

Index

Note to the Reader: Page numbers in **bold** indicate the principle discussion of a topic or the definition of a term. Page numbers in *italic* indicate illustrations.

A

Absolute Colorimetric rendering intents, *17, 18, 185, 241*
actions, automating batches of, *224*
additive primary colors, *11–12, 11, 12, 241*
addresses. *See* website addresses
adjustment layers
 creating, *140, 193, 193*
 creating sets of, *192–193, 192*
 flattening, *163–164, 195–196*
 saving layered TIFF images, *162–163, 163*
 turning visibility on/off, *194*
adjustments, color. *See* color optimization
Adobe Camera Raw plug-in, *See also* RAW capture
 conversion
 batch conversions, *131*
 Brightness slider, *129*
 Calibrate settings, *130–131, 131*
 Contrast slider, *129*
 Detail settings, *129–130*
 Exposure slider, *128, 129*
 Hand tool, *127*
 histogram, *127, 127*
 Lens settings, *130*
 Output settings, *130, 130*
 overview, *126–127, 127*
 Saturation slider, *129*
 Shadows slider, *128–129, 129*
 Temperature and Tint sliders, *128, 128*
 White Balance controls, *127–128, 128*
 Zoom tool, *127*
Adobe Gamma tool, *61, 72–74, 73–74*
Adobe RGB (1998) color space, *29–30, 241*
Advanced Controls options, *See also* Color Settings
 Blend RGB Colors Using Gamma, *36–37, 37*
 Desaturate Monitor Colors, *36, 36*
 overview, *27, 27, 36*
Advanced Mode checkbox, *27, 27*
Ask When Opening option, *33, 34, 38*
Ask When Pasting option, *33–34, 38, 39*
assigning profiles to images
 defined, *42, 42, 241*
 digital camera profiles, *123–125, 123, 135, 135*
 scanner profiles, *102–104, 102–103*
automating
 batch actions, *224*
 camera profile assignments, *124–125*
 scanner profile assignments, *104*

B

balance. *See* color balance; white balance
batch conversions in Camera Raw, *131*
black point compensation, *35, 241*

black-and-white, converting color to, *158–160, 159–160*
black-and-white images, colorizing for print, *160–161, 161*
black/white target values, *198–200, 199–200, See also*
 white
Blend RGB Colors Using Gamma option, *36–37, 37*
brightness
 color wheels and, *8*
 defined, *6, 241*
 of monitor displays, *47, 61*
 slider in Camera Raw, *129*
 uniformity of in displays, *49*
bronzing, *14, 213, 241*
Burian, Peter, *110, 110, 172, 172, 228, 228*

C

Cahill, Alice, *138, 138, 231, 231*
Calibrate settings in Camera Raw, *130–131, 131*
calibration. *See* monitor displays, calibrating
Camera Raw. *See* Adobe Camera Raw; RAW
cameras. *See* digital cameras
candela, *241*
Canfield, Jon, *150, 150, 231, 231*
“canned” printer profiles, *183–184*
Canon digital SLR cameras, *109, 109*
Capture One DSLR, PhaseOne, *131–133, 132–133*
Channel Mixer, *158–160, 159–160*
characterization, *241, See also* profiles
chroma, *241, See also* saturation
CIE XYZ color model, *9, 10*
CMYK color model, *10, 15, 241*
CMYK, converting RGB images to
 applying conversion, *218*
 color settings, *215–217, 216–217*
 overview, *215*
 preparing RGB image files, *217–218*
CMYK output services
 overview, *213*
 preparing images for, *186, 189, 191*
 sending images converted to CMYK, *215–218, 216–217*
 sending RGB images with proof prints, *213–214, 238*
 workflow, *237–239, 237*
CMYK working spaces, *30*
color, *1–21*
 adjacent colors, *9*
 brightness, *6*
 capturing with cameras, *108–109, 108*
 complementary colors, *8–9, 242*
 converting to black-and-white, *158–160, 159–160*
 defined, *242*
 evaluating, *138–141, 138–139, 141*
 hue, *6, 243*
 human eyes and, *4, 4*

