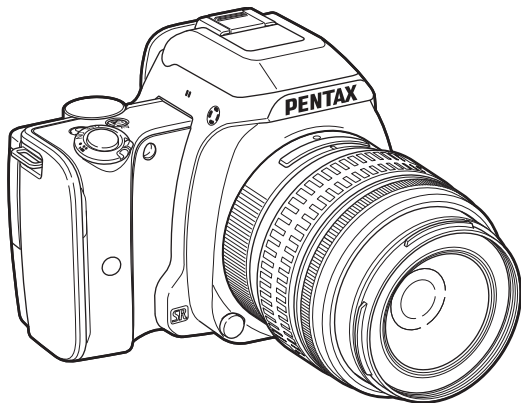# RICOH

SLR Digital Camera

PENTAX *K-S1*

Start Guide

EN

Thank you for purchasing the PENTAX K-S1 digital camera.
This Start Guide provides information on how to get your PENTAX K-S1 ready for use and its basic operations. To ensure proper operation, please read this Start Guide before using the camera.
For details on how to use the various shooting methods and settings, please refer to the Operating Manual (PDF) posted on our website. Refer to p.52 for details on the Operating Manual.
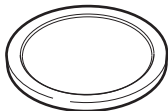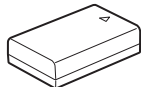
Checking the Contents of the Package

Hot shoe cover Fк
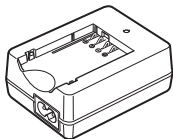(Installed on camera)

Eyecup Fʀ
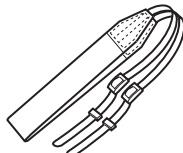(Installed on camera)

Body mount cover
(Installed on camera)

Rechargeable Lithium-ion
Battery D-LI109

Battery charger
D-BC109

AC plug cord

Strap
O-ST132

Software (CD-ROM)
S-SW151

RICOH
SLR Digital Camera
PENTAX K-S1
Start Guide
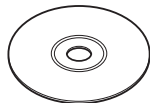
Start Guide (this manual)

Lenses you can use

Lenses that can be used with this camera are DA, DA L, D FA and FA J lenses and lenses that have an **A** (Auto) position on the aperture ring. To use any other lens or accessory, see p.37.

Contents

There is a possibility that the illustrations and the display screen of the monitor in this manual are different from the actual ones.

Regarding copyrights

Images taken with this camera that are for anything other than personal enjoyment cannot be used without permission according to the rights as specified in the Copyright Act. Please take care, as there are cases where limitations are placed on taking pictures even for personal enjoyment during demonstrations, performances or of items on display. Images taken with the purpose of obtaining copyrights also cannot be used outside the scope of use of the copyright as laid out in the Copyright Act, and care should be taken here also.
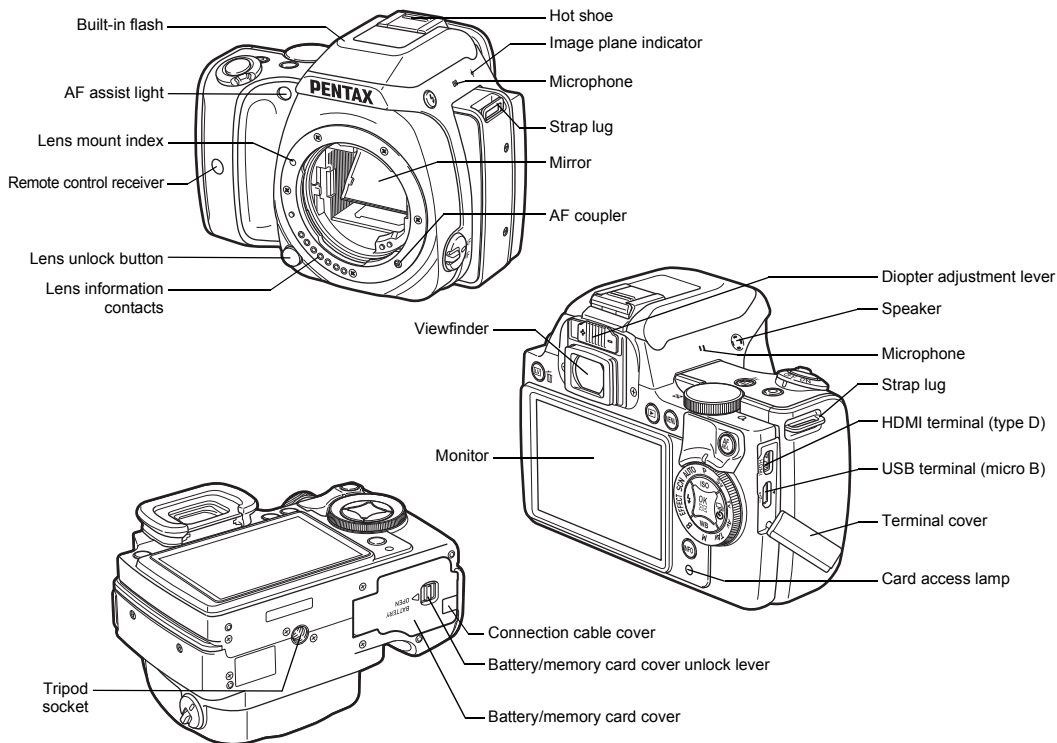
To users of this camera

- Do not use or store this camera in the vicinity of equipment that generates strong electromagnetic radiation or magnetic fields. Strong static charges or the magnetic fields produced by equipment such as radio transmitters could interfere with the monitor, damage the stored data, or affect the camera's internal circuitry and cause camera misoperation.
- The liquid crystal panel used for the monitor is manufactured using extremely high precision technology. Although the level of functioning pixels is 99.99% or better, you should be aware that 0.01% or fewer of the pixels may not illuminate or may illuminate when they should not. However, this has no effect on the recorded image.
- In this manual, the generic term "computer(s)" refers to either a Windows PC or a Macintosh.
- In this manual, the term "battery(ies)" refers to any type of batteries used for this camera and its accessories.

Regarding User Registration

In order to better serve you, we request that you complete the user registration, which can be found on the CD-ROM supplied with the camera or on our website.
Thank you for your cooperation.

http://www.ricoh-imaging.com/registration/

2

Names and Functions of the Working Parts

Built-in flash
Hot shoe
Image plane indicator
AF assist light
Microphone
Lens mount index
Strap lug
Remote control receiver
Mirror
AF coupler
Lens unlock button
Lens information contacts

Viewfinder
Diopter adjustment lever
Speaker
Microphone
Strap lug
Monitor
HDMI terminal (type D)
USB terminal (micro B)
Terminal cover
Card access lamp

Tripod socket
Connection cable cover
Battery/memory card cover unlock lever
Battery/memory card cover

Operating Controls

① **EV Compensation button (⊞/Av)**
Press to change the exposure compensation value. (p.29)
In TAv/M mode, use this button to switch the value to be changed between shutter speed and aperture value.
In playback mode, the last JPEG image taken can also be saved in RAW format.

② **Green button (O)**
Resets the value being adjusted.
Switches to [ISO AUTO] when adjusting the sensitivity.
Also, you can assign other functions to this button.

③ **Shutter release button (SHUTTER)**
Press to capture images. (p.25)
In playback mode, press halfway to switch to capture mode.

④ **Main switch**
Turns the power on/off, or switches to 🎥 (movie) mode. (p.30)
When the camera is turned on, it enters 📷 (still picture) mode and the lamp lights green. When the switch is turned to 🎥, the camera enters 🎥 mode and the lamp lights red.

⑤ **Grip lamps**
The five lamps light up green during Self-timer shooting or shooting with a remote control unit, or when faces are detected during Live View.

⑥ **Lens unlock button**
Press to detach the lens on the camera. (p.20)

⑦ **Flash pop-up button (🔲)**
Press to pop up the built-in flash. (p.31)

⑧ **Focus mode switch**
Turn to change the focus mode.

⑨ **Live View/Delete button (LV/🗑)**
Displays the Live View image. (p.25)
In playback mode, press to delete images. (p.33)

4

⑩ **Playback button (▶)**
Switches to playback mode. (p.33)
Press the button again to switch to capture mode.

⑪ **MENU button (MENU)**
Displays a menu. Press this button while the menu is displayed to return to the previous screen. (p.11)

⑫ **INFO button (INFO)**
Changes the style of the display on the monitor. (p.6, p.8)

⑬ **E-dial (⊙)**
Changes the values for camera settings such as exposure. (p.28)
You can change the menu tabs when a menu screen is displayed. (p.11)
You can change the camera settings when the control panel is displayed. (p.10)
In playback mode, use this to magnify an image or display multiple images at the same time. (p.33)

⑭ **AF/AE Lock button (AF/AE-L)**
Available for adjusting focus, instead of pressing SHUTTER halfway, and for locking the exposure value before shooting.

⑮ **Four-way controller (▲▼◀▶)**
Displays the Sensitivity, White Balance, Flash Mode or Drive Mode setup menu. (p.10)
When a menu or the control panel is displayed, use this to move the cursor or change the item to set.
Press ▼ in single image display of the playback mode to display the playback mode palette. (p.34)

⑯ **OK button (OK)**
When a menu or the control panel is displayed, press this button to confirm the selected item.
Press this button when [AF Active Area] is set to ▦ or ▦EX, or when [Contrast AF] is set to ▦ or ▣ to change the focusing area.

When the power is turned on, the lamp lights blue. When the focusing area can be changed, the lamp turns off.

⑰ **Mode dial**
Changes the capture mode. (p.24)
When the power is turned on, the lamp lights white, and the icon of the set capture mode lights green on the dial.

