

# Setting up and Using the bkViewer

bkViewer version 9.0

**LEGAL MANUFACTURER**

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**BK Medical Customer Satisfaction**

Input from our customers helps us improve our products and services. Your opinions are important to us. You are always welcome to contact us via your BK Medical representative or by contacting us directly.

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## General Information

The bkViewer is a standalone desktop program that allows viewing of acquired 3D volumes on a Mac or PC with a Windows 10 operating system, enabling you to process and read 3D image data.

The bkViewer is designed to match the post-acquisition functionality of the ultrasound scanner. The software allows you to view, analyze, and quantify anatomical and pathological structures in a 3D volume, giving you a meaningful interpretation of the captured imaging data.

 Software Installation	<b>Caution Config-c1</b> Before installing the bkViewer software, the computer system must be virus-free, have anti-virus protection and a fully updated operating system.
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 Proper Training	<b>Caution Training-c1</b> The user of bkViewer must be trained in the use of the software.
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 Resolution	<b>WARNING Res-w1</b> If the text is unreadable adjust the resolution of the monitor.
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Ensure that the correct data storage system and path are secured and correct. This also includes ensuring that all data transmissions via WiFi/and or Bluetooth are secure from data corruption and interception.

## Intended Purpose

Use of the bkViewer enables the display and manipulation of black/white or color 3D ultrasound images acquired by BK Medical ultrasound systems.

The bkViewer aids visualization of anatomical and pathological structures in an ultrasound image, and allows you to highlight and measure the structures in different planes.

The displayed images cannot be guaranteed to offer an exact representation of the images acquired on the ultrasound systems.

**NOTE:** *The expectation is that the bkViewer will be used after examination using BK Medical ultrasound systems. The bkViewer is not to be used as part of a diagnosis as it is not a medical device but is only intended for training and educational purposes.*

## Imaging modes

3D images can be gained using b-mode, or color mode Some functionality may vary according to the imaging mode used for the acquisition.

## Installing the bkViewer

The bkViewer can be downloaded from the BK Medical website.

Before installation, make sure that the operating system is fully updated, virus free and has anti-virus software installed. The configured systems must fulfill all the bkViewer installation requirements and undergo testing and verification.

## Hardware and operating system requirements

BK Medical recommends the following minimum hardware and operating system configuration:

- CPU: Intel i5 5th generation or better.
- Memory: 8GB memory or more.
- GPU: Intel HD Graphics 5500 or better.
- Windows 10 or later.
- MacOS 10.12 or later.
- Display resolution of 1366x 768 pixels.

### To Install bkViewer<sup>1</sup>:

- 1 Accept the License Agreement terms, then click **Install**.

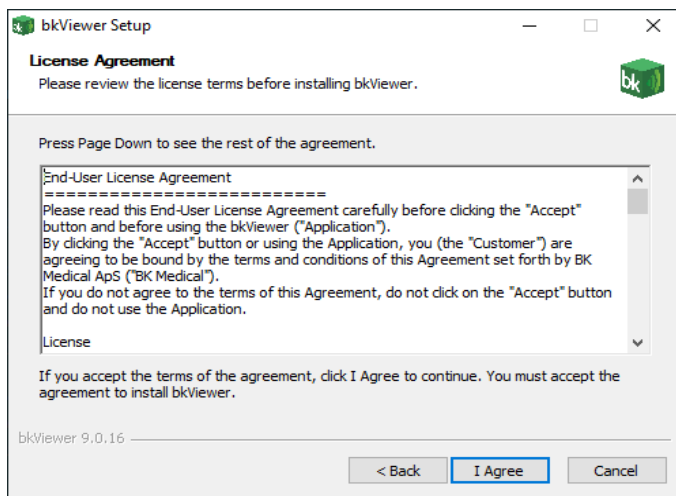


Figure 2-1. Installation set-up.

- 2 Follow instructions for installation and complete the installation by clicking **Finish**.
- 3 A shortcut to start the program will appear on the desktop.



Figure 2-2. bkViewer short cut.

After installation, the first time the application is started, a popup display will appear asking you to allow access to blocked features of bkViewer on public and private domain networks.

**NOTE:** *If you decline access through the firewall upon first startup and later decide that you need it, you will need to add firewall rules to allow TCP and UDP protocol access. Contact your IT department for guidance.*

1. Screenshots captured with Windows 10 OS.

If the installation is successful, the program will be started automatically when you double-click a 3D file. The opened file will be displayed in the bkViewer program.

You may start with a 30-day trial. After 30 days, you will be asked to enter a product key to view files. The full license key will be supplied by your BK Medical representative after you have submitted the system identification number.