- light and, 3–5, 3–5
- light sources and, 7, 7, 13–14
- magenta problem, 141, 153, 153
- memory colors, 138–139, 139
- metamerism, 12–14, 13, 212–213
- overview, 1
- perception factors, 7, 7, 13–14
- saturation, defined, 6
- saturation testing, 139–141, 141
- spectral curves and, 4–5, 5
- terminology, 6
- color adjustments. *See* color optimization
- color balance controls, *See also* white balance
 - Color Balance, 142–144, 142–143
 - Curves, 146–148, 147–148
 - Levels, 144–145, 144–145
 - overview, 8–9, 12
- color fidelity in monitors, 48, 51
- color gamuts. *See* gamuts
- color-managed workflows, 227–239
 - CMYK output workflow, 237–239, 237
 - digital capture to print workflow, 233–235, 234
 - digital projection workflow, 236–237, 236
 - for high-bit files, 230
 - overview, 227, 230–231, 231
 - pre-workflow checklist, 229–230
 - predictable output and, 228–229, 228–229
 - scan-to-print workflow, 231–233, 231
 - Web and e-mail workflow, 236–237, 236
- color management
 - color profiles and, 19–20, 20
 - defined, 242
 - limitations, 20–21, 21
 - monitor display issues, 50–51
 - overview, 19
 - print setup, 205–207
- Color Management Policies options, *See also* color profiles; Color Settings
 - Ask When Opening, 33, 34, 38
 - Ask When Pasting, 33–34, 38, 39
 - Convert to Working, 33
 - Embedded Profile Mismatch, 38–39, 39, 134, 134
 - Missing Profiles, 34, 40–41, 40
 - Off, 32
 - overview, 31, 34
 - Paste Profile Mismatch, 39–40, 40
 - Preserve Embedded Profiles, 32–33
 - Profile Mismatches, 33–34
- color models
 - CIE XYZ model, 9, 10
 - CMYK model, 10, 15
 - defined, 9, 242
 - device-dependent models, 9, 10, 242
 - device-independent models, 9–10, 243
 - HSB model, 243
 - LAB model, 10, 15
 - LCH model, 243
 - primary colors in, 10–12, 11–12
 - RGB model, 10, 15
- color optimization, 137–167, *See also* saving
 - adding color to neutral grays, 151
 - in black-and-white images, 157–161, 158–161
 - with Color Balance control, 142–144, 142–143
 - with Curves control, 146–148, 147–148
 - desaturating problem colors, 153, 153
 - evaluating images before, 138–141, 138–139, 141
 - with Hue/Saturation control, 152–154, 153–154, 160–161, 161
 - with Levels control, 144–145, 144–145
 - magenta problem, 141, 153, 153
 - memory colors and, 138–139, 139
 - neutral grays with Color Sampler, 148–150, 149–150
 - neutral grays with eyedropper, 145, 145, 146, 148, 150
 - overview, 137, 141–142
 - of ranges of colors, 154, 154
 - saturation testing and, 139–141, 141
 - saving optimized images, 161–167, 163, 165, 167
 - in selected image areas, 155–157, 155–156
 - with Selective Color control, 151–152, 152
- Color Picker, Photoshop, defined, 8, 8, 190, 190
- color profiles, *See also* Color Management; profiles; rendering
 - assigning to images, 42, 42
 - color gamuts in, 16, 16
 - converting images to, 42–43, 43
 - defined, 14–15
 - LAB color model and, 15, 16
 - rendering intents, 16–19, 17
 - uses, 15–16
- Color Samplers, optimizing grays, 148–150, 149–150
- Color Settings dialog box, 24–37, *See also individual sections*
 - accessing, 25
 - Advanced Controls section, 27, 36–37, 36–37
 - Advanced Mode checkbox, 27, 27
 - Color Management Policies section, 27, 31–34, 38–42, 39–40, 42
 - Conversion Options section, 27, 34–35
 - loading settings, 26
 - overview, 24–25, 24
 - recommended settings, 27, 27
 - saving settings, 25–26, 26
 - Settings dropdown menu, 25, 25
 - Working Spaces section, 27–28, 28–31
- color space, 242, *See also* working space
- color temperature, 60, 60, 242
- Color Vision PrintFIX tool, 181–182, 181–182
- Color Vision Spyder Pro tool, 65–68, 66–67
- Color Vision Spyder tool, 61, 62–65, 63–64
- color wheels, 7–9
- colorimeter, 242
- ColorMatch RGB color space, 30
- ColorSync Calibrator tool, 73, 242
- complementary colors, 8–9, 242
- compression options for TIFF images, 162, 163, 163, 164
- contrast ratio in monitors, 47–48, 51
- Contrast slider in Camera Raw, 129
- Conversion Options, *See also* Color Settings
 - accessing, 27, 27, 34
 - Engine, 35
 - Intent, 35
 - Use Black Point Compensation, 35
 - Use Dither, 35
- converting images
 - from color to black-and-white, 158–160, 159–160
 - to color profiles, 42–43, 43