About the indicator lamps

The main switch lamp, grip lamps, mode dial lamp and OK lamp turn off in the following situations.
• From the time when SHUTTER is pressed halfway until the end of shooting
• While AF/AE-L is pressed
• During playback mode
• While a menu is displayed
• During Auto Power Off
You can set the lamp lighting settings in [Indicator Lamps] of the ⚙3 menu. (p.17)

About the four-way controller

In this manual, each button of the four-way controller is indicated as shown in the illustration on the right.
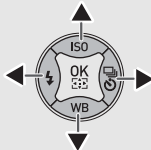
Monitor

Capture Mode

With this camera, you can take pictures while looking through the viewfinder or while viewing the image on the monitor.
When using the viewfinder, you can take pictures while checking the status screen displayed on the monitor and looking through the viewfinder. When not using the viewfinder, you can take pictures while viewing the Live View image displayed on the monitor.
The camera is in "standby mode" when it is ready to shoot, such as when the status screen or Live View image is displayed.
Press **INFO** in standby mode to display the "control panel" and change settings. (p.10) You can change the type of information displayed in standby mode by pressing **INFO** while the control panel is displayed.
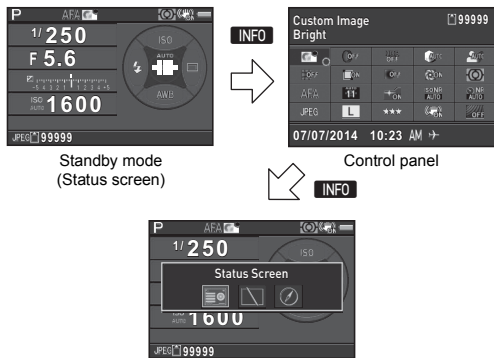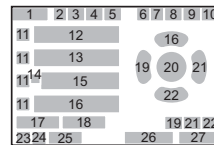

Standby mode
(Status screen)

Control panel

Shooting Info Display selection screen

Status Screen
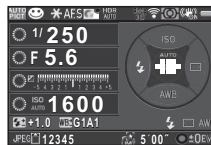
- **1** Capture mode
- **2** AE Lock
- **3** Focus Method
- **4** Custom Image
- **5** Digital Filter/HDR Capture
- **6** GPS positioning status
- **7** Wireless LAN status
- **8** AE Metering
- **9** Shake Reduction
- **10** Battery level
- **11** E-dial guide
- **12** Shutter speed
- **13** Aperture value
- **14** EV Compensation/ Exposure Bracketing
- **15** EV bar scale
- **16** Sensitivity
- **17** Flash Exposure Compensation
- **18** White Balance fine-tuning
- **19** Flash Mode
- **20** Focusing area (AF point)
- **21** Drive Mode
- **22** White Balance
- **23** File Format
- **24** Memory card
- **25** Image storage capacity
- **26** ASTROTRACER maximum tracking duration
- **27** Operation guide

6

Live View

1 Capture mode
2 Flash Mode
3 Drive Mode
4 White Balance
5 Custom Image
6 Digital Filter/HDR Capture
7 GPS positioning status
8 Wireless LAN status
9 AE Metering
10 Shake Reduction/Movie SR
11 Battery level
12 Temperature warning
13 Histogram
14 EV Compensation
15 EV bar scale
16 Operation guide
17 AE Lock
18 Shutter speed
19 Aperture value
20 Sensitivity
21 File Format
22 Memory card
23 Image storage capacity
24 Face detection frame (when [Contrast AF] is set to [Face Detection])

Control Panel

○ mode
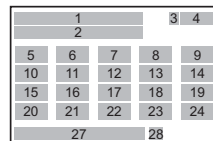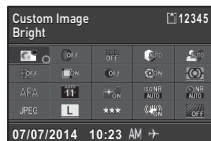
When shooting with Live View
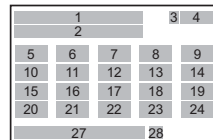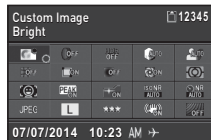
♫ mode
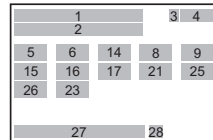
1 Function name
2 Setting
3 Memory card
4 Number of recordable still pictures/Movie recordable time
5 Custom Image/Scene Mode/Effects Mode
6 Digital Filter
7 HDR Capture
8 Highlight Correction
9 Shadow Correction
10 Distortion Correction
11 Lateral Chromatic Aberration Adjustment
12 Peripheral Illumination Correction
13 Diffraction Correction

14 AE Metering	**22** JPEG Quality
15 AF Mode/Contrast AF	**23** Shake Reduction/Movie SR
16 AF Active Area/Focus Peaking	**24** AA Filter Simulator
17 AF Assist Light	**25** Framerate
18 High-ISO NR	**26** Recording Sound Level
19 Slow Shutter Speed NR	**27** Current date and time
20 File Format	**28** Destination
21 JPEG Recorded Pixels/ Movie Recorded Pixels	

Playback Mode

The captured image and shooting information are displayed in single image display of the playback mode.
Press **INFO** to change the type of information displayed in single image display. Use ◀▶ to select the type and press **OK**.

Single image display
(Standard Information Display)

Playback Info Display
selection screen

Viewfinder

When shooting with the viewfinder, the following information appears in the viewfinder.
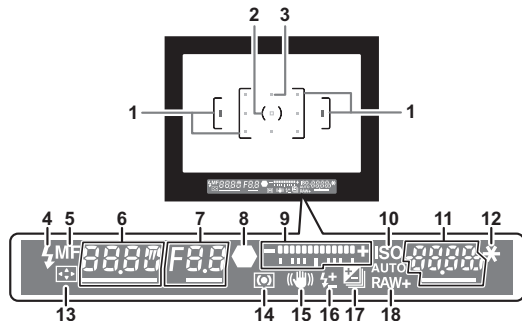
1. AF frame
2. Spot metering frame
3. AF point
4. Flash indicator
5. Focus Method
6. Shutter speed
7. Aperture value
8. Focus indicator
9. EV bar scale
10. ISO/ISO AUTO
11. Sensitivity/Exposure compensation value
12. AE Lock
13. Change AF Point
14. AE Metering
15. Shake Reduction
16. Flash Exposure Compensation
17. EV Compensation/Exposure Bracketing
18. File Format

✎ Memo

- You can adjust the diopter in the viewfinder using the diopter adjustment lever. If it is difficult to adjust the diopter adjustment lever, lift up and remove the eyecup. Adjust the lever until the AF frame in the viewfinder looks sharp and clear.
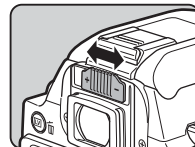
How to Change Function Settings

The camera functions and their settings can be selected and changed by using the following ways.

Direct keys	Press ▲ ▼ ◀ ▶ in standby mode.
Control panel	Press INFO in standby mode. (indicated with the ▦ icon in this manual)
Menus	Press MENU.

Using the Direct Keys

▲⊕◑◐

▲	Sensitivity	p.29
▼	White Balance	p.32
◀	Flash Mode	p.31
▶	Drive Mode	p.32
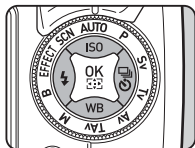
Using the Control Panel   INFO

You can set frequently used shooting functions. Press INFO in standby mode.

Use ▲ ▼ ◀ ▶ to select an item.

File Format   99999

07/07/2014 10:23 AM
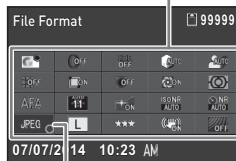
Use ⟳ to change settings.

Press OK to make detailed settings.

File Format   99999

JPEG RAW RAW

MENU Cancel   OK OK

Press MENU to cancel setting operation.
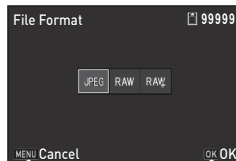
Press OK to confirm the selected item and return to the control panel.

Using the Menus

Most functions are set from the menus. The functions that can be set on the control panel can also be set from the menus.

Use ☼ to switch between menu tabs.

Custom Image
Image Capture Settings
AF Settings
AE Metering
Digital Filter
HDR Capture

Use ▲▼ to select an item.

Menu tabs

Press MENU to exit the menu screen.

Lens Correction
D-Range Settings
High-ISO NR
Slow Shutter Speed NR
GPS

Press ▶ to display the pop-up menu.

Custom Image
Image Capture Settings
AF Settings
AE Metering
Digital Filter
HDR Capture

Press ▶ to display the submenu.

Lens Correction
D-Range Settings
High-ISO NR
Slow Shutter Speed NR
GPS

Use ▲▼ to select an item.

Image Capture Settings

File Format   JPEG
JPEG Recorded Pixels > L
JPEG Quality   ★★★
RAW File Format   PEF

Press MENU to cancel the pop-up menu.

Press OK to confirm the selected item.

Press MENU to return to the previous screen.

11

Rec. Mode Menus

Menu	Item		Function	Default Setting
○1	Custom Image *1 *4		Sets the image finishing tone such as color and contrast before shooting an image.	Bright
	Scene Mode *2 *4		Selects the scene mode that best suits the situation. (SCN mode)	Portrait
	Effects Mode *3 *4		Selects the special effects that can be added to pictures. (EFFECT mode)	Faded Color
	Image Capture Settings	File Format *4	Sets the file format of images.	JPEG
		JPEG Recorded Pixels *4	Sets the recording size of images saved in JPEG format.	L
		JPEG Quality *4	Sets the quality of images saved in JPEG format.	★★★
		RAW File Format	Sets the RAW file format.	PEF
	AF Settings	AF Mode *4	Selects the autofocus method when shooting with the viewfinder.	AF.A
		AF Active Area *4	Selects the area to adjust the focus when shooting with the viewfinder.	Auto (11 AF Points)
		AF Assist Light *4	Sets whether to use the assist light when autofocusing in dark locations.	On
	AE Metering *4		Selects the part of the sensor to use for measuring brightness and determining exposure.	Multi-segment
	Digital Filter *4		Applies a digital filter effect when taking pictures.	No Filter
	HDR Capture	HDR Capture *4	Sets the type of high dynamic range shooting.	Off
		Bracket Value *4	Sets the amount to change the exposure.	±2EV
		Auto Align	Sets whether to automatically adjust the composition.	On

12

Menu	Item		Function	Default Setting
◘2	Lens Correction	Distortion Correction [*4]	Reduces distortions occurring due to lens properties.	Off
		Lat-Chromatic-Ab Adj [*4]	Reduces lateral chromatic aberrations occurring due to lens properties.	On
		Peripheral Illumin. Corr. [*4]	Reduces peripheral light fall-off occurring due to lens properties.	Off
		Diffraction Correction [*4]	Corrects blur caused by diffraction when using a small aperture.	On
	D-Range Settings	Highlight Correction [*4]	Expands the dynamic range and prevents overexposed areas from occurring.	Auto
		Shadow Correction [*4]	Expands the dynamic range and prevents underexposed areas from occurring.	Auto
	High-ISO NR [*4]		Sets the Noise Reduction setting when shooting with a high ISO sensitivity.	Auto
	Slow Shutter Speed NR [*4]		Sets the Noise Reduction setting when shooting with a slow shutter speed.	Auto
	GPS		Sets the camera action when the optional GPS unit is used.	–
◘3	Live View	Contrast AF [*4]	Sets the AF Mode for shooting with Live View.	Face Detection
		Focus Peaking [*4]	Emphasizes the outline of the subject in focus and makes it easier to check the focus.	Off
		Grid Display	Displays the grid during Live View.	Off
		Histogram Display	Displays the histogram during Live View.	Off
		Highlight Alert	Sets overexposed areas to blink red during Live View.	Off
	AA Filter Simulator [*4]		Applies low-pass filter effects using the Shake Reduction mechanism.	Off
	Shake Reduction [*4]		Activates the Shake Reduction function.	On
	Input Focal Length		Sets the focal length when using a lens of which focal length information cannot be obtained.	35mm

Menu	Item		Function	Default Setting
◻4	**Instant Review**	**Display Time**	Sets the Instant Review display time.	1sec.
		Zoom Instant Review	Sets whether to magnify the image during Instant Review.	On
		Save RAW Data	Sets whether to save the RAW data during Instant Review.	On
		Delete	Sets whether to allow deletion of the displayed image during Instant Review.	On
		Histogram Display	Displays the histogram during Instant Review.	Off
		Highlight Alert	Sets overexposed areas to blink red during Instant Review.	Off
	Button Customi-zation	**AF/AE-L Button**	Sets the function for when ▦▦ is pressed.	Enable AF1
		AF/AE-L Button(Movie)	Sets the function for when ▦▦ is pressed in 🎥 mode.	Enable AF1
		Green Button	Sets the function for when ○ is pressed.	Green Button
		E-Dial Programming	Reverses the direction of rotation to increase value when ◉ is turned.	Rotate Right
	Memory		Determines which settings to save when the power is turned off.	On for settings other than Digital Filter, HDR Capture, and Shooting Info Display

*1   The function appears in modes other than **SCN** or **EFFECT** mode.
*2   The function appears in **SCN** mode.
*3   The function appears in **EFFECT** mode.
*4   The functions can also be set from the control panel.

