Australian Photographic Digital Imaging Guidelines

The following guidelines have been established to help photographers delivering digital files. Each point is explained in more detail on the pages following.

CRITICAL PARAMETERS

1. ICC colour-managed environment.

2. Capture digital images in camera's RAW format.

3. Calibrate your monitor(s) regularly with a hardware device to the D65 standard and Gamma 2.2. This is becoming a worldwide standard.

4. For Prepress use
    a. Colour space: Adobe RGB (1998) embedded in final image.
    b. File format: TIFF uncompressed in Windows byte order, or JPEG at level 12 compression, @ 300 PPI (DPI).

5. Deliver files on USB Flash Drive.

RECOMMENDED PARAMETERS

6. For Web use
    a. Colour space: sRGB embedded in final image.
    b. File format: JPEG.

7. Converting to CMYK
    a. **CAUTION**: Only convert files to CMYK when a profile or full press specifications are supplied by the client, and no further retouching is required.
    b. File format: TIFF uncompressed in Windows byte order, or JPEG at level 12 compression, @ 300 PPI (DPI). Sized to final art with final sharpening.

8. For printing to colour-managed lab
    a. Ask your photo lab for their normal file specifications (eg: Adobe RGB, JPG, 300ppi).
    b. Soft-proof using lab-supplied colour profile for the specific media. Ensure your monitor is correctly profiled.
    c. Do NOT "Convert To" or apply the profile (send to lab in standard colour space like Adobe RGB 1998).
    d. Apply sharpening if recommended by the lab.
    e. If uploading convert to JPEG. Or send TIFF on CD

9. Make sure the client is viewing the files on a monitor profiled to the international standard D65.

10. Embed copyright & usage into the file (IPTC) viewable in Photoshop > File Info.

11. Provide a ReadMe file with images outlining specifications and disclaimer.

DETAILS OF ITEMS LISTED ABOVE

[1)] The ICC (International Color Consortium) specifies international standards for colour management. Photographers who supply digital files for publishing need to be in an ICC managed environment, as do their clients. Your cameras, operating system, software, and output devices all need to be setup for an ICC managed workflow. A detailed description of the ICC workflow is beyond the scope of this guide.

[2)] Most professional digital cameras and backs allow users to record images in a RAW format. A RAW file is essentially a record of the data captured from the camera's imaging sensor without any in-camera processing. By capturing in RAW you begin with the highest quality file with the most options / flexibility / quality for postproduction.

Presently RAW formats are proprietary to each camera/back manufacturer and require processing to a common format such as JPEG or TIFF. There are several RAW converters including Adobe Photoshop Lightroom and Phase One Capture One PRO, as well as each camera manufacturers own proprietary software.

It is important to note that RAW files are not colour managed in any way. While these files may appear to contain profiled information, colour management strategies and profiles only commence *during* the conversion from RAW to TIFF or JPEG.

[3)] Professional photographers need to invest in a quality hardware monitor calibration device such as supplied by X-Rite (www.x-rite.com) or Datacolor (www.datacolor.com). The human eye and Adobe Gamma (a part of Photoshop) do not permit calibration with high enough precision for professional use. Computer monitor's colour drifts over time and should be verified regularly.

In the past prepress would recommend a Mac use D50 and Gamma 1.8 to match the Apple Laserwriter. Today D65 and Gamma 2.2 are becoming the common standard for both PC and Mac. If you wish to supply proof prints, you will need to extend similar calibration procedures to your printer and print viewing area.

[4)] Adobe RGB (1998) is a commonly used industry-standard colour profile supplied with Adobe Photoshop. sRGB does not have a wide enough colour gamut and clips some CMYK colours. Adobe colour profiles can be downloaded free from:

Mac: https://supportdownloads.adobe.com/detail.jsp?ftpID=3681
Windows: https://supportdownloads.adobe.com/detail.jsp?ftpID=3680

Tagged Image File Format (TIFF) is the preferred file format. When saving tiffs in Photoshop you are given options for compression and byte order. For maximum compatibility, TIFFs should be saved with 8-bit, uncompressed options in Windows byte-order. Tiffs can also be supplied in 16 bit which doubles the file size but allows for more aggressive tonal editing. To capture 16 bit images may require shooting in the cameras' raw format, sometimes referred to as a digital negative. Images can also be delivered in JPEG file format saved at maximum quality (level 12 compression in Photoshop).

Sharpening is best done in stages. A `light', initial sharpen is often performed on an image to overcome the softness inherited from capture devices such as digital cameras and scanners.
Final sharpening should only be performed after all editing and resizing etc has been completed. As most clients will resize images in the final stages of production, final sharpening is best left to them.

