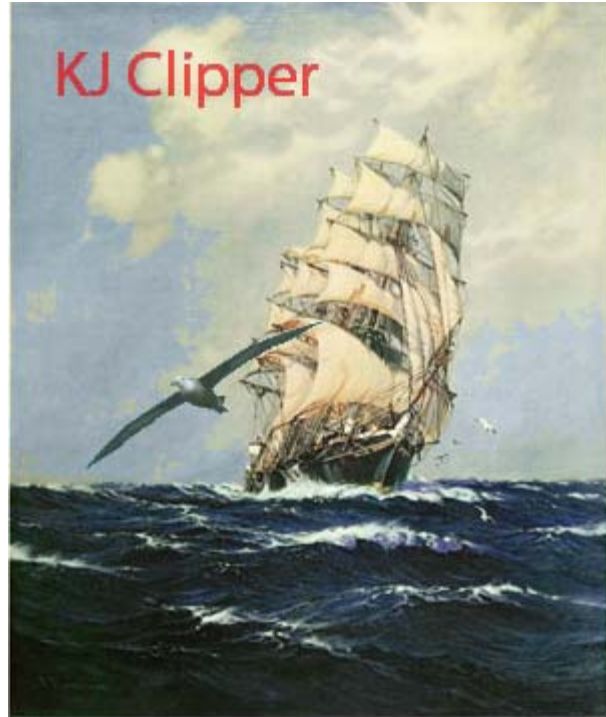


# *Tutorial 1 for KJ Clipper*



Welcome to the KJ Clipper tutorial 1.

KJ Clipper is a full-featured photo editor that combines advanced selection tools with an innovative object oriented editing environment. This approach promotes a simple yet powerful user interface, giving the user a true “hands on” editing experience. The result is improved workflow and higher productivity.

The central theme we adopted while building this product is best expressed in the words of someone not affiliated with us:

“ ... a friend, obviously annoyed with his image editing program, asked me why there were so many different selection tools to choose from. 'Because making selections is such an important capability!' I immediately replied.”

- Dave Johnson, *PC World*, January 23 2007

We assume that you have a working knowledge of Microsoft Windows, i.e., you know how to run a program, how to use menus and toolbars, and how to use a mouse.

This tutorial is based on .avi video files. With the exception of the present case, wherever a “[Click here](#)” appears, a link to a video file is enabled. Click on the link to see a video demo of the feature or technique under discussion.

# 1.0 The Canvas

KJ Clipper provides a simple, intuitive workspace for the user.

the mainframe

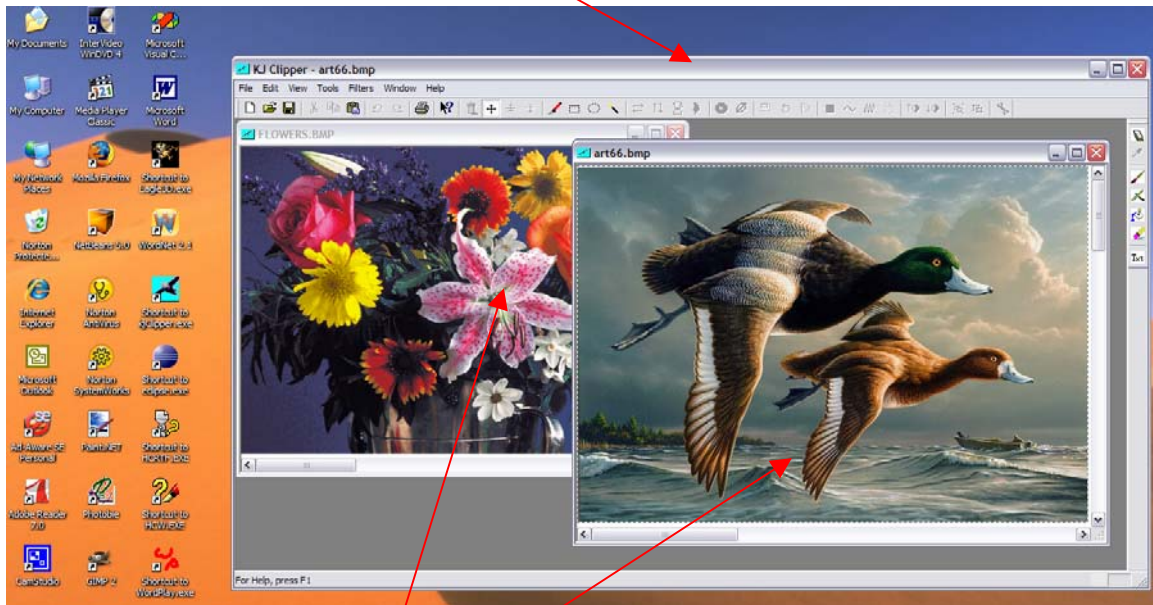
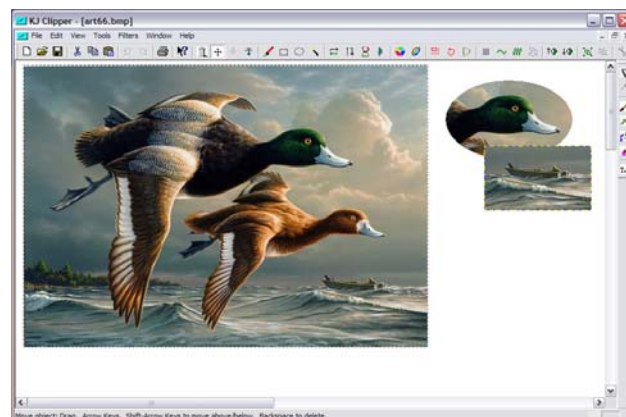