Menu	Item	Function	Default Setting
🎥1	**Movie Capture Settings** *1	Sets the number of recorded pixels and the framerate of the movie.	FullHD/30p
	Recording Sound Level *1	Sets the Recording Sound Level and the volume level for recording.	Auto
	Digital Filter *1	Applies a digital filter effect when recording a movie.	No Filter
	Movie SR *1	Activates the Movie Shake Reduction function.	On

*1 The functions can also be set from the control panel.

Playback Menu

Menu	Item		Function	Default Setting
▶1	**Slideshow**	**Display Duration**	Sets an image display interval.	3sec.
		Screen Effect	Sets a transition effect when the next image is displayed.	Off
		Repeat Playback	Starts the slideshow again from the beginning after the last image is displayed.	Off
		Auto Movie Playback	Plays back movies during the slideshow.	On
	Quick Zoom		Sets the initial magnification when magnifying images.	Off
	Highlight Alert		Sets overexposed areas to blink red in Standard Information Display or Histogram Display in playback mode.	Off
	Auto Image Rotation		Rotates images which were captured with the camera held vertically or of which the rotation information has been changed.	On
	Protect All Images		Protects all stored images at once.	–
	Delete All Images		Deletes all stored images at once.	–

Set-up Menus

Menu	Item		Function	Default Setting
🔧1	**Language/言語**		Changes the display language.	English
	Date Adjustment		Sets the date and time and the display format.	01/01/2014
	World Time		Switches between the date and time display of your hometown city and that of a specified city.	Hometown
	Text Size		Sets whether to magnify the text size when selecting a menu item.	Std.
	Sound Effects		Switches the operation sound on/off and changes the volume for In-focus, AE-L, Self-timer, Remote Control, Change AF Point, and One Push File Format operations.	Volume 3/ All On
	LCD Display	**Guide Display**	Sets whether to display the operation guides when the capture mode is changed.	On
		Display Color	Sets the display color of the status screen, control panel and menu cursor.	1
	LCD Display Settings		Adjusts the brightness, saturation and the color of the monitor.	0
🔧2	**USB Connection**		Sets the USB connection mode when connecting to a computer.	MSC
	HDMI Out		Sets the output format when connecting to an AV device with an HDMI input terminal.	Auto
	Folder Name		Sets the folder name in which images are stored.	Date
	Create New Folder		Creates a new folder on the memory card.	–
	File Name		Sets the file name assigned to an image.	IMGP/_IMG
	File No.	**Sequential Numbering**	Sets whether to continue the sequential numbering for the file name when a new folder is created.	On
		Reset File Number	Resets the file number setting and returns to 0001 each time a new folder is created.	–
	Copyright Information		Sets the photographer and copyright information embedded in the Exif data.	Off

| Menu	Item		Function	Default Setting
🔧3	**Flicker Reduction**		Cuts down on the screen flicker by setting the power frequency.	50Hz
	Auto Power Off		Sets the time until the camera turns off automatically if no operations are made for a certain period of time.	1min.
	Indicator Lamps	**Other Indicator Lamps**	Lights up the main switch lamp, mode dial lamp, 🔲 lamp, and grip lamps when the power is turned on.	High
		Self-timer	Lights up the grip lamps during the countdown for Self-timer shooting.	On
		Remote Control	Lights up the grip lamps when shooting with a remote control unit.	On
	Wireless Memory Card		Sets the camera action for when an Eye-Fi card or a Flucard is used.	–
	Reset		Resets the settings of the direct keys and for the items of the 🔲 menu, 🎬 menu, ▶ menu, 🔧 menu, control panel, and playback mode palette.	–
🔧4	**Pixel Mapping**		Maps out and corrects any defective pixels on the CMOS sensor.	–
	Dust Removal		Cleans the CMOS sensor by shaking it.	Off
	Sensor Cleaning		Locks the mirror in the up position for cleaning the CMOS sensor with a blower.	–
	Format		Formats a memory card.	–
	Firmware Info/Options		Displays the camera's firmware version. You can check the current firmware version before running an update.	–

Custom Setting Menus

Menu	Item	Function	Default Setting
C1	**1 EV Steps**	Sets the adjustment steps for exposure.	1/3 EV Steps
	2 Sensitivity Steps	Sets the adjustment steps for ISO sensitivity.	1 EV Step
	3 Meter Operating Time	Sets the meter operating time.	10sec.
	4 AE-L with AF Locked	Sets whether to lock the exposure value when the focus is locked.	Off
	5 Link AE and AF Point	Sets whether to link the exposure and AF point in the focusing area.	Off
	6 Auto EV Compensation	Sets whether to automatically compensate when the proper exposure cannot be determined.	Off
	7 Bulb (B) Mode Options	Sets the camera operation when pressing SHUTTER in **B** mode.	Type1
C2	**8 Bracketing Order**	Sets the order for Exposure Bracketing shooting.	0 - +
	9 One-Push Bracketing	Sets whether to shoot all frames with one release when using Exposure Bracketing.	Off
	10 WB Adjustable Range	Sets whether to automatically fine-tune the white balance when the light source is specified for the white balance setting.	Fixed
	11 WB When Using Flash	Sets the white balance setting for when using a flash.	Auto White Balance
	12 AWB in Tungsten Light	Sets the tungsten light color tone for when the white balance is set to [Auto White Balance].	Strong Correction
	13 Color Temperature Steps	Sets the adjustment steps for color temperature.	Kelvin
	14 Superimpose AF Area	Sets whether to display the active AF point in red in the viewfinder.	On

Menu	Item	Function	Default Setting
C3	**15 AF.S Setting**	Sets the action priority for when the focus mode is set to **AF.S** and SHUTTER is fully pressed.	Focus-priority
	16 1st Frame Action in AF.C	Sets the action priority for the first frame when the focus mode is set to **AF.C** and SHUTTER is fully pressed.	Release-priority
	17 Action in AF.C Continuous	Sets the action priority during Continuous Shooting when the focus mode is set to **AF.C**.	Focus-priority
	18 Hold AF Status	Sets whether to maintain the focus for a certain amount of time when the subject happens to move out of the selected focusing area after being focused.	Off
	19 AF with Remote Control	Sets whether to use autofocus when shooting with a remote control unit.	Off
	20 Release While Charging	Sets whether to release the shutter while the built-in flash is being charged.	Off
	21 Color Space	Sets the color space to use.	sRGB
C4	**22 Save Rotation Info**	Sets whether to save rotation information when shooting.	On
	23 Save Menu Location	Saves the last menu tab displayed on the monitor and displays it again the next time MENU is pressed.	Reset Menu Location
	24 Catch-in Focus	Sets whether to enable Catch-in Focus shooting when a manual focus lens is attached. The shutter is released automatically when the subject comes into focus.	Off
	25 AF Fine Adjustment	Allows you to precisely fine tune your lenses with the camera's autofocus system.	Off
	26 Using Aperture Ring	Sets whether to enable the shutter to release when the lens aperture ring is set to a position other than **A** (Auto).	Disable
	Reset Custom Functions	Resets all the settings of the Custom Setting menus to the defaults.	–

Getting Your Camera Ready for Use

Attaching the Strap

1 **Pass the end of the strap through the strap lug and secure it on the inside of the clasp.**
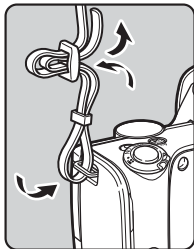
2 **Attach the other end in the same manner.**

Attaching a Lens

1 **Make sure that the camera is turned off.**

2 **Remove the body mount cover (①) and lens mount cover (②).**
After removing the cover, be sure to put the lens down with the lens mount side facing upward.

3 **Align the lens mount index (red dots: ③) on the camera and the lens, and secure by turning the lens clockwise until it clicks.**
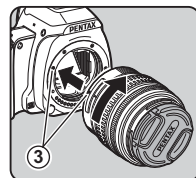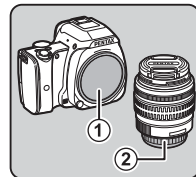
To remove the lens
Attach the lens cap, and then turn the lens counterclockwise while pressing the lens unlock button (④).
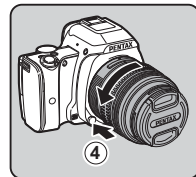
Charging the Battery

1 **Connect the AC plug cord to the battery charger.**

2 **Plug the AC plug cord into the power outlet.**

Battery charger   Indicator lamp

AC plug cord
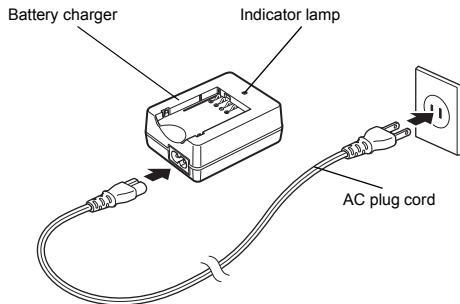
3 **Face the ▲ mark on the battery up, and insert it into the battery charger.**
Insert the battery into the battery charger at an angle, and then fit into place.
The indicator lamp is lit while charging and turns off when the battery is fully charged.
(Approximate maximum charging time: 240 minutes)
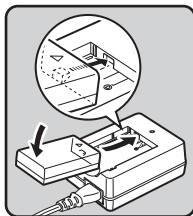
Inserting/Removing the Battery and Memory Card

1 **Open the battery/memory card cover.**
Slide the battery/memory card cover unlock lever (①) before opening the cover.
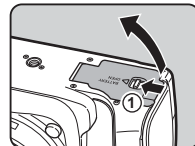
2 **Face the ▲ mark on the battery towards the lens, and insert the battery until it locks into place.**
To remove the battery, push the battery lock lever in the direction of ②.
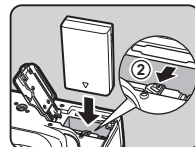
3 **Insert the card all the way into the memory card slot with the memory card label facing toward the monitor.**
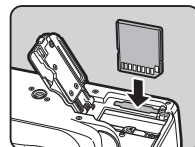
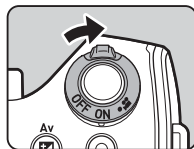Push the memory card in once and release to remove.
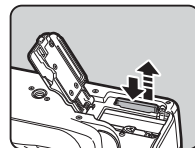
4 **Close the battery/memory card cover.**
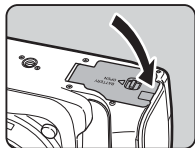
## Setting the Display Language and Date/Time

1 **Turn the main switch to [ON].**
The lamp lights up in green.
The [Language/言語] screen appears.

