

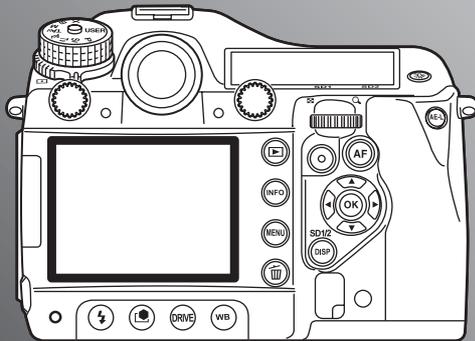
PENTAX



Medium Format Digital SLR Camera

645D

Menu Reference



To ensure the best performance from your camera,
please read the operating manual before using the camera.

Thank you for purchasing this PENTAX medium format digital SLR camera **645D**. Please read this manual before using the camera in order to get the most out of all the features and functions. Keep this manual safe, as it can be a valuable tool in helping you to understand all the camera's capabilities.

Lenses you can use

In general, lenses that can be used with this camera are D FA645 and FA645 lenses, and 645 lenses that have an Aperture **A** (Auto) position. To use any other lens or accessory, see  p.26 of the Operating Manual.

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To users of this camera

- Do not use or store this device 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 product'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, both an SD Memory Card and an SDHC Memory Card are referred to as SD Memory Cards hereafter.
- In this manual, the generic term "computer(s)" refers to either a Windows PC or a Macintosh hereafter.
- In this manual, the term "battery(ies)" refers to any type of batteries used for this camera and accessories.

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

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Menu Descriptions and Default Settings

Rec. Mode Menu

Menu	Item	Description	Default Setting		Reset Setting ^{*1}	Page
📷 1	Exposure Mode	Sets the exposure mode when in USER mode. (Displayed only when the mode dial is set to USER .)	P		Yes	p.R13
	SD1 Image File Format ^{*2}	Sets the image file format and data saving method for SD1 slot.	JPEG		Yes	p.R13
	SD2 Image File Format ^{*2}	Sets the image file format and data saving method for SD2 slot.	JPEG		Yes	p.R13
	JPEG Recorded Pixels ^{*2}	Sets the number of JPEG recorded pixels (pixel resolution).	L		Yes	p.R13
	JPEG Quality ^{*2}	Sets the JPEG quality (compression ratio).	★★★		Yes	p.R14
	ISO AUTO Adjustment ^{*2}	Sets the ISO AUTO adjustment range and how to increase the sensitivity.	On/Off	<input type="checkbox"/>	Yes	p.R14
			Lower sensitivity limit	200	Yes	
			Upper sensitivity limit	400	Yes	
			AUTO ISO Parameters	<input type="checkbox"/>	Yes	
	D-Range Setting ^{*2}	Sets highlight and shadow correction.	Highlight Correction	<input type="checkbox"/>	Yes	p.R14
Shadow Correction			Off	Yes		
📷 2	Lens Correction ^{*2}	Corrects lens distortion and lateral chromatic aberration.	Distortion Correction	<input type="checkbox"/>	Yes	p.R15
			Lat-Chromatic-Ab Adj	<input type="checkbox"/>	Yes	
	Program Line ^{*2}	Sets the Program Line priority items.	(Normal)		Yes	p.R15
	Extended Bracketing ^{*2}	Sets the Extended Bracketing shooting items and bracketing amount.	Type	Off	Yes	p.R16
			Bracketing Amount	BA±1, ±1	Yes	
	HDR Capture ^{*2}	Enables shooting HDR (high dynamic range) images.	Off		Yes	p.R16
	Multi-exposure	Enables to make settings for the Multi-exposure shooting and to perform it.	Number of Shots	2times	Yes	p.R17
			Auto EV Adjustment	<input type="checkbox"/>	Yes	
	Interval Shooting	Enables to make settings for the Interval Shooting and to perform it.	Interval	2sec.	Yes	p.R17
			Number of Shots	2 images	Yes	
Start Interval			Now	Yes		
Start Time			-	Yes		

Menu	Item	Description	Default Setting		Reset Setting ^{*1}	Page
📷3	Status Screen	Sets the auto rotation setting and display color of the status screen and control panel.	Auto Screen Rotation	<input checked="" type="checkbox"/>	Yes	p.R18
			Display Color	1	Yes	
	Digital Preview	Sets the preview method.	Digital Preview	Off (Optical Preview)	Yes	p.R18
			Histogram	<input type="checkbox"/>	Yes	
			Bright/Dark Area	<input type="checkbox"/>	Yes	
	Instant Review	Displays the image immediately after shooting.	Display Time	1sec.	Yes	p.R18
			Histogram	<input type="checkbox"/>	Yes	
			Bright/Dark Area	<input type="checkbox"/>	Yes	
			Enlarge Instant Review	<input type="checkbox"/>	Yes	
	Electronic Level Disp.	Displays the electronic level in the viewfinder and/or on the monitor.	Viewfinder	<input type="checkbox"/>	Yes	p.R19
			Monitor	<input checked="" type="checkbox"/>	Yes	
	📷4	Color Space	Sets the color space of image files.	sRGB		Yes
RAW File Format		Sets the RAW data file format	PEF		Yes	p.R19
RAW Button		Sets the file format and RAW button function which are temporarily changed when the RAW button is pressed.	Cancel after 1 shot	<input checked="" type="checkbox"/>	Yes	p.R19
			JPEG	RAW+	Yes	
			RAW	RAW+	Yes	
			RAW+	RAW+	Yes	
Memory		Sets the settings to be saved when the power is turned off.	Flash Mode	<input checked="" type="checkbox"/>	Yes	p.R20
			Drive Mode	<input checked="" type="checkbox"/>	Yes	
			White Balance	<input checked="" type="checkbox"/>	Yes	
			Sensitivity	<input checked="" type="checkbox"/>	Yes	
			EV Compensation	<input checked="" type="checkbox"/>	Yes	
			Flash Exposure Comp.	<input checked="" type="checkbox"/>	Yes	
			Auto Bracketing	<input checked="" type="checkbox"/>	Yes	
			HDR Capture	<input type="checkbox"/>	Yes	
	Playback Info Display		<input checked="" type="checkbox"/>	Yes		
File No.	<input checked="" type="checkbox"/>	Yes				

Menu	Item	Description	Default Setting		Reset Setting ^{*1}	Page
CAM 4	USER	Saves the current camera settings to USER on the mode dial.	Save	–	No ^{*3}	p.R20
			Check Saved USER Settings	–	–	
			Reset USER Settings	–	–	

*1 Reset with [Reset] in the [**3**] menu.

*2 Can also be set with the control panel.

*3 Reset with [Reset USER Settings] in the [USER] screen.

Playback Menu

Menu	Item	Description	Default Setting		Reset Setting [*]	Page
▶ 1	Slideshow	Sets the slideshow display method.	Interval	3sec.	Yes	p.R22
			Screen Effect	Off	Yes	
			Repeat Playback	<input type="checkbox"/>	Yes	
	Playback Display Method	Sets whether to display the Bright/Dark Area warning and also sets the initial magnification when enlarging images.	Bright/Dark Area	<input type="checkbox"/>	Yes	p.R22
			Quick Zoom	Off	Yes	
Delete All Images	Deletes all saved images at once.	–	–	–	p.R22	

* Reset with [Reset] in the [**3**] menu.

Menu	Item	Description	Default Setting		Reset Setting*1	Page
✎ 1	Language/言語	Changes the display language.	*2		No	p.R23
	Date Adjustment	Sets the date and display format.	Date Format (Date)	*2	No	p.R23
			Date Format (Time)	*2	No	
			Date	*2	No	
			Time	*2	No	
	World Time	Sets and changes the hometown and destination.	Setting the Time	Hometown	Yes	p.R23
			✈ Destination (City)	*3	No	
			(DST)	*3	No	
			🏠 Hometown (City)	*2	No	
			(DST)	*2	No	
	Text Size	Sets the size of the text that appears on the menu screens.	*2		No	p.R24
	Guide Display	Sets the length of the time that the guide indicators are displayed.	3sec.		Yes	p.R24
	Beep	Switches the beep tone on/off.	Setting		Yes	p.R24
			In-focus	<input checked="" type="checkbox"/>	Yes	
			AE-L	<input checked="" type="checkbox"/>	Yes	
			RAW	<input checked="" type="checkbox"/>	Yes	
Self-timer			<input checked="" type="checkbox"/>	Yes		
Remote Control			<input checked="" type="checkbox"/>	Yes		
		Mirror Up	<input checked="" type="checkbox"/>	Yes		

Menu	Item	Description	Default Setting		Reset Setting ^{*1}	Page
2	Brightness Level	Adjusts the brightness of the monitor.	±0		Yes	p.R24
	LCD Color Tuning	Adjusts the color of the monitor.	G-M axis	±0	Yes	p.R25
			B-A axis	±0	Yes	
	Video Out	Sets the output format of the VIDEO terminal.	*3		No	p.R25
	HDMI Out	Sets the output format of the HDMI terminal.	Auto		Yes	p.R25
	USB Connection	Sets the USB connection mode when connected to a computer.	MSC		Yes	p.R25
	Folder Name	Sets the method for assigning folder names.	Date		Yes	p.R26
File Name	Sets the method for assigning file names.	IMGP/_IGP		No ^{*4}	p.R26	
		Reset File Name	–	–		
3	Copyright Information	Sets the photographer and copyright information embedded to Exif.	Embed Copyright Data	<input type="checkbox"/>	No	p.R27
			Photographer	–	No	
			Copyright Holder	–	No	
	Auto Power Off	Sets the length of the time until the camera automatically turns off.	1min.		Yes	p.R27
Reset	Resets all settings.	–		–	p.R28	
4	Pixel Mapping	Maps out and corrects any defective pixels in the CCD sensor.	–		–	p.R28
	Dust Alert	Detects dust on the CCD.	–		–	p.R28
	Dust Removal	Cleans the CCD.	Dust Removal	–	–	p.R29
			Start-up Action	<input checked="" type="checkbox"/>	Yes	
	Sensor Cleaning	Raises the mirror up when cleaning the CCD with a blower.	–		–	p.R29
Format	Formats an SD Memory Card.	–		–	p.R29	

*1 Reset with [Reset] in the [3] menu.

