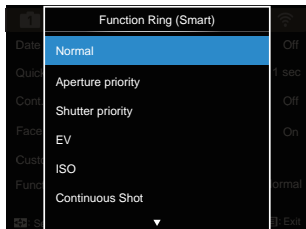


Function Ring (Smart)

The options listed below can be set as Function Ring (Smart) Custom. Once set, the chosen function can be quickly adjusted with the lens function ring during shooting.





- Continuous Shot
- Color
- White Balance
- Image Size
- Expo Metering
- Flash
- AF Area


















- Normal
- Aperture Priority
- Shutter Priority
- EV
- ISO

Playback Menu

Mode: 

1. Press the  button to display the playback screen and press the  button to enter the menu.








7 options in [Playback Menu]:

-  Menu
 -  Display Mode
 -  Rotate
 -  Color
 -  HDR
 -  Touch-Up
 -  Resize
2. Press the [ AF]/[  ] button to select the playback desired and press the  button to enter.
 3. Press the [ ]/[ ] button to select an option and press the  button to confirm.

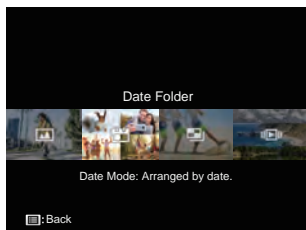
Refer to the following pages for more details about each setting.

Menu

7 options in [Menu]


- Shoot Settings 1 
(See P81 for details)
- Shoot Settings 2 
(See P87 for details)
- Playback Settings 
(See P97 for details)
- General Settings 
(See P101 for details)
- File Settings 
(See P104 for details)
- Connection Settings 
(See P108 for details)
- Wi-Fi Settings 
(See P41 for details)

Display Mode





 Normal Mode: Display all images.

 Date Mode: Arranged by date.

 Cont. Photo Mode: Arranged by Cont. Photo Group.

 Slide Show

 The Date Folder is displayed in date order based on photo shooting date/time.


 If there is no continuous shot image file in memory, continuous photo mode cannot be enabled.

Rotate


You can use this setting to change the orientation of the picture.




 : Exit

 : Turn Left

 : Turn Right









 Videos and panoramic pictures cannot be rotated.









 The rotated picture file will replace the original photo.




Color

This setting allows you to change the picture color effect. The file is saved as a new photo and stored in memory together with the original photo.



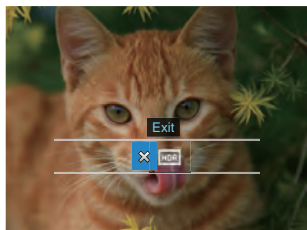
-  Exit
-  Vivid
-  Black and White
-  Sepia
-  Partial Color-Red
-  Partial Color-Yellow
-  Partial Color-Blue
-  Partial Color-Green

-  Dreamy
-  Vignetting
-  Salon
-  Punk (4M)
-  Negative (8M)
-  Reflection
-  Fish Eye
-  4 Grids - Stylish (2M)


-  In playing back single photos, press the  button to enter the color effect setting menu.
-  Fish Eye effect is not available when shot size is 20M.

HDR

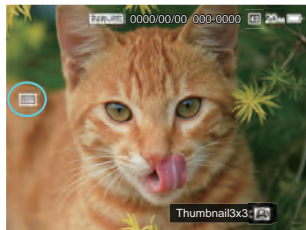
With the HDR function, pictures that are overexposed may be corrected to optimize the highlights and lowlights captured to more accurately represent the actual scene.



 : Exit

 : HDR

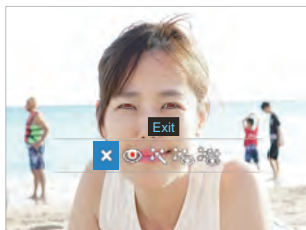
Select  with HDR :



After using the HDR function, the image will be saved as a new file and the original file is still stored in the memory.

Touch-Up ✨✨✨

The playback beauty feature allows for beautification using three individual effects.



✕ : Exit

👁️ : Red-Eye Reduction

🌀 : Skin Soften

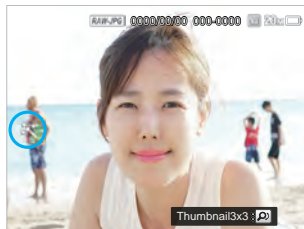
🌸 : Eye Brightening

👁️ : Eye Enlargement



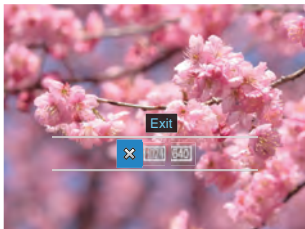
The Touch-Up referred to is the individual use of three effects. Beauty Mode allows you to select one, two, or all three of the effects combined.

Select 👁️ with touch-up:




Resize

This setting allows you to resize a picture to a particular resolution and saves it as a new picture.



 : Exit

 : Resize to 1024x768

 : Resize to 640X480















Only for adjusting pictures with high resolution to those with low resolution.













Sizes of photos taken in panorama mode or rotated cannot be adjusted.

Playback Settings

Mode:  **PSAM**  **SCNCS**  

1. Press the  button, press the [ **AF**] / [  ] button to select .
2. Press the  button to enter the menu.
3. Press the [ ] / [ ] button to select .