image documents

Image documents are presented within the mainframe. When an image file is opened, a document window for that image is created, and the image object is placed in the upper left hand corner of the **canvas** for that document. The canvas is a solid white background image. It is usually convenient to expand the document window so as to view the image object in the context of its position on the canvas ([Click here](#)). Many objects can reside on a canvas. An expanded document with three objects on the canvas is illustrated below.



Although one canvas can support many objects, there can be only one **current** or **active** object on a canvas at one time. The current/active object (if any) is designated by a blinking blue/yellow border around the bounding rectangle for that object. An object is made active by a single left click with the **move** tool ([Click here](#)). A single left click on the blank canvas will *deactivate* the active object and activate the move tool. A left click on another object will deactivate the current object and make the selected object active.

The move tool is the default tool state upon initialization. When an object is activated with the move tool, actions can be taken on the object. When no object is active, actions are not available ([Click here](#)). The rule-of-thumb is simple: select a current object, then act upon it.

Each object carries its own undo history. If no object is active, performing an undo operation will undelete the last object (if any) that was deleted from the canvas.

Image objects can be stacked on one another. An object's z-order (its order within the pile) can be changed at will ([Click here](#)).

## 2.0 Selecting Objects

The ability to select relevant portions of an image is at the heart of any good editor. KJ Clipper provides several tools to accomplish this important function.

### 2.1 The Edge Clipper Tool

Open the file “flowers.bmp” and expand the document window. The task is to select out the large flower.



[Click here.](#) Note the directions on the status bar in the video.

### 2.2 The Area Select Tool

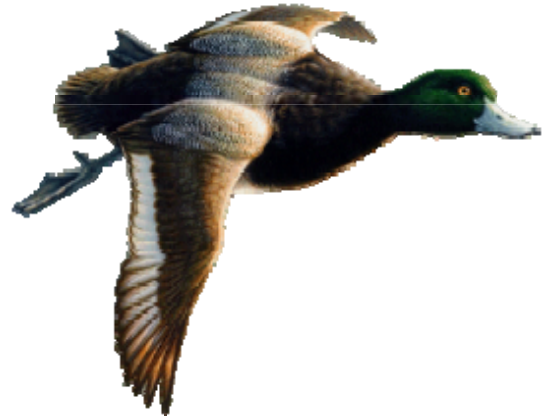
Open the file “flowers.bmp” and expand the document window. The task is to select out the yellow flower on the left.



[Click here.](#)

## 2.3 The Flood Erase Tool – Selection by Exclusion

Open the file “ducks.bmp” and expand the document window. The task is to select out the male duck.



The strategy for selection by exclusion is straightforward:

- isolate the desired object using the flood-erase tool by making unwanted parts of the image transparent ([Click here](#)),
- use the area-select wand to choose the rough-cut object from the background ([Click here](#)),
- clean up any rough spots in the selection ([Click here](#)).

## 2.4 Other Selection Tools and Modalities

### 2.4.1 Rectangular and Elliptical Selection Tools

Rectangular and elliptical selection tools are provided. [Click here](#) to view an example of these tools.

### 2.4.2 Polygonal Selection – the Poly Clip Mode

The edge clipper tool can be toggled into a poly clip mode by right-clicking the mouse. One can toggle back and forth through the edge and poly clip modes at will. [Click here](#) to view an example.