*2 Depends on the initial setting.

*3 Depends on the [Hometown] setting of the initial setting.

*4 Reset with [Reset File Name] in the [File Name] screen.

Custom Setting Menu

Menu	Item	Description	Default Setting	Reset Setting	Page
C1	1. EV Steps	Sets the adjustment steps for exposure.	1/3 EV Steps	Yes	p.R30
	2. Sensitivity Steps	Sets the adjustment steps for sensitivity.	1 EV Step	Yes	p.R30
	3. Expanded Sensitivity	Expands the sensitivity setting range.	Off	Yes	p.R30
	4. Meter Operating Time	Sets the exposure lock timer.	10sec.	Yes	p.R30
	5. AE-L with AF Locked	Locks the exposure value during AF lock.	Off	Yes	p.R30
	6. Link AE to AF Point	Links the exposure and AF point during multi-segment metering.	Off	Yes	p.R30
	7. One-Push Bracketing	Shoots all frames with one release when using Exposure Bracketing.	Off	Yes	p.R30
C2	8. Auto Bracketing Order	Sets the order for Auto Bracketing shooting.	0 → - → +	Yes	p.R31
	9. Auto EV Compensation	Compensates automatically when the proper exposure cannot be determined.	Off	Yes	p.R31
	10. WB When Using Flash	Sets the white balance setting when using flash.	AWB	Yes	p.R31
	11. WB Adjustable Range	Sets whether to automatically adjust the white balance when the light source is specified.	Fixed	Yes	p.R31
	12. AWB in Tungsten Light	Adjusts the tungsten light color tone when [White Balance] is set to AWB .	Subtle Correction	Yes	p.R31
	13. AF Button Function	Sets the function of the AF button when being pressed.	Enable AF	Yes	p.R31
C3	14. AF with Press Halfway	Sets whether to use the autofocus when the shutter release button is pressed halfway.	On	Yes	p.R32
	15. Superimpose AF Area	Sets whether to display the selected AF point in red in the viewfinder.	On	Yes	p.R32
	16. Number of AF Points	Sets the number of AF points when AF Point SEL is selected.	11 AF Points	Yes	p.R32
	17. AF with Remote Control	Sets whether to use autofocus during remote control shooting.	Off	Yes	p.R32
	18. Remote Control in Bulb	Sets the function of the shutter release button when using the remote control in B mode.	Mode1	Yes	p.R32
	19. Slow Shutter Speed NR	Sets whether to use Noise Reduction when shooting at slow shutter speeds.	On	Yes	p.R32
	20. High-ISO Noise Reduction	Sets whether to use Noise Reduction when shooting at high sensitivity.	Medium	Yes	p.R32
	21. High-ISO NR Start Level	Sets the ISO start value in High-ISO Noise Reduction.	ISO 400	Yes	p.R32

Menu	Item	Description	Default Setting	Reset Setting	Page
C4	22. Color Temperature Steps	Sets the adjustment steps for color temperature.	Kelvin	Yes	p.R33
	23. e-dial in Program	Sets the front and rear e-dials in P mode.	Front: Tv Rear: Av	Yes	p.R33
	24. e-dial in Sv Mode	Sets the front and rear e-dials in Sv mode.	Front: Not Available Rear: Sensitivity	Yes	p.R33
	25. e-dial in Tv Mode	Sets the front and rear e-dials in Tv mode.	Front: Tv Rear: Not Available	Yes	p.R33
	26. e-dial in Av Mode	Sets the front and rear e-dials in Av mode.	Front: Not Available Rear: Av	Yes	p.R34
	27. e-dial in TAv & M Modes	Sets the front and rear e-dials in TAv and M modes.	Front: Tv Rear: Av	Yes	p.R34
	28. e-dial in B & X Modes	Sets the front and rear e-dials in B and X modes.	Front: Not Available Rear: Av	Yes	p.R34
C5	29. Green Button in TAv & M	Selects the exposure adjustment method when the  button is pressed in TAv or M mode.	Program Line	Yes	p.R34
	30. Green Button in X Mode	Selects the exposure adjustment method when the  button is pressed in X mode.	Off	Yes	p.R34
	31. Saving Rotation Info	Sets whether to add image rotation information when shooting.	On	Yes	p.R35
	32. Auto Image Rotation	Sets whether to automatically rotate images when playing back.	On	Yes	p.R35
	33. AF Fine Adjustment	Adjusts the AF focus position.	Off	Yes*	p.R35
	34. External Flash Discharge	Sets the flash discharge method.	Off	Yes	p.R35
	35. M and S Pixel Resolution	Sets the number of pixels when [JPEG Recorded Pixels] is set to M or S .	M :  S : 	Yes	p.R35
C6	Reset Custom Functions	Resets the [C1-5] menu settings.	–	–	p.R35

* Reset the adjustment values with [Reset] in the [33. AF Fine Adjustment] screen.

Other Default Settings

Direct Keys

Item	Default Setting	Reset Setting*	Page
Flash Mode	 (Flash On)	Yes	 p.58
Custom Image	Natural	Yes	 p.62
Drive Mode	<input type="checkbox"/> (Single Frame Shooting)	Yes	 p.53
White Balance	AWB (Auto)	Yes	 p.50

* Reset with [Reset] in the [3] menu.

Playback Mode Palette

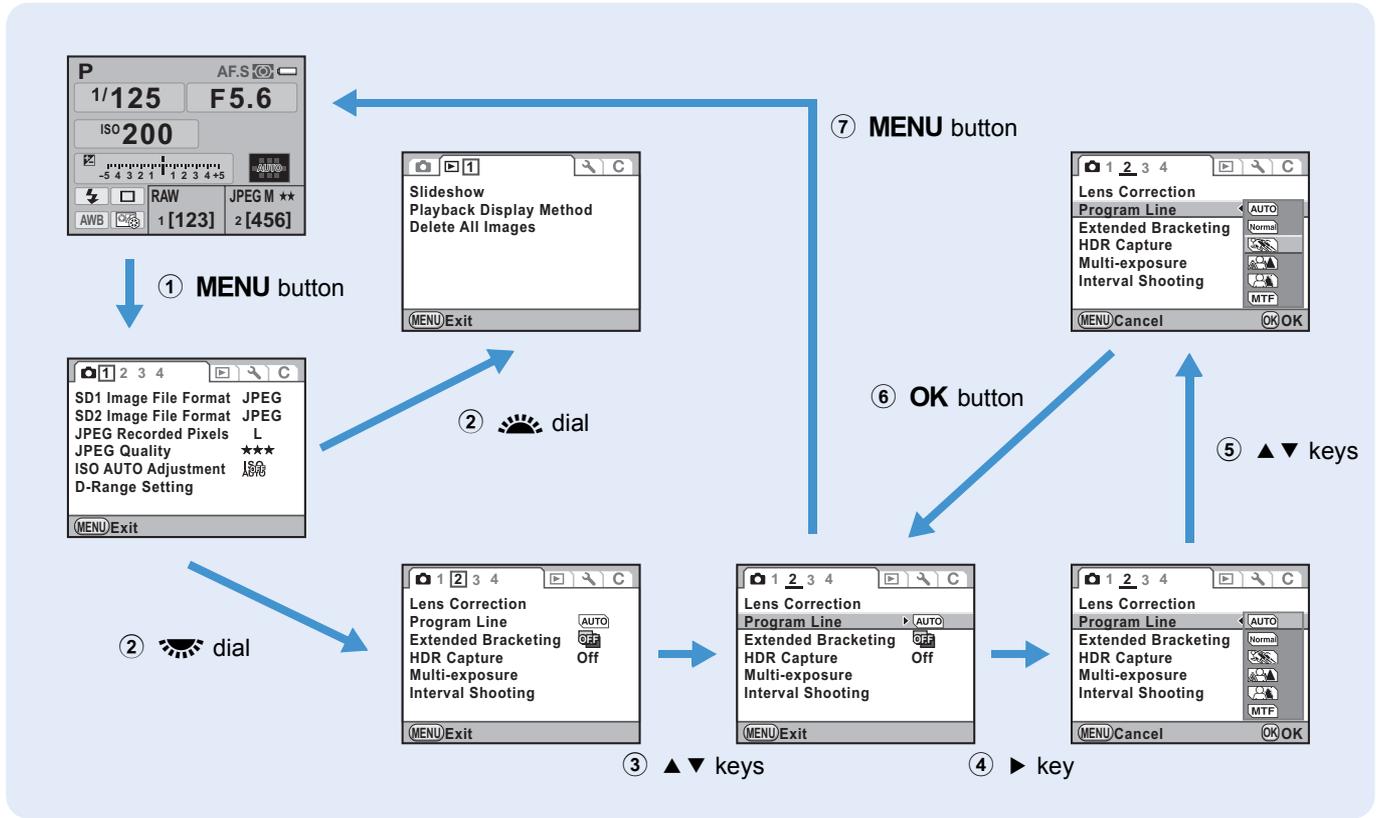
Item	Default Setting	Reset Setting*	Page
Image Rotation	–	–	 p.74
Digital Filter	Monochrome	Yes	 p.76
Resize	JPEG Recorded Pixels: Maximum size according to the setting JPEG Quality: ★★★	–	 p.75
Cropping	Maximum size according to the setting	–	 p.75
Slideshow	–	–	 p.70
Save as Manual WB	–	Yes	 p.51
RAW Development	File Format: JPEG JPEG Recorded Pixels:  JPEG Quality: ★★★	Yes	 p.72
Index	Layout:  Images: 12 Backgrnd.: White Selection: 	Yes	 p.71
Image Comparison	–	–	 p.70
Protect	–	–	 p.73
DPOF	–	–	 p.78