2 **Use ▲ ▼ ◀ ▶ to select the desired language and press OK.**
The [Initial Setting] screen appears in the selected language. Proceed to Step 7 if ⌂ (Hometown) does not need to be changed.

Initial Setting	
Language/言語	English
⌂ New York	
Text Size	Std.
Settings complete	
MENU Cancel	
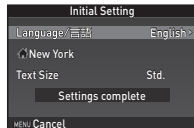
3 **Press ▼ to move the frame to ⌂ and press ▶.**
The [⌂ Hometown] screen appears.

4 **Use ◀ ▶ to select a city.**
Use 🔘 to change the region.

⌂ Hometown	
New York	
DST	☐
MENU Cancel	OK OK
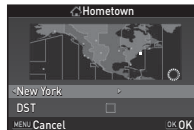
5 **Press ▼ to select [DST] (daylight saving time), and use ◀ ▶ to select ☐ or ☑.**

6 **Press OK.**
The camera returns to the [Initial Setting] screen.
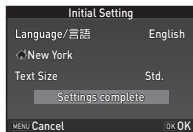
7 Press ▼ to select [Text Size] and press ▶.

8 Use ▲▼ to select [Std.] or [Large], and press **OK**.
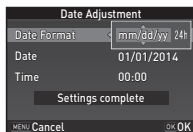Selecting [Large] increases the text size of the selected menu items.

Initial Setting
Language/言語
New York
Text Size · Std. / Large
Settings complete
MENU Cancel · OK OK
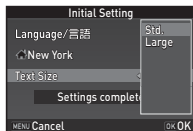
9 Press ▼ to select [Settings complete] and press **OK**.
The [Date Adjustment] screen appears.

Initial Setting
Language/言語 · English
New York
Text Size · Std.
Settings complete
MENU Cancel · OK OK

10 Press ▶, and use ▲▼ to select the date format.

Date Adjustment
Date Format · mm/dd/yy 24h
Date · 01/01/2014
Time · 00:00
Settings complete
MENU Cancel · OK OK

11 Press ▶, and use ▲▼ to select 24h or 12h.

12 Press **OK**.
The frame returns to [Date Format].

13 Press ▼, and then press ▶.
The frame moves to the month if the date format is set to [mm/dd/yy].

14 Use ▲▼ to set the month.
Set the day, year and time in the same manner.

Date Adjustment
Date Format · mm/dd/yy 24h
Date · 01/01/2014
Time · 00:00
Settings complete
MENU Cancel · OK OK
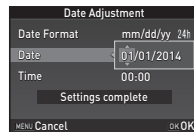
15 Press ▼ to select [Settings complete] and press **OK**.
The [LCD Display] screen appears.

Date Adjustment
Date Format · mm/dd/yy 24h
Date · 07/07/2014
Time · 10:00
Settings complete
MENU Cancel · OK OK
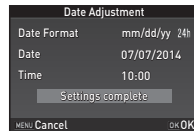
16 Use ◀▶ to select a color.
Select the display color of the status screen, control panel and menu cursor from colors 1 to 12.

LCD Display
Display Color · ‹ 1 ›
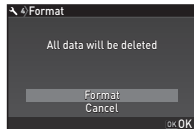1/**250**
F **5.6**
MENU Cancel · OK OK
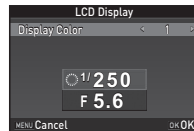
17 Press **OK**.
The camera switches to capture mode and is ready to take a picture.

Formatting a Memory Card   �’4

1 Press MENU.
The ◘1 menu appears.

2 Use ◌ to display �’4 menu.

3 Use ▲▼ to select [Format] and press ▶.
The [Format] screen appears.

4 Press ▲ to select [Format] and press OK.

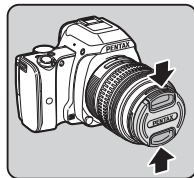�’Format

All data will be deleted

Format
Cancel

ok OK

5 Press MENU twice.
The camera switches to capture mode and is ready to take a picture.

Basic Shooting Operation

Shooting with the Viewfinder

1 Remove the front lens cap by pushing the top and bottom portions as indicated in the illustration.

2 Set the focus mode switch to AF.
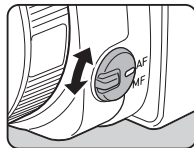
3 Turn the mode dial to select a capture mode.
Turn the mode dial so that the desired capture mode is at the top of the dial.
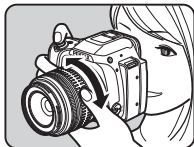The icon of the selected capture mode lights up in green.
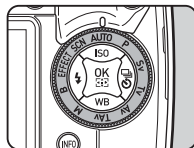
The selected capture mode is displayed on the monitor (Guide Display).

Auto Picture
1/**250**
F **5.6**
ISO **1600**
AF/AE-L AF1
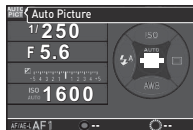
4 Look through the viewfinder to view the subject.

When using a zoom lens, turn the zoom ring to the right or left to change the angle of view.

5 Position the subject inside the AF frame and press SHUTTER halfway.

Focus indicator

6 Press SHUTTER fully.

The captured image is displayed on the monitor (Instant Review).

Available operations during Instant Review

🗑	Deletes the image.
⚙	Magnifies the image.
🖾	Saves the RAW data of the last JPEG image taken.

Shooting While Viewing the Live View Image

1 Press LV in Step 4 of "Shooting with the Viewfinder" (p.24).

The Live View image is displayed on the monitor.
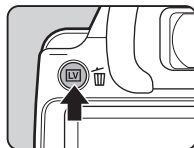
2 Position the subject inside the AF frame on the monitor and press SHUTTER halfway.

1/**2000** F2.8 1600 99999

AF frame

Available operations during Live View

| OK	Magnifies the image. Use ⚙ to change the magnification (up to 10×). Use ▲ ▼ ◄ ► to change the area to display. Press O to return the display area to the center. Press OK to return to 1× image display.
LV	Exits the Live View shooting.

Subsequent steps are the same as shooting with the viewfinder.

Capture Modes for Still Pictures

Select the capture mode that suits the subject and shooting conditions.

The following capture modes are available on this camera.

Capture Mode	Application
AUTO (Auto Picture modes)	Automatically selects the optimal capture mode from ☺ (Standard), ◾ (Portrait), ◲ (Landscape), ◾ (Macro), ◾ (Moving Object), ◾ (Night Scene Portrait), ◾ (Sunset), ◾ (Blue Sky) or ◾ (Forest).
SCN (Scene modes)	Offers you various scene modes to choose from.
EFFECT (Effects modes)	Takes images using various effects.
P/Sv/Tv/Av/ TAv/M/B (Exposure modes)	Changes the shutter speed, aperture value, and sensitivity.

✐ Memo

• The functions that can be set vary depending on the capture mode. Refer to "Restrictions on Each Capture Mode" (p.35) for details.

Scene Modes

1 Set the mode dial to SCN.

The scene mode selection screen appears.

2 Select a scene mode.

◾	**Portrait**	For capturing portraits. Reproduces a healthy and bright skin tone.
◲	**Landscape**	For capturing landscape views. Reproduces the vivid green of trees.
◾	**Macro**	For capturing tiny objects at close focus range like flowers, coins, jewelry, and more.
◾	**Moving Object**	For capturing images of fast moving subjects.
◾	**Night Scene Portrait**	For capturing images of people in low light conditions, such as dusk or at night.
◾	**Sunset**	For capturing sunrises or sunsets in beautiful, vivid color.
◾	**Blue Sky**	For capturing images of blue sky. Produces a more impressive deep blue.
◾	**Forest**	Enhances colors of trees and sunbeams through foliage and produces a vivid color image.

	Night Scene	Used for shooting at night.
	Night Scene HDR	Takes three consecutive images at three different exposure levels to create a single composite image from them.
	Night Snap	For taking snapshots in poorly lit place.
	Food	For capturing images of food. Saturation will be rather high to make food look appetizing.
	Pet	For capturing moving pets.
	Kids	For capturing moving kids. Reproduces healthy and bright skin tone.
	Surf & Snow	For capturing images of dazzling backgrounds, such as snowy mountains.
	Backlight Silhouette	Produces a silhouette image of subject in backlight condition.
	Candlelight	For capturing scenes in candlelight.
	Stage Lighting	For capturing moving subjects in poorly lit place.
	Museum	For capturing images in places where a flash is prohibited.

3 Press **OK**.

The camera is in standby mode.
Turn ○ to change the scene mode.

Effects Modes

1 Set the mode dial to **EFFECT**.
The effects mode palette appears.

2 Select an effects mode.

Faded Color	**Cross Processing**
Clear Tone	**Warm Fade**
Brilliant Color	**Bold Monochrome**
Unicolor Bold	**Infrared Filter**
Vintage Color	**Vibrant Color Enhance**

3 Press **OK**.
The camera is in standby mode.
Turn ○ to change the effects mode.

@ Memo
• The parameters for the selected effects mode can be changed before shooting.

Exposure Modes

✓: Available   #: Restricted   ✗: Not available

Mode	Change Shutter Speed	Change Aperture Value	Change Sensitivity	EV Compensation
P Program Automatic Exposure	# *1	# *1	✓	✓
Sv Sensitivity Priority Automatic Exposure	✗	✗	✓ *2	✓
Tv Shutter Priority Automatic Exposure	✓	✗	✓	✓
Av Aperture Priority Automatic Exposure	✗	✓	✓	✓
TAv Shutter & Aperture Priority Automatic Exposure	✓	✓	✓ *3	✗
M Manual Exposure	✓	✓	✓ *2	✗
B Bulb Exposure	✗	✓	✓ *2	✗

*1 You can set the value to be changed in [Button Customization] of the ◻4 menu.
*2 [ISO AUTO] is not available.
*3 Fixed to [ISO AUTO].

