

# Diploma in Photography

## Capture Pictures Perfectly

Lesson 8  
The Digital Image



**Course Educator:** William Eames

## William Eames

M.F.A (Hons.) Photography

B.A. (Hons.) Photography

15+ Years Experience



The Team

# About Us

## Lesson 8

# AGENDA



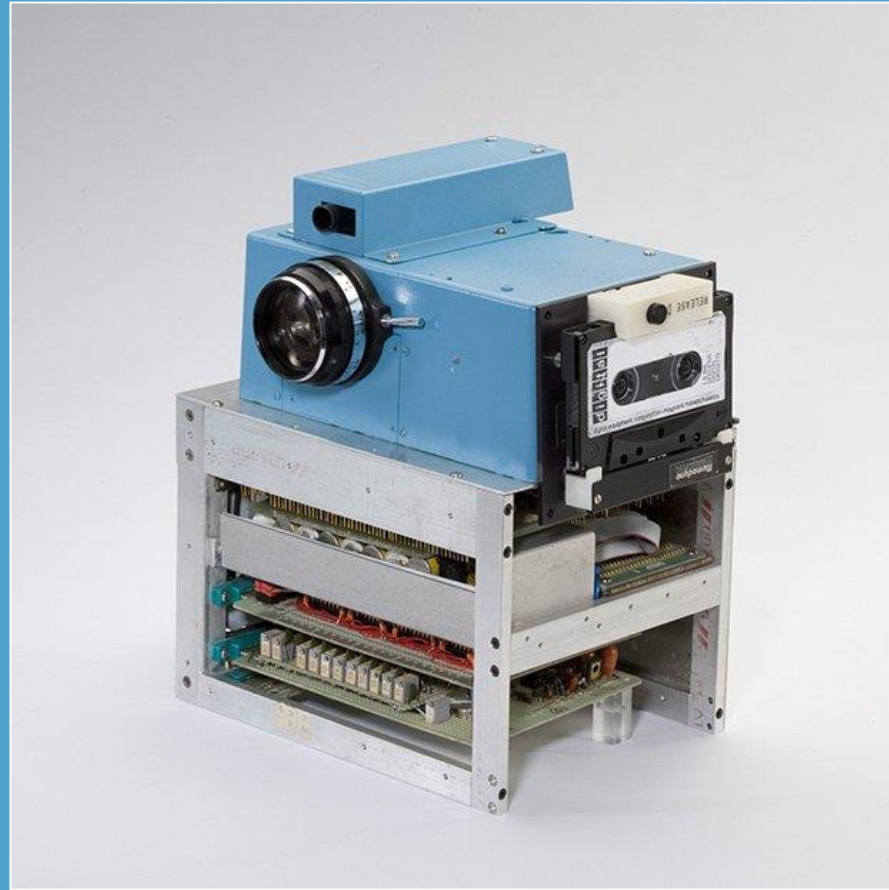
- Course Agenda
- Why learn about Image Size
- The Pixel
- Resolution
- File Format
- What is Adobe Lightroom?
- What is Adobe Photoshop?
- Summary
- Q & A