- to output profiles, 203
- to scanner profiles, 103
- to sRGB color, 221–222, 222
- to working spaces, 33, 134, 134
- converting profiles, 242
- Crop tool, 197
- CRT monitor displays, *See also* monitor
 - choosing, 51, 52
 - color controls, 54, 54
 - dot pitch, 52
 - flatness, 53
 - versus LCD displays, 47–51
 - refresh rate, 48, 53
 - resolution, 48–49, 52–53, 53
 - size, 49, 52
- Curves control in OptiCAL, 67, 67–68
- Curves control in Photoshop, 146–148, 147–148

D

- Davis, Jack, 115, 115
- densitometer, 242
- Desaturate Monitor Colors option, 36, 36
- destination profiles, 242
- Detail settings in Camera Raw, 129–130
- device-dependent color models, 9, 10, 242
- device-independent color models, 9–10, 243
- digital camera profiles, *See also* profiles
 - accuracy problems, 120
 - assigning to images, 123–125, 123, 135, 135
 - converting images to, 134, 134
 - defined, 241
 - overview, 119–120, 119
 - photographing targets for, 120–121
 - using ProfileMaker, 121–123, 122
- digital cameras, 107–135, *See also* RAW
 - basic settings, 113–115, 114–115
 - capture-to-print workflow, 233–235, 234
 - capturing color, 108–109, 108
 - color space options, 115
 - features, 109–113, 109–110, 112
 - image controls, 115, 115
 - JPEG capture mode, 113–114, 114
 - maximum output size, 111
 - overview, 107
 - RAW capture conversion, 125–134, 125, 127–133
 - RAW capture mode, 113, 114
 - resolution, 109–111, 110
 - TIFF capture mode, 114
 - white balance, custom, 113, 117–119, 119
 - white balance presets, 111, 112, 116–117, 116–117
- digital slideshows. *See* output to Web
- DisplayMate tool, 61, 75, 75
- displays. *See* monitor displays
- Dither option, 35, 203
- dithering, 243
- DMax values, 86–87, 86
- dot gain, 31, 200, 243
- DPI (dots per inch), 243
- duplicating images, 195, 195, 218
- dye-based inks, 171

E

- e-mail output. *See* output to Web
- Embedded Profile Mismatch alerts, 41–42, 42
- Embedded Profile Mismatch dialog box, 38–39, 39, 134, 134
- embedded profiles, 166–167, 167, 243
- Embedded Profiles option, Preserve, 32–33
- Engine options, 27, 35
- Epson Stylus Photo printers, 170, 170, 200
- Epson UltraChrome inksets, 171
- Epson Velvet Fine Art paper, 188, 188
- Exposure slider in Camera Raw, 128, 129
- Eye-One tools. *See* Gretag Macbeth
- eyedropper tool, optimizing neutrals, 145, 145, 146, 148, 150
- eyes, color perception and, 4, 4, 7, 7, 13–14

