



User Manual

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This manual has been produced to assist in providing instruction for ViewAll and EVA products. Every effort has been made to make the information in this guide as accurate as possible. The authors of this guide shall have neither liability nor responsibility to any person or entity with respect to any loss or damages in connection with or arising from the information contained in this manual.

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Regulatory notes

ImageWorks provides you with the following information regarding the regulatory status of ViewAll and EVA-Vet.

Europe

According to the guidelines stated in Directive 93/42/EEC of the European Community, EVA-Vet and software (ViewAll) as EVA-Vet Digital Dental X-Ray System is a Class IIa Medical Device. EVA-Vet satisfies the requirements for bearing the CE mark on its labeling. Our authorized representative in the European Community is:

Computer Requirements:

The computer requirements are documented separately. Please contact your dealer, ImageWorks or our website www.imageworkscorporation.com for a copy of these requirements.

Responsibility for equipment management attributable to the user:

Each state, province and country may have specific requirements to operate the equipment. The intended users of this equipment should be veterinary professionals who are familiar with and comply with the relevant local laws and regulations when operating the equipment. The user is also required to use and maintain this equipment as described in this manual.

Required Maintenance and Inspection:

ViewAll Software is designed to be operated on a PC type computer running one of the approved operating system versions.

Daily:	Backup data
Monthly:	Upload and apply Operating system patches and security fixes. Check the free capacity of the hard drives particularly on the server/host. Check the validity of the daily backups.
Annually:	Check for updates on the ImageWorksCorporation.com web site. Review list of users and, if necessary, passwords.

Durability Period:

As a software product ViewAll has no intrinsic lifespan limitation. However, as it must work in a compatible environment, the supported lifetime of the product is defined as seven (7) years from the software release date or the published 'end of mainstream support for the operating system used, whichever is earlier.

Actions to be taken in the case of an accident:

1. In the event of an accident immediately stop using the equipment.
2. Provide appropriate first aid and other emergency medical assistance as required by the accident conditions.
3. If necessary, turn off and disconnect the equipment. Shutdown and power down the computer.
4. Immediately contact the dealer from which the equipment was purchased. If you cannot contact the dealer, contact ImageWorks.

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About This Product

Theory of Performance

The ViewAll Dental Imaging Software application is designed to acquire, display, organize, store and output digital radiographic images for dental diagnostics. The software is a useful interface for all ImageWorks's digital dental X-Ray imaging equipment. In order to capture radiographic and other images, ViewAll must have an active patient selected. Once the digital radiographic image and/or images are acquired, ViewAll will store the images in the patient database as DICOM files. After an image has been acquired it is automatically saved and displayed on a computer monitor. A suite of image processing tools are available for the operator to enhance the displayed image(s) for their particular diagnostic analysis. Such enhancement tools include, but are not limited to: Magnify, Gamma, Window and Level, Linear Stretch, and Equalize. Each anatomical template used to acquire digital X-ray images has a layout for viewing the images together. The Study View tab allows the user to view the selected patient's images in these pre-defined layouts. ViewAll also implements specific DICOM operations. Please refer to the Viewall DICOM Conformance Statement for details.

Product Registration

ViewAll requires a license to use beyond the 30 day full version trail period. To register your ViewAll Software Via the internet, go to **Help > License Registration**, or call technical support and register over the phone.

**For the most current information on this software please visit our ViewAll support page at:
www.imageworkscorporation.com/viewallvet**

Contact Information

Technical Support:	(914) 592-6100
Fax:	(914) 592-6148
E-mail:	support@imageworkscorporation.com
Web:	www.ImageWorksCorporation.com

ViewAll Overview

Viewall has been designed using a Tabbed interface.

Each tab is designated a specific set of tasks. There are two general areas within each tabbed area. To the left is the main imaging area (or screen). To the right is an expandable and collapsible smaller area referred to as the "Stack". The "Stack" usually contains certain tools or options that directly pertain to the purpose of the main tab that it falls under. For example, patient search criteria are found under the stack of the PATIENT tab. Tooth charts, patient information, exposure details, etc are found under the stack of the ACQUIRE tab. Filters, demographics and annotation tools are found under the stack of the DIAGNOSIS tab.

There are also sub-tabs present in both the main area or screen as well as in the stack areas.

The Patient Tab is designed for designating the active patients and owners, as well as accompanying active studies. Additions of new patient/owners (either with full information or emergency patients whereby their information may be filled in later), editing existing patient/owner information and conducting various searches under a wide variety of criteria are all possible within this section.

The Acquire Tab is designed for the purpose of acquiring images. The user is presented with a number of acquisition toothcharts from which to choose from a drop-down list in the stack. From the toothchart, the user may decide to remain with the default sequence of exposures or select a new one. In addition to Sequential mode is the Endo mode. This allows the user to take exposures on a given tooth one at a time or select the sequence on-the-fly. The stack (under Acquire Tab) also has fields for entering information about exposure data. This information should be entered just prior to each exposure (if desired) and as such, will then be automatically added to each image in their corresponding DICOM tags.

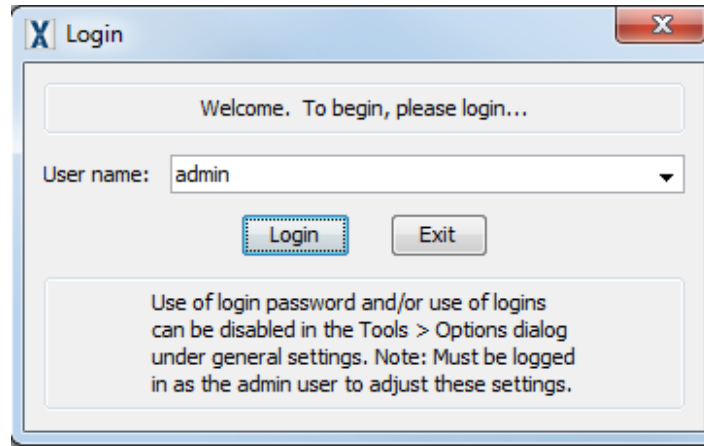
The Diagnosis View Tab is designed to allow the user to view and edit one or more images at a time. All of the image enhancement tools and filters are located in this tab, as well as annotation tools and demographic data overlays.

The Study View Tab is designed to view images from a study in a predefined layout. The user can also drag and drop images into different positions on the chart.

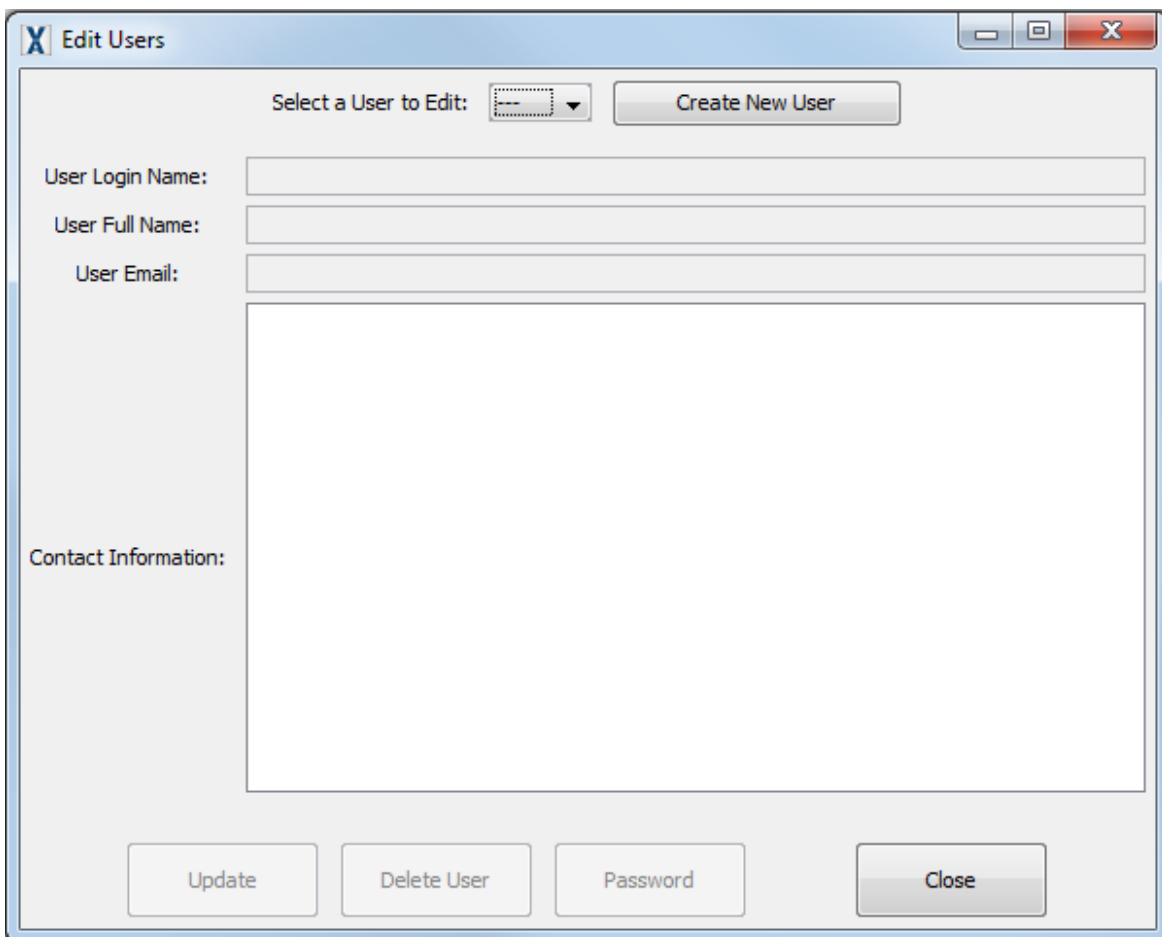
The Light Box Tab is designed to display multiple images from either a single or multiple studies. It may also display images from multiple patients as well.