**Why is Image Size Important?**



## Why is Image Size Important?





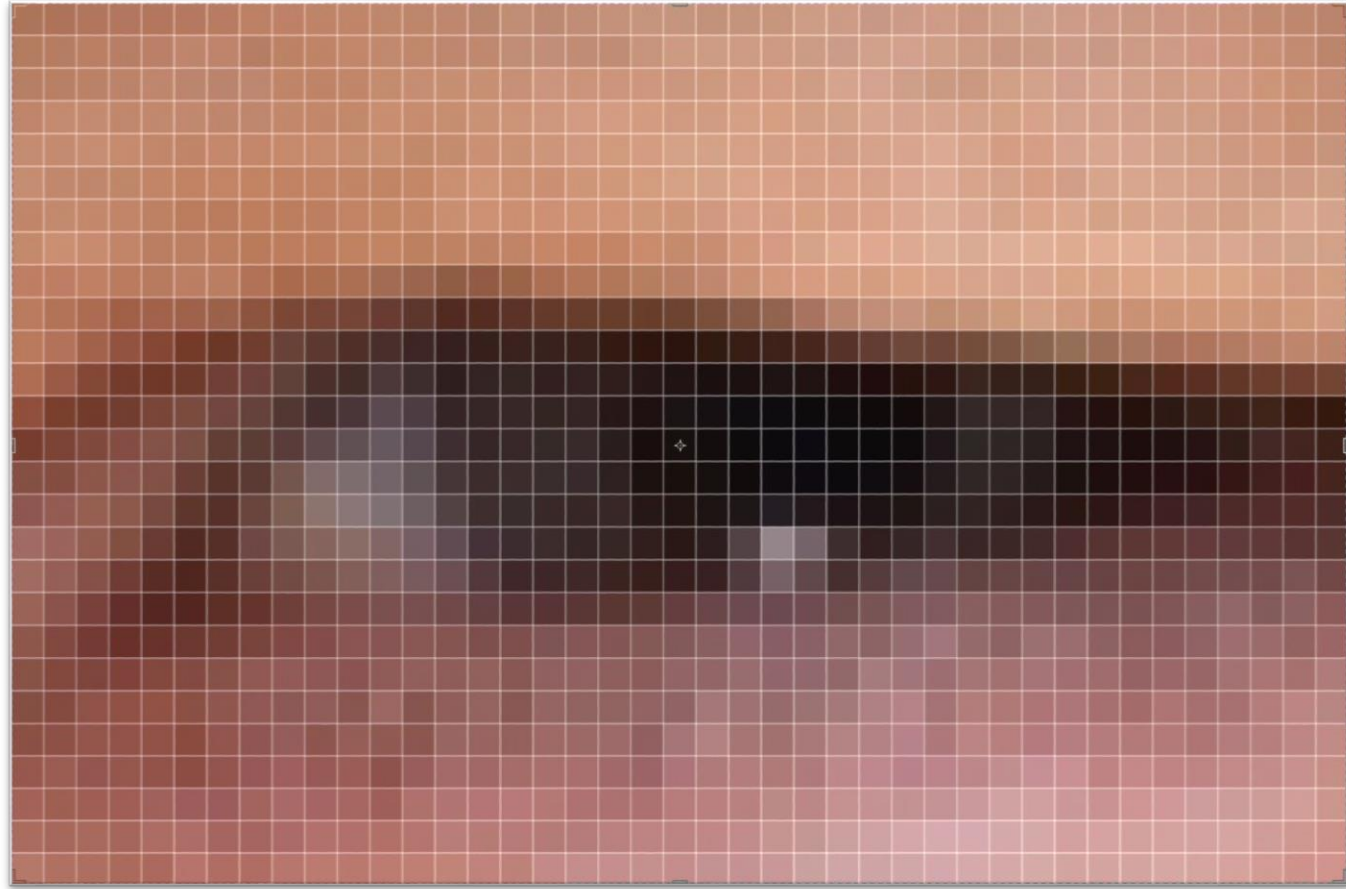
The first ever digital camera to be created was in December 1975. It was developed by Steven Sasson in Kodak Company. The camera only recorded black and white photographs of 0.1 mega pixels.



