

## CAMERA RAW FILES – YOUR DIGITAL NEGATIVES

RAW FILES ARE NEVER DAMAGED BY MANIPULATION; INSTEAD RAW FILES KEEP A SMALL TEXT FILE, JUST A FEW KILOBYTES IN SIZE, WHICH CONTAINS THE ADJUSTMENTS MADE TO THE IMAGE. EACH TIME THE FILE IS VIEWED, THESE SETTINGS ARE RE-APPLIED IN REAL TIME. EVEN CROPPING, DUST SPOTTING AND SHARPENING CAN BE UNDONE, YEARS LATER, WITH THE ORIGINAL FILE UNAFFECTED. RAW FILES HAVE MANY MORE ADVANTAGES AS WELL.

### IMAGE RECORDING FORMATS:

#### CAMERA RAW FORMAT:

UNPROCESSED  
UNCOMPRESSED  
16 BIT COLOR INFORMATION  
MEDIUM FILE SIZE

#### JPEG FORMAT:

PROCESSED  
COLOR, SATURATION, TONE CURVE, SHARPENING, CONTRAST  
COMPRESSED  
8 BIT COLOR INFORMATION  
SMALL FILE SIZE

#### TIFF FORMAT:

PROCESSED  
COLOR, SATURATION, TONE CURVE, SHARPENING, CONTRAST  
UNCOMPRESSED  
16 BIT COLOR INFORMATION  
HUGE FILE SIZE

### GENERAL STEPS FOR WORKING AN IMAGE THROUGH ADOBE CAMERA RAW:

- FOR FILES TO OPEN IN ACR THE IMAGES MUST HAVE BEEN SHOT IN RAW FORMAT AND THE RAW PLUG-IN MUST HAVE BEEN INSTALLED ON YOUR COMPUTER.
- IF YOU WANT TO WORK ON JPEGs AND TIFFs IN ACR YOU MUST CHANGE THE CAMERA RAW PREFERENCES;

MAC: ADOBE BRIDGE CS4 > CAMERA RAW PREFERENCES

PC: FILE > CAMERA RAW PREFERENCES

UNDER “JPEG AND TIFF HANDLING” CHANGE SETTINGS TO “AUTOMATICALLY OPEN ALL SUPPORTED . . .”

YOU WILL HAVE THE ADVANTAGES OF THE NONDESTRUCTIVE EDITING CAPABILITIES OF ADOBE CAMERA RAW, BUT YOU WILL NOT HAVE THE SAME ADVANTAGES AS IF YOU HAD ORIGINALLY SHOT WITH THE CAMERA RAW FILE FORMAT.

1. LAUNCH ADOBE BRIDGE AND NAVIGATE TO THE IMAGE YOU WANT TO WORK ON.
2. CHOOSE AN IMAGE TO WORK ON BY DOUBLE CLICKING ON THE IMAGE THUMBNAIL. ADOBE CAMERA RAW WILL NOW OPEN.
3. STRAIGHTEN AND / OR CROP THE IMAGE IF NECESSARY. TOOLS #7 AND #6 FROM THE LEFT.
4. USE THE HEALING / CLONE BRUSH IF NECESSARY. TOOL #8 FROM THE LEFT. CLONE IS AN OPTION UNDER “TYPE”.
5. CLICK ON THE HAND TOOL TO BRING UP THE IMAGE ADJUSTMENT TAB. TOOL #2 FROM THE LEFT. THE IMAGE ADJUSTMENT TAB WILL APPEAR BELOW THE HISTOGRAM AND METADATA.
6. LOOK AT THE MULTI-CHANNEL HISTOGRAM ON THE TOP RIGHT AND NOTE IT’S LOCATION RELATIVE TO THE HISTOGRAM WINDOW.
7. ACTIVATE THE “HIGHLIGHT CLIPPING WARNING” IN THE TOP RIGHT OF THE HISTOGRAM.

8. ADJUST “COLOR TEMPERATURE” UNTIL IT LOOKS NORMAL, BUT ONLY ADJUST IF THE IMAGE LOOKS TOO BLUE OR TOO YELLOW. ADJUST ONLY IF NECESSARY.
9. ADJUST THE “TINT” IF THE IMAGE LOOKS TOO GREEN OR TOO RED. ADJUST ONLY IF NECESSARY.
10. ADJUST THE “EXPOSURE” BY MOVING THE SLIDER TO THE RIGHT. WATCH THE HISTOGRAM AND STOP WHEN THE RIGHT EDGE OF THE HISTOGRAM MEETS THE RIGHT EDGE OF THE WINDOW.
11. ADJUST THE “BLACKS” BY MOVING THE SLIDER TO THE RIGHT. WATCH THE HISTOGRAM AND STOP WHEN THE LEFT EDGE OF THE HISTOGRAM MEETS THE LEFT EDGE OF THE WINDOW.
12. ADJUST THE “RECOVERY” BY MOVING THE SLIDER TO THE RIGHT TO RECOVER DETAILS IN YOUR HIGHLIGHTS.
13. ADJUST THE “FILL LIGHT” BY MOVING THE SLIDER TO THE RIGHT TO RECOVER DETAILS IN YOUR SHADOWS.
14. DON’T CHANGE THE “BRIGHTNESS” OR “CONTRAST”.
15. INCREASE “VIBRANCE” BY MOVING THE SLIDER TO THE RIGHT UNTIL THE COLOR SATURATION LOOKS GOOD. DON’T OVER DO IT.
16. CLICK ON THE “DETAIL” TAB AND ADJUST THE “SHARPENING” TO NO MORE THAN 50.
17. CLICK THE “OPEN IMAGE” BUTTON AND THE IMAGE WILL OPEN WITH THESE SETTINGS IN PHOTOSHOP OR GO TO “SAVE IMAGE...” AND CHOOSE A FORMAT TO SAVE THE FILE AS.

