Other functions can be operated using the control wheel, MENU button, etc.

Control Ring

MENU
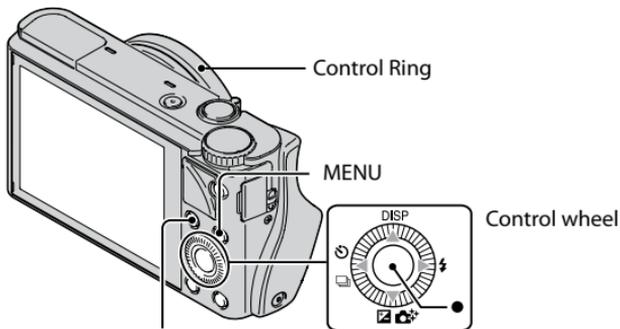
Control wheel

Fn (Function)

Control wheel

DISP (Display Contents): Allows you to change the screen display.

$\frac{1}{2}$ (Flash Mode): Allows you to select a flash mode for still images.

$\boxed{\pm}$ /$\mathbf{\Omega}^{+}$ (Exposure Comp./Photo Creativity): Allows you to adjust image brightness. Allows you to change [Bkground Defocus], [Brightness], [Color], [Vividness] and [Picture Effect] when shooting mode is set to [Intelligent Auto] or [Superior Auto].

$\circlearrowleft$/$\boxdot$ (Drive Mode): Allows you to use the self-timer and burst shooting mode.

● (Tracking focus): The camera tracks the subject and adjusts focus automatically even when the subject is moving.

Fn (Function) button

Allows you to register seven functions and recall those functions when shooting.
① Press the Fn (Function) button.
② Select the desired function using the Fn (Function) button or ◄/► on the control wheel.
③ Select the setting value by turning the control wheel or Control Ring.

Control Ring

Your favorite functions can be assigned to the Control Ring; when shooting, established settings can be changed just by turning the Control Ring.

Menu Items
◘ Still shooting menu

Image size	Selects the size of still images.
Aspect ratio	Selects the aspect ratio for still images.
Quality	Sets the image quality for still images.
Panorama:Size	Selects the size of panoramic images.
Panorama: Direction	Sets the shooting direction for panoramic images.
Drive Mode	Sets the drive mode, such as for continuous shooting.
Flash Mode	Sets the flash settings.
Focus mode	Selects the focus method.
Autofocus Area	Selects the area of focus.
Soft Skin Effect	Sets the Soft Skin Effect and the effect level.
Smile/Face Detect.	Selects to detect faces and adjust various settings automatically. Sets to automatically release the shutter when a smile is detected.
Auto Port. Framing	Analyzes the scene when capturing a face and saves another image with a more impressive composition.
ISO	Adjusts the luminous sensitivity.
Metering Mode	Selects the metering mode that sets which part of the subject to measure to determine the exposure.

Flash Comp.	Adjusts the intensity of flash output.
White Balance	Adjusts color tones of an image.
DRO/Auto HDR	Compensates automatically for brightness and contrast.
Creative Style	Selects the desired image processing.
Picture Effect	Shoots still images with a texture unique to the selected effect.
Clear Image Zoom	Provides a higher-quality zoomed image than with Digital Zoom.
Digital Zoom	Provides zoomed images at higher magnification than with Clear Image Zoom.
Long Exposure NR	Sets noise reduction processing for shots with a shutter speed of 1/3 second or longer.
High ISO NR	Sets noise reduction processing for high-sensitivity shooting.
AF Illuminator	Sets the AF illuminator, which provides light for a dark scene to aid focusing.
SteadyShot	Sets SteadyShot.
Color Space	Changes the range of reproducible colors.
Shooting Tip	List Accesses all shooting tips.
Write Date	Sets whether to record a shooting date on the still image.
Scene Selection	Selects pre-set settings to match various scene conditions.
Memory recall	Selects settings you want to recall when the mode dial is set to [Memory recall].
Memory	Registers the desired modes or camera settings.

