera, shot rolls of film, and learned how to develop and print. All this was before leaving junior high school. He had many dreams and like many aspiring young photographers, he dreamed of getting assignments from National Geographic and traveling the world over.

Decades later, the road has led him into other directions. With the responsibilities of a career and family, his plans were altered, but only slightly. The enthusiasm of the young boy and the love of photography are still strong. He never abandoned his photography dreams. One of his biggest frustrations is that he does not have enough time for more.

He has used all types of photography formats, but now, uses Digital SLR cameras almost exclusively. He states "Technology is good. The freedom to unleash one's creativity has never been greater. You either follow the flow of progress, or you are left behind".

His work has given him the opportunity to travel across the United States, Canada, Mexico and the Caribbean. His photography career never took-off as he had dreamed, but as a second career, he has spent countless hours during the past decades capturing not only the beauty and the people of America but other countries as well. He has won numerous awards, written articles and books on his beloved subject, and sold his work throughout the places he lived.

Where does a tireless hobbyist go from here? Like all other areas of our modern life, photography has gone digital. As an artist, he is fascinated with all of the new digital possibilities. He is finally contemplating the idea of replacing his present career shingle for one stating Yvon Bourque, Photographer. "With perseverance, all is possible."

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Foreword

I wrote this book for all users of the Pentax ***K-50/K-500***. No matter what your experience level is, you will find something useful in this book.

Less than a few decades ago, most amateur and professional photographers alike were using film cameras for their picture taking. Within the film cameras, several formats were used. The general public and a good number of professionals used the 35mm format. A select few preferred using medium and large format cameras mainly because of the size of the negatives. Larger negatives rendered better pictures, better colors and fantastic enlargements. Film cameras had evolved to very sophisticated instruments and took great pictures. It's no wonder that almost every family owned a 35mm camera.

When the first digital cameras started to appear, the quality was less than desirable, but the potential was certainly there. For several years, many photography magazines were debating whether or not the digital cameras would replace film based cameras. Over time, the quality has so improved, that today, in our opinion, digital cameras exceed the quality of film based cameras. Of course, we are comparing the 35mm and medium format film cameras with the new breed of Digital Single Lens Reflex (DSLR) cameras. It has taken many years to get where we are today, but digital is here to stay. Some of you probably never used a film camera before.

It wasn't all that long ago when a top DSLR with a sensor in the 2 megapixels range was costing the consumers nearly five thousand dollars or more. For a while, as soon as you spent thousands of dollars for a top-of-the-line DSLR, it was replaced within months with a new and better model. I am sure that some of you remember these times of tribulation.

The market, as this book is written, has stabilized, and the norm in a non-professional DSLR is now around the 12 to 25 megapixels, 25 megapixels and above for most professional DSLR cameras. All are enough to produce very good enlargements up to about 16" x 20" and beyond. Full size (roughly 36mm x 24mm, or the same size as a 35mm frame) sensors are available on many DSLRs. The perceived advantage of full frame is that you can use your 35mm format lenses without any correction factor. Pentax is using a smaller sized sensor (APS-C roughly 24mm x 16mm) requiring a correction factor of around 1.5 to 35mm format lenses. If you

shoot with telephoto lenses, it works to your advantage as a 200mm f/2.8 lens acts like a 300mm f/2.8 telephoto at no additional cost. We know that a 300mm f/2.8 telephoto lens is very expensive. The downside is that wide angle lenses will no longer perform as such, but the maximum aperture will remain. Today most companies manufacture super-wide lenses that, when converted to a 1.5x factor, still gives you a nominal wide angle comparable to a 20mm on up in the 35mm format. Wide angle lenses are cheaper than telephotos. In our opinion, full-frame sensors are overrated, especially with the new ***K-50/K-500***. The ***K-50/K-500*** uses a Pentax/Sony 16.3 megapixels CMOS sensor, adapted by Pentax engineers for the ***K-50/K-500***, drastically reducing the digital noise at high ISO. It also allows sizeable cropping.

Unless you want to print your pictures billboard size at 300dpi resolution, the current CMOS sensor will be sufficient to produce stunning pictures and enlargements that were only dreamed of a few years ago. The CMOS sensors use less power and produce very little digital noise at higher ISO.

In the past few years, we have seen many brand names in the camera field disappear. Some acquisitions and mergers took place and some companies just abandoned the competitive digital photography market altogether.

In the past decade, two companies appear to have dominated the market; and indeed still do. There is no doubt that they manufacture good products, but the brand loyalty and recognition may have played an important role in their success.

With Pentax introducing the ***K-50/K-500,*** the gap between these two giants is narrower and there is no doubts that Pentax will once again take a greater share of the market with good products. Pentax took a while before producing its first Digital Single Lens Reflex (DSLR). Some changes are about to happen. Pentax is not new to changing the photographic world. Pentax pioneered the Single Lens Reflex (SLR) camera in 1952 with the introduction of the Asahiflex I camera. In 1954, the Asahiflex II was introduced with the first instant mirror return. In 1964, Pentax did it again by introducing its Pentax Spotmatic camera featuring the first through-the-lens (TTL) metering system in a Pentax camera. A version of the Pentax TTL system is now found in virtually all 35mm SLR cameras and applied to the design of DSLRs as well. Many of us learned photography by using the ever popular Pentax K1000.

The new Pentax ***K-50/K-500*** is aimed at amateurs to advanced amateur photographers but can certainly be used by entry-level photographers as well. It's a camera that will help expand your photographic expertise. It can be as easy to operate as a point and shoot, but it also has all of the professional features that you will demand as your experience grows. All Pentax lenses ever made will work with the ***K-50/K-500***. It is often said that the glass are the most important factor in taking great photographs. There are many reasons to choose the ***K-50/K-500*** for your digital photography endeavors. We have dedicated a whole section on the camera's features alone.

This book is organized in the following way:

Foreword and Table of contents

Chapter 1 "Know your *K-50/K-500*" is dedicated to the general specifications of the ***K-50/K-500*** and the review of the many functions of the camera in general.

Chapter 2 "How to use your *K-50/K-500*" explains the multiple functions of the ***K-50/K-500***, and includes many pictures and illustrations. It clarifies the use of the camera's functions from screen menus to actual buttons and switches. There are no simple icons on this camera mode dial except for scene mode, which really makes it easy to shoot like a Pro, without being a Pro. The advantage of this camera is that you can tailor its operability to your liking or photographic skills. The three basic shooting elements; Aperture, Shutter Speed and the Sensitivity (ISO) are all adjustable with the ***K-50/K-500*** in ways that will make the competition rethink their approach. It will not be long before other manufacturers try to mimic the ***K-50/K-500***.

Chapter 3 "Processing your *K-50/K-500* Images" is a brief review on how to manipulate your images within the camera as well as with a computer. This topic alone is worthy of a book by itself, and there are indeed many books on Digital Imaging readily available. Pentax software and other digital imaging software such as Photoshop®, Lightroom®, and Elements®, as well as Apple's Aperture® are briefly visited. The possibilities are endless and are only limited by your ability or desire to manipulate and post-process your images.

Chapter 4 "**The Pentax System**" is dedicated to the Pentax System. Pentax is truly the only manufacturer with 100% backward compatibility. It includes all lenses ever manufactured by Pentax, both 35mm and medium formats. There are about twenty five million plus genuine Pentax lenses out there. There are probably that many more lenses manufactured by companies such as Tamron ™, Sigma ™, Tokina ™ and other brands. Currently available accessories are also covered and explained in this chapter.

Chapter 5 "**Photography Techniques**" is full of techniques and example pictures along with some suggestions on composition.

Chapter 6 "HD Video recording" is dedicated to the HD video capabilities of the ***K-50/K-500***. This new generation of DSLRs with still pictures and HD video capabilities is changing the digital photography landscape. It opens up new possibilities. It is going to be very popular for documenting and photojournalistic approach to your undertakings.

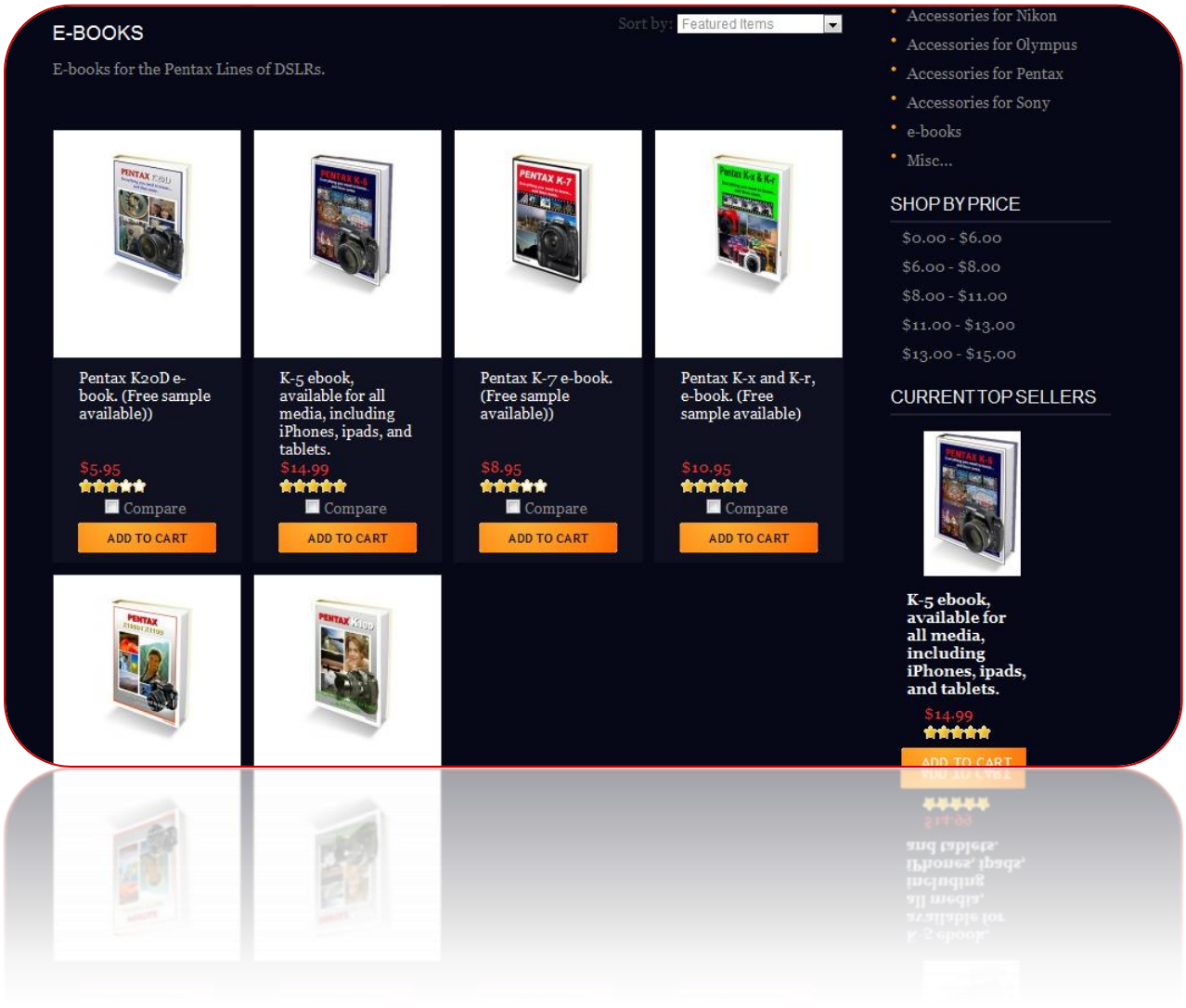
Addendum is comprised of additional ***K-50/K-500*** functions, last minute changes, revisions to software or firmware and any additional information found to be useful at the time of writing.

