## CHAPTER 14 - TUTORIALS

### Tutorial 1 - Creating a Full Panorama

This tutorial explains how to:

- Create a project document
- Setup the input parameters based on the source imagery and camera type
- Acquire the source images
- Stitch and blend a panoramic image
- Resize the playback window
- Specify an initial view
- Export a QTVR panoramic movie

#### Step 1 - Create a Project Document

Launch The VR Worx application. If the program is already running, choose **New** from the **File** menu. When the document selector dialog appears, click on the **Panorama** radio button and choose **OK**. A blank panorama project document window will appear.

Figure 14.1.1
A new *project document*, ready to build a panorama.
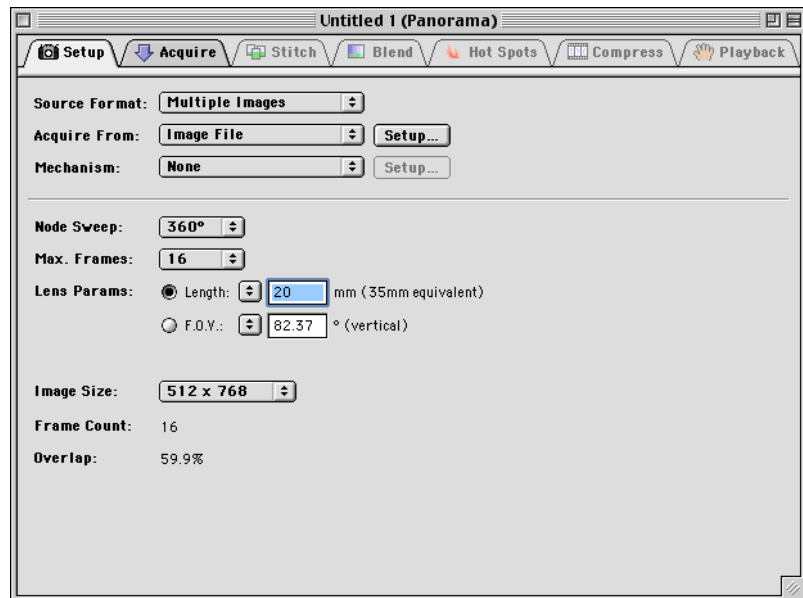


#### Step 2 - Specify Input Parameters and Camera Type

When the panorama for this tutorial was photographed, 16 pictures were taken in a full 360° circle. The images reside on disk, as ordinary image files. A 20 mm lens was used to provide a reasonably wide field of view. This information needs to be entered into the program.

1. Keep the default **Acquire From** setting as **Image File**.

2. Change the **Max Frames** setting to 16, which matches the number of pictures that were taken.

3. Type **20** into the **Lens Params: Length** field, thus specifying a 20 mm lens.

4. Keep the default **Image Size** setting at 512 x 768.

### Step 3 - Acquire the Source Images

With all the input parameters specified, click on the **Acquire** folder tab at the top of the project document window.

Figure 14.1.2
The Acquire panel is
where source
images are loaded.
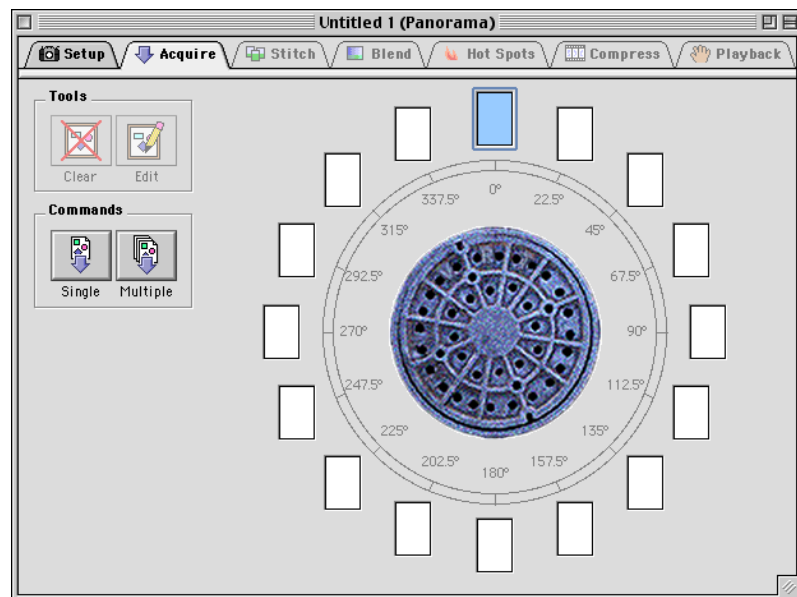