ViewAll Log-In Feature

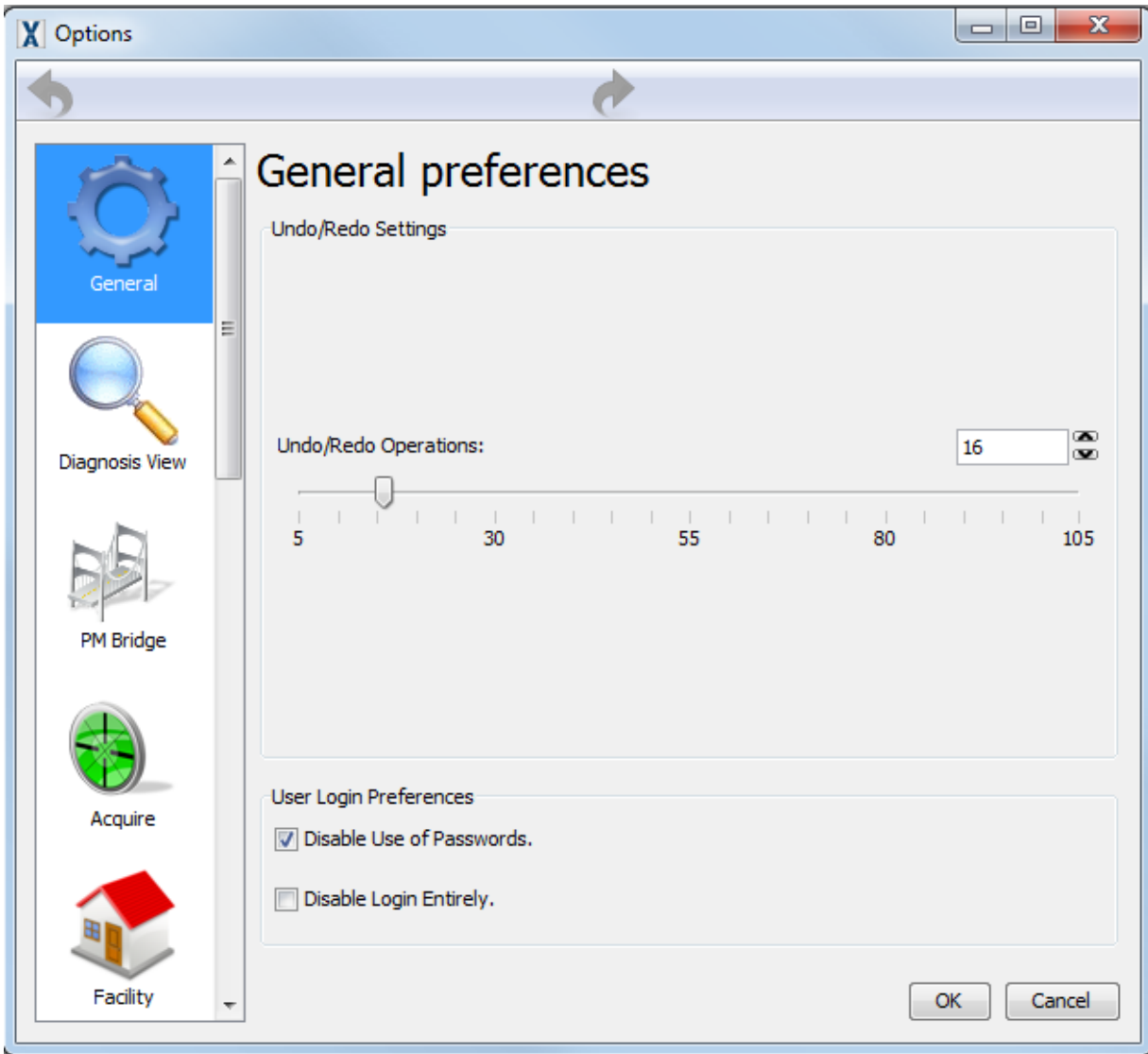
ViewAll has the optional use of login accounts. It is recommended that each user create an account name and password. At start-up, ViewAll displays the Login window shown below. The login system can be set up to require user names and passwords or user names without passwords.



To add user accounts and/or edit user accounts, go to **Edit > User Accounts**



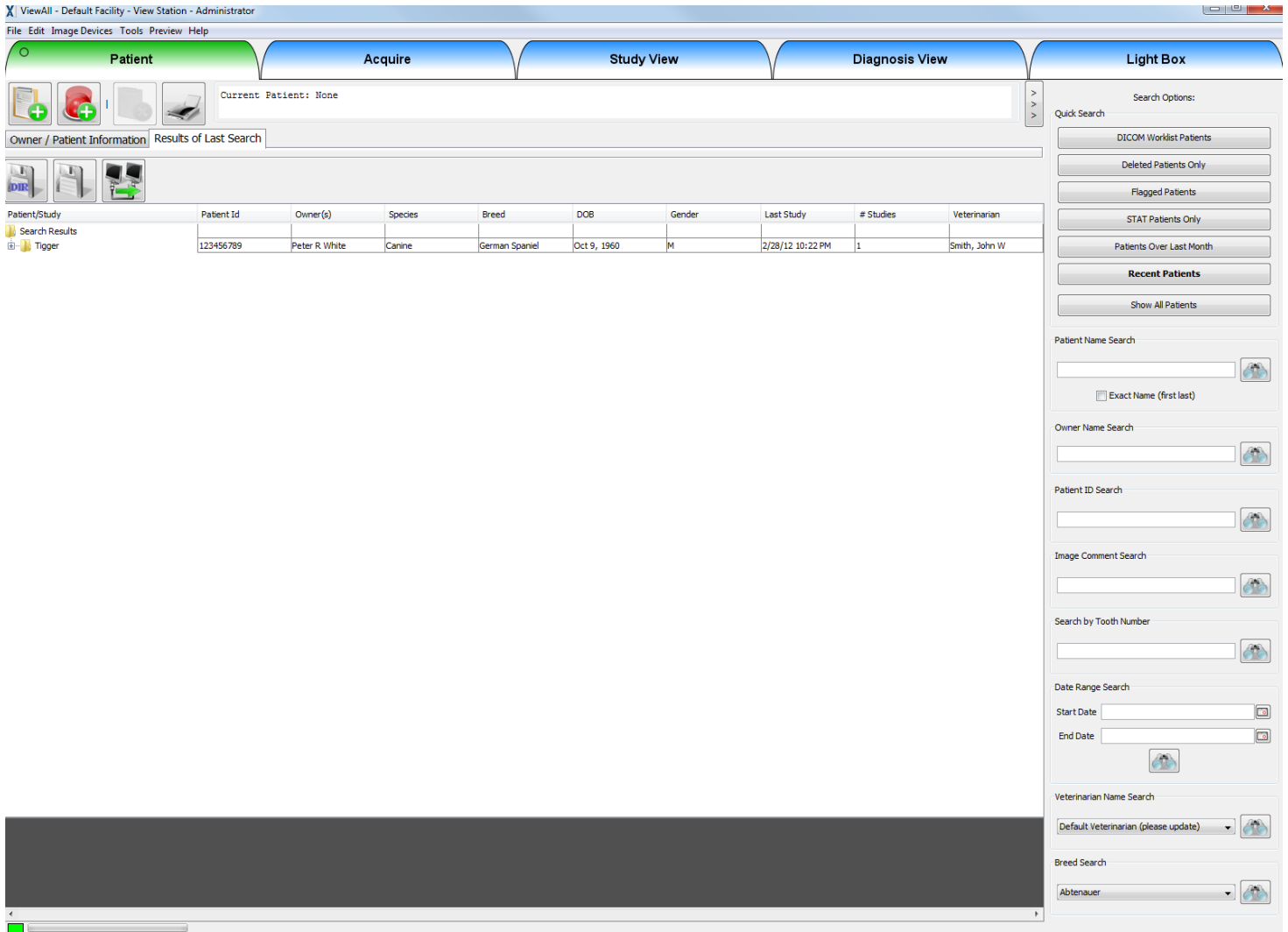
To make changes to the User Login Preferences, go to **Tools < Options**, in the General preferences area. For further explanations of the Options Window, see Appendix D.



Detailed Tab Descriptions

Patient Tab

The Patient Tab is the entry point into the software. In this tab the user can create new patient/owners, find existing patient/owners and edit patient/owner information. Click on "Results of Last Search" tab and then "Show All Patients" in the right-hand stack.



Stack and Work Areas

Each tab area has two main working areas. On the right-hand side of the area is what is called the "stack". The stack may be collapsed and expanded as needed and has various subjects that are applicable to whatever tab is selected. For example, in the Patient tab, the stack on the right has search criteria for sorting through patients, ID numbers, etc. One of the features of this stack is the ability to display DICOM Worklist Patients.

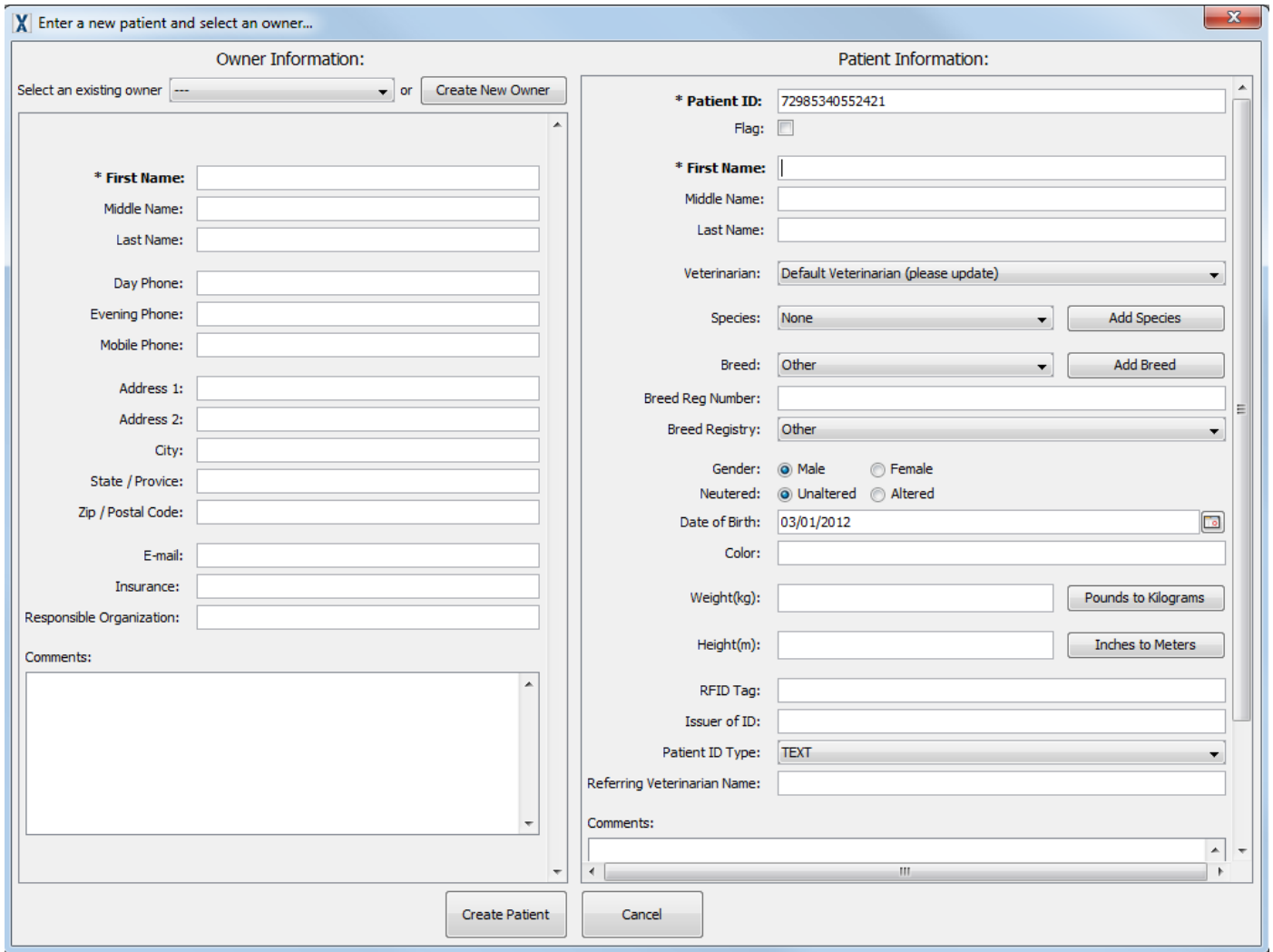
The area on the left is the working area. Both the working area and the stack area have their own smaller tabs. The Diagnosis View tab, in particular, has a number of smaller tabs in the stack area that pertain to tools, demographics, annotations, etc.

