



Enabled Objects

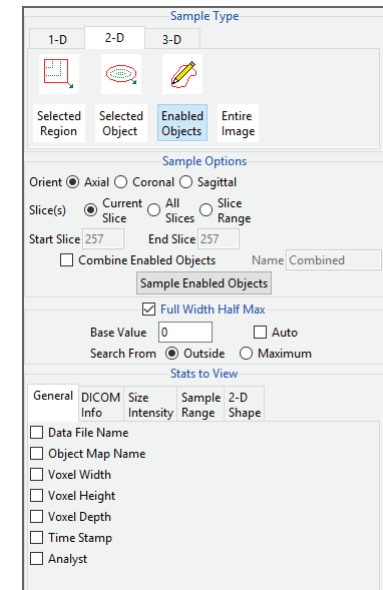
The Enabled Objects option allows sampling of all enabled objects (currently displayed) for the current slice, all slices, or a range of slices. An object map must be loaded for this option to be available.

Sample Options: Provides users the following sampling controls:

- **Orient:** Select the orientation to sample enabled objects in.
 - **Axial:** Sets the sampling orientation to axial.
 - **Coronal:** Sets the sampling orientation to coronal.
 - **Sagittal:** Sets the sampling orientation to sagittal.
- **Slices:** Allows users to specify the slices sampled.
 - **Current Slice:** Samples the current displayed slice for the selected orientation.
 - **All Slices:** Samples all slices in the selected orientation.
 - **Slice Range:** Samples the range of samples specified using the start and end slice fields for the selected orientation.
 - **Start Slice:** Allows users to set the starting slice for sampling. Slices before the start slice will not be sampled.
 - **End Slice:** Allows users to set the ending slice for sampling. Slices after the end slice will not be sampled.
 - **Combine Objects:** Allows users to sum the measurements of the individually sampled objects.
 - **Name:** Allows users to specify a name for the combined object measurements when reported to the stats log.
- **Sample Enabled Objects:** Initiates the sampling process.

Stats to View: The stats to view area allows users to enable and disable measurements and information reported to the stats log.

- **General:** Allows users to report general image data parameters in the stats log file (see General under Sample Point(s) > Stats to View.)
- **DICOM Info:** Allows users to report DICOM tag information (see DICOM Info under Sample Point(s) > Stats to View.)
- **Size Intensity:** Reports an array of size intensity information and measurements (see Size Intensity description for Sample 2-D Rectangle.)
- **Sample Range:** Samples voxels within a defined region based on a min/max intensity range (see Sample 2-D Rectangle > Sample Range.)
- **2-D Shape:** Reports 2-D shape measurements for the defined region (see Sample 2-D Rectangle > 2-D Shape.)