F

- Fit Image tool, 220
- flattening image layers, 163–164, 195–196
- focus in monitor displays, 49

G

- Gamut Warning preferences, *See also* Photoshop setup
 - accessing, 37
 - activating warnings, 190–191, 191
 - Color options, 37–38, 38, 190, 190
 - defined, 37, 189
 - Opacity options, 38, 38, 190
 - Proof Colors and, 189, 191, 191
- Gamma tool, Adobe, 61, 72–74, 73–74
- gamma values, 59, 243
- gamuts, color
 - defined, 16, 16, 242
 - wide, desaturation and, 36, 36
 - wide-gamut color spaces, 28, 28
- generic printer profiles, 184, 206–207
- geometry in monitor displays, 49–50
- glare of monitor displays, 49
- Gray color spaces, 31, *See also* neutral
- Greene, Jeff, 86, 86, 93, 93, 112, 112
- Gretag Macbeth profiling tools
 - Eye-One Beamer, 224–225
 - Eye-One ColorPoint, 225
 - Eye-One Display, 61, 68–70, 68–70
 - Eye-One Photo, 175–177, 175–177
 - Eye-One Publish, 98–101, 99–100
 - ProfileMaker, 121–123, 122

H

- Hand tool in Camera Raw, 127
- The Hidden Power of Photoshop CS (Lynch), 142
- high-bit files workflow, 230
- histogram in Camera Raw, 127, 127
- HSB (Hue, Saturation, Balance) color model, 243
- hue, 6, 8, 8, 243
- Hue/Saturation control, 152–154, 153–154, 160–161, 161

I

ICC (International Color Consortium), 243
ICM (Image Color Matching), 243
image controls in digital cameras, 115, 115
Image Size dialog box, 196, 196–197, 220–221
Info palette, 148–149, 150, 150, 191
inks, printer, 14, 171, 205, 213
Intent options, 27, 35, *See also* rendering
interpolating images, 111
IT8 targets for profiling, 97, 97, 101, 105, 243

J

Jones, Dewitt, 2, 2, 90, 90, 158, 158
JPEG camera captures, 113–114, 114
JPEG compression, 162
JPEG format, saving images in, 165, 165, 223, 223–224

K

K (Kelvin) scale, 60, 60, 242, 243

L

LAB color model, 10, 15, 16, 243
Lasersoft Imaging company, 89, 101
layers. *See* adjustment layers
LCD monitor displays, *See also* monitor
 brightness, 47, 54–55
 choosing, 54, 54
 contrast ratio, 47–48, 51, 55
 geometry, 49–50, 55
 on laptops, 57
 pixel pitch, 55
 pixel response time, 56
 resolution, 48–49, 55
 special concerns, 57
 viewable area, 50, 56
 viewing angle, 48, 51, 56, 56
LCH color model, 243
Lens settings in Camera Raw, 130
Lepp, George D., 46
Levels control, 144–145, 144–145, 200, 200
light
 color and, 3–5, 3–5
 defined, 3, 6
 human eyes and, 4, 4
 overview, 2, 2
 in photography, 5–6, 5
 spectral curves, 4–5, 5
 visible spectrum of, 3–4, 3
light sources
 color perception and, 7, 7, 13–14
 D50 and D65, 242
 Ott-Lite 5000K lamp, 208, 208–209
 output evaluation and, 208–209, 208–209, 212–213
lightness. *See* brightness
linear, 244
loading color settings, 26
luminance. *See* brightness
Lynch, Richard, 142
LZW (Lempel Ziv Welch) compression, 162