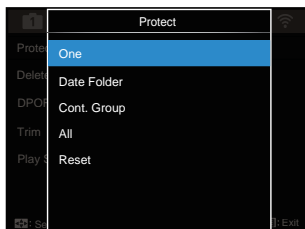
5 options in [Playback Settings]:

- Protect
 - Delete
 - DPOF
 - Trim
 - Play Slide Show
4. Press the [ **AF**] / [  ] button to select the item to be set and press the .
 5. Press the [ **AF**] / [  ] button to select an option and press the  button to confirm.

Refer to the following pages for more details about each setting.

Protect

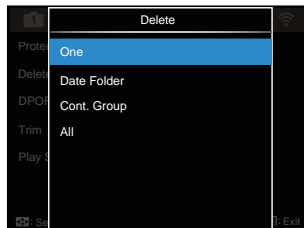
To prevent any pictures or videos from being accidentally erased, use this setting to lock one or all of the files.



- **One**
Lock the selected photo or video if they are unprotected; unlock the selected photo or video if they are protected.
- **Date Folder**
Protect all photos in the Date Folder.
- **Cont. Group**
Protect all photos in the Cont. Group.
- **All**
Lock all photos or videos.
- **Reset**
Cancel all locked photos or videos.


Delete

You can delete one or all photo/video files.



- **One**
Delete one photo or video.
- **Date Folder**
Delete all photos in the Date Folder.
- **Cont. Group**
Delete all photos in the Cont. Group.
- **All**
Delete all photos or videos.



The “” indicator means a file is protected. File protection must be removed before a file can be deleted.



Deleting files will cause DPOF settings to be reset.



When one photo in the Cont. Group and Date Folders is protected, it will be kept but any other photos will be deleted.



Deleted files will be permanently deleted and will not be able to be recovered or restored.

DPOF (Digital Print Order Format)

The DPOF feature allows you to compile and select a group of pictures that you would like to print and will save your selection on the memory card so that you can use the memory card to print without having to individually specify the photos you want to print.











- One
- All
- Reset

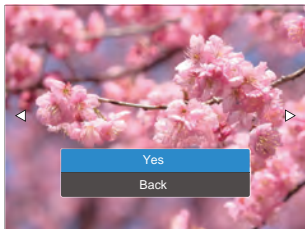





The printer that supports DPOF is needed for photo printing.

Trim

The Trim setting allows you to crop photos and save them as new pictures.

1. Select [Yes] to confirm trim. Toggle the zoom lever or turn the  jog dial to select the aspect ratio and press the [ AF] / [  ] / [  ] buttons to adjust the part you want to trim.



2. Press the  button and the [Save change?] prompt appears. Select [] to change and save the picture. Select [] to cancel changes and return to the trim prompt screen.



The image cannot be clipped/trimmed again once it has been clipped to 640X480.



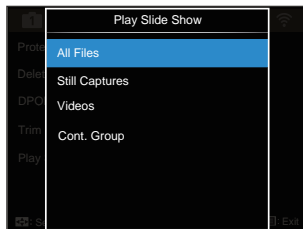
Videos, RAW files cannot be trimmed.



A trimmed picture cannot be trimmed again.

Play Slide Show

This setting allows you to view all the stored images as a slideshow.



- All Files
To display and play back all images in memory card.
- Still Captures
To display and play back images of photo files in memory card.
- Videos
To play back movies on memory card.
- Cont. Group
To only play back images arranged by cont. group in memory card.

General Settings

Mode : **PSAM** + **SCNCS**

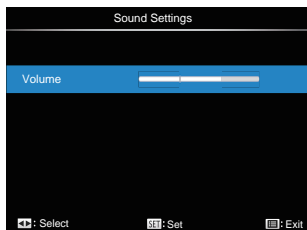
1. Press the button, press the [**▲AF**] / [**▼**] button to select .
2. Press the button to enter the menu.
3. Press the [**◀**]/[**▶**] button to select .
6 options in [General Settings] :
 - Sound Settings
 - Power Saver
 - Language
 - World Time
 - Date & Time
 - LCD Brightness
4. Press the [**▲AF**]/[**▼**] button to select the item to be set and press the button to enter the menu.
5. Press the [**▲AF**]/[**▼**] button to select an option and press the button to confirm.

Refer to the following pages for more details about each setting.

Sound Settings

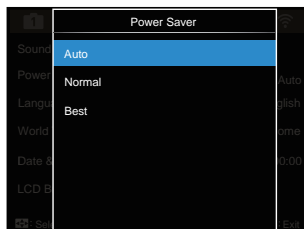
With this setting you may adjust the sound volume.

Press the [◀ 🔊]/[▶ 🔊] button to adjust the volume and press the (SET) button to confirm.



Power Saver

This setting allows you to save power and get the maximum possible running time for your camera's batteries. Turn the LCD and camera off automatically after a consecutive period of inactivity.



- Auto
- Normal
- Best

Power Saver	LCD power off time	Turn off time
Auto	3 min	5 min
Normal	1 min	3 min
Best	30 s	1 min

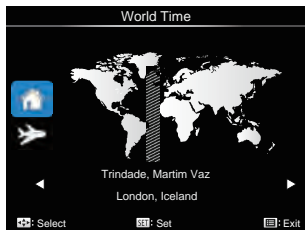
Language

Refer to the “Reset your language” section on page 25.

