Your PDF Guides

You can read the recommendations in the user guide, the technical guide or the installation guide for CASIO EXILIM EX-ZS15. You'll find the answers to all your questions on the CASIO EXILIM EX-ZS15 in the user manual (information, specifications, safety advice, size, accessories, etc.). Detailed instructions for use are in the User's Guide.

> **User manual CASIO EXILIM EX-ZS15**
> **User guide CASIO EXILIM EX-ZS15**
> **Operating instructions CASIO EXILIM EX-ZS15**
> **Instructions for use CASIO EXILIM EX-ZS15**
> **Instruction manual CASIO EXILIM EX-ZS15**

CASIO®
E
Digital Camera

EX-ZS15
User's Guide

Thank you for purchasing this CASIO product.
- Before using it, be sure to read the precautions contained in this User's Guide.
- Keep the User's Guide in a safe place for future reference.
- For the most up-to-date information about this product, visit the official EXILIM Website at http://www.exilim.com/

EXILIM

Manual abstract:

*Digital camera Rechargeable lithium ion battery (NP-120) USB-AC adaptor (AD-C53U) To attach the strap to the camera Attach strap here. * The shape of the power cord plug varies according to country or geographic area. 1 2 Strap Power cord USB cable AV cable CD-ROM Basic Reference 2 Read this first! · The contents of this manual are subject to change without notice. · The contents of this manual have been checked at each step of the production process. Feel free to contact us if you notice anything that is questionable, erroneous, etc. @@@@is forbidden under copyright laws. · CASIO COMPUTER CO., LTD. @@· CASIO COMPUTER CO., LTD. @@· CASIO COMPUTER CO., LTD. shall not be held liable for any damages or lost profits caused by loss of memory contents due to malfunction, repair, or any other reason. · Note that the example screens and product illustrations shown in this User's Guide may differ somewhat from the screens and configuration of the actual camera. LCD Panel The liquid crystal panel of the monitor screen uses high-precision technology that provides a pixel yield in excess of 99.*

99%. This means that some very small number of pixels may not light or may remain lit at all times. This is due to the characteristics of the liquid crystal panel, and does not indicate malfunction. Take test shots Before shooting your final image, shoot a test shot to ensure that the camera is recording correctly. 3 Contents Unpacking .

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. . . . ettings that display or hide on-screen information. You can configure separate settings for the REC mode and PLAY mode. ·If "DISP" is not displayed on the screen, touch the tab to display it. ·Display information cannot be changed during movie recording. Off Information On Status On No information displayed. Shows information about image settings, etc.

Shows more detailed information about settings. ·When Status On is selected, you will nery cover against the camera, slide it closed. ·For information about how to replace the battery, see page 100. 14 Quick Start Basics Charge the Battery You can use either of the two following methods to charge the camera's battery. ·USB-AC adaptor ·USB connection to a computer .

To charge with the USB-AC adaptor 1. Turn off the camera. Check to make sure that the camera's monitor screen is blank. If it isn't, press [ON/OFF] (Power) to turn off the camera. [ON/OFF] (Power) 2.

After connecting the supplied USB cable to the USB-AC adaptor, plug the power cord into a household power outlet. USB cable (included with camera) USB USB port Power cord USB-AC adaptor 15 Quick Start Basics 3. Connect the USB cable to the camera. The back lamp should light red, indicating that charging has started. The back lamp will go out when charging is complete. It takes about 110 minutes to bring a fully dead battery to a full charge. USB-AC adaptor [USB/AV] port Small connector USB cable (included with camera) Making sure that the mark on the USB cable connector is towards the lens side, connect the cable to the camera. Back Lamp Operation Lamp Status Lit Red Flashing Red Off Description Charging Abnormal ambient temperature, USB-AC adaptor problem, battery problem, or charging terminated by timer (page 99) Charging complete Back lamp 4. After charging is complete, disconnect the USB cable from the camera and then unplug the power cord from the power outlet. 16 Quick Start Basics .

To charge using a USB connection to a computer The battery loaded in the camera is charged whenever the camera is connected directly to a computer with the USB cable. ·Depending on the setup of your computer, you may not be able to charge the camera's battery over a USB connection. If this happens, use of the USB-AC adaptor that comes with the camera is recommended. IMPORTANT! @@If this happens, disconnect and then reconnect the USB cable. 1. 2. Press [ON/OFF] (Power) to turn off the camera. With your computer turned on, connect the camera to it. The back lamp should light red, indicating that charging has started. The back lamp will go out when charging is complete.

It takes about 130 minutes to achieve a full charge. Charging may take longer depending on charging conditions. USB port USB cable (included with camera) Large connector [USB/AV] port Small connector Making sure that the mark on the USB cable connector is towards the lens side, connect the cable to the camera. 17 Quick Start Basics Back Lamp Operation Lamp Status Lit Red Flashing Red Off Description Charging Abnormal ambient temperature, charging taking abnormally long, or battery problem (page 99) Charging complete Back lamp 3. After charging is complete, disconnect the USB cable from the camera and then from the computer.

NOTE ·Charging continues while a camera is connected to a computer's USB port, even if the camera is turned off. Under this condition, the back lamp operates as described under "Back Lamp Operation" (page 16). IMPORTANT! ·Charging is not performed while the connected computer is in the hibernate mode. ·A charging error can occur immediately after charging begins or some time after charging begins. A charging error is indicated by the back lamp

flashing red.

· If low supply capacity exists due to your computer model or connection conditions, charging will start without the camera turning on. Turning on the camera in this case will cause charging to stop and enter USB data communication between the camera and the computer. The camera's back lamp will be lit green at this time. 18 Quick Start Basics Other Charging Precautions · With the two charging methods described above, you can charge the camera's battery (NP-120) without removing it from the camera. You also can charge the battery using an optionally available charger unit (BC-120L). Never use any other type of charger device. Attempting to use a different charger can result in unexpected accident. · A battery that is still warm immediately after normal use may not charge fully. Give the battery time to cool before charging it. · A battery discharges slightly even when it is not loaded in the camera.