Appendix section includes menu setting tables, factory default tables, lens compatibility chart, mount types, and an index to guide you through this book.

Check our Pentax Blog, "The Blogspot"; we constantly post articles about Pentax products and photography in general.

The Blogspot

We also have a website showcasing our e-books. You can download useful information, samples or purchase an e-book for your Pentax DSLR.



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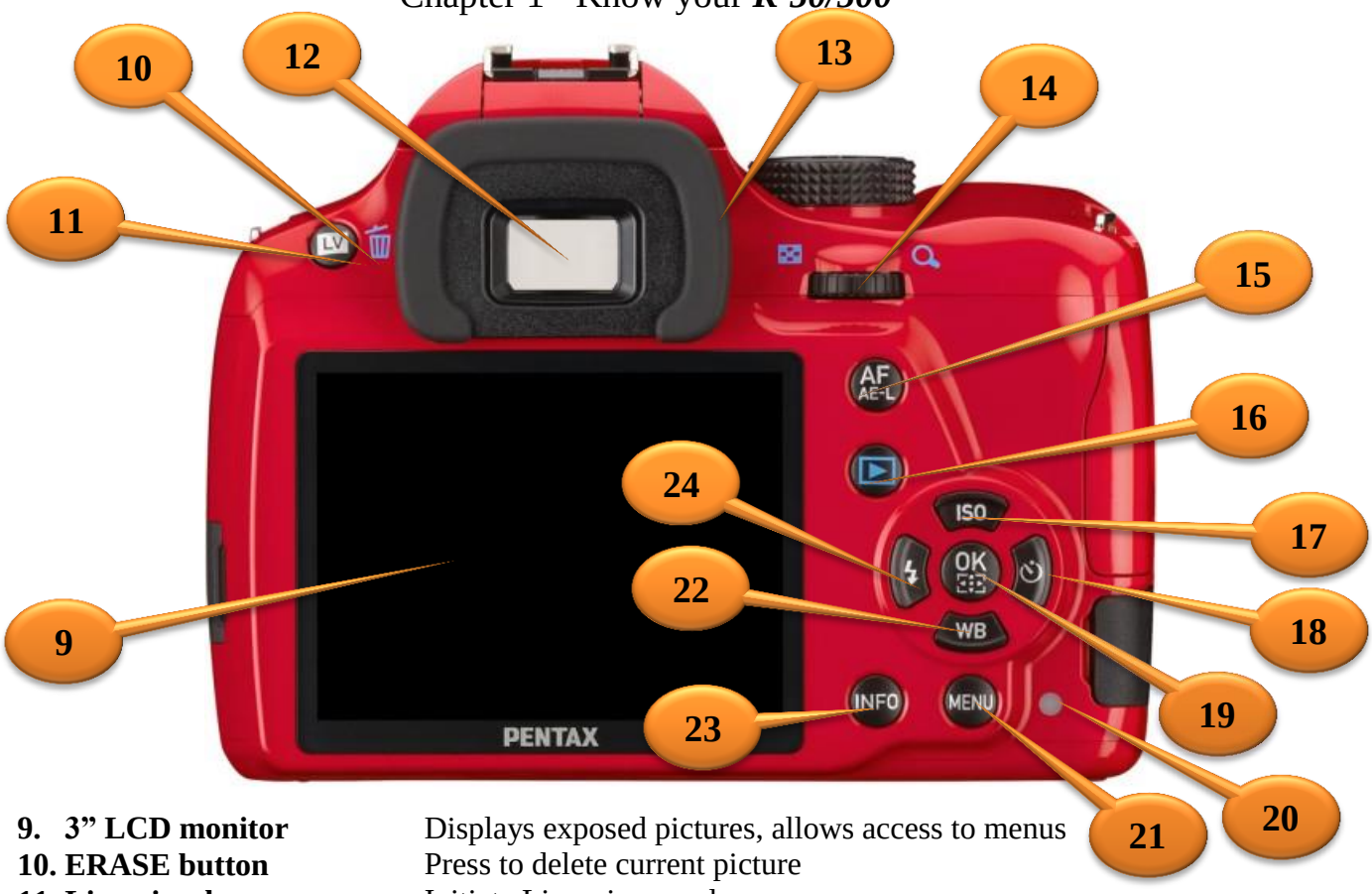
Chapter 1

Know your *K-50/500*

What color scheme would you like? The ***K-50*** is available in 120 color combinations. The ***K-500*** is only available in black.

Nomenclature

1.	**Self-timer lamp**	Blinks for self-timer. Serves as remote control receiver.
2.	**Front e-dial**	Changes set values. (Customizable)
3.	**Shutter release**	Press halfway to compose image, press fully to take picture
4.	**AF Assist Light**	Lights up when AF is difficult to attain in darker scenes
5.	**Mirror**	Allows Through The Lens (**TTL)** metering and focusing
6.	**SDM contacts**	Allows AF with the Supersonic Drive Motor (**SDM)** lenses Also used for power zoom on some older FA lenses
7.	**AF coupler**	Handles the AF drive between the lens and ***K-50/K-500***
8.	**Lens unlock button**	Press to install or remove lens



9. 3" LCD monitor	Displays exposed pictures, allows access to menus
10. ERASE button	Press to delete current picture
11. Live-view button	Initiate Live-view mode
12. Viewfinder	If you don't know what this is for, abandon photography ☺
13. Diopter adjustment	Adjusts the viewfinder to suit your eyesight
14. Rear e-dial	Changes set values. (Customizable)
15. AF/AE-L Button	Select to work as AF button or to lock the exposure value
16. Play button ▶	Press to see pictures on LCD screen
17. Four-way Controller	Four-way controller as up button ▲ or to change ISO
18. Four-way Controller	Four-way controller as right button ▶ or to change shooting mode
19. OK button	Press to save setting from menu / Selects metering point.
20. Card access lamp	Illuminates or blinks when SD card is accessed.
21. Menu	Press to activate Menu modes on the LCD monitor.
22. Four-way Controller	Four-way controller down as button ▼ or change White Balance
23. Info button	Press to view info of current photo on the LCD.
24. Four-way Controller	Four-way controller as left button ◀ or to access Flash settings

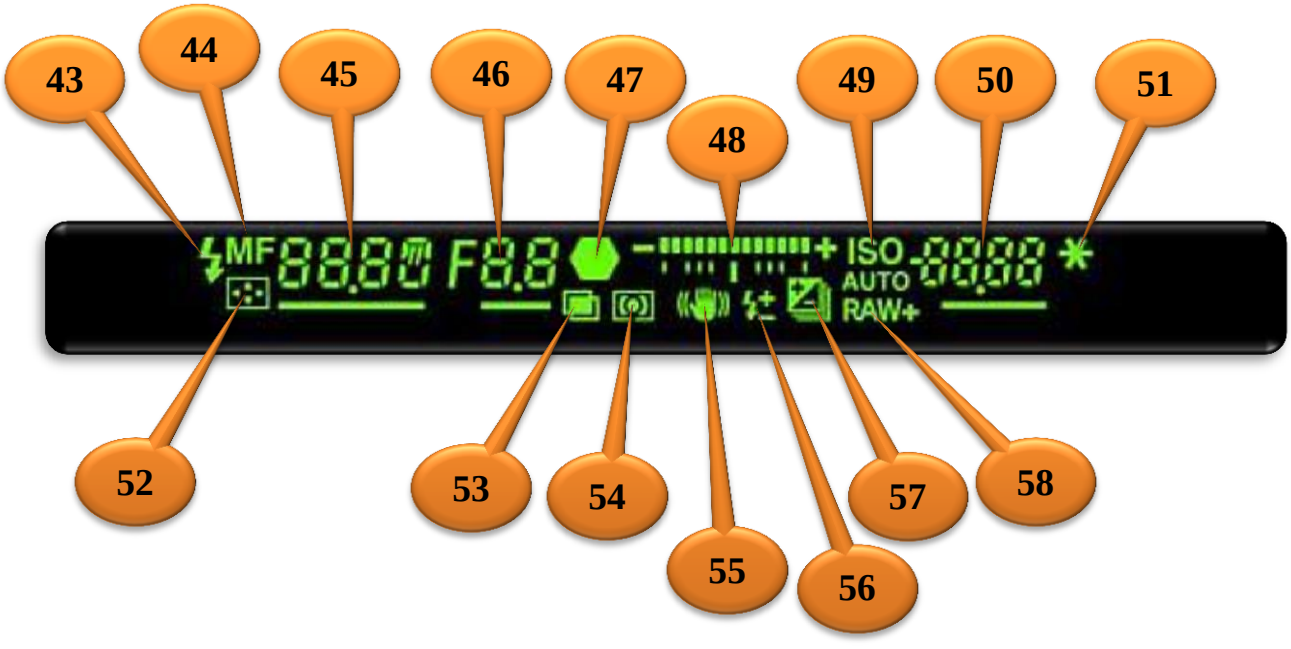
25. Strap Lugs (2)	Loop for the camera strap
26. Built-in flash	Retractable P-TTL with guide number 12 @ 100/m
27. Main switch	Rotate to turn the camera on or off
28. Green button	Resets the values being adjusted
29. EV compensation	Press to adjust EV compensation with the rear e-dial
30. Mode dial	Changes the exposure mode
31. Hot shoe	To mount external flash
32. Diopter adjustment	Adjusts the viewfinder to suit your eyesight