▣ Movie shooting menu

File Format	Selects the movie file format.
Record Setting	Selects the size of the recorded movie frame.
Image Size(Dual Rec)	Sets the still image size shot when recording a movie.
SteadyShot	Sets SteadyShot.
Audio Recording	Sets whether to record audio when shooting a movie.
Wind Noise Reduct.	Reduces wind noise during movie recording.
Movie	Selects the exposure mode to suit your subject or effect.

✿ Custom menu

Red Eye Reduction	Reduces the red-eye phenomenon when using flash.
Grid Line	Sets a grid line display to enable alignment to a structural outline.
Auto Review	Displays the captured image after shooting. Sets auto review.
DISP Button(Monitor)	Sets the screen display modes that can be selected by pressing DISP on the control wheel.
Peaking Level	Enhances the outline of in-focus ranges with a specific color.
Peaking Color	Sets the color used for the peaking function.
Control Ring	Assigns the desired functions to the Control Ring.
Control Ring Display	Sets whether to display animation when operating the Control Ring.
Function Button (Fn)	Customizes functions displayed when the Fn button is pressed.
Func. of Center Button	Assigns the desired functions to the center button.
Func. of Left Button	Assigns the desired functions to the left button.
Func. of Right Button	Assigns the desired functions to the right button.
MF Assist	Displays an enlarged image when focusing manually.
Focus Magnif. Time	Sets the length of time the image will be shown in an enlarged form.
Face Priority Tracking	Sets whether to track faces as a priority when tracking.
Face Registration	Registers or changes the person to be given priority in the focus.

▶ Playback menu

Still/Movie	Select Selects the display format for images.
Delete	Deletes an image.
Slide Show	Shows a slide show.
Image Index	Displays multiple images at the same time.
Protect	Protects the images.
Specify Printing	Adds a print order mark to a still image.
Picture Effect	Adds various textures to images.
Volume Settings	Adjusts the volume.
Playback Display	Sets how to play back an image recorded in portrait.

◄ Memory Card Tool menu

Format	Formats the memory card.
File Number	Sets the method used to assign file numbers to still images and movies.
Select REC Folder	Changes the selected folder for storing images.
New Folder	Creates a new folder for storing still images and movies (MP4).
Recover Image DB	Recovers the image database file and enables recording and playback.
Display Card Space	Displays the remaining recording time of movies and the recordable number of still images on the memory card.

🕐 Clock setup menu

Date/Time Setup	Sets date and time, and daylight savings.
Area Setting	Sets the location of use.

🔧 Setup menu

Menu start	Sets the default position of the cursor on the menu to the top item or the last-selected item.
Mode Dial Guide	Turns the mode dial guide (the explanation of each shooting mode) on or off.
LCD Brightness	Sets the screen brightness.
Power Saving Start Time	Sets the length of time until the camera turns off automatically.
HDMI Resolution	Sets the resolution when the camera is connected to an HDMI TV.
CTRL FOR HDMI	Operates the camera from a TV that supports "BRAVIA" Sync.
Upload Settings*	Sets the upload function of the camera when using an Eye-Fi card.
USB Connection	Sets the USB connection method.
USB LUN Setting	Sets the mode when the camera is connected to a computer using a USB connection.
USB Power Supply	Sets whether to supply power using a USB connection.
Audio signals	Sets the operating sound of the camera.
Version	Displays the camera software version.
Language	Selects the language.
Drop Sensor	Sets the [Drop Sensor] function.
Demo Mode	Sets demonstration playback of a movie to on or off.
Initialize	Restores settings to their defaults

* Appears when an Eye-Fi card (sold separately) is inserted into the camera.

Install "PlayMemories Home" (Windows)

The supplied software "PlayMemories Home" allows you to import still images and movies to your computer and use them.

