

*Holographic
Design
Systems*

1810 South Broadway
St. Louis, MO. 63104

Holographic Design Systems
Presents



**1987-88
HOLOGRAPHIC
EMBOSSMENT
GUIDE**

314-621-2822

The following is general information pertaining to the creation of embossed holograms.

MASTERING

Preparation of a holographic "master" and the succession of by-products that result in the final printing plates requires four steps — a master hologram; a photoresist master made from the original hologram; a nickel master; and the stamping plates for the replication run.

COSTS — MASTERING

Mastering costs for this four-step embossing process can range from \$4,000 to \$6,500, depending on a number of factors — i.e. the number of times the image must be "stepped-out" to fill the stamping plate; the number of images within the hologram; whether the hologram is to have movement within it, in which case a separate mastering step is required.

COSTS — PRODUCTION

Replication of the embossed hologram in large quantities can vary in cost from two to three cents per square inch. Price is dependent upon such factors as quantity, substrate quality and type of adhesive. Holograms are usually printed on a bright mylar-like polyester or on hot stamping foil. The choice of material is dictated by the hologram's final use.

If an adhesive-backed hologram is to be used, the client can receive them either in rolls two hundred feet long by six inches wide or die-cut to a desired shape and size. Die-cutting represents a separate charge, usually about \$25 per thousand.

Affixing of the embossed holograms to another surface is a separate step and a separate charge. When hot stamping foil is used, affixing and die-cutting are a single combined step, ranging from \$30 to \$50 per thousand.

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ART WORK

A three-dimensional hologram requires three-dimensional art, supplied by the client. Embossed holograms can be made from the following types and varieties of art:

- A sculpture or model
- Computer and computer animated art
- Living subjects
- Full size objects
- Flat art with four-color separations
- A Combination of two- and three-dimensional art

Embossed holograms can be as elaborate and complex or as simple as the client desires. They can move. They can have two separate images within one hologram. Or, they can be simple, flat light reflective designs. Using a sculpture or model, the original art piece should be light in color — silver, white, or a very light shade of gray; flat silver reproduces best. A matte finish is preferable to a gloss. To insure best results the sculpture or model should be about 20 to 25 percent smaller than the final embossed size. For example, the original art for a three-inch by three-inch embossed hologram should be approximately two-and-a-half inches square.

It is best for art directors and creative directors to consult with our holographers before preparing art work or sculpture.

BASIC FORMAT

At present the basic embossed format is six inches. This size should be kept in mind when planning for holograms. The most economical use of material, therefore, is any size that is an even reed end of a six inch square — three by six; three by three; two by three; two by two, etc.

FINAL PRODUCT

Through the holographic process, a number of varied colors will be produced from the original monotone art piece. The colors generated by a hologram are the result of the physics of light rather than that of an artist's conception. Holograms are prism like, separating white light into the various colors in the light spectrum. This multicolor generation is possible because white light actually contains all colors of the spectrum.

Therefore, when light is moved across a hologram, or the hologram is moved relative to the light source, the resulting color produced in the hologram is the shift to a particular wavelength within the white light beam. The shifting of the white light beam can produce colors of red, green, purple, blue, etc., or a combination of colors.

While the preceding general information pertains to embossed holograms, it should be pointed out that other types of holograms are not as restrictive in terms of reproducing "actual" colors.

Enclosed are some samples of our embossed holographic efforts. We hope you will find that they equal or surpass any other attempts at reproduction using the embossed hologram medium.

The staff of Holographic Design Systems is looking forward to working with you in the imaginative field of holography.