Your PDF Guides

You can read the recommendations in the user guide, the technical guide or the installation guide for NIKON D90. You'll find the answers to all your questions on the NIKON D90 in the user manual (information, specifications, safety advice, size, accessories, etc.). Detailed instructions for use are in the User's Guide.

User manual NIKON D90
User guide NIKON D90
Operating instructions NIKON D90
Instructions for use NIKON D90
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Nikon

DIGITAL CAMERA

D90

User's Manual

En

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Manual abstract:

pp. @@@@276278 Search by key word. pp. @@250254 Camera behaving unexpectedly? Find the solution here. A For Your Safety Before using the camera for the first time, read the safety instructions in "For Your Safety" (pg. xiv). Help Use the camera's on-board help feature for help on menu items and other topics. See page 21 for details. Digitutor "Digitutor", a series of "watch and learn" manuals in movie form, is available from the following website: http://www.nikondigitutor.
com/index_eng.html Package Contents Be sure all items listed here were included with your camera. Memory cards are sold separately. D90 digital camera Body cap (pg. 3) (pp.
3, 240) BM-10 LCD monitor DK-5 eyepiece cap cover (pg. 17) (pg. 17) EN-EL3e MH-18a quick AN-DC1 strap charger with power (pg. 17) rechargeable cable (pg. 22) Li-ion battery with terminal cover (pp.
22, 23) BS-1 accessory shoe cover (pg. 233) EG-D2 audio/video UC-E4 USB cable cable (pg. 146) (pp. 149, 151) Warranty User's Manual (this guide) Quick Guide (a guide for first-time users describing the basic steps involved in such tasks taking pictures, copying pictures to a computer, and printing pictures) Software Installation Guide Software Suite CD-ROM Registration card (U. S. A. only) i Symbols and Conventions To make it easier to find the information you need, the following symbols and conventions are used: D prevent damage to the camera. A camera. This icon marks cautions; information that should be read before use to This icon marks notes; information that should be read before using the Trademark Information Macintosh, Mac OS, and QuickTime are registered trademarks of Apple Inc. Microsoft, Windows and Windows Vista are either registered trademarks, or trademarks of Microsoft Corporation in the United States and/or other countries.

The SD logo is a trademark of the SD Card Association. PictBridge and the SDHC logo are trademarks. HDMI, the HDMI logo and High-Definition Multimedia Interface are trademarks or registered trademarks of HDMI Licensing LLC. All other trade names mentioned in this manual or the other documentation provided with your Nikon product are trademarks or registered trademarks of their respective holders. A ii X Introduction s Basic Photography and Playback h More on Photography (All Modes) t P, S, A, and M Modes I More on Playback Q Connections o The Playback Menu i The Shooting Menu L Custom Settings g The Setup Menu u The Retouch Menu w Recent Settings / v My Menu n Technical Notes iii Q&A Index Find what you're looking for using this "question and answer" index. New Features Question Can I use the monitor as a viewfinder? How do I shoot movies? Can I control how photos are processed? How do I preserve details in shadows and highlights? How do I keep the subject in focus when changing the composition? How do I remove dust from the low-pass filter protecting the image sensor? Key phrase Live view Recording movies Picture Controls Active D-Lighting 3D-tracking Clean Image Sensor See page 43 50 108 119 173 203 Frequently-Asked Questions Question How do I use the menus? How do I get more information on a menu? Can I get quick access to frequently-used settings? Can I get quick access to recently-used settings? What do these indicators mean? What does this warning mean? Key phrase Using the menus Help My Menu Recent settings Control panel, viewfinder Error messages and displays Number of exposures How many more shots can I take with this card? remaining How much charge does the battery have left? Battery level What does "exposure" mean and how does it work? Exposure What do I do with the viewfinder eyepiece cap? Self timer, remote control What optional flash units (Speedlights) can I use? Optional flash units What lenses can I use? Lenses What accessories are available for my camera? Accessories What memory cards can I use? Approved memory cards What software is available for my camera? Accessories Who can I ask to repair or inspect my camera? Servicing the camera How do I clean the camera or lens? Cleaning the camera See page 18 21 225 224 7, 9 255 35 34 79 66, 68 233 228 239 242 240 247 243 iv Camera Setup Question How do I stop parts of my photos from blinking? How do I focus the viewfinder? How do I keep the monitor from turning off? How do I set the clock? How do I set the clock for daylight saving time? How do I change time zones when I travel? How do I adjust monitor brightness? How do I restore default settings? How do I turn off the light on the front of the camera? Can I display a framing grid in the viewfinder? How do I view the control panel in the dark? How do I keep the shutter speed and aperture displays from turning off? How do I change the self timer delay? How do I change the remote delay? How do I keep the camera from beeping? Can I display the menus in a different language? How do I keep the file number from being reset when I insert a new memory card? How do I reset file numbering to 1? Key phrase Photo info, highlights Viewfinder focus Monitor off World time LCD brightness Two-button reset AF-assist illuminator Grid display LCD illuminator Auto meter off Self timer Remote control Beep Language File number sequence See page 131, 163 32 180 204 202 75 174 181 8, 196 35, 179 66, 179 68, 180 180 204 182 v Taking Photographs Question Is there an easy way to take snapshots? Is there an easy way to take more creative shots? Can I take pictures without the flash? How do I bring out a portrait subject? How can I get good landscape shots? How do I take close ups of small objects? How do I "freeze" a moving subject? Can I include night backgrounds in my portraits? How do I take a lot of photographs quickly? Can I shoot a self-portrait? Is there a remote control for this camera? How do I adjust exposure? How do I freeze or blur moving objects? How do I blur background details? Can I make photos brighter or darker? How do I make a time exposure? How do I use the flash? Can the flash fire automatically when needed? How do I keep the flash from firing? How do I prevent red eye? Can I control how the camera focuses? How do I focus on a moving subject? How do I choose where the camera focuses? Can I change the composition after focusing? Can I create a multiple exposure? How do I improve image quality? How do I take bigger photographs? How can I get more photos on the memory card? Can I take photos at a reduced size for e-mail? Key phrase See page Auto mode 34 Scene modes 41 j mode 34 Flash mode 71 ISO sensitivity 74 Portrait mode 41 Landscape mode 41 Close-up mode 42 Sports mode 42 Night portrait mode 42 Release mode 64 Self timer 66 Remote control 68 P, S, A, and M modes 78 Mode S (shutter-priority auto) 81 Mode A (aperture-priority 82 auto) Exposure compensation 90 Long time-exposures 85 Flash photography 70 Flash mode Red-eye reduction Autofocus Autofocus mode Focus point Focus lock Multiple exposure Image quality and size 70 71 54 54 56 57 121 62, 63 vi Viewing and Retouching Photographs Question Can I view my photographs on the camera? Can I view more information about photos? How do I get rid of an unwanted photo? Can I delete several photos at once? Can I zoom in on pictures to make sure they're in focus? Can I protect photos from accidental deletion? Is there an automatic playback ("slide show") option? Can I view my photos on TV? Can I view my photos in High Definition? How do I copy photos to my computer? How do I print photographs? Can I print photos without a computer? Can I print the date on my photographs? How do I order professional prints? How do I bring out details in shadows? Can I get rid of red eye? Can I crop photographs on the camera? Can I create a monochrome copy of a photograph? Can I create a copy with different colors? How do I adjust existing colors? Can I make a small copy of a photograph? Can I overlay two photos to make a single image? Can I use the camera to create JPEG copies of NEF (RAW) photographs? Is there a quick way to retouch photographs? Can I straighten photographs? How do I reduce distortion? Can I create the effect of a fisheye lens? Can I compare retouched copies with the originals? Key phrase Camera playback Photo info Deleting individual photos Delete Playback zoom Protect Pictmotion Slide show Television playback HDMI Connecting to a computer Printing photographs Printing via USB Time stamp, DPOF Print set (DPOF) D-Lighting Red-eye correction Trim Monochrome Filter effects Color balance Small picture Image overlay NEF (RAW) processing Quick retouch Straighten Distortion control Fisheye Side-by-side comparison See page 48, 128 129 49, 140, 162 162 138 139 141, 143 146 147 148 150 151 152, 155 157 212 212 213 214 215 216 216 218 220 221 221 222 222 223 vii Table of Contents Q&A Index .

