Anatomage TABLE

Anatomage Table 3.1 User's Manual

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About Anatomage and Software
The Anatomage Table Application software (Table3.1) was released in 2015 as an update to the Table Application software from Anatomage, Inc. In this document, the Anatomage Table Application software refers to the latest version of the Anatomage Table Application software and is synonymous with the terms "Table application", "Table3.1", and "Anatomage Table application". To learn more about Anatomage, visit our website at www.Anatomage.com.

End of Life Statement
Table3.1 software is dependent on its hardware requirements. The life-cycle is limited only by the availability of the required hardware.

Indications for Use
Table3.1 is a software application used for the display and 3D visualization of medical image files from scanning devices such as CT and MRI. It is intended for use by radiologists, clinicians, referring physicians and other qualified individuals to retrieve, process, render, review, and assist in diagnosis, utilizing standard PC hardware.

This software is not indicated for mammography use.

Caution: Federal law restricts this device to sale by or on the order of a physician.

Language
The original language of this manual and the Table3.1 software is English.

Image Credit
The following image sets were provided by Dr. Jin Seo Park, Department of Anatomy, Dongguk University College of Medicine and Dr. Min Suk Chung, Department of Anatomy, Ajou University School of Medicine.

Full Body Male: The original slice data is from the Visible Korean data set.
Full Dog and Cat slice data: This work (2012R1A2A2A01012808) was supported by Mid-career Researcher Program through the National Research Foundation of Korea (NRF) grant funded by the Ministry of Education, Science and Technology (MEST).
Full Head slice data: This research was supported by Basic Science Research Program through the National Research Foundation of Korea (NRF) funded by the Ministry of Education, Science and Technology (MEST) (2010-0023360).
Embryo slice data set (Cases 2013 – 2023) was provided by Brad Smith from the University of Michigan (brdsmith@umich.edu, NIH award N01-HD-6-3257 P/G F003637). Imaging was performed at the Center for In-Vivo Microscopy, Duke University.
Skull collection (Cases 3008 – 3054) was provided by David R. Hunt, Ph.D. (Physical / Forensic Anthropologist, D-ABFA) from the Smithsonian Institute.

Table of Contents

System Requirements

The Table software is a graphically intense application for use on a PC workstation running a Windows operating system. It has not been designed for use on Linux, OSX, Android or iOS platforms such as iPads or other tablets.

Summary		
	Minimum	**Recommended**
CPU	Intel Core i5 2500 series (compatible multi-core processor)	Intel Core i7 3000 series (comparable multi-core processor)
RAM	3GB	8GB
GPU (Graphics Card)	ATI Radeon HD 6670 *or* Nvidia GT 640	ATI Radeon HD 7850
Hard Disk	100GB	500GB
OS	Windows7 64bit	Windows7 64bit

Installation Instructions

The Anatomage Table application is available from Anatomage. The software is distributed on a single content (Anatomage Table 3.1 Upgrade) USB and requires a license USB to operate. The content USB contains both the application files and demonstration content (Full Body Male, Full Body Female, High Resolution Data, Image Library). Be sure you have both USBs and your PC meets the minimum system requirements.

1. Insert both license USB and Anatomage Table 3.1 Upgrade USB into PC workstation. Workstation should be connected to a network with internet connectivity.
2. Open Anatomage Table 3.1 Upgrade USB, double click “autorun” and follow on screen instructions to complete installation.
3. Remove Anatomage Table 3.1 Upgrade USB.
4. Launch Table application and enter Authorization Code to activate software license.
5. Select **Open Image Library** and enter Authorization Code to activate Image Library license.

Controls

The following section discusses controls for the Table software. For touchscreen devices, please refer to your specific touchscreen hardware manufacturer's calibration instructions and verification procedures before using with Table3.1.

For any measurement operations, Anatomage recommends the use of a USB computer mouse and keyboard when placing measurement landmarks for the best possible accuracy. Measurement landmarks placed using the touch-interface can be adjusted after their initial definition for improved accuracy.

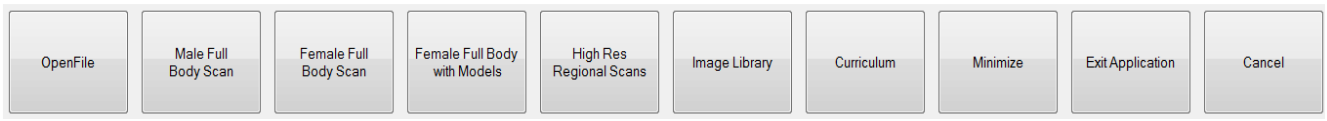
Touch Commands	
Right click	Touch and hold.
Selecting icons	Tap icon to select. If compatible multi-icons are shown, use a second tap to select desired multi-icon.
On screen keyboard	Tap the far left edge of the table screen. The edge of a keyboard will appear. Touch, hold, and drag keyboard away from edge.

Keyboard-Only Commands	
Exiting Full-Screen and viewing application on single display monitor	**Step 1:** Press **F11** on keyboard. **Step 2:** Press the Windows key (⊞) and the left/right arrow to snap application window to left/right display monitor.
Exporting Presets (see p.22 for more information on presets)	**Step 1:** Press '**p**' on keyboard. **Step 2:** Export a set of 10 presets as a visibility preset file (*.vpf*)

Introduction to the Anatomage Table Application

Launching Table 3.1 Application

From the desktop, double-tap (double-click) the Table icon to launch the Anatomage Table application. Users will be shown the Application Toolbar below.