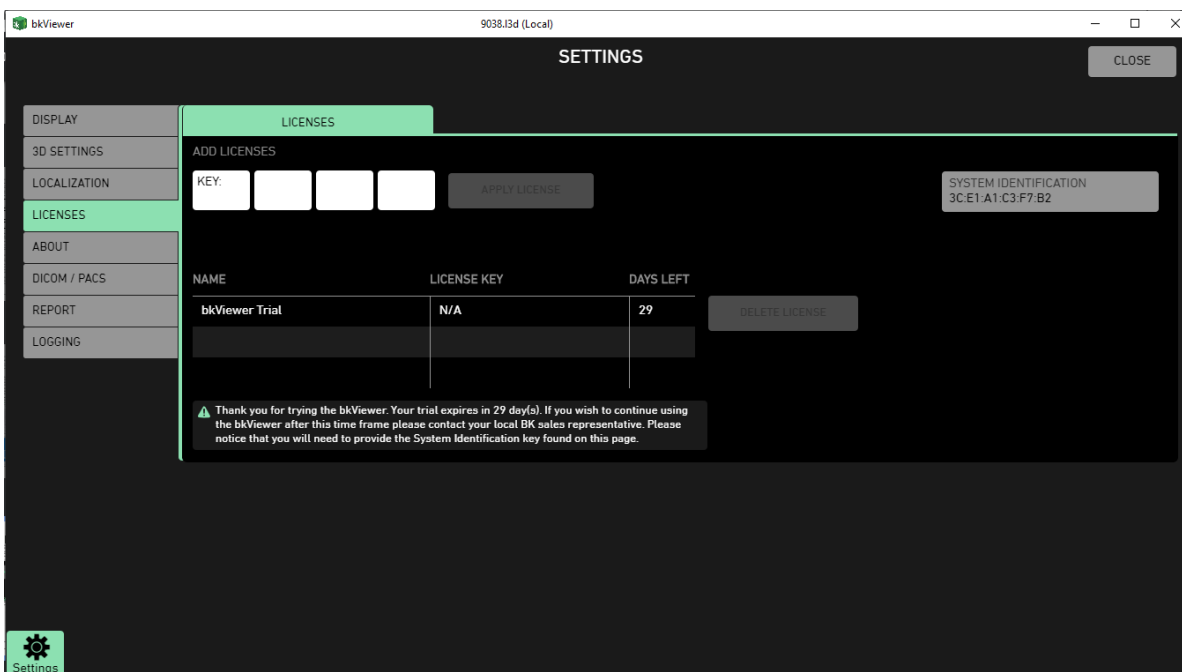


Figure 2-3. The Licenses tab.

**NOTE:** Computer hardware changes may invalidate the license. Contact your BK Medical representative if this occurs.

## Installing the bkViewer on a MAC

- 1 Double-click the bkViewer file.
- 2 To open the file, click on the **Apple icon** > **System preferences** > **Security & Privacy**, then select **General**.
- 3 Click the **Padlock** icon to unlock the **Security & Privacy preferences**.
- 4 Select **App Store and Identified developers**, then click **Open Anyway**. This will allow you to open and install the program.
- 5 Accept the software license agreement terms and follow instructions for installation.
- 6 Drag the program to your **Applications** folder, then delete the downloaded files.
- 7 Click the **Launch pad** icon in the dock, or press **F4** on the keyboard. This will bring up the launchpad for you to access the program.
- 8 You can now click the program to open and run it on your Mac.

You can later choose to add the program to the dock on your Mac.

## The User Interface

This section gives you an overview of the software's functionality and the user interface.