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. 276 xiii For Your Safety To prevent damage to your Nikon product or injury to yourself or to others, read the following safety precautions in their entirety before using this equipment. Keep these safety instructions where all those who use the product will read them. The consequences that could result from failure to observe the precautions listed in this section are indicated by the following symbol: icon A ThisNikonmarks warnings. To prevent possible injury, read all warnings before using this product. WARNINGS A Keep the sun out of the frame Keep the sun well out of the frame when shooting backlit subjects. Sunlight focused into the camera when the sun is in or close to the frame could cause a fire. Viewing the sun or other strong light source through the viewfinder could cause permanent visual impairment. A Do not disassemble A Do not look at the sun through the viewfinder Touching the product's internal parts could result in injury. In the event of malfunction, the product should be repaired only by a qualified technician.

Should the product break open as the result of a fall or other accident, remove the battery and/or AC adapter and then take the product to a Nikon-authorized service center for inspection. Do not use electronic equipment in the presence of flammable gas, as this could result in explosion or fire. Failure to observe this precaution could result in injury. infant or child Placing the camera strap around the neck of an infant or child could result in strangulation.

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· Using the camera with the flash in close contact with the skin or other objects could cause burns.
· Using the flash close to the subject's eyes could cause temporary visual impairment. Particular care should be observed when photographing infants, when the flash should be no less than one meter (39 in.) from the subject. A Using the viewfinder diopter control When operating the viewfinder diopter control with your eye to the viewfinder, care should be taken not to put your finger in your eye accidentally. Should you notice smoke or an unusual smell coming from the equipment or AC adapter (available separately), unplug the AC adapter and remove the battery immediately, taking care to avoid burns.
Continued operation could result in injury. After removing the battery, take the equipment to a Nikon-authorized service center for inspection. A Do not use in the presence of flammable gas A Turn off immediately in the event of malfunction A Keep out of reach of children A Do not place the strap around the neck of an A Observe caution when using the flash xiv A Observe proper precautions when handling batteries Batteries may leak or explode if improperly handled. Observe the following precautions when handling batteries for use in this product: · Use only batteries approved for use in this equipment. · Do not short or disassemble the battery. · Be sure the product is off before replacing the battery. If you are using an AC adapter, be sure it is unplugged. · Do not attempt to insert the battery upside down or backwards. · Do not expose the battery to flame or to excessive heat. · Do not immerse in or expose to water.