Sampling Objects using Enabled Objects

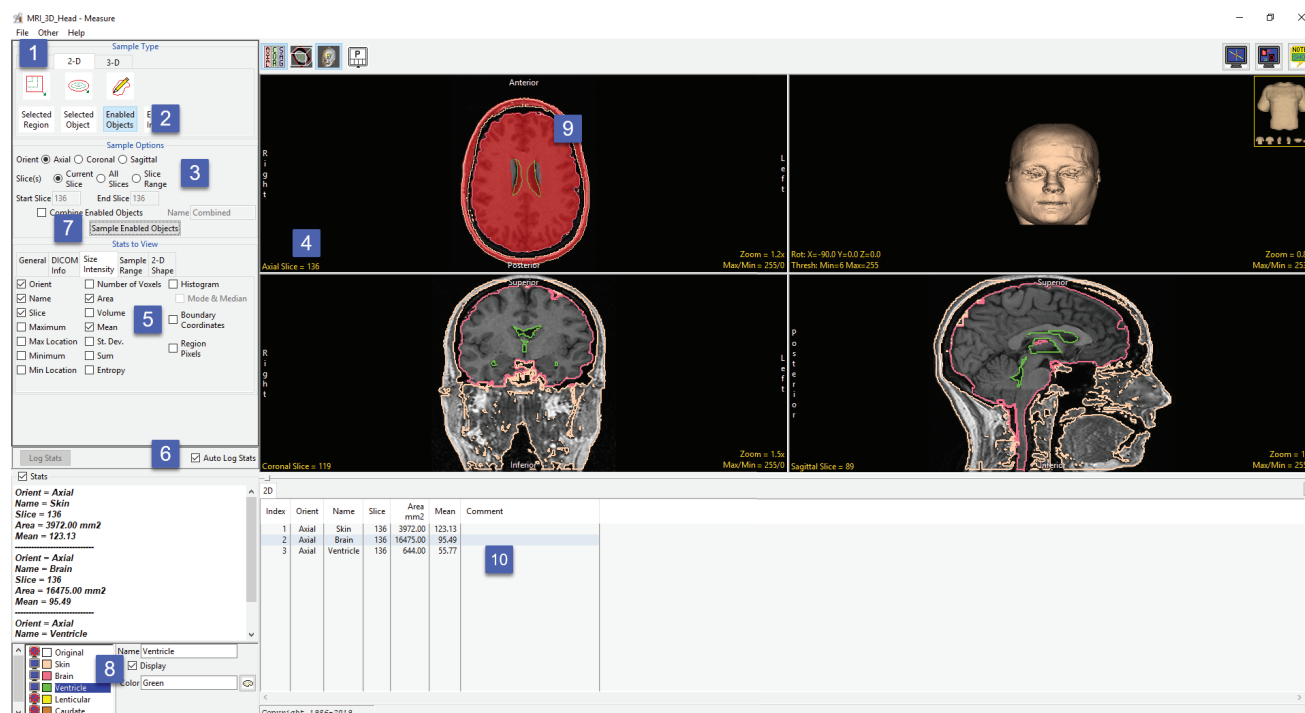
Download the MRI_3D_Head.avw data set from analyzedirect.com/data to follow along.

- Open Input/Output and load MRI_3D_Head.avw into Analyze. Select MRI_3D_Head and open Measure.
- Select File > Load Object Map and load the MRI_3D_Head.obj file.
- Select the 2D Sample Type [1] and choose Enabled Objects [2].

Sampling the Current Slice

To sample all enabled objects for the current slice in a particular orientation, do the following:

- Leave Orient set to Axial and Slice(s) set to Current [3]. This will sample the current axial slice when Sample Enabled Objects is selected. Change the axial slice to 136 [4].
- In the Stats to View area check all the measurements [5] to be reported. Check the Auto Log option [6].
- Click the Sampled Enabled Object button [7].
- All objects currently displayed [8] will be sampled. The sampled objects are displayed for the current slice in the current orientation [9].
- The selected measurements will be returned to the stats log for the current slice [10].





Sampling Objects using Enabled Objects (continued)

Combining Objects for the Current Slice

To return summed measurements for the enabled objects, do the following:
To return summed measurements for the enabled objects, do the following:

- Check the Combine Enabled Objects check box [11]. Leave the Name set to Combined.
- Click the Sampled Enabled Object button [12].
- All objects currently displayed will be sampled. The sampled objects are displayed in red in the current orientation. Measurements will be summed for the enabled objects (skin + brain + ventricles) and returned in a new row in the stats log [13].

Sample Type

1-D 2-D 3-D

Selected Region Selected Object **Enabled Objects** Entire Image

Sample Options

Orient: ☒ Axial ☐ Coronal ☐ Sagittal

Slice(s): ☒ Current ☐ All Slices ☐ Slice Range

Start Slice: 136 End Slice: 136

☒ Combine Enabled Objects Name: Combined

Sample Enabled Objects

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General **DICOM** **Size** **Sample** **2-D** **Shape**