# The Pixel







The Pixel – Picture Element



The Pixel – Picture Element



The Pixel – Picture Element





**The Pixel – Picture Element**



The Pixel – Picture Element

**Resolution**

High Resolution







High Resolution



Low Resolution





Low Resolution





High Versus Low Resolution

5616 - Pixels

3744 - Pixels



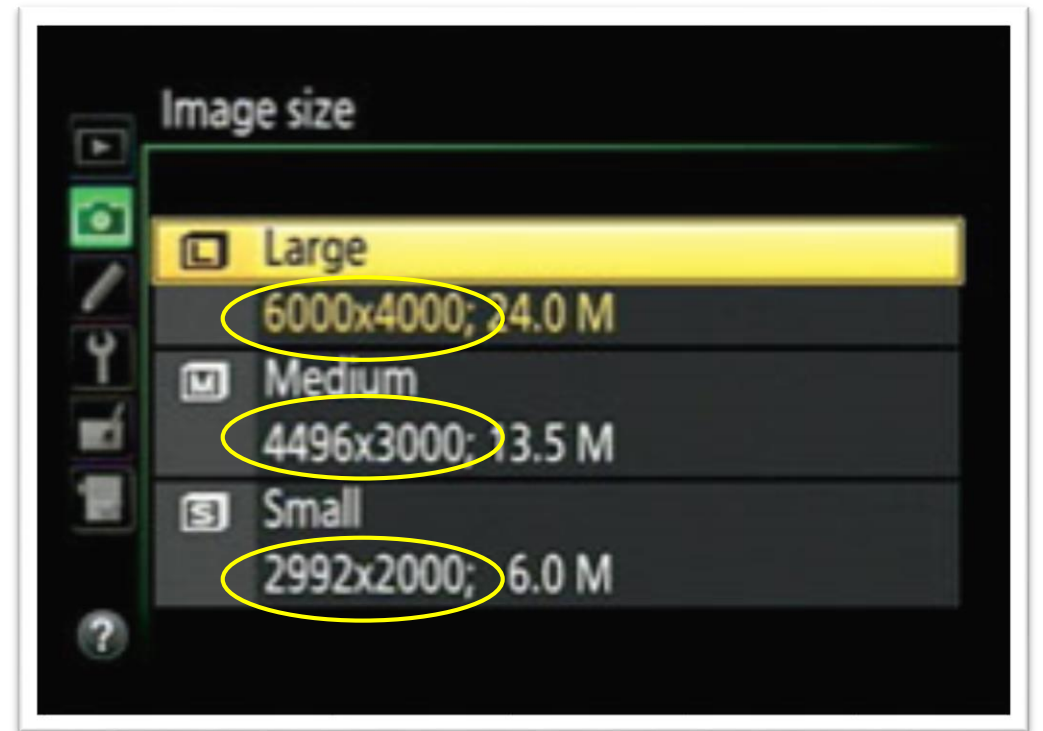
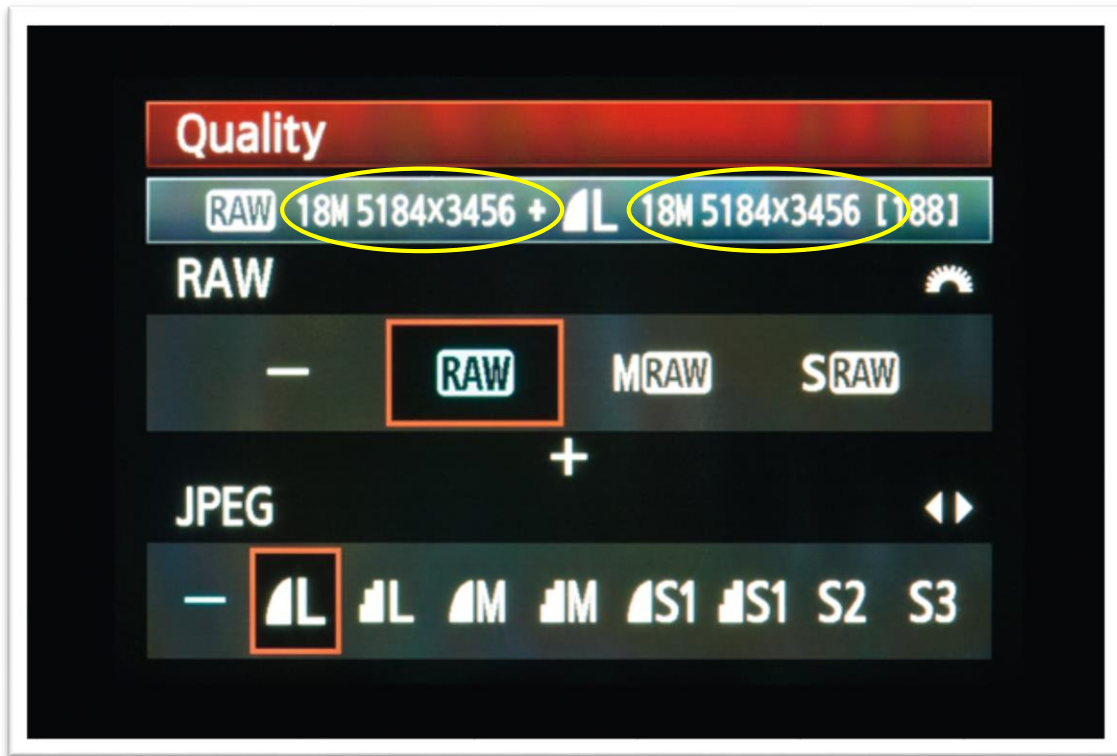
Total Numbers of Pixels:

$$5616 \times 3744 = 21,026,304$$

21 Mega Pixel Camera

Calculating Resolution





## Viewing Image Size

- ▶ On your camera when selecting file format or image quality
- ▶ On your computer under file properties or info
- ▶ Through your image editing software

# Calculating Image Size

## Print Resolution

The Amount of pixels needed in the image to make a high quality print  
300 pixels per inch – or dots per inch (PPI & DPI)

## On Screen Resolution

The Amount of pixels needed for viewing the image on screen  
96 pixels per inch



**2100 - Pixels**

**1500 - Pixels**



Width 2100 pixels  
Length 1500 pixels

Total Number of Pixels :  
3,150,000

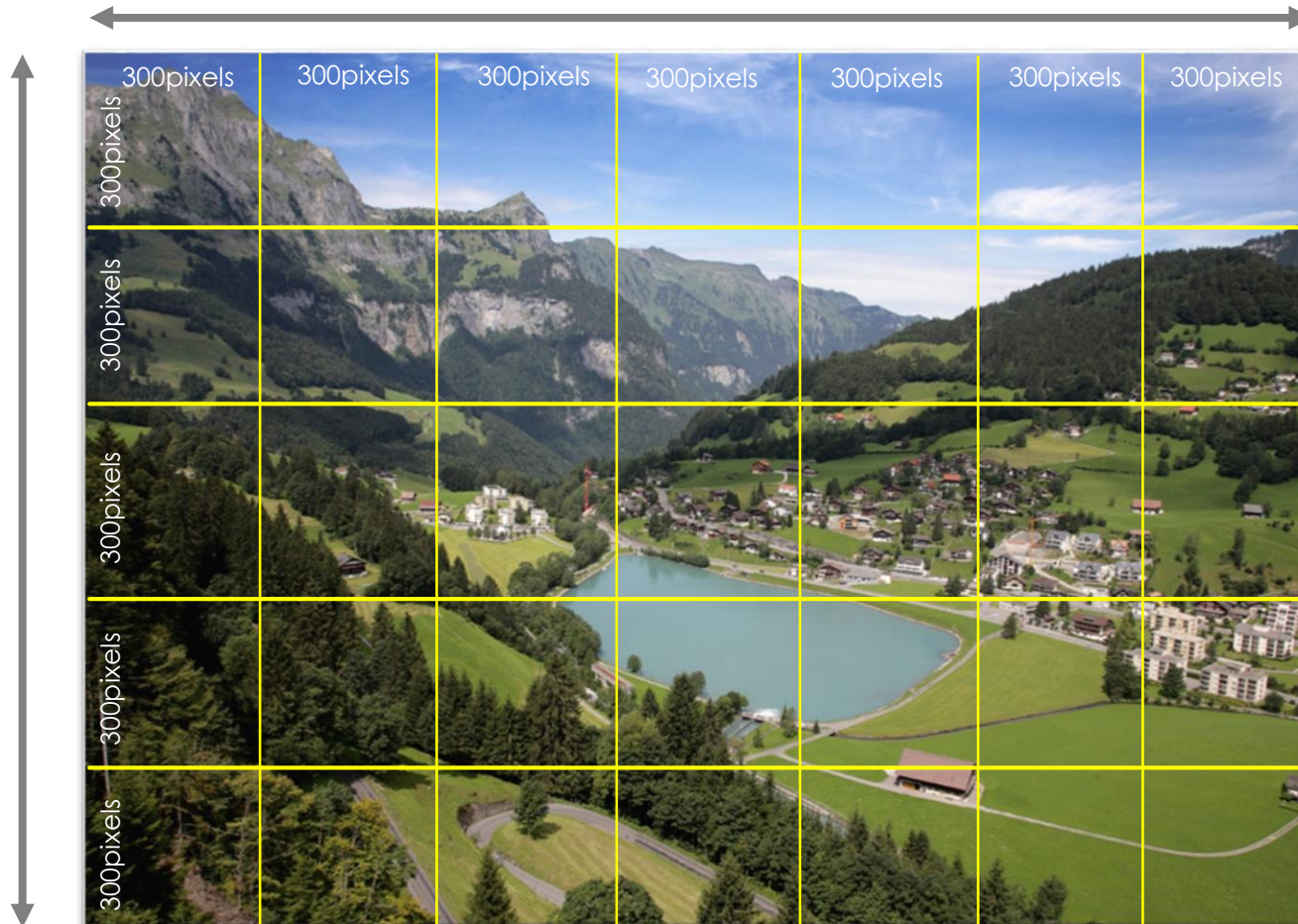
$2100 / 300 = 7$  Inches/18 Cm  
 $1500 / 300 = 5$  Inches/13 Cm