28

1 Turn the mode dial to select the desired exposure mode.

◌ appears on the status screen for the value that can be changed.
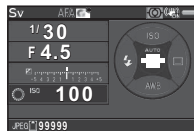
The value that can be changed is underlined in the viewfinder.
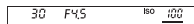
During Live View, ▶ appears for the value that can be changed.

2 Turn ◌.
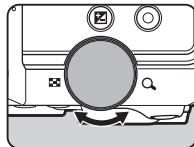
In **TAv**/**M** mode, press ⬛ to select the value to be changed.
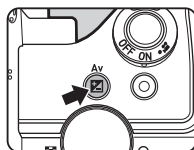
Setting the Sensitivity

1 Press ▲ in standby mode.

2 Use ▲▼ to select an item.

ISO AUTO	Sets the range to be adjusted automatically. The upper limit can be changed.
ISO	Sets a fixed value between ISO 100 to ISO 51200.

ISO AUTO 100 - 3200
ISO 100
MENU Cancel   OK OK
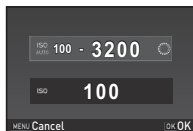
3 Use ◉ to change the value.

4 Press **OK**.

The camera returns to standby mode.

EV Compensation

1 Press 🔲, and then turn ◉.
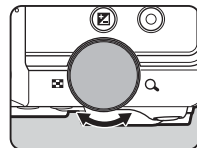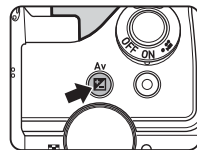
🔲 and the compensation value are displayed on the status screen, Live View screen, and in the viewfinder during adjustment.

P   AF.A
1/250
F 5.6
ISO AUTO 1600
JPEG 99999   ±0EV

Available operations

🔲	Starts/ends adjusting the compensation value.
O	Resets the adjustment value to the default setting.

29

Recording Movies

1 Turn the main switch to 🎬.
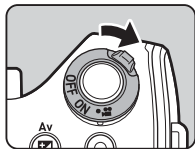
The lamp lights red and the Live View image is displayed.

Sound
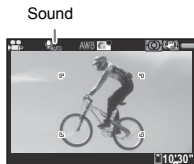
Recordable Time

2 Turn the mode dial to select the desired capture mode.

The following settings are available depending on the capture mode.

EFFECT	Select an effects mode.
Av/TAv/M	Set the exposure. (The aperture value can be set only before shooting. In M mode, the sensitivity can also be changed.)
Other modes	The camera operates in P mode.

3 Focus on the subject.

In AF mode, press SHUTTER halfway.

4 Press SHUTTER fully.

Movie recording starts.

In the upper left area of the monitor, "REC" blinks and the size of the file being recorded is displayed.

5 Press SHUTTER fully again.

Movie recording stops.

6 Return the main switch to the [ON] position to exit 🎬 mode.

The camera returns to shooting with the viewfinder in �‍ mode.

Setting the Flash Mode

1 **Press ◀ in standby mode.**

2 **Select a flash mode.**

Auto Flash Discharge

☉ 0.0

MENU Cancel   OK OK

⚡A	**Auto Flash Discharge**	Automatically measures the ambient light and determines whether to use the flash.
⚡A⊚	**Auto Flash +Red-eye Reduction**	Discharges a pre-flash for red-eye reduction before an automatic flash.
⚡	**Flash On**	Discharges a flash for each picture.
⚡⊚	**Flash On +Red-eye Reduction**	Discharges a pre-flash for red-eye reduction before the main flash and discharges a flash for each picture.
⚡slow	**Slow-speed Sync**	Sets to a slow shutter speed. Use this, for example, when shooting a portrait with the sunset in the background.
⚡slow⊚	**Slow-speed Sync+Red-eye**	Discharges a pre-flash for red-eye reduction before the main flash is discharged with Slow-speed Sync.
⚡slow	**Trailing Curtain Sync**	Discharges a flash immediately before closing the shutter. Sets to a slow shutter speed. Captures moving objects as if they are leaving a light trail behind them.
⚡M	**Manual Flash Discharge**	Sets the amount of flash discharge between FULL and 1/128 power.

3 **Press OK.**
The camera returns to standby mode.

4 **Press ⚡.**
The built-in flash is popped up.
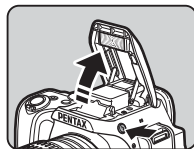
✐ Memo
• The flash modes that can be selected vary depending on the capture mode.

Setting the Drive Mode

1 **Press ▶ in standby mode.**

2 **Select a drive mode.**

Continuous Shooting (H)

MENU Cancel   OK OK
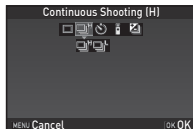
Single Frame Shooting (□)	Normal capture mode
Continuous Shooting (�d⊦/�⊦)	Continuously takes pictures while SHUTTER is kept pressed. The framerate varies according to the shutter speed.
Self-timer (⟳/⟳)	Releases the shutter about 12 seconds or 2 seconds after SHUTTER is pressed.
Remote Control (ī/ī₃ₛ)	Enables shooting with remote control. Select from [Remote Control] or [Remote Control (3 sec. delay)].
Exposure Bracketing (⬚)	Takes three consecutive images at different exposure levels.

3 **Press OK.**

The camera returns to standby mode.

✿ Caution
• There are restrictions on some drive modes when used in some capture modes or in combination with some other functions. (p.35)

Setting the White Balance

1 **Press ▼ in standby mode.**

2 **Select the White Balance.**

Auto White Balance

INFO WB   ☑
MENU Cancel   ● Check   OK OK

AWB	AWB **Auto White Balance**
	▦ₐ **Multi Auto White Balance**
☀	**Daylight**
⌂	**Shade**
☁	**Cloudy**
🗎	🗎 **Fluorescent - Daylight Color**
	🗎ₙ **Fluorescent - Daylight White**
	🗎w **Fluorescent - Cool White**
	🗎 **Fluorescent - Warm White**
⚡	**Tungsten**
⚡ᵂᴮ	**Flash**
CTE	**Color Temperature Enhancement**
⛛	**Manual White Balance**
K	**Color Temperature**

3 **Press OK.**

The camera returns to standby mode.

Reviewing Images

1 Press ▶.

The camera enters playback mode and the most recently captured image is displayed (single image display).
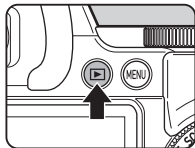
2 Review the captured image.

Available operations

◀	Displays the previous image.
▶	Displays the next image.
🗑	Deletes the image.
⚙ to the right	Magnifies the image (up to 16×). Use ▲▼◀▶ to change the area to display. Press ○ to return the display area to the center. Press OK to return to the entire image display.
⚙ to the left	Switches to the thumbnail display.
☒	Saves the RAW data (only when a JPEG image was taken and the data remains in the buffer).
INFO	Changes the type of information displayed.
▼	Displays the playback mode palette.

Playing Back Movies

Available operations

▲	Plays back/pauses a movie.
▶	Forwards a frame (when paused).
Press and hold ▶	Fast-forwards playback.
◀	Reverses a frame (when paused).
Press and hold ◀	Fast-reverses playback.
▼	Stops playback.
⚙	Adjusts the volume (6 levels).
☒	Saves the displayed frame as a JPEG file (when paused).

33

Playback Mode Palette

Playback functions can be set from the playback mode palette as well as the ▶1 menu.

With the playback mode palette, you can use image editing functions and other playback functions.

Item		Function
🖼	**Image Rotation** *1	Changes the rotation information of images.
◐	**Digital Filter** *1	Processes images with digital filters.
▦	**Color Moiré Correction** *1 *2	Reduces color moiré in images.
❐	**Resize** *1 *2	Changes the number of recorded pixels of the image.
▣	**Cropping** *1	Crops out only the desired area of an image.
⊶	**Protect**	Protects images from being accidentally erased.
▣	**Slideshow**	Plays back images one after another.
🖳	**Save as Manual WB** *1	Saves the white balance settings of the captured image as Manual White Balance.
▥	**Save Cross Processing**	Saves the settings used for an image captured in Cross Processing mode of Custom Image as your "Favorite" settings.
🖳	**RAW Development** *3	Develops RAW images into JPEG images and saves them as a new file.

Item		Function
✂	**Movie Edit** *4	Divides a movie or deletes unwanted segments.
📶	**Eye-Fi Image Transfer** *1 *5	Transfers selected images wirelessly using an optional Eye-Fi card.

*1 Not available when a movie is displayed.
*2 Not available when a RAW image is displayed.
*3 Available only when a RAW image is saved.
*4 Available only when a movie is displayed.
*5 Available only when an Eye-Fi card is inserted.

Restrictions on Each Capture Mode

×: Not available

Function group	Function	AUTO	SCN 🖼🖼	SCN 🖼🖼🖼🖼	SCN 🖼🖼	SCN 🖼🖼🖼🖼	SCN 🖼	SCN 🖼	SCN 🖼	SCN 🖼	EFFECT	B
	Sensitivity						×	×		×		*1
	Flash					×	×			×		
Drive Mode	**Continuous Shooting**				⤷H*2		×		⤷H*2			×
Drive Mode	**Self-timer**				×				×			
Drive Mode	**Remote Control**				×				×			
Drive Mode	**Exposure Bracketing**				×		×		×			×
	Focus Method	AF.A📷 *2	AF.S📷 *2	AF.S *2	AF.C *2	AF.S *2	AF.S *2	AF.C *2	AF.C📷 *2	AF.C *2		
File Format	**RAW/RAW+**						×					
	Shake Reduction						×					×
	White Balance	×*3	×*3	×*3	×*3	×*3	×*3	×*3	×*3	×*3	×*3	
	Custom Image	×*3	×*3	×*3	×*3	×*3	×*3	×*3	×*3	×*3	×*3	

		SCN									
Capture Mode / **Function**	**AUTO**	🏃👤	🏞🌸🌙🍷🌊	🐾🏔	🌃🌅🎆🌉🍴🖼	🈴	🔆	🏃	🖼	**EFFECT**	**B**
Digital Filter						×				×	
HDR Capture				×		*4		×		×	×
AA Filter Simulator				*5		×		*5			
Save RAW Data				×				×			

*1 [ISO AUTO] is not available.
*2 Fixed to; the setting cannot be changed.
*3 Fixed to a specific setting; the setting cannot be changed.
*4 Specific settings are used.
*5 [Bracketing] is not available.