33. Battery housing	Batteries are housed here.
34. 1/4" Tripod Socket	Attachment for tripod.
35. Battery	Lithium-ion D-LI109 rechargeable battery
36. AA battery adapter	Allows the use of easy to find AA batteries

37. Focus mode lever	Switches between AF single, continuous and manual
38. Raw/Fx button	For activating assignable function
39. UP button	Press the UP button to pop the built-in flash up.
40. USB video terminal	Connects the camera to a computer
41. Cable release terminal	Connection for remote control
42. Memory card slot/cover	Uses SD, SDHC and SDXC Memory cards

Information you see in the viewfinder

Viewfinder available Information in details:



43. Flash status	Appears when flash is available and blinks if flash recommended
44. Manual Focus	Appears when manually focusing
45. Shutter speed	Shutter speed, underlined when adjustable with e-dial
46. Aperture Value	Aperture, underlined when adjustable with e-dial
47. Focus Indicator	Appears when image is in focus
48. EV Bar	Shows EV compensation values
49. ISO display	Shows the ISO in Manual or Auto
50. Sensitivity	Shows the ISO being used / Number of recordable images left
51. AE Lock	Appears during AE Lock
52. AF point	Appears when AF Selections is enabled
53. Multi-exposure	Appears when Multi-exposure enabled.
54. Metering method	Shows metering method, Multi-segment, Center-weighted or Spot
55. Shake reduction	Appears when Shake reduction enabled.
56. Flash exposure comp	Appears when flash compensation used.
57. EV compensation	Appears when EV comp available or used, or when bracketing.
58. RAW/Raw+	Appears when shooting RAW or RAW+

K-50/K-500 TECHNICAL SPECIFICATIONS

*Note: The **K-500** lacks the electronic level and viewfinder AF points.*

TYPE	Digital SLR
SENSOR	Type: CMOS w primary color filter, integrated Shake/Dust Reduction sensor movement system Size: 23.7 x 15.7mm (APS-C) Color depth: 8 bits/channel JPG, 12 bits/channel RAW Effective pixels (total pixels): 16.3 MP (16.5 MP) Dust Removal: Sensor movement w SP coating on low pass filter Pixel mapping: Yes
LENS	Type/construction: PENTAX KAF2 bayonet stainless steel mount Usable lenses: PENTAX KAF3, KAF2, KAF, and KA (K mount, 35mm screw mount, 645/67 med format lenses useable w adapter and/or restrictions) SDM function: Yes Power zoom function: n/a
FOCUS SYSTEM	Type: SAFOX IXi+ TTL phase-detection 11 point (9 cross) wide autofocus system w light wavelength sensor and diffraction lens Sensitivity range: EV -1 to 18 (ISO 100) Focus modes: AF.A (auto), AF.S (single, w focus lock, focus/shutter priority selectable), AF.C (continuous, w focus/FPS priority selectable), Manual Focus point adjustment: Auto 11 pt, Auto 5 pt, User-Selectable (w Expanded Area AF), Center AF assist: Yes via dedicated LED AF assist lamp Focus peaking: Yes (n/a while video is actively recording)
VIEWFINDER	Type: Pentaprism Coverage (field of view): 100% Magnification: 0.92X (w 50mm F1.4 at infinity) Standard focusing screen: Natural-Bright-Matte III (interchangeable)

	Diopter adjustment: -2.5m to 1.5m Depth of field preview: Optical (diaphragm stop-down), digital
LCD MONITOR	Type: 3.0” TFT color LCD w brightness/color adjustment and AR coating Resolution: 921,000 dots Wide angle viewable: Yes
FLASH	Type: Retractable P-TTL popup flash Guide number: 12m (ISO 100) Coverage: 28mm wide angle equivalent Flash modes: On, Redeye, Slow Sync, Slow Sync + Redeye, Trailing Curtain Sync, Wireless Flash exposure compensation: -2 to 1 EV (1/2 steps)
EXTERNAL FLASH	Type: Hot shoe (P-TTL), high speed sync and wireless w PENTAX dedicated flash Synchronization speed: 1/180 sec
STORAGE MEDIA	Internal memory: n/a Removable memory: SD, SDHC, SDXC
INTERFACES	Ports: USB 2.0 hi-speed, AV out, cable switch Video out: NTSC, PAL Microphone: Built-in monaural
POWER SUPPLY	Power source: Rechargeable Li-Ion battery D-LI109 (included). AA batteries (sold separately) Recordable images: Li-Ion approx. 480 (410 w 50% flash, CIPA), AA lithium approx. 1600 (1000 w 50% flash, CIPA) Playback time: Li-Ion approx. 270 min, AA lithium approx. 620 min Movie recording time: 25 min max time per clip AC adapter available: Yes (sold separately)
PHYSICAL SPECS	Body dimensions (W x H x D): 129mm x 96.5mm x 70mm Body weight, without battery or removable memory: 590g Loaded and ready: 650g. Primary construction material(s): Reinforced polycarbonate over stainless steel chassis

	Operating temperature: 14-104°F (-10 to 40°C) Ruggedized features: Fully weather sealed throughout body, cold proof
LANGUAGE SUPPORT	English, French, German, Spanish, Portuguese, Italian, Dutch, Danish, Swedish, Finnish, Polish, Czech, Hungarian, Turkish, Greek, Russian
IMAGE STABILIZATION	Type: Sensor-shift SR w rotational compensation (3 stops max)
METERING SYSTEM	Type: TTL open aperture 77 segment metering Sensitivity range: EV 0 to 22 (ISO 100, 50mm F1.4) Metering patterns (multi, center, spot): Multi 77, Center, Spot Exposure compensation: +/- 5 EV (1/3 and 1/2 steps) Exposure lock: Yes Exposure bracketing: 3 frames, up to +/- 2 EV in 1/3 or 1/2 steps
ISO SENSITIVITY	Auto: 100-51200 (1/1, 1/2, 1/3 steps), Manual: 100-51200 (1/1, 1/2, 1/3 steps).
WHITE BALANCE	Type: Image sensor detection w light wavelength sensor assist Auto preset modes: Auto, Daylight, Shade, Cloudy, Fluorescent (D, N, W, L), Tungsten, Flash, CTE Manual mode(s): 3 manual and 3 Kelvin temperature presets, copy WB settings from a captured image available WB fine adjustment: +/- 7 steps A-B axis or G-M axis
SHUTTER	Type: Electronically controlled, vertical-run, focal plane shutter Shutter speed: 1/6000 to 30 sec (1/3 or 1/2 steps), Bulb
CAPTURE MODES	Mode selection: Hyper Program (P), Sensitivity Priority (Sv), Shutter Priority (Tv), Aperture Priority (Av), Shutter & Aperture Priority (TAv), Hyper Manual (M), Bulb (B), User (U1, U2), Scene (SCN), Auto Picture (AUTO), Movie Auto Picture modes: Standard, Portrait, Landscape, Macro, Moving Object, Night Scene Portrait, Night Scene, Blue Sky, Forest

	Scene modes: Portrait, Landscape, Macro, Moving Object, Night Scene Portrait, Sunset, Blue Sky, Forest, Night Scene, Night Scene HDR (JPG), Night Snap, Food, Pet, Kids, Surf & Snow, Backlight Silhouette, Candlelight, Stage Lighting, Museum Custom Image modes: Bright, Natural, Portrait, Landscape, Vibrant, Radiant, Muted, Bleach Bypass, Reversal Film, Monochrome, Cross Processing Green simplified mode available: n/a Face detection available: Yes PASMB: P, A, S, M, B (extended modes Sv, TAv) Date stamp: n/a Digital filters (capture): Extract Color, Toy Camera, Retro, High Contrast, Shading, Invert Color, Color Dynamic range adjustment: Highlight, shadow Digital level: Viewfinder (horizontal), LCD (horizontal, vertical), SR auto-level function File/Folder customization: Folder name (standard, date), file name (standard, customizable), embed copyright
DRIVE MODES	Mode selection: Single, Continuous (Hi, Lo), Self-Timer (12s, 2s), Remote (0s, 3s, continuous), Auto Bracketing (3 frames, standard, timer, remote) Continuous FPS - Continuous Hi: Approx 6.0 FPS (30 JPG, 8 RAW) - Continuous Lo: Approx 3.0 FPS (unlimited JPG, 10 RAW) Multi-exposure: 2-9 shots, auto exposure adjustment Interval: 999 shots, 3 sec to 24 hr interval, time delay HDR: Auto, HDR 1, HDR 2, HDR 3, pixel alignment, exposure bracket +/- 1-3 EV (1/1 steps) Cable switch: Yes (available separately)
PLAYBACK MODES	Mode selection: One Shot (no data, basic data, full data, color channel histogram, bright/dark indication, copyright info), Multi Image Display (4, 9, 16, 36, 81 thumbnails), Magnification (up to 16X, scrollable,

Chapter 2

How to use your *K-50/K-5000*

Super Wide Angle lenses capture more in tight scenes.

This image is de-saturated giving a hint of colors.