· Replace the terminal cover when transporting the battery. Do not transport or store the battery with metal objects such as necklaces or hairpins. · Batteries are prone to leakage when fully discharged. To avoid damage to the product, be sure to remove the battery when no charge remains. · When the battery is not in use, attach the terminal cover and store in a cool, dry place. · The battery may be hot immediately after use or when the product has been used on battery power for an extended period. Before removing the battery turn the camera off and allow the battery to cool. · Discontinue use immediately should you notice any changes in the battery, such as discoloration or deformation. A Observe proper precautions when handling the quick charger · Keep dry. Failure to observe this precaution could result in fire or electric shock.
· Dust on or near the metal parts of the plug should be removed with a dry cloth. Continued use could result in fire. · Do not handle the power cable or go near the charger during thunderstorms. Failure to observe this precaution could result in electric shock. · Do not damage, modify, or forcibly tug or bend the power cable.
Do not place it under heavy objects or expose it to heat or flame. Should the insulation be damaged and the wires become exposed, take the power cable to a Nikon-authorized service representative for inspection. Failure to observe this precaution could result in fire or electric shock. · Do not handle the plug or charger with wet hands. Failure to observe this precaution could result in electric shock.
When connecting cables to the input and output jacks, use only the cables provided or sold by Nikon for the purpose to maintain compliance with product regulations. A Use appropriate cables A CD-ROMs CD-ROMs containing software or manuals should not be played back on audio CD equipment. Playing CD-ROMs on an audio CD player could cause hearing loss or damage the equipment. Should the monitor break, care should be taken to avoid injury due to broken glass and to prevent the liquid crystal from the monitor touching the skin or entering the eyes or mouth. A Avoid contact with liquid crystal xv Notices · No part of the manuals included with this product may be reproduced, transmitted, transcribed, stored in a retrieval system, or translated into any language in any form, by any means, without Nikon's prior written permission. · Nikon reserves the right to change the specifications of the hardware and software described in these manuals at any time and without prior notice. · Nikon will not be held liable for any damages resulting from the use of this product. · While every effort has been made to ensure that the information in these manuals is accurate and complete, we would appreciate it were you to bring any errors or omissions to the attention of the Nikon representative in your area (address provided separately). Notices for Customers in the U.S.

A. Federal Communications Commission (FCC) Radio Frequency Interference Statement This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful CAUTIONS Modifications interference in a residential installation. This equipment generates, uses, and can radiate The FCC requires the user be notified that any radio frequency energy and, if not installed changes or modifications made to this device and used in accordance with the instructions, that are not expressly approved by Nikon may cause harmful interference to radio Corporation may void the user's authority to communications. However, there is no operate the equipment. guarantee that interference will not occur in Interface Cables a particular installation. If this equipment Use the interface cables sold or provided by does cause harmful interference to radio or Nikon for your equipment. Using other television reception, which can be interface cables may exceed the limits of determined by turning the equipment off Class B Part 15 of the FCC rules. and on, the user is encouraged to try to correct the interference by one or more of Notice for Customers in the State of California WARNING: Handling the cord on this product the following measures: · Reorient or relocate the receiving antenna. may expose you to lead, a chemical known to · Increase the separation between the the State of California to cause birth defects equipment and receiver.
or other reproductive harm. Wash hands · Connect the equipment into an outlet on a after handling. circuit different from that to which the Nikon Inc., 1300 Walt Whitman Road, receiver is connected. Melville, New York 11747-3064, U.
S.A. · Consult the dealer or an experienced Tel.: 631-547-4200 radio/television technician for help. xvi Notices for Customers in Canada CAUTION ATTENTION This Class B digital apparatus complies with Cet appareil numérique de la classe B est Canadian ICES-003.
conforme à la norme NMB-003 du Canada. Symbol for Separate Collection in European Countries This symbol indicates that this product is to be collected separately.

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Care should be taken to avoid injury when physically destroying data storage devices. Use Only Nikon Brand Electronic Accessories Nikon cameras are designed to the highest standards and include complex electronic circuitry. Only Nikon brand electronic accessories (including battery chargers, batteries, AC adapters, and flash accessories) certified by Nikon specifically for use with this Nikon digital camera are engineered and proven to operate within the operational and safety requirements of this electronic circuitry. The use of non-Nikon electronic accessories could damage the camera and may void your Nikon warranty. The use of third-party rechargeable Li-ion batteries not bearing the Nikon holographic seal shown at right could interfere with normal operation of the camera or result in the batteries overheating, igniting, rupturing, or leaking.

For more information about Nikon brand accessories, contact a local authorized Nikon dealer. A Before Taking Important Pictures Before taking pictures on important occasions (such as at weddings or before taking the camera on a trip), take a test shot to ensure that the camera is functioning normally. Nikon will not be held liable for damages or lost profits that may result from product malfunction. A Life-Long Learning As part of Nikon's "Life-Long Learning" commitment to ongoing product support and education, continually-updated information is available on-line at the following sites: · For users in the U.S. A.: http://www.nikonusa.com/ · For users in Europe and Africa: http://www.europe-nikon.com/support · For users in Asia, Oceania, and the Middle East: http://www.nikon-asia.com/ Visit these sites to keep up-to-date with the latest product information, tips, answers to frequently-asked questions (FAQs), and general advice on digital imaging and photography. Additional information may be available from the Nikon representative in your area. See the following URL for contact information: http://imaging.

nikon.com/ xviii Introduction X This chapter covers information you will need to know before using the camera, including the names of camera parts, how to use the camera menus, and how to ready the camera for use. X Overview .....