Open File	Opens multi-dicom (DCM) scan files or Invivo (INV) scan files.
Male Full Body Scan	Opens full body, real tissue male data.
Female Full Body Scan	Opens full body, real tissue female data.
Female Full Body with Models	Opens full body female DCM scan superimposed with surface models.
High Res Regional Scans	Opens user interface for selecting higher resolution regional scans from male and female real tissue data.
Image Library	Opens user interface for selecting educational clinical case data sets.
Curriculum	Opens user interface for selecting curriculum views. Curriculum views, provided by Anatomage, are single scans with pre-made annotations and view sequences for teaching purposes.
Minimize	Minimizes the Table application. Available only when case is currently open.
Exit Application	Closes the Table application.
Cancel	Closes the Application toolbar. Available only when case is currently open.

Opening Scans

Step 1: Select **Open File** from the Application toolbar.

Step 2: Use the Windows Explorer interface to navigate to directory of INV file or DCM file series.

INV file	Select file and press **Open**.
DCM series	Select single DCM file and press **Open**. Software will scan through folder and check each DCM file's metadata prior to loading all DCM files in the same series.

Step 3: Table application will automatically construct image volume based on INV or DCM file. For INV files, any additional content created and saved with the patient data using Invivo5 software (surface models, models, etc.) will be loaded as well.

WARNING: Table application and Invivo5 software will load in DCM files contained within the same folder and of the same imaging series when reconstructing the volume. It is the responsibility of the user to confirm that all slice information is available and in the same folder when loading onto Table3.1 or saving from Invivo5.

WARNING: If Table application detects that some DCM files are missing, corrupt, or otherwise determined inaccurate, an error message will appear about possible inaccurate reconstruction. The user may continue with volume reconstruction and should exercise caution when reviewing any data with possible inaccuracies.

WARNING: When loading additional content created (surface models, comments, etc.), content is created by another user and is not part of the original patient image data.

Controlling the Volume Rendering

The following section discusses use of the touchscreen for controlling the volume rendering. Table application supports keyboard, mouse, and touch controls when navigating the application. Some functions are keyboard specific and do not have a designated icon in the user interface.

Touch Control

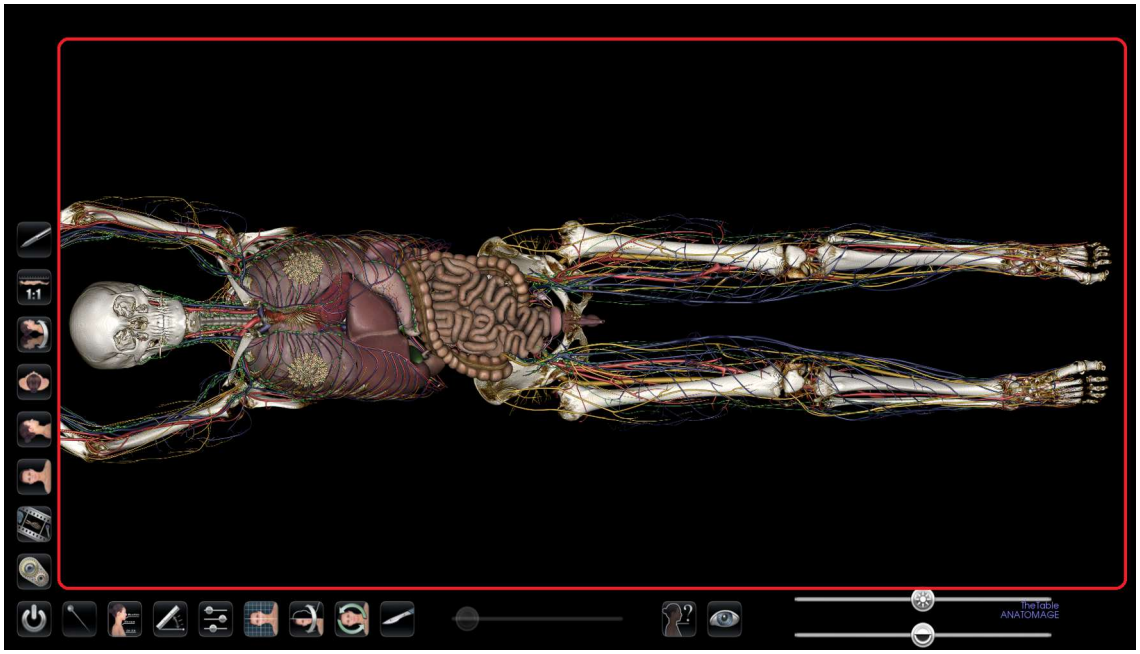
Within the Rendering Window, the Table application accepts single- and multi-touch inputs.

Number of Touches	Movement	Result	Description
Volume Viewing:			
Single	Drag	Rotate	Rendering will rotate about the scanning region's geometric center point.
Two	Drag	Pan	Rendering will pan in the dragged direction.
	Pinch	Zoom in/out	Rendering will become larger or smaller.
	Rotate	Spin	Rendering will rotate about the axis perpendicular to Table surface and through the scanning region's geometric center point. (Settings → **Spin** Enabled)
Three	Drag up/down	Adjust Clipping Plane	Can adjust clipping plane by scrolling through volume rendering in parallel with initial cutting plane.
Slice Mode Viewing:			
Single	DISABLED	N/A	N/A
Two	Drag	Pan	Slice image will pan in the dragged direction.
	Pinch	Zoom in /out	Slice image will become larger or smaller.
Three	Drag up/down	Scroll through slices	Can scroll through cross-sectional slices of selected data.