You can shoot or play back images on this camera even if you do not install "PlayMemories Home", however, "PlayMemories Home" is required to import AVCHD movies to your computer.

1 Insert the Stellar CD-Rom and run "start.exe"

2 Choose Your Language

3 Choose "Downloads"

4 Click on "PlayMemories Home"
The software will now be downloaded to your preferred download folder.

5 Run "PMHOME_2003DL.exe" and follow the instructions on screen.

Notes

- "PlayMemories Home" is not compatible with Mac OS. If you play back images on a Mac, use the applications that are installed on your Mac.

Features of "PlayMemories Home"

Below are examples of the functions available when you use "PlayMemories Home". To take advantage of the various "PlayMemories Home" functions, connect to the Internet and install the "Expanded Feature".

- You can import images shot with the camera to a computer and display them.
- You can display images stored on a computer by shooting date in a calendar display.
- You can correct (Red Eye Correction, etc.) still images, print the images, send images by e-mail, and change the shooting date and time.
- You can save and print images with the date.
- You can create a disc from AVCHD movies imported to a computer. (Expanded Feature)

Install "Image Data Converter" (Windows)

"Image Data Converter" allows you to develop RAW images.

1 **Insert the Stellar CD-Rom and run "start.exe"**

2 **Choose Your Language**

3 **Choose "Image Data Converter"**

4 **Click on "Install IDC" and follow the instructions on screen.**

Install "Image Data Converter" (Mac - English version)

1 **Insert the Stellar CD-Rom**

2 **Choose Your Language**

3 **Open the "Image Data Converter" folder**

4 **Double click on the "IDC.dmg" file and follow the instructions on screen.**

Install "Image Data Converter" (Mac - All Non-English versions)

1 **Insert the Stellar CD-Rom**

2 **Choose Your Language**

3 **Double click the "Image Data Converter" shortcut**

4 **Run the "IDC Install" package and follow the instructions on screen.**

Number of still images and recordable time of movies

The number of still images and recordable time may vary depending on the shooting conditions and the memory card.

Still images
Image Size: L: 20M
When [Aspect Ratio] is set to [3:2]*

Capacity / Quality	2 GB
Standard	295 images
Fine	170 images
RAW & JPEG	58 images
RAW	88 images

* When the [Aspect Ratio] is set to other than [3:2], you can record more pictures than shown above. (Except when [Quality] is set to [RAW].)

Movies
The table below shows the approximate maximum recording times. These are the total times for all movie files. Continuous shooting is possible for approximately 29 minutes.
The maximum size of an MP4-format movie file is up to approximately 2 GB.

Capacity / Record Setting	2 GB
60i 24M(FX)/50i 24M(FX)	10 m
60i 17M(FH)/50i 17M(FH)	10 m
60p 28M(PS)/50p 28M(PS)	9 m
1440×1080 12M	15 m
VGA 3M 1 h	1 h 10 m

(h (hour), m (minute))

- The recordable time of movies varies because the camera is equipped with VBR (Variable Bit Rate), which automatically adjusts image quality depending on the shooting scene. When you record a fast-moving subject, the image is clearer but the recordable time is shorter because more memory is required for recording.
The recordable time also varies depending on the shooting conditions, the subject or the image quality/size settings.

Notes on using the camera

Functions built into this camera
- This manual describes 1080 60i-compatible devices and 1080 50i compatible devices. To check whether your camera is a 1080 60i-compatible device or 1080 50i compatible device, check for the following marks on the bottom of the camera.
1080 60i-compatible device: 60i
1080 50i-compatible device: 50i
- This camera is compatible with 1080 60p or 50p-format movies. Unlike standard recording modes up to now, which record in an interlacing method, this camera records using a progressive method. This increases the resolution, and provides a smoother, more realistic image.

On use and care
Avoid rough handling, disassembling, modifying, physical shock, or impact such as hammering, dropping, or stepping on the product. Be particularly careful of the lens.

