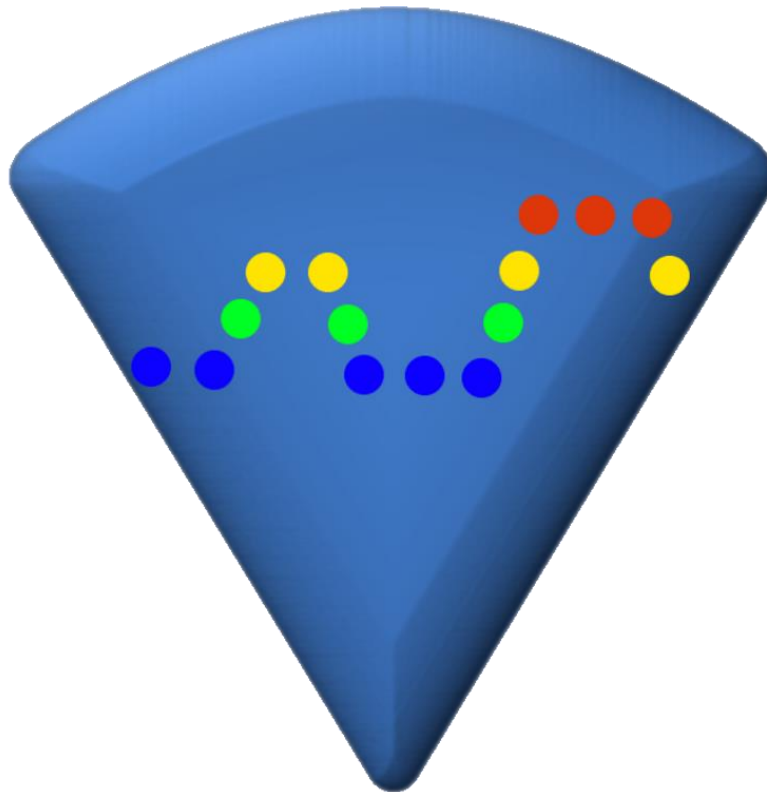


# Software Handbook

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## BlueViewer



Part Number: 204022-00

Revision: Rev B

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## Disclaimers:

“Open Source License (GPLv2):

The firmware included in this product contains copyrighted software that is licensed under the GPL, specifically a modified Linux kernel. A copy of that license is at the following link; <https://www.gnu.org/licenses/gpl-2.0.html> or on our website at <https://www.blueview.com/gnu>. A hard copy is available upon request. You may obtain the complete Corresponding Source code from us for a period of three years after our last shipment of this product by contacting Teledyne BlueView Customer Support. This offer is valid to anyone in receipt of this information.”

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# Chapter 1: Welcome

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This manual describes the features and operational instructions for Teledyne BlueView's BlueViewer software. BlueViewer allows the user to view the output of BlueView's line of MicroBathymetry (MB) products, as well as third party bathymetry / line scanner software packages. BlueViewer can simultaneously display multiple 3D point clouds and take accurate point-to-point measurements.

## System Recommendations

For best performance, BlueViewer requires a system that meets or exceeds the following requirements for optimum performance.

- Windows XP, Vista, or 7 operating system
- Dual-Core 1.8 GHz or faster processor
- 2GB or more of RAM
- 2GB or more of free disk space
- CD-ROM drive for installation

## Installation

To install BlueViewer, just insert the BlueViewer CD into your computer's CD-ROM drive. You may also launch the installation by double clicking on setup.exe in the CD's root directory. Follow the instructions to complete the installation.

## Technical Support

Although we have attempted to make this manual as complete as possible, we realize that there are always additional unanswered questions, as well as unique situations not covered by this document. BlueView is committed to providing industry leading customer service and technical support for all of our products. For technical assistance please email your questions to [swa\\_support@teledyne.com](mailto:swa_support@teledyne.com) or contact our customer service department at 425-492-7376 between the hours of 8am and 5pm Pacific Time.

For the latest contact information, data sheets and other support material please visit our web site at: <http://www.blueview.com>


## License Agreement

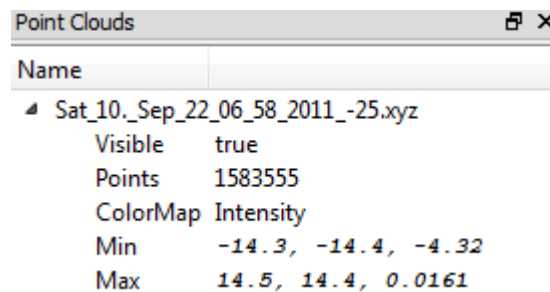
The accompanying Software and Documentation hereinafter referred to as "BlueViewer" are proprietary products owned by Teledyne BlueView, Inc., and protected under U.S. and international copyright law. Except as authorized under this License Agreement, the Software may be used only on computers owned,

leased, or otherwise controlled by you. You may not reverse assemble, reverse compile, or otherwise translate BlueViewer.

