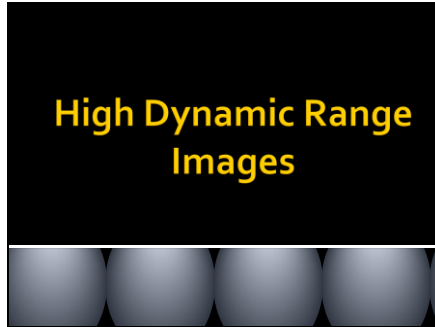
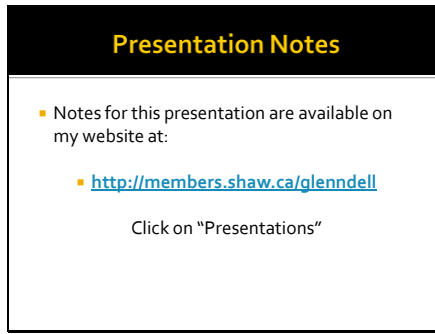


Slide 1



This presentation is a brief outline of the process of preparing HDR Images. The major use of this process is to increase the dynamic range of images where the range is greater than the camera/monitor/printer is capable of showing.

Slide 2

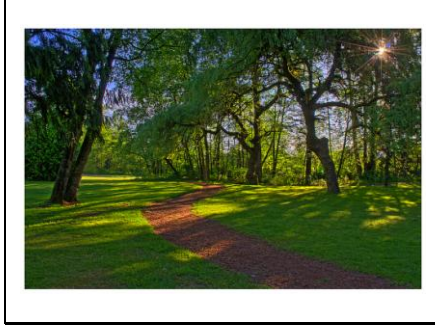


Slide 3



A typical example of this situation is when the subject is backlit and especially when the sun is in the image. Note the black, detailless shadows and blown-out highlights.

Slide 4



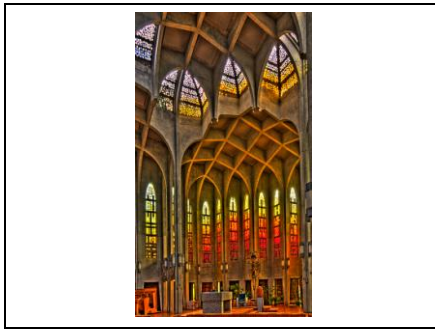
Here is the same scene after HDR processing.

Slide 5



In-door photography is another situation where the camera often cannot capture the dynamic range of the scene. The highlights are blown out and the shadows lack detail.

Slide 6



Here is the same scene after HDR processing.

Slide 7

### HDR Steps

1. Capture Images
2. Generate HDR image file (OpenEXR or Radiance HDR)
3. Tone Map HDR Image File
4. Fine Tune in Photoshop, Elements, etc

These are the steps involved in processing an HDR Image.

Slide 8

### Image Capture

- Capture at least 2 images (usually 3 to 5)
- Use a tripod
- Employ automatic bracketing
- Use a remote shutter release
- Keep F-stop constant
- Images should be 1 to 2 stops of exposure apart
- Raw format is preferable but JPEG will work

Because several images will be merged, it is important that the camera remain stationary throughout the capture and therefore it is recommended that a tripod be used.

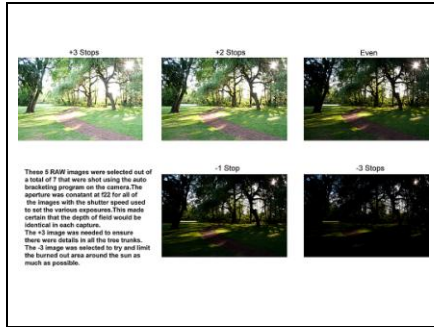
Subject movement is the bane of this process so the series of images should be captured as rapidly as possible and therefore it helps to utilize the camera's auto-bracketing feature.

The use of a remote shutter release is also recommended to reduce camera movement.

So the depth of field will be identical on all the images, the exposure should be varied by adjusting the shutter speed with the F-stop kept constant.

Capturing 3 images each 2 stops of exposure apart will be sufficient for most situations.

Slide 9

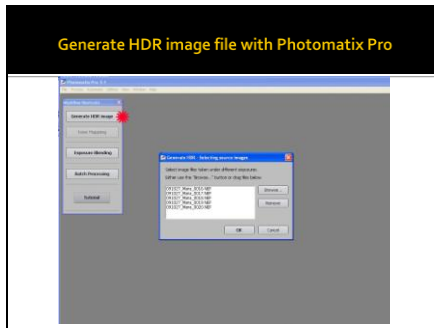


Slide 10

### HDR Software

- Photoshop
  - very user unfriendly
- Photomatix Pro (HDR Soft.com) \$100.
  - the most popular HDR software
- Essential HDR (imagingluminary.com) \$50.
  - easy to use

Slide 11

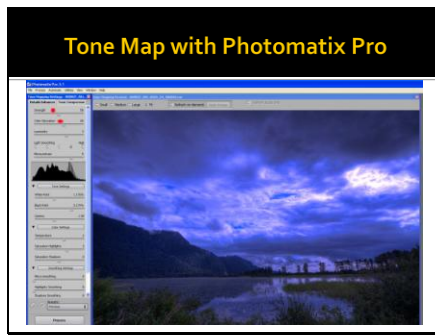


This image shows the Photomatix Pro interface when merging the selection of images to produce the HDR image file. One useful feature of this software is the “Batch Processing” option which makes it possible to automatically merge a large number of groups of images – as long as there is the same number of images in each group.

Slide 12



Slide 13



This is the Photomatix Pro interface when employing tonemapping to the HDRI file. “Details Enhancer” rather than “Tone Compressor” is the tone mapping operator of choice. I have found that a good starting point is to set the “Strength” at 50 and the “Color Saturation” at 60, leaving the other settings at their default values.

Slide 14



This is the Essential HRD Tone Mapping interface. It is much less complicated than Photomatix Pro and still produces acceptable results. The “Detail Revealer” is the tonemapping operator of choice and the “Details” slider is the most important slider.

Slide 15



Slide 16



As well as solving exposure dynamic range problems, HDR software can also be used to produce surreal images.

Slide 17



Grunge-type images can also be produced with HDR software.

Slide 18



HDR software can also be used to enhance single images. This image was captured in RAW and then tone mapped with Photomatix Pro. When tonemapping single images, they should be as free of noise as possible. While tonemapping multiple images produces relatively noise-free image files, using this process on single files can actually increase noise.

Slide 19



The result of processing a single image with HDR software.

Slide 20

**Presentation Notes**

- Notes for this presentation are available on my website at:
  - <http://members.shaw.ca/glenn dell>

Click on "Presentations"