**WORK FASTER:**

SYNCHRONIZE...

ALLOWS YOU TO APPLY SETTINGS TO SELECTED IMAGES.

**WORK FLOW OPTIONS:**

GET THERE BY CLICKING ON THE BLUE UNDERLINED TEXT AT THE BOTTOM OF ACR.

- COLOR SPACE
- COLOR DEPTH
- SIZE
- RESOLUTION

**SAVING FILES TO A DIFFERENT FORMAT:**

SAVE IMAGE... > FORMAT

- DIGITAL NEGATIVE

CONVERTS A PROPRIETARY RAW FORMAT IMAGE OR A JPEG OR A TIFF IMAGE

TO A UNIVERSAL RAW FORMAT - DNG

- JPEG

LOSSY COMPRESSION, SMALL FILES

- TIFF

LOSSLESS COMPRESSION, LARGE FILES

- PHOTOSHOP

PROPRIETARY ADOBE FORMAT CAPABLE OF SAVING LAYERS

**REASONS TO SHOOT RAW:**

• A RAW FILE IS COMPARABLE TO THE LATENT IMAGE CONTAINED IN AN EXPOSED BUT UNDEVELOPED PIECE OF FILM. IT HOLDS EXACTLY WHAT THE IMAGING CHIP RECORDED. NOTHING MORE. NOTHING LESS. THIS MEANS THAT THE PHOTOGRAPHER IS ABLE TO EXTRACT THE MAXIMUM POSSIBLE IMAGE QUALITY, WHETHER NOW OR IN THE FUTURE. A GOOD ANALOGY WITH THE TRADITIONAL WORLD OF FILM IS THAT YOU HAVE THE OPPORTUNITY TO USE A DIFFERENT TYPE OF DEVELOPER OR DEVELOPMENT TIME AT ANY POINT IN THE FUTURE IF ONE COMES ALONG THAT YOU THINK MIGHT DO A BETTER JOB OF PROCESSING THE IMAGE.

- RAW FILES HAVE NOT HAD WHITE BALANCE SET. THEY ARE TAGGED WITH WHATEVER THE CAMERA'S SETTING WAS, (EITHER THAT WHICH WAS MANUALLY SET OR VIA AUTO-WHITE-BALANCE), BUT THE ACTUAL DATA HAS NOT BEEN CHANGED. THIS ALLOWS ONE TO SET ANY COLOR TEMPERATURE AND WHITE BALANCE ONE WISHES AFTER THE FACT WITH NO IMAGE DEGRADATION. IT SHOULD BE UNDERSTOOD THAT ONCE THE FILE HAS BEEN CONVERTED FROM THE LINEAR SPACE AND HAS HAD A GAMMA CURVE APPLIED (SUCH AS IN A JPG) WHITE BALANCE CAN NO LONGER BE PROPERLY DONE.
- FILE LINEARIZATION AND COLOR FILTER ARRAY (BAYER) CONVERSION IS DONE ON A COMPUTER WITH A FAST AND POWERFUL MICROPROCESSOR. THIS ALLOWS MUCH MORE SOPHISTICATED ALGORITHMS TO BE USED THAN THOSE DONE IN A CAMERA WITH ITS SLOWER AND LESS POWERFUL PROCESSOR AND WITH LESS SPACE FOR COMPLEX CONVERSION PROGRAMS.
- THE RAW FILE IS TAGGED WITH CONTRAST AND SATURATION INFORMATION AS SET IN THE CAMERA BY THE USER, BUT THE ACTUAL IMAGE DATA HAS NOT BEEN CHANGED. THE USER IS FREE TO SET THESE BASED ON A PER-IMAGE EVALUATION RATHER THAN USE ONE OR TWO GENERALIZED SETTINGS FOR ALL IMAGES TAKEN.
- ONE CAN HAVE A 16 BIT IMAGE (POST RAW CONVERSION) TO WORK WITH. THIS MEANS THAT THE FILE HAS 65,536 LEVELS TO WORK WITH. THIS IS OPPOSED TO A JPG FILE'S 8 BIT SPACE WITH JUST 256 BRIGHTNESS LEVELS AVAILABLE. THIS IS IMPORTANT WHEN EDITING AN IMAGE, PARTICULARLY IF ONE IS TRYING TO OPEN UP SHADOWS OR ALTER BRIGHTNESS IN ANY SIGNIFICANT WAY.

#### REASONS TO SHOOT JPG

- FILES ARE SMALLER AND THEREFORE MORE OF THEM FIT ON A CARD.
- FOR MANY APPLICATIONS IMAGE QUALITY IS MORE THAN SUFFICIENT (FAMILY SNAPSHOTS, NEWS IMAGES, EBAY).
- SMALL FILES ARE MORE EASILY TRANSMITTED WIRELESSLY AND ONLINE. THIS IS IMPORTANT TO NEWSPAPER PHOTOGRAPHERS.
- MANY PHOTOGRAPHERS DON'T HAVE THE TIME OR INCLINATION TO POST-PROCESS THEIR FILES.
- MANY CAMERAS CAN NOT SHOOT QUICKLY WHEN WORKING IN RAW MODE. SOME LOWER-END MODELS CAN'T RECORD RAW FILES AT ALL.