Keyboard and Mouse Control

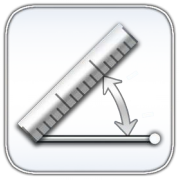
Number of Touches	Movement	Result	Description
Volume Viewing:			
Left Click	Drag	Rotate	Rendering will rotate about the scanning region's geometric center point.
Shift + Left Click	Drag	Pan	Rendering will pan in the dragged direction.
Ctrl + Left Click	Drag	Zoom in/out	Rendering will become larger or smaller.
Slice Mode Viewing:			
Shift + Left Click	Drag	Pan	Rendering will pan in the dragged direction.
Ctrl + Left Click	Drag	Zoom in/out	Rendering will become larger or smaller.

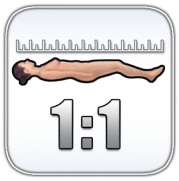
User Interface and Layout

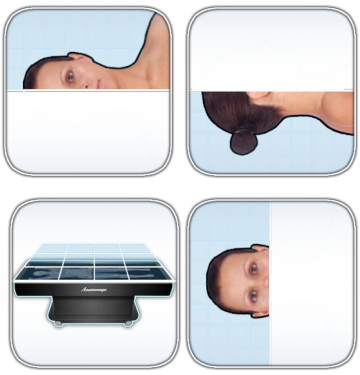
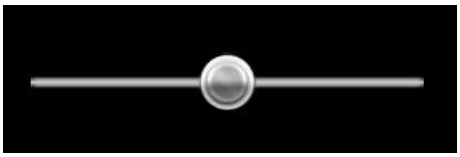
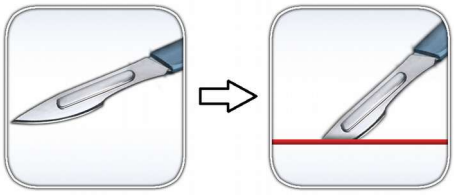


Red box outlines Rendering Window. Image rendering, surface models, and annotation will appear in this region. Region accepts keyboard, mouse, single-touch, and multi-touch controls.

Icon	Description
	**Application toolbar** Opens the Application toolbar. (Open File, Male Full Body Scan, Female Full Body Scan, Image Library, etc)
	**Pin Tool** Used for placing 3D pin models in volume viewing.

	**Annotation Controls** Opens Annotation dialog for enabling/disabling comment visibility. See p. 21 for more information on Annotation dialog use.
	**Measurement Tool** Tap icon to show associated multi-icons. Using a second tap, select a particular measurement tool. Can be used in both volume and slice mode viewing.
	**Distance Measurement Tool** **Step 1:** Select distance measurement tool. **Step 2:** Tap on two locations on the volume. Red dots will indicate the selected spots, and a line will appear between them with a distance measurement.
	**Angle Measurement Tool** **Step 1:** Select angle measurement tool. **Step 2:** Tap on three locations on the volume. Red dots will indicate the selected spots, and an angle will appear between them with an angle measurement.
	**Delete Measurement** **Step 1:** Select measurement. Specified measurement will turn red. **Step 2:** Select icon to remove specified measurement.
	**Clear All** Select icon to clear all measurements from the volume.  ***WARNING: Identification of anatomical landmarks and structures are limited in part to image resolution and subject to user error. To ensure correct identification of landmarks and other fine measurements, it is recommended that users plug-in and use a USB computer mouse and keyboard for the most accurate possible placement of measurement landmarks (red dots). All measurement landmarks, including those placed using the touchscreen interface, can be adjusted by selecting and dragging the landmark. It is the responsibility of the user to place or adjust the measurement landmark locations as needed for analysis.***

	**Presets** Tap to show all available presets. Using a second tap, select a particular preset. User can create up to 10 presets. Presets will automatically switch image in rendering window based on previously saved definitions in the Volume Visibility and Annotation dialogs. See p. 22 for more information on how to create presets.
	**Volume Orientation** Tap to select a particular orientation. From top left going clockwise: Coronal View, Sagittal View, Axial View, Flip View. ***WARNING: Image orientation is based on scanner/DCM definitions or redefined orientations from Invivo5 software.***
	**1:1 Life Size Scaling** Tap icon to rescale image to life size. ***WARNING: Exact scaling depends on scan size, scan resolution, and hardware specifications.***
	**Clipping Plane Control** Tap to show all available predefined clipping planes. Using second tap, select a predefined clipping plane. Volume will automatically be clipped in the designated direction.

	**Predefined Clipping Planes** From top left going clockwise: Sagittal Plane, Coronal Plane, Axial Plane, Parallel Plane. *Parallel defines the Table surface as the clipping plane.*
	**Clipping Plane Slider Bar** When a clipping plane is active, the slider bar can be used to adjust the location of the plane. The slider bar can be used to adjust only the most recently defined clipping plane.
	**Custom Clipping Plane Mode** **Step 1:** Tap scalpel icon to activate custom clipping plane mode. Icon will change when application is ready for an input from the user. **Step 2:** Using one touch, touch anywhere within the Rendering Window and drag across the volume to generate the custom clipping plane. Image will update to show current clipping definition. **Step 3:** Release touch to finish defining plane. Repeat the above steps to create up to six (6) Custom Clipping Planes. After the sixth plane, the seventh plane will replace the first defined Custom Clipping Plane. The eighth will replace the second and so forth.
	**Flip** Tap icon to flip visibility between sides of the clipping plane. This affects all predefined clipping planes and the most recently defined custom clipping plane.
	**Reset** Tap icon to remove all applied clipping planes (custom and predefined).

Explore Tool
Used for identifying segmentation and user created content. (Works only with Male Full Body/Female Full Body with Models/High Res Regional scans with models)

Step 1:
Tap icon to activate. Using a second tap, select a particular explorer tool.

