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Glossary of Terms

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Images (Digitizing Photos, Slides, Film)

Image Types

Colour	A digital or printed picture that conveys colours, hues, and tones. Coloured images typically are created using colour models like RGB (red, Green, and Blue for digital displays or CMYK (Cyan, Magenta, Yellow, and Black) for printing.
Grayscale	A grayscale image only displays shades of gray, varying from black to white. Each pixel shows a level of gray, which is measured from 0 (black) to 255 (white) in an 8-bit image. Grayscale images are found in photography, medical imaging, and black-and-white printed documents.
Black/White (B&W)	An image that only features dots/pixels that are only black or white.
Negative	A negative image is an image in which the brightness and colours are inverted. Dark areas look light, and light areas look dark. Colours are also reversed, with blue becoming yellow and green becoming magenta.

Digital File Formats

Format	Pros	Cons	Best For...
JPEG/JPG (Joint Photographic Experts Group)	• Small file size • Easy to share • Short loading times on websites • Compatible with all web browsers and image editing/viewing applications • Supports RGB and CMYK colour profiles	• Lower resolution/image quality • Lossy compression • Cannot have transparent pixels (not a good format for logos) • Can look blurry when printed	Websites and sharing digitally
PNG (Portable Network Graphics)	• High quality • Lossless compression • Can have transparent pixels (transparent backgrounds)	• Larger file size • Longer loading times for webpages • Only supports RGB colour profiles	Logos, graphic design, and home printing.

TIFF (Tagged Image File Format)	• High quality • Lossless compression • Supports many colour profiles, including RGB, CMYK, indexed color, LAB, and grayscale	• Very large file size • Unsuitable for webpages • Slow to send, share, and upload	Professional printing, photography, and art.

Image Attributes (Quality, Editing)

Term	Definition and Use
Lossy Compression	When an image file is saved, it is compressed. Lossy compression permanently removes image data to make the file smaller. This can not be recovered. Example: JPEG
Lossless Compression	When an image file is saved, it is compressed. Lossless compression retains all image data, resulting in higher quality images and larger file sizes. Example: PNG, TIFF
DPI (Dots Per Inch)	A measure of spatial printing, video, or image dot density. It is used to quantify how many individual dots can fit within one inch. Higher DPI indicates higher resolution and a sharper quality. Example: If you are using a printer, you will likely be asked if your image has a minimum of 300 dpi, as this is a standard for printing images with decent resolution.

Bit / Colour Depth	Refers to the number of bits used to colour a single pixel. The more bits, the more complex and "deep" the colour of the pixel can be.
	The number of possible colours grows exponentially (16-bit yields 2^{16}= 65,536 possible colours) so there is a massive difference between 8-bit (2^8=256 colours) and 10-bit (2^{10}=1024 colours) colour depth.
	24-bit is considered **true colour** and is used for most high-quality displays.
	48-bit is considered **deep colour,** with over 281 trillion colour possibilities. Images in 48-bit colour depth result in large files.
Unsharp Mask	Unsharp masking is a processing technique that enhances image sharpness, crispness, and contrast by creating a blurred, negative version of the original image that is layered on top of the original.

Image Attributes Expanded

Descreening	Descreening is a process used to decrease wave patterns, ink speckles, and dots, which are often found on scans of newspapers, magazines, and older documents.
Color Restoration	Color restoration is the process of restoring or adjusting faded colours in photos to resemble the original.
Backlight Correction	Backlight correction reduces shadows by adjusting the exposure and brightness. This can correct shadowy (or "silhouette") images caused by too much background light (a photo taken with strong lighting behind the subject).
Digital ICE technology	A technology developed by Kodak that removes surface defects and scratches from scanned images. It uses scanner equipment with both an RGB light source and an infrared light source (this tool detects the scratches and defects, which are then removed).

Text Enlargment	The process of increasing text size in a scanned document.
Auto Area Segmentation	A scanning feature that automatically detects and separates different types of content in a document, such as text and images, so that results are clear. This supports Optical Character Recognition (OCR) by ensuring that text and images are processed differently.
Threshold	In scanning, the threshold setting controls the point at which pixel values are converted to either black or white in black-and-white images. Threshold settings are also used to enhance text clarity and improve the accuracy of Optical Character Recognition (OCR). Pixels above the threshold are converted to white, whereas pixels below the threshold are converted to black.

Videos (Digitizing VHS, DVD, Film Reels)

Digital File Formats

Format	Pros	Cons	Best For...
MP4 (or MPEG-4)	• High-quality despite compressed size • Easy to share • Widely compatible across devices and software • Can contain video, still images, audio, and captions	• Some quality lost in compression	Streaming, editing, and sharing digitally
MOV	• Higher quality than MP4 • Can contain video, audio, and captions • Can be compatible with Windows though optimized for MacOS	• Larger file size • Not supported on every device / software	Advanced video editing, especially on a Mac (Apple Computer).

Video Specs

Aspect Ratio	Describes an image or screen's height and width ratio. It is written in the format *Width:Height*. Aspect ratios are often found on DVDs and other film formats. For example, 4:3 is often used for TVs and computer monitors, and 16:9 is used for widescreen TVs and smartphones.
Brightness	The lightness or darkness level in the video or image you are viewing.
Saturation	The intensity or clarity of colours in a visual. Higher stauration on a visual makes colors apear vivid. Lower saturation makes visuals look more muted and less vibrant.
Hue	Hue is what we think of as "colour" (ie. Red is a hue). Adjusting the hue of a visual can dramatically alter the color tones in the image.
Contrast	Contrast is the difference between the lightest and darkest tones in a visual. Higher contrast will highlight shadows and colors in a visual, whereas lower contrast creates a softer appearance with more subtle differences between hues and shades. For example, in film, lower contrast is used for a gentle scene, whereas a higher contrast scene will likely be depicted in a dramatic or intense scene.

Cables

RCA (Composite)	An electrical cable that transmits video and audio signals between devices. RCA stands for Radio Corporation of America. RCAs are used with DVD players, record players, audio receivers, and gaming consoles. Their cables are colour-coded to their purpose. • Red = Right Channel Audio • White = Left Channel Audio • Yellow = Video
S-Video	Separate Video (S-Video) is a cable that transmits video data by processing brightness and colour in two separate channels. This results in a clear video that is much sharper than a composite video. For example, gaming PCs and consoles often use S-video cables. **S-Video cables do not transmit audio**.

Audio (Digitizing Cassettes)

Digital File Formats

Format	Pros	Cons	Best For...
MP3	• High-quality despite compressed size • Easy to share • Widely compatible across devices and software • Removes sounds unrecognizable to the human ear to reduce file size • An MP3 file is about one-tenth of the size of the original file	• Some quality lost in compression	Streaming, editing, and sharing digitally.
WAV	• Uncompressed audio results in higher quality than MP3	• Larger file size • Not supported on every device / software	Podcasts and professional audio recordings.

Adjustments

Gain	Adjusting gain is changing the input level of an audio signal before it undergoes further processing. Gain is essentially how much sound you are asking the system to record. The higher you set it, the more noise there will be. Setting a gain too high likely results in distortion and background noise, whereas setting it too low results in weak (quiet) sound.