Because of this, it is recommended that you charge the battery immediately before you need to use it. · Charging the camera's battery may cause interference with TV and radio reception. If this happens, plug the USB-AC adaptor into an outlet that is further away from the TV or radio. · Actual charging time depends on current battery capacity and charging conditions. · Do not use the USB-AC adaptor with any other device.

Checking Remaining Battery Power As battery power is consumed, a battery indicator on the monitor screen indicates remaining power as shown below. Remaining Power Battery Indicator Indicator Color Cyan High * * Yellow * * Red Low * * Red indicates battery power is low. Charge the battery as soon as possible. Recording is not possible when is indicated. Charge the battery immediately.

· The level shown by the battery indicator may change when you switch between the REC mode and PLAY mode. · Leaving the camera for about 30 days with no power supplied while the battery is dead will cause its date and time settings to be cleared. A message telling you to configure time and date settings will appear the next time you turn on the camera after restoring power. When this happens, configure date and time settings (page 87). · See page 116 for information about battery life and number of shots.

Battery Power Conservation Tips · When you do not need to use the flash, select ? (Flash Off) for the flash setting (page 33). · Enable the Auto Power Off and the Sleep features to protect against wasting battery power when you forget to turn off the camera (pages 89, 89). 19 Quick Start Basics Configuring Basic Settings the First Time You Turn On the Camera The first time you turn on the camera, a screen appears for configuring the display language, date, and time settings. Failure to set the date and time correctly will cause the wrong date and time data to be recorded with images. IMPORTANT! · A screen for language selection will not appear in step 2 of the procedure below if you purchased a camera intended for the Japanese market.

To change the display language from Japanese in this case, use the procedure under "Specifying the Display Language (Language)" (page 88). Note that a version of this manual in the language you select may not be included with a camera intended for the Japanese market. · Camera models sold in certain geographic areas may not support display language selection. 1. 2. 3. Press [ON/OFF] (Power) to turn on the camera. Drag (page 13) upwards and downwards until you find the language you want, and then touch to select it. Touch the date display format you want. Example: July 10, 2012 YY/MM/DD * 12/7/10 DD/MM/YY * 10/7/12 MM/DD/YY * 7/10/12 [ON/OFF] (Power) 4.

5. Touch the value you want to change (year, month, day, hour, minute). Touch "8" or "2" to change the currently selected value. · Touching and holding "8" or "2" will change the setting at high speed. · To switch between 12-hour and 24-hour format, touch the 12/24 hour switch icon. 12/24 hour switch icon 20 Quick Start Basics 6. When the date and time settings are the way you want, touch "OK". If you make a mistake configuring display language, date, or time settings with the above procedure, refer to the following pages for information about how to correct the settings. Display language: Page 88 Date and time: Page 87 NOTE · Each country controls its local time offset and the use of summer time, and so they are subject to change. · Removing the battery from the camera too soon after configuring time and date settings for the first time can cause the settings to be reset to their factory defaults.

Do not remove the battery for at least 24 hours after configuring settings. Preparing a Memory Card Though the camera has built-in memory that can be used to store images and movies, you probably will want to purchase a commercially available memory card for greater capacity. The camera does not come with a memory card. Images recorded while a memory card is loaded are saved to the memory card. When no memory card is loaded, images are saved to built-in memory.

· For information about memory card capacities, see page 113. Supported Memory Cards SD Memory Card (Up to 2GB) SDHC Memory Card (2GB to 32GB) SDXC Memory Card (32GB to 2TB) Use one of the above types of memory card. · The above are supported memory card types as of June 2011. · Noted memory card capacities are standard values. · Use only SD cards that are compliant with the SD Card Association specification.

· This camera supports use of Eye-Fi cards. 21 Quick Start Basics To load a memory card 1. Press [ON/OFF] (Power) to turn off the camera and then open the battery cover. Pressing the battery cover, slide it in the direction indicated by the arrow. 2. Load a memory card. Positioning the memory card so its front is facing upwards (towards the monitor screen side of the camera), slide it into the card slot all the way in until you hear it click securely into place. Front Front Back 3. Close the battery cover. Pressing the battery cover against the camera, slide it closed.

· For information about how to replace the memory card, see page 101. IMPORTANT! · Never insert anything besides a supported memory card (page 21) into the memory card slot. · Should water or any foreign object ever get into the card slot, immediately turn off the camera, remove the battery, and contact your retailer or nearest CASIO authorized service center. 22 Quick Start Basics To format (initialize) a new memory card You need to format a new memory card before using it for the first time. 1. 2. 3. 4. 5. Load a memory card (page 22).

Turn on the camera and then touch "MENU". · If "MENU" is not displayed on the screen, touch the tab to display it (page 32). Drag (page 13) upwards and downwards until you find "Setup", and then touch it. Drag upwards and downwards until you find "Format", and then touch it. Touch "Format" and then touch "Yes".

This starts the memory card format operation. IMPORTANT! · Formatting a memory card that already has snapshots or other files on it, will delete its contents. Normally you do not need to format a memory card again. However, if storing to a card has slowed down or if you notice any other abnormality, re-format the card. · Be sure to use the camera to format a memory card.

Formatting a memory card on a computer and then using it in the camera can slow down data processing by the camera. In the case of an SD, SDHC, or SDXC memory card, formatting on a computer can result in non-conformity with the SD format, causing problems with compatibility, operation, etc. · Before formatting a new Eye-Fi card to use it for the first time, copy the Eye-Fi Manager install files to your computer. Do this before formatting the card. · Before formatting an Eye-Fi card, be sure to back up any data on it that you want to keep. 23 Quick Start Basics Turning Power On and Off . To turn on the camera [p] (PLAY) [ON/OFF] (Power) Tab Back lamp "f" (PLAY) / "g" (REC) To turn on power and enter the REC mode To turn on power and enter the PLAY mode Press [ON/OFF] (Power).