Create a New Patient

To create a new Patient, click the New Patient button.

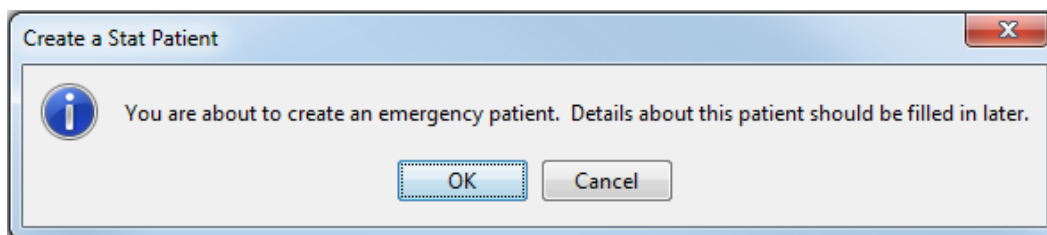


The following window will open where the user can enter all the patient/owner information. Make sure to hit the “enter” key after entering the patient’s birthdate.



Create an Emergency Patient

To create an Emergency patient, click the Emergency Patient button.




This will create a patient with the Date and Time as the patient’s name. Use this patient to capture images right away and then update the patient/owner information afterwards. Quickly find Emergency patients by selecting the “Stat Patients Only” quick search button from the right-hand stack area.

Patient/Image Searching

Search tools are divided into two categories: quick search buttons and detailed searching. The following quick searches are available:

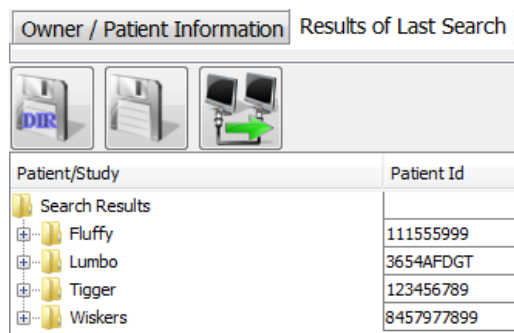


The user can search for the Patient Name and/or Patient ID by entering the text in the correct text box and clicking the "Find" button.  Only patients with the matching criteria will be displayed. The user can also choose dates

that images were captured on or in between, again clicking the "Find" button to apply the search. Only patients with images captured on the selected date or in the selected date range will be displayed.

Use the Veterinarian, Tooth Number and Image Comment searches to only display patients that match those criteria.

Once a search is complete, the list of patients will be displayed. Click on the Plus (+) sign next the patient's name to see that patient's list of studies.



The interface shows a search results window with a tab labeled "Results of Last Search". Below the tab are three icons: a blue folder icon labeled "DIR", a printer icon, and a computer monitor icon with a green arrow pointing to it. Below the icons is a table with two columns: "Patient/Study" and "Patient Id".

Patient/Study	Patient Id
Search Results	
+ Fluffy	111555999
+ Lumbo	3654AFDGT
+ Tigger	123456789
+ Whiskers	8457977899

Selecting the Active Patient and Study

Start in the "Results of Last Search" Tab.

To select the Active Patient, the user must Double-Click on the patient's name.

To select the Active Study, the user must Double-Click on the study name.

Use the Clear button to deselect the Active patient and study.



Click on the Patient Information subtab to edit, or delete that information.

The screenshot shows a software interface with two main panels. The left panel, titled "Owner Information" and "White, Peter R", displays details for "Peter R White": Number of Patients: 2, Address: 555 Center Ave, City, State 55555, Phone (Day): 555-555-5555, Phone (Evening):, Phone (Mobile):, E-mail: None, Insurance:, Responsible Organization:, and Comments:. The right panel, titled "Patient Information" and "Tigger", displays details for "Tigger": Patient ID: 123456789, Number of studies: 1, Last study on: Tuesday, February 28, 2012 10:22 PM, Veterinarian: Smith, John W, Species: Canine, Breed: German Spaniel, Breed Reg Number:, Breed Registry: America Kennel Club, Gender: M, Neutered: UNALTERED, Date of Birth: Oct 9, 1960, Color:, Weight(kg): 45.5 (kg), Height(m): 1.4 (m), RFID Tag:, Issuer of ID:, Patient ID Type: TEXT, Referring Physician Name:, and Comments:. Below the panels are buttons for "Add/Edit Owner", "Transfer Patient", "Remove Owner", "Edit Patient", "Delete Patient", "Merge Studies", "Transfer Study", and "Delete Study". At the bottom is a filmstrip of ten study thumbnails.

Click once on a study and the Thumbnail images will be displayed in the Filmstrip.

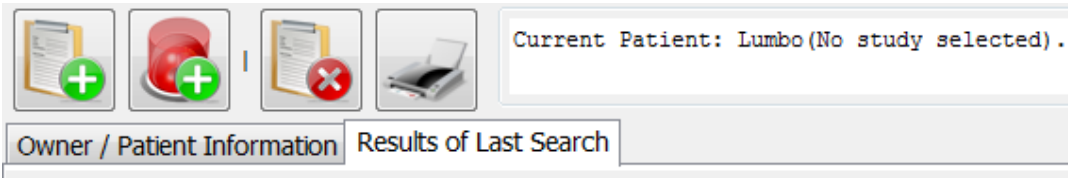
Double-click on the study to open the study in the Chart View Tab, to set that study as the Active Study.

Returning to the Patient Tab, the active patient and study will be displayed in the status box.

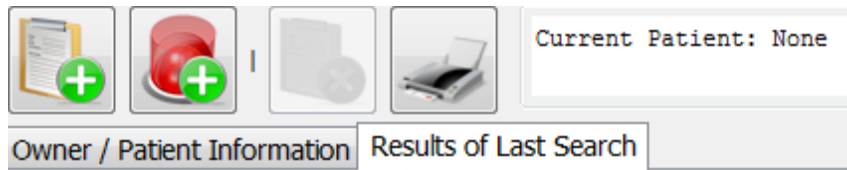
Click this icon to clear the patient/study: This shows the patient and study selected.

The screenshot shows the bottom of the software interface. On the left, there are four icons: a document with a green plus sign, a person silhouette with a green plus sign, a document with a red X, and a printer. Below these are tabs for "Patient Information" and "Results of Last Search". To the right is a status box containing the text "Current Patient: Coco Chanel (Current Study: Wednesday, July 28, 2010 2:29 AM)". An arrow points from the text "Click this icon to clear the patient/study:" to the red X icon.

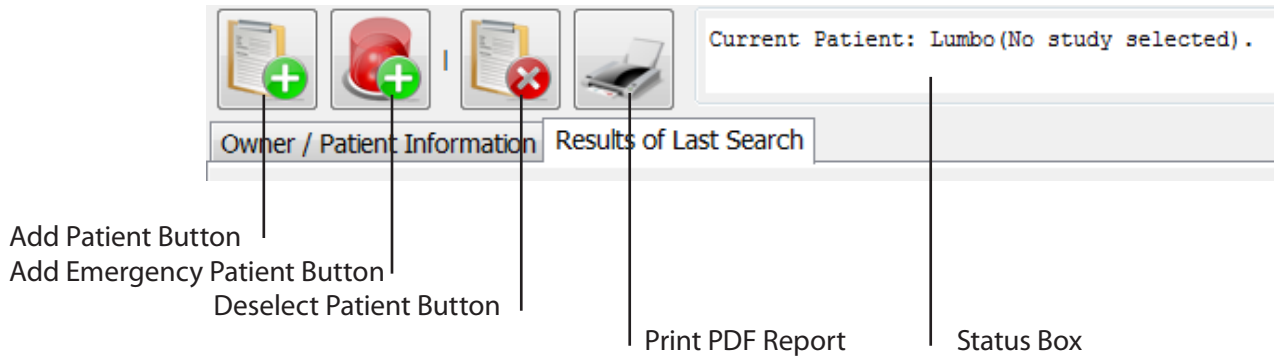
Patient selected, no Study selected:



No Patient or Study selected:



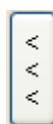
Patient Tab Toolbar



- Exports a DICOM directory
- Exports a File(s)
- DICOM send (must have an account or server set-up for this)
- Exports a DICOM directory and burns it to a CD or DVD



Collapses the "Stack"

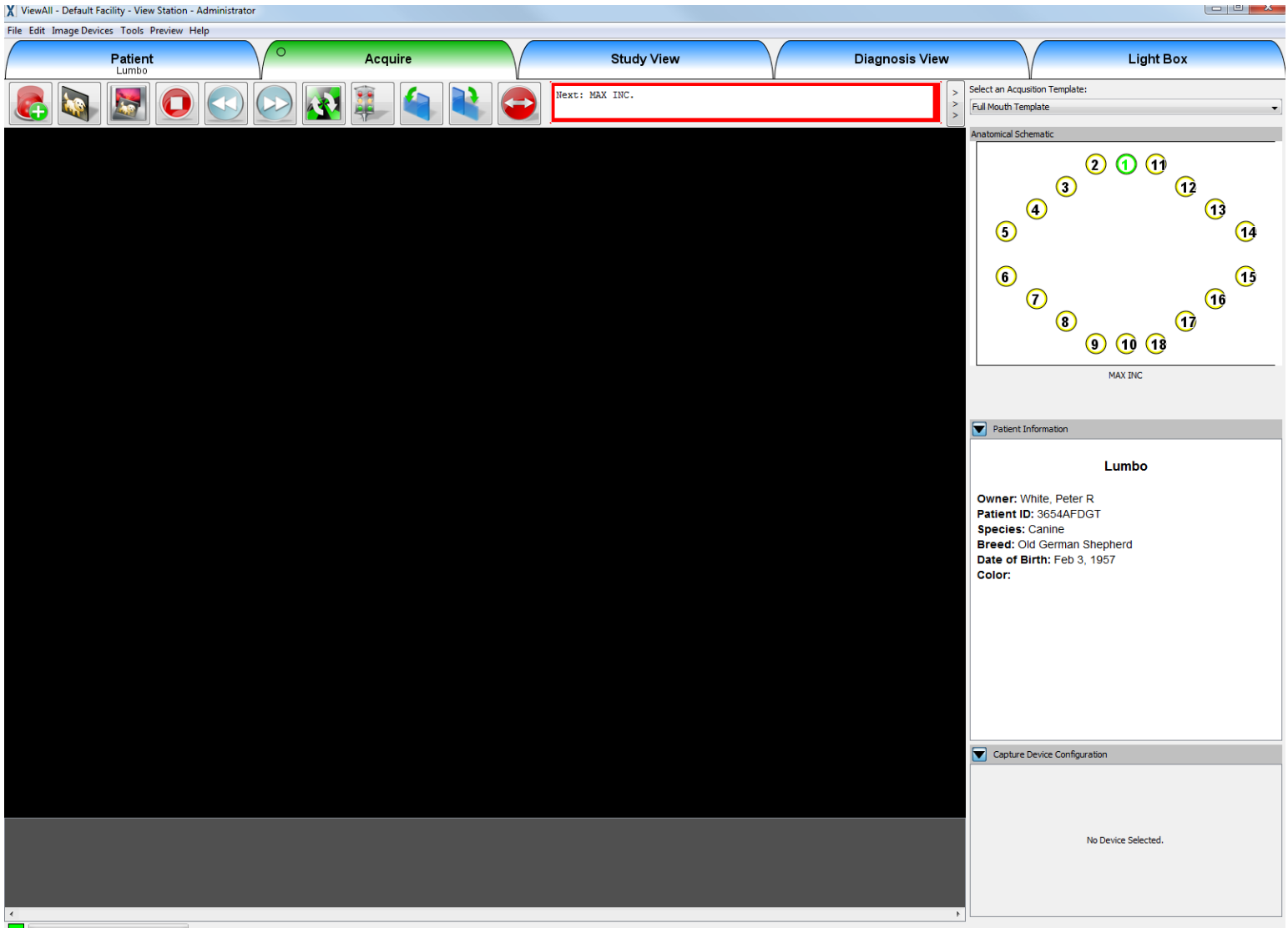


Expands the "Stack"

Acquire Tab

The acquire tab is where the user can acquire images for the active patient. If no active patient is selected, the acquire module will prompt the user to select a patient, or create an anonymous patient to continue.