* Reset with [Reset] in the [3] menu.

How to Use the Menu

Example: Setting [Program Line]

Menu Descriptions and Default Settings



Rec. Mode Menu

Exposure Mode



Switches between the exposure modes temporarily when the mode dial is set to **USER**.

Caution

- When the camera is turned off, or the Auto Power Function is activated, the changed setting will revert to the previously-saved exposure mode.
- Refer to [USER] in the [CAMERA] menu for setting **USER**. (p.R20)

SD1/SD2 Image File Format



Set the data saving method and file format for images saved to the SD Memory Cards in the SD1 and SD2 slots.

JPEG	Captures images in JPEG format. (default setting)
RAW	Captures images in RAW format.
RAW+	Captures images in both RAW and JPEG format and saves them to one card.
RESERVE	When an SD Memory Card being used becomes full, images will be saved to the other card in the same file format.
OFF	The card slot is not used.

Caution

- [RAW] and [RAW+] are not available when Extended Bracketing (p.R16) or HDR Capture (p.R16) is set. To change the file format, turn these functions off.
- Only one slot can be set to [RESERVE] or [OFF].

Memo

- When the file format is changed, the number of recordable images at that format appears at the top right of the screen.
- You can also set this by turning the dial while pressing the **SD1** or **SD2** button. (p.42)

JPEG Recorded Pixels



Sets the image size when the file format is set to JPEG.

	Recorded Pixels	Pixels
L (default setting)	40M	7264×5440
M	32M	6528×4896
	21M	5376×4032
S	13M	4224×3168
	7M	3072×2304

Memo

- Set the recorded pixels for **M** and **S** with [35. M and S Pixel Resolution] (p.R35) in the [C5] menu.
- You can also set the image size by turning the dial while pressing the **SD1** or **SD2** button. (p.43)



JPEG Quality



Sets the quality level (compression ratio) of images when the file format is set to JPEG.

Quality Level	Compression Ratio
★★★	Best (default setting)
★★	Better
★	Good

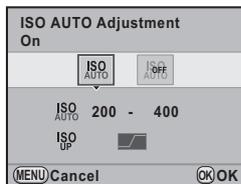
Memo

- You can also set this by turning the dial while pressing the **SD1** or **SD2** button. (📖 p.43)

ISO AUTO Adjustment



Sets the automatic adjustment range and how to increase the sensitivity when [Sensitivity] is set to [AUTO]. Select [ISO AUTO] and then select the adjustment range and AUTO ISO parameters. (The default settings are [ISO 200 - 400] and .)



AUTO ISO Parameters

Slow	Increases the sensitivity as little as possible
Standard	Standard (default setting)
Fast	Actively increases the sensitivity

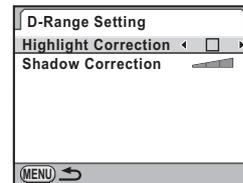
Memo

- This function is not available when the exposure mode is set to **Sv**, **M**, **B** or **X**.
- The sensitivity range can be expanded to a range of ISO 100 to 1600 when [3. Expanded Sensitivity] (p.R30) in the [**C1**] menu is set to [On]. Note, however, that the following restrictions apply.
 - Setting the sensitivity range to ISO 1600 makes overexposed areas more likely to occur in the image.
 - When [Highlight Correction] is set to (On) in [D-Range Setting] (p.R14) in the [] menu, the minimum sensitivity is ISO 200.

D-Range Setting



Expands the dynamic range and the light level expressed by the CCD sensor and prevents bright and dark areas from occurring. Set [Highlight Correction] to or (default setting), and set [Shadow Correction] to off (default setting), low, medium or high.



Memo

- When [Highlight Correction] is set to (On), the minimum sensitivity is ISO 400. When [3. Expanded Sensitivity] (p.R30) is set to [On] in the [**C1**] menu, the minimum sensitivity is ISO 200.

Reduces distortions and lateral chromatic aberrations occurring due to lens properties. (The default setting is (Off).)

Caution

- The Lens Correction function can only be used with a D FA or FA lens. This function is not available when using other lenses.
- The Lens Correction function is disabled when using an accessory such as an extension tube or rear converter that is attached between the camera and the lens.
- The shooting speed for continuous shooting may be slower when [Lens Correction] is set to (On).
- The effects of the Lens Correction function may be barely noticeable in some cases due to the shooting conditions or other factors.

Memo

- When [RAW] or [RAW+] is selected as the file format, the correction information is saved as a RAW file parameter.

Select a Program Line for automatically setting the proper exposure.

Setting	Characteristics
AUTO	Camera determines the appropriate settings.
Normal	Basic Program Automatic Exposure (default setting)
Hi-speed Priority	Program Automatic Exposure that prioritizes high shutter speeds.
DOF Priority (deep)	Program Automatic Exposure that creates a deep depth of field.
DOF Priority (shallow)	Program Automatic Exposure that creates a shallow depth of field.
MTF Priority	Program Automatic Exposure that prioritizes the best aperture value for the attached lens.

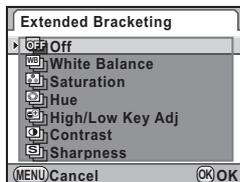
Memo

- The Program Line is available for the following exposure modes.
 - **P** or **Sv** mode
 - When [1. Program Line] is selected for [29. Green Button in TA_v & M] (p.R34) in the [C1] menu in **TA_v** or **M** mode.

Extended Bracketing



Sets the Extended Bracketing shooting items and bracketing amount.



Item	Bracketing Amount
Off (default setting)	–
White Balance	BA±1/BA±2/BA±3/GM±1/GM±2/GM±3
Saturation	±1/±2/±3/±4
Hue	
High/Low Key Adj	
Contrast	
Sharpness	

Caution

- When Extended Bracketing is set, the file format is always set to [JPEG] and cannot be changed. You cannot use Extended Bracketing when the file format is set to [RAW] or [RAW+].
- When Extended Bracketing is set, Interval Shooting and Multi-exposure are not available.
- Extended Bracketing and HDR Capture cannot be used at the same time. The mode set last is used.

Memo

- Exposure Bracketing and Extended Bracketing can be used at the same time.
- When Image Tone for Custom Image (📖 p.62) is set to [Monochrome], [Saturation] and [Hue] are not available.

- When Fine Sharpness of Custom Image is in effect, Sharpness of Extended Bracketing also functions as Fine Sharpness.
- When Contrast of Custom Image is in effect, Contrast of Extended Bracketing functions in accordance with the Contrast setting of Custom Image.

HDR Capture



Select [Off] (default setting), [Standard] or [Strong] for the high dynamic range setting.

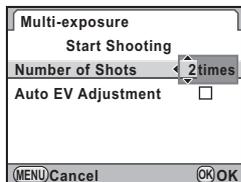
Caution

- When HDR Capture is set, the file format is always set to [JPEG] and cannot be changed. You cannot use HDR Capture when the file format is set to [RAW] or [RAW+].
- HDR Capture and Extended Bracketing cannot be used at the same time. The mode set last is used.
- When HDR Capture is set, the following functions are not available.
 - Interval Shooting
 - Multi-exposure
 - Continuous Shooting and Remote Continuous Shooting of the drive mode
 - Flash Mode (fixed to flash off)
- HDR Capture is not available when the exposure mode is set to **B** or **X** mode.
- During HDR Capture, multiple frames are combined together to create a single image, so it takes time to save an image.
- During HDR Capture, pressing the **MENU** button while an image is being saved cancels the combining process and saves the image as a standard image.