· The back lamp will light green momentarily and the lens will extend out of the camera (page 27). Press [p] (PLAY). · The back lamp will light green momentarily and an image currently stored in camera memory will appear on the monitor screen (page 29).

· Take care to ensure that nothing is restricting or coming into contact with the lens as it extends. Holding the lens with your hand so it cannot extend creates the risk of malfunction. · The Sleep function or Auto Power Off (pages 89, 89) will turn off power automatically if you do not perform any operation for a preset amount of time. Entering the REC Mode and PLAY Mode To enter the PLAY mode To enter the REC mode In the REC mode, press [p] (PLAY), or touch the tab and then touch the "f" (PLAY) icon that appears. In the PLAY mode, press [p] (PLAY), or touch the tab and then touch the "g" (REC) icon that appears. · About 10 seconds after you enter the PLAY mode from the REC mode, the lens will retract into the camera. . To turn off the camera Press [ON/OFF] (Power). 24 Quick Start Basics Holding the Camera Correctly Your images will not come out clearly if you move the camera when you press the shutter button. When pressing the shutter button, be sure to hold the camera as shown in the illustration below, and keep it still by pressing your arms firmly against your sides as you shoot.

Holding the camera still, carefully press the shutter button and take care to avoid all movement as the shutter releases and for a few moments after it releases. This is especially important when available lighting is low, which slows down the shutter speed. Horizontal Vertical Hold the camera so the flash is above the lens. NOTE · Take care that your fingers and the strap do not cover any of the areas indicated in the illustration. · To protect against accidentally dropping the camera, attach the wrist strap and make sure it is around your fingers or wrist while you are operating the camera.

· Never swing the camera around by its strap. · The supplied strap is intended for use with this camera only. Never use it for any other purpose. IMPORTANT! · Take care to ensure that your fingers are not blocking or are not too close to the flash. Fingers can cause unwanted shadows when using the flash.

Flash Front lamp Lens 25 Quick Start Basics To Shoot a Snapshot Your camera has a variety of different recording modes to suit various shooting conditions and objectives (page 33). This section explains general shooting procedures using the auto recording mode. Selecting an Auto Recording Mode You can select one of two recording modes (Auto or BEST SHOT) according to your digital imaging needs. R Auto b BEST SHOT This is the standard Auto recording mode. With BEST SHOT, simply select the sample scene that resembles the type of shot you want, and the camera automatically configures ideal settings for the subject and shooting conditions (page 39). 1. 2. Press [ON/OFF] (Power) to turn on the camera. Touch the second icon from the top (Recording mode). If the icon is not displayed on the screen, touch the tab to display it.

Recording mode icon 3. Touch "Auto" to select the auto recording mode. 26 Quick Start Basics To shoot a snapshot 1. Point the camera at the subject. · You can zoom the image, if you want. w Wide Angle z Telephoto Zoom controller Subject to be focused on 2. Half-press the shutter button to focus the image. When focus is complete, the camera will beep, the back lamp will light green, and the focus frame will turn green. Shutter button Back lamp Focus frame Half-press Press lightly until the button stops. Beep, beep (Image is in focus.

) When you half-press the shutter button, the camera automatically adjusts exposure and focuses on the subject it is currently pointed at. Mastering how much pressure is required for a half-press and a full-press of the shutter button is an important technique for goodlooking images. 27 Quick Start Basics 3. Continuing to keep the camera still, press the shutter button the rest of the way down. This records the snapshot.

Full-press Recording a Movie Press [0] (Movie) to start movie recording. Press [0] (Movie) again to stop movie recording. See page 37 for details. [0] (Movie) Snap (Image is recorded.) NOTE · You also can shoot a snapshot by touching a point on the monitor screen (page 42).

· You can specify the image size for snapshots. See page 45 for more information. . If the image does not focus... If the focus frame stays red and the back lamp is flashing green, it means that the image is not in focus (because the subject is too close, etc.). Re-point the camera at the subject and try to focus again. .

If the subject is not in the center of the frame... "Focus lock" (page 44) is the name of a technique you can use when you want to shoot an image in which the subject to be focused on is not within the focus frame in the center of the screen. 28 Quick Start Basics Viewing Snapshots Use the following procedure to view snapshots on the camera's monitor screen. · For information about how to play back movies, see page 53. 1. Press [p] (PLAY) or touch "f" (PLAY) to enter the PLAY mode. This will display one of the snapshots currently stored in memory. · If "f" (PLAY) is not displayed on the screen, touch the tab to display it.

· Information about the displayed snapshot also is included (page 9). · You also can clear the information to view only the snapshot (page 10). · You can zoom the screen image by sliding the zoom controller towards z or by touching the monitor screen (page 55). If you are recording a snapshot that is very important to you, it is recommended that you zoom the image and check its details after recording it. [p] (PLAY) Tab "f" (PLAY) 2.

Drag left or right across the screen image to scroll through the snapshots. NOTE · Pressing the shutter button while in the PLAY mode or while a menu screen is displayed will switch directly to the REC mode. 29 Quick Start Basics Deleting Snapshots and Movies If memory becomes full, you can delete snapshots and movies you no longer need in order to free up storage and record more images. IMPORTANT! · Remember that a file (image) delete operation cannot be undone. To delete a single file 1.

2. 3. In the PLAY mode, drag left or right across the screen image to scroll through files until you find the one you want to delete. Touch "t". · If "t" is not displayed on the screen, touch the tab to display it. Touch "1 File". This will delete the selected image. To delete all files 1. 2. 3.