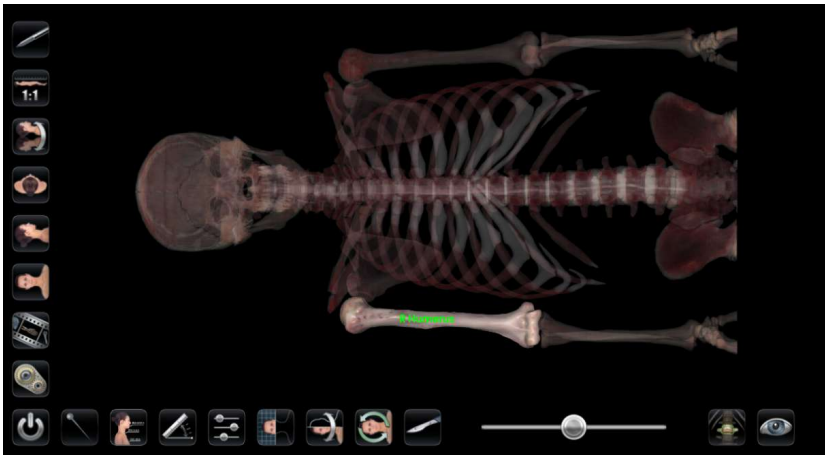
Step 2:

Removal Tool
Tap anywhere on volume. Structure closest to touch location will be removed from the volume.

Display Tool
Tap anywhere on volume. Structure closest to touch location will be selected and all other volume elements will be removed.

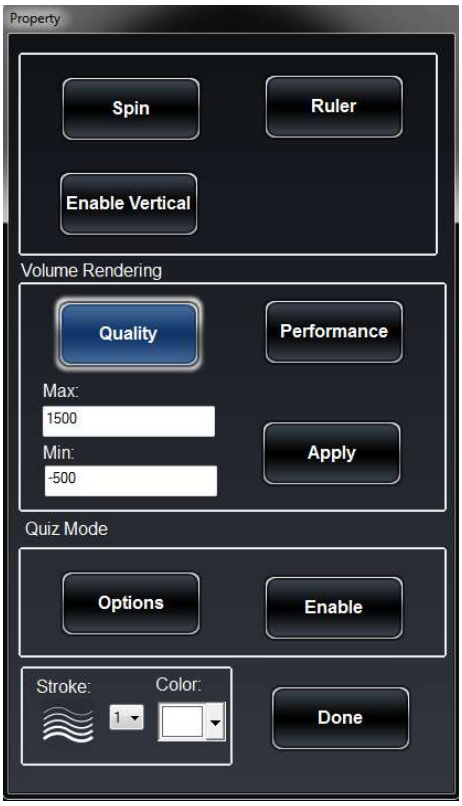
Transparency Tool
Tap anywhere on volume or slice. Structure closest to touch location will be annotated. In volume viewing for the Male Full Body scan, structure will also be highlighted and all other volume elements will be made transparent (example shown below).

Step 3: To exit out of explore mode, tap the visibility control icon (pg. 14), or the Explore Tool icon.



	**Volume Visibility Control** Tap icon to open Volume Visibility dialog to adjust rendering window images. User can add/remove layers of demonstration data sets or adjust volume rendering view presets for any DCM file data sets. See p. 17 for more information on using the Volume Visibility dialog.
	**Brightness/Contrast Slider Bars** *When viewing Male Full Body Scan, High Res. Regional Scans* Drag the upper slider bar right/left to add or remove large systems from the volume rendering (skin, skeletal, muscular, gastrointestinal, respiratory, urinary, reproductive, and lymphatic). Drag the lower slider bar left/right to add or remove the endocrine, cardiovascular, and nervous systems from the volume rendering. *When viewing CT/MRI scan data (Female Full Body with Models, Image Library scans, imported scans)* Drag the upper slider bar right/left to increase/decrease the *Brightness* of the volume in the Rendering Window (density). Shift the lower slider bar right/left to increase/decrease the *Contrast* of the volume in the Rendering Window. ***WARNING: Brightness and Contrast settings are dependent upon the volume rendering range defined in the Image Control Settings (p. 15).***
	**View Sequencer** Tap icon to import and playback View Sequences (*.vseq* files) created from Invivo5 software. ***WARNING: View Sequencer behavior is best when using the same particular image data set that was used when initially creating the View Sequence in Invivo5.***

	**Pen Tool** Tap to show all available Pen Tools. Using second tap, select a particular Pen Tool. Draw by dragging in rendering window.
	**Predefined Pen Tool Colors** Tap to select a predefined Pen Tool color. From top left going clockwise: Red, White, Yellow, Blue. Default width of Pen Stroke for all colors is 2.
	**Pen Presets** **Step 1:** Tap to select a particular pen preset. **Step 2:** Under Image Control Settings (p.15), adjust Pen Color and stroke width. *The Pen Tool will save the latest setting used for each preset.*
	**Save Image** Tap save icon to save image in Rendering Window. Tap X icon to erase all drawings on image in Rendering Window.
	**Image Control Settings** Tap Icon to open the Image Control Settings dialog to adjust multi-touch and rotation controls, volume rendering range, camera projection, and Pen Tool settings. *Touch Interaction Control:* **Spin:** Enable/Disable spin gesture **Ruler:** Displays a ruler along the length of the Rendering Window. Scales to life-size when 1:1 life size is activated. ***WARNING: Exact scaling depends on scan size, scan resolution, and hardware specifications.***

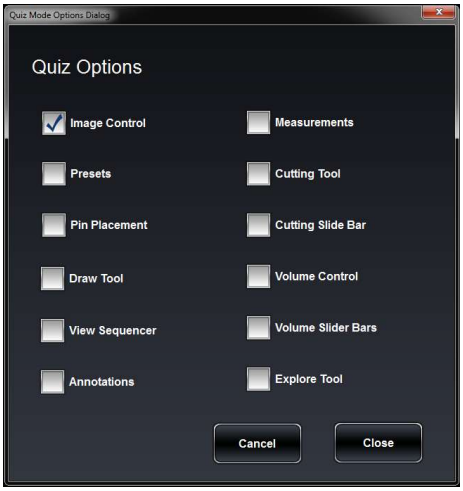


Enable Vertical: Toggle between Vertical Viewing Mode and Horizontal Viewing Mode.In Vertical Viewing Mode, icons are rotated and condensed into categories. All Table application functions remain the same.