## Chapter 2: Viewing a Point Cloud

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1. Begin by installing the BlueViewer Software provided on the included CD.
2. Only point clouds in \*.xyz format are supported. This is the format output by ProScan and consists of a list of points. Each point is specified by its (x y z) coordinates (optionally followed by an intensity value) and is followed by a new line. To open a point cloud perform the following;
  - A. Navigate to **File**→**Open File** and choose your point cloud.
  - B. Click on the  icon at the top of the screen.
3. Drag your point cloud file onto the BlueViewer window. Once it has loaded, the name of your point cloud will be displayed in the “Point Clouds” window as shown below;

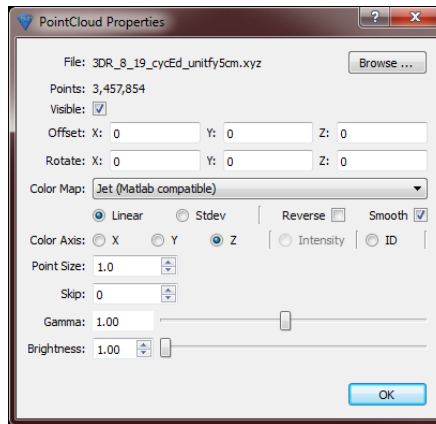


4. By clicking on the small arrow next to the name of your point cloud, you can display information about it.
5. To rotate the point cloud, hold down the left mouse button and drag the mouse in the direction you want the cloud to rotate.
6. To zoom, scroll the mouse wheel forward (zoom in) and backward (zoom out). Alternatively, you may hold down either the middle button or both the left and right buttons simultaneously and drag the mouse.
7. To move the point cloud, hold down the right mouse button and drag the mouse in the direction you want the cloud to be moved.

## Chapter 3: Point Cloud Properties

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1. To change the settings used to display your point cloud, double click on its name in the “Point Clouds” window. This will bring up the Properties window as shown;



2. The Properties are defined as the following;
  - A. **Visible:** Determines whether a point cloud is displayed in the main window
  - B. **Offset:** Translates the origin of the point cloud to the specified coordinates. This is useful when overlaying two clouds taken from different scan locations
  - C. **ColorMap:** Affects how the points in your cloud are colored. If your cloud contains an intensity value, Intensity may be used.
  - D. **Linear/Stdev:** Chooses how to weight the colors used in Color Axis mapping.
  - E. **Intensity:** If intensity is included in .xyz file (.xyz), select this setting to color points by intensity, based on the chosen color map.
  - F. **ID:** Select this setting to color points based on what pan angle they were collected at during the scan.
  - G. **Color Axis:** Sets which coordinate is used to determine a point's color. For example, if Z (the default) is used, points will be colored according to their elevation
  - H. **Point Size:** Determines how large each point appears in the main window
  - I. **Skip:** Allows you to only render a fraction of the cloud's total points. For example, if a skip of 1 is used, only every other point will be displayed. This is based on the order in which the points are listed in the .xyz file
  - J. **Gamma/Brightness:** Adjust image settings of points.




## Chapter 4: Measurements

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1. To make a point-to-point measurement, begin by clicking the  icon in the toolbar. This will enter measurement mode and display instructions on screen.
2. Select the first point of interest by double clicking on a point in the cloud.  
**Note:** You cannot click on an empty space.
3. Select the second point in the same manner as the first.
4. A measurement between these two points will be displayed on the screen.
5. Multiple measurements will be displayed simultaneously until they are cleared using the “Escape” key

## Chapter 5: Additional Settings

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1. The  icon is used to “Zoom Extents.” This will reset your viewpoint so that the entire point cloud is visible.
2. The  icon toggles the “Bounding Box” display. This will show a wireframe box on the screen which contains the entire point cloud. This will also display the coordinate axes.
3. The  icon allows the pivot point to be specified by double clicking on any point in the point cloud. This pivot point will be the point around which your viewpoint rotates.
4. The X,Y, and Z buttons determine which axis the camera treats as “up”.
5. The box with a “P” button toggles from orthographic to prospective views.
6. The eye button switches that \*.XYZ file from visible to hidden.
7. Under the **File** menu, you can open or close files and take a high resolution screenshot.
8. Under the **View** menu, there are several additional options:
  - A. **Toggle Visibility:** Enables/disables the point cloud.
  - B. **Turntable:** Causes the entire point cloud to spin around the z axis continuously.
  - C. **Switch to Orthographic/Perspective Projection:** Toggles between two projection options.
  - D. **Fullscreen:** Expands the main window to take up the entire screen. Press the “Escape” key to exit.
  - E. **Show Grid:** Enables/disables the Grid.
  - F. **Background Color:** Allows the user to change the background color.
9. Under the **Rendering** menu, there are several options which allow you to change graphics settings in displaying the point cloud.

### Still not working

Please contact us:

Teledyne BlueView, Inc. Customer Support

Website: [www.blueview.com](http://www.blueview.com)

Email: [SWA\\_Support@teledyne.com](mailto:SWA_Support@teledyne.com)

Phone Number: +1.425.492.7376

Hours of operation: 8am – 5pm PST Mon through Fri



## Appendix A: Colormap Generation

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It is possible to generate a custom Colormap file for use with BlueViewer if none of the default options suit you. To do so, use the software package of your choice to create a new image. The number of pixels in the “X” dimension (ie the image width) is the number of distinct colors that will be used in the Colormap. The image height is not important. Both the X and Y dimension can be any power of two less than or equal to 1024 (this should be kept relatively small to reduce file sizes). To create the color map, each vertical column of pixels should be a single color. These colors usually change gradually from left to right so that the color on the left and right edges will be assigned to points at the minimum and maximum elevations, respectively. For a good example of how a Colormap should look, please refer to the file “**media\colormaps\jet.png**” located in the BlueViewer installation directory. To get BlueViewer to use your new Colormap, simply save it as a .png extension and move the file into the “**media\colormaps**” folder located in the BlueViewer installation directory.