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..... 2 3 3 6 7 9 10 13 17 17 17 18 19 21 22 22 23 25 27 29 32 1 Overview X Thank you for your purchase of a Nikon single-lens reflex (SLR) digital camera. To get the most from your camera, please be sure to read all instructions thoroughly and keep them where they will be read by all who use the product. D Use Only Nikon Brand Accessories Only Nikon brand accessories certified by Nikon specifically for use with your Nikon digital camera are engineered and proven to operate within its operational and safety requirements. THE USE OF NON-NIKON ACCESSORIES COULD DAMAGE YOUR CAMERA AND MAY VOID YOUR NIKON WARRANTY. D Servicing the Camera and Accessories The camera is a precision device and requires regular servicing. Nikon recommends that the camera be inspected by the original retailer or a Nikon-authorized service representative once every one to two years, and that it be serviced once every three to five years (note that fees apply to these services). Frequent inspection and servicing are particularly recommended if the camera is used professionally. Any accessories regularly used with the camera, such as lenses or optional flash units, should be included when the camera is inspected or serviced. 2 Getting to Know the Camera Take a few moments to familiarize yourself with camera controls and displays. You may find it helpful to bookmark this section and refer to it as you read through the rest of the manual.
X The Camera Body 1 2 6 7 8 9 10 11 12 19 3 4 5 14 15 16 13 20 21 22 17 23 18 24 25 1 2 3 4 5 6 7 8 9 10 11 12 Mode dial.

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.....75 Z (metering) button.....
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..87 Q (format) button...
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...30 I (release mode) button .....

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....54 Two-button reset button .
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.13 14 AF-assist illuminator ....
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.....71 15 Sub-command dial .
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.29 16 Focus selector lock .....
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..56 17 Memory card access lamp...
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..29, 39 18 R (information display/quick settings display) button .....
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10, 12 5 The Mode Dial The camera offers a choice of the following eleven shooting modes: X P, S, A, and M Modes Select these modes for full control over camera settings. P--Programmed auto (pg. 80): Camera chooses shutter speed and aperture, user controls other settings. A--Aperture-priority auto (pg. 82): Adjust aperture to soften background details or increase depth-of-field to bring both main subject and background into focus.
S--Shutter-priority auto (pg. 81): Choose fast shutter speeds to freeze action, slow shutter M--Manual (pg. 83): Match shutter speed speeds to suggest motion by blurring and aperture to your creative intent. moving objects. Auto Modes Select these modes for simple, point-and-shoot photography.
i Auto (pg. 34): Camera adjusts settings automatically to produce optimal results with "point-andshoot" simplicity. Recommended for first-time users of digital cameras. j Auto (flash off) (pg. 34): As above, except that the flash will not fire even when lighting is poor. Scene Modes Selecting a scene mode automatically optimizes settings to suit the selected scene, making creative photography as simple as rotating the mode dial. k Portrait (pg. 41): Shoot portraits with back- m Sports (pg. 42): Freeze motion for dynamic ground in soft focus. sports shots.

l Landscape (pg. 41): Preserve details in landscape shots. n Close up (pg. 42): Take vivid close-ups of flowers, insects, and other small objects. o Night portrait (pg. 42): Shoot portraits against a dimly-lit backdrop. 6 The Control Panel 1 2 12 11 10 9 8 14 13 X 3 4 5 6 7 1 Shutter speed Shutter-priority auto....
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.81 Manual exposure mode ....
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.....83 Exposure compensation value.
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..92 White balance bracketing .....
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... 191 Bracketing programs.....

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.... 264 14 Color temperature.....

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.....99 A Large-Capacity Memory Cards When enough memory remains on the memory card to record a thousand or more pictures at current settings, the number of exposures remaining will be shown in thousands, rounded down to the nearest hundred (e.g., if there is room for 1,260 exposures, the exposure count display will show 1.2 K).
7 The Control Panel (Continued) 15 28 27 26 X 16 17 18 19 25 24 23 20 22 21 15 Flash compensation indicator .....
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.....91 16 "Clock not set" indicator Clock battery.

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..... 92 26 White balance bracketing indicator .....

.191 27 Exposure compensation indicator.....
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...121 A The LCD Illuminator Holding the power switch in the D position activates the exposure meters and the control panel backlight (LCD illuminator), allowing the display to be read in the dark. After the power switch is released, the illuminator will remain lit while the camera exposure meters are active (six seconds at default settings) or until the shutter is released or the power switch is rotated to D again. Power switch 8 The Viewfinder 1 2 6 7 3 4 8 9 10 11 12 13 14 5 15 16 17 18 19 X 20 21 22 23 24 25 17 Number of exposures remaining .....
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... 35 Number of shots remaining before memory buffer fills..
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. 166 25 ISO sensitivity compensation indicator..74 * Can be hidden with Custom Setting d4 (pg. 181).
1 Framing grid (displayed when On is selected for Custom Setting d2).....

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....34 14 White balance bracketing indicator.
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191 15 Bracketing indicator .....

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.....92 16 ISO sensitivity indicator..