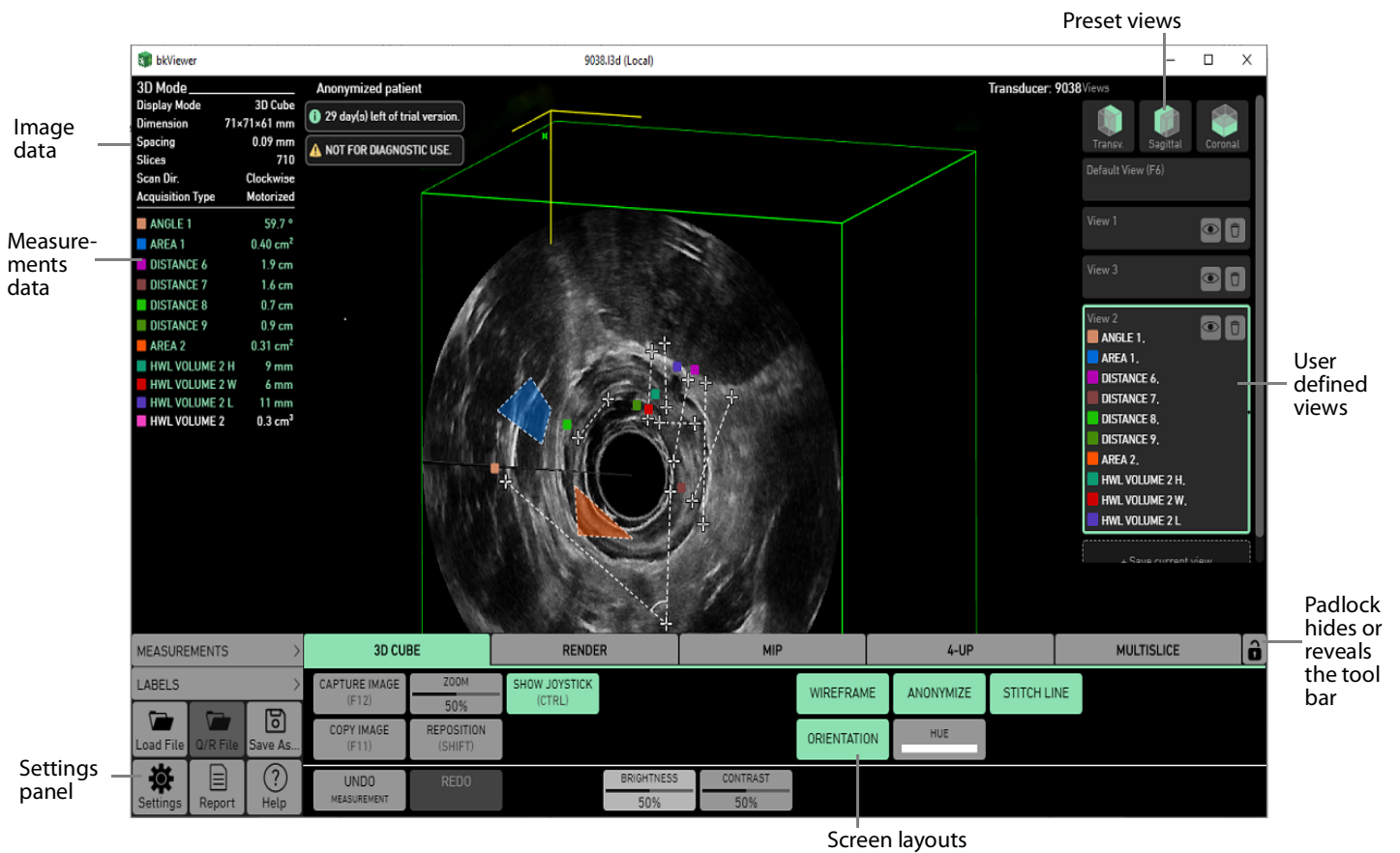


Figure 2-4. The user interface for the bkViewer.

## Toolbar Functionality

There are many function controls on the toolbar at the bottom of the bkViewer screen, including the **Settings** and **Load File** controls. The complete toolbar can only be viewed when a 3D file has been loaded.

The controls in the lower toolbar are automatically revealed and hidden when the cursor is placed in the toolbar area. You have the option to lock the revealed or hidden toolbar by clicking on the **Padlock** control on the lower right hand corner of the bkViewer.

Click **Help** in the bottom left side of the screen to see a version of this User Guide.




## Opening a bkViewer 3D file

The files have the extension **L3D** or **DCM**, and they can be opened in three ways:

- Click on the file to open in the bkViewer.
- If the bkViewer is open, drag and drop a file into the viewer window.
- If the bkViewer is open, click on the **Load File** button and use the search field to locate and open the file. When you open a file using the load file button, the opened file is displayed in the **Default View**.

**NOTE:** When opening volumes generated by non BK Medical ultrasound scanners, the correctness of the image and its aspect ratio cannot be guaranteed.

**NOTE:** The data network must be sufficiently dimensioned for 3D data.

 Verify patient ID	<b>WARNING Exam-w3</b> Verify that the patient name and ID are correct.
---	--

## Display Modes

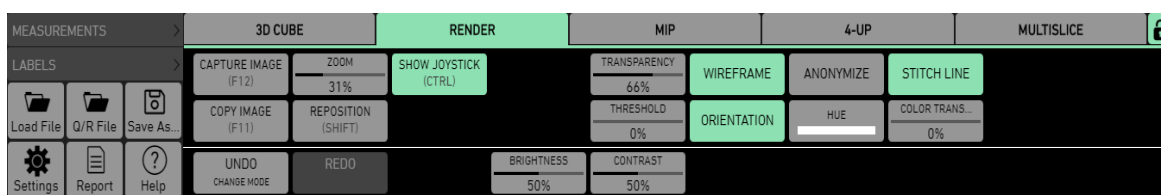


Figure 2-5. The 3D display modes.

**3D Cube** is the default display mode. Viewing a volume in 3D Cube mode enables you to recognize different tissue layers in the volume. Using this display mode, you can make distance, area, angle, HWL and volume measurements.

**The Render** mode enhances the visualization of the 3D volume. It is useful for looking at soft tissues such as fistulas and abscess cavities.

In the render mode, you can adjust the **Threshold** and **Transparency**. You can also set the color transparency of an image. Adjust color transparency using the **Color Transparency** slider that you hold and slide to the left or right. See also “Imaging Controls” on page 10.

**The MIP (maximum intensity projection)** mode accentuates and reveals the peak velocity regions of the volume. This mode emphasizes the pixels with the highest intensity in the volume.

You can choose between the color map or gray scale volume of the ultrasound image using the **Color MIP** button in the MIP view.

The **4-UP** mode enables you to see the volume in 3 perpendicular planes. You can move each of the planes independently. If you are viewing the volume in the 4-UP mode, you will see the coronal plane, sagittal plane, transverse plane, and a combined planes image. The planes can be moved by adjusting them in the intersecting view.

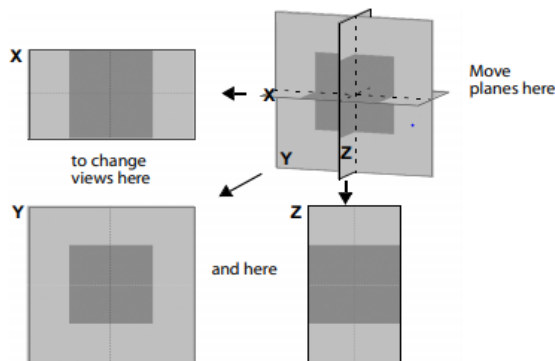


Figure 2-6. The 4-UP view.

The **Multi Slice** mode displays volume data in parallel slices. You can examine the slices simultaneously and compare the structural details in the dataset. The selected reference slice is always displayed in the center of the acquisition plane, marked with a green frame and **0 / 0 mm**.

Use the image overview (see Fig 2-7) to check slice positioning. If you want to change the position of the reference slice (shown as a solid green line), click your preferred position on the image overview.

