

Table of Contents

Introduction xii

PART 1

THE BASICS **2**

CHAPTER 1

CAPTURE DEVICES **4**

Get the Picture—Cameras..... 5

Basics of Cameras 6

Camera Types..... 8

CHAPTER 2

SENSORS **18**

Capturing Light..... 19

Common Sensors 21

Basic Sensor Structure..... 22

How a Sensor Collects Light 24

Sensor Construction and Operation 25

Resolution and Detail 28

Acquiring Color 30

Noise..... 32

CHAPTER 3**LENSES 34**

Lenses and Shutters.....	35
Basic Optics.....	37
Lens Basics	39
Hyperfocal Focusing	43
Types of Lenses	45
Digital Camera Lens Design	50
Lens Flare.....	51
Image Stabilization	53
Shutter Systems.....	54
Electronic Shutters.....	56
Shutter Speeds	57

CHAPTER 4**EXPOSURE BASICS 58**

From Light to Image	59
Exposure Basics	61
Auto Exposure.....	64
Basic Daylight Exposure.....	64
Light Meters and Basic Metering.....	67

Reflective and Incident Meters	67
Exposure Calculation.....	68
Substitution Metering.....	70
Tonal Placement	71
Average Value Metering.....	71

PART 2

WORKING DIGITALLY..... 72

CHAPTER 5

EXPOSURE FOR DIGITAL PHOTOGRAPHY..... 74

Exposures Become Digital.....	75
Exposure Testing for Digital Sensors	78
Histograms	82
Exposure Based on the Histogram	84
Optimizing Exposure.....	87
Digital Equivalent Exposures	92
Understanding Dynamic Range and Bit Depth	93

CHAPTER 6

DIGITAL CAPTURE WORKFLOW..... 96

Progressing to Capture.....	97
Preparation Workflow	99
Capture Workflow.....	104

CHAPTER 7**SAVING CAPTURED IMAGES 108**

The File Cabinet.....	109
File Basics.....	111
Metadata.....	116
File Types.....	117
Memory Devices.....	121

CHAPTER 8**IMAGE EDITING AND CORRECTIONS 124**

Perfecting Capture.....	125
PIE.....	128
Correction.....	128
Working Methods.....	136
An Editing Checklist.....	138

CHAPTER 9**ASSET MANAGEMENT 140**

Keeping Track of Images.....	141
Active Use.....	143
Importing Image Files.....	144
Naming Protocols.....	146
Backing Up Files.....	146
Evaluating and Adding Metadata for Images.....	147
Archiving.....	150

PART 3**BEYOND 152****CHAPTER 10****BEYOND EXPOSURE 1: DIGITAL ZONE..... 154**

Expressed Light.....155

Digital Zone System.....156

Zone Vocabulary for Digital Photography.....158

Using the Digital System.....160

Post-Capture Processing.....161

Digital Black-and-White.....164

CHAPTER 11**BEYOND EXPOSURE 2: HDRI..... 166**

Expanded Light.....167

Some Basics of HDRI.....169

Faux HDRI.....171

DSLR and Small-Camera-Based HDRI.....174

CHAPTER 12**BEYOND EXPOSURE 3:****HYBRID DIGITAL PHOTOGRAPHY 180**

A Place for Silver	181
Megapixels versus Grains.....	183
Pixel Arrangement	184
Color	186
Dynamic Range	187
Workflow and Time	190
Lens Issues.....	190
Requirement for Electronic Systems	192
Choosing a Hybrid Approach.....	192

CHAPTER 13**HOW DIGITAL IMAGES ARE CREATED 194**

Capture to Visible	195
The Digital Photographic Sequence	197
Buffering	208
Expansion of Dynamic Range.....	210

GLOSSARY 212**INDEX OF PHOTOGRAPHERS..... 242****INDEX..... 243**