☒ Orient ☐ Intensity ☐ Range ☐ Histogram

☒ Name ☐ Number of Voxels ☐ Mode & Median

☒ Slice ☐ Volume ☐ Boundary Coordinates

☐ Maximum ☒ Mean ☐ Region

☐ Max Location ☐ St. Dev. ☐ Pixels

☐ Minimum ☐ Sum

☐ Min Location ☐ Entropy

Stats

Log Stats ☒ Auto Log Stats

Stats

Orient = Axial
Name = Combined
Slice = 136
Area = 21091.00 mm²
Mean = 99.48

2D

Index	Orient	Name	Slice	Area mm ²	Mean	Comment
1	Axial	Skin	136	3972.00	123.13	
2	Axial	Brain	136	16473.00	95.49	
3	Axial	Ventricle	136	644.00	55.77	
4	Axial	Combined	136	21091.00	99.48	

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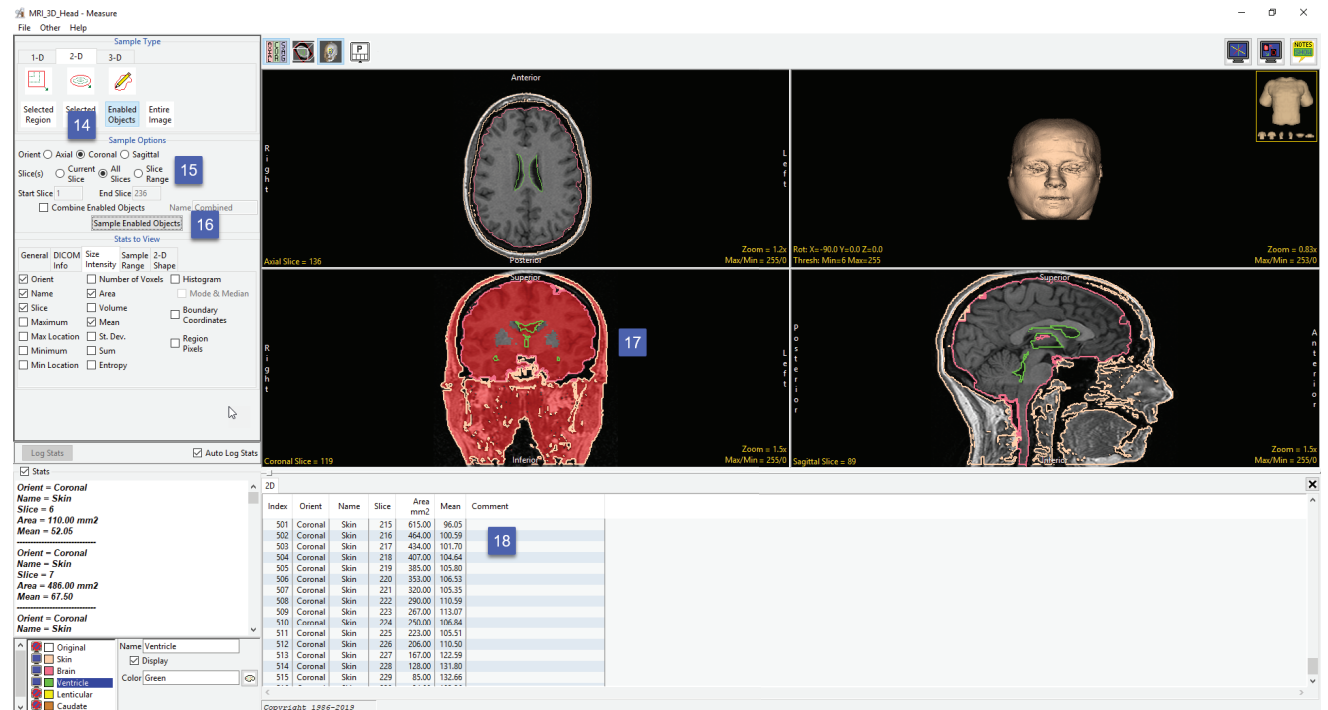


Sampling Objects using Enabled Objects (continued)

Sampling All Slices

To sample all enabled objects for all slices in a particular orientation, do the following:

- Dismiss the stats log by clicking the x in the upper right-hand corner of the stats log.
- Set the Orient to Coronal [14] and set Slice(s) set to All Slices [15], these settings will allow you to sample all slices in the coronal orientation when Sampled Enabled Object is selected.
- Click the Sampled Enabled Object button [16].
- All objects currently displayed will be sampled. The sampled objects are displayed in red in the current orientation [17].
- Measurements will be returned to the stats log for the current slice [18].