Multi-exposure



You can create a composite picture by taking multiple frames. Select the number of shots (between 2 and 9), set [Auto EV Adjustment] to (On) or (Off), and then select [Start Shooting]. (The default setting is [2times] and .)



Caution

- Multi-exposure cannot be used with Exposure Bracketing, Extended Bracketing, HDR Capture or Interval Shooting at the same time. The mode set last is used.
- The [Lens Correction] setting (p.R15) is disabled when Multi-exposure is set.

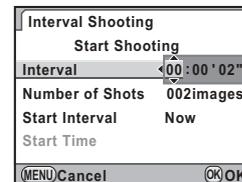
Memo

- If any of the following operations are performed while shooting, the pictures that have been already taken are saved and Multi-exposure is ended.
 - The , **MENU**, **INFO**, **RAW**, , , **DRIVE** or **WB** button is pressed
 - The mode dial is turned
 - Exposure Bracketing is set

Interval Shooting



Pictures are taken at a set interval from a set time. Set the interval, number of shots and start time, and then select [Start Shooting].



Interval	2 seconds to 24 hours, 00 minutes and 00 seconds (default setting: 2 seconds)	
Number of Shots	Now: 2 to 999 (The default setting: 2 images) Set Time: 1 to 999	
Start Interval	Now	Shooting starts immediately. (default setting) You can take two or more pictures.
	Set Time	Shooting starts at the set time. Select [Start Time] and set the shooting start time.

Caution

- Interval Shooting cannot be used with Extended Bracketing, Multi-exposure or HDR Capture at the same time. The mode set last is used.
- Interval shooting is not available when the exposure mode is set to **B** or **USER** mode.
- Interval shooting is canceled when the SD Memory Card has no more available space.
- If the subject is not in focus with the focus mode set to **A/FS** (Single mode) or if the [Interval] setting is too short and the previous image processing cannot be completed before taking the next picture, no picture may be taken.





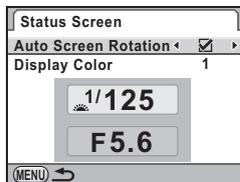
Memo

- The camera cannot be operated during interval shooting. To cancel the shooting, turn the main switch to [OFF] or turn the mode dial.
- Single Frame Shooting is selected regardless of the current drive mode setting.
- Although each shot taken is displayed with Instant Review, images cannot be enlarged or deleted.
- If the [Auto Power Off] function (p.R27) turns the camera off during interval shooting, the camera automatically turns on again when the shooting time approaches.
- It is recommended to use the AC adapter kit K-AC50 (optional) when using the interval shooting over a long period of time. (p.30)

Status Screen



Sets the auto rotation setting ((On) and (Off), default setting:) and display color (6 types, default setting: Display Color 1) of the status screen and control panel.



Digital Preview



Sets the preview method.

Off	Optical Preview	Using the viewfinder (default setting)
On	Digital Preview	Using the monitor Sets the histogram and Bright/Dark Area warning displays.

Memo

- When Interval Shooting or Multi-exposure is set, Optical Preview is used regardless of the setting.
- Refer to the "Operating Manual" for details on preview operations. (p.61)

Instant Review



Select from [1sec.] (default setting), [3sec.], [5sec.] and [Off] for the time the image appears on the monitor immediately after being captured. Also sets the histogram, Bright/Dark Area warning and enlarged image displays.

When [Enlarge Instant Review] is set to (On), you can enlarge the image with the dial during Instant Review.

Memo

- When [Enlarge Instant Review] is set to , it takes longer to display Instant Review.

Electronic Level Display



Sets whether to display the electronic level in the viewfinder (default setting: (Off)) and/or on the monitor (default setting: (On)).

Color Space



Sets the color space of image files to sRGB or AdobeRGB. (The default setting is [sRGB].)

Memo

- File names differ depending on the color space setting as shown below. (p.R26)
- For sRGB: IMGPxxxx.JPG
- For AdobeRGB: _IGPxxxx.JPG
("xxxx" indicates the file number (a four-digit sequential number).)

RAW File Format



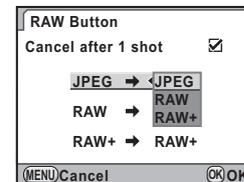
Sets the file format of RAW data.

PEF	PENTAX original RAW file format (default setting)
DNG	General-purpose, publicly available RAW file format designed by Adobe Systems

RAW Button



You can temporarily change the file format of the SD Memory Card being used by simply pressing the **RAW** button. Sets the file format and the function of the **RAW** button. (The default settings are [Cancel after 1 shot] and [RAW+].)



<input checked="" type="checkbox"/>	The recording format returns to the original file format after a picture taken.
<input type="checkbox"/>	The recording format returns to the original file format when any of the following operations are performed. <ul style="list-style-type: none">• the RAW button is pressed again• the , MENU or INFO button is pressed• the main switch is turned off• the mode dial is turned



You can select which function settings to save when the camera is turned off. (The default setting is (On) for all except HDR Capture.)

- Flash Mode
- Drive Mode
- White Balance
- Sensitivity
- EV Compensation
- Flash Exposure Compensation
- Auto Bracketing
- HDR Capture
- Playback Info Display
- File No.

Caution

- This function is not available when the mode dial is set to **USER**.

Memo

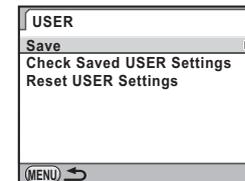
- When [Playback Info Disp.] is set to (Off), the Standard display is displayed every time the camera is turned on. (p.17)
- Set [File No.] to (On) to continue the sequential numbering for the file name even if a new folder is created. When [File No.] is set to , the file number of the first image saved to a folder returns to 0001 each time a new folder is created. In addition, the folder number is also reset when the first picture is taken with an SD Memory Card that has no saved images.
- When [Reset] (p.R28) is selected in the [3] menu, all Memory settings return to the default settings.

Saves the current camera settings to **USER** on the mode dial. You can easily retrieve the following saved settings when shooting.

- Exposure Mode
- Flash Mode/Flash Exposure Compensation
- Drive Mode
- Custom Image
- Sensitivity/Sensitivity AUTO Adjustment Range
- White Balance
- D-Range Setting
- EV Compensation
- Exposure Bracketing
- Extended Bracketing (Bracketing Amount/Type)
- HDR Capture
- Lens Correction
- Program Line
- SD1/SD2 Image File Format
- JPEG Recorded Pixels
- JPEG Quality
- Color Space
- RAW File Format
- [C1-5] menu settings

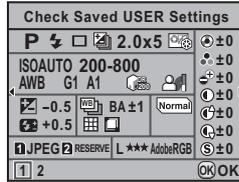
1 Make the necessary settings.

2 Select [USER] in the menu, press the ► key and select [Save].



To check the saved settings, select [Check Saved USER Settings].

To reset the saved settings to the default settings, select [Reset USER Settings].



3 Select [Save].

The settings are saved to **USER**. To shoot with the saved settings, turn the mode dial to **USER**.

Memo

- To change the saved settings, turn the mode dial to **USER** and repeat Steps 1 to 3 above.

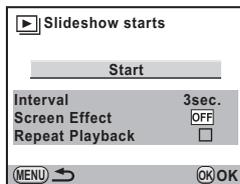


▶ Playback Menu

Slideshow



Sets how images will be displayed during the Slideshow. Select the SD Memory Card in the SD1 or SD2 slot, set the following items and select [Start] to start slideshow playback.



Item	Description	Setting
Interval	Select the image display interval.	3sec. (default setting)/5sec./10sec./30sec.
Screen Effect	Select the transition effect when the next image is displayed.	Off (default setting)/Fade/Wipe/Stripe
Repeat Playback	Set whether the slideshow will start again from the beginning after the last image is displayed.	<input type="checkbox"/> (default setting)/ <input checked="" type="checkbox"/>

Memo

- Refer to the “Operating Manual” for details on slideshow operations. ( p.70)

Playback Display Method



You can set whether or not to display the Bright/Dark Area warning (default setting: (Off)) in Playback mode and set the initial magnification when enlarging images. Select from the following magnification settings: [Off] (default setting), [$\times 2$] (200%), [$\times 4$] (400%), [$\times 8$] (800%), [$\times 16$] (1600%) or [$\times 32$] (3200%).

Delete All Images



You can select the SD Memory Card in the SD1 or SD2 slot and delete all saved images at once.



Set-up Menu

Language/言語

You can change the language in which the menus, error messages, etc. are displayed.