Restrictions on the Combinations of Special Functions

×: Not available

		Drive Mode				HDR Capture
		Continuous Shooting	**Self-timer**	**Remote Control**	**Exposure Bracketing**	
Flash						×
File Format	**RAW/RAW+**					×
Shake Reduction			×	×		
Digital Filter						×
AA Filter Simulator		*1			*1	×
Save RAW Data		×				

*1 [Bracketing] is not available.

Functions Available with Various Lenses

All capture modes are available when a DA, DA L, or FA J lens is used, or when a lens with an **A** position is used with the aperture ring set to the **A** position.
When other lenses than above are used, or a lens with **A** position is used in a position other than **A**, the following restrictions apply.

✔: Available   #: Restricted   ✘: Not available

Lens [Mount type] Function	DA DA L D FA [KAF] [KAF2] [KAF3]	FA J FA *6 [KAF] [KAF2]	F *6 [KAF]	A [KA]	M P [K]
Autofocus (Lens only) (With AF adapter 1.7×) *1	✔ –	✔ –	✔ –	– #	– #
Manual focus (With focus indicator) *2 (With matte field)	✔	✔	✔	✔	✔
Quick-shift focus	#*4	✘	✘	✘	✘
Focus point selection mode [Auto]	✔	✔	✔	#*8	✘
AE Metering [Multi-segment]	✔	✔	✔	✔	✘
P/**Sv**/**Tv**/**Av**/**TAv** mode	✔	✔	✔	✔	#*9
M mode	✔	✔	✔	✔	#
P-TTL auto flash *3	✔	✔	✔	✔	✘
Automatically obtaining the lens focal length information	✔	✔	✔	✘	✘
Lens Correction	✔*5	✘*7	✘	✘	✘

*1 Lenses with a maximum aperture of F2.8 or faster. Only available at the **A** position.
*2 Lenses with a maximum aperture of F5.6 or faster.
*3 Available when using the built-in flash, AF540FGZ, AF540FGZ II, AF360FGZ, AF360FGZ II, AF200FG or AF160FC.
*4 Only available with compatible lenses.
*5 Distortion Correction and Peripheral Illumination Correction are disabled when a DA FISH-EYE 10-17mm lens is used.
*6 To use an FA SOFT 28mm F2.8 lens, FA SOFT 85mm F2.8 lens, or F SOFT 85mm F2.8 lens, set [26 Using Aperture Ring] to [Enable] in the **C**4 menu. Pictures can be taken with the aperture you set, but only within a manual aperture range.
*7 Only available with an FA 31mm F1.8 Limited, FA 43mm F1.9 Limited, or FA 77mm F1.8 Limited lens.
*8 Fixed to [Spot].
*9 **Av** with the aperture set to wide open. (The aperture ring has no effect on the actual aperture value.)

Lens Names and Mount Names

DA lenses with a motor and FA zoom lenses with power zoom use the KAF2 mount. DA lenses with a motor and no AF coupler use the KAF3 mount.
FA single focal length lenses (non-zoom lenses), DA or DA L lenses without a motor, and D FA, FA J and F lenses use the KAF mount.
Refer to respective lens manuals for details.

Main Specifications

Model Description

Type	TTL autofocus, auto-exposure SLR digital camera with a built-in retractable P-TTL flash
Lens Mount	PENTAX KAF2 bayonet mount (AF coupler, lens information contacts, K-mount with power contacts)
Compatible Lenses	KAF3, KAF2 (power zoom not compatible), KAF, KA mount lenses

Image Capture Unit

Image Sensor	Primary color filter, CMOS, Size: 23.5 × 15.6 (mm)
Effective Pixels	Approx. 20.12 megapixels
Total Pixels	Approx. 20.42 megapixels
Dust Removal	SP coating and CMOS sensor vibration
Sensitivity (Standard Output)	ISO AUTO/100 to 51200 (EV steps can be set to 1 EV, 1/2 EV, or 1/3 EV)
Image Stabilizer	Sensor-shift Shake Reduction
AA Filter Simulator	Moiré reduction using SR unit: OFF/Type1/Type2/Bracketing

File Formats

Recording Formats	RAW (PEF/DNG), JPEG (Exif 2.30), DCF 2.0 compliant
Recorded Pixels	JPEG: L (20M: 5472×3648), M (12M: 4224×2816), S (6M: 3072×2048), XS (2M: 1920×1280) RAW: L (20M: 5472×3648)
Quality Level	RAW (12bit): PEF, DNG JPEG: ★★★ (Best), ★★ (Better), ★ (Good) RAW + JPEG simultaneously recordable
Color Space	sRGB, AdobeRGB
Storage Media	SD/SDHC*/SDXC* memory card, Eye-Fi card, FLUCARD (*UHS-I compatible)

Storage Folder	Folder Name: Date (100_1018, 101_1019...) or a user-assigned name (default: PENTX)
Storage File	File Name: user-assigned name (default: IMGP****) File No.: Sequential Numbering, Reset

Viewfinder

Type	Pentaprism Finder
Coverage (FOV)	Approx. 100%
Magnification	Approx. 0.95× (50mm F1.4 at infinity)
Eye-Relief Length	Approx. 20.5 mm (from the view window), Approx. 22.3 mm (from the center of lens)
Diopter Adjustment	Approx. -2.5 to +1.5 m^{-1}
Focusing Screen	Interchangeable Natural-Bright-Matte III focusing screen

Live View

Type	TTL method using CMOS image sensor
Focusing Mechanism	Contrast detection (Face Detection, Face Detection Assist, Tracking, Multiple AF Points, Select, Spot) Focus Peaking: ON/OFF
Display	Field of view: approx. 100%, Magnified view (2×, 4×, 8×, 10×), Grid Display (4 × 4 Grid, Golden Section, Scale), Histogram, Highlight Alert

LCD Monitor

Type	TFT color LCD monitor, wide angle viewing
Size	3.0 inches
Dots	Approx. 921K dots
Adjustment	Brightness, saturation and colors adjustable

White Balance

Type	Method using a combination of the CMOS image sensor and the light source detection sensor

Preset Modes	Auto White Balance, Multi Auto White Balance, Daylight, Shade, Cloudy, Fluorescent Light (**D**: Daylight Color, **N**: Daylight White, **W**: Cool White, **L**: Warm White), Tungsten Light, Flash, **CTE**, Manual White Balance, Color Temperature, Copying the white balance settings of a captured image
Fine Adjustment	Adjustable ±7 steps on A-B axis and G-M axis

Autofocus System

Type	TTL: phase-matching autofocus
Focus Sensor	SAFOX IX i+, 11 points (9 cross type focus points in the center)
Brightness Range	EV -1 to 18 (ISO100, at normal temperature)
AF Modes	Single AF (**AF.S**), Continuous AF (**AF.C**), Auto select AF (**AF.A**)
Focus Point Selection Modes	Auto (5 AF Points), Auto (11 AF Points), Select, Expanded Area AF, Spot
AF Assist Light	Dedicated LED AF assist light

Exposure Control

Type	TTL open-aperture 77 segment metering
Metering Modes:	Multi-segment metering, Center-weighted metering, Spot metering
Metering Range	EV 0 to 22 (ISO100 at 50mm F1.4)
Exposure Modes	Auto Picture modes: Standard, Portrait, Landscape, Macro, Moving Object, Night Scene Portrait, Sunset, Blue Sky, Forest Scene Modes: Portrait, Landscape, Macro, Moving Object, Night Scene Portrait, Sunset, Blue Sky, Forest, Night Scene, Night Scene HDR*, Night Snap, Food, Pet, Kids, Surf & Snow, Backlight Silhouette, Candlelight, Stage Lighting, Museum *JPEG only Effects Modes: Faded Color, Clear Tone, Brilliant Color, Unicolor Bold, Vintage Color, Cross Processing, Warm Fade, Bold Monochrome, Infrared Filter, Vibrant Color Enhance Program, Sensitivity Priority, Shutter Priority, Aperture Priority, Shutter & Aperture Priority, Manual, Bulb

EV Compensation	±5 EV (1/3 EV steps or 1/2 EV steps can be selected)
AE Lock	Can be assigned to **AF/AE-L** from the menu.

Shutter

Type	Electronically controlled vertical-run focal plane shutter
Shutter Speed	Auto: 1/6000 to 30 seconds, Manual: 1/6000 to 30 seconds (1/3 EV steps or 1/2 EV steps), Bulb

Drive Modes

Mode Selection	Still image: Single frame, Continuous (H, L), Self-timer (12 sec., 2 sec.), Remote Control (0 sec., 3 sec.), Exposure Bracketing Movie: Remote Control Off, Remote Control
Continuous Shooting	Max. approx. 5.4 fps, JPEG (**L**: ★★★ at Continuous H): 20 frames, RAW: 5 frames, RAW+: 4 frames Max. approx. 3.0 fps, JPEG (**L**: ★★★ at Continuous L): 100 frames, RAW: 8 frames, RAW+: 4 frames *When the sensitivity is set to ISO100.

Flash

Built-in Flash	Built-in retractable P-TTL pop-up flash Guide number: approx. 10 (ISO100/m) Angle of view coverage: equivalent to 28mm lens in 35 mm format
Flash Modes	Auto Flash Discharge, Auto Flash + Red-eye Reduction (Auto Picture, Scene Mode) Flash On, Flash On + Red-eye Reduction, Slow-speed Sync, Slow-speed Sync + Red-eye, Trailing Curtain Sync, Manual Flash Discharge (FULL to 1/128 power)
Sync Speed	1/180 sec.
Flash Exposure Compensation	-2.0 to +1.0 EV
External Flash	P-TTL, Leading Curtain Sync, Trailing Curtain Sync, Contrast-control-sync, High-speed Sync, Wireless Sync (available with 2 dedicated external flashes)

Capture Functions

Custom Image	Bright, Natural, Portrait, Landscape, Vibrant, Radiant, Muted, Reversal Film, Monochrome, Cross Processing
Cross Processing	Random, Preset 1-3, Favorite 1-3
Noise Reduction	Slow Shutter Speed NR, High-ISO NR
Dynamic Range Settings	Highlight Correction, Shadow Correction
Lens Correction	Distortion Correction, Lateral Chromatic Aberration Correction, Peripheral Illumination Correction, Diffraction Correction
Digital Filter	Extract Color, Replace Color, Toy Camera, Retro, High Contrast, Shading, Invert Color, Unicolor Bold, Bold Monochrome
HDR Capture	Auto, Type1, Type2, Type3 Bracket Value adjustable Auto Align (automatic composition correction)