4. Enter the PLAY mode. Touch "t". · If "t" is not displayed on the screen, touch the tab to display it.

Touch "All Files". Touch "Delete". This will cause the message "There are no files" to appear. 30 Quick Start Basics Snapshot Shooting Precautions Operation · Never open the battery cover while the back lamp is flashing green. Doing so can result in the image you just shot being saved incorrectly, damage to other images stored in memory, malfunction of the camera, etc. · If unwanted light is shining directly onto the lens, shade the lens with your hand. Monitor Screen when Shooting Snapshots · Subject brightness conditions can cause monitor screen response to slow and can cause digital noise in the monitor screen image. · The image that appears on the monitor screen is for image composition. The actual image will be recorded in accordance with the currently selected recording mode (page 33). Shooting Indoors under Fluorescent Lighting · Minute flickering of fluorescent lighting can affect the brightness or color of an image. Auto Focus Restrictions · Any of the following can make proper focus impossible.

Solid color wall or other very low contrast subject Strongly back lit subject Very shiny subject Blinds or other subject with a repeating horizontal pattern Multiple subjects at varying distances from the camera Subject in a dark location Camera movement while shooting Fast-moving subject Subjects outside the focus range of the camera · If you cannot focus properly, try using focus lock (page 44) or Manual Focus (page 43). 31 Quick Start Basics Recording Images Touching the monitor screen in the REC mode will display a screen for configuring REC mode settings. . To configure REC mode settings 1. Press [ON/OFF] (Power) to turn on the camera and enter the REC mode.

· If the camera is in the PLAY mode, touch "g" (REC) to enter the REC mode. [ON/OFF] (Power) "g" (REC) 2. Touch the item whose setting you want to change. · If there are no icons along the left side of the screen, touch the tab to display them. 1Tab (page 24) 2Menu (page 41)* 3Recording mode (page 33) 4Flash (page 33) 5Information (page 10) 6PLAY mode (page 24) 1 2 3 4 5 6 * Depending on the recording mode, some of the items on the menu that appears may not be usable. 32 Recording Images Selecting a Recording Mode Your camera has two modes: Auto mode and BEST SHOT mode. 1. In the REC mode, touch the second icon from the top (Recording mode). · If the icon is not displayed on the screen, touch the tab to display it. 2.

Touch the icon of the recording mode you want to use. This enters the selected recording mode. R Auto Standard Auto recording mode. This is the mode normally used for shooting (page 26). With BEST SHOT, simply select the sample scene that resembles the type of shot you want, and the camera automatically configures ideal settings for the subject and shooting conditions (page 39). b BEST SHOT Using Flash (Flash) 1. 2. In the REC mode, touch the third icon from the top (Flash). Touch the icon of the flash mode you want to use. Flash > Auto ? Flash Off < Flash On ¥ Red Eye Flash fires automatically in accordance with exposure (amount of light and brightness) conditions.

Flash does not fire. Flash always fires. This setting can be used to brighten a subject that normally comes out dark due to daylight or backlight (daylight synchro flash). Flash fires automatically. This type of flash can be used to reduce the chance of redness in the subject's eyes.

33 Recording Images 3. Press the shutter button to shoot. Back lamp Flashes orange while the flash is charging to indicate that image recording is disabled. · You will not be able to take another flash snapshot until the lamp stops flashing orange, which indicates that charging is complete. < indicates the flash will fire.

· For information about Flash Range, see page 115. NOTE · Take care so your fingers and the strap do not block the flash. · The desired effect may not be obtained when the subject is too far away or too close. · Flash charging time (page 115) depends on operating conditions (battery condition, ambient temperature, etc.) · Shooting with flash turned off when lighting is dim results in a slow shutter speed, which can cause image blur due to camera movement. Under such conditions, secure the camera with a tripod, etc. · With red eye reduction, the flash is fired automatically in accordance with exposure. It does not fire in areas where lighting is bright. · The presence of outdoor sunlight, fluorescent lighting, or some other light source can cause abnormal image colors. · Select ? (Flash Off) for the flash setting when shooting in areas where flash photograph is prohibited.

Red-eye Reduction Using the flash to shoot at night or in a dimly lit room can cause red spots inside the eyes of people who are in the image. This is caused when the light from the flash reflects off of the retina of the eye. When red-eye reduction is selected as the flash mode, the camera fires a pre-flash to cause the irises in the eyes of any people in the image to close, which reduces the chance of red eye. Note the following important points when using red-eye reduction. · Red-eye reduction does not work unless the people in the image are looking directly at the camera (flash). · Red-eye reduction may not work very well if the subjects are located far away from the camera. 34 Recording Images Shooting with Zoom Your camera is equipped with various types of zoom: optical zoom, HD Zoom, and digital zoom. The maximum zoom factor depends on the image size setting. Optical zoom HD Zoom Digital zoom Changes the lens focal distance. Allows greater zoom capabilities by cutting out a portion of the original image and enlarging it.

Digitally processes the center of the image to enlarge it. 1. In the REC mode, slide the zoom controller to zoom. w Wide Angle z Telephoto Zoom controller w (Wide Angle): Reduces the size of the subject and broadens the range. z (Telephoto) : Enlarges the subject and narrows the range.

2. Press the shutter button to shoot the image. IMPORTANT! · Digital zoom and HD zoom are disabled while time stamping (page 86) is turned on. NOTE · Use of a tripod is recommended to protect against image blur due to camera movement when shooting with telephoto. · Performing a zoom operation changes the lens aperture.

35 Recording Images Interpreting the Zoom Bar During a zoom operation, a zoom bar appears on the monitor screen to show the current zoom setting. Range where image deterioration is suppressed. (optical zoom, HD Zoom) Deteriorated image range (digital zoom) 1X Optical zoom limit point · 5.0X optical zoom point 20.0X to 79.7X Zoom pointer (Indicates current zoom.