WARNING: If Table application detects that some DCM files are missing, corrupt, or otherwise determined inaccurate, an error message will appear about possible inaccurate reconstruction. The user may continue with volume reconstruction and should exercise caution when reviewing any data with possible inaccuracies. An inaccurate volume reconstruction created in Horizontal Viewing Mode will still contain inaccuracies when viewed in Vertical Viewing Mode.

Volume Rendering Preference: Define the **Min**/**Max** limits of the scalar values for reconstructing volume from slice image data. Anatomage recommends -500 to 1500 for CT data and 0 to 3000 for MRI data.

WARNING: The values set in this Volume Rendering Preference field will have a direct effect on how the image data is reconstructed and displayed within the rendering window. The rendering range should be adjusted appropriately depending upon the modality (CT, MR, etc.) and scanning parameters.



Performance, Quality: Toggle between these two settings to improve rendering behavior and image quality.

Apply: Enable any changes made to the rendering range or rendering performance adjustments.

Quiz Mode: Lock specific features. Define locked features using **Options.** Create a password for managing use of the Quiz Mode and enable it using **Enable.** Password must be used for disabling Quiz Mode as well. In the event that the password is forgotten, the master password can be used to disable Quiz Mode.
Master password – AnatoTest0

Stroke: Select the **Stroke color** and **Width** for Pen Tool.

Done: Close Dialog.

Image Adjustment

Male/Female Full Body Scan and High Res Regional Scans

Selecting the Volume Visibility Control Icon will open the following dialog.

- Volumes are organized into systems, categories, and structures.
- Tap On/Off icon at the bottom of the system list to turn **all structures** On/Off.
- Tap On/Off icon next to each entry to turn systems, categories, or individual structures On/Off.
- Tap a system or category to show associated subsystems. Selected entry name will be highlighted blue.
- Tap circle icon next to entry names to adjust *Opacity* and **No Clip** settings for volumes. If adjusted, circle icon becomes gray.

No Clip: If turned on, volume cannot be sliced through.

Opacity: Adjust slider bar to adjust volume transparency.

- Search bar in lower right corner allows user to search for a particular structure. Tap **Clear** to clear all search terms.

When viewing the Male Full Body Scan or male High Res Regional Scans, it is common to see small black line artifacts on the skin model. This is a rendering issue due to the high density of models under the skin.

Viewing Layouts

Select different layout icons to view volume cross-sections. **Layout 1** allows users to view a volume rendering of the data. **Layout 2** allows users to view both a volume rendering as well as a slice cross section simultaneously. Using **Layout 3** and **Layout 4**, users can view all three cross-sections (axial, coronal, sagittal) simultaneously. Using **Layout 5**, users can view one cross-section at a time. Users can scroll through each cross-sectional view independently. Use clipping plane icons and clipping plane slider bar to adjust individual cross-sections. Tap on Layout icons to toggle between views.

Various volume and slice mode viewing options.

Female Full Body with Models and DCM/INV Files

Selecting the Volume Visibility Control Icon will open the following dialog.

Image above shows example for Female Full Body with Models. List of models on the right will be empty unless models are added and saved to the Invivo file.

Volume Visibility	Turn On/Off volume rendering.
All Models Visibility	Turn On/Off model visibility.

Volume Renderings *(Gray Scale, X-Ray, Transparent Soft Tissue, Transparent Hard Tissue, Transparent Soft + Hard, etc.)*	Collection of different volume rendering presets. Each can be adjusted using the *Brightness* and *Contrast* settings or the Rendering Slider Bars on the main Table user interface. Users can create their own custom volume rendering presets using the Invivo5 software. This setting can be exported as a volume configure file (*.vcf*). **Custom** loads in a *.vcf* file.

Viewing Layouts

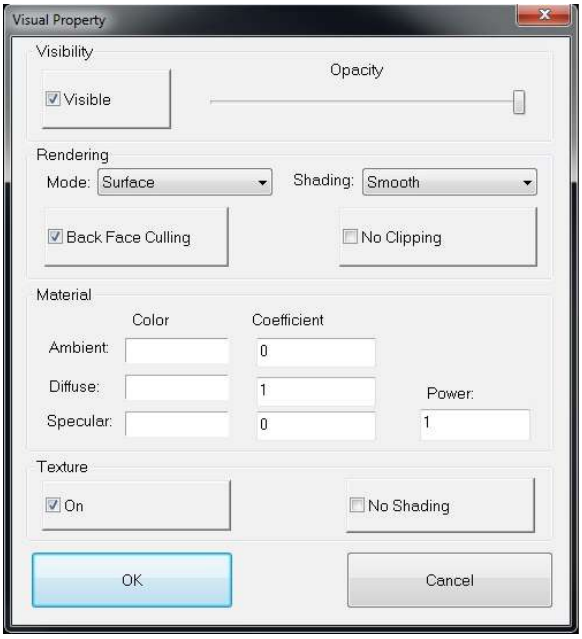
Layout 1 allows users to view a volume rendering of the data. **Layout 2** allows users to view both a volume rendering as well as a slice cross section simultaneously. Using **Layout 3** and **Layout 4**, users can view all three cross-sections (axial, coronal, sagittal) simultaneously. Using **Layout 5**, users can view one cross-section at a time. Users can scroll through each cross-sectional view independently.