World Time

The World Time setting is a useful function for your overseas trips. This feature enables you to display the local time on the LCD while you are abroad.

1. Press the [▲ AF]/[▼ ☹ ☺] button to select the departure place (🏠) and destination (✈) fields.
2. Press the [◀ 🌐]/[▶ ⚡] button to select a city located in the same time zone as that of the field. Press the (SET) button to confirm settings.



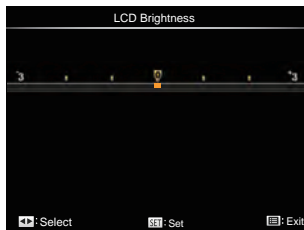
Date & Time

Refer to the “Reset Date/Time” section on page 26.

LCD Brightness























Use this setting to adjust the brightness of your LCD.

Press the [◀ 🌐]/[▶ ⚡] button to adjust the brightness of screen and press the (SET) button to confirm.



File Settings

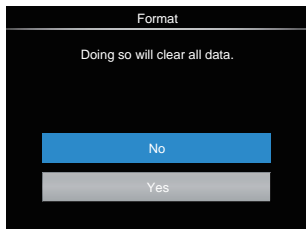
Mode:  **PSAM** +  **SCNCS**  

1. Press the  button, press the [ **AF**] / [  ] button to select .
 2. Press the  button to enter the menu.
 3. Press the [ ] / [ ] button to select .
 4. Press the [ **AF**] / [  ] button to select the item to be set and press the  button to enter the menu.
 5. Press the [ **AF**] / [  ] button to select [Yes] or [No] and press the  button to confirm.
- 5 options in [File Settings] :
- Format
 - Copy to Card
 - File Numbering
 - Reset Settings
 - Version

Refer to the following pages for more details about each setting.

Format

Please note: formatting enables you to delete all contents on the memory card and camera's built-in memory, including protected photo and movie files.



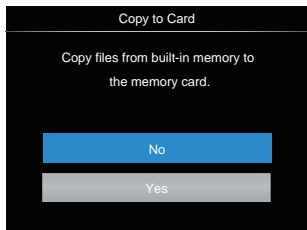
If you select [Yes] the camera will format its memory.



If there is no memory card in the camera, the built-in memory will be formatted; if there is a memory card, only the memory card will be formatted.

Copy to Card

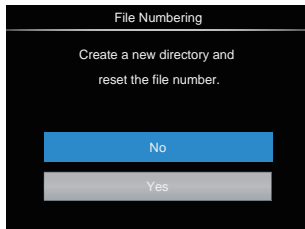
Use this setting to copy the files stored in the built-in memory to a memory card.



If there is no card available in the camera, this function will not be displayed.

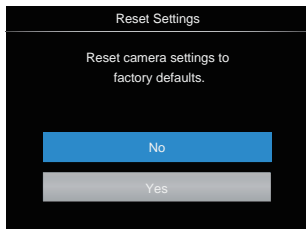
File Numbering

After you take a picture or video clip, the camera will save it with a sequential number. You can use this to reset the file numbering to 1.



Reset Settings

Use this setting to restore the camera to its original default settings.

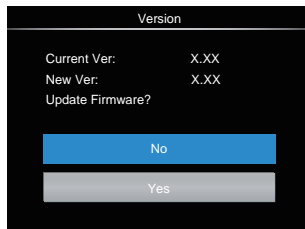


Version

Use this setting to view the current camera firmware version.



When there is a new firmware version in the memory card, select [Yes] to update.














CONNECTION SETTINGS

Connecting to a Computer

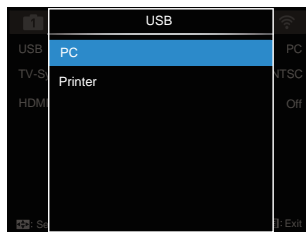
You can use a Micro USB cable to connect the camera and copy (transmit) photos to a computer, printer or other device.

Setting the USB Mode

The camera's Micro USB port can be used to connect to either a computer or a printer. The following steps will allow you to ensure that the camera is correctly configured to connect with a PC.

1. Press the  button, press the [**▲ AF**]/[**▼**  ] button to select  and press the  button to enter the menu.
2. Press the [**◀** ]/[**▶** ] button to select .
3. Press the [**▲ AF**]/[**▼**  ] button to select [USB] and press the  button to enter the menu.

4. Press the [**▲ AF**]/[**▼**  ] button to select [PC] and press the  button to confirm.

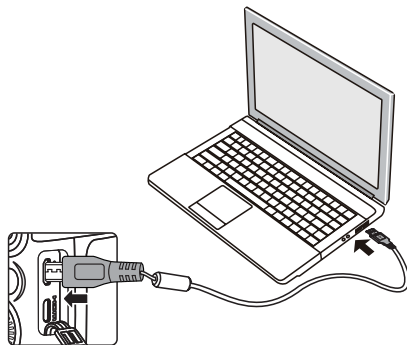


Transferring Files to your Computer

The computer will automatically detect the camera as a removable drive. Double-click the “My Computer” icon on the desktop to locate the removable drive and to copy folders and files in the drive to a directory on your PC as you would copy any typical folder or file.