) Point from which image deteriorates · Location of this point (5.0X to 33.8X) depends on the image size. .

Zoom Icon The appearance of the zoom icon on the monitor screen depends on the zoom factor. Optical zoom HD Zoom Digital zoom Not displayed Not displayed ê . Zoom Factor The digital zoom factor depends on the image size (page 45). Image size 14M 3:2 10M 6M 3M VGA Maximum zoom factor where image deterioration can be suppressed 5.0X 5.0X 5.9X 7.7X 10.6X 33.8X Total maximum zoom factor 20.

0X 20.0X 23.7X 30.7X 42.2X 79.

7X 36 Recording Images To record a movie The following procedure explains how to record a movie. "MENU" 1. 2. 3. In the REC mode, touch "MENU". · If "MENU" is not displayed on the screen, touch the tab to display it. Drag upwards and downwards until you find "Movie Quality", and then touch to select it. Touch the item whose setting you want to change. Movie Quality HD Frame Rate 30fps Image Size (Pixels) 1280x720 Description Select this setting to record highdefinition (HD) movies. The aspect ratio of movies recorded with this setting is 16:9. Select this setting to record standard movies. STD 30fps 640x480 4. 5. To close the menu screen, touch "MENU" or press the shutter button. Press [0] (Movie).

Recording time/ Remaining recording time This will start recording. [0] (Movie) · Monaural audio is also recorded during movie recording. · Immediately after you press [0] (Movie), the camera will focus automatically on the subject in the center of the monitor screen. After this, focus is fixed while movie recording is in progress. · Touching "o" while recording is in progress will cause the remaining recording time and "R" to appear. Touch "o" again to switch back to the elapsed recording time. 6. Press [0] (Movie) again to stop recording. Movie recording also will stop automatically if memory becomes full before you press [0] (Movie). · The maximum allowed for a single movie recording is 4 GB in file size or 29 minutes in length.

Movie recording stops automatically when either of these limits is reached. 37 Recording Images IMPORTANT! · Spending a long time using movie recording will cause the camera to become slightly warm to the touch. This is normal and does not indicate malfunction. · The camera also records audio. Note the following points when shooting a movie.

Take care that the microphone is not blocked by your fingers, etc. Good audio recording results are not possible when the camera is too far away from what you are trying to record. Microphone · Shooting a very bright subject can cause a vertical band or a pink cast on the monitor screen image. This does not indicate malfunction. · Shooting a movie using the camera's built-in memory will cause movie frames to be dropped.

Always use a high speed memory card (not built-in memory) for movie recording. · Only digital zoom can be used for zooming during movie recording. Since optical zoom is not possible while recording a movie, zoom as required before pressing [0] (Movie) to start recording. · Use of certain types of memory cards slows down data transfer and increases the time it takes to record movie data, which can result in movie frames being dropped. The movie icon turns yellow to indicate that frames are being dropped. In order to avoid problems such as these, use of an Ultra High Speed Type SD memory card is recommended. Note, however that CASIO makes no guarantees about the operation of any Ultra High Speed Type SD memory card used with this camera. NOTE · The effects of camera movement in an image become more pronounced when you shoot close up or with a large zoom factor. Because of this, use of a tripod is recommended under these conditions. 38 Recording Images Using BEST SHOT BEST SHOT provides you with a collection of sample "scenes" that show a variety of different types of shooting conditions.

When you need to change the setup of the camera, simply find the scene that matches what you are trying to achieve, and the camera sets up for it automatically. This helps to minimize the chance of ruined images due to poor exposure and shutter speed settings. . To shoot an image with BEST SHOT 1. In the REC mode, touch the second icon from the top (Recording mode). · If the icon is not displayed on the screen, touch the tab to display it. 2. 3. Touch "b" (BEST SHOT). This will display a menu of BEST SHOT scenes.

Touch the scene you want to select. · Touching " " in the upper right corner of the screen and then touching a BEST SHOT scene will display detailed information about the scene. 4. Press the shutter button (if you are shooting a snapshot) or press [0] (Movie) (if you are shooting a movie). NOTE · The BEST SHOT YouTube scene sets up the camera for recording movies that are optimized for uploading to YouTube.

Movies recorded with the YouTube scene are stored in a special folder to make them easy to locate for uploading (page 81). 39 Using BEST SHOT . BEST SHOT Precautions · For YouTube scene cannot be used while shooting a snapshot. · Your camera includes a sample scene that optimizes settings for auction site images. Depending on your camera model, the sample scene is named either "For eBay" or "Auction".

Images you record using the auction site sample scene are stored in a special folder so you can easily find them on your computer (page 81). · High Sensitivity The high sensitivity setting is disabled whenever the camera's flash fires. High sensitivity may not produce the desired results in very dark conditions. When shooting with slow shutter speeds, use a tripod to protect against blurring due to camera movement. Under certain lighting conditions, the camera will perform an automatic noise filtering operation to reduce digital noise in the image. This operation causes the camera to take longer than normal to save the image and be ready for the next shot. · BEST SHOT scene images were not shot using this camera. · Images shot using a BEST SHOT scene may not produce the results you expected due to shooting conditions and other factors. · You can modify the camera settings that are configured after you select a BEST SHOT scene. Note, however, that the BEST SHOT settings revert to their defaults when you select another BEST SHOT scene or turn off the camera.

· Some scenes like Night Scene results in a slow shutter speed setting. Since a slow shutter speed increases the chance of digital noise in the image, the camera automatically performs a digital noise reduction process when either of these scenes is selected. This means that it will take a bit longer for the image to be saved which is indicated by the back lamp flashing green.