M

Macbeth. *See* Gretag Macbeth
magenta problem, 141, 153, 153
maximum luminance of monitors, 61
maximum output size of digital cameras, 111
memory colors, 138–139, 139, 244
metamerism
 bronzing and, 14
 defined, 12–13, 13, 244
 light sources and, 13–14, 212
 pitfall, 13
Meyer, Ira, 3, 3
Minolta DiMAGE Scan Elite 5400 scanners, 84, 84
Mismatch alerts, Embedded Profile, 41–42, 42
Mismatch dialog box, Embedded Profile, 38–39, 39, 134, 134
Mismatch options, Paste Profile, 39–40, 40
mismatch problems, 210–213, 211
Mismatches checkboxes, Profile, 33–34
Missing Profile dialog box, *See also* Photoshop setup
 Assign Profile option, 40, 41, 103, 103, 123, 123
 Assign Working RGB option, 40, 41
 defined, 40, 40–41
 Leave As Is option, 40, 41, 135, 135
Missing Profiles, Ask When Opening checkbox, 27, 34, 40
MonacoEZcolor tool, 177–180, 178–180
MonacoOPTIX tool, 70–72, 71–72
monitor displays, 45–79, *See also* CRT; LCD
 adding hoods, 79, 79
 age, 61
 brightness, 47
 brightness, maximum, 61
 brightness uniformity, 49
 cleaning, 60
 color fidelity, 48, 51
 color management issues, 50–51
 contrast ratio, 47–48, 51
 CRT monitors, 47–54, 52–54
 Desaturate Colors option, 36, 36
 display adapters, 57–58
 environmental conditions, 77–79, 79
 focus, 49
 geometry, 49–50
 glare, 49
 importance of, 45, 46, 46
 LCD monitors, 47–51, 54–57, 54, 56
 using multiple monitors, 58
 power consumption, 49
 price, 50
 refresh rate, 48
 resolution, 48–49
 size and weight, 49
 target gamma values, 59
 target white point values, 59–60, 60
 viewable area, 50
 viewing angle, 48, 51
monitor displays, calibrating/profiling, *See also* profiles
 using Adobe Gamma, 61, 72–74, 73–74
 calibration, defined, 59, 241
 calibration frequency, 77
 calibration tools included with, 62
 using Color Vision Spyder, 61, 62–65, 63–64

- using Color Vision Spyder Pro, 65–68, 66–67
- using ColorSync Calibrator, 73
- confirming default profiles, 72
- using DisplayMate, 61, 75, 75
- evaluating accuracy with PhotoDisc, 76, 76
- using MonacoOPTIX, 70–72, 71–72
- monitor profiles, defined, 244
- using One-Eye Display, 61, 68–70, 68–70
- overview, 61
- target values for profiling, 59–60, 60

Morris, Art, 209, 209, 220, 220, 229, 229

N

nanometer, 244

neutral grays

- adding color to, 151
- Gray color space, 31
- optimizing with Color Samplers, 148–150, 149–150
- optimizing with eyedropper, 145, 145, 146, 148, 150

Nikon Scan software, 94

Nikon scanners, 83, 83, 84, 89

nonlinear, 244

O

Off option, 32

OptiCAL software, 65, 66–67, 67

Opticheck utility, 57

optimization. *See* color optimization

Ott-Lite 5000K lamp, 208, 208–209

output evaluation

- light sources and, 208–209, 208–209, 212–213
- mismatch problems, 210–213, 211
- overview, 207, 207
- using target images, 209–210, 210

output, preparing images for

- adjusting in layers, 192–194, 192–194
- converting images to output profiles, 203
- cropping images, 197
- duplicating master images, 195, 195
- flattening image layers, 195–196
- gamut warning setup, 189–191, 190–191
- Info palette and, 191
- overview, 185
- resizing images, 196–197, 196
- saving master images, 194–195, 202
- setting target black/white values, 198–200, 199–200
- sharpening images, 200–202, 201
- using soft proofing, 186–189, 186, 188

output services, CMYK

- overview, 213
- preparing images for, 186, 189, 191
- sending images converted to CMYK, 215–218, 216–217
- sending RGB images with proof prints, 213–214, 238
- workflow, 237–239, 237