How to use your *K-50/K-500*

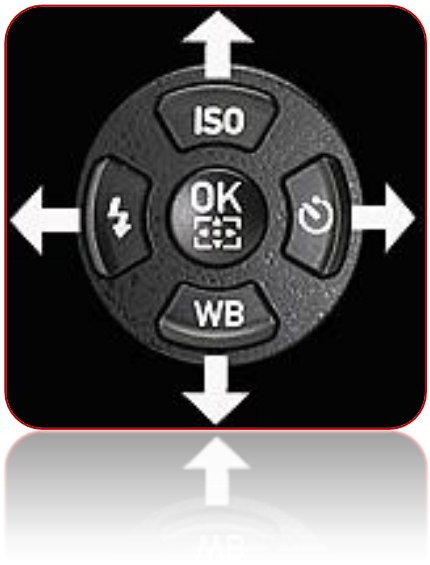
You may be a professional photographer, you may be an advanced amateur or perhaps you are just getting into digital photography. This camera has so many features that it is up the user to decide how much of the technology is needed to suit his or her needs. On one hand, it can be a fully auto-everything camera, giving effortless and excellent results every time. On the other hand, it can be a fully manual camera, challenging your photographic skills, but with the benefit of advance electronics double checking your settings, just in case. The reality is; it can be customized to fill anyone's photographic requirements. Photography has never been this good.

In this chapter, we start from the very beginning and work our way to the advanced features of the camera. Just pick and choose which sections suit your skills or preferences. No matter your level of expertise, you are apt to learn something new.

You finally received your ***K-50/K-500*** and you are understandably excited, or you are contemplating purchasing a ***K-50/K-500***. Either way, this book can help. We believe that anyone looking for a DSLR in the ***K-50/K-500****'s* price range will see what a great value the ***K-50/K-500*** really is. It is, in my opinion, a semi-pro-camera available at a reasonable price.

If you haven't done so, you should perhaps read the preceding chapter first. In this way you can learn and appreciate some of the camera strongest features.

As you read this book, refer to the nomenclature often until you are thoroughly familiar with all parts of your camera.



Navigate through menus of the camera with the four-way controller shown here and illustrated in this book as ▲ for up, ▼ for down, ◀ for left and ▶ for right. The same buttons (Direct keys) are also used to access the ISO settings ▲, the Flash modes ◀, the White Balance settings ▼ and the Drive modes ▶. The **OK** (acknowledgement) button is in the center.

☺ *indicates special notes or comments*.

☺ *Many of the **K-50/K-500** features and functions are available directly from the status screen, without having to navigate through pages of menus. This was introduced with the **K-7** and some users of the previous Pentax DSLRs will appreciate this convenient feature.*

The Guide Display

Turn the camera on and rotate the mode dial to Av. The following screen appears for a few seconds. In this example, the Mode being used is Av. A snapshot of the current settings is shown. The front e-dial is not used and the rear e-dial changes the aperture. The RAW/Fx button is set to One Push File Format and to RAW+. The AF/AE-L is set to AF1, allowing Auto Focus by pressing the AF/AE-l button. The green button is not enabled. This initial screen is a cursory view of the current settings. You can quickly decide if this mode will work for your next picture, or change the mode using the Mode Dial.

The Status Screen

The settings shown in this example are from Av mode. The highlighted settings are interactive. Top left to bottom right, Av is the shooting mode, the custom bright setting is on, AF.A is on and metering is set to multi-segment. The shake reduction is off and the battery is about 75% full. The shutter speed is 1second and the front e-dial is not activated. The rear e-dial changes the aperture. The ISO is at 400. The four-way controller options are shown. The EV bar shows no over or under exposure set. You are shooting JPEG @ 16M and Best Quality (★★★). An SD memory card is inserted and you can see how many pictures your memory card has space available for (419).

The Control Panel

It doesn't stop here. You can get in the heart of the settings by pressing the **INFO** button. This brings yet another screen, the ***Control Panel***. You can navigate through this screen with the four-way controller and changes the highlighted parameters shown. If you noticed, we did not have to go through any of the menus yet. With the ***K-50/K-500***, the menus are mostly used to change overall settings. That is a big improvement over previous Pentax DSLRs. It's almost like having dedicated buttons for all settings. When taking pictures, the scene conditions can change rapidly. You may need to modify some setting quickly to adjust to the scene condition. This faster method of activation can make the difference between getting and missing a great photo opportunity. The items that "cannot be changed" in this camera settings are not highlighted and therefore cannot be selected.

Battery

The camera uses a Pentax rechargeable lithium-ion battery D-LI109, or four AA batteries (With the optional battery holder D-BH109). Other manufacturers may offer comparable batteries at a cheaper price. Make sure it is compatible with the camera and the charger before using an off-brand battery. In this writer's opinion, it is always safer to use OEM equipment. You should recharge the battery before you use it for the first time.

Connect the AC plug cord to the battery charger, and then plug the AC cord to a power outlet. Slip the battery in the charger face down. The battery will lock in place. The Pentax Charger shows a green LED while the battery is charging. The LED goes off only when the battery is fully charged.

Battery Installation / Removal

The battery compartment is located under the camera body. Insert a fully recharged battery by pushing the battery compartment cover unlock lever. Once the cover is opened, a diagram on how to position the battery is affixed on the underside of the cover. The metal connectors should be inserted downward and toward the center of the camera. Push the battery in until you hear a click. Close the cover. To remove the battery, after the cover is opened, push on the white retainer inside the battery compartment. The battery will be partly ejected. Remove completely and recharge or install another fully charged battery.

Installing / Removing the Memory card.

The ***K-50/K-500*** uses SD, SDHC or SD*XC* memory cards. To install the memory card, pull the card cover toward the back of the camera. The SD card cover will pop open. Insert the SD card with the card label toward the LCD monitor. Close the cover and you are ready to go. To remove, use the same procedures but push on the SD card to eject.

☺ *I suggest using SDHC cards with the maximum read/write speed as you can afford.*

The SDHC cards are rated in several classes, currently from class 2 to class 10. Class 2 has a slow read/write performance and consequently class 10 has a faster read/write performance. By the time you read this book, SDHC cards will probably be even faster. Use the fastest card you can afford. As far as capacity, I don't like to use more than an 8gig card for still pictures, as if it becomes defective and my pictures haven't been saved to my computer yet, I risk losing a lot of pictures. For Video, I use the biggest card I have, currently a 32gig SDHC card.

Installing / Removing Lenses

The ***K-50/K-500*** uses Pentax KAF or K mount lenses. All camera exposure settings and Autofocus modes are available when using DA, DA*, D FA, and FA J lenses.

In general, when using 35mm format K mount manual "A" lenses, most functions are still available in manual mode except for the autofocus. When using 35mm format K mount or K mount manual "M" lenses, most functions are available in manual mode except for the autofocus and for the auto-aperture. You will have to stop down the lens to your desired aperture before taking the picture.

The M42 lenses, also known as screw-mount lenses, will work with some restrictions and will need an M42-to-K mount adapter. Medium format lenses for 645 and 67 will work, with some limitations, using an adapter as well. You can use any of the millions of lenses ever manufactured by Pentax to some degree. You can see the lens compatibility in the Appendix section of this book.

To install a lens, align the red dots on the camera and on the lens. Push in and turn the lens clockwise until it clicks in position. To remove the lens, first push and hold the lens unlock button and turn the lens counterclockwise.

Turning the Camera on

The main On/Off switch is located on the top right side of the camera when holding it in shooting position. You can try to sweet talk to it or stroke its top gently, but I doubt it will turn your camera on! It's better just to turn the switch to the ON position.

☺ *Don't be too concerned if you forget to turn the camera off. It will turn itself off after 1 minute (default setting) or the shut-off time you program in the Set-up menu. It can be set between1 and 30 minutes. However, it will not turn off automatically in Live View, Slide show playback or when the camera is connected to a computer via a USB cable.*

Focusing

You can focus manually or let the camera focus automatically. The focus mode lever is used to set the focus mode. The choices are **AF-S** (Autofocus single), **AF-C** (Autofocus continuous), and **MF** (Manual Focus). If the installed lens is a manual focus lens, the setting is naturally MF. If the lens installed is an Autofocus lens, you can set the AF to single or continuous. In AF-S, while pressing the shutter release halfway, focus on your subject. Once in focus, it is locked in that position as long as you keep the shutter release pressed halfway. In AF-C, while pressing the shutter release halfway, focus on your subject. As the subject moves, the focus changes accordingly. With the ***K-50/K-500***, the Auto-Focus can be programmed to have Focus-priority or Release priority. In Focus priority, the shutter cannot be released until the subject is in focus. In Release priority, the shutter can be released even if the subject in not in focus.

☺ *Focus priority is great if you are following a moving subject. Release priority is more practical when focusing on a stationary subject with all kind of movements around the subject.*

Adjusting the Viewfinder Diopter

Since we do not all have 20/20 vision, the ***K-50/K-500*** has a built-in Diopter adjustment. It is easier to adjust the Diopter by removing the eye cup located over the viewfinder but it is not absolutely necessary. The Diopter Adjustment slider is located just above the viewfinder. Turn the camera on and use the Autofocus button or press the shutter release button halfway while the camera is in AF-S mode. Once the subject in the camera viewfinder is in focus, slide the adjustment slider to the left or right until your viewing eye sees a perfectly focused subject.

☺ From *this point on, unless someone else uses your camera, the viewfinder will be adjusted for your unique eyesight.*

Language

You are reading this manual written in English and you're in luck as the default language is English, at least for the cameras sold through authorized U.S. dealers. The first time you turn the camera switch on; it will go directly to the language screen. The language setting menu is also available by pressing the menu button and by pushing the four-way controller horizontally ▶ until the Set-up menu appears. At that point, press the four-way controller downward ▼ until the Language option highlights.

Again, using the four-way controller, push horizontally to the right ▶ and then vertically or downward ▲ ▼ until the language of your choice highlights. By pressing

the OK button the language will be set. It looks like sixteen languages are available. That's plenty for me. I can handle English and French.