In order to acquire images, there must be a selected hardware device. If a device has already been selected, it will be displayed in the title bar of the ViewAll window. If no device has been selected, the title bar will display "View Station". See below for more details on selecting a device.

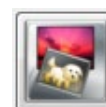


Capturing an Image

The user must complete four steps in order to capture a digital X-Ray image. The following steps will demonstrate using an EVA sensor.

After opening the ViewAll software and logging-in, the user must:

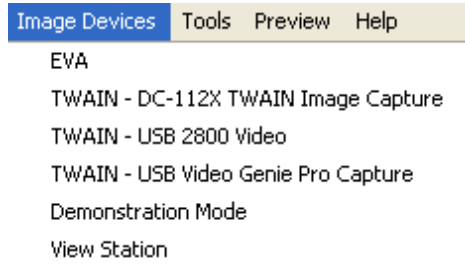
1. Select the active patient in the Patient Tab.
2. Select the correct hardware from the Image Devices drop-down menu.
3. Go to the Acquire Tab area and select an acquisition template from the menu in the stack (if something other than the default tooth template is desired).
4. Select the acquisition mode: Either Single Capture or sequential.



The first step is selecting a patient. In the Patient tab, find the desired patient and Double-Click on the patient's name. This patient is now set as the Active Patient.

The second step is to select the hardware device that you will be using. This step is not often required because the software remembers the last device that was selected.

Go to the **Imaging Devices** drop-down menu and the following window will open:



Select the desired hardware, for example, "EVA". The active hardware will be displayed in the title bar of ViewAll.

Note Only hardware that is available on the system will be displayed in this window.

The third step is to select an acquisition template. This must be done from within the Acquire Tab. The user can choose an Acquisition Template from the drop down list. Once a template has been selected, the user can remain with the default sequence of exposures or change the sequence. The default template is selected by going to:

Tools > Options > Acquire Tab Options and selecting from the dropdown lists.

Important Note: When a template is displayed, the first region to be taken will have the numeral "1" shown on it. This will be the first of a predetermined order of exposures that are determined in the "Layout Editor" (which will be discussed later). **This order may be altered immediately prior to taking exposures by clicking on the regions desired. Then, upon entering the Sequential mode, the X-rays will be taken in that new order.**

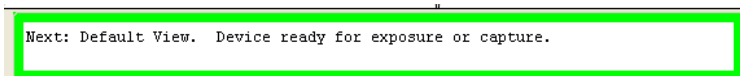
In Single Capture mode, subsequent exposures will be taken on the same tooth position until/unless a different position is chosen prior to the next exposure.

The fourth step in capturing an image, is to select a capture mode: Single Capture or Sequence Capture. The Single Capture or Sequence Capture mode default is determined by setting this previously in the "**Tools < Options < Acquire Tab Options**" window.

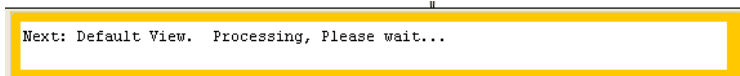
If one wants to change this on the fly, simply click on the "Stop Acquisition" button in the Acquire Tab and vv the mode desired.



Once an Acquire button is pressed, the software will tell the hardware to be ready to acquire an image, and the Acquire Status (traffic light signal) will change to green when ready. Now the user can fire the X-Ray unit.



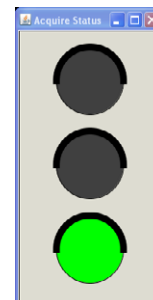
Ready To Capture



Processing Image



Acquisition Stopped














This Icon toggles Acquire Status Traffic Light off and on

Acquire Status Traffic Light same function as colored border on the Status Box

Once the image data is received it is displayed and a thumbnail of the image is added to the filmstrip.

Each acquire session will be saved as a new study for the Active Patient. The exception to this rule is if the Active Patient has a study that is not more that 36 hours old. In this case, the user will be asked, upon entering the Acquire Tab, to append to the last study or start a new one.

Acquire Tab Toolbar

	Add Stat Patient Button
	Start Single Acquisition Mode Button
	Start Continuous Acquisition Mode Button
	Stop Acquisition Button
	Retake Exposure Button
	Skip Ahead to Next Exposure Button
	Re-Set Exposure Sequence Button
	Acquire Status "StopLight" ON/OFF Button
	Rotate CCW
	Rotate CW
	Mirror

Next: BiteWing. Device ready for exposure or capture.

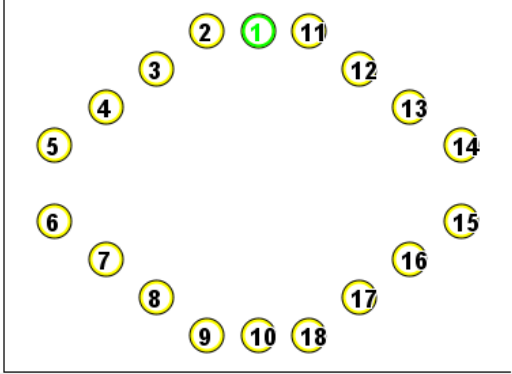
Status Windows

Next: BiteWing. Auto capture mode stopped.

Acquire Tab "Stack"

Select an Acquisition Template:
Full Mouth Template

Anatomical Schematic



MAX INC

▼ Patient Information

Lumbo

Owner: White, Peter R
Patient ID: 3654AFDGT
Species: Canine
Breed: Old German Shepherd
Date of Birth: Feb 3, 1957
Color:

▼ Capture Device Configuration

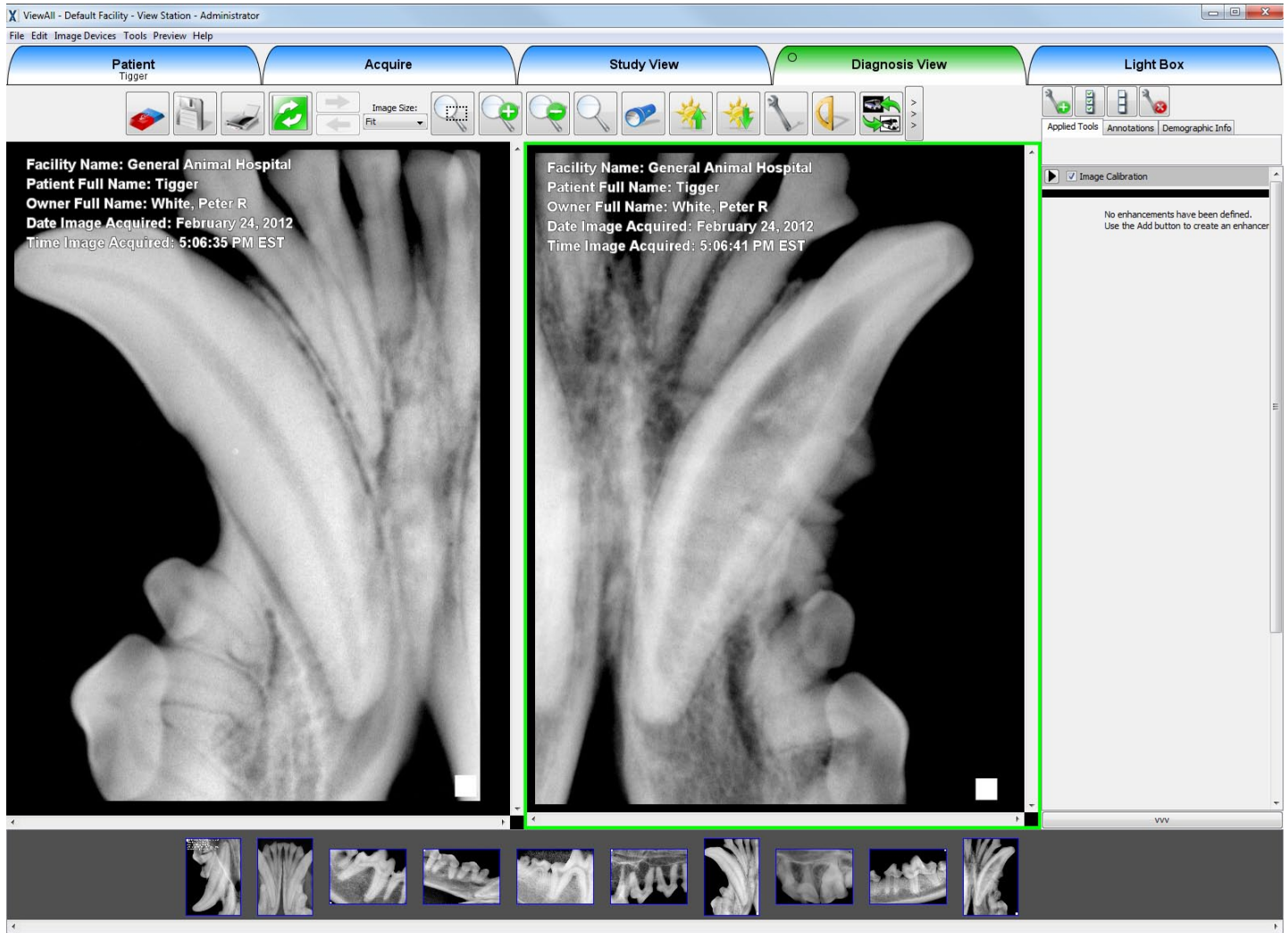
No Device Selected.

Expand/Collapse Stack Buttons



Diagnosis View Tab


At any time the user can double-click on an image or thumbnail and it will automatically open in the Diagnosis View Tab.



Above the image are several tool buttons. To the right of the image is the stack. The stack contains all the image manipulation tools, annotation tools and demographic information overlay tools. The stack area can be minimized to allow the image to have maximum viewing area.

Simply click on the collapse/expand buttons.



To apply an enhancement tool from the Toolbox, click on the add button  and select the tool from the list that appears. This will add the tool to the Stack. The stack performs each tool in order, from top to bottom. Full descriptions of each tool can be found in the Enhancement Tool Descriptions section of this document.



