

Import/Export: Converting Raw Data to Images

Occasionally it is necessary to import raw data or image data of an unknown file format into Analyze. Such data can be imported if pixels are uncompressed and in contiguous images within the file. The Raw Data tool provides several interactive options to view data as images, ASCII strings, or as the actual binary values of bytes and words. Data can be directly loaded into Analyze or converted into Analyze format image files. Most image file formats consist of some initial header information describing the image(s) and the actual image data. This exercise will demonstrate how to convert raw data from a scanner, which currently has no direct file format support in Analyze.



1. Open the **Import/Export** module (**File > Import/Export**).
2. Open the **Raw Data** tool (**Tools > Raw Data**).
3. With the **Files** tab selected, click the **File** button under 'Input' (figure 1).
4. In the **Import/Export – Input File** window returned navigate to the **\\BIR\images\TutorialData\ImportExportTutorial** directory and select the file **UNKNOWN1**.
5. Select the **Image Parameters** tab (figure 2).
6. For this exercise, assume that we know that this file contains one 256 x 256 image, a signed 16-bit integer. An image of this size requires 131072 bytes of storage (256 x 256 x 2), however the file size is 137210 bytes. This indicates that there is an additional 6138 bytes of header information present. This needs to be skipped to get to the first byte of image data. Finally, we know that the 16-bit image data in the file is stored in Big-Endian byte format.
7. To accommodate this, set the following parameters:
 - **Byte Offset: 6138** (or check 'Auto Offset' to compute this automatically)
 - **Width: 256**
 - **Height: 256**
 - **Data Type: signed 16-bit**
 - **Byte Swap: Pairs** (this only needs to be set on a little-endian architecture, i.e., PC-based systems)

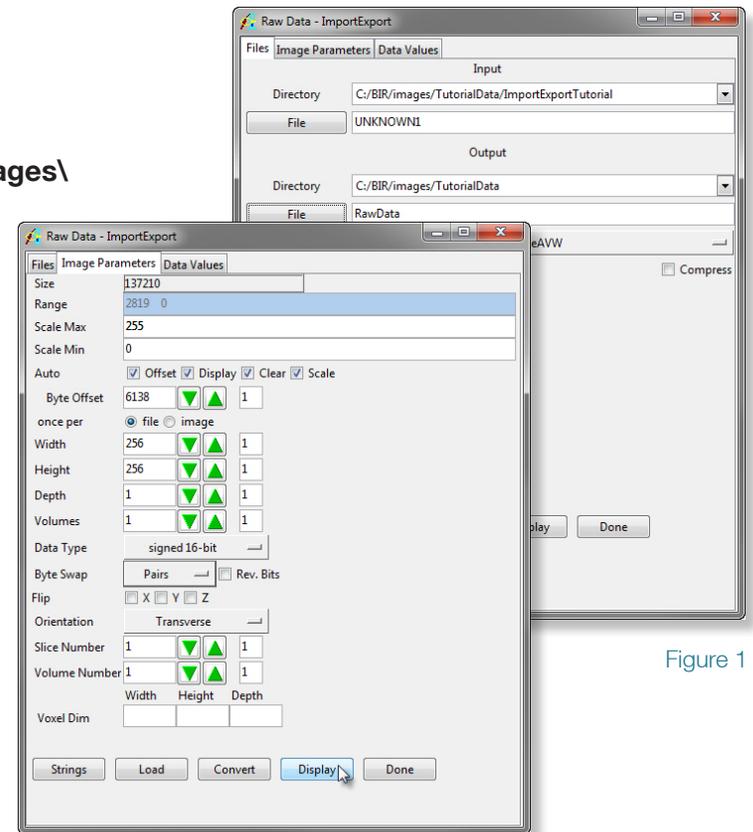


Figure 1

Figure 2

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8. Check the following **Auto** options:
 - **Display**: Image display will update anytime a control parameter is changed.
 - **Clear**: Image display is cleared before a new image is displayed.
 - **Scale**: Data is automatically scaled from its entire dynamic range to 8-bits for display.
9. Click **Display** to view the current image in the main Import/Export window (figure 3).
10. Click **Load** in the Raw Data tool to load the image specified in the file into the Analyze workspace.
11. Experiment with the display effects by changing the image parameters to incorrect values, use the up and down arrow buttons found next to the Width and Height fields.
12. Click **Done** to close the Raw Data tool.

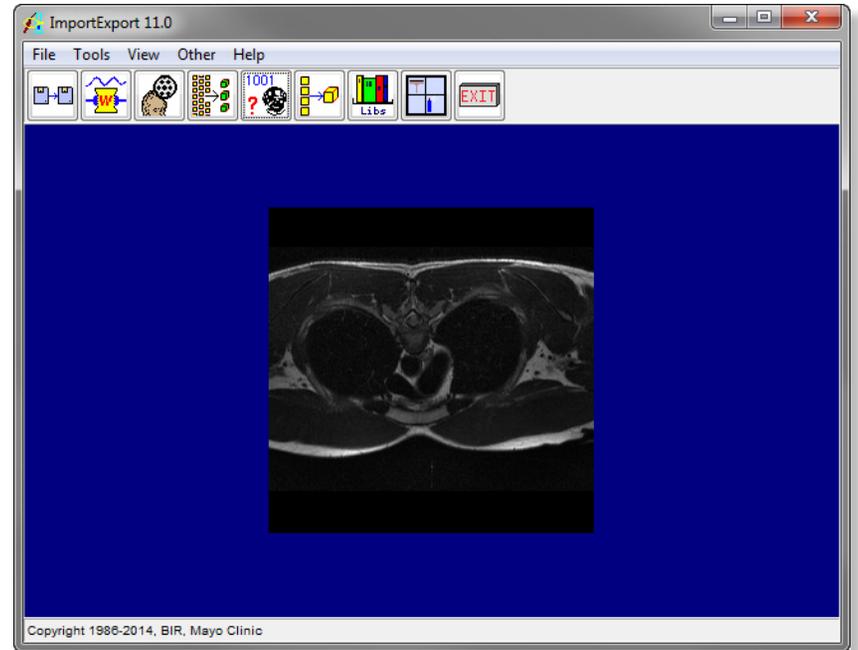


Figure 3