## 3.0 Editing Objects

The editing/filter operations can be roughly categorized into three groups:

- edits in the spatial domain, such as resizing, rotating and perspective transformations,
- edits in the color, or frequency domain, such as sharpness, contrast, resampling etc., and
- brush edits, which affect both canvas space and color space.

Many of the actions found in the tools menu are of the first type, while all of the actions found under the filter menu are of the latter type.

### 3.1 Spatial Edits

The spatial edit tools change an object's shape or orientation on the canvas.

#### **3.1.1 The Resize Tool**

Scales an object up or down in size, preserving the aspect ratio. Left click on a corner and drag ([Click here](#)).

#### **3.1.2 The Rotate Tool**

Rotates an object. Left click on a corner and drag ([Click here](#)).

#### **3.1.3 The Perspective Tool**

Performs a perspective transform on the object. Left click on the corners and drag ([Click here](#)).

#### **3.1.4 The Flip Sideways Tool**

[Click here](#).

#### **3.1.5 The Flip Over (Vertical) Tool**

[Click here](#).

## **3.2 Color Space Edits**

The color space tools change the rgb values of pixels within an object. Many of these tools are so simple that they do not require a demonstration.

### ***3.2.1 Blend and Feather Tools***

Both blend and feather are used to soften the boundary between foreground and background objects. Feather is a light blend operation. [Click here.](#)

### ***3.2.2 Color Adjust Tool***

Color adjustment enables you to manage the hue/saturation/intensity values of an object. [Click here.](#)

### ***3.2.3 Midrange Adjustment Tool***

Allows you to independently adjust the gamma curve for red, green and blue channels. [Click here.](#)

### ***3.2.4 Resample Filter***

Performs a bi-cubic interpolation for resized objects. [Click here.](#)

### ***3.2.5 Smooth Filter***

A typical low pass filter. Click repeatedly until desired result is obtained.

### ***3.2.6 Sharpen Filter***

A typical high pass filter. Click repeatedly until desired result is obtained.

### ***3.2.7 Despeckle Filter***

Our despeckle is a good all-round noise reduction filter. Click on this filter repeatedly until the desired result is obtained.

### ***3.2.8 High Contrast Filter***

A typical adjustment for higher contrast. Click repeatedly until desired result is obtained.

### **3.2.9 Low Contrast Filter**

A typical adjustment for lower contrast. Click repeatedly until desired result is obtained.

### **3.2.10 (Intensity) Histogram Equalization**

This filter equalizes the intensity histogram of the object. H.E. can be an effective transform for moderately under/over exposed images. [Click here.](#)

### **3.2.11 Pencil/Paint/Chalk/Charcoal Filters**

Transforms the selected object into sketch/paint/chalk/charcoal “artwork”.

### **3.2.12 Grayscale/Sepia Filters**

Transforms the selected object to grayscale or sepia tone images.

### **3.2.13 Color Reduction Filter**

Sometimes (especially for web publishing) it is desirable to “reduce” the bit depth of an image from 24/32 bit formats down to 8 bit (indexed) format. We use an advanced vector-quantization (median split) algorithm to produce professional results. You can do a “save object” on any object that has been color reduced (and not subsequently edited) to save the image as an 8-bit device independent bitmap (.bmp).

### **3.2.14 Color Inverse Filter**

Transforms an image object into a color negative of the object.

### **3.2.15 Partial Transparency Filter**

With this filter you can produce a partially transparent overlay of the selected object on its background. [Click here.](#)

## **3.3 Brush Edits**

KJ Clipper provides the standard set of brush tools.

### **3.3.1 The Erase Tool**

[Click here.](#)

### **3.3.2 The Paintbrush**

[Click here.](#)

### **3.3.3 The Airbrush**

[Click here.](#)

### **3.3.4 The Flood Fill Tool**

[Click here.](#)

### **3.3.5 The Flood Erase Tool**

[Click here.](#)

### **3.3.6 The Color Pick Tool**

We provide a typical color pick tool (eyedropper) so that you can “pick” the tool color you want from an image object. [Click here.](#)

## **3.4 Text**

Text is implemented as simply another image object. Thus, all the transforms and tools used to manipulate regular image objects are available for use with text objects as well. Since text is handled as a bitmap, it cannot be edited as text per se (i.e., in a text editor) once it is instantiated as an image object. [Click here.](#)

## **3.5 Grouping Objects**

Image objects can be grouped together into one object. Grouped objects can be ungrouped to manifest as distinct component objects. [Click here.](#)