CT Presets (Only available in slice mode for DCM image sets)
Tap to show all available radiology presets. Using a second tap, select a particular radiology preset.

Available CT presets: Brain, Abdomen, Mediastinum, Bone, Lung, Liver

WARNING: CT presets are dependent upon original scanner/DCM HU definitions.

Model Settings



Open *Visual Property* Dialog for currently selected digital surface model.

Visibility

- Turn On/Off model visibility
- Adjust the *Opacity* of a particular model

Rendering

- Adjust *Mode*: Surface, Wireframe, or Points
- Adjust shading: Smooth or Flat
- Turn On/Off **Back Face Culling**
- Enable **No Clipping** (clipping planes do not affect model)

Material

- Adjust surface model appearance by changing color and light settings

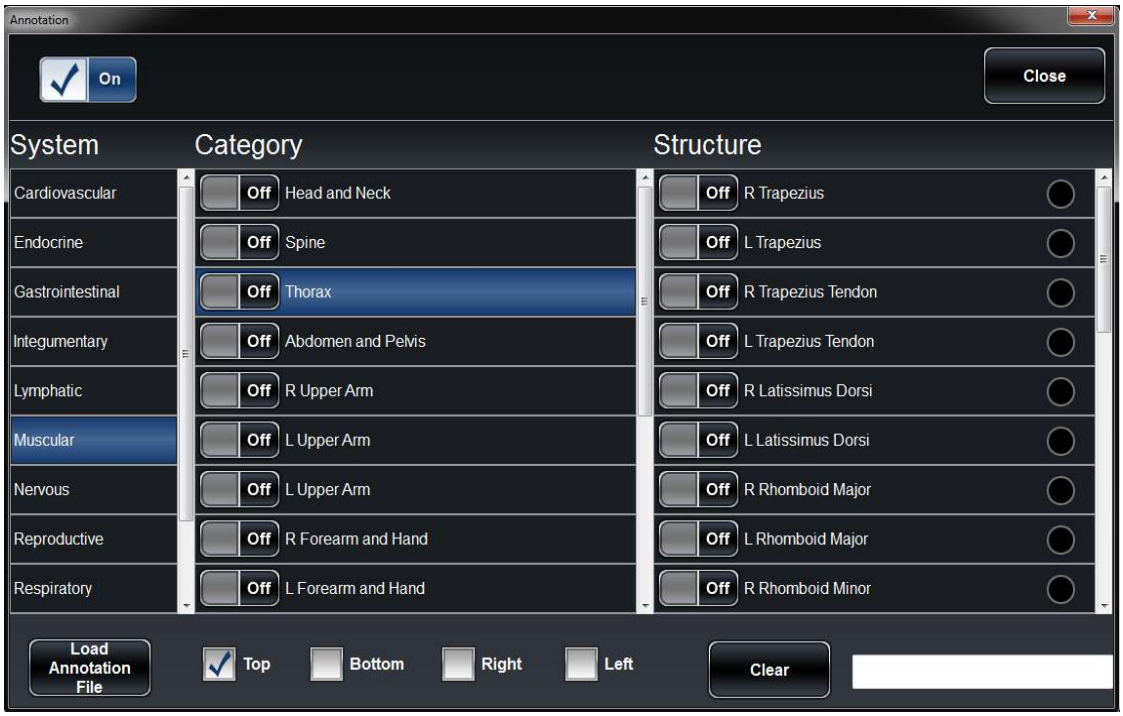
Texture

- Turn On/Off texture applied to model
- Turn On/Off shading applied to model

Tapping **OK** will close the *Visual Property* window and save the changed settings.

Annotation Control Dialog

Selecting the Annotation Control Icon will open the dialog below. Annotations are linked with clipping planes. Chosen annotations will be displayed, but lead lines will only appear when associated volume is close to the clipping plane. If no clipping plane is defined, lead lines will always appear.



- Annotations are organized into *System*, *Category*, and *Structure*.
- Tap On/Off icon at the top left of the dialog to show or hide all enabled annotations.
- Tap On/Off icon next to each entry to turn categories or individual annotations On/Off.
- Tap a system or category to show associated subsystems. Selected entry will be highlighted blue.
- User can adjust where annotation texts will appear: *Top*, *Bottom*, *Right*, *Left*.
- Search bar in lower right of dialog allows user to search for a particular structure. Tap **Clear** to clear all search terms.
- Annotations saved with Invivo will appear with *Comment* and *Marker* as System and Category, respectively.
- User can adjust coordinates of annotations by dragging text to a new location. Tap the circle to the right of the associated structure in the Annotation Dialog to save the new annotation coordinates.

WARNING: Saving the new coordinates for an annotation will overwrite the associated information on the currently loaded .csv annotation spreadsheet. A back up annotation spreadsheet is available on the Table desktop.

Load Annotation File Load in custom annotations (*.csv* file with character set "UTF-8", separated by tab, and set to "quoted field as text") created using Invivo5 software (or other software).

Customizing Annotations Annotations can be added, removed, or edited by opening the annotation file linked to the desired data set (*.csv* file with character set "UTF-8", separated by tab and set to "quoted field as text") in OpenOffice. Separate annotation files can be found for the Male Full Body scan, Female Full Body Scan, Female Full Body with models scan, as well as each of the High Res Regional scans. For more instruction on customizing annotations, consult the "How to Make and Import Custom Annotations 3.1" PDF file.

WARNING: Open same data set that was used to create annotation file in order to preserve correct coordinate system.