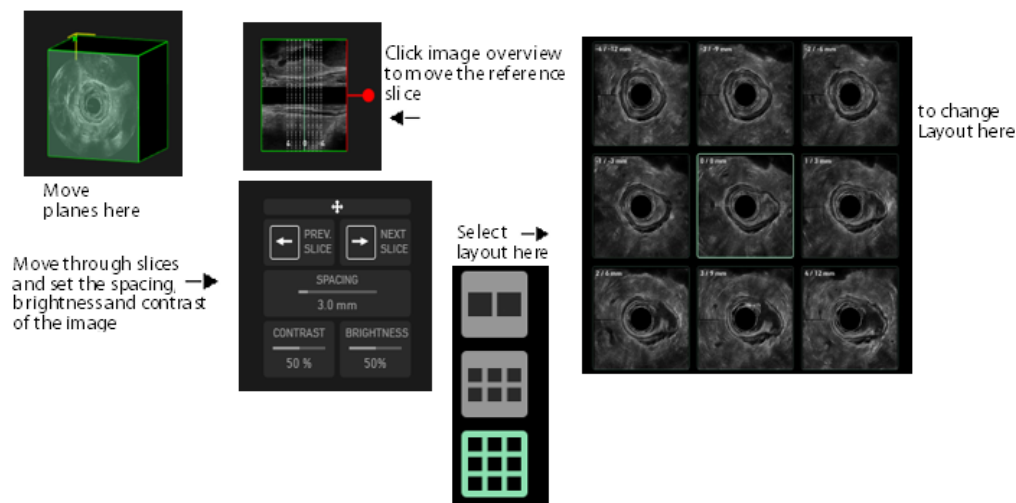


Figure 2-7. The Multi slice view with a 3 x3 layout displaying 9 slices.

**NOTE:** It is possible to select the coronal plane, sagittal plane, transverse plane, or Default View using the operational controls in each of the 3D Cube, Render, 4-UP, MIP and Multislice views.

#### To angle a plane in multislice mode:

- Click on the image plane, then use the **red plane angler joystick** to change the direction and scale of the plane. See “Manipulating the Volume” on page 11.

To make measurements on a particular plane in multislice mode, hover on the identified slice, then click **show in 3D cube** in the bottom. The selected slice will be displayed in 3D cube mode.

Use the mouse wheel to zoom in and out.

## 3D Layout Options

You can change the layout of the view by choosing from the following screen layout options.



Figure 2-8. 3D layouts.

**Wire frame** will turn on/off the green borders around the volume.

**Anonymize** will turn on/off sensitive patient data.

**Orientation** will turn on/off the yellow orientation lines on the volume.

**NOTE:** *Anonymize simply hides the information in the interface. To remove the patient data from the file, you will need to save a de-identified version of the volume from the **Save As** dialog.*

**Stitch line** will turn on/off the white stitch line on the volume. The white stitch line indicates the point of change of the direction of the 3D acquisition.

The **Hue** opens a color palette where you can select from the available options, a specific tint for the grey-scale part of the volume. This optimizes visualization of specific regions of interest.

## Using the Settings Panel

Once you have installed bkViewer, you can configure and modify the settings. If you do not make any modifications to the settings, the software will automatically use the **default** settings.

Under **Display**, the color calibration boxes can be used to ensure that the monitor is calibrated for the desired image quality.

**3D settings** will enable you to adjust the response rate of the joystick to movement. You can set the sensitivity of the joystick to be either slow or fast by adjusting the **Plane Angler sensitivity** slider. Use the toggle buttons to select if you want to automatically save images when new views are created, or change measurement units (**mm/cm**). You can also select the folder where you want to save all auto captured views.

**Localization** allows you to change the language of the bkViewer interface. You can select the language you want from the list of languages supported by bkViewer.

You can enter and activate your product license key under **Licences**.

In the **About** section, you will find information about the version of the installed software, and legal information.

**DICOM / PACS** will allow you to configure and set up DICOM / PACS connections in order to store documents and image data on PACS.

Using **Report**, you can set up the program to automatically save reports.

**Logging** opens the log files for the program.

**NOTE:** *The operator doing the network set up must be trained. Computer setup must comply with IT regulations.*

## User-defined views

You can create several user-defined views that are specific to 3D Cube, Render, 4-UP, and MIP views. The different views can be saved and reopened by clicking the view icon. You can always return to the initial starting view by clicking on the **Default View (F6)** control.

Additional views can be created by clicking the + **Create new view** control. Views can be seen in any order, and individual views can be deleted by clicking on the trashcan icon within the view. A confirmation pop-up display will ask you to confirm the deletion.

Within each view, you can select to either see or hide the view by clicking on the **eye icon** in the view. It is also possible to customize a view by changing the name of view. Simply select the view to edit and update it with the changes you want.

## Preset-views

You have the option to select a particular preset-view. The preset-views are displayed in the top right hand corner of the **View** window. Click the **preset-view** icons to select transverse, sagittal, or coronal views.

**Transverse** - displays a mid-transverse view of the 3D volume.

**Sagittal** - displays a mid-sagittal view of the 3D volume.

**Coronal** - displays a mid-coronal view of the 3D volume.

## Imaging Controls

When a 3D view is displayed, you can use these buttons to make it easier to see the structures you are interested in:

- **3D Brightness**
- **3D Contrast**

The following buttons are only operational in the render display mode:

- **Threshold** sets a threshold that filters the pixels that are not as bright as the threshold, optimizing the way the structures in the 3D volume are displayed.
- **Transparency** adjusts the relative transparencies, allowing hidden features to become visible.
- **Color Transparency** adjusts the overall color transparency of the image.

**Color MIP** can only be used in the MIP (maximum intensity projection) display mode. This feature allows you to choose between the color map or gray scale volume of the ultrasound image.

**3D Zoom** will resize the volume. You can zoom in and out on the desired structure in a region of interest. You can return to the original image by clicking **Undo**.

There are two ways to zoom in and out:

- Click **3D Zoom**.  
A zoom window appears. Move the sliders along the “+” or “-” on the 3D zoom scale.  
or
- Select the image, then use the mouse wheel to zoom in and out of the volume.