Follow the steps below to connect the camera to a computer:

1. Make sure the computer is turned on.
2. Connect one end of the supplied Micro USB cable to the Micro USB port on your camera.
3. Connect the other end of the cable to an available USB port on your computer.
4. After the transmission is complete, disconnect the Micro USB cable according to your computer manufacturer's instructions specifying how to safely remove USB devices.

















Connecting to a PICTBRIDGE™ Compatible Printer

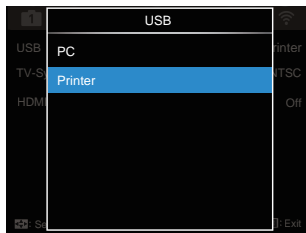
PICTBRIDGE™ technology allows printing on the photos saved in the memory card by a printer.



To find out if a printer is PICTBRIDGE™ compatible, simply look for the PICTBRIDGE™ logo on the packaging or check the owner's manual for specifications. With the PICTBRIDGE™ function on your camera, you can print the captured photos directly to a PICTBRIDGE™ compatible printer using the supplied Micro USB cable, without the need for a PC.

Setting the USB Mode

The camera's Micro USB port can be set to connect with either a PC or a printer. The following steps will ensure that the camera is correctly configured to connect with a compatible printer.

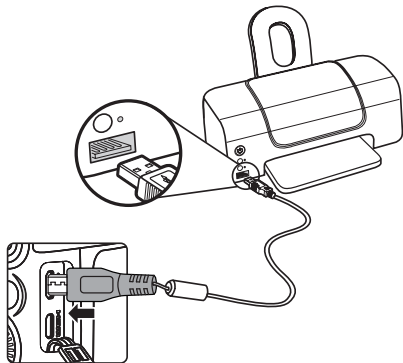
1. Press the  button, press the [ AF] / [] button to select  and press the  button to enter the menu.
2. Press the [] / [] button to select .
3. Press the [ AF] / [] button to select [USB] and press the  button to enter the menu.
4. Press the [ AF] / [] button to select [Printer] and press the  button to confirm.



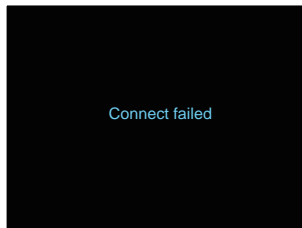
-  After the camera is reset, it will switch to PC mode automatically from USB mode.
-  See "Using the PICTBRIDGE™ Menu" section on page 112.

Connecting to your Printer

1. Make sure the printer is turned on.
2. Connect one end of the supplied Micro USB cable to the Micro USB port on your camera.
3. Connect the other end of the cable to the USB port on the printer.



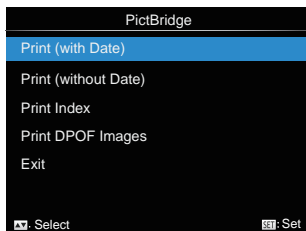
If the camera is not connected to a PICTBRIDGE™ compatible printer, the following error message will appear on the LCD.



The error message above will also appear if the USB mode is set incorrectly, in which case you should disconnect the Micro USB cable, check the USB mode settings, ensure that the printer is turned on, and then try connecting the USB cable again.

Using the PICTBRIDGE™ Menu

After setting the USB mode to printer, the PICTBRIDGE™ menu will appear.



Press the [▲AF]/[▼🗑️🔄] button to select a menu item and press the (SET) button to enter the item.

Refer to the following sections for more detailed information on each setting.

Print (with Date)

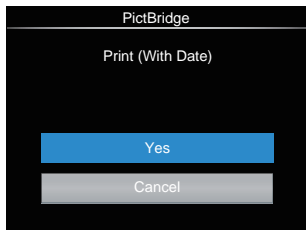
If you have set the date and time on your camera, the date and time will be recorded and saved with each photo you take.

1. In the PICTBRIDGE™ menu, select [Print (with Date)] and the screen as shown below appears.



2. Press the [◀🌸]/[▶⚡] button to select a photo to be printed.

3. Press the [**▲AF**]/[**▼**] button to select the number of copies for the currently displayed photo.
4. Press the **(SET)** button and the following screen will appear.

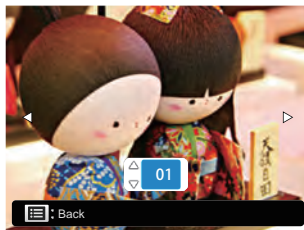


5. Select [Yes] and press the **(SET)** button to confirm; select [Cancel] to cancel printing.

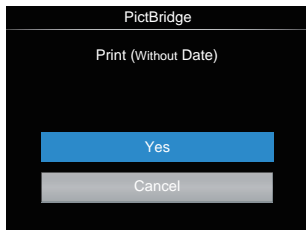
Print (without Date)


Use this setting to print the photos without dates on them.

1. In the PICTBRIDGE™ menu, select [Print (without Date)] and the screen as shown below appears.



2. Press the [**◀**]/[**▶**] button to select a photo to be printed.
3. Press the [**▲AF**]/[**▼**] button to select the number of copies for the currently displayed photo.
4. Press the **(SET)** button and the following screen will appear.