Presets

Save Preset (located in Volume Visibility dialog pg. 17) Create up to 10 presets: saves clipping planes, model visibility, volume visibility, slice mode layout, pins, and annotations.

Remove Preset (located in Volume Visibility dialog pg. 17) Delete the currently selected preset.

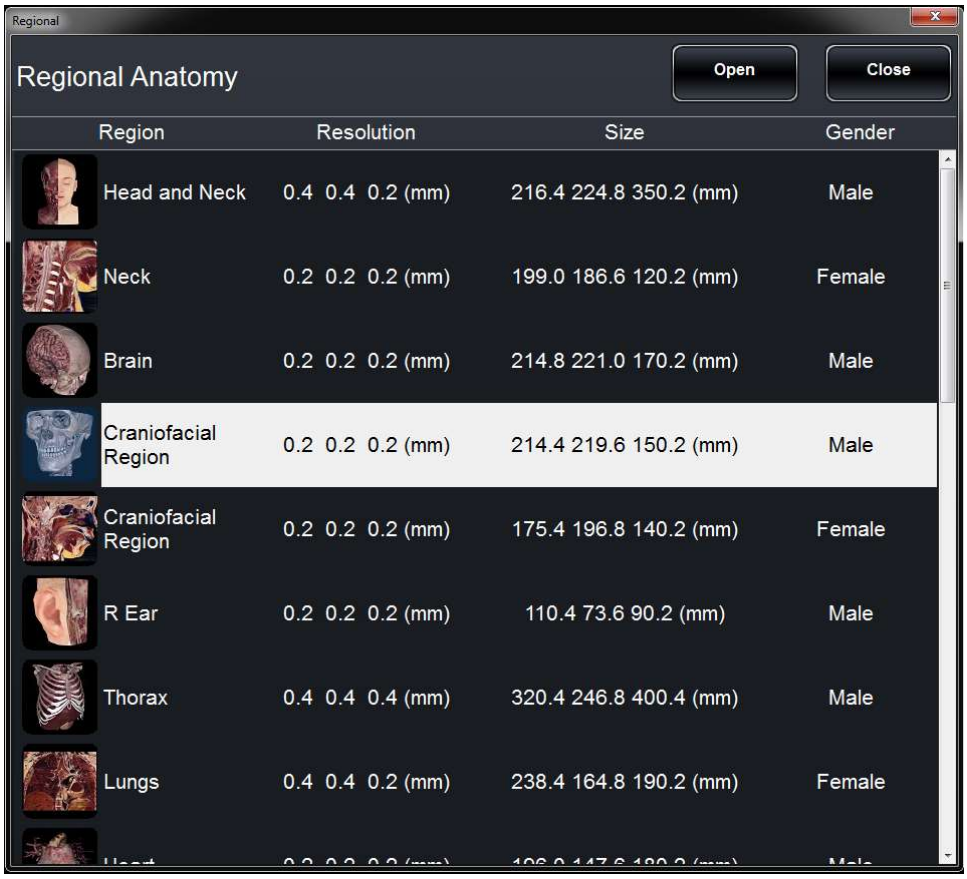
Export Preset (located in Volume Visibility dialog pg. 17) Export all saved presets as a visibility preset file (*.vpf*).

Import Preset (located in Volume Visibility dialog pg. 17) Load in *.vpf* file

WARNING: Preset behavior is best when using the same particular image data set and volume rendering range that was used when initially creating the presets.

High Resolution Regional Anatomy

Tap **High Res Regional Scans** on Application toolbar to open the *Regional* Dialog.

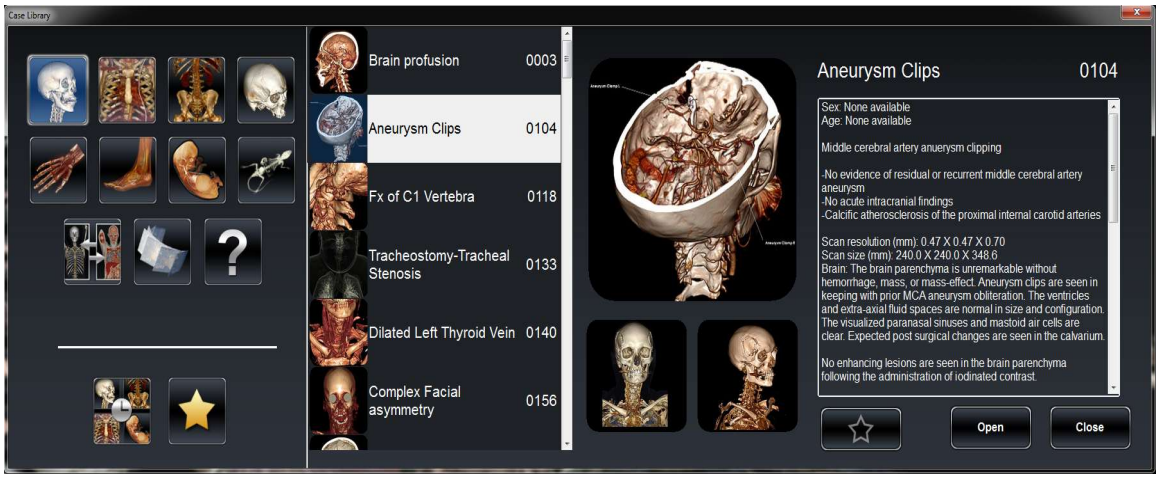


- Dialog lists all available regional scans with *Region*, *Resolution*, *Size*, and *Gender* of original scan.
- Tap entry name, then tap **Open**.
- Tap **Close** to close dialog.