Date and Time

The Date and Time setting is available in the Set-up menu by pressing the menu button and by pushing the four-way controller horizontally ▶ until the Set-up menu appears. At that point, press the four-way controller downward ▼ until the Date Adjustment option is highlighted. Again, using the four-way controller, push to the right ▶. Navigate up and down ▲ ▼, left ◀ and right ▶ until you set the year, month, day and time to your time zone (Choose a City that is in the same time zone as yours). By pressing the OK button, the Date and Time will be set.

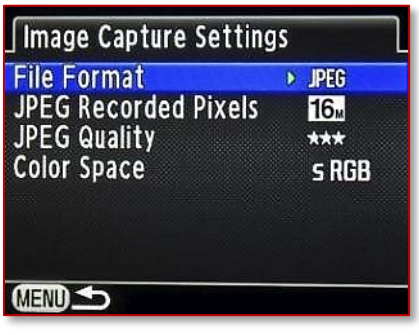
The **World Time** menu is located in the Set-up menu as well, just below the Date Adjust. Use the same method to set the world time to your time zone and city. This is great when traveling to other countries.

The ***K-50/K-500*** also allows setting the text size to standard or large. It's great for tired eyes

Taking Pictures

You can start taking pictures right now in the **AUTO** mode, with all of the camera defaults. However, sooner or later, you will want to change some of the default settings and personalize the camera to your shooting style and preferences. Still, there are some choices we should make, or at least be aware of, before we start shooting.

Picture Quality



We should learn to set the kind of file we want to save our picture as. Do we want **RAW** files or **JPEG** files? For now, let's set the format to JPEG with the best resolution of 16M effective megapixels (4928 pixels x 3264 pixels). Press the menu button. Navigate to the **Rec**. Mode menu, page 1, press the four-way controller down ▼ to Image Capture Settings. Press the four-way controller to the right ▶ and choose JPEG. Press OK. Press the four-way controller down ▼ to JPEG Recorded Pixels. Press the four-way controller to the right ▶ and choose ▲ ▼ 16M out of the 16M, 12M, 8M, or 5M choices. Press the OK button and using the four-way controller once more, go down ▼ to the JPEG Quality ▶ and set it ▲ ▼to Best – ★★★. Press the OK button. Return to shooting by pressing the shutter release button halfway.

☺ *The Picture quality and file type can also be set in the* ***Control Panel.*** *Get comfortable with the* ***Control Panel*** *and use it often without having to go through the menus.*

Shake Reduction

The shake reduction (**SR)** on the ***K-50/K-500*** resides within the camera. You don't need expensive lenses equipped with stabilization or vibration reduction built-in and extraordinary expensive. Any K-mount compatible lens will work, even manual lenses. You can take handheld pictures at very low shutter speed, depending on the focal length of the lens used, the lighting conditions, and of course how steady you hold the camera.. It is easier to set the shake reduction in the Control Panel by navigating with the four-way controller. I leave the SR on most of the time, except when panning or when using a tripod. The **SR** setting (on or off) can also be set in the **Rec**. menu. The **SR** system on the ***K-50/K-500*** not only compensate for horizontal and vertical shake, it also compensate for rotation.

*Here are some additional tips on handholding your **K-50/K-500**.*

- *Hold your **K-50/K-500** in a firm but relaxed grip, with your right hand on the camera and the left cradling the lens. This works for all focal lenses.*
- *Tuck your arms toward your boy. Leave your index finger ready to half press or trigger the shutter release.*
- *Plant your feet apart for a steady stand.*
- *If there is available support such as a wall or a tree nearby, lean against it and anchor yourself firmly.*
- *Breathe in a regular rhythm and trigger the shutter mid-breath.*
- *I make it a habit to take at least two consecutive shots of the same scene as when you depress the shutter release once, and keep is depressed, there are less risks of shaking the camera with your index finger movement.*
- *Finally, remember that it is always better to use a tripod or monopod whenever possible.*

White Balance

The ***K-50/K-500*** has an excellent white balance system and it defaults to **A**uto **W**hite **B**alance **(AWB).** Essentially, when shooting under either candle light, daylight, incandescent lights, or fluorescent lights, the white balance needs to be adjusted so that white objects look white. For example, shooting under candle light, your photo would take a reddish tint. Under fluorescent lighting, the tint would shift toward green. Shooting a snow scene under a bright sun would lean toward blue tint. The white balance is just a way to adjust your camera to the ambient lighting. In the film format camera days, filters were used to achieve similar results. More information about white balance is available in this chapter. For now, let's leave the white balance on auto. It is surprisingly accurate most of the time.

AUTO mode

The **AUTO** mode is the easiest of all modes. In this mode, the camera makes all the important shooting decisions. Set the dial mode to **AUTO.** The front and rear e-dials are not functioning in this mode. The **AUTO** mode sets the aperture, the shutter speed, and other parameters automatically, ensuring a well-balanced photograph, according to the following chart.

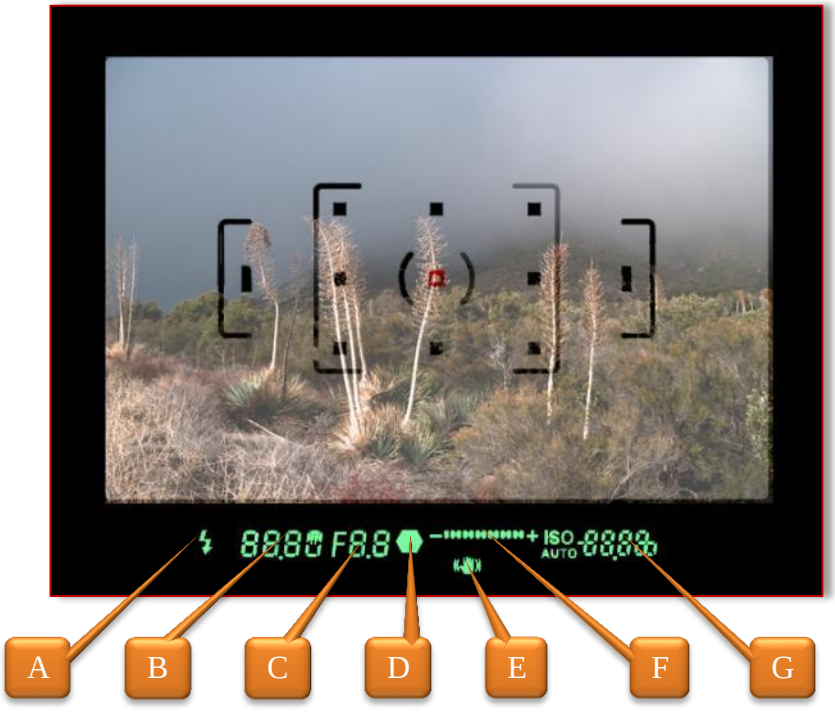
Standard.	Default, if none of the following apply.
Portrait	For portraits and pictures of people. Renders natural skin tones.
Landscape	For landscapes, while increasing saturation.
Macro	Used when very close to subject, like flowers, etc.
Moving Objects	Used when there is fast action such as sporting events.
Night Scene	Used for capturing night scenes like people at dusk or at night.
Sunset	Renders vivid sunsets or sunrises.
Blue Sky	Produced a darker blue, similar to a polarizer filter.
Forest	Enhances green and produces overall vivid colors.

Aperture, Shutter speed, EV compensation, Auto bracket, AE lock, Multi-exposure, and Flash compensation cannot be set in the **AUTO** *Mode.*

Although many other options and settings are still available, the current settings are fine for almost any photographic situation. In fact, the current settings are similar to a very good point-and-shoot camera, only better. That is to say, that you could leave these settings as they are and just use the ***K-50/K-500*** as a point and shoot camera. Your pictures should always be of high quality with little effort.

You are now ready to take pictures in the **AUTO** mode. Try shooting your first picture(s) outside during daylight. That will work best. Chances are that the lighting will be sufficient and the flash will not be needed. Find your subject and while looking in the viewfinder, press the shutter release button halfway while composing your picture. The camera autofocus comes on, and confirms when in focus, with a beep and a red illuminated box in the viewfinder.

The information shown next page is displayed in the viewfinder:



A. If the lighting is insufficient, the flash indicator blinks. You may need to use the flash by pressing the flash up button.

B. The ***K-50/K-500*** sets the shutter speed the automatically.

C. The ***K-50/K-500*** sets the Aperture the automatically.

D. The Focus indicator is on when you are in focus. You also hear a confirmation beep and the focus point illuminates.

E. If the Shake Reduction (SR) is on, it will appear in the viewfinder.

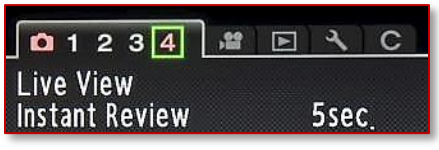
F. With the Electronic Level activated, it is shown in the viewfinder.

G. Auto ISO is activated and the ISO number is shown in the viewfinder.

You have taken your first picture(s) with the *K-50/K-500*.

*How did your first **K-50/K-500** picture(s) turned out? You can rest for a while ☺*

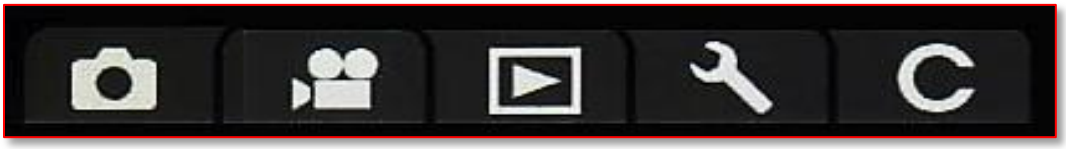
Now, assuming that you did take your first picture(s) in the **AUTO** mode, did you notice that after each shot, your picture appeared on the LCD monitor for a few seconds?



This is the **Instant Review**. It can be set to 1, 3 or 5 seconds, or turned off. It is one of the greatest advantages of digital cameras. You see your picture immediately, and if you don't like what you see, you take another shot and another, and another, until you like the picture. You can delete the images you don't like immediately.