Sampling Objects using Enabled Objects (continued)

Combining Objects when sampling All Slices

To return the individual object measurements summed in a single line entry in the stats log, do the following:

- Dismiss the stats log by clicking the x in the upper right-hand corner of the stats log.
- Check the Combine Enabled Objects check box [19].
- Leave the Name set to Combined [20].
- Click the Sampled Enabled Object button [21].
- All objects currently displayed will be sampled. The sampled objects are displayed in red in the current orientation. Measurements will be summed for the enabled objects and returned to the stats log for the current slice [22].

The screenshot shows the 'MRI_3D_Head - Measure' application. The 'Sample Type' panel on the left has 'Sampled Enabled Object' selected. The 3D views show a brain with various regions highlighted. The stats log at the bottom displays a table of measurements for the current slice.

Index	Orient	Name	Slice	Area mm ²	Mean	Comment
210	Coronal	Combined	215	615.00	96.05	
211	Coronal	Combined	216	464.00	100.59	
212	Coronal	Combined	217	434.00	101.70	
213	Coronal	Combined	218	407.00	104.64	
214	Coronal	Combined	219	385.00	105.90	
215	Coronal	Combined	220	353.00	106.53	
216	Coronal	Combined	221	320.00	105.35	
217	Coronal	Combined	222	290.00	110.59	
218	Coronal	Combined	223	267.00	113.07	
219	Coronal	Combined	224	240.00	106.64	
220	Coronal	Combined	225	223.00	105.51	
221	Coronal	Combined	226	206.00	110.50	
222	Coronal	Combined	227	167.00	122.59	
223	Coronal	Combined	228	128.00	131.80	
224	Coronal	Combined	229	85.00	132.66	