Drop-down list of tools that appears in the stack from clicking on the “Add a new operator to the stack” button



Enable all operators in the stack



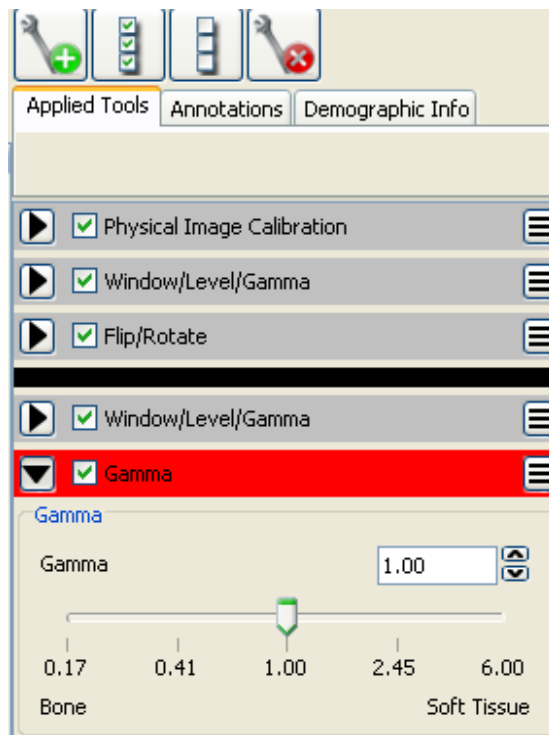
Disable all operators in the stack



Remove all operators from the stack

- Angle Measurement
- Brightness/Contrast/Gamma
- Crop
- Salt & Pepper Filter
- Edge Enhance
- Equalization
- Flip/Rotate
- Gamma
- Invert
- Linear Stretch
- Local Linear Stretch
- Physical Image Calibration
- Physical Image Measurement
- Sharpen
- Soften
- USM
- Window/Level/Gamma

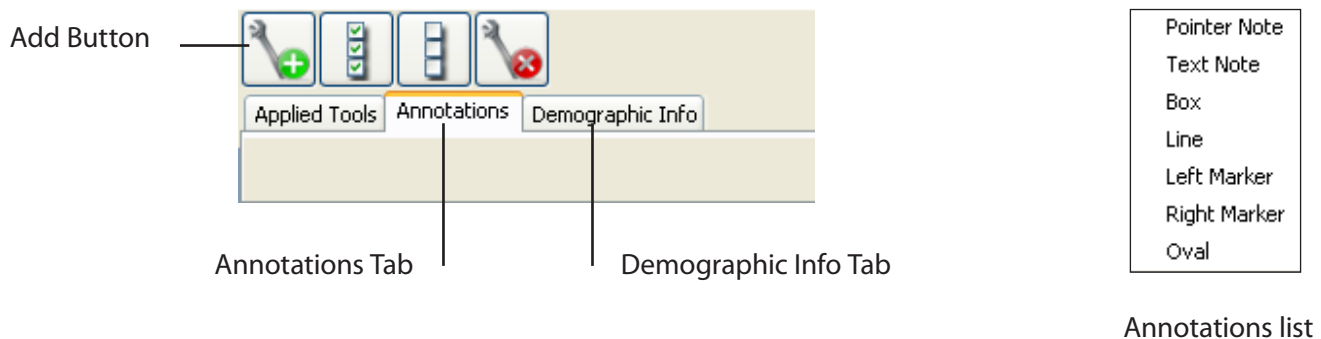
Here is an example of the Gamma tool being chosen. Note that it is highlighted with a red bar that indicates it is active.



After each tool has been adjusted, the user can click on the red bar and it will become gray and in-active. The user can click on the “Enable All” or “Disable All” buttons which will toggle all enhancements on and off.


Annotation Tools

To apply annotation tools, click on the Annotations Tab in the Stack area. Then click the Add button and you will get a list of Annotation tools to choose from.



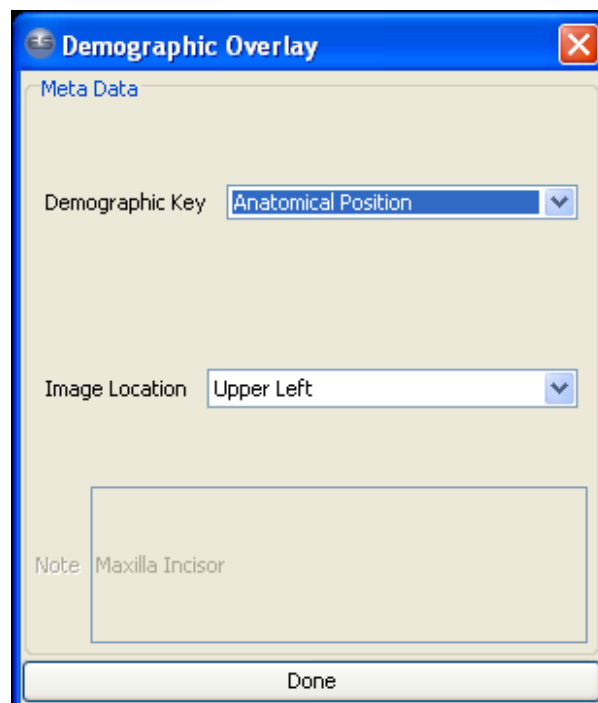
Demographic Data Overlays

To apply demographic data overlays onto the image, click on the Demographic Info Tab in the stack area. Then click on the Add button and select the "Demographic Overlay" menu item. The demographic overlay tool will be added to the stack. The user can choose what data information to display from the Demographic Overlay Window drop-down list. The user can also choose what corner of the image to display the information. Click on "Done" to finish the operation.

After the desired operators have been applied to the image, click the Save  button to

save the changes. This save action will add the tools from the stack into the patient database. The next time the user opens that image, the tools will automatically be re-applied to the image, and added to the Stack.

Important Note: No changes are ever made to the actual Image File! All tools that are applied to the image are saved in the database. When the image is opened again, the tools are re-applied to the original image data. To see the original image again, the user can simply turn off all the items in the stack by clicking on either the "Disable all stack items" button or the Modified/Original button.



Grouping Enhancement Tools for future re-use

The user can save the enhancement tools and the adjustments made to those tools so that they can be applied to other images. To save a group of enhancements tools that are currently in the stack, simply right-click on the image and select the "Send to..." option from the pop-up menu. The "Transfer Image..." window will open. Click on the "Custom Enhancement" button. "Add New" will appear. The "Custom Enhancement Label" window will open where the user can assign a name to the new group of enhancements. Then click OK.

When a new image is opened in the Diagnosis View Tab, the user can click on the "Apply Custom Enhancements" button, which can be found by clicking on the "View All Tools" button. Then, select the name of the group to apply to the image. The "Apply Custom Enhancements" button will remember the last group that was used and show that one at the top of the list until a different group is selected.

This grouping also applies to Demographic Information Overlays. Add the Demographic information to the stack and then right-click on the image. In the "Transfer Image..." window, choose the "Custom Overlay" button. Enter a name and click OK. The Custom Overlay button may also be found in the "View All Tools" window (by clicking on the "View All Tools" button shown below).

Diagnosis View Tab Toolbars (Upper)



Clear current image

Save current image

Print current image

View Original/Modified Image

Undo/Redo

Image Size:
Fit

Fit image to window - (Zoom percentage)

Drag mouse to define region to zoom in to

Zoom in

Zoom out

Magnification Spotlight

Diagnosis View Tab Toolbars (Upper Cont'd)



Spotlight

Increase Gamma

Decrease Gamma

Brightness Contrast Gamma

View All Tools

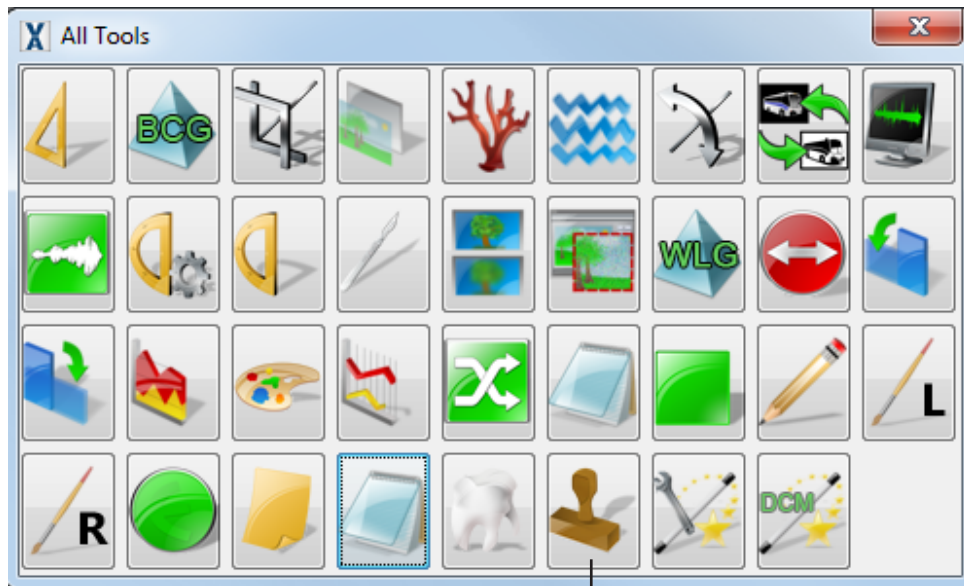
Measure

Invert Image

Clicking on the “View All Tools” button brings up the View All Tools Window (Shown Below).



