Why Your Image Viewing and Editing Environment is Absolutely Critical to Your Photography !

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Take Away Points

- The display device is absolutely the most important component in a digital photographic system! ! The display is the window through which you evaluate and edit your images and through which others, including judges, see your images.

- The most important factor in buying a computer system is the display quality – must be sRGB compliant or better.

- Images must be edited in a darkened room and display brightness adjusted to the level for professional image editing (100 - 120 nits).

- Viewing and editing images in a poor environment is a great disservice to yourself and to the photographic art community.

- Evaluating and editing images with poor equipment and poor viewing conditions means that you are correcting for deficiencies of the equipment and the viewing environment !

Equipment Choice:

- Display must have sRGB compliance or better (must be in the specifications).   Most laptop and desktop displays and projectors are far (40% to 70%) from sRGB compliant. sRGB compliance means wide colour range (gamut) and accurate tonal characteristics.

- Display must render highlight and shadow detail accurately. This means high dynamic range – greater than 1000:1 Film movies can have 30,000:1 dynamic range (the gold standard).   Using a display in a bright environment often leads to dynamic range of 100:1 or less, even 0:0 . Many consumer displays have much less than 1000:1 dynamic range even in a darkened room.

- Display brightness must be adjusted to level for professional editing (100-120 nits). Corresponds to exposure meter reading of 1/30 sec @ f6.3 @ ISO 200 off a pure white image. Most amateurs use default display brightness - typically 200 to 600 nits – far too bright - intended for bright offices – not editing images.

- Display calibrator is needed to fine tune colour and tonal accuracy. Calibration can not convert a non sRGB compliant display into a sRGB compliant display. Use gamut display software such as <www.gamutvsision.com> to compare colour gamut range against sRGB or Adobe RGB - need to access your .icc or .icm display profile.

- Display resolution is least important factor in choosing a display . (Dynamic range, tonal accuracy and colour gamut are much more important)

Viewing, Evaluation and Editing Environment

- Use a darkened room. A bright environment desaturates colours and reduces tonal range, leading to overcorrection in editing.

- Using a poor quality display (poor colour gamut and poor highlight/shadow rendition) yields images with weak colours and compressed tonal range, leading to overcorrection in editing.

- Other photographers and judges looking at overcorrected images will react negatively to the image and tarnish your reputation as a photographer ! ! Is this what you want or deserve ? ?

