3D Ultrasound - GE

Information Sheet
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General Requirements

The main requirement for the images is that it should be a stack of 3D monochrome images, without any ‘already generated volume’ that looks like this. It also shouldn’t be a ‘single image’ like this, nor an image including Doppler results as this example. A single image with all views, volume and additional information like this (aka a ‘screenshot’ from the scanner monitor) can also not be processed.

How to Extract the Supported Formats

GE DICOM

1. One Time Configuration

Set up Archive configuration.
2. Load 4D View Data

   a) Open 4D View (Version used: 4DView v6.2)

   b) Import data

   Click on Archive. Then, click on Import.

   Select the *.4dv folder or file.
Select the relevant study. Click *Import*. Once uploaded, click *Exit*. Now the data is in the archive folder.
3. Prepare the Data in 4DView

Click on Archive. Select the new data (from patient name), select one or more of the data. Double click on the data to open in 4DView. Cf. the complete tutorial for more information.

After the volume is loaded, click Reload to load in the main 4DView software.
Go to Section Planes view. If a selection box is there, increase its size and adjust the magnifier to get most information in the selection box. Set the orientation of the data as below. Click on Save to Archive button.

Now the adjusted data is saved in the archive.

4. Export to DICOM

Go to Archive again. Select the newly saved data and click on Export. Select DCM format and chose folder to export the file format.
**GE .VOL (Kretz File)**

The ultrasound data are exported as volume files from the 4D view software of GE. These images can be imported into Mimics® using automatic or manual import.

The automatic import looks the same as automatic DICOM import, when you just select the file (‘Force raw import’ checkbox should be turned off) and press the Next button. Then you should be able to see such picture:

![Image of Mimics interface with a Voluson .vol file import]

If Mimics® recognized the file as Voluson *.vol file, it will show it in the preview at the left and will show a list of Voluson tags in a separate Voluson tab.

*Note: the visualized list is not complete. It contains the information that would be used by Mimics to create the project and some other important information like patient name, manufacturer etc. Voluson tags are not preserved in the project itself.*

To create the project, just press Convert button as you do during typical DICOM import.

Should you have any questions or require further clarification, please don’t hesitate to contact us: mimics@materialise.be
Regulatory Information:

The Medical edition of the Mimics® Innovation Suite currently consists of the following software components: Mimics® Medical version 18.0 and 3-matic® Medical version 10.0 (released 2015). Mimics® Medical is intended for use as a software interface and image segmentation system for the transfer of imaging information from a medical scanner such as a CT scanner or a Magnetic Resonance Imaging scanner. It is also used as pre-operative software for simulating/evaluating surgical treatment options. 3-matic® Medical is intended for use as software for computer assisted design and manufacturing of medical exo- and endo-prostheses, patient-specific medical and dental/orthodontic accessories and dental restorations.

The Research edition of the Mimics® Innovation Suite currently consists of the following software components: Mimics® Research version 18.0 and 3-matic® Research version 10.0 (released 2015). Mimics® Research is intended only for research purposes. It is intended as a software interface and image segmentation system for the transfer of imaging information from a variety of imaging sources to an output file. It is also used as software for simulating, measuring and modeling in the field of biomedical research. “Mimics® Research” must not be used, and is not intended to be used, for any medical purpose whatsoever. 3-matic® Research is intended for use as a software for computer assisted design and engineering in the field of biomedical research. “3-matic® Research” must not be used, and is not intended to be used, for the design or manufacturing of medical devices of any kind.

Materialise Belgium – Technologielaan 15 – 3000 Leuven – Belgium

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