The source images will now be acquired by performing the following steps:

1. Click the command button labeled **Multiple**. A window similar to Figure 14.1.3 appears.

2. If necessary, navigate to the path "/Tutorials/P1.Full/Source Im-ages" on the VR Worx CD. A list of image files will appear. Click on the first image file, "Image.01.JPG". If the **Show preview** check box is inactive, click the check box to activate it. In the thumbnail preview, at the left side of the window, the selected image is displayed on its side. This is how the picture was digitized, and thus, it needs to be rotated.

Figure 14.1.3
The Image File
plug-in's multiple
file selection dialog.
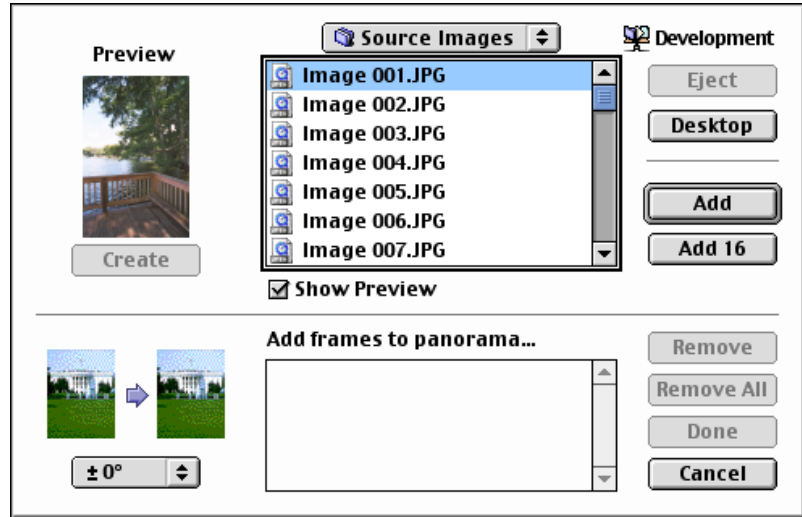


3. Click the **Add 16** button on the right side of the dialog. The 16 files, beginning with the selected file, "Image.01.JPG," are now added to the lower list.

4. Click the **Done** button.

The images are now being imported into the project. This process is called *acquisition*. During acquisition, a thumbnail for each image appears in the *frame cylinder,* as it is loaded. Each image is scaled and rotated, if necessary, during this process.

### Step 4 - Stitch the Source Images

With all the frames acquired, click on the folder tab labeled **Stitch**. This displays the **Stitch** panel.

