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**A COMPREHENSIVE GUIDE TO**

# **COMMON DESIGN FILE TYPES**

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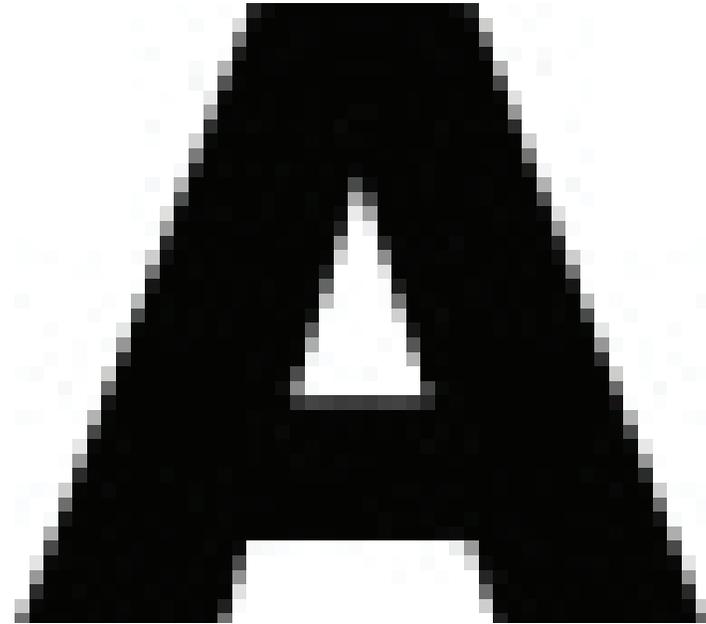
BITMAP

VECTOR

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# VECTOR vs. BITMAP

In the realm of digital design, understanding the differences between bitmap and vector graphics is crucial for creating effective brand identity packages. Bitmap (or raster) graphics are made up of pixels, each with its own color value. Common formats include JPG and PNG. These files are resolution-dependent, meaning they can lose quality when scaled. Conversely, vector graphics are constructed using mathematical equations, allowing for infinite scalability without loss of quality. Formats such as AI, EPS, SVG, and PDF are vector-based, making them ideal for logos and brand assets that require versatility.



# LOSSY vs. LOSSLESS

Understanding the differences between lossy and lossless compression is crucial for making informed decisions about your design files. Compression methods help reduce file sizes, making them easier to store and share. However, the type of compression you choose can significantly impact the quality and usability of your files. In this guide, we'll explore the basics of lossy and lossless compression, highlight their pros and cons, and provide examples to help you determine which method is best suited for your needs.

	<b>LOSSY COMPRESSION</b>	<b>LOSSLESS COMPRESSION</b>
<b>WHAT IT IS</b>	Reduces file size by permanently eliminating data	Reduces file size without losing any data
<b>HOW IT WORKS</b>	Discards less important information that might not be noticeable to the human eye	Compresses data by identifying and eliminating redundancy, allowing the original file to be perfectly reconstructed
<b>PROS</b>	Much smaller file sizes, making them ideal for web use and storage saving	Maintains original quality, crucial for high-fidelity images
<b>CONS</b>	Quality is reduced, and once compressed, the lost data can't be recovered	Larger file sizes compared to lossy compression

## JPG / JPEG

### Description:

JPG is a commonly used bitmap format that uses lossy compression to reduce file size, which can result in a loss of image quality. It's widely used for photographs and web images due to its balance of quality and file size.

PROS	CONS
Small file size	Lossy compression can reduce image quality
Widely supported across platforms	Not ideal for images with text or sharp edges
Ideal for web use and photographs	No transparency support

BEST CASE USES
Photographic content on websites
Social media images
Email marketing

# JPG

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## PNG

### Description:

PNG is a bitmap format that uses lossless compression, preserving image quality while supporting transparency. It's ideal for web graphics requiring high-quality images with transparent backgrounds.

PROS	CONS
Lossless compression preserves image quality	Larger file size compared to JPG
Supports transparency	Not ideal for printing due to larger file size
Suitable for images with text and sharp edges	

BEST CASE USES
Web graphics requiring transparency (logos, icons)
Digital documents and presentations
Web design elements

**PNG**  
PORTABLE NETWORK GRAPHICS

## BMP

### Description:

BMP, or Bitmap Image File, is a raster graphics image file format that stores color data for each pixel in the image without any compression. This results in very large file sizes, especially for high-resolution images.