Movie

File Format	MPEG-4 AVC/H.264 (MOV)
Recorded Pixels Framerate	FullHD (1920×1080, 30p/25p/24p) HD (1280×720, 60p/50p)
Sound	Built-in stereo microphone Recording Sound Level adjustable
Recording Time	Up to 4 GB or 25 minutes; automatically stops recording if the internal temperature of the camera becomes high.
Custom Image	Bright, Natural, Portrait, Landscape, Vibrant, Radiant, Muted, Bleach Bypass, Reversal Film, Monochrome, Cross Processing
Cross Processing	Random, Preset 1-3, Favorite 1-3
Digital Filter	Extract Color, Replace Color, Toy Camera, Retro, High Contrast, Shading, Invert Color, Unicolor Bold, Bold Monochrome

Playback Functions

Playback View	Single frame, Multi-image display (6, 12, 20, 35, and 80 thumbnails), Image magnification (Up to 16×, quick zoom), Rotated image display, Histogram (Y histogram, RGB histogram), Highlight Alert, Detailed Information Display, Copyright Information (Photographer, Copyright Holder), Folder Display, Calendar Filmstrip Display, Slideshow, GPS information (Latitude, Longitude, Altitude, Coordinated Universal Time (UTC)), Direction
Delete	Single image, all images, select & delete, folder, Instant Review image
Digital Filter	Base Parameter Adj, Extract Color, Replace Color, Toy Camera, Retro, High Contrast, Shading, Invert Color, Unicolor Bold, Bold Monochrome, Tone Expansion, Sketch, Water Color, Pastel, Posterization, Miniature, Soft, Starburst, Fish-eye, Slim, Monochrome
RAW Development	Development options: Select single image, Select multiple images, Select a folder Development parameters: File Format (JPEG), Aspect Ratio, JPEG Recorded Pixels, JPEG Quality, Color Space, Distortion Correction, Lat-Chromatic-Ab Adj, Peripheral Illumin. Corr., Diffraction Correction, Color Fringe Correction, White Balance, Custom Image, Digital Filter, Sensitivity, High-ISO NR, Shadow Correction
Editing Features	Color Moiré Correction, Image Rotation, Resize, Cropping (aspect ratio can be changed and tilt correction is available), Movie Edit (dividing a movie file and deleting unwanted segments), Capturing a JPEG still picture from a movie, Save RAW Data, Eye-Fi Image Transfer

Customization

Custom Functions	26 items
Mode Memory	11 items

40

E-Dial Programming/Button Customization	**O** button: Green Button, One Push File Format, Optical Preview, Digital Preview, AF Active Area **AF/AE-L** button: Enable AF1, Enable AF2, Cancel AF, AE Lock E-Dial: Rotate Right, Rotate Left
AF Customization	AF.S Setting: Focus-priority, Release-priority 1st Frame Action in AF.C: Release-priority, Auto, Focus-priority Action in AF.C Continuous: Focus-priority, Auto, FPS-priority Hold AF Status: Off, Low, Medium, High
Text Size	Standard, Large
World Time	World Time settings for 75 cities (28 time zones)
AF Fine Adjustment	±10 steps, adjustment for all lenses or individual lenses (up to 20 values can be saved)
Copyright Information	Names of "Photographer" and "Copyright Holder" are embedded to the image file. A revision history can be checked using the provided software.

Power Supply

Battery Type	Rechargeable Lithium-ion Battery D-LI109
AC Adapter	AC Adapter Kit K-AC128 (optional)
Battery Life	Number of recordable images: (with 50% flash usage): approx. 410 images, (without flash usage): approx. 480 images Playback time: approx. 270 minutes • Tested in compliance with CIPA standard using a fully charged lithium-ion battery at a temperature of 23°C. Actual results may vary depending on the shooting conditions/circumstances.

Interfaces

Connection Port	USB 2.0 (micro B, high-speed compatible), HDMI output terminal (Type D)
USB Connection	MSC/PTP

Dimensions and Weight

Dimensions	Approx. 120 mm (W) × 92.5 mm (H) × 69.5 mm (D) (excluding protrusions)
Weight	Approx. 558 g (Including dedicated battery and SD Memory Card) Approx. 498 g (body only)

Included Accessories

Package Contents	Strap O-ST132, Rechargeable Lithium-ion Battery D-LI109, Battery Charger D-BC109, AC plug cord, Software (CD-ROM) S-SW151, Start Guide <Mounted to the camera> Eyecup Fʀ, Hot shoe cover Fᴋ, Body mount cover
Software	Digital Camera Utility 5

Optional Accessories

GPS Unit	O-GPS1: GPS information (Latitude, Longitude, Altitude, Coordinated Universal Time (UTC)), Direction, Electronic Compass, ASTROTRACER
FLUCARD	Remote capture, image browsing

Approximate Image Storage Capacity and Playback Time

(When using the fully charged battery)

Battery	Tempe-rature	Normal Shooting	Flash Photography		Playback Time
			50% Use	100% Use	
D-LI109	23°C	480	410	360	270 minutes

• The image storage capacity (normal recording and flash use 50%) is based on measuring conditions in accordance with CIPA standards, while other data is based on our measuring conditions. Some deviation from the above figures may occur in actual use depending on the selected capture mode and shooting conditions.

Approximate Image Storage Capacity by Size

(When using a 2 GB memory card)

Recorded Pixels		JPEG Quality			PEF	DNG
		★★★	★★	★		
L	20M	134	304	596	59	59
M	12M	224	503	975	–	–
S	6M	418	917	1707	–	–
XS	2M	1024	2119	3615	–	–

• The number of storable images may vary depending on the subject, shooting conditions, selected capture mode and memory card, etc.

Operating Environment for USB Connection and Provided Software

With the provided software "Digital Camera Utility 5", you can develop RAW files, make color adjustments, or check shooting information on a computer. Install the software from the provided CD-ROM (S-SW151).
We recommend the following system requirements to connect the camera to a computer and to use the software.

Windows

OS	Windows 8.1 (32-bit, 64-bit), Windows 8 (32-bit, 64-bit), Windows 7 (32-bit, 64-bit) or Windows Vista (32-bit, 64-bit)
CPU	Intel Core 2 Duo or higher
RAM	2 GB or more
HDD	For installing and starting up the program: 100 MB or more of available space For saving image files: Approx. 5 MB/file (JPEG), Approx. 25 MB/file (RAW)
Monitor	1280×1024 dots, 24-bit full color or higher

Macintosh

OS	OS X 10.9, 10.8 or 10.7, or Mac OS X 10.6
CPU	Intel Core 2 Duo or higher
RAM	2 GB or more
HDD	For installing and starting up the program: 100 MB or more of available space For saving image files: Approx. 5 MB/file (JPEG), Approx. 25 MB/file (RAW)
Monitor	1280×1024 dots, 24-bit full color or higher

✍ Memo

• QuickTime is required to play back movies transferred to a computer with an OS other than Windows 8 and Windows 8.1. (A computer with Windows 8 or Windows 8.1 can play back movies with a pre-installed player software.)
  You can download it from the following site:
  http://www.apple.com/quicktime/download/

For Using Your Camera Safely

We have paid close attention to the safety of this camera. When using this camera, we request your special attention regarding items marked with the following symbols.

⚠ **Warning** This symbol indicates that ignoring this item could cause serious personal injuries.

⚠ **Caution** This symbol indicates that ignoring this item could cause minor or medium personal injuries, or loss of property.

About the Camera

⚠ Warning

• Do not disassemble or modify the camera. High voltage areas are present inside the camera, with the risk of electric shock.
• If the camera interior is exposed due to dropping or otherwise damaging the camera, never touch the exposed portion. There is a risk of electric shock.
• Do not aim the camera at the sun or other strong light sources when taking pictures or leave the camera sitting in direct sunlight with a lens cap off. Doing so may cause the camera to malfunction or cause a fire.
• Do not look at the sun or other strong light sources through a lens. Doing so may lead to a loss of eyesight or cause vision to be impaired.
• If any irregularities occur during use, such as smoke or a strange odor, stop use immediately, remove the battery or the AC adapter, and contact your nearest service center. Continued use can cause a fire or electrical shock.

⚠ Caution

• Do not place your finger over the flash when discharging the flash. You may burn yourself.
• Do not cover the flash with clothing when discharging the flash. Discoloration may occur.
• Some portions of the camera heat up during use. There is a risk of low temperature burns when holding such portions for long periods.

• Should the monitor be damaged, be careful of glass fragments. Also, be careful not to allow the liquid crystal to get on your skin or in your eyes or mouth.
• Depending on your individual factors or physical condition, the use of the camera may cause itching, rashes or blisters. In case of any abnormality, stop using the camera and get medical attention immediately.

About the Battery Charger and AC Adapter

⚠ Warning

• Always use the battery charger and AC adapter exclusively developed for this camera, with the specified power and voltage. Using a battery charger or AC adapter not exclusive to this camera, or using the exclusive battery charger or AC adapter with an unspecified power or voltage can cause a fire, electric shock, or camera breakdown. The specified voltage is 100 - 240V AC.
• Do not disassemble or modify the product. This can cause a fire or electrical shock.
• If the generation of smoke or strange odor from the product or other abnormality occurs, immediately discontinue using and consult your nearest service center. Continued use can cause a fire or electrical shock.
• If water should happen to get inside the product, consult your nearest service center. Continued use can cause a fire or electrical shock.
• If you see a lightning flash or hear thunder during use of the battery charger or AC adapter, unplug the power plug and discontinue using. Continued use can cause damage to the product, fire or electrical shock.
• Wipe off the power plug if it should become covered with dust. Accumulated dust may cause a fire.
• To reduce the risk of hazards, use only CSA/UL certified power supply cord set, cord is Type SPT-2 or heavier, minimum NO.18 AWG copper, one end with a molded-on male attachment plug cap (with a specified NEMA configuration), and the other is provided with a molded-on female connector body (with a specified IEC nonindustrial type configuration) or the equivalent.

⚠ Caution

• Do not place or drop heavy objects on or forcefully bend the AC plug cord. Doing so may damage the cord. Should the AC plug cord be damaged, consult your nearest service center.

- Do not touch or short-circuit the terminal area of the AC plug cord while the cord is plugged in.
- Do not handle the power plug with wet hands. This can cause an electric shock.
- Do not drop the product, or subject it to violent impact. This can cause the product to breakdown.
- Do not use the battery charger D-BC109 to charge batteries other than the rechargeable lithium-ion battery D-LI109. Attempting to charge other types of batteries may cause an explosion or heating, or may damage the battery charger.

About the Rechargeable Lithium-ion Battery

⚠ Warning

- If any leakage from the battery should come in contact with your eyes, do not rub them. Flush your eyes with clean water and get medical attention immediately.