The memory card, unlike film, is reusable and once you have one memory card or many memory cards, you no longer need to spend money for the film or recording media each time you shoot. In the film era, the recording media was too expensive to take numerous pictures of the same subject with the hope that one would turn out good. You couldn't see the results until after the development of the film or slide. In addition, the quality of developing and printing was often left to a photo lab or most often, to the corner drug store that had a film development machine. The equipment was operated by employees that knew very little about photography and relied on the accuracy of the development and printing machine. Often, the chemicals weren't changed as recommended, the machine was not cleaned, and consequently, the colors were inaccurate. The environment was not that of a modern clean room and dust on negatives would also show up on the photographic paper. Today, if you own a good photo printer and a computer with digital imaging software, you have so much more control over the final results.

The Menus



Record | Movie | Playback | Set-up | Custom

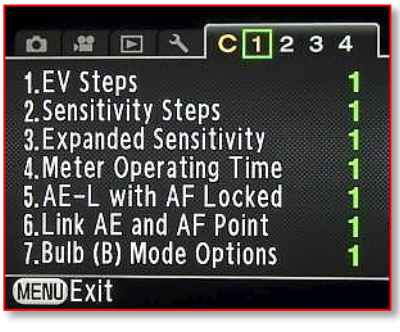
Top Left: ***Record menu***

Above: ***Movie menu***

Top Right: ***Playback menu***

Left: ***Set-up menu***

Right: ***Custom Settings menu***



Before continuing with the different shooting modes embedded in the ***K-50/K-500*** let's spend some time reviewing and understanding what the camera options are. The camera can be customized to your own preferences or shooting style. You can apply 23 custom settings to your camera via the ***Custom Settings menu*** (21 with the ***K-500***). In addition, there are other screen accessible menus. They are the ***Record menu***, the ***Movie menu***, the ***Playback menu***, and the ***Set-up menu***. That is not counting the dozens of settings accessible directly from buttons, switches and dials, all located on the camera body and easy to reach instantly. Some options are also available through the ***Status Screen*** and the ***Control Panel*** screen.

As you get acquainted with all the menus and the camera mounted controls, you will become a better photographer. The ***K-50/K-500*** is a great example of what modern technology can achieve.

☺ *There's never been a better time to be passionate about photography. There's never been a better time to become a Pentaxian.*

Setting Playback Display

The image displays can be set with many parameters. Press the Menu button. Using the four-way controller, navigate ▶ to the Playback menu. Navigate down ▼ to the options menu. The options are Bright/Dark area, Quick Zoom and Auto Image Rotation.

The Bright/Dark area option shows the overexposed or underexposed area of the image. The underexposed (too dark and losing shadow details) area blinks in yellow and the overexposed (too bright and loosing details) area blinks in red. The options are on or off and set by using the four-way controller ◀ ▶ until the box is check marked. The Quick Zoom option can be set to off or x2, x4, x8, x16, x32. This sets the initial magnification when enlarging images. When the Playback button is pressed, the last image taken appears on the LCD monitor. Turn the rear e-dial to the right to start magnifying the image. As an example, with the Quick Zoon set
to x8, the image magnification would jump to x8 as soon as the rear e-dial is rotated.

The Slideshow, as it is written, starts a slide show on the LCD monitor.

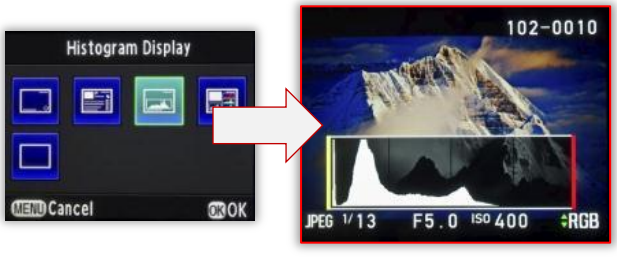
Delete all images will delete all images on the SD memory card. Be careful with that one.

Another way to check the Histogram, the Bright/Dark area or the complete information about the picture taken is to activate the Playback button [▶], and then push the Info button in sequence.

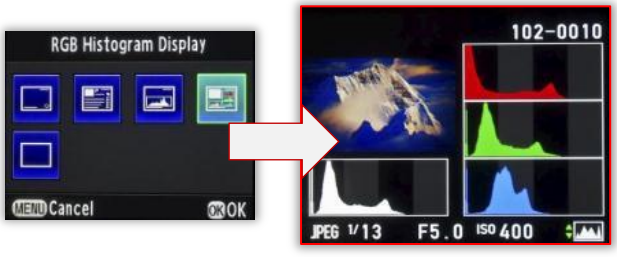
1. Standard Information Display

2. Detailed Information Display

3. Histogram Display



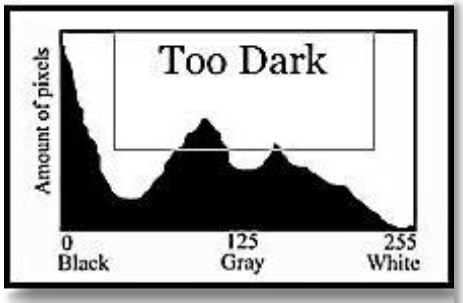
4. RGB Histogram Display

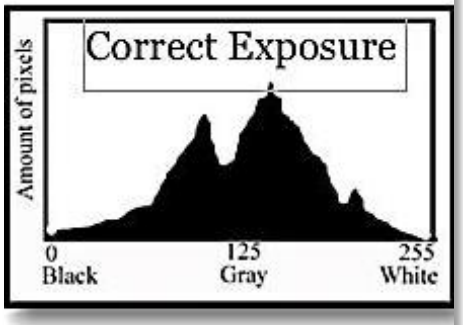


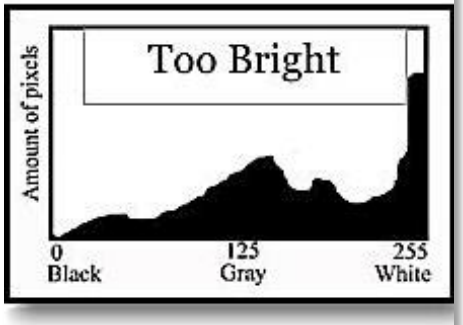
5. No Information Display

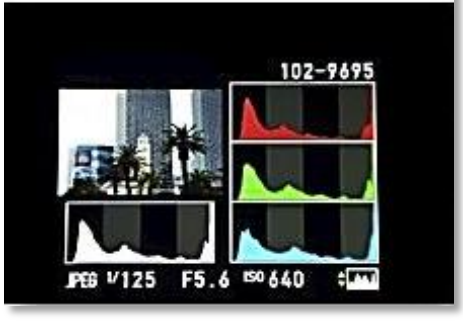
By pressing the Info button, the playback shows different information about your image. It toggles between the five different display screens.

Histograms









Histograms are a digital way to see if an image is properly exposed, shown as a graph. The gadget-oriented and technical photographers will not keep an image if the exposure histogram is not perfect. An image with a less than perfect histogram may still be a prize winning picture because of its composition or subject. With that said; use the histogram as a tool to learn how to take properly exposed pictures. The composition, in our opinion, is much more important.

Essentially, the exposure histogram shows the overexposed and underexposed area of your image. The histogram horizontal scale measures the brightness, from totally black (0) on the left to totally white (255) on the right. The vertical scale measures the amount of pixels of any given shade. There is no perfect histogram as images in nature are not perfectly lighted. There are shadows and bright areas. What is important is that if the black areas of the picture create a spike on the left side, part of the image is underexposed. If a spike occurs on the right side, part of the image is overexposed. The human brain is better equipped to distinguish a good image from a bad image, many times better than a digital histogram. The ***K-50/K-500*** also shows RGB (red, green and blue) histograms. This is a way to show the distribution of color intensity. Again, humans can decipher colors much better than any digital device invented thus far. So the bottom line is that it is good to use histograms to check your image quality, but we would recommend using exposure bracketing instead as the extra shots won't cost you anything but time and space on your memory card. You can instantly delete the pictures you don't like.