**Show joystick** turns on/off the joystick.

## Manipulating the Volume


The images are best manipulated with the aid of the cursor.

With the exception of the 4-UP view, all function buttons in the toolbar can be used to aid visualization.

**NOTE:** *The 4-UP view does not permit the use of the Wireframe, Stitch line, and Orientation.*

You can manipulate the 3D volume from outside the volume or on a plane. For ease of use, it is recommended that you enable both the **Wireframe** and **Orientation** functions when manipulating images.

### Rotation of the volume from outside the image:

Hold the rotation cursor  and click to rotate the image in any direction. Note that the cursor must be outside the volume. When you click, the cursor turns green and active to start rotation of the 3D volume.

### Moving the volume in the bkViewer:

You can move the entire volume by:

- Pressing and holding both the **SHIFT** key, then a **left click**.  
or
- Clicking the **Reposition** tab to drag and reposition the volume.

To return to the original position of the volume, click **Undo**.

### Manipulation of a plane:

When you click on the plane to be manipulated, the outline color of the plane will change from green to red.


**NOTE:** *If you have selected the Wireframe button for the volume, the remaining wireframe outlines will remain green.*

There are two ways to manipulate a plane:

#### Use the slide plane cursor to move the plane in and out:

- Click the plane and drag the slide plane cursor  to slide through the volume.

#### Use of the red plane angler joystick (pin) to angle the plane:

- Click the plane and use the angle plane cursor  to drag the joystick. This will change the direction and scale of the plane.

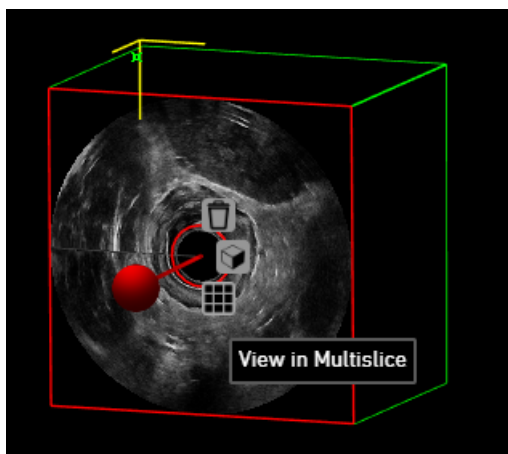



Figure 2-9. 3D cube showing the red plane angler joystick.

You can also choose to **Reset Plane** (trashcan icon) or **Align Plane** (cube icon) when the cursor (now shown as a hand icon ) is within the red-colored circle. The joystick will automatically reposition itself to the center of the plane. This is to ensure that the joystick can always be seen and used. To view the plane in multislice mode, click the **Multislice** icon next to the joystick.

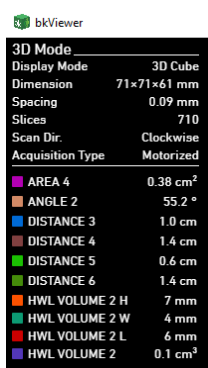
The **Undo** or **Redo** buttons will display one user action forward/backwards.

## Making and Recording Measurements on a Volume

The **Measurements** tab contains various measurement tools that you can use to measure different aspects of a 3D volume. You can make measurements on any region of interest.

The result of all measurements will be displayed and continuously updated in the **view window** and **measurement data** in the upper left side of the screen.

A new view is automatically created for each completed measurement. Each measurement has an assigned color block - this color block is also shown in the **view window** and **measurement data**.















3D Mode	
Display Mode	3D Cube
Dimension	71×71×61 mm
Spacing	0.09 mm
Slices	710
Scan Dir.	Clockwise
Acquisition Type	Motorized
 AREA 4	0.38 cm <sup>2</sup>
 ANGLE 2	55.2 °
 DISTANCE 3	1.0 cm
 DISTANCE 4	1.4 cm
 DISTANCE 5	0.6 cm
 DISTANCE 6	1.4 cm
 HWL VOLUME 2 H	7 mm
 HWL VOLUME 2 W	4 mm
 HWL VOLUME 2 L	6 mm
 HWL VOLUME 2	0.1 cm <sup>3</sup>

Figure 2-10. Measurement data.

**NOTE:** Measurements can only be done on image slices that contain scanned data.

 3D measure- ments	<b>Caution M-c1</b> You must be adequately trained before you attempt to make measurements.
--	--

 Untracked freehand	<b>WARNING 3D-w2</b> You cannot make accurate measurements on a 3D data set acquired using the untracked freehand method.
--	--

It is possible to have a maximum of twenty 3D measurements. To perform further measurements, some of the existing measurements will have to be deleted. A pop-up display will notify you when you reach the maximum number of 3D measurements.

**NOTE:** Make sure that you are using the correct measurement to avoid mix ups when making several measurements. It is possible by mistake to click an incorrect measurement from the available options on the measurements dropdown menu.

## Making 3D Measurements:

Distance, angle, and area measurements are only possible within the same plane. Multiple distances can be measured. The result of all measurements will be displayed and continuously updated in the view and measurement data.

Volumetric measurements can only be done when using the 3D Cube view. The full list of options is available by clicking **Measurements** in the lower left hand corner of the screen.

You may choose to resize the volume before starting to take measurements. The volume is resized by clicking the **3D Zoom** button.

**NOTE:** Even after resizing, the volume image can still be repositioned (**SHIFT + left click**) if you select an area outside of the volume.

You start measuring by clicking **Measurements**. The 3D measurements appear in the input area.