Notes on recording/playback

- Before you start recording, make a trial recording to make sure that the camera is working correctly.
- The camera is neither dust-proof, nor splash-proof, nor water-proof.
- Avoid exposing the camera to water. If water enters inside the camera, a malfunction may occur. In some cases, the camera cannot be repaired.
- Do not aim the camera at the sun or other bright light. It may cause the malfunction of the camera.
- If moisture condensation occurs, remove it before using the camera.
- Do not shake or strike the camera. It may cause a malfunction and you may not be able to record images. Furthermore, the recording media may become unusable or image data may be damaged.

Do not use/store the camera in the following places

- In an extremely hot, cold or humid place
  In places such as in a car parked in the sun, the camera body may become deformed and this may cause a malfunction.
- Storing under direct sunlight or near a heater
  The camera body may become discolored or deformed, and this may cause a malfunction.
- In a location subject to rocking vibration
- Near a location that generates strong radio waves, emits radiation or is strongly magnetic place. Otherwise, the camera may not properly record or play back images.
- In sandy or dusty places
  Be careful not to let sand or dust get into the camera. This may cause the camera to malfunction, and in some cases this malfunction cannot be repaired.

On carrying

Do not sit down in a chair or other place with the camera in the back pocket of your trousers or skirt, as this may cause malfunction or damage the camera.

Carl Zeiss lens

The camera is equipped with a **Carl Zeiss** lens which is capable of reproducing sharp images with exellent contrast. The lens for the camera has been produced under a quality assurance system certified by **Carl Zeiss** in accordance with the quality standards of **Carl Zeiss** in Germany.

Notes on the screen

The screen is manufactured using extremely high-precision technology so over 99.99% of the pixels are operational for effective use. However, some tiny black and/or bright dots (white, red, blue or green) may appear on the screen. These dots are a normal result of the manufacturing process, and do not affect the recording.

Notes on the flash

- Do not carry the camera by the flash unit, or use excessive strength on it.
- If water, dust or sand get into the open flash unit, it may cause a malfunction.

On camera's temperature

Your camera and battery may get hot due to continuous use, but it is not a malfunction.

On the overheat protection

Depending on the camera and battery temperature, you may be unable to record movies or the power may turn off automatically to protect the camera.

A message will be displayed on the screen before the power turns off or you can no longer record movies. In this case, leave the power off and wait until the camera and battery temperature goes down. If you turn on the power without letting the camera and battery cool enough, the power may turn off again or you may be unable to record movies.

On charging the battery

If you charge a battery that has not been used for a long time, you may be unable to charge it to the proper capacity.

This is due to the battery characteristics, and is not a malfunction. Charge the battery again.

Warning on copyright

Television programs, films, videotapes, and other materials may be copyrighted.
Unauthorized recording of such materials may be contrary to the provisions of the copyright laws.

No compensation for damaged content or recording failure

Hasselblad cannot compensate for failure to record or loss or damage of recorded content due to a malfunction of the camera or recording media, etc.

Cleaning the camera surface

Clean the camera surface with a soft cloth slightly moistened with water, then wipe the surface with a dry cloth. To prevent damage to the finish or casing:

– Do not expose the camera to chemical products such as thinner, benzine, alcohol, disposable cloths, insect repellent, sunscreen or insecticide.

Specifications

Camera

[System]

Image device: 13.2 mm × 8.8 mm (1.0 type) Exmor CMOS sensor

Total number of pixels:
Approx. 20.9 Megapixels

Effective number of pixels:
Approx. 20.2 Megapixels

Lens: Carl Zeiss Vario-Sonnar T∗ 3.6× zoom lens
f = 10.4 mm – 37.1 mm (28 mm –100 mm (35 mm film equivalent)) F1.8 (W) – F4.9 (T)
While shooting movies (16:9): 29 mm – 105 mm*1
While shooting movies (4:3): 36 mm – 128 mm*1
*1When [SteadyShot] is set to [Standard]