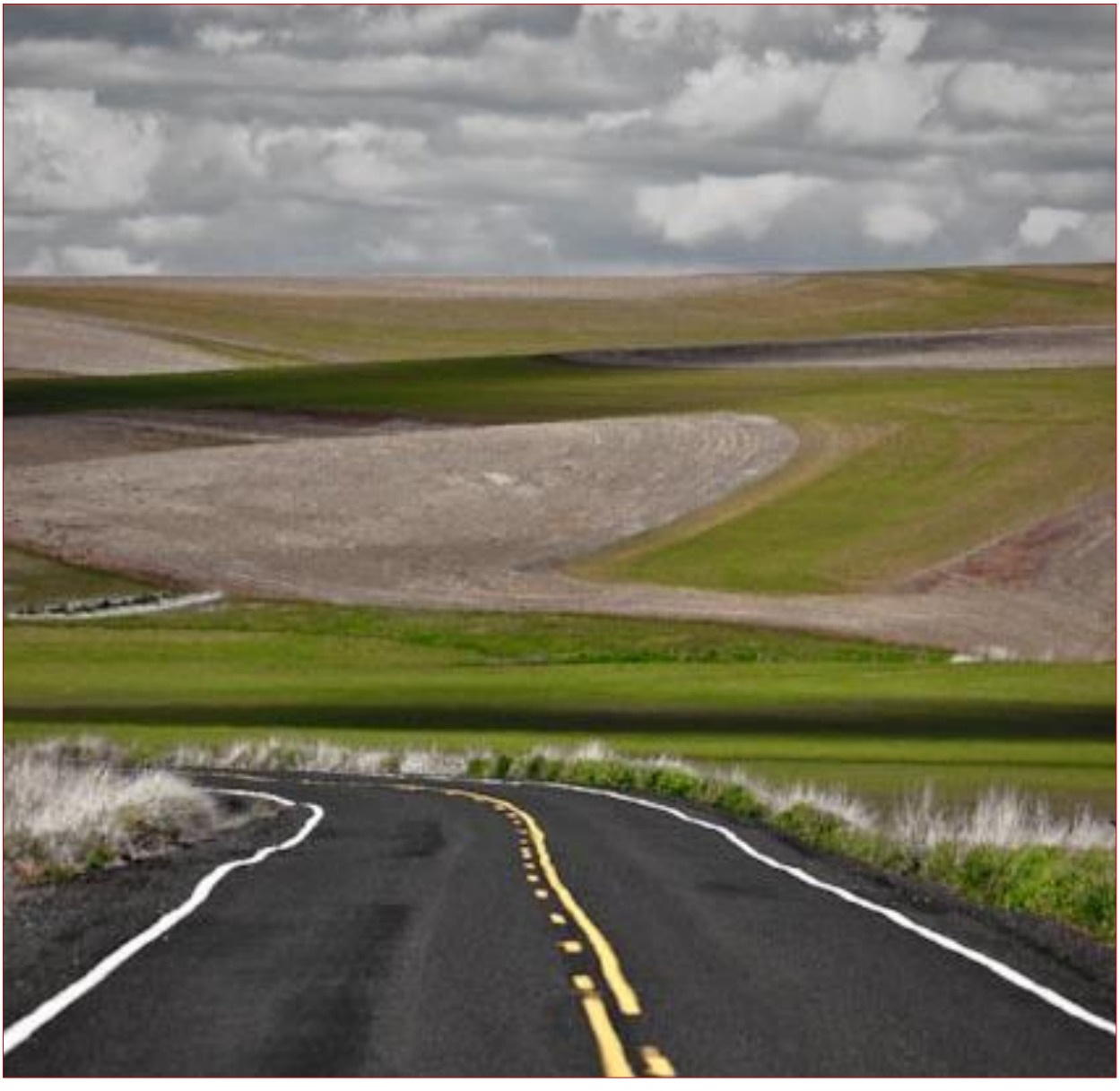
Chapter 3

Processing your Images

Chapter 6

HD Video Recording

Appendix



Follow the Photography Road

Lens Compatibility Chart

LENS MOUNT ⇨ FUNCTION ⇩	All - LENSES DA / D FA / FA FA J / FA	F - LENSES	A - LENSES
Autofocus	Available	Available	Not Available
Manual Focus	Available	Available	Available
Eleven Auto Focus Points	Available	Available	Center Only
Power Zoom	KAF2 Lenses	Not Available	Not Available
Aperture Priority Auto Exposure	Available	Available	Available
Shutter Priority Auto Exposure	Available	Available	Available
Manual Exposure	Available	Available	Available
P-TTL Auto Flash *	Available	Available	Available
16 Multi-Segment Metering	Available	Available	Available
Auto Focal Length with SR	Available	Available	Not Available

* With Built-in flash, AF360FGZ, AF540FGZ, and AF200FG flash units.

The chart above can be a little confusing and does not reflect Pentax's 100% backward compatibility claim with all their lenses produced in the last fifty years. I am referring to the twenty four million lenses sold worldwide. The fact is that all lenses can indeed be used, with the use of adapters, and a little creative use of the Pentax ***K-50/K-500***.

1. *The K-Mount Manual lenses can be used. See Chapter 4.*
2. *The M42 Screw-mount lenses can be used. See Chapter 4.*
3. *The Medium Format lenses (645 & 6x7) can be used. See Chapter 4.*

Pentax lens mount facts:

Pentax's first lens mount was a screw-mount type attachment. It is now known as M42 screw-mount and was used by Pentax and many other manufacturers.

The Pentax-K mount is a lens attachment standard for interchangeability of lenses on 35mm SLR cameras. It was created by Pentax in 1975-1976, and has been used on all their 35mm SLRs and now the DSLRs. A number of other manufacturers have also produced many K-mount lenses and K-mount cameras. The following represents the K-mount evolution.

- Original K-mount (1975)

  The original K mount was a simple bayonet connection with three tabs. It was introduced with the K series of cameras. The lens is locked into the camera with an approx. 70° clockwise turn.

- K_F mount (1981)

  The K_F mount was Pentax's first effort at an autofocus system. This autofocus system used sensors in the camera body and a motor in the lens.

- K_A mount (1983)

  The K_A mount allows the lens' aperture to be set by the body and allows shutter priority and program Auto Exposure Modes. These lenses have an "A" position.

- K_{AF} mount (1987)

The K_{AF} mount was Pentax's second effort at an autofocus system. It adds a small drive shaft to the K_A mount, allowing adjustment to the focus by the camera body.

- K_{AF2} mount (1991)

The K_{AF2} mount adds two extra contacts for power zooming. On the *K20D*, these contacts also power Supersonic Direct Drive lenses and convey Modular Transfer Function data, (MTF) through a seventh contact.

- K_{A2} mount (1997)

The K_{A2} is identical to K_{AF}, without the autofocus drive shaft. However, it adds a seventh contact for digital information to the K_A mount.

- "Crippled" K_{AF} mount (1997)

The "crippled" K_{AF} mount removed the mechanical stop-down coupler. The consequence is that most of the new camera bodies can only use lenses which have an "A" position on the aperture ring for full compatibility. The camera body cannot tell what aperture the lens is set to, hence "crippled" mount.

- "Crippled" K_{AF2} mount (Current)

The "crippled" K_{AF2} mount is currently found on the *K-30* It supports the extra features of the K_{AF2} mount including two power contacts for the lens. Power zoom is preserved and allows for new power Supersonic Direct Drive lenses. It lacks a mechanical stop-down coupler and can only use stop-down metering on pre-“A” lenses.

*I just love my **K-50/K-500**. - © – Yvon Bourque*

Glossary

AdobeRGB 1998 Color Space designed by Adobe® Systems, to cover most of the colors attainable on CMYK printers. AdobeRGB working space covers about 50% of the visible colors defined by CIE, (International Commission on Illumination) improving upon sRGB's gamut.

Adobe® Photoshop Professional digital imaging software, most popular amongst photographers. A simplified version called Elements is also available.

AE Automatic Exposure

AE Metering The measurement of brightness to determine exposure. The ***K-50/K-500*** has Multi-segment, Center-weighted, and Spot metering

AF Autofocus

AE-L Automatic Exposure Lock. Metering feature to hold the exposure setting.

Angle of View The area of a scene that a lens covers, measured in degrees. Angle of view is determined by the focal length of the lens. A wide-angle lens includes more of the scene or greater angle of view. In contrast, a telephoto lens covers shallower angle of view

Anti-aliasing A procedure that reduces jagged edges in a digital image.

Aperture Opening formed by the diaphragm inside a lens, which light passes through, allowing a preset amount of light to reach the CCD. Aperture size is calibrated in *f*- numbers. The larger the *f*-number, the smaller the lens opening. Smaller aperture renders greater area of sharpness and larger aperture reduces the area of sharpness.

Aperture Priority Mode (Av) An exposure mode on an automatic camera that lets you set the aperture while the camera automatically sets the shutter speed for proper exposure. Other than sport or action photography, aperture priority is the most common automatic preference.

Aperture ring A ring located on the outside of a lens which is mechanically linked to the diaphragm to control the aperture.

APO Meaning Apo chromatic; having the ability to bring all colors of the visible spectrum to a common plane of focus.

Aspect Ratio The ratio of width to height.

Auto Bracket Auto exposure bracket that performs automatic exposure bracketing with varied shutter speeds or apertures.

Autofocus (AF) Setting by which the camera automatically focuses on a selected part of the picture. It can be any of the 11 Autofocus sensors.

Automatic camera A camera with a built-in exposure system that automatically adjusts the aperture, shutter speed, or both.

Automatic exposure A system that measures lighting conditions and adjust settings automatically for proper exposure.

Artificial light A light source non-existent in nature such as man-made incandescent or fluorescent lights.

Av The Aperture value usually referring to aperture settings.

B (Bulb) Setting A shutter-speed setting that allows for time exposures. The shutter stays open as long as the shutter release button remains depressed.

Backlighting Light, behind the subject, projecting toward the camera lens.

Barrel Distortion Straight lines that are bowed in at the edges of the picture frame resembling the sides of a barrel. It is mostly present in wide-angle lenses.

Balance See White balance

Balanced Fill-Flash A type of TTL auto flash operation which uses the camera's exposure meter to control ambient light exposure settings, integrated with flash exposure control. That is, flash output level is automatically compensated to balance with ambient light, resulting in a better exposure for both subject and background.

Bounce Lighting Flash or tungsten light bounced off a reflector (such as the ceiling or walls) or attachment that fits on the flash to give the effect of natural or available light.

Bracketing Taking a series of photographs of the same subject at different exposures or settings to insure the correct exposure. Useful when shooting in situations where a normal metering reading is difficult to obtain.

Bulb A mode that lets you take long exposure such as night photography.

Camera shake Movement of camera caused by unsteady hold or

support, vibrations. The ***K-50/K-500*** has shake reduction feature.

CCD *(Charge-Coupled Device)* Electronic sensor used by many digital cameras, capable of detecting subject contrast. Some cameras use a CMOS.

Chromatic aberration The inability of a lens to bring all wavelengths of light into the same plane of focus. Can be corrected through the use of low dispersion (ED, LD SD) glass.

Close-Up Lens A lens attachment placed in front of a camera lens to permit taking pictures at a closer distance.

CMOS (Complementary Metal–Oxide–Semiconductor) Electronic sensor used by the ***K-50/K-500***, capable of detecting subject contrast. Some cameras use a CCD.

Coated Lens A lens covered with a very thin layer of transparent material that reduces the amount of light reflected by the surface of the lens.

Color Balance How a media reproduces the colors of a scene. Also see White balance

Color temperature Description of the color of a light-source. It is usually expressed in Kelvin (K). Daylight has a color temperature of about 5500K.

Composition The pleasing arrangement of the elements within a scene.

Contrast The range of difference in the light to dark areas of an image.

CPU (Central Processing Unit) The electronic component that controls an electronic product's functions. Essentially, all automatic cameras have at least a CPU to control various functions of the cameras. Some top models have three to five CPU to handle individual task functions.

Cropping Printing or saving only part of an image, usually for a more pleasing composition.

Dedicated Flash A fully automatic flash that works only with specific cameras.