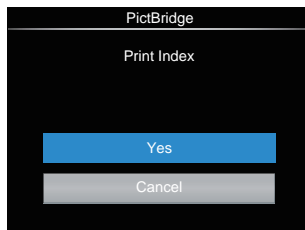



5. Select [Yes] and press the  button to confirm; select [Cancel] to cancel printing.

Print Index

You can print all photos in the camera via this function.

1. In the PICTBRIDGE™ menu, select [Print Index] and the screen as shown below appears.

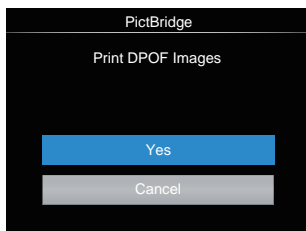



2. Select [Yes] and press the  button to confirm; select [Cancel] to cancel printing.

Print DPOF Images

To use DPOF printing, you must select your photos for printing using the DPOF settings before hand. See “DPOF” section on page 99.

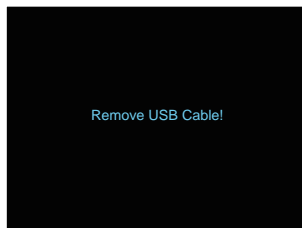
1. In the PICTBRIDGE™ menu, select [Print DPOF Images] and the screen as shown below appears.



2. Select [Yes] and press the  button to confirm; select [Cancel] to cancel printing.

Exit















Select [Exit] to exit the PICTBRIDGE™ menu. At this time, the message [Remove USB Cable!] will appear on the screen.

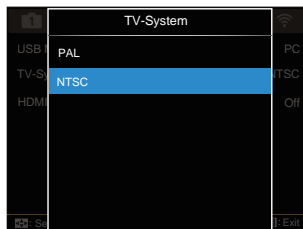


Disconnect the Micro USB cable from the camera and printer.

Video System

You can use the AV cable (which should be purchased separately) to connect the camera and the television for setting up the video output. Connect one end of the AV cable to AV port of the camera, and connect the other end to AV-OUT port of the television. To adjust the format of the video output system according to your requirements:

1. Press the  button, press the [**▲AF**]/[**▼**  ] button to select  and press the  button to enter the menu.
2. Press the [**◀** ]/[**▶** ] button to select .
3. Press the [**▲AF**]/[**▼**  ] button to select [TV-System] and press the  button to enter the menu.
4. Press the [**▲AF**]/[**▼**  ] button to select [NTSC] or [PAL] and press the  button to confirm.



NTSC: English, Chinese (Traditional), Japanese, Korean, French, Russian,

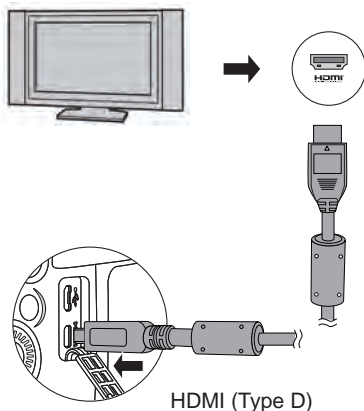
PAL: German, Spanish, Italian, Chinese (Simplified), Portuguese, Arabic



The video output system changes based on the selected language.

Supported HDMI Connections

HDMI (High Definition Multimedia Interface), is a fully digital audio/video transmission interface, through which uncompressed audio and video signals are transmitted.



Connecting HDMI-Ready TV

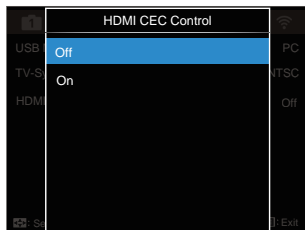
1. Use the cable with high resolution output terminal (which should be purchased separately) to connect the camera to the television which meets HDMI standards.
2. The camera will be automatically detected by the TV.
3. After connecting via HDMI, the camera enters Playback Mode.






Make sure the camera and the TV are both turned on before connecting.














HDMI CEC Control






After connecting the camera with TV-System, you may view pictures taken with the camera on the TV screen and operate the camera with your TV remote control to view and edit all images.



-  It is required that the TV-System supports HDMI CEC.
-  After the camera is successfully connected with TV-System, other buttons of the camera except the Power button cannot work, with the LCD staying dark.
-  Please refer to TV manual for relative settings of TV-System.

Introduction on Icons

1.  Info Hiding/Display
2.  Zoom-in
 : Zoom in Images
 : Zoom out Images
3. Rotate Images
 : Only Turn Left
4.  Image Index
 : 5*3 Index Playback
 : 10*5 Index Playback
 : 3*1 Date Folder Index
 : 5*3 Cont. Group Index
5.  Back
6.  Play Slide Show
7.  Button for Switching Between Previous and Next Images

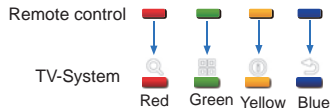
8.  Videos
9. Movie Length:00:00:00
10.  Cont. Group File
11.  First Image Mark
12. 000/000:Current Sorting/Total Number of Images in Group
13.  :Confirm Effect
14.  :No Change

The following operations are available during HDMI CEC playback:

- 1:1 Single Playback
- Zoom-in Playback
- Rotate
- Index Playback
- Cont. Group Playback
- Slide Show Playback
- Video Play
- Panoramic File Play
- Image Edit



Pressing the four-color button on remote control can enable relative functions displayed on the TV-System screen.