PROS	CONS
High-quality images with no compression	Extremely large file sizes
Simple file structure and easy to read	No support for transparency
Widely supported across different platforms	Not suitable for web use due to large file sizes

BEST CASE USES
Archiving high-quality digital images
Image editing when no compression is desired
Situations where file size is not a concern

**BMP**  
BITMAP IMAGE FILE

## GIF

### Description:

GIF is a bitmap image format that uses lossless compression but is limited to a palette of 256 colors. It supports animation and transparency, making it popular for web graphics and simple animations.

PROS	CONS
Supports animation	Limited to 256 colors, which can affect image quality
Supports transparency	Not suitable for high-quality images or photographs
Small file size due to limited color palette	Larger file sizes compared to modern alternatives for animations (like video formats)

BEST CASE USES
Web graphics with simple animations (e.g., banners, icons)
Simple graphics with limited color ranges
Short, looping animations and memes

# GIF

GRAPHICS INTERCHANGE FORMAT

## TIFF

### Description:

TIFF is a bitmap format known for its high quality and flexibility in handling images and data within a single file, including layers and transparency.

PROS	CONS
High-quality image preservation	Large file size
Supports layers and transparency	Not ideal for web use due to file size
Lossless compression available	

BEST CASE USES
High-quality print graphics
Archiving digital images
Web design elements

**TIFF**  
TAGGED IMAGE FILE FORMAT

## CAMERA RAW

### Description:

Camera RAW files are unprocessed image data directly from a camera's sensor. CR2 (Canon), NEF (Nikon), and DNG (Adobe) are examples. These formats allow for extensive post-processing flexibility.

PROS	CONS
Maximum image data preserved	Very large file sizes
Extensive post-processing capabilities	Requires special software for viewing and editing
No compression artifacts	

BEST CASE USES
Professional photography
Professional photography
Archiving original image data

# CAMERA RAW

CR2, NEF, DNG, ARW, ETC.

# AI

## Description:

AI is a vector format native to Adobe Illustrator. It's the preferred format for creating and editing complex vector graphics, providing unparalleled scalability and editability.

PROS	CONS
Infinite scalability without quality loss	Requires Adobe Illustrator for editing
Fully editable with Adobe Illustrator	Larger file size compared to other vector formats
Supports layers and multiple artboards	

BEST CASE USES
Logo design
Illustrations and complex vector artwork
Print materials



## EPS

### Description:

EPS is a versatile vector format that can be opened and edited by various design software. It's widely used for high-quality printing and professional graphic design.

PROS	CONS
Scalable without quality loss	Limited support for advanced vector editing features compared to AI
Supported by many design programs	Can be difficult to edit without proper software
Ideal for high-resolution printing	

BEST CASE USES
Print design (business cards, brochures)
Logo files for various applications
Signage and large-format printing

**EPS**  
ENCAPSULATED POSTSCRIPT

## SVG

### Description:

SVG is an XML-based vector format ideal for web use. It's supported by modern browsers and allows for interactive and animated graphics.

PROS	CONS
Scalable without quality loss	Limited support for complex graphic features compared to AI and EPS
Small file size	Requires knowledge of XML for advanced editing
Supports interactivity and animation	

BEST CASE USES
Web graphics (logos, icons)
Web graphics (logos, icons)
Responsive web design

**SVG**  
SCALABLE VECTOR GRAPHICS

## PDF

### Description:

PDF is a versatile format that can encapsulate both bitmap and vector graphics. It's widely used for sharing and printing documents while preserving formatting and quality.

PROS	CONS
Preserves formatting and quality	Can be large in file size
Universally accessible and editable	Requires appropriate software for full editing capabilities
Supports both bitmap and vector graphics	

BEST CASE USES
Print-ready files (brochures, flyers)
Document sharing and distribution
Multi-page documents and presentations

**PDF**  
PORTABLE DOCUMENT FORMAT



## ABOUT FIREWING MEDIA

FireWing Media is a Brand Strategy Design Consultancy owned and operated by Ryan Lavigne, in Quispamsis, New Brunswick. We pride ourselves in offering:

### **Brand Strategy Solutions**

A Brand Strategy Workshop is a process to ensure your company is properly aligned with your ideal client. It acts as a foundation for your identity systems and provides the solid framework on which to develop your brand.

### **Brand Identity Development**

From logos, to colours, to typefaces and supporting graphics, your brand identity is often the first point of contact with potential customers. Does it appeal to them? Does it align itself with their wants and needs? Does it set you apart from your competitors? We can help you ensure that it does.

### **Branded Design**

In a busy world of business, consistency is key. Ensuring all of your brand collateral is consistent will drastically improve how potential clients see your brand, top-of-mind awareness, and ultimately sales conversions. Make sure your business cards, brochures and more are on-brand, on-point and on their way to making you more money.



### **GET IN TOUCH!**

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