View All Tools Window

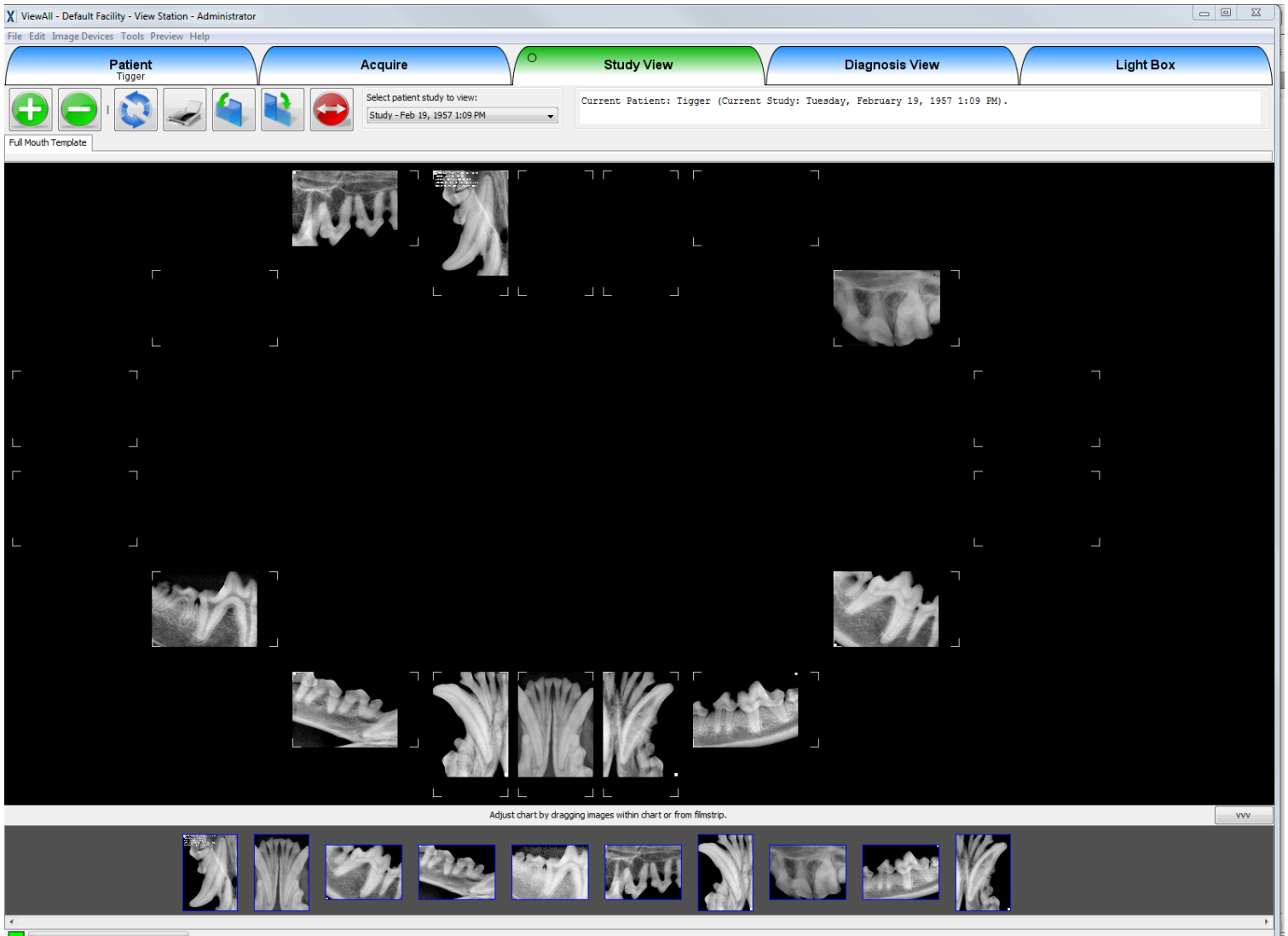


Toggle Annotations On/Off

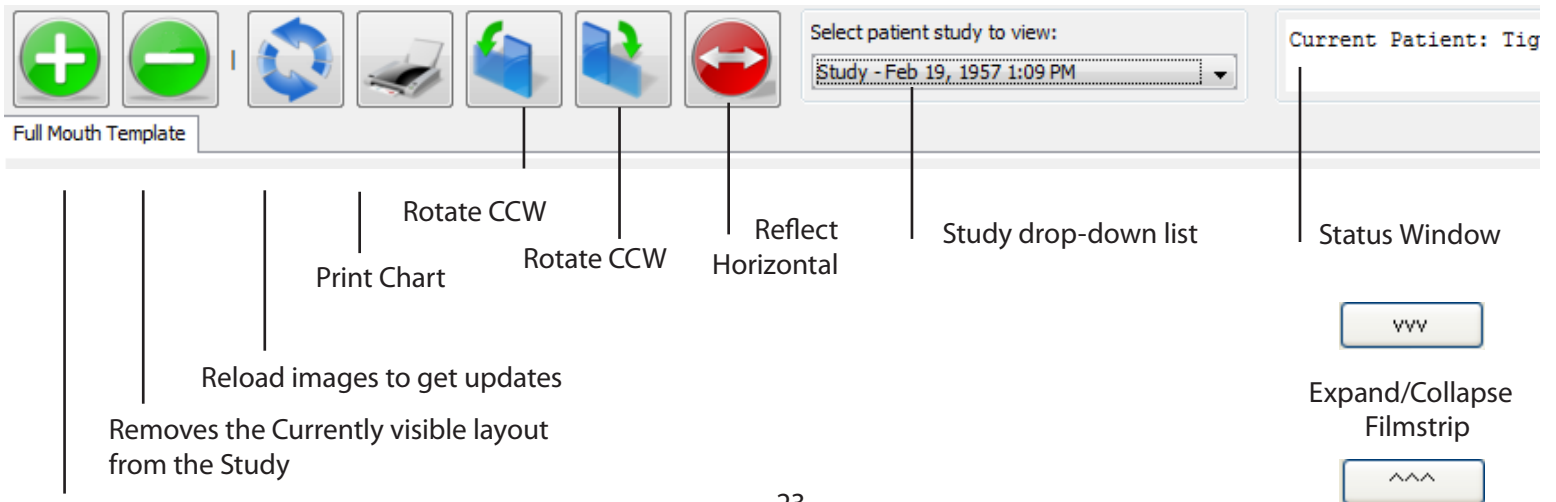
The View All Tools Window features a comprehensive set of tools. One of the unique tools is the “Toggle Annotations On/Off”.

Study View Tab

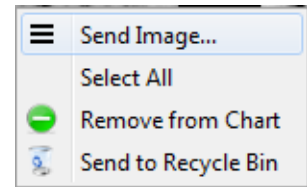
Once a study of images is captured, they can be viewed in the Study View Tab. If the images were acquired using one of the Acquisition Templates, then they can be viewed in a predefined layout that has been designed for that. This will allow the user to see the images as if they were in an image chart. The user can also select any study for the active patient from the study drop-down list located in the upper tool bar.



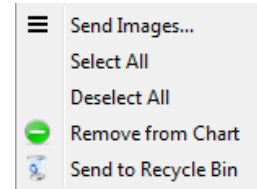
Study View Tab Toolbar



An Individual image can be removed from the layout by right-clicking on the image and selecting the "Remove from Chart" option in the pop-up menu.

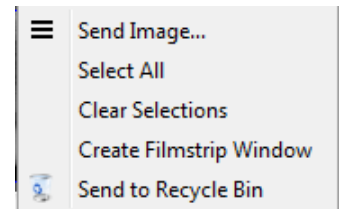
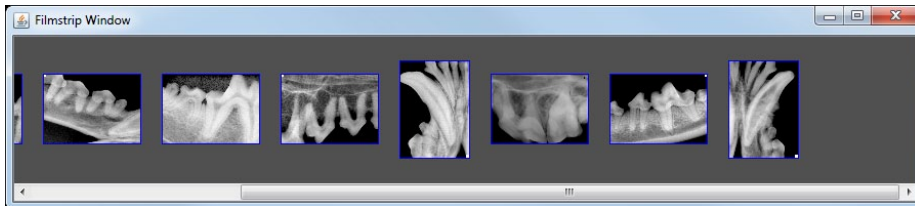


Multiple images may be dragged from the filmstrip to a single position on any given chart. To reveal multiple images in a given position, right click on the thumbnail image. The following box should appear:



When it says "Send Images", the plural of Image means there is more than one image. By clicking on "Send Images", the Transfer Images Window should appear.

Clicking above any image in the filmstrip will show this dialogue which allows one to create a filmstrip window that can float above all open applications. This is handy for charting, etc.



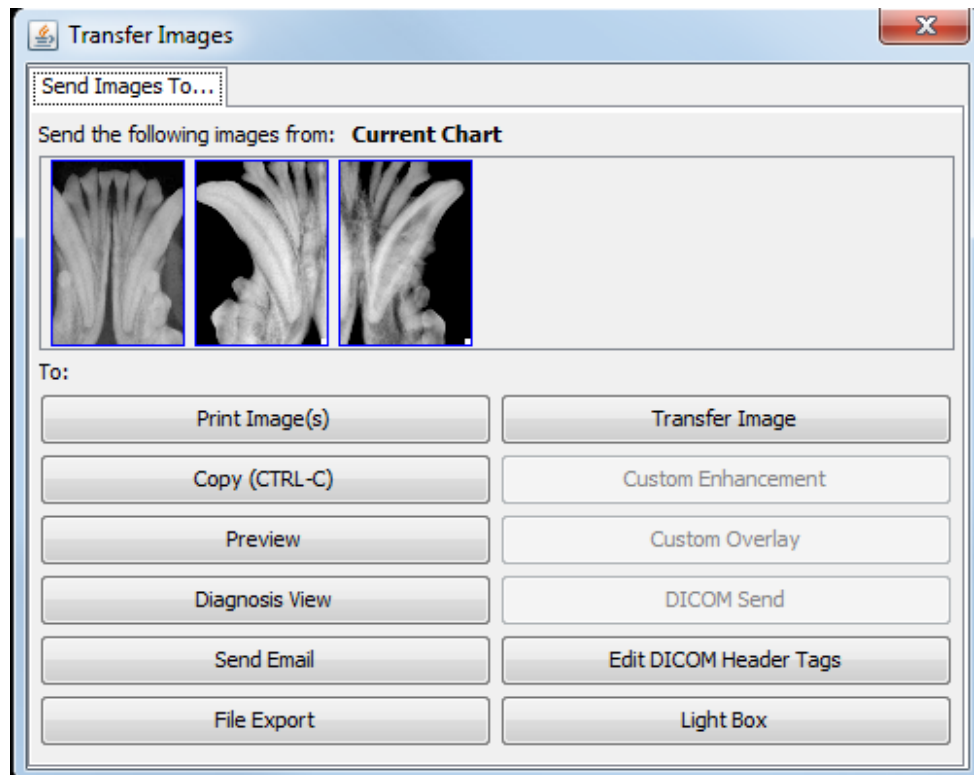
The following information applies only when one is in the "Study View" tab:

Double clicking a radiograph that is on the chart will send all radiographs (taken on that chart location) to the "Diagnosis View" tab. Only these same images will be displayed in the "filmstrip".

This applies to all studies taken on a given patient.

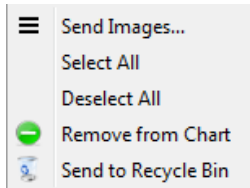
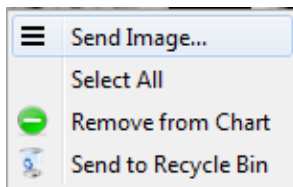
Transfer Images Window

This window appears when an image is right-clicked on and the "Send Image" or "Send Images" option is clicked. It provides for copying, previewing, printing, e-mailing, and exporting in a variety of file formats as well as other options.

