

LENTICULAR GLOSSARY

2D-to-3D: A process that creates layered 3D from flat 2D artwork by shifting the perspective between isolated elements. The isolated elements are either extracted (cut-out) or taken from a layered source file.

Depth Canvas: Refers to the back most layer of a 3D source file and extra side art re- quired for proper parallax.

Volumetric 3D: A type of 3D that exhibits a more realistic depth effect than Layered 3D. This effect requires source art that is either photographed specifically for 3D, from computer modeled 3D scenes, or requires a Lenticular Technician to create a wire frame for each element in a specialized 3D rendering program. These methods allow for full 3D perspective, giving objects a shaded and rounded appearance.

Ghosting: Seeing two or more images at the same time from a single viewpoint in a lenticular image. Ghosting is caused by several issues including images with too much contrast, using too many images, and/or exceeding the resolution capabilities of the lens.

Interlacing: The process of digitally slicing and recombining the views of a file into a composite file that is matched to a particular lens material.

Lamination: The process of bonding two or more materials together. In lenticular pro- duction, we can laminate a rigid substrate or pressure sensitive adhesive if your project requires such.



Layered 3D: A type of 3D that starts from flat 2D source artwork. The 2D to-3D process creates a layered depth effect that lacks full object rounding or perspective. Creating the rounding effect can be accomplished, subject to elements of the artwork.

Layering: The process of creating multiple object layers from flat 2D art. The source art can be either composite (flattened) with elements requiring extraction from the back- ground or as individual files that have the subjects isolated and re-combined to a layered file.

Lens Gauge: The term used to express the thickness of a lens sheet. Typically reported in thousandths of an inch or mils. Lens Pitch The term used to express the density of lens- es across a sheet, typically reported as lenses per inch (LPI). Nominal pitch is used for the product category, as in 75 refers to a lens that has 75 lenses per linear inch. Exact pitch or mechanical pitch refers to the precise number of lenses per inch as found via a pitch check. For example, a 75LPI lens may be exactly 75.58 lens per inch.

Lenticule: A single lens element or column on a lens sheet. The profile (cross-section) of a lenticule is typically that of a cylinder cut in half.

Moiré: An optical effect created when two or more repetitive, linear patterns overlap. In lenticular, the lens itself has a regular pattern of lines and any linear designs underneath the lens may, depending on spacing, size and rotation, create this noticeable yet typically unwanted effect.



Parallax: The apparent difference in position of an object as seen from two different points. Essentially, the optical property that allows us to see in 3dimensional space based on our two eyes seeing objects from two different angles. In lenticular pieces, parallax refers to the shifted positions of objects in each view across the image, showing our eyes different angles of the scene.

Phase: Describes one distinct image of a multi-image FLIP or MORPH piece. In a 2-flip image, there are 2 phases, a 3-flip has 3 phases, etc.

Pitch Test: A file that contains a range of interlaced test strips that correspond to the general lens resolution of a given stock. This test allows the exact LENS PITCH to be deter- mined for precise interlacing and print registration.

Reference Point: Related to WINDOW PLANE or KEY PLANE, the reference point is a specific object or point in an image that serves as the middle ground of a depth image.

Registration: The process of aligning the interlaced image to the lens sheet. In litho- graphic printing, this takes place on press to align not only each color to the others, but also the 4 color interlaced image must be perfectly aligned to match the lens across the sheet.



Viewing Direction: It refers to the way a lenticular piece is presented to the viewer. This will be expressed as either left-to-right or up-down. Left -to-right is when the viewer must walk past the piece or, if handheld, rotate the piece from left to right and back to see the effect. This requires VERTICAL lenses and is the only direction 3D images can be viewed properly, although motion effects can also use this method. Up-down means the piece must be rotated from top to bottom. This requires HORIZONTAL lenses and is best suited for hand-held images using the motion, zoom or morph effects. Also known as Viewing Orientation, this is a key factor in proper creation of any lenticular piece.

Viewing Distance: Refers to the specified distance a piece will be best viewed from by the intended audience.

Views: The individual images that make up a lenticular image. A 3D piece contains many (12+) views to create the depth effect. Flip, motion, zoom, etc. images have 2 or more views depending on the design.

Window Plane: The part of a depth image that is the middle ground or middle layer. This plane allows a reference for the foreground and background depth layers and in itself exhibits no parallax across the image. This is the layer all text, logos and objects whose detail and sharpness are critical should be placed on.