This camera supports the following languages: English, French, German, Spanish, Portuguese, Italian, Dutch, Danish, Swedish, Finnish, Polish, Czech, Hungarian, Turkish, Greek, Russian, Korean, Traditional Chinese, Simplified Chinese and Japanese.

Date Adjustment

You can change the initial date and time settings. You can also set the display format.

Display Format	
Date	mm/dd/yy, dd/mm/yy, yy/mm/dd
Time	12h/24h

World Time

You can display the local date and time on the monitor when traveling to a different time zone. Select  (Destination) for [Setting the Time] and select a destination city. You can select from following cities for the hometown and destination.

World Time	
Setting the Time  	
 Destination	DST
London	15:00
 Hometown	
New York	10:00
(MENU) 	

Region	City	Region	City
North America	Honolulu	Europe	Stockholm
	Anchorage		Budapest
	Vancouver		Warsaw
	San Francisco		Athens
	Los Angeles		Helsinki
	Calgary		Moscow
	Denver	Africa/ West Asia	Dakar
	Chicago		Algiers
	Miami		Johannesburg
	Toronto		Istanbul
	New York		Cairo
	Halifax		Jerusalem
	Central and South America		Mexico City
Lima			Jeddah
Santiago			Tehran
Caracas			Dubai
Buenos Aires		Karachi	
Sao Paulo		Kabul	
Rio de Janeiro		Male	
Europe	Lisbon	Delhi	
	Madrid	Colombo	
	London	Kathmandu	
	Paris	Dacca	
	Amsterdam	East Asia	Yangon
	Milan		Bangkok
	Rome		Kuala Lumpur
	Copenhagen		Vientiane
	Berlin		Singapore
	Prague		Phnom Penh





Region	City
East Asia	Ho chi Minh
	Jakarta
	Hong Kong
	Beijing
	Shanghai
	Manila
	Taipei
	Seoul
	Tokyo
	Guam

Region	City
Oceania	Perth
	Adelaide
	Sydney
	Noumea
	Wellington
	Auckland
Pago Pago	

Memo

- Set [DST] to (On) if the destination city uses daylight saving time (DST).
- appears in the guide display and status screen if [Setting the Time] is set to (Destination). The video output mode (p.R25) switches to that of the destination city.

Text Size

You can set the size of the text that appears on the menu screens to [Standard] (normal display) or [Large] (magnified display).

Guide Display

Set the length of time that the guides are displayed on the monitor when the camera is turned on or the Capture mode is changed. Select from [3sec.] (default setting), [10sec.], [30sec.] and [Off].

Beep

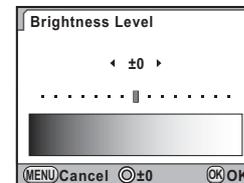
You can turn the operation beep on or off. There are six items that you can set: In-focus, AE lock, **RAW** button operation sound, self-timer, remote control and mirror up. (The default setting is (On).)

Memo

- You can turn all the beeps off by selecting for [Setting].

Brightness Level

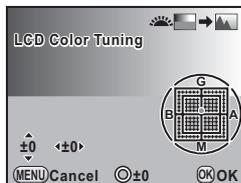
You can select from 15 brightness levels.



LCD Color Tuning



You can adjust the color of the monitor.



Available operations

▲ ▼ keys	Adjusts the tone of the colors between green (G) and magenta (M) from among seven levels.
◀ ▶ keys	Adjusts the tone of the colors between blue (B) and amber (A) from among seven levels.
⊙ button	Resets the adjustment value.
☀ dial	Displays a captured image in the background so you can adjust the color while viewing the image.
DISP button/ SD1 button/ SD2 button	Switches between the SD Memory Cards.

Video Out



If images fail to be played back with the default video output format, change the video output setting (NTSC or PAL).

Memo

- When you set [Setting the Time] on [World Time] (p.R23) in the [1] menu to → (Destination), the video output setting changes to the video output format for that city.

HDMI Out



Set the output format of the HDMI terminal.

Auto	The maximum size corresponding to the AV equipment and camera is automatically selected (default setting).
1080i	1920×1080i
720p	1280×720p
480p *	720×480p

* When [480p] is selected, HDMI output format switches between [480p] for NTSC and [576p] (720×576p) for PAL depending on the video output format setting.

Memo

- When the HDMI output format is set to [1080i] or [720p], the display may appear with a screen design that differs from that displayed on the camera.

USB Connection



Set the USB connection mode (MSC or PTP) when connecting the camera to a computer via the provided USB cable (I-USB107). (The default setting is [MSC].)



Folder Name



You can select a method for assigning the folder names for storing images.

Date (default setting)	<p>The two digits of the [month] and [day] on which the picture was taken are assigned as the folder name in the form of [xxx_MMDD].</p> <ul style="list-style-type: none"> • [xxx] is a sequential number from 100 to 999. • [MMDD] (month and day) is displayed according to the date format set in [Date Adjustment] (p.R23) in the [1] menu. Example: [101_0125] indicates a folder with pictures taken on January 25th.
PENTX	<p>The folder name is assigned in the form of [xxxPENTX]. Example: 101PENTX</p>

Memo

- When the number of captured images exceeds 500, images are divided into folders of 500 images each. However, in Auto Bracketing shooting, images will be stored in the same folder until shooting is completed, even if the number of images exceeds 500.

File Name



File names are assigned as follows, according to the color space setting. You can change the names of files. (The default setting is [IMGPxxxx.JPG] and [_IGPxxxx.JPG], where “xxxx” is the file number.)

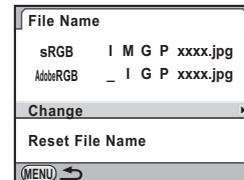
Color Space	File Name
sRGB	IMGPxxxx.JPG
AdobeRGB	_IGPxxxx.JPG

1 Select [File Name] in the [2] menu and press the ► key.

The [File Name] screen appears.

2 Select [Change], press the ► key, and enter the text.

To reset a changed file name to its default setting, select [Reset File Name].



Text selection cursor



Text input cursor

Available operations

	dial	Moves the text input cursor.
	▲▼▶◀ keys	Moves the text selection cursor.
	OK button	Enters the character.

3 After entering the text, move the text selection cursor to [Finish] and press the OK button.

The file name is changed.

Memo

- When [Color Space] is set to [sRGB], you can change [IMGP] (4 characters) to the desired characters. When [Color Space] is set to [AdobeRGB], of the 4 characters you selected, the first 3 are assigned in place of [IGP].
Example: When a file name is set to [ABCDxxxx.JPG], the file is renamed to [_ABCxxxx.JPG].

Copyright Information



Sets the photographer information embedded in the Exif data.

1 Select [Copyright Information] in the [3] menu and press the ► key.

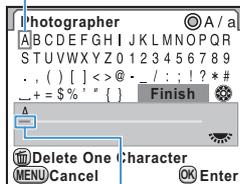
2 Select [Embed Copyright Data] and then select or .

<input checked="" type="checkbox"/>	Embeds copyright information in the Exif.
<input type="checkbox"/>	Does not embed copyright information in the Exif. (default setting)

3 Select [Photographer], press the ► key, and enter the photographer's name.

You can enter up to 32 characters.

Text selection cursor



Text input cursor

Available operations

dial	Moves the text input cursor.
▲ ▼ ◀ ▶ keys	Moves the text selection cursor.
○ button	Switches between upper and lower case letters.
OK button	Enters the character.
🗑 button	Deletes the character.

4 After entering the text, move the text selection cursor to [Finish] and press the OK button.

The photographer's name is saved.

Continue by selecting [Copyright Holder] and enter the text in the same manner.

Memo

- Use the provided “PENTAX Digital Camera Utility 4” software to check the Exif information.
- When [Embed Copyright Data] is set to (On), a copyright symbol (©) appears on the status screen and LCD panel.

Auto Power Off



You can set the camera to turn off automatically if unused after a set period of time. Select from [1min.] (default setting), [3min.], [5min.], [10min.], [30min.] or [Off].

Memo

- The Auto Power Off function does not work during slideshow playback and when connected to a computer with the USB cable.



Reset

 3

Resets the settings in the  menu,  menu,  menu, shooting functions and playback mode palette.

Caution

- Reset function is not available when the mode dial is set to **USER**.

Memo

- The **C** menu settings and [Language/言語], [Date Adjustment], the city and DST settings for [World Time], [Text Size], [Video Output] and [Copyright Information] in the  menu are not reset.

Pixel Mapping

 4

This maps out and corrects defective pixels in the CCD sensor.

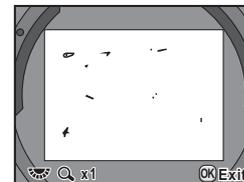
Caution

- Pixel mapping cannot be performed when the battery level is low. Use the AC adapter kit K-AC50 (optional) or load a fully charged battery.

Dust Alert

 4

This detects dust adhering to the CCD sensor and visually displays the location of the dust. You can save the detected image and display it when performing sensor cleaning. Make the following preparations and then press the shutter release button fully.



