Boat Shapes Made from Bitmaps

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HYPACK® always had the option to load a Boat Shape file (*.SHP) in HYSWEEP® SURVEY. And Survey has also been able to load up boat shapes in the form of a DXF file over the past few years. Depending on how sophisticated a shape you want to display in real-time, creating an SHP or DXF file can be pretty time-consuming.

You can also load boat shapes in the form of a BMP image. This comes in very handy, especially if you do not have a CAD file, or if you do not want to spend the time creating a boat shape file. All you need is an image file of your vessel. Search the internet for an image, capture an image from a PDF file, or even scan an image.

In this example, I found a boat image I liked from a Google® SketchUp file.

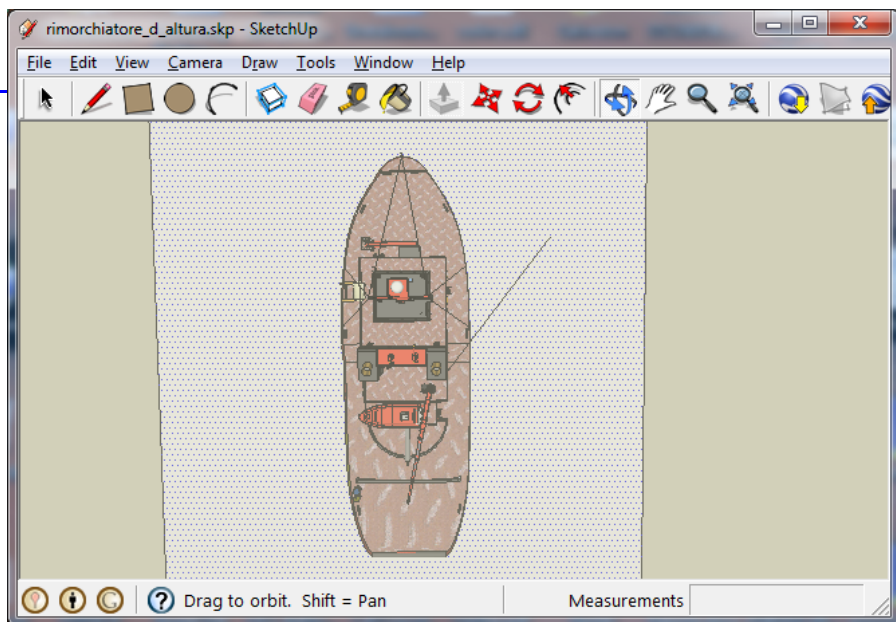**FIGURE 1.** *Boat Image in Google® Sketch*

1. **Open your boat image in** Google® SketchUp and do the following:

   a. **Rotate the image so you get a top view of the vessel** as shown in Figure 2.

   b. **Change any colors** as desired.

   c. **Turn off the shadowing**.

FIGURE 2. *Top View of Image File in Google® SketchUp*

   d. **Export the view out to a bitmap file (*.BMP)**

2. **Load the Bitmap into Microsoft® Paint and do the following**:
   a. **Crop the image, and adjust the image to your liking**.

Tips: Crop the image as tight to the vessel as possible to give you the best scaling in SURVEY.

White areas are transparent in SURVEY so your display will be more realistic if you color all areas outside your boat outline white.

FIGURE 3. *Cropping the BMP image and Noting the Pixel Coordinates at your Vessel Origin in Microsoft® Paint =>*

b. **Locate the boat reference point of the vessel.** Do this by finding the pixel position of the boat reference point. As you hover the cursor over the boat reference point on the image in Microsoft® Paint, note the pixel X and Y in the lower, left-hand corner of the program.

c. **Select FILE-PROPERTIES and note the width and height** of the image.

**FIGURE 4.** *Reading Image Dimensions from the Image Properties*
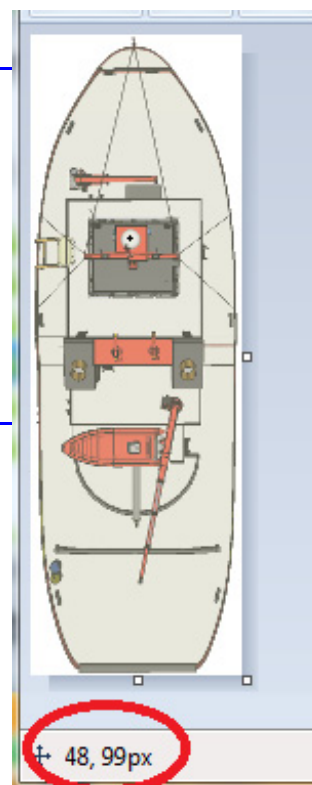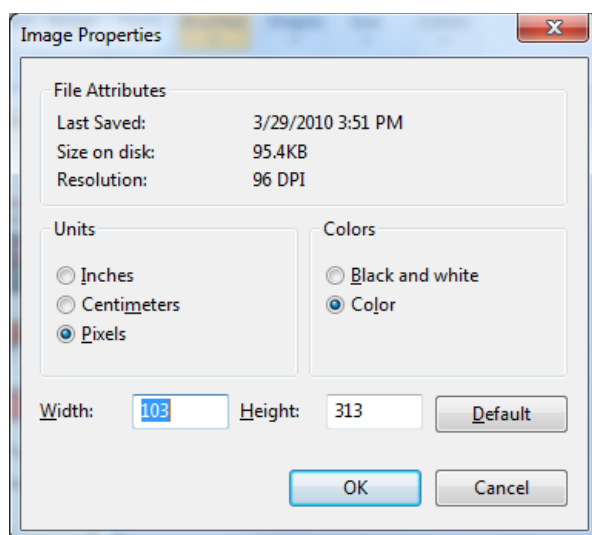
d. **Save the bitmap image.** In this example, I saved the image as SurveyBoat2.bmp.