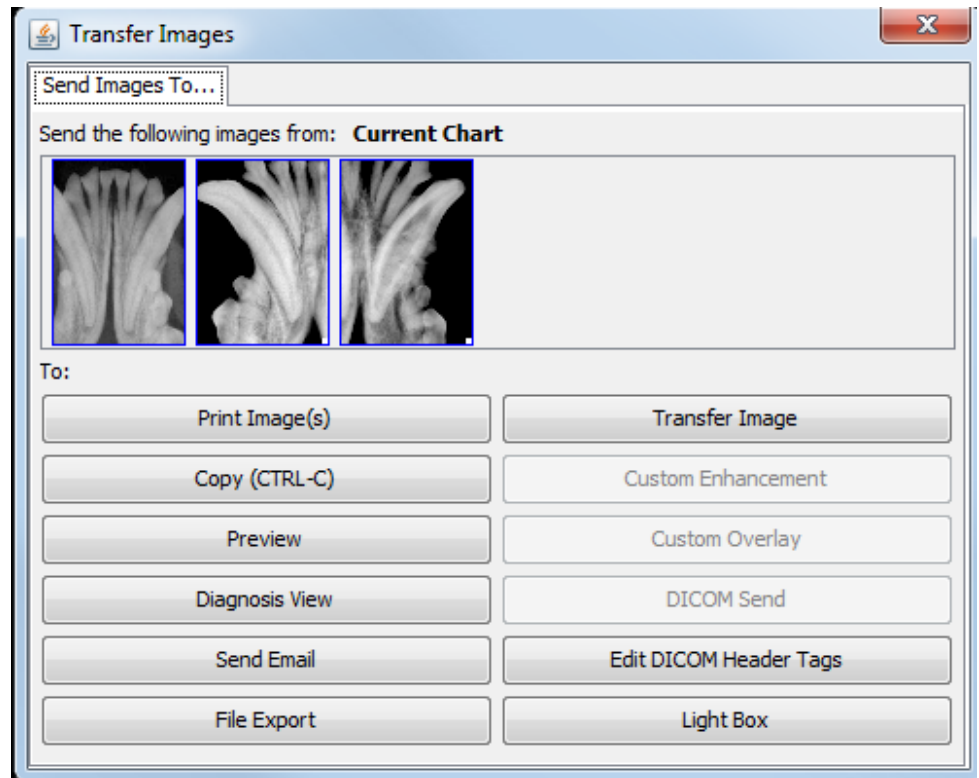


The Image Transfer System

In order to transfer images from tab to tab, between patients, into other file formats, across the internet and to other locations, the Image Transfer System was created. To send an image to a different location, right-click on the image or thumbnail, and select the "Send Image(s)" item from the pop-up menu. This will open the "Transfer Images" window.



The selected image(s) will be shown as well as the options for where that/those image(s) can be sent. Click on the location to which you wish to send the image(s) and it/they will be sent directly as in the case of Copy to system clipboard, Preview to preview window, or Diagnosis View where it lands directly into and launches the Diagnosis View Tab.



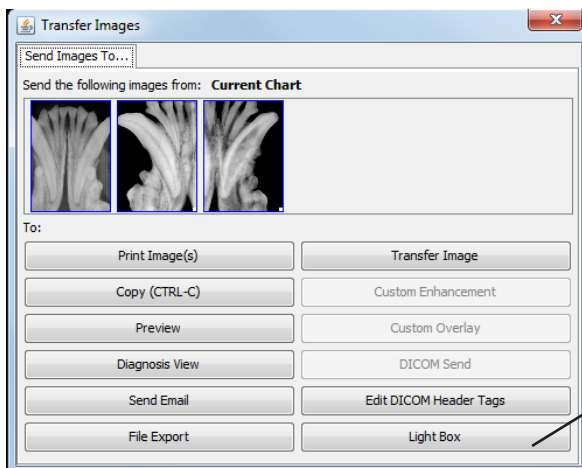
Other options launch further windows to work from. Send Email launches your browser. File Export opens a "Save" dialog box with options for multiple file types. Print Image sends the image to the printer.

Save as will open a dialog box that allows you to move the image(s) to an alternate patient under a new study. No demographic data will be changed in this instance.

Edit DICOM Header Tags will allow you to change metadata embedded within the image, but it is strongly recommended that this be done only by those experienced with those features.

Light Box Tab

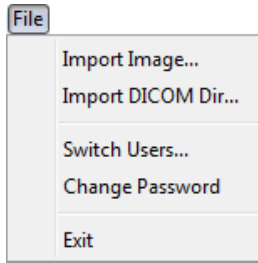
The Light Box Tab allows one to send images from the same study or different studies on a given patient. It also allows images to be put together from different patients as well. It has the ability to zoom in and out on any of the images present there as well as a single Brightness/Contrast/Gamma tool. However, no changes that are made here are able to be saved. The purpose is to lend some flexibility to what is a "View Only" area. Images are sent to the Light Box via the right-click function and "Send Image(s)" This brings up the Image Transfer Window.



Note: One example of a use of the Light Box would be to send specific images from studies that are months apart in order to illustrate a sequence of treatments for a client.

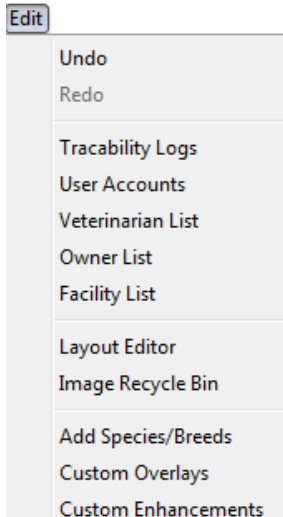
By clicking on the "Light Box" button, the three images in this transfer window will be sent to the Light Box.

ViewAll File Menu



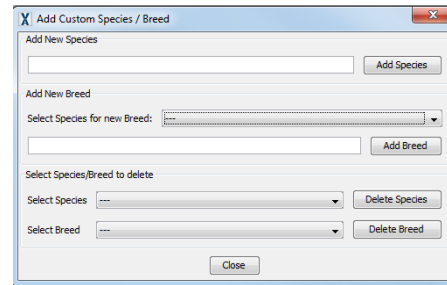
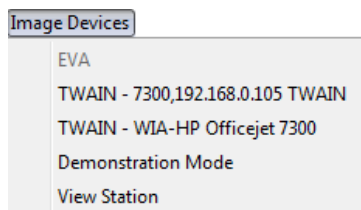
Import Image... can be used to import an image file.
Import DICOM Dir... can be used to import DICOM directory patient information and image files.
Switch Users... allows the user to change the user account that is logged in.
Change Password can only be used by the administrator user to change user account passwords.
Exit will close the software.

ViewAll Edit Menu



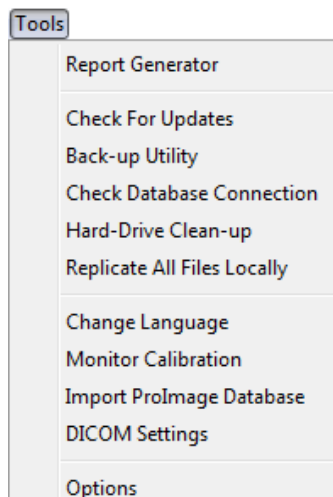
Undo/Redo last changes made.
Tracability Logs brings up a window that facilitates tracking activity within the program such as log-ins & outs, new image acquisitions, etc. See Appendix A for more details
User Accounts, Veterinarian, Owner List and Facility List allows the user to edit the information and add new items.
The Layout Editor tool is useful for creating new Acquire Template layouts. See Appendix A for more details.
Image Recycle Bin allows the user to undelete images or completely remove images from the ViewAll database.
Add Species/Breeds allows for adding or deleting species and breeds.
Custom Overlays and Enhancements that have been created by a user can be edited.

ViewAll Image Devices Menu



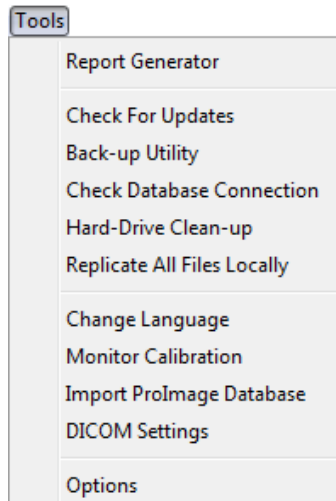
The Image Devices Menu is used to select a hardware device to capture images with.

ViewAll Tools Menu



Check For Updates launches a web browser and goes to the ImageWorks webpage containing the latest ViewAll software version.
Back-up Utility allows the user to select a location to back-up all necessary files, in case of a Hardware Failure. This tool should be used regularly!
Check Database Connection will verify that a network database connection is healthy.
Hard-Drive Clean-up will remove deleted image files from the hard-drive to free up space for new images.
Replicate All Files Locally is used for Network Mode. It will create copies of all Image files locally to improve the image loading time.

ViewAll Tools Menu (Cont'd)



Change Language can be used to toggle between English and other languages.

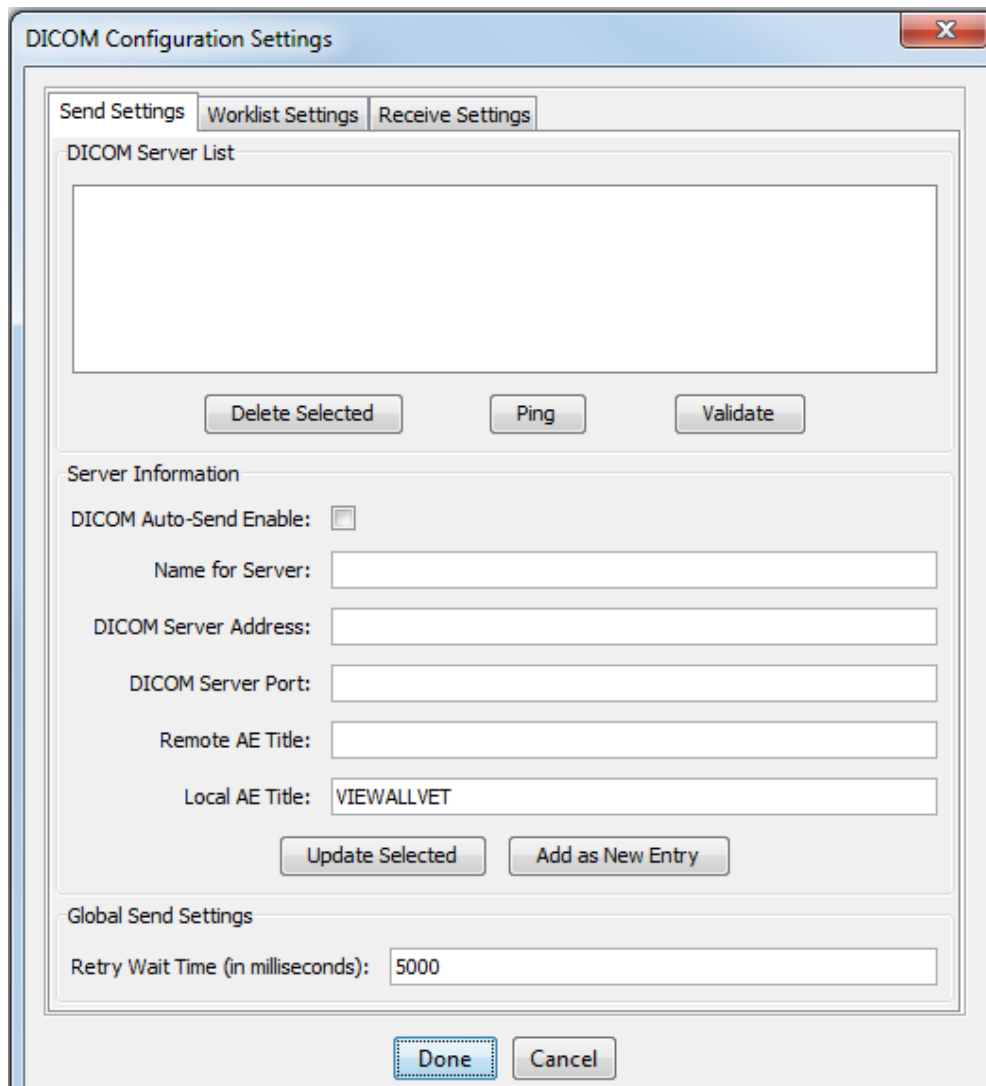
Monitor Calibration can be used to adjust your monitor settings for ideal viewing.