1:1 Single Playback:

Press the left and right arrow buttons to switch among images.

Zoom-in Playback:





Under the 1:1 Single Playback Mode, press the red button to zoom in images; press the red and green buttons on remote control to zoom out images.

Rotate:

Under the 1:1 Single Playback Mode, press the blue button to rotate single picture.


Index Playback:

Under the 1:1 Playback Mode, press the green button to enter index playback; press the central button to enter image selection and then the arrow buttons to select files you want. Press the central button again to back to the 1:1 Single Playback.

Under the 5*3 index playback mode, press the green button to enter index selection and then the left and right arrow buttons to select , , , and . Press the central button again to confirm your selection.

Cont. Group Playback:

Under the 1:1 Single Playback Mode, press the central button to start playing images in Continuous Group.

If no images in the camera's Cont. Group, a prompt of no pictures will appear if you select  on the index playback interface.

Slide Show Playback:

Under the 1:1 Single Playback Mode, press the down arrow button to enter Slide Show Playback. While playing, you may press the left and right arrow buttons to directly switch between previous and next images and the central button to end playing.

Video Play:

Under the 1:1 Single Playback Mode, select a video and then press the central button to start playing. During playback, you may use the arrow buttons and the central button to perform operations such as fast forward/backward, pause, frame forward/backward, back to play, etc. according to prompts on the screen.

Panoramic File Play:

Under the 1:1 Single Playback Mode, select a panoramic file and then press the central button to begin playing.

Image Edit:

Multiple edit can be repeated under Image Edit Mode. Only one picture is saved finally. Under the 1:1 Single Playback Mode, select a picture and then press the up arrow button to enter image edit and start detecting face.

Press the up arrow button to do HDR editing.

Press the down arrow button to delete one picture.

Press the left and right arrow buttons to edit the color. 12 effects in total for selection.

The following Beautifier Touch-Up functions cannot be enabled until a face is detected. You may press relative color buttons to edit.



: Skin Soften



: Eye Enlargement



: Eye Brightening

Availability of edit functions corresponding to each type of file (O : Available; X : Not available)

	HDR	Color	Beautifier	Delete
Normal (face)	O	O	O	O
Normal (no face)	O	O	X	O
Panorama	X	X	X	O
Video	X	X	X	O

HDMI CEC Connection

Function	Full Size Playback	Zoom-in Playback	Index Playback	Video Play	Cont. Group Play	Panoramic File Play
Zoom In	O	O (Movable to four directions during zoom-in)	X	X	X	X
Zoom Out	X	O	X	X	X	X
Rotate	O (turn left only)	X	X	X	X	X
Play Slide Show	O	X	X	O	O	O
Edit Image	O* ¹	X	X	O	O	O
Info Hiding/ Display	O	O	X	O* ²	O* ²	O* ²
Delete	O	X	X	O* ³	O* ³	O* ³

*¹ Beautifier options will not appear until a face is detected.

*² Available before and in playing and during pause.

*³ Deleting one file will not work until the camera enters image edit mode.

APPENDICES

Product Specifications



Design and specifications are subject to change without notice.

Image Sensor	Type	1/2.3" BSI CMOS
	Effective Pixels	20.68 Megapixels
	Total Pixels	21.14 Megapixels
Lens	Focal Length	4.2mm (Wide) — 281.4 mm (Tele)
	35 mm Film Equivalent	23.4 mm (Wide) — 1568 mm (Tele)
	F number	F2.9 (Wide) — F6.7 (Tele)
	Lens Construction	14 groups 18 elements
	Optical Zoom	67x
	Focusing Range	Normal: (Wide) 50 cm ~ ∞ , (Tele) 250 cm ~ ∞ ; Macro: 1 cm ~ ∞ (Wide Only)
Autofocus System		TTL Autofocus
Electronic Viewfinder		Yes (-3 ~ +1 diopter)
Anti-Handshake		Optical Image Stabilization
Digital Zoom		4x Digital Zoom (Combined Zoom: 268x)

Number of Recording Pixels	Still Image	(4:3) 20MP: 5184 × 3888 10MP: 3648 × 2736 5MP: 2592 × 1944 3MP: 2048 × 1536 0.3MP: 640 × 480	(3:2) 18MP: 5184 × 3456	(16:9) 15MP: 5120 × 2880 2MP: 1920 × 1080
	Movie	1920 × 1080 (30fps), 1280 × 720 (60fps), 1280 × 720 (30fps), 640 × 480 (30fps), High-Speed Movie: 640 × 360 (120fps)		
Image Compression		Best, Fine		
DCF, DPOF (Ver1.1) Support		Yes		
File Format	Still Image	JPEG (Fine, Standard), RAW, RAW+ JPEG (Fine)		
	Movie	MOV [Image: H.264; Audio: Linear PCM (Stereo)]		
Shooting Modes		Auto Mode, Program AE, Shutter priority, Aperture priority, Manual Mode, Face Beautifier, Wi-Fi Mode, Scene Mode, Movie Mode, Custom Settings		
Scene Mode		Auto Scene, Panorama Mode, Handheld Night, Multi Exposure, Cat/Dog, Snow, Party, Sport, Night Portrait, Portrait, Children, Landscape, Sunset, Fireworks		
Detection Features		Face, Smile, Blink, Cat, Dog		
Photo Touch-Up		Red-Eye Reduction, Skin Soften, Eye Brightening, Eye Enlargement		

