

# Bentley Pointools V8i – Quick Start Guide

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We understand that you may be eager to start working with Bentley Pointools before reading through the entire user guide, so we have created this quick tutorial to show you:

- How to load a POD file
- Navigate around the point cloud
- Change some view settings; and
- Create a basic animation.

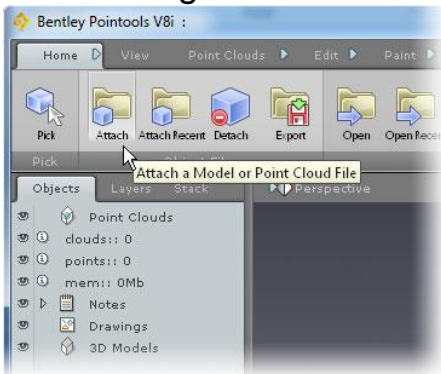
For help with other tools, hit F1 in the Bentley Pointools app to open the full User Guide.

## POD Files

POD (Point Database) files are Bentley's native point cloud format. These files enable rapid background loading and compact file size through compression.

**Note:** Importing and displaying a POD file does not require write-access, so it is possible to do this from read-only media, read-only locations or shared file

## Attaching a POD File



All objects are inserted by using the *Attach* command. The *Open* and *Save* options are for PTL project files only.

To view a POD file, select *Attach* from the *Home* ribbon menu. Alternatively use the *Ctrl+I* keyboard shortcut.

Navigate to and select a POD file in the file browser, and click *Open*. The point cloud will take a few seconds to cache and will then start to appear on screen. The second time you open the same POD file it will load instantly.

## Navigating

Bentley Pointools' controls have been designed to give you full navigation using the mouse only:

- The Left Mouse Button (LMB) **Rotates** the view around the target
- The Middle Mouse Button (MMB) **Pans** the view
- The LMB+RMB together **Zooms** in and out
- The mouse scroll wheel **Zooms** in and out.



The *Zoom* and *Pan* modes in the *Navigate* tool menu can be useful when using a laptop that has only Left and Right click buttons.

Rotation of the view occurs around the *View Target*. To change the *View Target* press **X** on your keyboard whilst the mouse cursor is hovering over the point you want to make the target. Alternatively you can use the *Set View Target* tool in the toolbar on the upper right of the viewport window.

## Changing Shader Settings

Shader settings can be changed to enhance the clarity of the point cloud. Intensity and RGB Colour can be toggled by pressing the keyboard shortcut **I**.

**Intensity Mapping** - Intensity values are mapped to an intensity colour ramp. The default ramp is a greyscale ramp but can be changed. The contrast (scaling) and brightness (offset) of the mapping can also be adjusted.

Adjusting Contrast and Brightness:


- Open the *Shader Settings* menu by clicking on the *Shader Settings* icon in the *Point Clouds* ribbon.
- Change the Contrast by dragging the *Contrast* slider. The view updates as the value is adjusted.
- Change the Brightness by dragging the *Brightness* slider.



**Colour (RGB)** - Enable colour by ticking the *Show RGB* box in the *Shader Settings* menu (pictured - right). If no colour is displayed it is likely that your POD file does not contain colour.

## Animation


Once the appropriate shader settings are adjusted to provide an optimum display, the point cloud can be rendered as a fly through animation.

- Click on the *Animation Wizard* button on the animation toolbar below the viewport and select *Fly Through*. The *Animation Wizard* creates a 3 dimensional path along which the camera travels. The path is calculated from user-defined key-frames and the smooth movement between these key-frames is achieved by interpolation of the camera position. 
- Use the *Enter Position* button to add a key-frame. This button records the current camera position in the viewport. Each click will add a key-frame to the animation path. Navigate in the viewport to the starting position (the dialog box will stay on screen), press *Enter Position* to add the first key-frame.
- Navigate again to move the camera to a second point, and press *Enter Position* again, this is the second key-frame.
- Continue this process of moving the camera, and pressing *Enter Position* until the animation path has been defined. When complete, press *Next*.
- Set the length in seconds for the animation; the default is 30 seconds. Leave the *FPS* (frames per second) at 25. Press *Next* again.
- Select *Try to Keep Constant Speed* (this spaces the key-frames in such a way that the overall speed of movement of the camera is kept constant).
- Select *Finish and Create Keys*.

The view will jump to the start frame of the animation and a few white boxes on the timeline at the bottom of the viewport will be displayed. These denote the key-frames. Press the Play button to review the animation path. The animation will be played at real time speed so the quality of display will be reduced.

Make any adjustments and then proceed to rendering.

## Rendering

- Click on the *Render Settings* button on the animation toolbar below the viewport. The Right-docked-menu opens as pictured. The *From* and *To* boxes show the start and end frames of the animation 
- Change the *Resolution* to *HDTV 1280x720* from the drop down list. This is a large enough resolution to give a crisp end result without taking too long to render each frame.
- Ensure *Output Video File* is checked, and click *Browse* to set a filename for the animation.
- Choose *AVI* or *MOV* and select a video compression *Codec* from the drop down list. If there are only a few present select *Cinepak Codec*.
- Set the *Quality* to *Anti-aliased*, and select **Render!** If you haven't saved, you will be prompted to do this now.

The anti-aliased renderer window will open and display the current frame. Note that each frame is rendered in full detail. Render speed will vary, for these settings but expect it to take around 1 second per frame. Once finished the produced AVI or MOV file can be played back in the associated media player.

## Further Information

- Read the full User Guide (press F1 while in Bentley Pointools to open)