3. *In the same directory as the BMP file,* **create a text file** using the same root name as your image file. For this example, I'll name it SurveyBoat2.txt.

   a. **On the first line, enter the X and Y pixel of the boat reference point location.** Now, this can be a little tricky. Pixels in image files reference the upper left-hand corner as the origin. HYPACK® SURVEY requires the *lower* left-hand corner as the

origin. So we need to change the "Y" value by subtracting the Y pixel coordinate of the boat reference point from the height of the image.

	X	Y
Image Size	103	313
Pixel Coordinates	48	99
Values for Text File	**48**	**214** (=313-99)

b. **On the second line, enter the length of the vessel (in survey units) .**

FIGURE 5. *Creating the Text File*
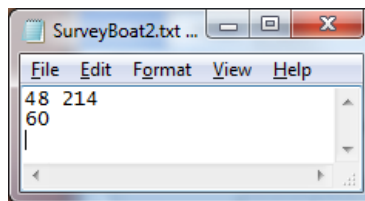
4. **Go into SURVEY and load the bitmap image as your boat shape**.
   a. **Select VESSELS – BOAT and go to the SHAPE tab**.
   b. **Click on the [...] button for loading the shape**.
   c. **Choose "Bmp Files (*.bmp)" under "Files of Type" then select your image file**.

FIGURE 6. *Loading the Bitmap Image in SURVEY*

d. **Under "Symbol" on the same tab, be sure to select "Own Ship"**.
e. **Adjust the transparency** to your liking.
f. **Go to the Map tab(s) and check "Display Shape"** for the maps in which you want to display the vessel image.
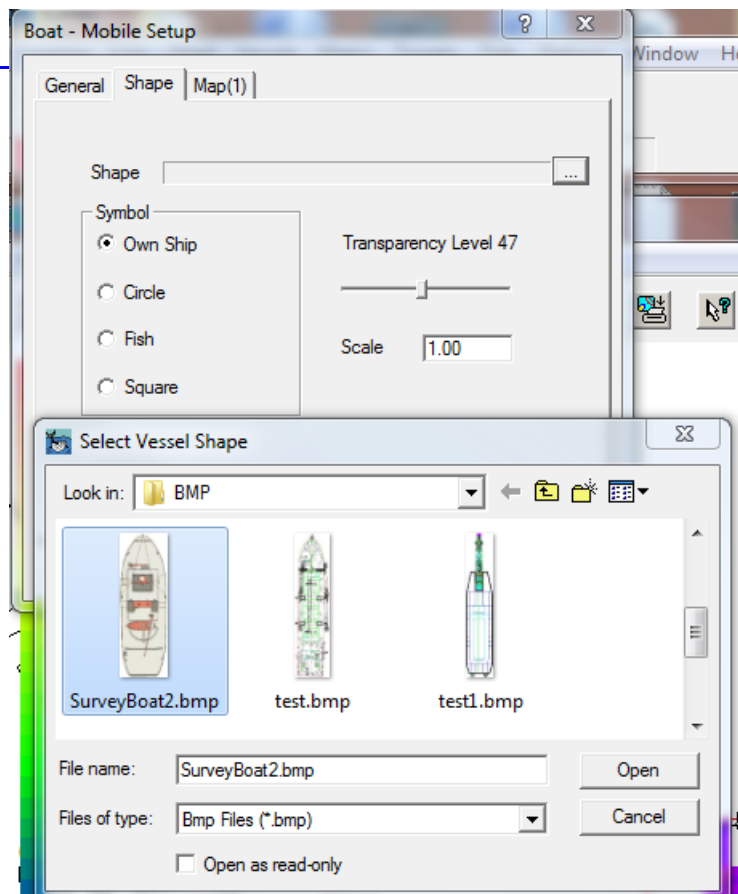
FIGURE 7. *Here is an image showing the vessel bitmap as displayed in HYPACK® SURVEY.*