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74 The Viewfinder Display Owing to the characteristics of this type of viewfinder display, you may notice fine lines radiating outward from the selected focus point. This is normal and does not indicate a malfunction. If the battery is totally exhausted or not inserted, the display in the viewfinder will dim. The viewfinder display will return to normal when a fully-charged battery is inserted. D D The Control Panel and Viewfinder The response times and brightness of the control panel and viewfinder may vary with temperature. 9 The Shooting Information Display X Shooting information, including shutter speed, aperture, the number of exposures remaining, and AF-area mode, is displayed in the monitor when the R button is pressed. Press the R button again to change selected settings (pg. 12). To clear shooting information from the monitor, press the R button a third time or press the shutter-release button halfway. At default settings, the monitor will turn off automatically if no operations are performed for about 10 seconds.
12 3 4 5 6 7 R button 20 19 18 8 9 10 11 17 16 15 14 13 26 12 21 22 23 24 25 37 36 35 34 27 28 29 30 33 32 31 A See Also For information on choosing how long the monitor stays on, see Custom Setting c4 (Monitor off delay, pg. 180). For information on changing the color of the lettering in the shooting information display, see Custom Setting d8 (Shooting info display, pg. 183). 10 The Shooting Information Display (Continued) 1 Shooting mode i auto/j auto (flash off).

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.34 MB-D80 battery type display.....

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..... 184 X 11 Changing Settings in the Shooting Information Display (Quick Settings Display) X To change settings for the items listed below, press the R button in the shooting information display. Highlight items using the multi selector and press J to jump to the menu for the highlighted item. R button 7 1 2 3 4 5 6 1 2 3 4 Long exposure noise reduction ...
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167 High ISO noise reduction.....

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. 168 Active D-Lighting ....
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..... 119 Picture Control....

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.. 108 5 Fn button assignment ...
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197 6 AE-L/AF-L button assignment .....
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.....200 7 Tip display....
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.182 12 The Command Dials The main- and sub-command dials are used alone or in combination with other controls to adjust a variety of settings. M button: flash mode and flash compensation D button: bracketing Sub-command dial E button: exposure compensation I button: release mode X B button: autofocus mode Main-command dial Z button: metering L (WB) button: white balance W (ISO) button: ISO sensitivity X (QUAL) button: image quality/image size Image Quality and Size Set image quality (pg. 62). + X (QUAL) button Main command dial Control panel 13 Choose an image size (pg. 63). X + X (QUAL) button Sub-command dial Control panel Autofocus Mode Choose an autofocus mode (pg. 54). + B button Main command dial Control panel Release Mode Choose a release mode (pg. 64).
+ I button Main command dial Control panel ISO Sensitivity Set ISO sensitivity (pg. 74). + W ISO button Main command dial Control panel Exposure Choose a combination of aperture and shutter speed (exposure mode P; pg. 80). Mode P Main command dial Control panel 14 Choose a shutter speed (exposure mode S or M; pp.
81, 83). X Mode S or M Main command dial Control panel Choose an aperture (exposure mode A or M; pp. 82, 83). Mode A or M Sub-command dial Control panel Choose a metering method (pg. 87).

+ Z button Main command dial Control panel Set exposure compensation (pg. 90). + E button Main command dial Control panel Activate or cancel bracketing/ select number of shots in bracketing sequence (pp. 92, 191). Not displayed in ADL bracketing (pg. 193). D button + Main command dial Control panel 15 Select bracketing exposure increment (pg. 92, 192). X D button + Sub-command dial Control panel White Balance Choose a white balance setting (pg. 95).

+ L (WB) button Main command dial Control panel Fine-tune white balance (pg. 97), set color temperature (pg. 99), or choose a white balance preset (pg. 106). L (WB) button + Sub-command dial Control panel Flash Settings Choose flash mode (pg. 71). + M button Main command dial Control panel Adjust flash compensation (pg. 91). + M (Y) button Sub-command dial Control panel 16 Attaching the AN-DC1 Camera Strap Attach the strap as shown below.

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X The BM-10 Monitor Cover A clear plastic cover is provided with the camera to keep the monitor clean and protect it when the camera is not in use. To attach the cover, insert the projection on the top of the cover into the matching indentation above the camera monitor (q) and press the bottom of the cover until it clicks into place (w). To remove the cover, hold the camera firmly and pull the bottom of the cover gently outwards as shown at right. The DK-21 Viewfinder Eyepiece Cup Before attaching the DK-5 viewfinder eyepiece cap and other viewfinder accessories (pg. 239), remove the viewfinder eyepiece cup by placing your fingers underneath the flanges at either side and sliding it off as shown at right. 17 Camera Menus X Most shooting, playback, and setup options can be accessed from the camera menus.

To view the menus, press the G button. G button Tabs Choose from playback, shooting, Custom Settings, setup, retouch, and recent settings menus (see below). Slider shows position in current menu. Q If "Q" is displayed, help for current item can be viewed by pressing L button (pg. 21).

Current settings are shown by icons. Menu options Options in current menu. The following menus are available: D C A B N Adjust playback settings and manage photos. Adjust shooting settings. Personalize camera settings. Format memory cards and perform basic camera setup. Create retouched copies of existing photographs. Select from the twenty most recently used menu items. If m Recent settings (pg. 224) desired, a custom menu ("My Menu") can be displayed in place of Recent settings (pg.

