

PhotoVCarve Overview

PhotoVCarve has been developed to allow CNC machines to carve and engrave in a way that until now could only be done using an expensive laser marking systems.



What is PhotoVCarving?

PhotoVCarve instantly converts photographs and images into high quality toolpaths that can be run on virtually all CNC routing and engraving machines.

What can it do?

The ability to permanently **CNC machine pictures** onto jobs has been a challenge to many machine users and although there are software products that appear to offer the facility, they often fail to deliver in reality.

PhotoVCarve is also perfect for machining **3D Lithophanes** directly from photographs, that make perfect gifts, keepsakes and mementos that will last for generations.

The opportunities PhotoVCarve offers are endless and it can be used by all CNC machine users. From the hobbyists who build their own 'home brew' tables to professional engravers running high cost industrial machines, the software offers something for everyone.

PhotoVCarve - Features

PhotoVCarve can be used to machine photographs in 3 different ways

1. V-Groove Machining

PhotoVCarve creates lines of grooves that vary in width and depth to represent the detail in a photograph or image. The quality of the finished result is very dependant upon a high level of contrast between the material surface and the machined grooves. This information is very important to remember when cutting designs using the PhotoVCarve software.

PhotoVCarve machines dark areas in a photograph with wide groove and the lighter areas to have narrower ones. The software automatically calculates the toolpaths based on the cutter selected and maximum depth of



groove required.

This diagram shows how the machined grooves get wider over the dark areas of the eye.

[Find out more >](#)



2. 3D Lithophane Machining

Lithophanes are 3D photographs that when viewed in normal lighting look a little dull and lifeless. But when back lit transform into stunning 3D pictures with depth and detail that cannot be seen in a flat 2D photograph.

Lithophanes originate from a process developed back in the mid 1800's for mass producing 3D pictures in porcelain. A 3D design was hand engraved into a thin sheet of bees wax that was placed over a lighted candle to show the effect of light passing through the wax. This master design was then used to make a mold for casting designs in porcelain. Varying levels of light to pass through the porcelain depending upon the thickness



[Read More >](#)

3. 3D Grayscale Machining

PhotoVCarve automatically converts a grayscale image into a 3D height map that can then be carved.

The example below shows how the grayscale image for a 3D model can be converted to a 3D height map and machined using a Ball nose cutter.



The PhotoVCarve Process

The PhotoVCarve interface is very intuitive and guides you through opening an image, calculating a toolpath, previewing the results and saving the the file ready for running on your CNC machine.



Step 1 - Open an Image



Select the **photograph** or **image** file that you wish to carve or engrave. This could be from a **Digital camera**, **Mobile phone**, **Flat bed scanner** or **Downloaded** from the **internet**.

Most industry standard pixel based image file formats can be opened and used with PhotoVCarve. These include **JPG**, **BMP**, **TIF**, **GIF**, **PNG**

At this point you can decide to limit the toolpath to only cut inside specific regions of an image by interactively selecting colour's in the image to be **Transparent**.

For example, this is very useful for removing unwanted background detail from a photograph. Making regions of a design transparent also reduces the actual cutting time for a design because the unwanted regions are excluded from the toolpath.