Invoke the stitching process, by clicking the **Stitch** command button at the upper left of the window. When completed, the results are displayed as a series of overlapping frames.
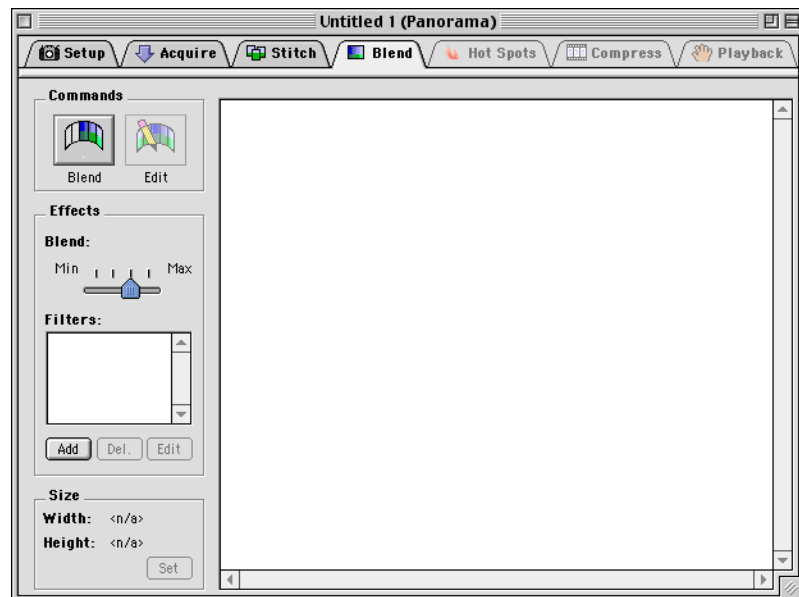
Figure 14.1.4
The Stitch Panel.
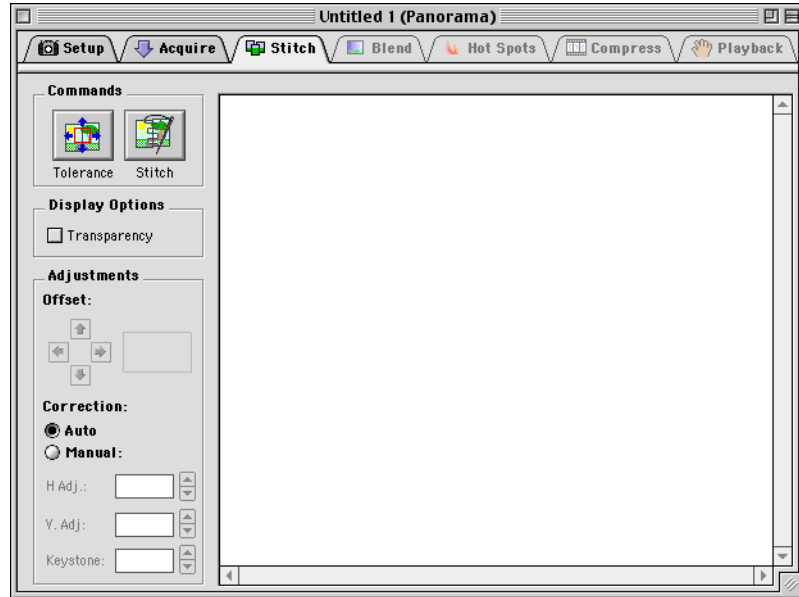


### Step 5 - Blend the Panorama

With stitching complete, click on the folder tab labeled **Blend**, at the top of the project window. This displays the **Blend** panel.

Figure 14.1.5
The Blend Panel.

The next step is to blend the stitched images together into a single, seamless image. This is done by clicking the **Blend** command button. When completed, a seamless panoramic image will be displayed.

### Step 6 - Compress the Panorama

The final step in the composition process, is to compress the panoramic image into the QTVR format. Click the **Compress** tab, at the top of the window. This displays the **Compress** panel.

Figure 14.1.6
Compress the QTVR
movie in the
Compress panel.
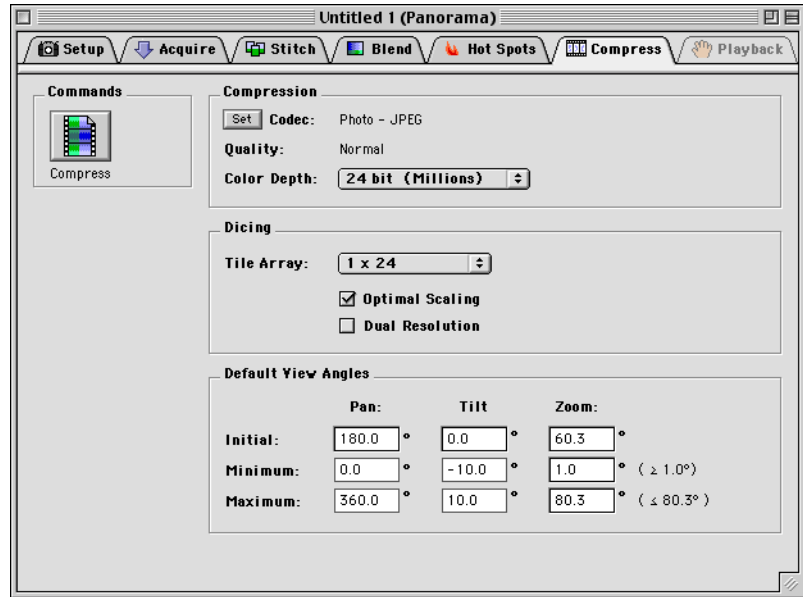