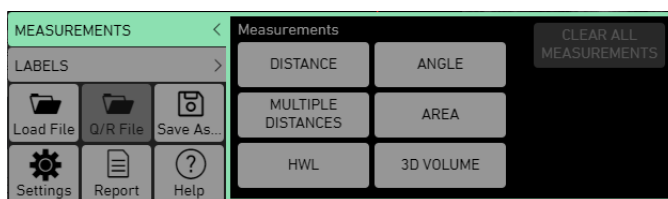


Figure 2-11. Measurement tab.

### To make a Distance measurement:

- 1 Click **Distance**.  
A caliper appears on the image.
- 2 Drag the caliper to the position you want and click. A second caliper appears.
- 3 Drag the caliper to the end point of the distance you want to measure and click again.

### To move a placed caliper after it has been wrongly positioned:

- Click on a caliper in a placed measurement and drag to reposition.  
You can change length/ width or orientation of the line.
- Click again to set measurement.

**NOTE:** This does not apply for measurements that do not contain any calipers.

To reposition the entire measurement:

- Click on the measurement and drag it to a new position.
- Click again to set measurement.

**NOTE:** Repositioning an entire measurement cannot be done across planes. If the measurement or parts of it is moved outside the plane where it was originally made, the whole measurement will turn gray and not be possible to place.

### To measure Multiple Distances:

- 1 Click **Multiple Distances**.
- 2 Click to position the calipers of the measurement. A new caliper is displayed for you to measure the next distance.
- 3 Continue until you have measured all the distances required.
- 4 Double-click to end measuring. Or Click **End Measuring**.

### **To measure an Angle:**

- 1 Click **Angle**.
- 2 Click to position the first caliper on the monitor.
- 3 Drag the second caliper to where you want to measure the angle and click.
- 4 Drag the third caliper to measure the angle and click.

### **To make an Area measurement**

- 1 Click **Area**.
- 2 Draw a polygon around the region of interest by clicking calipers on the perimeter. When you have come to the last point, double-click to set the area. Or Click **End Measuring**.

It is possible to place up to a maximum of 100 area measurement calipers. To perform further measurements, some of the existing measurements will have to be deleted. A pop-up display will notify you when you have placed the maximum number of calipers for area measurements.

**NOTE:** *If a finished area measurement contains calipers with intersecting lines, the area calculation will be invalid. You can untangle intersecting lines by repositioning the calipers to remove lines that intersect with each other.*

### **To make an HWL measurement:**

- 1 Click **HWL**.
- 2 Make a measurement of the height of the structure.  
The measurement is displayed on the monitor with the number of the measurement (e.g. HWL volume 1H).
- 3 Click **HWL** again to measure width of the structure.
- 4 Click **HWL** again to measure length of the structure.  
The measurement will be displayed in the view along with the full volume of the structure, and in the HWL measurement data to the left of the image.

**NOTE:** *The formula for calculating HWL is:  $L \times H \times W \times 0.523$ .*

### **To make a 3D Volume measurement:**

You measure volume by drawing polygons around the region of interest on slices taken throughout the Cube.

**Next slice** will bring you one slice into the 3D volume. You can step through the different volume slices.

**Prev. Slice** will bring you one slice further back in the 3D volume.

**Slice Thickness** adjusts the thickness of the slice. Slice thickness can be adjusted between 1 mm and 20 mm.

**Accept Volume** will give you the different area measurements from each slice and full volume calculation.

**Undo last** will remove the most recent volume measurement.

**Cancel Volume** terminates the ongoing volume measurement.



### To start measuring:

- 1 Click **3D Volume**.
- 2 Click **Slice Thickness** to set the distance between the slices of the 3D Cube (**Default Slice thickness is 3.0 mm**).
- 3 Draw a polygon around the region of interest by clicking points on the perimeter. When you have come to the last point, double-click to set the area.
- 4 Click **Next Slice** to move through the volume by the chosen slice and outline the region of interest in the new slice.
- 5 Repeat steps 2 and 3 for each slice until the region of interest is no longer visible. (the volume measurement is completed).  
The accumulated volume is updated as each polygon is completed.
- 6 Click the **Accept volume** button on the measurements menu that pops up when the volume measurement is started.

**NOTE:** The slice thickness should stay the same for all volume measurements in order for you to be able to use the **Next slice** and **Prev. Slice** buttons.

### To Reposition a measurement:

You can reposition an existing measurement that might be slightly off.

- 1 Hover on the measurement to select it for editing.
- 2 Hold and drag the measurement to a new position.

### Deleting measurements

#### To clear a single measurement:

- 1 Click on the measurement you want to clear within the views window, or hover on the measurement in the measurement data. A trashcan icon will appear.
- 2 Click on the trashcan icon to remove measurement.

#### To delete all measurements:

- Click **Clear Measurements**.

**Clear all measurements** deletes the following:

- All measurements in the volume.
- Measurements in the view.
- Measurements results.
- All views containing only measurements.

**NOTE:** Clicking the **Clear All Measurements** button resets the measurement numbers, so that when you start measuring again, the next measurement made is **Distance 1**, instead of continuing from the deleted measurements numbering.

**Undo** will delete most recent measurements. You can remove more than one measurement by clicking several times. To restore deleted measurements by click **Redo**.

**NOTE:** Measurements deleted with **Clear All Measurements** can not be restored with **Redo**.

## Color Area and Volume measurements

You can color code a specific region of interest on a 3D volume with the associated measurement color.

- Hover the area or volume result in the measurement data, then click the **Paint roll** icon that appears to the right of the measurement result.