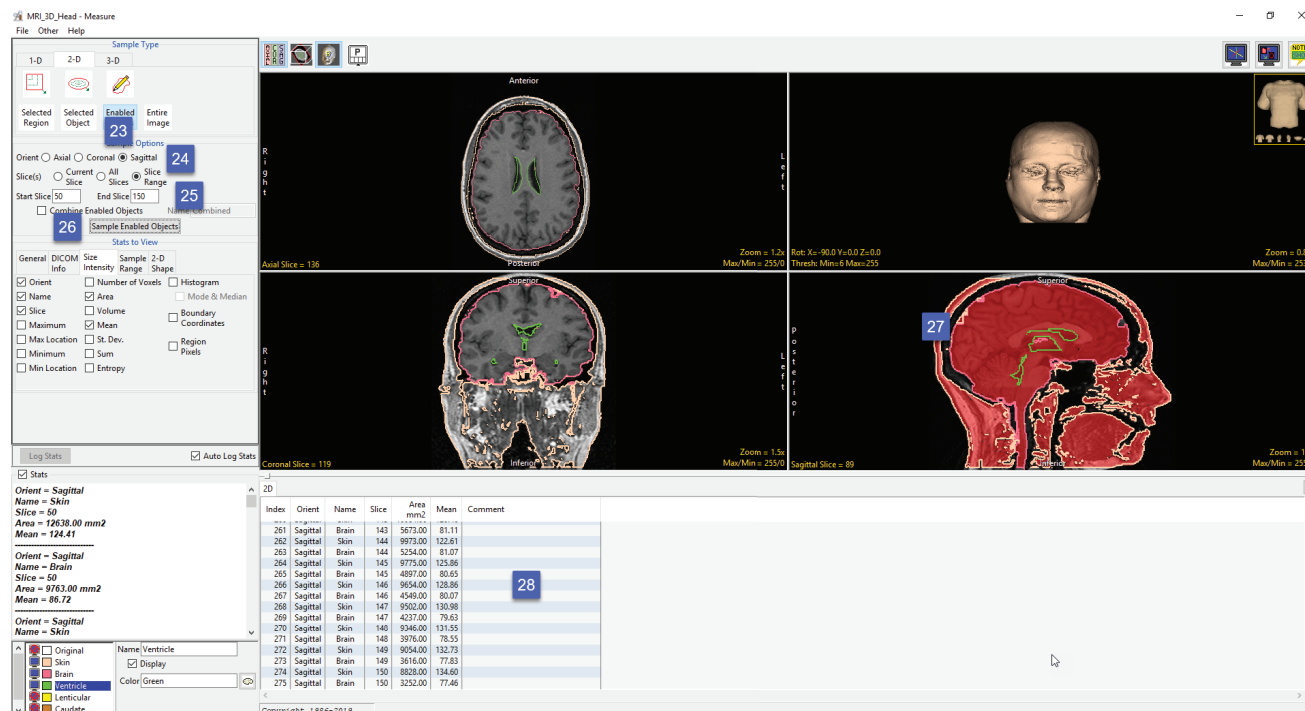


Sampling Objects using Enabled Objects (continued)

Sampling a Range of Slices

To sample a range of slices for all enabled objects in a specific orientation, do the following:

- Dismiss the previous stats log by clicking the x in the upper right-hand corner of the stats log.
- Next, uncheck the Combine Enabled Objects.
- Set the Orient to Sagittal [23] and set Slice(s) set to Slice Range [24].
- Set the Start Slice to 50 and the End Slice to 150 [25]. These settings will allow you to sample a range of slices, slice 50 to 150, in the sagittal orientation when Sampled Enabled Object is selected.
- Click the Sampled Enabled Object button [26].
- All objects currently displayed will be sampled. The sampled objects are displayed in red in the current orientation [27].
- Measurements will be returned to the stats log for the enabled objects within the specified range of slices [28].





Sampling Objects using Enabled Objects (continued)

Combining Objects when Sampling a Range of Slices

To sum the object measurements in a single line entry in the stats log for a range of slices, do the following:

- Dismiss the stats log by clicking the x in the upper right-hand corner of the stats log.
- Check the Combine Enabled Objects check box [29].
- Leave the Name set to Combined [30].
- Click the Sampled Enabled Object button [31].
- All objects currently displayed will be sampled for the range of slices specified. The sampled objects are displayed in red in the current orientation. Measurements are summed for the enabled objects and returned to the stats log [32].

The screenshot shows the 'MRI_3D_Head - Measure' application. The 'Sample Type' panel on the left has 'Combine Enabled Objects' checked (labeled 29) and 'Name' set to 'Combined' (labeled 30). The 3D views show a brain model with a red region (labeled 31). The stats log at the bottom shows a table of measurements for 'Combined' objects across a range of slices.

Index	Orient	Name	Slice	Area mm ²	Mean	Comment
86	Sagittal	Combined	135	19290.00	105.80	
87	Sagittal	Combined	136	18902.00	104.79	
88	Sagittal	Combined	137	18620.00	103.84	
89	Sagittal	Combined	138	18309.00	103.82	
90	Sagittal	Combined	139	17975.00	103.32	
91	Sagittal	Combined	140	17490.00	102.88	
92	Sagittal	Combined	141	16928.00	103.13	
93	Sagittal	Combined	142	16387.00	104.17	
94	Sagittal	Combined	143	15757.00	106.29	
95	Sagittal	Combined	144	15177.00	108.38	
96	Sagittal	Combined	145	14672.00	110.77	
97	Sagittal	Combined	146	14203.00	113.23	
98	Sagittal	Combined	147	13738.00	115.14	
99	Sagittal	Combined	148	13322.00	115.73	
100	Sagittal	Combined	149	12870.00	117.07	