- **Attach a D FA or FA (A aperture position) lens.**
- **Set the focus mode on the lens to [AF].**

Caution

- The exposure time may be long when using the Dust Alert function. Note that if the direction the lens is pointed changed before processing is complete, dust will not be detected properly.
- Depending on the subject conditions or temperature, dust may not be detected properly.
- The Dust Alert function cannot be used when the shutter is locked.
- The Dust Alert image can only be displayed during sensor cleaning within 30 minutes from the time the image is saved. If more than 30 minutes elapse, save a new Dust Alert image and then perform sensor cleaning.
- The saved Dust Alert image cannot be displayed in Playback mode.

Memo

- Regardless of the camera settings, the Dust Alert image will be taken with specific shooting settings.
- To view the Dust Alert image at full screen display, press the **INFO** button or turn the  dial while displaying the image.

Dust Removal



This removes dust adhering to the CCD sensor by applying ultrasonic vibrations to the filter on the front surface of the sensor for approximately one second. Set [Start-up Action] to (On) to turn the Dust Removal function on every time the camera is turned on. (The default setting is)

Sensor Cleaning



Raise the mirror up and open the shutter to clean with a blower. If you use the Dust Alert function to detect dust on the sensor within 30 minutes before the sensor cleaning, the Dust Alert image appears on the monitor to enable you to check the location of dust.

Because the CCD sensor is a precision part, it is recommended that you contact PENTAX Service Center for professional cleaning. Cleaning services involve a fee.

Caution

- Do not clean the sensor when the mode dial is set to **B**.
- Do not use a spray type blower.
- Use a brush-less blower to remove dirt and dust from the CCD sensor. Using a blower with a brush may scratch the sensor. Do not wipe the sensor with a cloth.
- Sensor cleaning cannot be performed when the battery level is low. Use the AC adapter kit K-AC50 (optional) or load a fully charged battery. If the battery capacity becomes low during cleaning, a warning beep will sound. Please stop cleaning immediately.

- Do not put the tip of the blower inside the lens mount area. If the power is turned off, this could damage the shutter, CCD sensor or the mirror.

Memo

- The self-timer lamp blinks and [Cln] appears on the LCD panel during sensor cleaning.

Format



You can select the SD Memory Card in the SD1 or SD2 slot and format it.

Caution

- Do not remove the SD Memory Card while formatting. The card may be damaged and become unusable.
- Formatting an SD Memory Card deletes all images including protected images.



C Custom Setting Menu

1. EV Steps

C1

Sets the step interval for exposure.

	Setting	Exposure Setting Value
1	1/3 EV Steps (default setting)	$\pm 0.3/\pm 0.7/\pm 1.0/\pm 1.3/\pm 1.7/\pm 2.0/\pm 2.3/\pm 2.7/\pm 3.0/3.3/\pm 3.7/\pm 4.0/\pm 4.3/\pm 4.7/\pm 5.0$
2	1/2 EV Steps	$\pm 0.5/\pm 1.0/\pm 1.5/\pm 2.0/\pm 2.5/\pm 3.0/\pm 3.5/\pm 4.0/\pm 4.5/5.0$

2. Sensitivity Steps

C1

Sets whether to adjust the sensitivity in increments of 1EV or in accordance with the EV step setting for exposure. (The default setting is [1 EV Step].)

3. Expanded Sensitivity

C1

You can expand the sensitivity range to ISO 100 to 1600. (The default setting is [Off].)

4. Meter Operating Time

C1

Select from [10sec.] (default setting), [20sec.], [30sec.] and [Exposure Lock Timer Off] for the exposure metering time. If [Exposure Lock Timer Off] is selected, metering continues until the shutter release button is pressed fully or the camera is turned off.

5. AE-L with AF Locked

C1

Exposure is locked when the focus is locked. (The default setting is [Off].)

6. Link AE to AF Point

C1

Sets whether to link the exposure and AF point in the focus area during multi-segment metering. Exposure is set in accordance with the AF point. (The default setting is [Off].)

7. One-Push Bracketing

C1

Shoots all frames with one press of the shutter release button when using Exposure Bracketing. (The default setting is [Off].)

8. Auto Bracketing Order

C2

Sets the order for Auto Bracketing shooting.

Setting	Frames	Order
1 0 – + (default setting)	2 frames 3 frames 5 frames	0 → -1/0 → +1 0 → -1 → +1 0 → -1 → +1 → -2 → +2
2 - 0 +	2 frames 3 frames 5 frames	-1 → 0/0 → +1 -1 → 0 → +1 -2 → -1 → 0 → +1 → +2
3 + 0 –	2 frames 3 frames 5 frames	0 → -1/+1 → 0 +1 → 0 → -1 +2 → +1 → 0 → -1 → -2
4 0 + –	2 frames 3 frames 5 frames	-1 → 0/+1 → 0 0 → +1 → -1 0 → +1 → -1 → +2 → -2

9. Auto EV Compensation

C2

Compensates automatically when the proper exposure cannot be obtained. (The default setting is [Off].)

10. WB When Using Flash

C2

Select **AWB** (default setting), [Unchanged] or [Flash] for the white balance when the flash discharges.

11. WB Adjustable Range

C2

Fine-tunes the white balance when the light source is specified.

1	Fixed (default setting)	Color temperature of the light source is fixed.
2	Auto Adjustment	Automatically performs fine-tuning.

12. AWB in Tungsten Light

C2

Adjusts the tungsten light color tone when [White Balance] is set to **AWB**.

1	Subtle Correction (default setting)	Keeps the tungsten light color tone.
2	Strong Correction	Applies a stronger correction of the tungsten light.

13. AF Button Function

C2

Sets the camera so that autofocus is performed when the **AF** button is pressed.

1	Enable AF (default setting)	Autofocus is performed by using the AF button or the shutter release button.
2	Cancel AF	Pressing the shutter release button disables autofocus while the AF button is pressed. (Take your finger off the AF button to return to normal autofocus mode.)

14. AF with Press Halfway

C2

Autofocus is performed by pressing the shutter release button halfway. (The default setting is [On].)

15. Superimpose AF Area

C3

The selected AF point lights red in the viewfinder. (The default setting is [On].)

16. Number of AF Points

C3

Select the number of AF points from 11 (default setting), 5 or 3. The selected AF points are used as the focus position when the AF point switching dial is set to **SEL**.

17. AF with Remote Control

C3

Enables autofocus with the remote control. (The default setting is [Off].)

18. Remote Control in Bulb

C3

Sets the function of the shutter release button when using the remote control with the exposure mode set to **B**.

1	Mode1 (default setting)	Press the shutter release button on the remote control unit to start exposure, and press it again to end exposure.
2	Mode2	Continuous exposure while the shutter release button on the remote control unit is pressed.

19. Slow Shutter Speed NR

C3

Sets how the Noise Reduction function works during long exposures.

1	On (default setting)	The camera determines the conditions, such as the shutter speed, sensitivity, and internal temperature, and automatically reduces noise as necessary.
2	Off	Minimal noise reduction is applied to the image.

20. High-ISO Noise Reduction

C3

Noise Reduction will be activated when using a high ISO sensitivity. Select [Low], [Medium] (default setting), [High] or [Off].

21. High-ISO NR Start Level

C3

Sets at which sensitivity level the High-ISO Noise Reduction function starts to work. Select [ISO 200], [ISO 400] (default setting), [ISO 800] or [ISO 1600]. The noise reduction process starts from a sensitivity at or above the set sensitivity.

22. Color Temperature Steps

C4

Sets the step unit of the white balance color temperature to [Kelvin] or [Mired]. (The default setting is [Kelvin].)

23. e-dial in Program

C4

Sets the  and  dials when the exposure mode is **P**.

Setting		
1 (default setting)	Tv (Shutter Speed)	Av (Aperture)
2	Av (Aperture)	Tv (Shutter Speed)
3	 (EV Compensation)	P SHIFT (Program Shift)
4	P SHIFT (Program Shift)	 (EV Compensation)
5	– (Not Available)	– (Not Available)

Memo

- Set the shutter speed or aperture to a value that will give a correct exposure with the relative shutter speed or aperture range of the lens being used. If the brightness changes and the shutter speed or aperture is outside the relative range, the shutter speed or aperture will blink on the status screen, LCD panel and in the viewfinder.
- Pressing the  button after adjusting the value with the  or  dial returns to Automatic Exposure.

24. e-dial in Sv Mode

C4

Sets the  and  dials when the exposure mode is **Sv**.

Setting		
1 (default setting)	– (Not Available)	Sensitivity
2	P SHIFT (Program Shift)	Sensitivity
3	Sensitivity	P SHIFT (Program Shift)
4	 (EV Compensation)	Sensitivity
5	Sensitivity	 (EV Compensation)

25. e-dial in Tv Mode

C4

Sets the  and  dials when the exposure mode is **Tv**.

Setting		
1 (default setting)	Tv (Shutter Speed)	– (Not Available)
2	Tv (Shutter Speed)	 (EV Compensation)
3	 (EV Compensation)	Tv (Shutter Speed)
4	Tv (Shutter Speed)	Sensitivity
5	Sensitivity	Tv (Shutter Speed)

26. e-dial in Av Mode

C4

Sets the  and  dials when the exposure mode is **Av**.