Print Size:  
**7 x 5 Inches/18 x 13 Cm**

**Print Resolution – 300 pixels per inch**

**2100 - Pixels**

**1500 - Pixels**



**Width 2100 pixels**  
**Length 1500 pixels**

**Total Number of Pixels :**  
**3,150,000**

**$2100 / 300 = 7$  Inches**  
 **$1500 / 300 = 5$  Inches**

**Print Size:**  
**7 x 5 Inches**

**Print Resolution – 300 pixels per inch**



**672 - Pixels**

**480 - Pixels**



Width 672 pixels  
Length 480 pixels

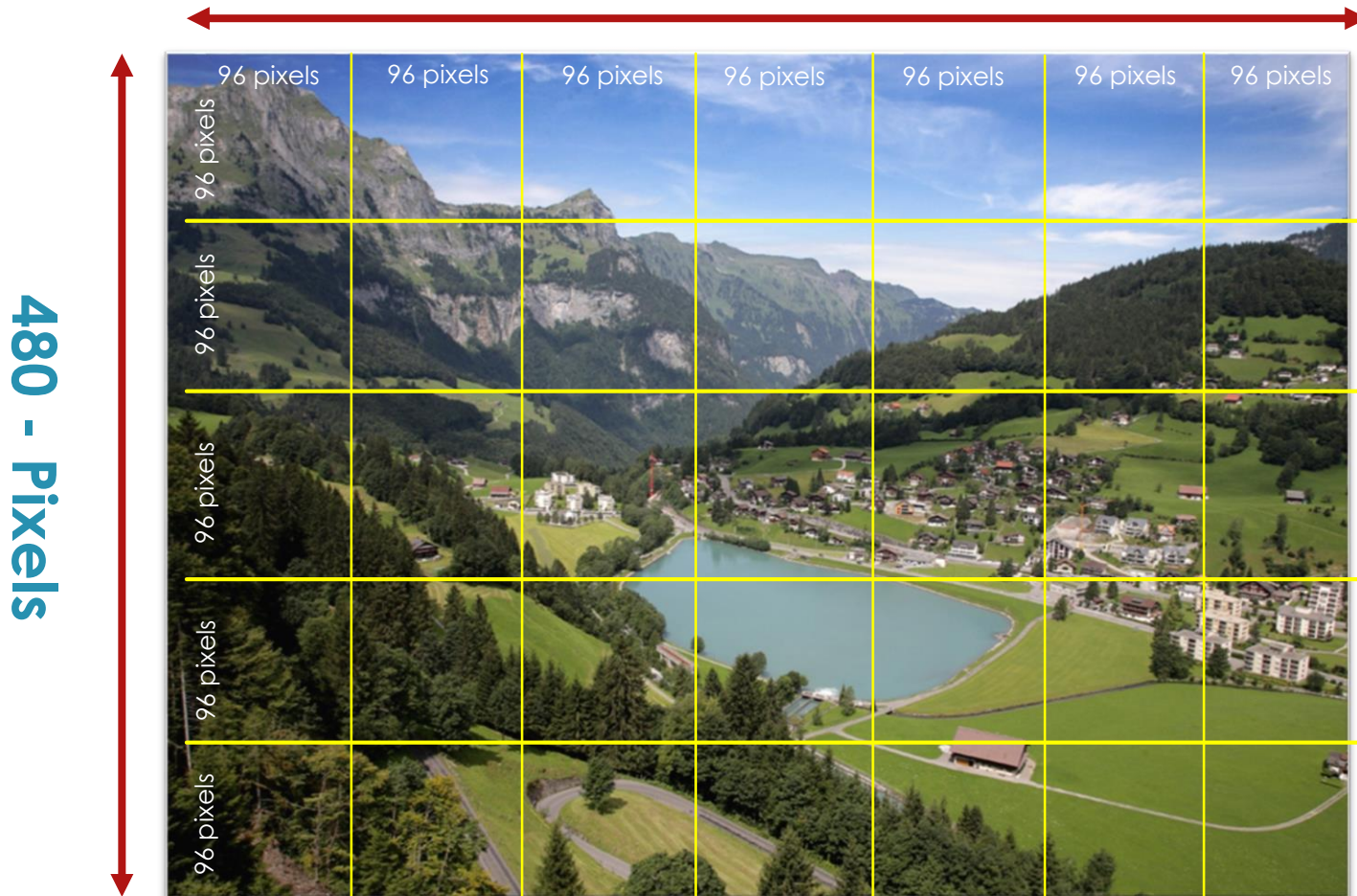
Total Number of Pixels :  
322,560

$672 / 96 = 7$  Inches  
 $480 / 96 = 5$  Inches

On Screen Viewing Size:  
**7 x 5 Inches**

**On Screen Viewing Resolution – 96 pixels per inch**

**672 - Pixels**



**Width 672 pixels**  
**Length 480 pixels**

**Total Number of Pixels :**  
**322,560**

$672 / 96 = 7$  Inches  
 $480 / 96 = 5$  Inches

**On Screen Viewing Size:**  
**7 x 5 Inches**

**On Screen Viewing Resolution – 96 pixels per inch**

# File Formats



The term "JPEG" is an initialism/acronym for the Joint Photographic Experts Group, which created the standard.







RAW V JPG

RAW



JPG





Before



After





Develop and Create a Style for your photos



- **Standard file format for photographic images**
- **Non propriety – doesn't need a specialized software to view file**
- **Small File size – takes less space to store, more shots per card**
- **Images shot in jpeg are processed in camera and are ready for use – colour saturation, contrast, sharpness, noise reduction**
- **Compressed/ Lossy format – quality is degraded to obtain smaller file sizes and continues to degrade through editing.**
- **Reduced Dynamic Range – poor highlight/shadow recovery**



- **Greater Dynamic Range**
- **Larger Colour Space**
- **Make greater adjustment without losing image quality**
- It is an unprocessed format – directly records the scene without internal processing by the camera (ie.) no contrast, sharpness etc. added in camera.
- **Uncompressed file format – maintains all information captured by the sensor – higher quality**
- Propriety file format – Each manufacturer has their own raw file and it has to be processed in specialized software



- **Full control over your image settings after you have shot the image**
- Very large file sizes – increased storage space
- **May look flatter and less vibrant than the Jpeg initially**
- Not suitable for sharing/ printing without first been edited and converted to another file format
- **Processing raw file is a non destructive editing process which never overwrites the original file.**

# RAW V JPG





Jennifer in Paradise – John Knoll  
It is the first 'photoshopped' Image from 1990





# Adobe Lightroom





# Adobe Photoshop