Image Library

The Image Library is an optional plug-in that can be purchased with the Anatomage Table. It is a collection of scans showing various clinical case examples. Through the use of contrast media and other imaging techniques, real patient anatomical features are highlighted. Each scan comes with scan information, if available.

Select **Image Library** from Application toolbar to open the *Case Library* dialog.



- Scans are sorted by region (*Head & Neck, Thorax, etc.*) and type (*4D, Comparison, etc.*)
- Tap on one or more of the divisional icons to view all associated scans.
- Select scan name to display additional clinical information (*Info, History, Findings, Impression, Other*) along with scan resolution and size.
- Tap ☆ to add a scan to the **Favorites** category.
- Recently opened scans are saved under the **Recently Opened** category.

Comparison Displays three related scans linked in movement, clipping plane, brightness/contrast, and volume rendering mode for comparison. Note: Comparison Cases are not compatible with Vertical Viewing Mode.

4D scans

Scans showing movement

To Play 4D scan:

Step 1: Tap the View Sequencer icon  .

Step 2: Tap  to start/pause movement. Tap  to loop playback.

Step 3: Tap  to move forward one frame. Tap  to move backward one frame.

Step 4: Tap  to cut to the last frame. Tap  to return to the first frame in the sequence.

Step 5: Tap Close to close dialog.

User can rotate or clip volume while video loop is playing. Video playback will pause when user is rotating volume. Pause playback when not viewing scan to conserve computer memory.

Other Mummy scans

Curriculum

The Curriculum consists of a set of single scans with pre-made annotations and view sequences, provided by Anatomage. Scans are sorted by region (*Thorax, Upper Limb,* etc) and system (*skeletal, muscular,* etc). The curriculum is intended for teaching purposes.

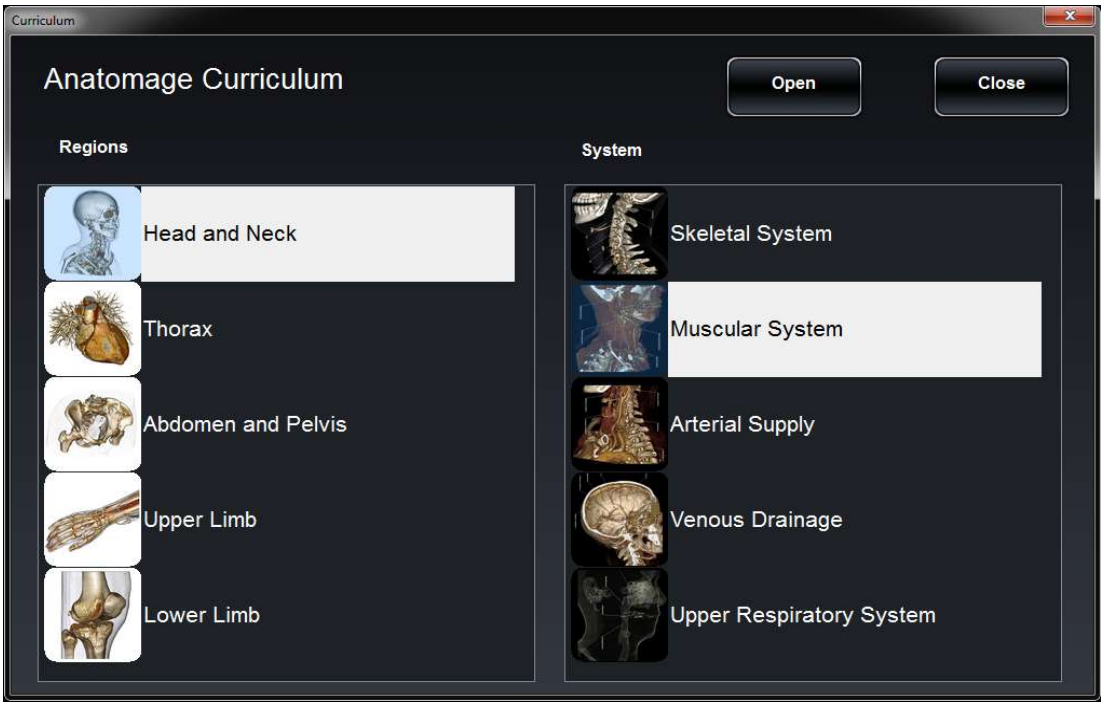


Table Application Troubleshooting

This section discusses common software troubleshooting issues.

For all troubleshooting, be sure to follow the safety guidelines outlined in the **Safety Instructions and Warnings** section of the hardware manual.

Issue With	Problem	Action
Installation	Error Message: *Server is not responding*	Check Internet connection. If Internet is connected, try again later.
	Error Message: *Please run as administrator to activate software*	Run the application as administrator.
	Error Message: *Invalid Authorization code*	Check license code and try again.
File Operations	Error Message: *Error: Cannot read this file*	Check if this file is supported by Table3.0.
	Error Message: *Failed to read DICOM file!*	Check if this file is supported by Table3.0.
Image Rendering	Error Message: *Can't detect hardware acceleration for OpenGL support!*	Check if graphics card meets system requirements. Check if latest driver is installed for graphics card.
	Image is distorted	Switch to another view and switch back.
	Grayscale image shows up for all rendering presets	Check if graphics card meets system requirements. Check if latest driver is installed for graphics card.
	Warning message: *3D reconstruction may not work!*	Check if the DICOM files are exported correctly.
	Slow performance	Keep a maximum of five applications open at any given time. Switch from **Quality** to **Performance** mode. Pause loop playback for 4D scans when not viewing.
Computer	Blue screen	Restart system and see if problem persists.
		Note the error code given and learn more at *support.microsoft.com*
		Use Windows install disc/USB drive to reformat the computer. Contact Anatomage for new Table Application authorization code(s).