HDR		Yes
Scan Panorama		Up to 360°
LCD	Display	3.0 inch (920k Pixels)
	Angle Adjustment	Yes
Image Auto Rotation		Yes
ISO Sensitivity		Auto, ISO100/200/400/800/1600/3200
Focus Mode		Single AF, Continuous AF, Object Tracking, Manual Focus
Focusing Area Selection		Single Area Focusing, 25-Area-Focusing, Face Detection, Manual Area Focusing
Exposure Metering Method		Artificial Intelligence AE (AiAE), Center-Weighted Average, Spot (Fixed to Center of Frame), Face AE
Exposure Control Method		Program AE (AE-Lock Available), Shutter Prior AE, Aperture Prior AE
Exposure Compensation		± 3 EV in 1/3 Step Increments
Shutter Speed		1/2000 ~ 30 Seconds
Continuous Shooting		Yes
Playback Modes		Single, Index (9/16 Thumbnails), Slide Show, Date, Burst Shooting, Zoom (Approx. x2 ~ x8)

White Balance Control		AWB, Daylight, Cloudy, Fluorescent, Fluorescent H, Incandescent, Manual WB, Color Temp. (1900K ~ 10000K)
Flash	Flash Method	Pop-up (Auto)
	Flash Modes	Force Off, Fill Flash, Flash Auto, Red-Eye Reduction, Slow Sync., Slow Sync. + Red-Eye Reduction
Recording Media		Internal Memory: Approx. 15MB
		SD/SDHC Card (Up to 32GB Support) [MMC Card Not Supported]
Multi-Language Support		11 Languages
Jacks		AV-OUT/USB 2.0 (Micro 5 pin USB), HDMI (Type D)
Wi-Fi		Yes (802.11 b/g/n)
Remote Viewfinder		Yes (via iOS/ANDROID smart device)
Power		Rechargeable Li-ion Battery LB-070, 7.4V 1020mAh, In-Camera Charging
Shooting Capability (Battery Performance)		Approx. 400 Shots (Based on CIPA Standards)
Operation Environment		Temperature: 0 ~ 40°C, Humidity: 0 ~ 90%
Dimensions (W × H × D)		Approx. 125.9 × 89.0 × 113.6 mm (Based on CIPA Standards)
Weight		Approx. 602g (Body only)

Prompts and Warning Messages

Message	Description	Action
Warning! Battery exhausted.	Camera battery is depleted. It is a warning indicating the camera is going to shut off.	Charge battery or replace with a charged battery.
Built-in memory error!	An error has occurred in the built-in memory.	Try shutting the camera off and turning it on again.
Warning! Do not turn off your camera during update!	The message appears during the firmware update process.	The message disappears after the camera update and restart.
Battery temperature is too high.	Battery has reached a temperature that is not ideal for operation.	The message will disappear after 2 seconds. Let the battery cool before attempting to use the camera again.
Please update firmware after the battery is fully charged!	The firmware cannot be updated when power is insufficient.	Charge the battery fully before reattempting to update firmware.

Message	Description	Action
Cannot change settings under this mode.	Appears during shooting mode if a function can not be set by rotating the function ring.	Choose a different mode in order to change settings.
Improper alignment. Please try again.	The offset is too big for panorama shooting.	Remove the message after 2 seconds and return to shooting.
Connection Failed!	Failure to connect to PC, Printer, or TV-system.	Remove cable, reinsert cable, and retry connection
In this capture ***** Still size limited to ** M	After choosing the image size in the Function Ring (Smart), this message may occur when the still size limit is reached.	Remove the message after 2 seconds and return to shooting.
Capture reached maximum limit	Press the shutter to capture images in recording a video. If the number of images captured exceeds 15, there will be a prompt if you press the shutter again.	The message will disappear in 2 seconds with no influence to video recording.

Message	Description	Action
Write Protect !	The memory card is locked.	Turn off camera and remove SD card. Slide tab on the side of card to unlock.
Card Full !	The memory of the SD card is full.	Either delete photos or videos to create room on the card, or replace with another card that has available memory.
Memory Full !	The camera's internal memory is full.	Erase files or insert a memory card that has available memory.
Exceeded maximum folder number.	The folder number in the card exceeds the maximum folder number (999).	Copy the data to your PC, and format the memory card.
Card Error !	The card cannot be recognized after being formatted.	Check that the SD card is compatible with the camera.
Card is not formatted.	An error has occurred with the memory card.	Format the memory card. This will erase all data on the card; be sure to copy the data from the card onto another device if you wish to keep it.