- A really bad viewing and editing scenario:
    - Laptop or office-class desktop display or projector
    - Display left at default brightness
   - Bright room or outdoors
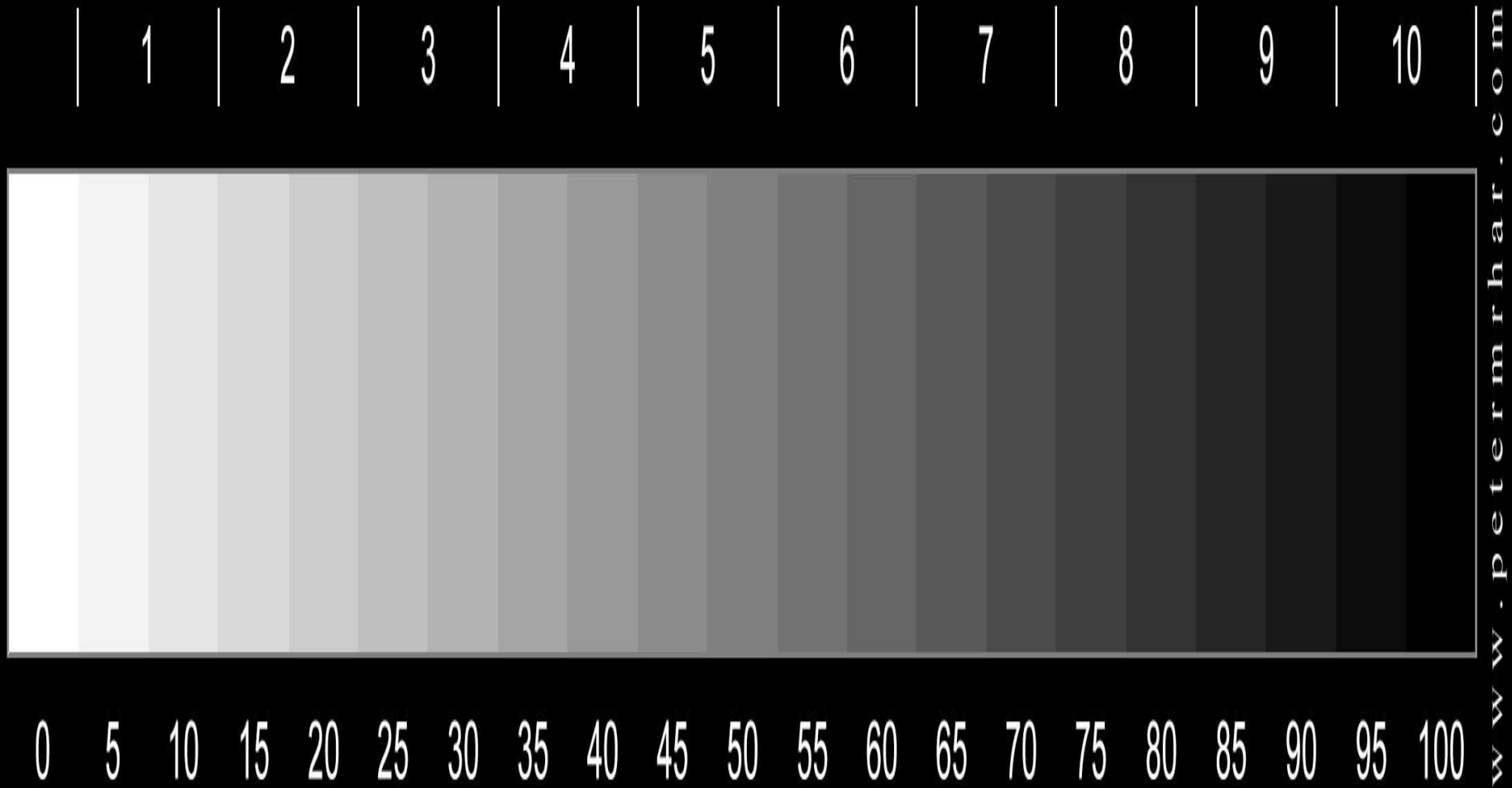
All bars should be visible, particularly at both ends. Steps should be uniform and not bunched together or not distinctly separated. Many displays bunch together the bars at the right end (-> poor shadow rendition) and distinct bars at left end are not visible (->poor highlight rendition).

Impact of non sRGB compliant display


sRGB Compliant Display
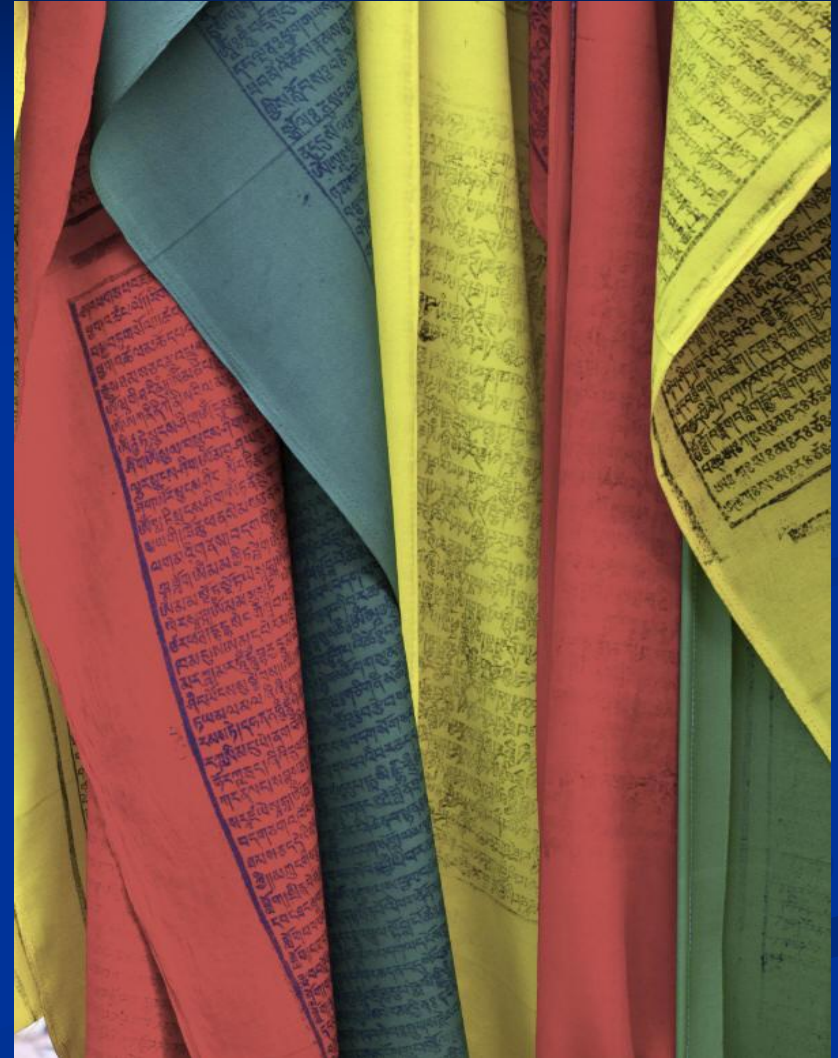
Non sRGB Compliant display