Output settings in Camera Raw, 130, 130

output to Web, e-mail, digital slideshows

- converting images to sRGB, 221–222, 222
- digital projector profiling, 224–225
- duplicating images, 218
- overview, 218

- preparing images in batches, 224
- resizing images, 219–221, 220
- saving images as JPEGs, 223–224, 223
- workflow, 236–237, 236

output, 169–225, *See also* print; printer

- choosing printers, 170–172, 170
- digital capture to print workflow, 233–235, 234
- maximum output size of cameras, 111
- overview, 169
- predictable output, 228–229, 228–229
- print setup, 203–207, 204, 206
- printer profiles, 172–185, 172, 175–182
- scan-to-print workflow, 231–233, 231

P

paper, printer, 184, 188, 188, 205

Paste Profile Mismatch options, 39–40, 40

perception, color, 4, 4, 7, 7, 13–14

Perceptual rendering intents, 17, 18–19, 185, 244

perceptually uniform, 244

Peterson, Linda F., 82

PhaseOne Capture One DSLR, 131–133, 132–133

PhotoCAL software, 62–65, 63–64

PhotoDisc target images, 76, 76, 209–210, 210

photography, light in, 5, 5–6, *See also* digital

Photoshop Color Picker, 8, 8, 190, 190

Photoshop CS rendering intents, 185

Photoshop PSD format, 164–165

Photoshop setup, 23–43, *See also* Color Settings; Gamut; Missing

- Color Settings options, 24–37, 24–28, 36–37
- Embedded Profile Mismatch alerts, 41–42, 42
- Embedded Profile Mismatch options, 38–39, 39
- Gamut Warning options, 37–38, 38, 189–191, 190–191
- Missing Profile options, 40–41, 40
- overview, 23
- Paste Profile Mismatch options, 39–40, 40

pigment-based inks, 171

posterization, 87, 88

power consumption of monitors, 49

PreCAL utility, 65–66, 66

Preferences dialog box, 37–38, 38

Preserve Embedded Profiles option, 32–33

primary colors, 10–12, 11–12, 244

Print Image Matching (PIM), Epson, 183

print setup, *See also* output

- color management settings, 205–207
- colorizing black-and-white images, 160–161, 161
- for custom profiles, 206, 206
- for generic profiles, 206–207
- ink bronzing problem, 14, 213
- inks, 171, 205
- for no profiles, 207
- output quality, 205
- overview, 203
- paper, 184, 188, 188, 205
- in Print With Preview, 203–205, 204
- printer properties, 205–207, 206

printer profiles, 172–185, *See also* profiles

- “canned” profiles, 183–184
- categories of, 173

- choosing rendering intents, 184–185
- using Color Vision PrintFIX, 181–182, 181–182
- using commercial services, 183
- custom profiles, 174–183, 175–181, 206, 206
- defined, 172, 172–173, 244
- using Eye-One Photo, 175–177, 175–177
- generic profiles, 184, 206–207
- limitations, 173
- using MonacoEZcolor, 177–180, 178–180
- third-party papers and, 184
- printers
 - dye-sublimation printers, 170
 - inks, 171
 - maintenance, 212
 - media support, 172
 - output size, 171
 - photo inkjet printers, 170–172, 170
 - resolution, 171–172
 - software capabilities, 172
- Profile Mismatch alerts, Embedded, 41–42, 42
- Profile Mismatch option, Embedded, 38–39, 39
- Profile Mismatch option, Paste, 39–40, 40
- profile mismatches, 244
- Profile Mismatches checkboxes, 33–34
- Profile, Missing. *See* Missing Profile
- ProfileCity service, 183
- ProfileMaker tool, 121–123, 122
- profiles, *See also* characterization; working spaces
 - assigning to images, 241
 - destination profiles, 242
 - embedded profiles, 166–167, 167, 243
 - ICC profiles, 243
 - other, converting to, 242
 - output, converting images to, 203
 - source profiles, 245
- profiles, color. *See* color profiles
- Profiles option, Preserve Embedded, 32–33
- profiling cameras. *See* digital camera profiles
- profiling digital projectors, 224–225
- profiling monitors. *See* monitor displays, calibrating/
profiling
- profiling printers. *See* printer profiles
- projections, slide. *See* output to Web
- Proof Colors preview option, 188, 188–189, 191, 191
- Proof Setup dialog box, 186, 186–188, 189
- proofing, soft, 186, 186–189, 188