Message	Description	Action
Slow access	When a card lower than Class 4 is recording movie above HD, it may be accessed slowly and the recording will not be continued.	Replace SD card with a Class 4 or higher card.
Cannot write to SD card.	The camera cannot write to the SD card.	Turn off the camera. Remove and reinsert the SD card and turn the camera on to try again. Check if the SD card is in a locked position, or if the memory is full.
No Picture!	When the play button is pushed and there are no files on memory card or in camera.	The message will disappear after 2 seconds and return to previous screen.
No continuous group file.	When the camera switches from Playback Mode to Cont. Playback Mode, and there are no continuous group files, this message will be displayed.	The message will disappear after 2 seconds and return to Thumbnail 3x3 mode.
No Red-Eye Detected!	No red-eye is detected when selecting Red-Eye Removal in Playback Touch-up.	The message will disappear after 2 seconds and return to the touch-up menu.

Message	Description	Action
Too many pictures for fast processing.	During Playback by Date, the images exceed specifications so it is not possible to play by date.	The message will disappear after 2 seconds and return to Thumbnail 3x3 mode.
Unable to recognize files.	The format of the file viewed is not supported or the file is damaged and cannot be recognized properly.	This message will only disappear after the file is deleted.
Protected! Undeletable!	The file is protected and cannot be deleted.	Unlocked file under "Protect", and make sure SD card is unlocked.
This image cannot be edited.	The file format does not support editing or the edited file cannot be edited again.	The message will disappear after 2 seconds and return to the original image.
Cannot edit because no face detected!	A face cannot be detected in the image in the touch-up menu.	The message will disappear after 2 seconds and return to the touch-up menu.

Troubleshooting

Problem	Possible causes	Solution
Camera does not turn on	<ul style="list-style-type: none">■ The battery has been depleted.■ The battery is not inserted correctly.	<ul style="list-style-type: none">■ Replace the battery.■ Correctly reinstall the batteries.
Camera turns off suddenly during operation	<ul style="list-style-type: none">■ The batteries have been depleted.	<ul style="list-style-type: none">■ Replace the battery.■ Make sure the camera is actually shutting off and not entering Power Save Mode, where the LCD will turn off after the camera has been idle for a period of time.
The picture is blurry	<ul style="list-style-type: none">■ Camera shakes while taking a picture.	<ul style="list-style-type: none">■ Turn on OIS Feature.■ Please use tripod for high magnification (above 15X) optical zoom. If you are holding the camera, be sure to use both hands.
Images and video files cannot be saved	<ul style="list-style-type: none">■ The memory card is full.■ The memory card is locked.	<ul style="list-style-type: none">■ Use another memory card or delete unnecessary files.■ Unlock the memory card.

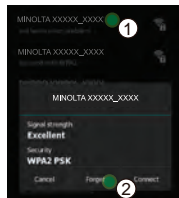
Problem	Possible Causes	Solution
Images will not print from the connected printer	<ul style="list-style-type: none"> ■ The camera is not connected to the printer correctly. ■ The printer is not PICTBRIDGE™ compatible. ■ The printer is out of paper or ink. ■ The printer paper is jammed. 	<ul style="list-style-type: none"> ■ Check the connection between the camera and printer. ■ Use a PICTBRIDGE™ compatible printer. ■ Load paper into the printer or replace the ink cartridge in the printer. ■ Remove the jammed paper.
Saving data to memory card is slow	<ul style="list-style-type: none"> ■ Using a memory card below Class 4 may result in slower recording times. 	<ul style="list-style-type: none"> ■ Use a memory card with write Class 4 or higher to improve performance.
Cannot write to the memory card	<ul style="list-style-type: none"> ■ The memory card has been locked. 	<ul style="list-style-type: none"> ■ Release the write lock of the memory card or replace with another card.
Too many movies to process	<ul style="list-style-type: none"> ■ The number of pictures or folders in the memory card exceed the specifications, so the playback of data folder can not be displayed. 	<ul style="list-style-type: none"> ■ Delete unwanted files.

- ① When shooting with stacked filters attached, the corners of the photo may turn dark (vignetting effect) because the filter holder blocks light from reaching the camera image sensor; especially, at wide angle zoom control settings. Please take test shots and review the results when using stacked filters. (Filter size : $\Phi 52\text{mm}$)
- ① Please enter the new password on smart device after changing Wi-Fi password. Some models of smart device will remember the Wi-Fi password previously entered, so please clear the old password on smart device manually before connection (For different models, this operation may be varied, please subject to your user manual).

iOS devices



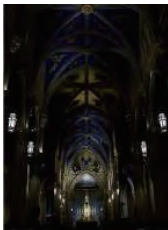
ANDROID devices



HDR- High Dynamic Range

HDR captures three photos taken at different exposure levels and combines them into one photo. This optimizes all the details of the object or scene in the photo. Even the features in darker areas can be viewed clearly. (The following pictures are an example of HDR composition.)

Underexposed



Normal exposure



Overexposed



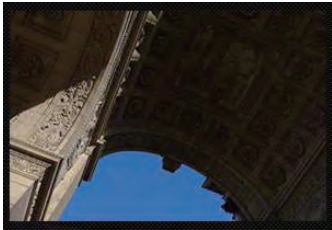
HDR Mode



WDR- Wide Dynamic Range

For high light, intense sunlight, or environments with artificial light, WDR allows smart algorithm to correct shadows surrounding a subject. This makes it easier to distinguish details in darker areas of the photo.

With WDR enabled video, clear images are provided when there are not only very bright areas, but also very dark areas in the camera's field of view. (The following pictures are an example of WDR.)



Without WDR



With WDR



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