Setting		
1 (default setting)	– (Not Available)	Av (Aperture)
2	 (EV Compensation)	Av (Aperture)
3	Av (Aperture)	 (EV Compensation)
4	Sensitivity	Av (Aperture)
5	Av (Aperture)	Sensitivity

27. e-dial in TAv & M Modes

C4

Sets the  and  dials when the exposure mode is **TAv** or **M**.

Setting		
1 (default setting)	Tv (Shutter Speed)	Av (Aperture)
2	Av (Aperture)	Tv (Shutter Speed)

28. e-dial in B & X Modes

C4

Sets the  and  dials when the exposure mode is **B** or **X**.

Setting		
1 (default setting)	– (Not Available)	Av (Aperture)
2	Av (Aperture)	– (Not Available)
3	Sensitivity	Av (Aperture)
4	Av (Aperture)	Sensitivity

29. Green Button in TAv & M

C5

Sets the function of the  button in **TAv** or **M** mode.

Setting	Operation
1 (default setting)	Program Line Automatically adjusts the aperture value and shutter speed according to Program Line (p.R15).
2	Tv Shift The aperture value is locked and the shutter speed is adjusted automatically.
3	Av Shift The shutter speed is locked and the aperture value is adjusted automatically.
4	Off Disables  button operation.



Memo

- Shutter speed is adjusted to appropriate exposure according to the selected lens aperture when the lens aperture is not set to the **A** (Auto) position.

30. Green Button in X Mode

C5

Sets the function of the  button in **X** mode.

Setting	Operation
1 (default setting)	Off Disables  button operation.
2	Av Shift The aperture value is adjusted automatically.

31. Saving Rotation Info

C5

Adds image rotation information when shooting. (The default setting is [On].)

32. Auto Image Rotation

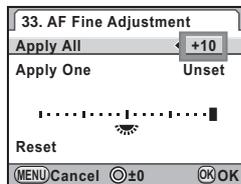
C5

Automatically rotates the image based on the rotation information during playback. (The default setting is [On].)

33. AF Fine Adjustment

C5

Adjusts the AF focus position. (The default setting is [Off].)
To make adjustments, select [On] and then select [Apply All] or [Apply One].



Apply All	Applies the same adjustment value to all lenses.
Apply One	Appears only when the lens ID is obtained. Saves and applies an adjustment value for each lens type. (Up to 20 lens types)

Available operations

▶ key or dial to the right (Q)	Adjusts the focus to a closer position.
◀ key or dial to the left (M)	Adjusts the focus to a farther position.
⊙ button	Resets the adjustment value.

Memo

- Even when an adjustment value has been saved using [Apply One], if [Apply All] is selected, the [Apply One] setting is disabled.
- To reset a saved adjustment value, select [Reset].

34. External Flash Discharge

C5

Sets the function of the button when an external flash is connected. Select [Off] (default setting), [Modeling Flash] or [Test Flash].

35. M and S Pixel Resolution

C5

Sets the number of recorded pixels when [JPEG Recorded Pixels] is set to **M** or **S**.

1 (default setting)	M: 32M (6528×4896)	S: 13M (4224×3168)
2	M: 32M (6528×4896)	S: 7M (3072×2304)
3	M: 21M (5376×4032)	S: 13M (4224×3168)
4	M: 21M (5376×4032)	S: 7M (3072×2304)

Reset Custom Functions

C6

Returns settings in [C1-5] menu to default settings.

Memo

- The adjustment value of [33. AF Fine Adjustment] is not reset.

Main Specifications

Type	TTL autofocus, auto-exposure medium format digital SLR camera
Effective Pixels	Approx. 40 megapixels
Image Sensor	Total pixels approx. 40.01 megapixels, CCD with a primary color filter
Recorded Pixels	RAW: 40M (7264×5440 pixels) JPEG: 40M (7264×5440 pixels), 32M (6528×4896 pixels), 21M (5376×4032 pixels), 13M (4224×3168 pixels), 7M (3072×2304 pixels)
Sensitivity (Standard output sensitivity)	AUTO, ISO 200 to 1000 (Standard output sensitivity) (EV steps can be set to 1 EV, 1/3 EV or 1/2 EV), ISO 100 to 1600 is available with the Custom Function setting
File Format	RAW (PEF/DNG), JPEG (Exif 2.21), DCF 2.0 compliant, DPOF compatible, Print Image Matching III compatible, RAW+JPEG simultaneous capturing compatible
JPEG Quality	★★★ (Best), ★★ (Better), and ★ (Good)
Storage Medium	SD Memory Card, SDHC Memory Card
Number of Shots	

Recorded Pixels	File Format/ JPEG Quality	SD Memory Card Capacity					
		32 GB	16 GB	8 GB	4 GB	2 GB	1 GB
40M 7264×5440	RAW (PEF)	362 images	180 images	89 images	44 images	22 images	11 images
	RAW (DNG)	362 images	180 images	89 images	44 images	22 images	11 images
40M 7264×5440	★★★	1418 images	706 images	351 images	172 images	87 images	43 images
	★★	2516 images	1254 images	623 images	306 images	155 images	76 images
	★	5006 images	2495 images	1240 images	609 images	310 images	152 images
32M 6528×4896	★★★	1751 images	873 images	433 images	213 images	108 images	53 images
	★★	3107 images	1549 images	769 images	378 images	192 images	94 images
	★	6157 images	3069 images	1525 images	749 images	381 images	188 images
21M 5376×4032	★★★	2574 images	1283 images	637 images	313 images	159 images	78 images
	★★	4568 images	2277 images	1131 images	556 images	283 images	139 images
	★	9012 images	4492 images	2232 images	1097 images	558 images	275 images

Recorded Pixels	File Format/ JPEG Quality	SD Memory Card Capacity					
		32 GB	16 GB	8 GB	4 GB	2 GB	1 GB
13M 4224×3168	★★★	4165 images	2076 images	1031 images	507 images	258 images	126 images
	★★	7343 images	3660 images	1819 images	893 images	455 images	223 images
	★	9999 images	7162 images	3559 images	1749 images	890 images	441 images
7M 3072×2304	★★★	7805 images	3891 images	1933 images	950 images	483 images	237 images
	★★	9999 images	6769 images	3364 images	1653 images	841 images	416 images
	★	9999 images	9999 images	6462 images	3176 images	1617 images	805 images

* JPEG Quality (Compression ratio): ★★★ (Best) = 1/4.5, ★★ (Better) = 1/8, ★ (Good) = 1/16

* The number of storable images is an estimate. The number of storable images may vary depending on the subject, shooting conditions, shooting mode and SD Memory Card, etc.

White Balance	Auto, Daylight, Shade, Cloudy, Fluorescent Light (D: Daylight Color, N: Daylight White, W: Cool White, L: Warm White), Tungsten Light, Flash, CTE, Manual (3 types), Color Temperature (3 types), fine tuning available
Monitor	3.0-inch wide viewing field TFT color LCD with approx. 921,000 dots, brightness and color adjustment functions, anti-reflective coating, hard protective glass
Playback Function	Single frame, multi-image display, zoom display (up to 32 times magnification, scrolling possible), image comparison, rotating, calendar display, folder display, slideshow, histogram, bright/dark area, resize, cropping, index (Thumbnail/Square/Random1/Random2/Random3/ Bubble)
Exposure Mode	USER , P Hyper-program, Sv Sensitivity priority, Tv Shutter priority, Av Aperture priority, TAv Shutter & Aperture priority, M Hyper-manual, B Bulb, X Flash X-sync Speed
Shutter	Electronically controlled vertical-run focal-plane shutter, Speed range (1) Auto 1/4000 to 30 sec. (stepless), (2) Manual 1/4000 to 30 sec. (1/2 EV steps or 1/3 EV steps), Bulb, Electromagnetic release, Shutter lock by setting main switch in OFF position
Lens Mount	PENTAX 645Af mount (AF coupler, lens information contacts, with power contacts)
Lens Used	645A mount, 645Af mount lens
Autofocus System	TTL phase-matching autofocus system (SAFOX IX +), Focus lock available, Focus Mode: A.F.S (Single)/ A.F.C (Continuous), Adjustable AF point
Viewfinder	Trapezoid prism finder, Interchangeable Natural-Bright-Matte focusing screen, Field of view: approx. 98%, Magnification: approx. 0.62× (with D FA645 55mm F2.8 lens, Infinity), Diopter: approx. -3.5 to +2.0m ⁻¹ (per meter)