Remote Judging Environment

- Use sRGB compliant display that has been calibrated and displays
  accurate shadow/highlight detail.

- Use a darkened room.

- Set display brightness to 100-120 nits.

- Use viewing distance at least 1.5 times the diagonal size of display.
  For example, one should sit at least 36" from a 24" display. Judges
  should not be pixel peeping, but should be able to see entire
  image without scanning.

Part of Problem?

- Are you part of the wide spread problem of overcorrected images?

- Are you aware of what is causing the problem?

- What are you going to do about fixing the problem?
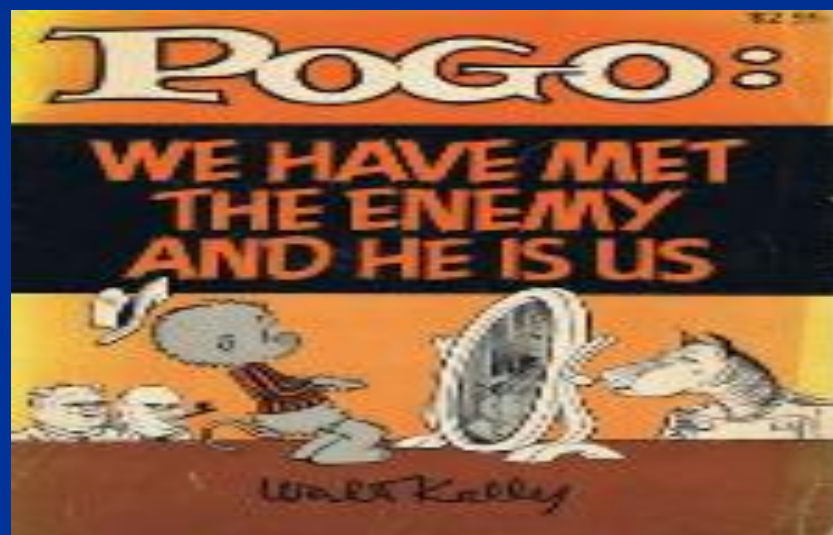
Questions?

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Solutions for camera club members

1. Do not do any post processing (i.e. don't mess up your image)

2. Obtain proper equipment and use proper viewing/editing environment
   - Spend adequate money on the most important part of your photographic system – the display ! !
   - Obtain at least an sRGB compliant display, but preferably an Adobe RGB compliant display so that you can do soft proofing
   - Obtain a high quality calibrator and calibrate (fine tune) your sRGB compliant or aRGB compliant monitor. This also applies to the club projector !
   - Edit in a darkened room
   - Adjust your screen brightness to about 100 to 120 nits 1/30, f:6.3, ISO 200 on white screen.
   - Use sRGB as working colour space for images intended for web or club projection

Some equipment choices (as of Oct 2016)

- **Desktop screens**
  - Adobe RGB Compliant
    - Eizo CX 271; NEC PA272,
    - HP Z24X, Dell U2413, Dell UP2516D, Benq SW2700 PT, Benq PV 270
  - sRGB Compliant
    - Asus PB278Q, Dell U2417H; late model iMACs
- **Laptop computers**
  - Adobe RGB - Asus NX500, Lenovo X1 Yoga with OLED display, Samsung TabPro S
  - sRGB – Macbook Pros - 2011 and later, Microsoft Surface Pro 4, Microsoft Surface book
- **Tablets**
  - Adobe RGB – Samsung Tab S & Tab S2
  - sRGB – Apple iPad
- **Projectors**
  - Adobe RGB – Canon SX-7, SX-6, JVC DLA X7
  - sRGB - Mitsubishi XD3200U, Canon SX80, SX60
- **Monitor Calibration Devices**
  - i1 Display Pro, Color Munki Photo, Spyder 5 Elite
- **Camera Sensor Calibration Devices**
  - Xrite Passport, Spyder CheckR