*Do not perform any operation during that time. Also, it is a good idea to use a tripod to avoid image blur due to camera movement when shooting at slow shutter speeds. 40 Using BEST SHOT Advanced Recording Settings The following are menu operations you can use to configure various camera settings. Using the REC Menu . Example Menu Screen Operation 1. In the REC mode, touch "MENU". This will display the menu screen. · If "MENU" is not displayed on the screen, touch the tab to display it. · Menu contents are different in the REC mode and PLAY mode. 2. 3. 4. Drag upwards and downwards until you find the item whose setting you want to change. Touch the item. Configure the setting of the item in accordance with the screen contents. · To cancel and exit the menu, touch "MENU" or press the shutter button. . Menu Operations in This Manual Menu operations are represented in this manual as shown below. Touch the indicated icons and items, and perform operations as they are indicated, from left to right. Procedure Enter the REC Mode * MENU * Touch Shutter 41 Advanced Recording Settings Using Touch Shutter (Touch Shutter) Procedure Enter the REC Mode * MENU * Touch Shutter You can use the procedure below to shoot a snapshot. 1. 2. 3. Touch "On". Point the camera at the subject. When you want to shoot, touch the monitor screen. The camera automatically comes into focus and then shoots.*

*· You can still use the shutter button to shoot even when "On" is selected for Touch Shutter. NOTE · When "Face Detection" is on, the camera will focus on the detected face. Using the Self-timer (Self-timer) Procedure Enter the REC Mode * MENU * Self-timer With the Self-timer, pressing the shutter button starts a timer. The shutter is released and the image is shot after a fixed amount of time. 10 sec 2 sec Off 10-second Self-timer 2-second Self-timer · When shooting under conditions that slow down the shutter speed, you can use this setting to prevent image blur due to camera movement. Self-timer is disabled. Front lamp · The front lamp flashes while the Self-timer countdown is in progress. · You can interrupt an ongoing Self-timer countdown by pressing the shutter button. NOTE · The Self-timer cannot be used together with the following features. Some BEST SHOT scenes 42 Advanced Recording Settings Selecting a Focus Mode (Focus) Procedure Enter the REC Mode * MENU * Focus Changing to a different focus mode can help to achieve better focus.*

*Settings Q AF (Auto Focus) Type of Shot Focus Mode Snapshot Movies Automatic Fixed*2 ´ Macro Close ups Scenery and other distant subjects When you want to focus manually Automatic Approximate Focus Range*1 Snapshot Approximately 10 cm to 9 (infinity) (3.9" to 9) (Wide Angle) Approximately 10 cm to 50 cm (3.9" to 19.7") (Wide Angle) Infinity Approximately 10 cm to 9 (infinity)*2 (3.9" to 9) (Wide Angle) Movies General recording Fixed distance *2) Infinity W MF (Manual Focus) Fixed Manual *1 The focus range is the distance from the lens surface.*

2 Immediately after you press [0] (Movie), the camera will focus automatically on the subject in the center of the monitor screen. After this, focus is fixed while movie recording is in progress. 43 Advanced Recording Settings To focus with manual focus 1. 2. 3.

On the monitor screen, compose the image so the subject you want to focus on is within the yellow boundary. Touch "W". Yellow boundary Watching the image on the monitor screen, touch "+" (closer) or "" (further) to adjust focus. · At this time the image that is within the boundary will enlarge and fill the monitor screen, which aids in focusing. The camera will return to the screen in step 1 if you do not perform any operation for about three seconds. NOTE · An Auto Macro feature detects how far the subject is from the lens and automatically selects either Macro Focus or Auto Focus accordingly. · Auto Focus is the only focus mode available while face detection is enabled. To select another focus mode, first turn off face detection (page 47). · Use of the flash together with Macro Focus can cause the light of the flash to become blocked, which may result in unwanted lens shadows in your image. Using Focus Lock "Focus lock" is a technique you can use when you want to compose an image in which the subject you want to focus on is not within the focus frame in the center of the screen.

*Subject to be focused on 1. Align the monitor screen's focus frame with the subject you want to focus on and then half-press the shutter button. Keeping the shutter button half-pressed (which maintains the focus setting), move the camera to compose the image. When you are ready to shoot the image, press the shutter button the rest of the way down. Focus frame 2. 3. 44 Advanced Recording Settings NOTE · Focus lock also locks exposure (AE). · The focus frame does not appear on the display when the Touch Shutter is enabled (On). Changing the Image Size (Image Size) Procedure Enter the REC Mode * MENU * Image Size This setting can be used to configure snapshot image size. Image Size (Pixels) 14M (4320x3240) 3:2 (4320x2880) 10M (3648x2736) 6M (2816x2112) 3M (2048x1536) VGA (640x480) Suggested Print Size and Application Poster Print Poster Print Poster Print Good detail A3 Print 3.*

5"x5" Print E Mail Best when preserving memory capacity is relatively more important than image quality. Image files are smaller, which is better when attaching images to e-mail. However, images are relatively coarser. Description Good detail for better clarity even for images cropped (page 61) from the original · The initial factory default image size setting is 14M (14 million pixels). · Selecting "3:2" records images with an aspect ratio of 3:2, which matches the standard aspect ratio of print paper.

· You should regard the print paper sizes suggested here as guidelines only (200 dpi print resolution). 45 Advanced Recording Settings . Pixels A digital camera image is a collection of small dots called "pixels". The more pixels there are in an image, the more detail there will be. However, you generally can do with fewer pixels when printing an image (L size) through a print service, attaching an image to e-mail, when viewing the image on a computer, etc. Pixel . About image sizes The size of an image indicates how many pixels it contains, and is expressed as horizontal pixelsxvertical pixels. 14M (4320x3240) size image = Approximately 14 million pixels 4320 3240* VGA (640x480) size image = Approximately 300,000 pixels 640* 480* * Unit: pixels Image Size Selection Tips Note that larger images have more pixels, so they take up more memory space.*

More detail, but takes up more memory. Best when you plan to print large-size prints (such as A3 size). Large Number of Pixels Small Number of Pixels Less detail, but takes up less memory. Best when you want to send images by e-mail, etc. · For information about image size and number of images that can be stored, see page 113. · For information about movie image size, see page 37. · For information about resizing existing snapshots, see page 60.