224). Playback Shooting Custom Settings Setup Retouch (pg. 160) (pg. 165) (pg. 171) (pg. 202) (pg. 209) 18 Using Camera Menus The multi selector and J button are used to navigate the camera menus. Move cursor up Cancel and return to previous menu J button Select highlighted item Select highlighted item or display submenu X Move cursor down Follow the steps below to navigate the menus. 1 Display the menus. Press the G button to display the menus.

G button 2 Highlight the icon for the current menu. Press 4 to highlight the icon for the current menu. 3 Select a menu. Press 1 or 3 to position the cursor in the selected menu. 19 4 X Position the cursor in the selected menu.

Press 2 to position the cursor in the selected menu. 5 Highlight a menu item. Press 1 or 3 to highlight a menu item. 6 Display options. Press 2 to display options for the selected menu item.

7 Highlight an option. Press 1 or 3 to highlight an option. 8 Select the highlighted item. Press J to select the highlighted item. To exit without making a selection, press the G button. Note the following: · Menu items that are displayed in gray are not currently available. · While pressing 2 or the center of the multi selector generally has the same effect as pressing J, there are some cases in which selection can only be made by pressing J. · To exit the menus and return to shooting mode, press the shutter-release button halfway (pg. 35). A Using the Command Dials The main command dial can be used to move the cursor up and down, the sub-command dial to move the cursor left and right.

The sub-command dial can not be used to make a selection. 20 Help If a Q icon is displayed at the bottom left corner of the monitor, help can be displayed by pressing the L button. A description of the currently selected option or menu will be displayed while the button is pressed. Press 1 or 3 to scroll through the display. Q icon X L button 21 First Steps Charge the Battery X The camera is powered by an EN-EL3e rechargeable Li-ion battery (supplied). The EN-EL3e is not fully charged at shipment. To maximize shooting time, charge the battery in the supplied MH-18a quick charger before use. About two and a quarter hours are required to fully recharge the battery when no charge remains. 1 Plug the charger in. Insert the AC adapter plug into the battery charger and plug the power cable into an electrical outlet.

2 Remove the terminal cover. Remove the terminal cover from the battery. Liio n BA TT ER Y PA CK 3 Insert the battery. Insert the battery into the charger. The CHARGE lamp will blink while the battery charges.

22 4 Remove the battery when charging is complete. Charging is complete when the CHARGE lamp stops blinking. Remove the battery and unplug the charger. X Insert the Battery 1 Turn the camera off. Always turn the camera off before inserting or removing batteries.

Power switch 2 Open the battery-chamber cover. Open the battery-chamber cover on the bottom of the camera. 3 Insert the battery. Insert the battery as shown at right. 4 Close the battery-chamber cover. Removing the Battery Before removing the battery, turn the camera off. To prevent short-circuits, replace the terminal cover when the battery is not in use. 23 X The Battery and Charger Read and follow the warnings and cautions on pages xivxv and 248249 of this manual. Do not use the battery at ambient temperatures below 0°C (32°F) or above 40°C (104°F). Charge the battery indoors at ambient temperatures between 535°C (4195°F); for best results, charge the battery at temperatures above 20°C (68°F).

Battery capacity may temporarily drop if the battery is charged at low temperatures or used at a temperature below the temperature at which it was charged. If the battery is charged at a temperature below 5°C (41°F), the battery life indicator in the Battery info (pg. 208) display may show a temporary decrease. The battery may be hot immediately after use. Wait for the battery to cool before recharging. Use the charger with compatible batteries only. Unplug when not in use. D D A Incompatible Batteries This camera can not be used with EN-EL3 or EN-EL3a rechargeable Li-ion batteries for the D100, D70 series, or D50 or with the MS-D70 CR2 battery holder. EN-EL3e Rechargeable Li-ion Batteries The supplied EN-EL3e shares information with compatible devices, enabling the camera to show battery charge state in six levels (pg. 34).

The Battery info option in the setup menu details battery charge, battery life, and the number of pictures taken since the battery was last charged (pg. 208). 24 Attach a Lens Care should be taken to prevent dust from entering the camera when the lens is removed. An AF-S DX NIKKOR 18-105mm f/3.5-5.

6G ED VR lens is used in this manual for illustrative purposes. Focal length scale Lens hood (pg. 273) Lens cap CPU contacts (pg. 228) Rear cover Focus mode switch (pg. 25, 273) Zoom ring VR (vibration reduction) switch Focus ring (pg.

59, 273) Mounting index Focal length index X 1 Remove the rear lens cap and the camera body cap. After confirming that the camera is off, remove the rear lens cap from the lens and remove the camera body cap. qw 2 Attach the lens.

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Keeping the mounting mark on the lens aligned with the mounting mark on the camera body, position the lens in the camera's bayonet mount. Being careful not to press the lens-release button, rotate the lens counter-clockwise until it clicks into place. If the lens is equipped with an A-M or M/A-M switch, select A (autofocus) or M/A (autofocus with manual priority). Mounting index 25 Detaching the Lens X Be sure the camera is off when removing or exchanging lenses. To remove the lens, press and hold the lens release button while turning the lens clockwise. After removing the lens, replace the lens cap, rear cover, and camera body cap. Vibration Reduction (VR) AF-S DX Zoom-Nikkor 18105mm f/3.