R

- ranges of colors, optimizing, 154, 154
- raster image processor (RIP), 244
- RAW capture, *See also* digital cameras
 - benefits, 113, 125–126, 125
 - defined, 113, 114
- RAW capture conversion to image files, *See also* Adobe Camera
 - accuracy, 134
 - using Camera Raw, 126–131, 126–131
 - using Capture One DSLR, 131–133, 132–133
 - overview, 125–126, 125
 - white balance presets, 126
- refresh rate of monitors, 48

- Relative Colorimetric, 17, 18, 185, 244
- rendering intents, *See also* color profiles
 - Absolute Colorimetric intent, 17, 18
 - defined, 244
 - overview, 16–17
 - Perceptual intent, 17, 18–19, 244
 - for printer profiles, 184–185
 - Relative Colorimetric intent, 17, 18
 - Saturation intent, 17–18, 17
 - selecting, 19
- resizing images before output, 196–197, 196, 219–221, 220
- resolution
 - digital cameras, 109–111, 110
 - monitor displays, 48–49
 - printers, 171–172
- RGB color model, 10, 15, 244
- RGB images
 - CMYK output process, 213–214, 237–239, 237
 - converting to CMYK, 215–218, 216–217
- RGB working spaces, *See also* color; working spaces
 - Adobe RGB (1998) color space, 29–30, 241
 - ColorMatch RGB color space, 30
 - overview, 29
 - sRGB color space, 29, 221–222, 222, 245
- RIP (raster image processor), 244
- Robinson, Chris, 24, 24

S

- saturation
 - color wheels and, 8, 8
 - defined, 6, 245
 - desaturating problem colors, 153, 153
- Saturation rendering intents, 17, 17–18, 185
- Saturation slider in Camera Raw, 129
- saturation testing, 139–141, 141
- saving images, *See also* color optimization
 - color settings, 25–26, 26
 - with embedded profiles, 166–167, 167
 - in JPEG format, 165, 165, 223–224, 223
 - master images, 194–195, 202
 - overview, 161–162
 - in TIFF format, 162–165, 163
- scanner profiles, *See also* profiles
 - assigning to images, 102–104, 102–103
 - converting images to, 103
 - defined, 245
 - using Eye-One Publish, 98–101, 99–100
 - film negatives and, 95
 - using MonacoEZcolor, 95–98, 96–98
 - overview, 95
- scanners
 - bit-depth, 87–88, 88
 - choosing, 82, 82
 - dynamic range, 85–87, 86
 - flatbed versus film scanners, 82–84, 83
 - resolution, 84–85, 84
 - software issues, 89, 89
- scanning, 81–105
 - accuracy method of, 93–95
 - evaluating scans, 104–105
 - information method of, 89–92, 90–93