46 Advanced Recording Settings Movie Image Quality Settings (Movie Quality) Procedure Enter the REC Mode * MENU * Movie Quality See page 37 for details. Using Face Detection (Face Detection) Procedure Enter the REC Mode * MENU * Face Detection When shooting people, the face detection feature detects the faces of up to ten individuals and adjusts focus and brightness accordingly. 1. 2. 3. Touch "On". Touch "u". Point the camera at the subject(s). The camera will detect human faces and display a frame around each one. 4.

5. · · · · Half-press the shutter button. The camera will focus and the frames around the faces it focuses on will turn green. Press the shutter button the rest of the way down. IMPORTANT! The camera performs center focus if it cannot detect a face.

The only focus mode available while face detection is enabled is Auto Focus (AF). Face detection may take a bit longer when you hold the camera sideways. Detection of the following types of faces is not supported. Face that is obstructed by hair, sunglasses, a hat, etc., or a face in dark shade A profile or a face that is at an angle A face that is very far away and small, or very close and large A face in an area that is very dark The face of a pet or some other non-human subject · Face detection cannot be used in combination with any of the following features.

Some BEST SHOT scenes Movie Recording 47 Advanced Recording Settings Correcting Image Brightness (EV Shift) Procedure Enter the REC Mode * MENU * EV Shift You can manually adjust an image's exposure value (EV value) before shooting it. · Exposure Compensation Range: 2.0 EV to +2.0 EV · Unit: 1/3 EV 1. Touch a level you want to set. · To cancel exposure compensation, change the EV value to 0.0. 2.0 Decreases the EV value. A lower EV value is best for dark-color subjects and for shooting outdoors on a clear day.

+2.0 Increases the EV value. A higher EV value is best for light-colored subjects and backlit subjects. 2. Touch "OK". This applies the exposure compensation value. The exposure compensation value you set remains in effect until you change it or turn off the camera (which causes it to revert to "0.0"). NOTE · When shooting under very dark or very bright conditions, you may not be able to obtain satisfactory results even after performing exposure compensation. 48 Advanced Recording Settings Adjusting White Balance (White Balance) Procedure Enter the REC Mode * MENU * White Balance You can adjust white balance to match the source of light available where you are shooting and avoid the blue cast that results when shooting outdoors when it is cloudy, and the green cast that results when shooting under fluorescent lighting.

1. Touch the type of white balance you want to select. You can see the affect of the white balance setting you select on the monitor screen. Auto WB ¤ Daylight ' Overcast " Shade DayWhite Fluor Daylight Fluor « Tungsten Configures the camera to adjust white balance automatically For shooting outdoors on a clear day For shooting outdoors on an overcast rainy day, in the shade, etc. For shooting on a clear day in the shade of trees or buildings For shooting under white or day white fluorescent lighting For shooting under daylight fluorescent lighting For shooting under light bulb lighting For configuring the camera manually to suit a particular light source.

Blank white paper 1 Touch "· Manual WB". 2 In the location where you plan to shoot, point the camera at a blank white piece of paper so it fills the entire monitor screen. 3 Touch an area of the screen where no icon is located. The white balance setting is retained even if you turn off the camera. · Manual WB · When " Auto WB" is selected for the white balance setting, the camera automatically determines the white point of the subject.

Certain subject colors and light source conditions can cause problems when the camera tries to determine the white point, which makes proper white balance adjustment impossible. If this happens, select the white balance setting that matches your shooting conditions (Daylight, Overcast, etc.). 2. Touch "OK". 49 Advanced Recording Settings Specifying ISO Sensitivity (ISO) Procedure Enter the REC Mode * MENU * ISO ISO sensitivity is a measure of sensitivity to light. AUTO ISO 64 ISO 100 ISO 200 ISO 400 ISO 800 Higher ISO 1600 sensitivity Fast shutter speed (Set for Some coarseness shooting in dimly lit areas.) (increased digital noise) Adjusts sensitivity automatically according to conditions Lower sensitivity Slow shutter speed Less noise · Higher ISO sensitivity values tend to result in digital noise in images. · Since higher ISO sensitivity values tend to result in digital noise in images, the camera performs a noise filtering process. Because of this, it may take relatively longer for the camera to finish recording an image after it is shot.

You will not be able to perform any operation while image recording is in progress. Optimizing Image Brightness (Lighting) Procedure Enter the REC Mode * MENU * Lighting You can use this setting to optimize the balance between bright areas and dark areas when shooting images. On Off Performs brightness correction. Does not perform brightness correction. 50 Advanced Recording Settings Using Built-in Color Filters (Color Filter) Procedure Enter the REC Mode * MENU * Color Filter Settings: Off, B/W, Sepia, Red, Green, Blue, Yellow, Pink, and Purple Reducing the Effects of Camera and Subject Movement (Anti Shake) Procedure Enter the REC Mode * MENU * Anti Shake You can turn on the camera's Anti Shake feature to reduce image blur due to subject movement or camera movement when shooting a moving subject using telephoto, when shooting a fast-moving subject, or when shooting under dim lighting conditions. On Off Minimizes the effects of hand and subject movement. Turns off Anti Shake settings NOTE · ISO sensitivity, aperture, and shutter speed do not appear on the monitor screen when you half-press the shutter button while "On" is selected. These values will appear briefly, however, in the preview image that is displayed immediately after you shoot a snapshot. · If the flash fires, the Anti Shake icon S will remain on the display, even though Anti Shake does not function during flash photography.