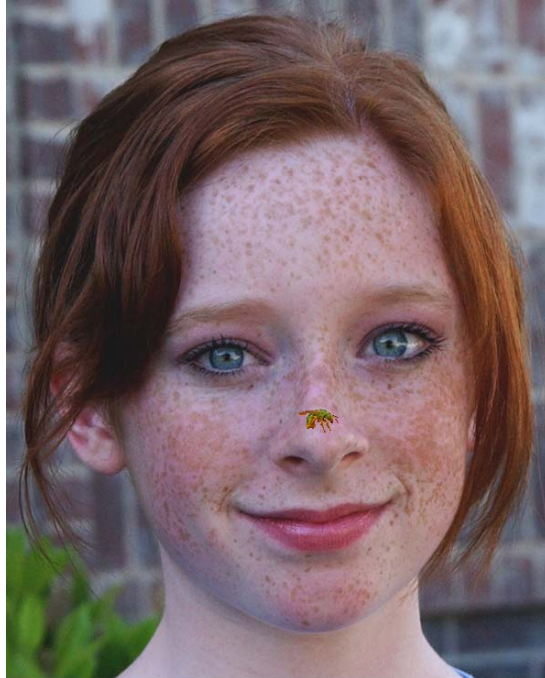
The group-tool state can be entered either by left clicking on the group icon in the toolbar – as shown in the video – or by (ctrl) left clicking an object. While in the group-tool state, left clicking toggles an object’s selection status, i.e., clicking on an unselected object selects it, and clicking on a selected object de-selects it. To end the group-tool state and create the grouped object, either click the group icon again or double click inside any selected object. As with any other tool, clicking outside any object cancels the operation and shifts the current tool to the neutral move-tool state.

## 4.0 Case studies

In this section we present some actual editing problems.

### 4.1 *The Uninvited Guest*

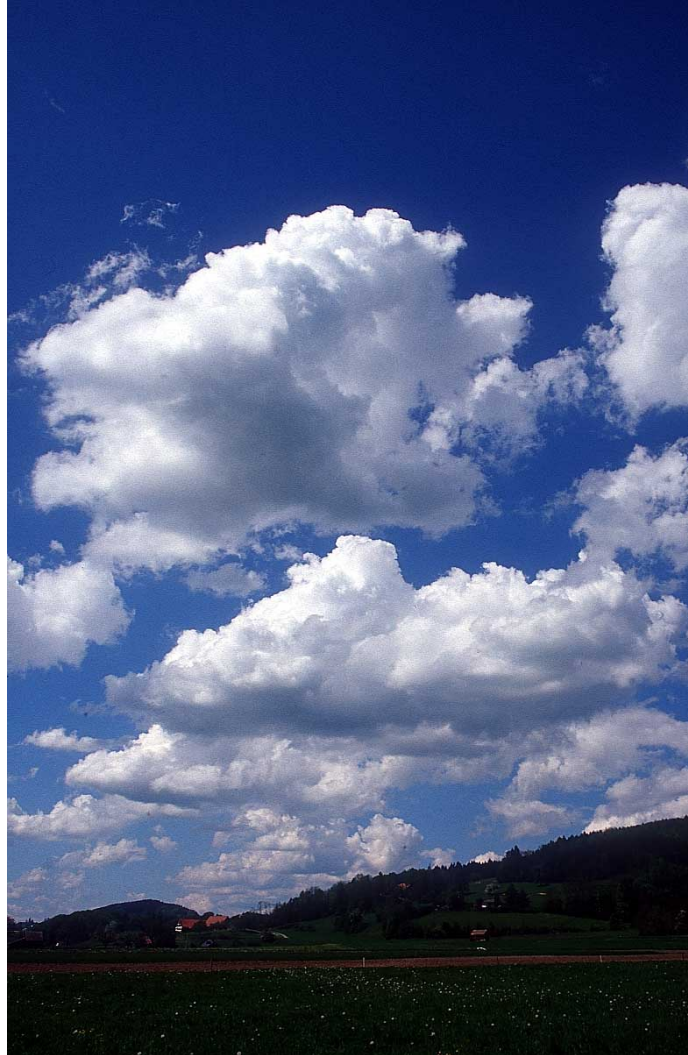
Suppose you have taken the perfect picture of the neighborhood redhead, only to find an uninvited guest in the picture.



[Click here.](#)

## ***4.2 Underexposed***

A pretty picture of an evening sky in the countryside is underexposed. How can we fix it?



[Click here.](#)

### 4.3 The Druid Duck – A Simple Collage

So given a duck, a hat and Stonehenge, what can we do?



[Click here.](#)

This concludes the *Tutorial 1 for KJ Clipper*. Of course, the best way to learn the Clipper is to just have fun and play with it. You'll be amazed at what you can do!