Viewfinder Indication	Focus information: ● is lit when in-focus and blinking when unable to focus, ⚡ is lit = flash ready, ⚡ is blinking = Flash should be used or charging, Shutter speed, Sensitivity, Aperture value, * = AE lock, Remaining capacity, [EV] = EV compensation/Exposure Bracketing, [±] = Flash exposure compensation, [M] = Metering mode, EV bar, Electronic level, RAW/RAW+ , SD1/SD2 = SD1/SD2 slot recordable
LCD Panel Display	[M] = Multi-exposure, [B] = Beep, HDR = HDR capture, MUP = Mirror up, AWB = Auto white balance/☀ = Daylight/☁ = Shade/☁ = Cloudy/☾ D N W L = Fluorescent light/☀ = Tungsten light/⚡ WB = Flash/ CTE = Color temperature enhancement/[M] = Manual/ K = Color temperature/[±] = White balance correction, Shutter speed, Aperture value, [□] = Single frame shooting, [∞] = Continuous shooting, [⌚] = Self-timer, [RC] = Remote control shooting, EV bar, Electronic level, [EV] = EV compensation, [B] = Battery exhaustion warning, [±] = Flash exposure compensation, RAW/RAW+ = SD1/SD2 slot image file format, L/M/S = Recorded pixels, ★★ ★/★ ★/★ = JPEG quality, e-dial active display, Sensitivity, © = Copyright information, INT. = Interval shooting, [B] = Bracket shooting, Remaining capacity, Pc-S (mass storage)/ Pc-P (PTP) = USB connection, CIn = Sensor cleaning
Preview Function	Optical Preview: Depth of field confirmation (electronically controlled and usable in all exposure modes) Digital Preview: Composition, exposure, focus and white balance confirmation
Continuous Shooting	Up to approx. 1.1 fps, RAW (PEF)+JPEG (40M/★★★): up to approx. 13 frames, RAW (PEF): up to approx. 13 frames, RAW (DNG): up to approx. 13 frames, JPEG (40M/★★★): up to approx. 13 frames
Self-timer	Electronically controlled with delay time of 12 sec./2 sec. (with mirror up function). Start by pressing the shutter release button. Operation confirmation: Possible to set beep. Can be cancelled after operation
Remote Control	PENTAX Remote Control F (optional)/Remote Control Waterproof O-RC1 (optional) Releases the shutter immediately or three seconds after pressing the remote control shutter release button
Mirror	Quick-return mirror, mirror up function
Digital Filter	Monochrome, Extract Color, Color, Base Parameter Adj, Soft
Custom Image	Image Tone (8 types), Saturation, Hue, Contrast, Sharpness/Fine Sharpness, High/Low Key Adj, Filter Effect, Toning
Exposure Bracketing	Two, three or five frames (underexposed, proper exposure and overexposed) are shot continuously with exposure bracketing. (Selectable between 1/3 EV and 1/2 EV for EV steps)
Extended Bracketing	Three frames are saved continuously with white balance, saturation, hue, high/low key adjustment, contrast and sharpness bracketing.
Multi-exposure	Number of shots: 2 to 9 (Auto EV Adjustment can be set according to the number of shots)
Interval Shooting	Interval: 2 seconds to 24 hours, Number of Shots: 1 to 999, Start time can be set
Exposure Meter/ Exposure Range	TTL multi (77-segment metering), Exposure range from EV 2 to EV 21 at ISO 200, with 75mm F2.8 lens, Center-weighted and Spot metering mode can be set
EV Compensation	±5 EV range, EV Steps can be selected

AE Lock	Button type (timer type: two times the meter operating time set in Custom Function) Continuous as long as the shutter button is halfway pressed.
External Flash Sync	Hot shoe with X -contact, which couples with PENTAX dedicated auto flashes, ISO range = P-TTL: 100 to 1600, Automatic flash, Red-eye reduction flash function, High-speed flash sync and wireless-sync with PENTAX dedicated flash
Custom Function	35 functions can be set
Time Function	World Time settings for 75 cities (28 time zones)
Dust Removal	Ultrasonic vibrations for dust removal. Can be set to operate when the camera is turned on.
Power	Rechargeable lithium-ion battery D-LI90, AC adapter kit K-AC50 (optional)
Battery Life (23°C)	Remaining image storage capacity: approx. 800 images, Playback time: approx. 440 minutes * The number of recordable images and playback time are based on our measuring conditions. Some deviation from the above figures may occur in actual use depending on usage conditions.
Battery Exhaustion	Battery exhaustion indicator  is lit. (The shutter is locked and no indication appears in the viewfinder when  starts blinking.)
In/Out Port	USB terminal (USB 2.0 (high speed compatible)), Video terminal (Mini jack), mini HDMI terminal, DC input terminal, Cable release terminal, X-sync socket
Video Output Format	NTSC/PAL
Dimensions and Weight	Approx. 156mm (W) × 117mm (H) × 119mm (D) (excluding protrusions) 1400 g (body only), 1480 g (including a battery and two SD Memory Cards)
Accessories	Hot shoe cover Fk, Sync socket 2P cap, Standard eyecup, Large eyecup 645 O-EC107, Body mount cap 645, USB Cable I-USB107, Software (CD-ROM) S-SW107 (PENTAX Digital Camera Utility 4), Strap O-ST107, Triangular ring and protective cover, Rechargeable lithium-ion battery D-LI90, Battery charger D-BC90, AC plug cord, Operating Manual, Menu Reference (this book)
Languages	English, French, German, Spanish, Portuguese, Italian, Dutch, Danish, Swedish, Finnish, Polish, Czech, Hungarian, Turkish, Greek, Russian, Korean, Traditional Chinese, Simplified Chinese and Japanese

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WARRANTY POLICY

All PENTAX cameras purchased through authorized bona fide photographic distribution channels are guaranteed against defects of material or workmanship for a period of twelve months from date of purchase. Service will be rendered, and defective parts will be replaced without cost to you within that period, provided the equipment 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 PENTAX service facilities.

Procedure During 12-month Warranty Period

Any PENTAX which proves defective during the 12-month warranty period should be returned to the dealer from whom you purchased the equipment or to the manufacturer. If there is no representative of the manufacturer in your country, send the equipment to the manufacturer, with postage prepaid. In this case, it will take a considerable length of time before the equipment can be returned to you owing to the complicated customs procedures required. If the equipment is covered by warranty, repairs will be made and parts replaced free of charge, and the equipment will be returned to you upon completion of servicing. If the equipment 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 PENTAX 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 PENTAX 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 equipment for at least a year. Before sending your equipment 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 PENTAX 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 the PENTAX distributor in your country for more information and to receive a copy of the warranty policy.**



The CE Mark is a Directive conformity mark of the European Union.

For customers in USA

STATEMENT OF FCC COMPLIANCE

This device complies with Part 15 of the FCC Rules. 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.

Changes or modifications not approved by the party responsible for compliance could void the user's authority to operate the equipment.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules.

These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
Increase the separation between the equipment and receiver.
Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- * Consult the dealer or an experienced radio/TV technician for help.

For customers in Canada

This Class B digital apparatus complies with Canadian ICES-003.

Pour les utilisateurs au Canada

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

FOR CALIFORNIA, U.S.A. ONLY

Perchlorate Material-special handling may apply. The lithium battery used in this camera contains perchlorate material, which may require special handling. See www.dtsc.ca.gov/hazardouswaste/perchlorate

Declaration of Conformity

According to 47CFR, Parts 2 and 15 for

Class B Personal Computers and Peripherals

We: PENTAX 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: Lens-interchangeable medium-format digital SLR (Single Lens Reflex) Camera

Model Number: 645D

Contact person: Customer Service Manager

Date and Place: October, 2011, Colorado

Information for Users on Collection and Disposal of Old Equipment and Used Batteries



1. In the European Union

These symbols on the products, packaging and/or accompanying documents mean that used electrical and electronic equipment and batteries should not be mixed with general household waste.

Used electrical/electronic equipment and batteries must be treated separately and in accordance with legislation that requires proper treatment, recovery and recycling of these products.



By disposing of these products correctly you will help ensure that the waste undergoes the necessary treatment, recovery and recycling and thus prevent potential negative effects on the environment and human health which could otherwise arise due to inappropriate waste handling.

If a chemical symbol is added beneath the symbol shown above, in accordance with the Battery Directive, this indicates that a heavy metal (Hg = Mercury, Cd = Cadmium, Pb = Lead) is present in the battery at a concentration above an applicable threshold specified in the Battery Directive.

For more information about collection and recycling of used products, please contact your local authorities, your waste disposal service or the point of sale where you purchased the products.

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.

MEMO



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**PENTAX RICOH IMAGING FRANCE S.A.S.
(European Headquarters)** 112 Quai de Bezons, B.P. 204, 95106 Argenteuil Cedex, FRANCE
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**PENTAX RICOH IMAGING DEUTSCHLAND
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(<http://www.pentax.de>)

PENTAX RICOH IMAGING UK LTD. PENTAX House, Heron Drive, Langley, Slough, Berks SL3 8PN, U.K.
(<http://www.pentax.co.uk>)

**PENTAX RICOH IMAGING AMERICAS
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(<http://www.pentaximaging.com>)

PENTAX RICOH IMAGING CANADA INC. 1770 Argentia Road Mississauga, Ontario L5N 3S7, CANADA
(<http://www.pentax.ca>)

<http://www.pentax.jp/english>

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