· The ISO sensitivity setting (page 50) must be "Auto" for Anti Shake to work.
· Shooting with Anti Shake can cause an image to appear somewhat coarser than normal and can cause slight deterioration of image resolution. · Anti Shake may not be able to eliminate the effects of camera or subject movement when movement is severe. · Anti Shake is disabled during movie recording. 51 Advanced Recording Settings Displaying the On-screen Grid (Grid) Procedure Enter the REC Mode * MENU * Grid The on-screen grid can be displayed on the REC mode monitor screen for easy vertical and horizontal alignment when composing images. Configuring Power On Default Settings (Memory) Procedure Enter the REC Mode * MENU * Memory When you turn off the camera, it remembers the current settings of all enabled memory items and restores them when you turn it back on.

Any memory item that is disabled will be returned to its initial default setting whenever you turn off the camera. Setting b BEST SHOT Touch Shutter Flash Self-timer White Balance ISO Focus MF Position Zoom Position* On (Initial Default Setting) Snapshot (Auto) On Auto Off Auto Auto AF (Auto Focus) Position before manual focus was selected. Full wide Setting at power off Off * Optical zoom setting only. · If you turn the camera power off and then back on while the BEST SHOT memory item is enabled, all of the other memory items (except for zoom position) are initialized to the currently selected BEST SHOT sample scene setup, regardless of the enabled/disabled status of the other memory items. 52 Advanced Recording Settings Viewing Snapshots and Movies Viewing Snapshots See page 29 for the procedure for viewing snapshots.

Viewing a Movie 1. Press [p] (PLAY) or touch "f" (PLAY) to enter the PLAY mode. · If "f" (PLAY) is not displayed on the screen, touch the tab to display it. Image quality Movie icon: 6 2. Drag left or right across the screen image to scroll through the movies until the one you want is displayed. "f" (PLAY) Recording time 3. Touch "6" (Movie) to start playback. Playback in progress Touch "|". Playback paused Touch "6". Progress bar 53 Viewing Snapshots and Movies Movie Playback Controls Pause/Play Fast forward/ Fast reverse Stop playback Volume adjustment 1 frame forward/ back Information display on/off Touch "|" (pause) or "6" (play).

During playback, touch "{" (fast reverse) or "}" (fast forward). · Each touch of either button increases the speed of the fast forward or fast reverse operation. · To return to normal playback speed, touch "6". During playback, touch ".". During playback, touch "n" and then drag the volume bar to the desired level. While playback is paused, touch "z" or "y". · Touching and holding this icon advances frames continuously. Touch the screen. · Playback may not be possible for movies not recorded with this camera.

Playing a Slideshow on the Camera (Slideshow) You can use the slideshow mode to automatically scroll through all of the images in camera memory. 1. In the PLAY mode, touch "q" for the playback mode. This will start the slideshow. · If "q" is not displayed on the screen, touch the tab to display it. NOTE · All operations are disabled while the slideshow is transitioning from one image to another. · The time required for transition from one image to another may be longer in the case of an image that was not recorded with this camera. · To return to normal (single image) display, touch the monitor screen. 54 Viewing Snapshots and Movies Viewing the Image Menu The image menu shows multiple images on a single screen. 1. In the PLAY mode, slide the zoom controller towards w (]). This displays the image menu. · Drag upwards or downwards to scroll to the next page of images. · To view the normal (single image) display mode, touch the image your want to view. · In the case of a movie, the first image in the movie is displayed. Zooming an On-screen Image Snapshots can be zoomed on the monitor screen up to 8X. · The actual available zoom factors depend on the size of the original image. 1. 2. In the PLAY mode, drag left or right to display the image you want to view.

Slide the zoom controller towards z ([) to zoom. · Dragging an enlarged screen image will change the part of the image that is displayed. When monitor screen contents are turned on, a graphic in the lower right corner of the screen shows what part of the zoomed image is currently displayed. · To return to normal (single image) display, slide the zoom controller towards w (]). Zoom factor Image area Current display area 55 Viewing Snapshots and Movies Viewing Snapshots and Movies on a TV Screen 1. Use the AV cable that comes with the camera to connect it to the TV. AV cable (bundled) Yellow TV Video White Audio AUDIO IN jacks (white) VIDEO IN jack (yellow) [USB/AV] port Making sure that the mark on the AV cable connector is towards the lens side, connect the cable to the camera. · Make sure that you insert the cable connector into the USB/AV port until you feel it click securely into place. @@ 2. 3. Turn on the TV and select its video input mode. If the TV has more than one video input, select the one where the camera is connected. Press [p] (PLAY) to turn on the camera. This will cause an image to appear on the TV screen. · You also can change the aspect ratio of the screen and the video output system (page 90). · The contents of the remote controller image will depend on the type of image that is displayed on the TV screen. 4. Touch the camera monitor screen to perform operations. 56 Viewing Snapshots and Movies NOTE · Audio is monaural. · Audio is initially output by the camera at maximum volume. When you first start displaying images, set the TV volume control at a relatively low level and then adjust it as required. Recording Camera Images to a DVD Recorder or Video Deck Use one of the following methods to connect the camera to the recording device using the camera's bundled AV cable. DVD recorder or video deck: Connect to the VIDEO IN and AUDIO IN terminals. Camera: USB/AV port You can play a slideshow of snapshots and movies on the camera and record it on a DVD or video tape. For information about connecting a monitor to the recording device and about how to record, see the user documentation that comes with the recording device you are using. 57 Viewing Snapshots and Movies Other Playback Functions (PLAY) The following are menu operations you can use to configure various camera settings. Using the PLAY Menu . Example Menu Screen Operation 1.