SteadyShot: Optical

Exposure control: Automatic exposure, Aperture priority, Shutter priority, Manual exposure, Scene Selection (13 modes)

White balance: Automatic, Daylight, Shade, Cloudy, Incandescent, Fluorescent (Warm White/Cool White/Day White/Daylight), Flash, Color temperature/Color filter, Custom

Signal format:
For 1080 50i: PAL color, CCIR standards HDTV 1080/50i, 1080/50p specification
For 1080 60i: NTSC color, EIA standards HDTV 1080/60i, 1080/60p specification

File format:
Still images: JPEG (DCF, Exif, MPF Baseline) compliant, DPOF compatible
Movies (AVCHD format): AVCHD format Ver. 2.0 compatible
Video: MPEG-4 AVC/H.264
Audio: Dolby Digital 2ch, equipped with Dolby Digital Stereo Creator
• Manufactured under license from Dolby Laboratories.

Movies (MP4 format): Video: MPEG-4 AVC/H.264
Audio: MPEG-4 AAC-LC 2ch

Recording media: "Memory Stick Duo" media, "Memory Stick Micro" media, SD cards, microSD memory cards

Flash: Flash range (ISO sensitivity (Recommended Exposure Index) set to Auto):
Approx. 0.3 m to 17.1 m (11 3/4 inches to 56 ft. 1 3/4 inches) (W) Approx. 0.55 m to 6.3 m (1 ft. 9 1/2 inches to 20 ft. 8 inches) (T)

[Input and Output connectors]

HDMI connector: HDMI micro jack
Micro USB connector: USB communication
USB communication: Hi-Speed USB (USB 2.0)

[Screen]

LCD screen: 7.5 cm (3.0 type) TFT drive
Total number of dots: 1 228 800 dots

[Power, general]

Power: Rechargeable battery pack NP-BX1, 3.6 V
AC Adaptor, 5 V

Power consumption (during shooting): 1.5 W

Operating temperature: 0 °C to 40 °C (32 °F to 104 °F)

Storage temperature: −20 °C to +60 °C (−4 °F to +140 °F)

Dimensions (CIPA compliant):
109 mm × 59 mm × 36 (W/H/D)

Mass (CIPA compliant) (including NPBX1 battery pack, "Memory Stick Duo" media): Approx. 252 g

Microphone: Stereo

Speaker: Monaural

Exif Print: Compatible

PRINT Image Matching III: Compatible

AC Adaptor

Power requirements: AC 100 V to 240 V,
　　50 Hz/60 Hz, 0.2 A
Output voltage: DC 5 V, 1 500 mA
Operating temperature: 0 °C to 40 °C
Storage temperature: −40 °C to +85 °C
Dimensions:
　　Approx. 75 mm × 33 mm × 45 mm (W/H/D)
Mass: Approx. 75 g

Rechargeable battery pack NP-BX1

Used battery: Lithium-ion battery
Maximum voltage: DC 4.2 V
Nominal voltage: DC 3.6 V
Maximum charge voltage: DC 4.2 V
Maximum charge current: 1.89 A
Capacity: 4.5 Wh (1 240 mAh)

Design and specifications are subject to
change without notice.

Trademarks

- The following marks are trademarks of Sony Corporation.
  Cyber-shot, "Cyber-shot,"
  "Memory Stick PRO Duo,"
  "Memory Stick PRO-HG Duo,"
  "Memory Stick Duo," "Memory
  Stick Micro"
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Works with PlayStation®3

- Add further enjoyment with your PlayStation 3 by downloading the application for PlayStation 3 from PlayStation Store (where available.)
- The application for PlayStation 3 requires PlayStation Network account and application download. Accessible in areas where the PlayStation Store is available.

Additional information on this product and answers to frequently asked questions can be found at our Customer Support Website.

www.hasselblad.com

v2.0

Victor Hasselblad AB