55.6G VR lenses support vibration reduction (VR), which reduces blur caused by camera shake even when the camera is panned, allowing shutter speeds to be slowed by approximately 3 EV at a focal length of 105mm (Nikon measurements; effects vary with the user and shooting conditions). To use vibration reduction, slide the VR switch to ON. Vibration reduction is activated when the shutter-release button is pressed halfway, reducing the effects of camera shake on the image in the viewfinder and simplifying the process of framing the subject and focusing in both autofocus and manual modes. When the camera is panned, vibration reduction applies only to motion that is not part of the pan (if the camera is panned horizontally, for example, vibration reduction will be applied only to vertical shake), making it much easier to pan the camera smoothly in a wide arc. Vibration reduction can be turned off by sliding the VR switch to OFF. Turn vibration reduction off when the camera is securely mounted on a tripod, but leave it on if the tripod head is not secured or when using a monopod. D D CPU Lenses with Aperture Rings In the case of CPU lenses equipped with an aperture ring (pg. 228), lock aperture at the minimum setting (highest f-number). See the lens manual for details.

Vibration Reduction Do not turn the camera off or remove the lens while vibration reduction is in effect. If power to the lens is cut while vibration reduction is on, the lens may rattle when shaken. This is not a malfunction, and can be corrected by reattaching the lens and turning the camera on. Vibration reduction is disabled while the built-in flash is charging. When vibration reduction is active, the image in the viewfinder may be blurred after the shutter is released. This does not indicate a malfunction. 26 Basic Setup A language-selection dialog will be displayed the first time the camera is turned on. Choose a language and set the time and date. Note that if the time and date are not set, B will blink in the monitor and the time and date recorded with photographs will be incorrect. X 1 Turn the camera on.

A language-selection dialog will be displayed. Power switch 2 Select a language. Press 1 or 3 to highlight the desired language and press J. 3 Choose a time zone. A time-zone selection dialog will be displayed. Press 4 or 2 to highlight the local time zone (the UTC field shows the difference between the selected time zone and Coordinated Universal Time, or UTC, in hours) and press J. 4 Turn daylight saving time on or off. Daylight saving time options will be displayed. Daylight saving time is off by default; if daylight saving time is in effect in the local time zone, press 1 to highlight On and press J. 5 Set the date and time.

The dialog shown at right will be displayed. Press 4 or 2 to select an item, 1 or 3 to change. Press J when the clock is set to the current date and time. 27 6 X Choose a date format. Press 1 or 3 to choose the order in which the year, month, and day will be displayed and press J. 7 Exit to shooting mode. Press the shutter-release button halfway to exit to shooting mode. A A The Setup Menu Language and date/time settings can be changed at any time using the Language (pg. 204) and World time (pg. 204) options in the setup menu.

The Clock Battery The camera clock is powered by an independent, rechargeable power source, which is charged as necessary when the main battery is installed or the camera is powered by an optional EH-5a or EH-5 AC adapter (pg. 239). Two days of charging will power the clock for about three months. If the B icon flashes in the control panel, the clock battery is exhausted and the clock has been reset. Set the clock to the correct time and date.

The Camera Clock The camera clock is less accurate than most watches and household clocks. Check the clock regularly against more accurate time pieces and reset as necessary. A 28 Inserting Memory Cards The camera stores pictures on Secure Digital (SD) memory cards (available separately). 1 Turn the camera off. Always turn the camera off before inserting or removing memory cards.

X Power switch 2 Open the card slot cover. Slide the card slot cover out (q) and open the card slot (w). 3 Insert the memory card. Holding the memory card as shown at right, slide it in until it clicks into place. The memory card access lamp will light for a few seconds. Close the memory card slot cover. D Inserting Memory Cards Inserting memory cards upside down or backwards could damage the camera or the card. Check to be sure the card is in the correct orientation. Front Access lamp If C is displayed in the control panel as shown at right, format the card as described on the following page. D The Access Lamp Do not remove the battery or disconnect the power source while the memory card access lamp is lit.

Failure to observe this precaution could result in damage to the card. 29 Formatting Memory Cards Memory cards must be formatted after being used in other devices. Format the card as described below. X D Formatting Memory Cards Formatting memory cards permanently deletes any data they may contain. Be sure to copy any photographs and other data you wish to keep to a computer before proceeding (pg. 148). 1 Turn the camera on. Power switch 2 Press the Q buttons. Hold the Q (Z and O) buttons down simultaneously for approximately two seconds. O button Z button A blinking C will appear in the shutterspeed displays in the control panel and viewfinder.

To exit without formatting the memory card, wait six seconds (the default setting) until C stops blinking or press any button other than the Q (Z and O) buttons. 3 Press the Q buttons again. Press the Q (Z and O) buttons together a second time while C is blinking to format the memory card. Do not remove the memory card or remove or disconnect the power source during formatting. When formatting is complete, the control panel and viewfinder will show the number of photographs that can be recorded at current settings.

30 Removing Memory Cards After confirming that the access lamp is off, turn the camera off, open the memory card slot cover, and press the card in to eject it (q).

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The card can then be removed by hand (w). X Memory Cards · Memory cards may be hot after use. Observe due caution when removing memory cards from the camera. · Memory cards that have been formatted in a computer or other device must be reformatted in the camera before they can be used for recording or playback.