Depth of Field The zone of acceptable sharpness in front of and behind the subject on which the lens is focused. The wider the aperture, or the longer the focal length or the closer the focused distance, the less the depth of field.

Diaphragm An adjustable device inside the lens which is similar to the iris

in the human eye. Continuously adjustable from wide open to stopped down. It controls the amount of light allowed to pass through the lens.

Digital Single-Lens-Reflex (DSLR) Camera A type of digital camera that allows seeing through the camera's lens when composing a picture.

Double Exposure Two pictures taken on one frame.

ED Extra Low dispersion glass. Glass with ED properties are specially formulated to limit or correct light rays passing through the lens elements to achieve all spectrum of colors to falls on the same plane of focus

Electronic flash Light source based on electrical discharge across two electrodes in a gas-filled tube. Modern flash have multiple TTL (Through The Lens) flash exposure control functions and even extend to autofocus control. Pentax uses the P-TTL flash which Pre-fires before taking the picture using reading Through The Lens. The Pentax 16-segment metering allows more precise control. Only the built-in flash and specially designed flash units can be used in T-TTL mode.

Ev Exposure value. Method of quantifying scene brightness.

Existing Light Existing light covers all natural lighting from moonlight to sunshine. Photographically, existing light is the light that is already on the scene including room lights, fluorescent lamps, spotlights, neon signs, candles, etc.

Exposure The quantity of light allowed on a photographic medial such as film or a camera CCD. It amount of light is determined by a combination of aperture and shutter speed.

Exposure bracket Shooting the same subject at a range of different exposures.

Exposure compensation Exposure compensation for available light is activated by changing the shutter speed and/or lens aperture. In flash photography with a dedicated TTL flash unit, exposure compensation can also be performed by varying the amount of flash output.

Exposure Meter An instrument with a light-sensitive cell that measures the light reflected from or falling on a subject.

Extension tubes
Metal tubes used to obtain the additional separation between lens and camera for close-up photography. various lens mounts.

F-number
The numbers on the lens aperture ring or the camera's LCD that indicate the relative size of the lens aperture opening. The f-number series is a geometric progression based on changes in the size of the lens aperture, as it is opened and closed. As the scale rises, each number is multiplied by a factor of 1.4. The standard numbers for Calibration are *f*/1.0, *f*/1.4, *f*/2, *f*/2.8, *f*/4, *f*/5.6, *f*/8, *f*/11, *f*/16, *f*/22, *f*/32, etc. Each change results in a doubling or halving of the amount of light transmitted by the lens to the film or CCD plane.

***f*-stop** The increase or decrease of *f*/number size in available stops.

Fill-flash A method of flash photography that combines flash illumination and ambient light, in order to obtain balanced exposure.

Filter Colored glass or other transparent material used over the lens to emphasize, eliminate, or change the color or density of the entire scene or certain areas within a scene.

Finder Also known as viewfinder. A viewing device on a camera to show the subject area that will be recorded.

Fisheye lens
Ultra-wide angle lens giving 180 degrees of view.

Flash Exposure Bracketing Enables a photographer to automatically bracket exposures at varied flash output levels.

Flash shooting distance range The distance range over which a flash can effectively provide light. The flash shooting distance range varies with the aperture, film speed and the flash guide number.

Focal Length The distance between the film and the optical center of the lens when the lens is focused on infinity. The focal length of the lens on most adjustable cameras is marked in millimeters on the lens mount.

Focus Adjustment of the distance setting on a lens to define the subject sharply.

Focus-Priority Shutter cannot be released until the subject is in focus.

Focus Tracking Enables the camera to analyze the speed of the moving subject according to the focus data detected, and to obtain correct focus by anticipating the subject's position.

Format The actual size of the image produced by a camera. In 35mm photography, the picture measures 24mm

x 36mm and is referred to full frame in digital photography. While the new APS (Advance Photo System) uses smaller CCD area in the range of 24mm x16mm. Since most DSLR can use 35mm film format lenses, the focal length has to be multiplied by a factor of approximately 1.5. A 50mm lens in the 25mm film format becomes a 75mm lens in the Pentax DSLRs, while conserving the maximum aperture.

Foreground The area between the camera and the principal subject.

Front-Curtain Sync The flash fires an instant after the front curtain of a focal plane shutter has completed its travel across the film plane.

Frame One individual picture on a roll of film or one digital capture on DSLRs.

Full aperture metering
TTL metering systems in which the camera simulates the effect of stopping down the lens while leaving the diaphragm at full aperture to give full focusing screen brilliance.

GN Guide number. Used to express the power output of a flash unit. It indicates the power of a flash in relation to the ISO sensibility.

Grey card (18% Grey Card)
Tone used as representative of mid-tone of average subject. The standard gray card reflects 18 per cent of the light falling on it.

Hot Shoe Usually rest around the pentaprism of the camera It has electrical contacts which mate with contacts in the mounting foot of the flash unit. This allows the camera to fire the flash at the proper time without any other electrical connections between flash and camera.

Hyper focal Distance Distance of the nearest object in a scene that is acceptably sharp when the lens is focused on infinity.

Incident light Light falling on a surface as opposed to the light reflected by it.

Infinity Infinite distance. In practice, a distance so great that any object at that distance will be reproduced sharply if the lens is set at its infinity position.

Interchangeable lens Lens designed to be readily attached to and detached from a camera.

Iris diaphragm. Device consisting of thin overlapping metal leaves pivoting outwards to form a circular opening of variable size to control light transmission through a lens.

ISO Speed The international standard for representing sensitivity. The higher the number, the greater the sensitivity.

IF Internal Focusing System

K- ***50/K-500*** Revolutionary Digital camera introduced by Pentax

Kelvin A scale use to measure the color temperature.

LCD Liquid Crystal Display. An electronically generated text, numeric, symbols and images.

Lens One or more optical glass or similar material designed to collect and focus rays of light to form a sharp image film or CCD.

Lens Shade A collar or hood at the front of a lens that keeps unwanted light from striking the lens and causing image flare.

Lens Speed The largest lens opening at which a lens can be set. A fast lens transmits more light and has a larger maximum aperture than a slow lens.

Long-focus Lens of relatively long focal length designed to provide a narrower angle of view.

Macro Lens A lens that provides continuous focusing from infinity to extreme close-ups.

Micro lens A lens for close-up photography.

Macro photography The process of taking photographs of small objects with regular photographic lenses at reproduction ratios of 1X or greater.

Matrix Metering system An exposure metering system using a multi-segment sensor pattern.

Maximum aperture The widest aperture which the diaphragm is capable of opening up to.

Multi-coating The depositing of multiple coats of anti-reflective materials on a lens surface. Reduce ghost images and flare produced by internal reflections and insure faithful color rendition.

ND Neutral Density. Usually applies on filters that can effectively reduce the amount of light passing through the lens. It is often used for proper exposure in extremely bright scenes or where slow shutter speed is used.

NTSC National Television Standards Committee. Standards for video broadcasting and recording in the US and Japan. PAL's the standard in Great Britain.

Overexposure A condition in which too much light reaches the CCD, producing a very bright image.

Panning Moving the camera so that the image of a moving object remains in the same relative position in the viewfinder as you take a picture. The eventual effect creates a strong sense of movement.

Panorama A broad view, usually scenic.

PC Personal Computer.

Pincushion Distortion The opposite of barrel distortion. Straight lines are bowed in toward the middle to resemble the sides of a pincushion

Polarizing Filter A filter that transmits light traveling in one plane while absorbing light traveling in other planes. When placed on a camera lens it can eliminate reflections from a subject such as water. It also darkens blue skies.

Print A positive picture usually on paper.

Program Exposure An exposure mode on an automatic or autofocus camera that automatically sets both the aperture and the shutter speed for proper exposure.

RGB The red, green and blue. Black is simulated color. CMYK is the four primary colors.

Saturation An attribute of perceived color, or the percentage of hue in a color.

Scale Focusing method consisting of set of marks to indicate distances at which a lens is focused.

Screen In a camera, the surface upon which the lens projects an image for view finding and focusing purposes. In most DSLR cameras a fresnel screen is used.

Selective Focus Choosing a lens opening that produces a shallow depth of field. It is used to isolate a subject by causing most other elements in the scene to be blurred.

Self-timer Mechanism delaying the opening of the shutter for some seconds after the release has been operated.

Sensitivity :Sensitivity to light and measures in ISO.

Sharpness A term used to describe the ability of a lens to render fine details clearly.

Shutter Blades, a curtain, or other movable cover in a camera that con-

trols the time during which light reaches the film or CCD.

Shutter Priority An exposure mode on an automatic or autofocus camera that lets you select the desired shutter speed. The camera sets the aperture for proper exposure.

Single-Lens-Reflex (SLR) Camera A type of camera that allows seeing through the camera's lens when composing a picture.

Slow Sync A flash technique for using the flash at a slow shutter speed. Using a slower shutter speed with the flash brings out the background details in the picture. Use of a slow shutter speed with Rear-Curtain Sync is particularly effective for illustrating the movement of a stream of light.

Soft Focus Produced by use of a special lens or filter that creates soft outlines.

Stopping Down Changing the lens aperture to a smaller opening.

Telephoto Lens that makes a subject appear larger on film than does a normal lens at the same camera-to-subject distance. A telephoto lens has a longer focal length and narrower field of view.

TTL auto flash The camera's light sensor measures flash illumination, as reflected by the subject and shuts off the flash where measurement indicates a correct exposure.

Time Exposure A long exposure made in seconds or minutes.

Tone The degree of lightness or darkness in any given area of an image

Tripod A three-legged supporting stand used to hold the camera steady. The ***K-50/K-500*** uses shake reduction, minimizing the need for a tripod.

Ultra wide-angle lens Extra-wide angle lens, usually with an angle of view greater than 90°.

Underexposure A condition in which too little light reaches the film or CCD, producing a dark image.

UV Ultra violet ray. Beyond the visible spectrum. It is invisible electromagnetic radiation of the sunlight.

White balance While shooting, adjustment of color temperature to match the light source so the subject appears to have correct color.

Follow your bliss!