

Form and Function  
1595 17th Ave.  
San Francisco, CA 94122  
vox: 415•664-4010  
fax: 415•664-4030

© 1993 Form and Function

## Using Wraptures

This document provides information on how to use Wraptures in various applications.

See the document "Wraptures Manual" for information on how to use the Wraptures CD-ROM and the Browser.

---

This document contains the following sections:

- "Using Wraptures For Tiling" -- gives basic information and instructions on how to use Wraptures as tiles and fill patterns to create large backgrounds and high resolution files for printing.
  - "Using Wraptures to Wrap around a 3D Object" -- gives basic information and instructions on how to use Wraptures as texture maps in 3D applications.
  - "Using Wraptures as Backgrounds and in Printing" -- gives basic information and instructions on how to use the 640x480 size of the Wraptures as presentation backgrounds and explains how to use Wraptures in printing.
- 

## Using Wraptures

### Overview

Wraptures textures are seamless, tile-able PICT files. This means that a Wrapture can be placed next to a copy of itself and no seam can be detected. Wraptures can be used in ways that take advantage of this seamless property as well as be used like any standard non-seamless pict file.

There are two basic ways to use Wrapture textures to take advantage of this seamless property: to fill an area (Tiling), or to wrap around a 3D object (mapping), hence the name "Wraptures". Tiling allows you to cover an area as large as desired with a Wrapture. This is useful for creating high resolution images for printing, for creating very large size backgrounds, or for reducing the amount of RAM used by a background when using an auto-tiling option available in some programs. Mapping allows you to wrap a Wrapture around a 3D object and have the ends of the texture meet seamlessly. This is useful for 3D stills and animations.

Since Wraptures are standard Apple PICT files, they can be used in any program that imports PICT files or allows the pasting of graphics from the clipboard. Each

Wrapture texture also comes in a non-tileable full screen (640 x 480) background size to use in presentations.

This disc also contains a few WraptureReels which are seamlessly looping video clips and animations in QuickTime file format. WraptureReels can be used as environment maps in 3D applications or used like standard QT movies: in presentations, animations, and HyperCard stacks. If you enjoy the WraptureReels on this disc, we have a whole CD-ROM full of them called WraptureReels One. The Reels disc contains 25 Seamlessly Looping, Broadcast Quality (640x480 at 30 frames/second) JPEG compressed QuickTime movies that can be used as described above as well as be used to put out to video tape (post Premier QT editing and fun) with excellent results . The disc also contains 18 presentation backgrounds and many sound effects.

#### Wraptures Usage rights and Copyright:

The content on the Wrapture One CD-ROM is licensed, not sold, to you as the sole owner of this disc and can be used on only one computer. You must purchase a site license if this disc and /or its contents are to be used by more than one person. All titles and copyrights for this disc and its contents remain with Form and Function. This license allows the REGISTERED user to use the contents of this disc in their own creations as part of a graphic piece for distribution, broadcast, or performance wherein the creation does not use any of this disc's contents or derivatives as the primary source of the creations value. The contents of this disc or its derivatives may not be offered for hire, or duplicated and/or manipulated for resale or redistribution in the form of a collection or library (such as a media library, reproduction art, or stock design). You MUST send in your registration card to be considered a registered user. Form and Function and the reseller of this disc are not liable for any damage or loss, arising from the use of this disc and its contents. This license can be revoked at any time. Contact Form and Function if you have questions (415) 664- 4010.

#### Using Wraptures for Tiling

What are Tiles: in computer graphics terms, a tile is a graphic that can be laid end to end and/or side to side, with no visible seams. Wraptures are tiles. This optimization is extremely versatile for a number of graphical applications.

Tiling: Tiling is the act of placing tiles end to end and side to side to cover an area. By tiling you can create large backgrounds, and large, high resolution images for printing.