⚠ Caution

- Only use the specified battery with this camera. Use of other batteries may cause an explosion or fire.
- Do not disassemble the battery. Disassembling the battery may cause an explosion or leakage.
- Remove the battery from the camera immediately if it becomes hot or begins to smoke. Be careful not to burn yourself during removal.
- Keep wires, hairpins, and other metal objects away from the + and - contacts of the battery.
- Do not short the battery or dispose of the battery in fire. This can cause an explosion or fire.
- If any leakage from the battery should come in contact with skin or clothing, it may cause irritation to the skin. Wash the affected areas thoroughly with water.
- Precautions for D-LI109 Battery Usage:
  - USE SPECIFIED CHARGER ONLY.
  - DO NOT INCINERATE.
  - DO NOT DISASSEMBLE.
  - DO NOT SHORT CIRCUIT.
  - DO NOT EXPOSE TO HIGH TEMP. (140°F / 60°C)

Keep the Camera and its Accessories out of the Reach of Small Children

⚠ Warning

- Do not place the camera and its accessories within the reach of small children.
  1. If the product falls or is operated accidentally, it may cause serious personal injuries.
  2. Wrapping the strap around a neck may cause suffocation.
  3. To avoid the risk of a small accessory such as the battery or memory cards from being swallowed by mistake, keep them out of the reach of small children. Seek medical attention immediately if an accessory is accidentally swallowed.

Care to be Taken During Handling

Before Using Your Camera

- When the camera has not been used for a long time, confirm that it is still working properly, particularly prior to taking important pictures (such as at a wedding or when traveling). Contents of the recording cannot be guaranteed if recording, playback or transferring your data to a computer, etc. is not possible due to a malfunction of your camera or recording media (memory cards), etc.

About the Battery and Charger

- To keep the battery in optimum condition, avoid storing it in a fully charged state or in high temperatures.
- If the battery is left inserted and the camera is not used for a long time, the battery will over-discharge and shorten the battery's life.
- Charging the battery a day before use or on the day of use is recommended.
- The AC plug cord provided with this camera is developed exclusively for the battery charger D-BC109. Do not use it with other devices.

Precautions on Carrying and Using Your Camera

- Do not subject the camera to high temperatures or high humidity. Do not leave the camera in a vehicle, as the temperature can get very high.
- Do not subject the camera to strong vibrations, shocks, or pressure. Use a cushion to protect the camera from vibrations of motorcycles, automobiles, or ships.
- The temperature range for camera use is 0°C to 40°C (32°F to 104°F).
- The monitor may appear black at high temperatures, but will return to normal at normal temperatures.
- The monitor may respond more slowly at low temperatures. This is due to liquid crystal properties, and is not a malfunction.

- Sudden temperature changes will cause condensation on the inside and outside of the camera. Place the camera in your bag or a plastic bag, and remove it after temperatures of the camera and surroundings are equalized.
- Avoid contact with garbage, mud, sand, dust, water, toxic gases, or salt. These could cause the camera to breakdown. Wipe the camera to dry off any rain or water drops.
- Do not press on the monitor with excessive force. This could cause it to break or malfunction.
- Be careful not to overtighten the screw in the tripod socket when using a tripod.

Cleaning Your Camera

- Do not clean the camera with organic solvents such as thinner, alcohol, and benzine.
- Use a lens brush to remove dust accumulated on the lens. Never use a spray blower for cleaning as it may damage the lens.
- Please contact your nearest service center for professional cleaning of the CMOS sensor. (This will involve a fee.)
- Periodic inspections are recommended every one to two years to maintain high performance.

Storing Your Camera

- Do not store the camera with preservatives or chemicals. Storage in high temperatures and high humidity can cause mold to grow on the camera. Remove the camera from its case and store it in a dry and well-ventilated place.
- Avoid using or storing the camera where it may be exposed to static electricity or electrical interference.
- Avoid using or storing the camera in direct sunlight or in locations where it may be exposed to rapid changes in temperature or to condensation.

About SD Memory Cards

- The SD Memory Card is equipped with a write-protect switch. Setting the switch to LOCK prevents new data from being recorded on the card, the stored data from being deleted, and the card from being formatted by the camera or computer.

SD

Write-protect switch

- The SD Memory Card may be hot when removing the card immediately after using the camera.
- Do not remove the SD Memory Card or turn off the power while the card is being accessed. This may cause the data to be lost or the card to be damaged.
- Do not bend the SD Memory Card or subject it to violent impact. Keep it away from water and store away from high temperatures.
- Do not remove the SD Memory Card while formatting. The card may be damaged and become unusable.
- Data on the SD Memory Card may be deleted in the following circumstances. We do not accept any liability for data that is deleted if
  1. the SD Memory Card is mishandled by the user.
  2. the SD Memory Card is exposed to static electricity or electrical interference.
  3. the SD Memory Card has not been used for a long time.
  4. the SD Memory Card or the battery is removed while the card is being accessed.
- If the SD Memory Card is not used for a long time, the data on the card may become unreadable. Be sure to regularly make a backup of important data on a computer.
- Format new SD Memory Cards. Also format SD Memory Cards previously used with other cameras.
- Please note that deleting data stored on an SD Memory Card, or formatting an SD Memory Card does not completely erase the original data. Deleted data can sometimes be recovered using commercially available software. If you are going to discard, give away or sell your SD Memory Card, you should ensure that the data on the card is completely deleted or the card itself is destroyed if it contains any personal or sensitive information.
- The data on your SD Memory Card should be managed at your own risk.
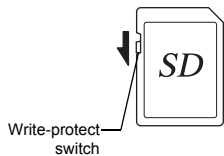
About Eye-Fi Cards

- An SD Memory Card with a built-in wireless LAN ("Eye-Fi card") can be used with this camera.
- Use of an access point and an Internet connection are required for transferring images via wireless LAN. For details, refer to the Eye-Fi website. (http://www.eye.fi)
- Update your Eye-Fi card to the latest firmware before using it.
- Set [Action Mode] to [OFF], or do not use an Eye-Fi card in a location where the use of wireless LAN devices is restricted or prohibited, such as airplanes.
- Eye-Fi cards can be used only in the country in which the card was purchased. Please observe all local laws governing the Eye-Fi card usage.
- This camera features a function to enable/disable the communication function of the Eye-Fi card, however, we do not guarantee the operability of all Eye-Fi card functions.
- Refer to the Eye-Fi card manual for details on how to use the card.
- Please contact the Eye-Fi card manufacturer regarding any malfunctions or problems concerning Eye-Fi cards.

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HIGH-DEFINITION MULTIMEDIA INTERFACE

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WARRANTY POLICY

All our cameras purchased through authorized bona fide photographic distribution channels are guaranteed against defects of material or workmanship for a period of twelve months from the date of your purchase. Service will be rendered, and defective parts will be replaced without cost to you within that period, provided the camera does not show evidence of impact, sand or liquid damage, mishandling, tampering, battery or chemical corrosion, operation contrary to operating instructions, or modification by an unauthorized repair shop. The manufacturer or its authorized representatives shall not be liable for any repair or alterations except those made with its written consent and shall not be liable for damages from delay or loss of use or from other indirect or consequential damages of any kind, whether caused by defective material or workmanship or otherwise; and it is expressly agreed that the liability of the manufacturer or its representatives under all guarantees or warranties, whether expressed or implied, is strictly limited to the replacement of parts as hereinbefore provided. No refunds will be made on repairs by non-authorized service facilities.

Procedure During 12-month Warranty Period
Any camera which proves defective during the 12-month warranty period should be returned to the dealer from whom you purchased the camera or to the manufacturer. If there are no representatives of the manufacturer in your country, send the camera to the manufacturer, with postage prepaid. In this case, it will take a considerable length of time before the camera can be returned to you owing to the complicated customs procedures required. If the camera is covered by warranty, repairs will be made and parts replaced free of charge, and the camera will be returned to you upon completion of servicing. If the camera is not covered by warranty, regular charges of the manufacturer or of its representatives will apply. Shipping charges are to be borne by the owner. If your camera was purchased outside of the country where you wish to have it serviced during the warranty period, regular handling and servicing fees may be charged by the manufacturer's representatives in that country. Notwithstanding this, your camera returned to the manufacturer will be serviced free of charge according to this procedure and warranty policy. In any case, however, shipping charges and customs clearance fees to be borne by the sender. To prove the date of your purchase when required, please keep the receipt or bills covering the purchase of your camera for at least a year. Before sending your camera for servicing, please make sure that you are sending it to the manufacturer's authorized representatives or their approved repair shops, unless you are sending it directly to the manufacturer. Always obtain a quotation for the service charge, and only after you accept the quoted service charge, instruct the service station to proceed with the servicing.

- **This warranty policy does not affect the customer's statutory rights.**
- **The local warranty policies available from our distributors in some countries can supersede this warranty policy. Therefore, we recommend that you review the warranty card supplied with your product at the time of purchase, or contact our distributor in your country for more information and to receive a copy of the warranty policy.**

Declaration of Conformity
According to 47CFR, Parts 2 and 15 for
Class B Personal Computers and Peripherals

We: RICOH IMAGING AMERICAS CORPORATION

Located at: 633 17th Street, Suite 2600
Denver, Colorado 80202 U.S.A.
Phone: 800-877-0155
FAX: 303-790-1131

Declare under sole responsibility that the product identified herein complies with 47CFR Parts 2 and 15 of the FCC rules as a Class B digital device. Each product marketed is identical to the representative unit tested and found to be compliant with the standards. Records maintained continue to reflect the equipment being produced can be expected to be within the variation accepted, due to quantity production and testing on the statistical basis as required by 47CFR §2.909. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) This device must accept any interference received, including interference that may cause undesired operation. The above named party is responsible for ensuring that the equipment complies with the standards of 47CFR §15.101 to §15.109.

Product Name: SLR Digital Camera
Model Number: PENTAX K-S1
Contact person: Customer Service Manager
Date and Place: August, 2014, Colorado

2. In other countries outside the EU

These symbols are only valid in the European Union. If you wish to discard used products, please contact your local authorities or dealer and ask for the correct method of disposal.

For Switzerland: Used electrical/electronic equipment can be returned free of charge to the dealer, even when you don't purchase a new product. Further collection facilities are listed on the home page of www.swico.ch or www.sens.ch.

Information on the Operating Manual

An Operating Manual (PDF) containing information on how to use this camera is available. Please download it from our website. A printed version can also be purchased upon request. Please contact your nearest service center.

Operating Manual Download:
http://www.ricoh-imaging.com/
manuals/

$C\,\epsilon$ The CE Mark is a Directive conformity mark of the European Union.

Memo

• Specifications and external dimensions are subject to change without notice.