- overview, 81, 89
- scan-to-print workflow, 231–233, 231
- selected color area adjustments, 155–156, 155–157
- Selective Color control, 151–152, 152
- Shadows slider in Camera Raw, 128–129, 129
- sharpening images, 200–202, 201
- Shaw, John, 102, 102, 170, 170, 188, 188, 191, 191–194, 201, 201, 207, 207
- SilverFast: The Official Guide (Sybex, 2003), 101
- SilverFast scan software, 89, 101
- size
 - maximum camera output size, 111
 - of monitors, 49, 52
 - printer output size, 171
 - resizing images, 196–197, 196, 219–221, 220
- slideshows, digital. *See* output to Web
- soft proofing, 186, 186–189, 188, 245
- source profiles, 245
- spectral curves, 4–5, 5
- spectrophotometer, 121, 245
- Spot color spaces, 31
- sRGB color space, 29, 221–222, 222, 245
- standard illuminant, 245
- standard observer, 245
- subtractive primary colors, 11–12, 12, 245

T

- target black/white values, 198–200, 199–200
- target gamma values, 59
- target images, PhotoDisc, 76, 76, 209–210, 210
- target white point values, 59–60, 60
- targets for camera profiles, 120–121
- targets, IT8, for profiling, 97, 97, 101, 105, 243
- temperature, color, 60, 60, 242, 243
- Temperature and Tint sliders in Camera Raw, 128, 128
- TIFF (Tagged Image File Format)
 - compression options, 162, 163, 163, 164
 - flattening layers, 163–164
 - versus Photoshop PSD format, 164–165
 - saving flattened images, 164
 - saving layered images, 162–163, 163
 - TIFF digital capture mode, 114
- Transparency & Gamut preferences, 37–38, 38, 189–190, 190
- troubleshooting, *See also* color optimization
 - camera profile accuracy, 120
 - magenta problem, 141, 153, 153
 - output mismatches, 210–213, 211
 - printer ink bronzing, 14, 213

U

- uniform brightness in monitor displays, 49
- Unsharp Mask filter, 92, 92, 201, 201–202
- Use Black Point Compensation option, 35, 241
- Use option, 35, 203

V

- video LUT, 245
- View menu, 191, 191

- viewable area of monitors, 50
- viewing angle of monitors, 48
- visible spectrum, 3, 3–4, 245

W

- warnings. *See* Gamut Warning
- Web output. *See* output to Web
- website addresses
 - Alice Cahill, 138, 231
 - Barco, 62
 - Birds As Art, 209, 220, 229
 - Color Vision, 57, 62
 - Dewitt Jones, 90, 158
 - Digital Photography Review, 110
 - Epson, 183
 - Eye One Color, 68, 98
 - generic profile sources, 184
 - George Lepp, 46
 - Gretag Macbeth, 121, 175
 - Image West Photo, 86, 93, 112
 - Ira Meyer, 3
 - John Shaw Photo, 170, 188, 191–194, 201, 207
 - Jon Canfield, 150, 231
 - Lepp Institute, 77
 - Monaco Systems, 70, 95, 177
 - monitor hoods, 79
 - Ott-Lite, 208
 - PhaseOne, 131
 - SilverFast, 89, 101
 - Sony, 62
 - Tim Grey, 76, 198, 209
 - WarmCards, 118
 - Wilhelm Imaging Research, 171
 - Wow Books, 115
- weight of monitors, 49
- white balance, *See also* black; color balance
 - camera presets, 111, 112, 116–117, 116–117
 - controls in Camera Raw, 127–128, 128
 - custom, in digital captures, 113, 117–119, 119
 - defined, 245
- white point adaptation, 245
- white point values, 59–60, 60
- workflows. *See* color-managed workflows
- working spaces, *See also* profiles
 - converting images to, 33, 134, 134
 - defined, 28, 245
 - for digital cameras, 115
 - selecting, 29
 - wide-gamut color spaces, 28, 28
- Working Spaces options, *See also* Color Settings; RGB
 - CMYK color spaces, 30, 215–218, 216–217
 - Gray color spaces, 31
 - RGB color spaces, 29–30
 - setting, 24, 27, 29
 - Spot color spaces, 31

Z

- ZIP compression, 162
- Zoom tool in Camera Raw, 127