Tiling Methods: There are two tiling methods, "Manual" and "Automatic"

The Manual Method: By pasting and positioning end-to-end a copied tile numerous times you can tile, or fill, an area. This method can be used in any graphics, multimedia, or presentation application or any other application that has standard paint tools. Following are general instructions on how to do this. Be aware that individual programs may use different key combinations to constrain and duplicate a selected item. Consult the manual for the graphics application you are using for

specifics on key combinations.

1. "Import" or "Open" the graphic. Many applications have an Import or Open option under the "File" Menu. You may need to use the clipboard to bring a Wrapture into an application.
2. Select the graphic imported using the selection marquee or "Select All" under the "Edit" menu.
3. Select "Copy" from the "Edit" menu or command-c
4. Select "Paste" from the "Edit" menu or command-v
5. Constrain and move the pasted tile. With the shift-key held down hold the mouse down on the newly pasted tile and slide the tile either horizontally or vertically towards the new tile location. Line up the end of the new tile with the adjacent end of the original.
6. To complete filling an area repeat the process: paste, then with Shift-key down, move the new tile to the next location.
7. Some programs allow you to copy and constrain a graphic object by holding down the Shift and Option keys. This means that all you have to do is hold down the keys, hold the mouse down over the selected tile you want to copy, and then slide the mouse in the direction of the location for the new tile.

The Automatic Method: Some applications have automatic tiling functions that allow you to import the tile and then specify it as a tile or fill pattern within the program. This has the added benefit of reducing the memory size of the tiled area, since the tiling is programmed rather than bit mapped. MacroMedia Director, and PhotoShop are a few applications that have an auto tiling or a custom pattern fill ability. One problem with automatic tiling is the size limitations certain programs place on tiles. If the Wrapture you are using is larger than the size limit, then the Wrapture is going to be clipped so that it is no longer seamless. This problem can be solved by using a smaller Wrapture that is within the tile size limit for your application. See the index in the manual for the application you are using for specific information on auto-tiling and fill patterns.

Tile Size and Pattern Repetition: Although Wraptures tile seamlessly, some repetition can be seen when tiling an area. The repetition is more pronounced in Wraptures that have a centrally located object or an irregular texture. By using a larger size tile to tile an area you can reduce the appearance of repetition, since it will take fewer repetitions of the tile to fill the area. When using an automatic tiling function in a program, using a larger tile will increase the size of the file since the larger tile is has a larger file size. Also as stated above under Tiling Methods, some auto tiling functions have a size limit. This means that you may have to go to manual tiling to reduce pattern repetition.

## Using Wraptures to Wrap around a 3d object

The following are general guidelines and instructions for using Wraptures in 3D programs. Please see the manual for the 3D program you are using for specific

information on the following topics.

**What is a Picture Map:** in 3-Dimensional application terms, a map is a picture that can be wrapped around an object. Many 3D applications use four different types of maps: bump maps, color maps, reflectance maps, and transparency maps. The four maps can be used alone or together to produce a variety of effects. Wraptures can be used as all four of the following map types.

**Bump maps:** these are usually gray scale pictures that the 3d program interprets as a relief map. The darkest areas are interpreted as the deepest area of the map, whereas white areas of the map are the highest areas. When a bump map is wrapped around the object (mapped) and rendered the object appears bumpy because of the map.

**Color maps:** these are pictures that are used by the 3D program to place a picture or a pattern onto a 3D object.

**Reflectance maps:** these are images that are used by the 3-D program to project an image onto an object such that it appears to be reflected from another object. Environmental scenes of sunsets, clouds and other items are easily applied to a scene in this way for added realism.

**Transparency maps:** these are images that define the degree of opacity an object will retain over a given area.

## Mapping

Mapping is the act of wrapping a map around a 3d object. As stated above you can use all the above maps for mapping. Some three-dimensional applications allow you to specify how you want to wrap a map. For example if you have a cube you could wrap the map around the cube spherically, or you could place the map on each side of the cube. Since the mapping style may result the sides of a map joining or in a map being adjacent to a copy of itself, it is important to have seamless maps. Seamless maps also make the surface of the object appear smooth and continuous.