**NOTE:** Clicking the **Paint roll** when the color is turned on will remove the color area.

## Labels and Arrows

You can annotate the 3D image by adding **Labels and Arrows** to the view.

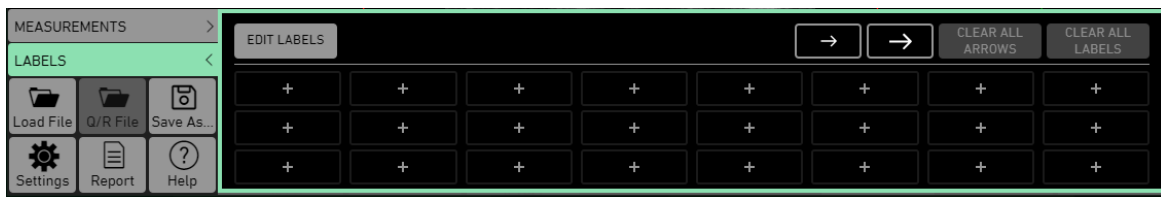


Figure 2-12. Labels tab.

## Labels

Labels present a way for you to identify or explain an image. You can:

- Type and place a free text label anywhere on the 3D volume.
- Create pre-defined labels.
- Edit label to add, specify or change text on a label already placed on the 3D volume.
- Reposition an already placed label if the first position was wrong.
- Place labels outside the 3D volume so that you can make notes about the whole volume.

Hovering over the label you wish to edit will make it possible for you to change the text content of the label, or if necessary drag and reposition the label to the desired position.

**NOTE:** The anchor point to the left of the label determines the exact position the label is attached to. The label will be attached to the exact same spot in the volume even when the volume is rotated.

### To add free text labels to the view:

- 1 Click the **Labels** button.
- 2 Move the cursor to where you want label on the image and type label text.
- 3 Click to accept label text and position.

### To add pre-defined labels to the view:

- 1 Click **Labels > Edit labels**.  
**Edit labels** opens the edit tool bar where you can create, customize and edit your label library.
- 2 Click on a "+". A writing cursor will appear for you to type the label text.
- 3 Click **Edit labels** again to turn off edit mode.
- 4 Drag the label to the new position. Click again when the label is where you want it.

**NOTE:** You can add multiple pre-defined labels to a single view; Click on a "+" to create your own label and update the current view with additional labels.

### To reposition a label that is already placed:

- Click on the label you want to reposition. Use the cursor to drag the label to the new position.
- Click to accept label position.

### To Edit a label:

- Click the label you want to edit, then make the changes you want.

### To delete a label:

- Hover on the label you want to delete, then click the trashcan icon.

### To delete all label from an image:

- Click **Clear all labels** to delete them all.

Clicking **Clear all labels** will delete the following:

- All labels in the volume.
- All labels in the view.
- Views containing only labels.

## Arrows

You can place arrows on the image to mark areas of special concern. You can:

- Place an arrow anywhere on the 3D volume.
- Change the position and orientation of the arrow (right/left, up/down).
- Add multiple arrows to a single view.

### To add arrows to the view:

- 1 Click the **Labels** button.
- 2 Click the **Arrow** you want. The arrow appears highlighted on the image. The orientation of the arrow changes with the direction in which you drag it.



Figure 2-13. Arrow selection.

- 3 Drag the arrow to the position you want, and click again
- 4 You can add another arrow.

### To delete an arrow:

- Hover on the arrow you want to delete, then click the trashcan icon.

### To delete all arrows from an image:

- Click **Clear all arrows** to delete them all.

Clicking **Clear all arrows** will delete the following:

- All arrows in the volume.
- All arrows in the view.
- Views containing only arrows.

## Documenting the images

### Saving Images as documentable screenshots.

- 1 Click **Capture image (F12)** to store image on the hard drive.  
or
- 2 Click **Copy image (F11)** to copy image to the clipboard.

### Saving the View

You save the data on the network drive or on PACS.

- 1 Click on the **Save As** button. The save window will appear.
- 2 Choose the options you want from the dropdown menu. If you don't name the file, it will be saved with the default name.
- 3 Click **Save** to save the document as L3D or DICOM format.

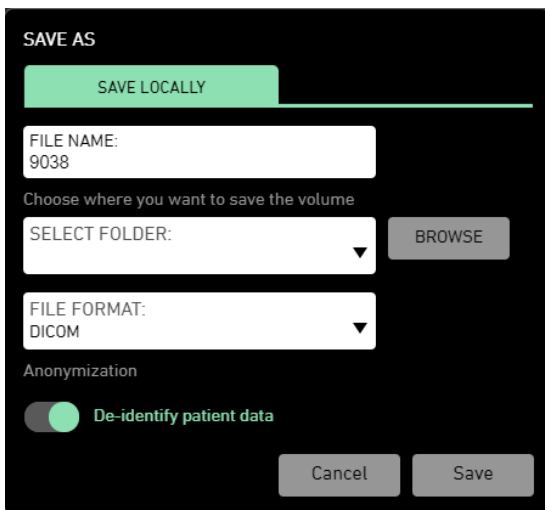




Figure 2-14. Save window.

**NOTE:** You can save several different views to the same 3D file. You can also choose to preserve anonymity of the patient data before saving the view.

**NOTE:** The network must be set up correctly so that data is sent to the correct location. Otherwise data can be lost or accessed by unauthorized persons.