A variety of different compression options may be specified and applied at this stage. For this tutorial, the default settings will be used.

Click the **Compress** command button to build the movie. When composition is complete, advance to the next step, by clicking the **Playback** folder tab.

### Step 7 - Set Playback Options & Export the QTVR Movie

The **Playback** panel allows interaction with the composed movie. Click and drag the mouse on the QTVR image, to see how the view of the scene changes. Dragging side-to-side is a process known as *panning*. Dragging up-and-down is known as *tilting* the view.

> 1. Outdoor panoramas, such as this, are better viewed in a wider window. Type **400** in the leftmost text edit field labeled **Playback Window**, at the upper left corner of the window. Press the Tab key to accept the new value. The *movie box* for the panorama will change, showing a wider field-of-view.

Figure 14.1.7
The Playback panel
allows interaction
with the panorama.
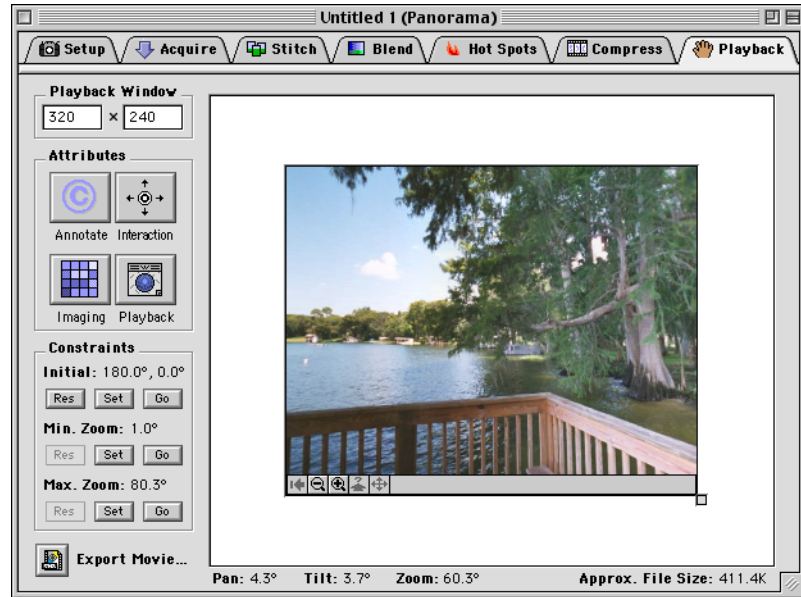


2. Pan and tilt, until the desired initial view of the panorama appears. Click the **Set** button that appears under **Initial** in the **Constraints** group of the window. This specifies that the current view of the panorama will be the *initial view,* when the movie is first opened.

3. Choose **Export** from the **File** menu. The following dialog appears.

Figure 14.1.8
The QTVR Export
dialog.



Navigate the hard disk and find the desired location for the QTVR movie. Name it anything desired. It is recommended that the name conforms to the QuickTime standard by ending it with ".mov."

For this example, type in the name "First Node.mov," and save it in a convenient location, such as the desktop or the "My Documents" folder. If the exported file is double-clicked from the Finder or Windows Explorer, the MoviePlayer application will launch and display the QTVR panorama.

This completes the composition of a full QTVR panorama.