Ensure files saved on a Macintosh computer have a three-letter file extension corresponding to their file type, e.g. TIF or JPG.

[5)] Optical discs were the preferred method of delivery however as image resolution and file sizes have increased delivery on USB Flash Drives, portable hard drives and cloud services are now more common. Format and label the drive for the client computer system, i.e., FAT32, Mac HFS or Windows NTFS. Write optical discs using the ISO 9660 format to maintain compatibility across platforms. Close disc sessions so no more data can be written. A relaxed ISO 9660 standard is also common but check with your client. Label the disc with a meaningful title that the computer can pick up and display.

For archival purposes we recommend marking CDs only with pens that are designed for the purpose. The safest place to write on a CD is on the small clear hub. Adhesive paper labels should be avoided as they could come loose in a CD drive, and may also cause a CD to become unbalanced and unreadable.

[6)] For internet use sRGB is the standard colour space, although the many common web browsers are not colour managed. Colour profiles and other metadata add to file size and may not be useful for web use.

[7] Every digital camera & scanner is a RGB (Red, Green, Blue) device, so without exception all images start off as RGB. Most printing processes use CMYK (Cyan, Magenta, Yellow, Black) inks (sometimes adding additional ink colours). This means somewhere in the imaging chain there will need to be a RGB to CMYK conversion. There are many ways to perform this conversion, but only one way to do it correctly.

We suggest you convert from RGB to CMYK using Standards Australia & International Organization for Standardization standard profiles (AS/ISO 12647-2). Profiles may be downloaded from www.eci.org/en/start. If you are unsure which ICC profile to use for offset printing, we recommended you use ISO Coated v2 300% (ECI).

CMYK conversion usually occurs at the end of the workflow and is device dependent. Each press / inkset / media combination has different characteristics requiring a specific colour conversion / ICC profile. There is no such thing as a "Generic CMYK" colour space. Do NOT convert from RGB to CMYK until you know which device/process you are printing to & which CMYK conversion / profile to use. As CMYK colour spaces are much smaller than RGB, for maximum quality all editing should be done in RGB before the CMYK conversion.

CMYK conversion is an art unto itself and is beyond the scope of these guidelines. Photographers supplying CMYK need to be aware of any liability they expose themselves to and should include a disclaimer (see point [11]). As with RGB delivery, for maximum compatibility CMYK TIFFs or JPEGs should saved as 8-bit, uncompressed and in Windows byte order.

[8] Each lab will have different specifications for printing; ask before supplying files to print. Professional photo labs should supply colour profiles for each surface and paper type. Soft proofing allows you to preview on screen in Photoshop how the image will be printed and make any necessary adjustments. Labs should NOT request you alter your monitor to match a sample print.

[9] Make sure the client is viewing the files on a calibrated monitor profiled to the international standard D65. Anyone anywhere in the world, viewing a monitor correctly profiled to ICC standards will view the image(s) correctly, as the author desired.

[10] IPTC (International Press Telecommunications Council) has established standards for metadata attached to files describing what the file is. It can include information about copyright, photographer (author), date, captions and more. Most important to photographers is copyright, and usage - which may be entered into the 'caption' or 'special instructions' fields. Several applications can write metadata including Adobe Photoshop. IPTC information is viewable in Photoshop under File > File Info.

[11] A ReadMe file, preferably in PDF or HTML format, contains information about the images delivered. It may include your usage agreement, copyright and a disclaimer such as:

1. On this disc you will find "our product".
2. Our product is an ICC colour-managed RGB file with the Adobe RGB (1998) colour profile embedded in the file.
3. All image editing was done on a monitor profiled to the international standard D65. Conformance to this standard was achieved with a measuring instrument. Any monitor that is correctly profiled to ICC (International Color Consortium) standards will view the image(s) correctly, as the author desired.
4. Any prints supplied with the disc should be used as a guide only. They are intended for identifying files, assessing expressions, composition, etc and not for evaluating colour accuracy. They are NOT contract proofs unless identified as such.
5. All files on this disc should be scanned for viruses, file integrity verified then backed up. We will not be held liable for any loss.

DISCLAIMER: This information is supplied in good faith as a generic guide. No legal liability is assumed for the suitability of this information to your specific needs. All recommendations should be tested in your own work environment. We recommend you have any disclaimer(s) checked by your legal expert and consult a digital colour expert for advanced advice. Please report errors to: info@apdig.com

Please check www.apdig.com for the latest version of the Australian Photographic Digital Imaging Guidelines.

Endorsed by:

Australian Institute of Professional Photography
Australian, Commercial and Media Photographers
Imaging & Digital Entertainment Association
Association of Professional Color Imagers