· Turn the power off before inserting or removing memory cards. Do not remove memory cards from the camera, turn the camera off, or remove or disconnect the power source during formatting or while data are being recorded, deleted, or copied to a computer. Failure to observe these precautions could result in loss of data or in damage to the camera or card. · Do not touch the card terminals with your fingers or metal objects. · Do not bend, drop, or subject to strong physical shocks. · Do not apply force to the card casing. Failure to observe this precaution could damage the card. · Do not expose to water, heat, high levels of humidity, or direct sunlight. D A No Memory Card If no memory card is inserted, the control panel and viewfinder will show S and an icon will appear in the viewfinder as shown at right. If the camera is turned off with a charged EN-EL3e battery and no memory card inserted, S will be displayed in the control panel and an icon will be displayed in the viewfinder.

The Write Protect Switch Memory cards are equipped with a write protect switch to prevent accidental loss of data. When this switch is in the "lock" position, photos can not be recorded or deleted and the memory card can not be formatted. To unlock the memory card, slide the switch to the "write" position. A Write-protect switch A See Also See page 202 for information on formatting memory cards using the Format memory card option in the setup menu. 31 Adjust Viewfinder Focus X The camera is equipped with diopter adjustment to accommodate individual differences in vision. Check that the display in the viewfinder is in focus before framing pictures in the viewfinder. 1 Remove the lens cap and turn the camera Power switch on. 2 Focus the viewfinder. Rotate the diopter control until the viewfinder display and focus point are in sharp focus. When operating the diopter control with your eye to the viewfinder, be careful not to put your fingers or fingernails in your eye.

Focus point A Eyepiece Correction Lenses Corrective lenses (available separately; pg. 239) can be used to further adjust viewfinder diopter. 32 Basic s Photography and Playback This chapter outlines the basics of taking and viewing photographs in auto and scene modes. It assumes that default camera settings are used; for information on restoring default settings, see page 258. s "Point-and-Shoot" Photography (i and j Modes).

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. Step 1: Turn the Camera On .....

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. Step 2: Choose Shooting and Focus Modes....

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. Step 3: Check Camera Settings .....

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..... Step 4: Frame the Photograph .....

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Step 5: Focus.....
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... 34 34 36 36 37 38 39 41 41 41 42 42 42 43 48 49 50 Use a CPU Lens Auto and scene modes are only available with CPU lenses. If these modes are selected when a non-CPU lens is attached, the shutter release will be disabled.
A 33 "Point-and-Shoot" Photography (i and j Modes) s This section describes how to take photographs in i (auto) mode, an automatic "point-and-shoot" mode in which the majority of settings are controlled by the camera in response to shooting conditions, and in which the flash will fire automatically if the subject is poorly lit. To take photographs with the flash off while leaving the camera in control of other settings, rotate the mode dial to j to select auto (flash off) mode. Step 1: Turn the Camera On 1 Turn the camera on. Remove the lens cap and turn the camera on. The control panel and viewfinder displays will light. Power switch 2 Check the battery level. Check the battery level in the viewfinder or control panel. Control panel L K J I H Viewfinder -- -- d Description Battery fully charged. Battery partially discharged. Low battery.

Ready fully-charged spare battery or prepare to charge battery. H d Battery exhausted; shutter release disabled. Charge or (blinks) (blinks) exchange battery. Note: When camera is powered by optional EH-5a or EH-5 AC adapter, battery level is not displayed; instead, a 9 icon appears in the shooting information display (pg. 10). 34 3 Check the number of exposures remaining. The exposure count displays in the control panel and viewfinder show the number of photographs that can be stored on the memory card. Check the number of exposures remaining. If there is not enough memory to store additional photographs at current settings, the display will flash as shown at right. No further pictures can be taken until the memory card has been replaced (pg. 31) or photographs have been deleted (pp. 49, 162). s A Large-Capacity Memory Cards When enough memory remains on the memory card to record a thousand or more pictures at current settings, the number of exposures remaining will be shown in thousands, rounded down to the nearest hundred (e.g., if there is room for 1,260 exposures, the exposure count display will show 1.
2 K). A Auto Meter Off At default settings, the viewfinder and the shutter speed and aperture displays in the control panel will turn off if no operations are performed for about six seconds (auto meter off), reducing the drain on the battery. Press the shutter-release button halfway to reactivate the display in the viewfinder (pg. 38). 6s Exposure meters on Exposure meters off Exposure meters on The length of time before the exposure meters turn off automatically can be adjusted using Custom Setting c2 (Auto meter-off delay, pg.
179). A Camera Off Display If the camera is turned off with a battery and memory card inserted, the frame count and number of exposures remaining will be displayed (some memory cards may only display this information when the camera is on). 35 Step 2: Choose Shooting and Focus Modes 1 s Select i or j mode. To take photographs without the flash, rotate the mode dial to j. Otherwise, rotate the mode dial to i. Mode dial 2 Select autofocus. Rotate the focus-mode selector to AF (autofocus). Focus-mode selector Step 3: Check Camera Settings Check settings in the control panel. The default settings for i and j mode are listed below. AF-area mode Flash mode Image size Image quality Option Flash mode (i mode) Flash mode (j mode) Image quality Image size Release mode Default o j (flash off) NORM (JPEG Normal) L (Large) 8 (Single frame) 4 (Auto select) Auto-area Description Page If the subject is poorly lit, the flash will pop up automatically when the shutter-release button is 70 pressed halfway and fire when the picture is taken.

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