Additional effects can be obtained through adjusting different attributes of the objects texture. Glossiness (specularity), opacity, and light refraction (diffusion, or contrast) are attributes that you can modify for a map and are available in most 3D applications.

**Mapping Method:** The following is a general outline on how to map a Wrapture to an object in a 3D program. Refer to the manual for your 3D program for specific instructions.

1. Have an object ready for mapping, or use the tools provided to create a 3D object.
2. "Import" the Wrapture you want to use as a map. The term "import" is used loosely considering the variety of methods used across applications to bring in a texture as a map.
3. Adjust the attributes for the new texture map.
4. Assign the new map created to the 3D object.
5. Adjust the lighting to suit taste.
6. Render the object.

7. Display it to admiring friends.

### Mapping Tips

Resolution: Wraptures are provided in a variety of resolutions. These resolutions allow the user to choose the Wrapture best suited to the variety of criteria encompassed in a 3D scene. These criteria can include memory constraints, computing horsepower, application-specific color optimization, and time. For example, by choosing a low resolution version of a Wrapture you reduce the memory requirements, and rendering time, but lose image quality. By choosing a high resolution Wrapture the image quality is higher, but you will need a faster computer and more memory to do the same task.

### Optimizing the use of your Wraptures via Resolution:

You can optimize the use of your Wraptures by matching the Wrapture resolution to the proximity of the camera. For long views of an object, choose a smaller version of the Wrapture since the camera is farther away and detail is not as crucial. For close-ups and flybys, choose a larger version of the Wrapture since the camera is close-up and detail is important.

## Using Wraptures as Backgrounds and in Printing

### What are the Backgrounds?

Backgrounds are pictures that are intended to be used as backdrops for other artwork and text. They are useful when creating presentations or multimedia productions.

Each Wrapture comes in a non-tileable 640x480 background size. The backgrounds, like the other Wrapture sizes, come in 32-bit and/or 8-bit (Apple Colors) color depths. They are designed specifically for display on a 13" monitor. You can also create a larger size background with the tileable sizes of a Wrapture by following the instructions above on "Using Wraptures for Tiling".

### Placing the Background:

See the manual for the program you are using for specifics on placing backgrounds.

1. Import the background you want to use.
2. Position it on the screen to suit taste.
3. Place other artwork and text on the background.

## Using Wraptures to Print at any DPI (Dots Per Inch)

Wraptures are 72 DPI files. Most printed material is between 150 DPI and 600 DPI. If you paste a 72 DPI Wrapture into a 150 DPI file, it will become smaller and not fill the area that it would in a 72 DPI file. Therefore, in order to use Wraptures in printed material either 1) tile the area with the Wrapture, or 2) resample the Wrapture to a higher DPI .

### Tiling to fill a Higher DPI Area:

Since Wraptures tile seamlessly, you can use them to fill an infinitely large and/or dense area. By using the largest tile-able size of the Wrapture available, which will be either 1024x512 or 512x512, you can reduce the amount of tiling needed to fill

an area. For information on how to tile an area, see the section above, "Using Wraptures for Tiling".

#### Resampling Wraptures to a Higher DPI:

Resampling is the process of increasing the DPI of a bit-map. For a 72 DPI image to be resampled to 600 DPI means that for each dot in the 72 DPI image there are 8 (600/72) dots in the 600 DPI image. Since this can cause the image to look chunky, programs such as Adobe's PhotoShop further process the image on resampling with blurring and other effects to minimize the chunkiness. Because of this extra processing, resampling is better than stretching the image. Future versions of Wrapture textures will address this situation by providing higher resolution scans.

#### Combining Tiling and Resampling:

By first tiling Wraptures and then resampling the tiled area to a higher DPI you can maximize the benefits of both of these methods.

© 1993 Form and Function