 Network Security	<b>Caution Wifi-2</b> A safe encrypted protocol for data transmission, approved by the hospital must be used. This is to prevent unauthorized people from getting access to the data.
---	--

 System Overload	<b>Caution Network-c1</b> The data network must be sufficiently dimensioned for 3D data.
--	---

## Reports


- 1 Click the **Report** tab.  
Select measurements you do not want to include in the report by clicking the **eye icon**.
- 2 Click the **Images** tab.  
Select the images you do not want to include in the report by clicking on them.

### Printing a report:

- Click **Preview** to print the report in PDF format before saving it.

### Saving a report:

- Click **Save**. The report will be saved in PDF format.

 Personal Data	<b>Caution PD-c1</b> To prevent unauthorized use of patient data, BK recommends that you always anonymize personal data before printing a report.
--	--

## DICOM

DICOM is not configured as a default on the system. When it is configured, it is set up to match your DICOM system and procedures.

**NOTE:** *Changing the DICOM setup can cause your software to not work properly. For example, you may be unable to upload documents to a DICOM device. All changes to the DICOM setup should be made by qualified service personnel only. Do not try to change the DICOM setup yourself.*

**NOTE:** *It is recommended to always use an encrypted connection to PACS.*

## Saving to a PACS server

### Exporting to PACS:

If you have DICOM configured on your system, you can export 3D files to a PACS server.

### To archive documents:

- 1 Click to select the patient 3D file you want to archive.
- 2 Click **Export**, and select the **PACS system** you want to archive to.

### Reports:

It is possible to export DICOM structured reports.

### Queue:

When you export to PACS, the information is copied and put into a queue to be transferred to the PACS server. When the PACS connection is available, the information is transmitted.

**NOTE:** *If you have an accidental power failure while information is being transferred to PACS, the transfer may fail. Image files and information may not be stored on PACS even though they appear to have been transferred successfully from the system.*

**NOTE:** *Be aware that saving data to PACS from the bkViewer, enables other ultrasound systems and viewers to read this data. Data to be used for diagnostic purposes should not be generated using the bkViewer. The bkViewer is only for training and educational purposes.*

## DICOM Upload Status

When you upload documents to DICOM/ PACS, a status indicator displaying the status of the DICOM/PACS upload process will appear on the 3D volume.





Status Indicator	Meaning
	A document has been uploaded to DICOM/PACS.
	The queue is busy uploading documents.
	A document was not uploaded successfully.

Table 2-1. DICOM status indicators.

You can get detailed information about the DICOM configured connections.

Clicking the **DICOM status icon**  in the bottom right corner of the bkViewer will open a the **DICOM Status** dialog window.

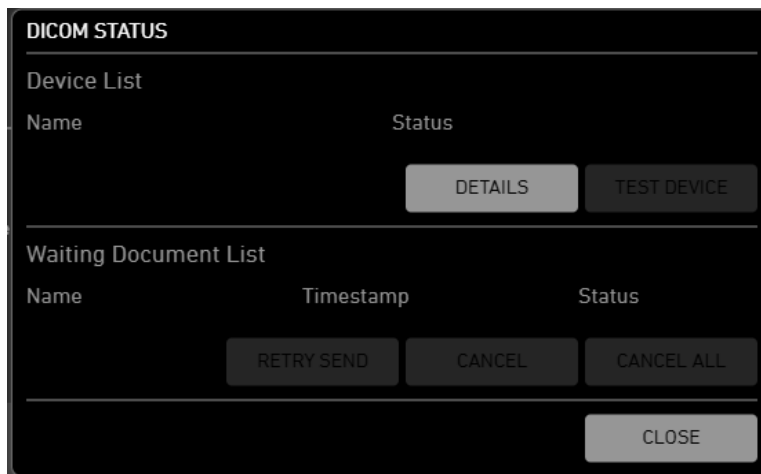


Figure 2-15. DICOM status window.

You have the following options:

- **Cancel** – cancels the selected document.
- **Cancel All** – cancels all pending documents or jobs for the selected device.
- **Test** – tests the connection to the selected device.
- **Details** – shows log of connected DICOM devices- this is useful for a service technician.
- **Retry Send**– reconnects to PACS and will retry sending failed uploads.
- **Close** – closes the window.

**NOTE:** You can also open the **DICOM Status** window from the **DICOM Setup** on the **Settings** tab.

## Deleting a Document

**NOTE:** You cannot delete a document that is in a queue to be uploaded to a DICOM device.

## Query/Retrieve

You can search for and access previous documents of 3D files relating to a particular patient from the PACS archive.

- Click the **Q/R File** button. The **Query/Retrieve** file browser dialog will appear.
- Search for patient name or patient ID.  
or
- Search for all exams within a given range of dates. The matching exams on PACS will be displayed.

Change between the **Small thumbnails** for better overview, or **Large thumbnails** to see more details.

**NOTE:** *DICOM/PACs has to be configured in order for you to be able to use the **Q/R File** button.*

## Uninstalling the bkViewer

Before you start, make sure the program is not running.

### To Uninstall the bkViewer on a Windows 10 OS:

- 1 Click the **Windows** icon, then right-click on the program.
- 2 Click **Uninstall**.  
This opens **Programs & Features**.
- 3 Select the program from the list, and click **Uninstall**.
- 4 Follow instructions to complete uninstalling the program.

Alternatively, you can use **Settings > Apps > Apps & Features**.

Select the program from the list, then click **Uninstall** and follow instructions to complete uninstalling the program.

### Uninstalling the bkViewer on a MAC

- 1 Exit the program.
- 2 Open **Finder > Applications**, then select the program from the list.
- 3 Drag the program to the **Trash bin** in the dock on your Mac.
- 4 If you want to completely remove the program, click the **Trash bin > Empty bin**.  
This user action cannot be undone.







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