Import Prolmage Database is for current Prolmage customers who have upgraded to ViewAll. This will import all Patient and image information into ViewAll. This tool will create NEW image files in DICOM format in the ViewAll database. Please check that you have enough Hard-drive space before using this tool. It is strongly recommended to contact Tech Support at ImageWorks before attempting to use this tool. Additional one-time charges may apply.

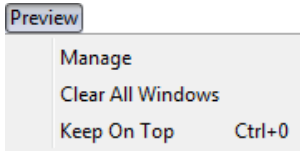
DICOM Settings allows the user to edit the information needed to configure Send, Receive and Worklist functions for multiple servers.

Options This tool contains a number of general settings that the user can choose from. See Appendix D.

DICOM Configuration Settings Window



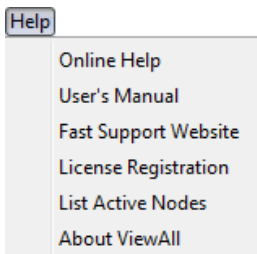
ViewAll Preview Menu



Manage tool allows the user to create or delete preview windows. As the windows are created, they will be appended to the preview menu.

Clear All Windows will clear all images from the active preview windows.

ViewAll Help Menu



Online Help will Launch the default internet provider and open the ImageWorks website and the ViewAll support page.

User's Manual launches the User Manual.

Fast Support Website Tech Support via the web.

License Registration allows the user to enter the serial number that came with the ViewAll CD. Based on this number, the software generates a Challenge Code. Both numbers must be supplied to ImageWorks, either online or by phone, to receive the activation code that will register the software installation.

List Active Nodes shows a list of all computers on site that are running ViewAll.

About ViewAll tells the user information about the software such as the version number.

Enhancement Tool Descriptions

Angle Measurement

Measures a single angle on the image.

Brightness/Contrast/Gamma

This is a combination tool that allows the user to adjust the contrast and brightness without saturating the image. The gamma level can also be adjusted in this tool.

Crop

Select an area of the image to apply the image manipulation tools to.

Salt & Pepper

Smooth areas in which noise is noticeable while leaving complex areas of the image untouched. The effect is that grain or other "Salt and Pepper" noise is reduced without severely affecting edges.

Edge Enhance

Enhances the local discontinuities at the boundaries of different objects (edges) in the image to make the edges more visible to the human eye.

Equalization

Linearizes the number of pixels in an image based on the specified (RGB, YUV or GRAY) color space. This can be used to bring out the detail in dark areas of an image.

Flip/Rotate

Change the orientation of the image. Options include mirroring horizontally and vertically, as well as rotating by 90, 180 or 270 degrees.

Gamma

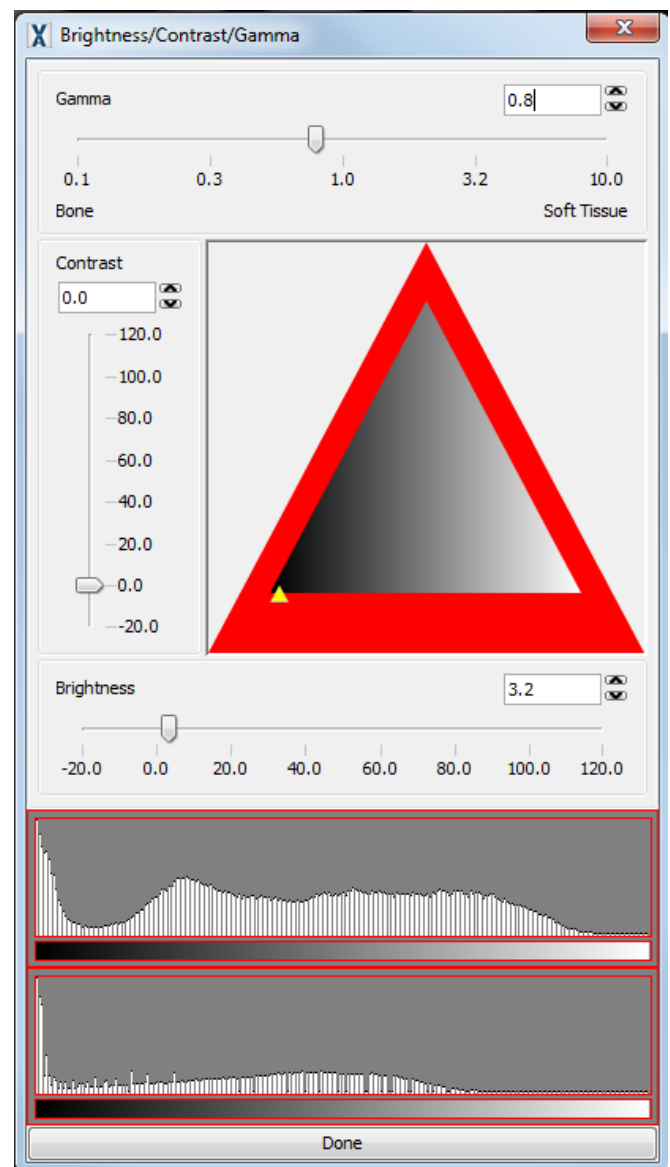
Increase or Decrease the level of Gamma correction, which changes the contrast of the mid-range image data. This helps distinguish bone from soft tissue.

Invert

Inverts the colors in the image so that a positive image becomes a negative and a negative image becomes a positive.

- Angle Measurement
- Brightness/Contrast/Gamma
- Crop
- Salt & Pepper Filter
- Edge Enhance
- Equalization
- Flip/Rotate
- Gamma
- Invert

- Linear Stretch
- Local Linear Stretch
- Physical Image Calibration
- Physical Image Measurement
- Sharpen
- Soften
- USM
- Window/Level/Gamma



Enhancement Tool Descriptions (Cont'd)

Linear Stretch

Maximize the contrast of the image by stretching a selected portion of the image histogram across all possible values in a linear fashion.

Local Linear Stretch

A very sophisticated linear stretch performed on multiple smaller overlapping areas of the image.

Physical Image Calibration

Enter the known distance, in millimeters, between two points on the image. This is a relative calibration which is not traceable.

Physical Image Measurement

Measures the distance between up to 10 points on a calibrated image. Due to the possibility of geometric distortion in the radiograph, use caution when interpreting measurements.

Sharpen

Performs a High-Pass filter operation.

Soften

Performs a Low-Pass filter operation.

Some Filter Analogies:

Low Pass

- bass
- opaque
- muted/dull
- soft
- blurry
- pliable

High Pass

- treble
- transparent
- intense/vivid
- harsh/edgy
- sharp
- brittle

USM

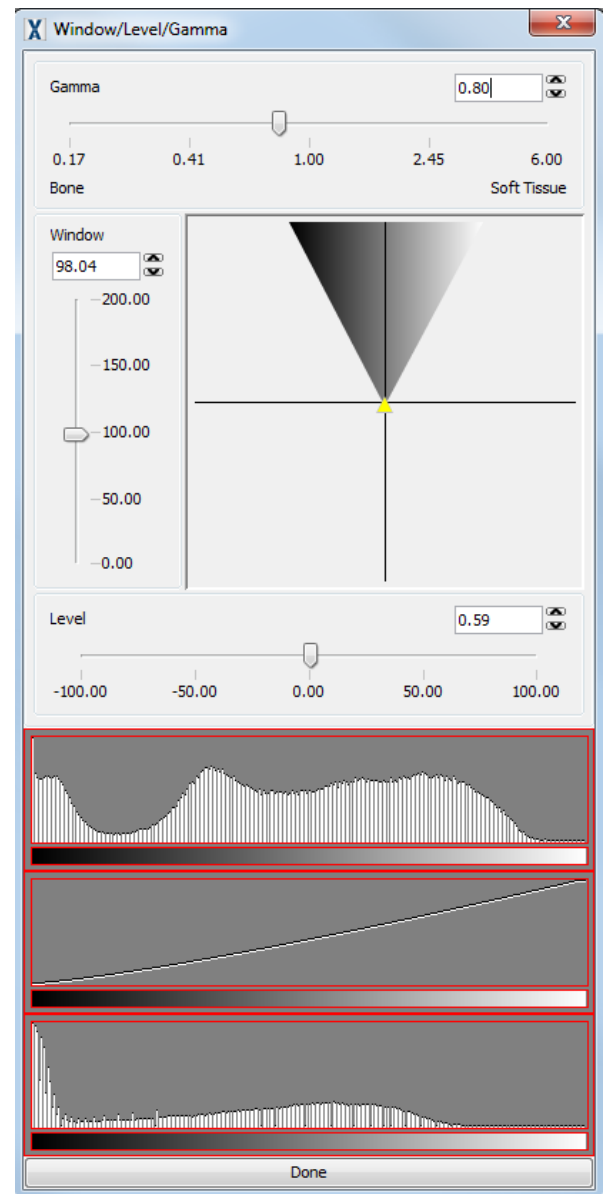
Unsharp Mask - A technique used to enhance the edges of an image. The unsharp mask tends to show more details in areas of an image that are normally more difficult to see.

Window/Level/Gamma

Adjusts window, level and gamma settings in one user interface.

- Angle Measurement
- Brightness/Contrast/Gamma
- Crop
- Salt & Pepper Filter
- Edge Enhance
- Equalization
- Flip/Rotate
- Gamma
- Invert

- Linear Stretch
- Local Linear Stretch
- Physical Image Calibration
- Physical Image Measurement
- Sharpen
- Soften
- USM
- Window/Level/Gamma



Window/Level/Gamma adjustment window

Enhancement Tool Descriptions (Cont'd)

Pseudo Color & Threshold may be found in the "All Tools Window", accessed by clicking on this icon found in the Diagnosis View Tab:



Pseudo Color

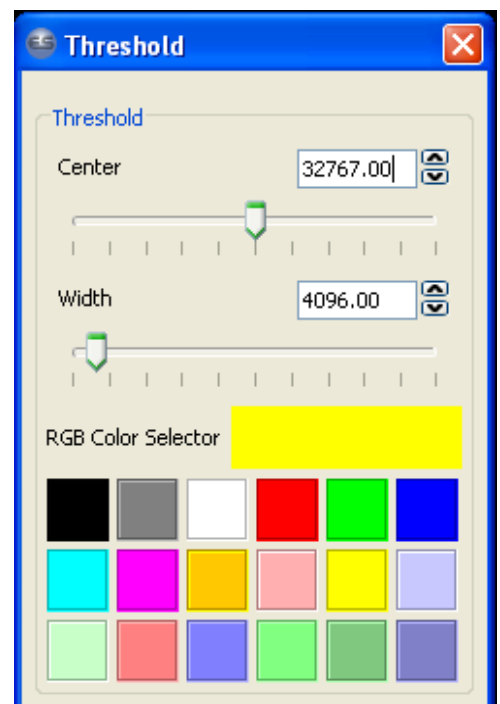
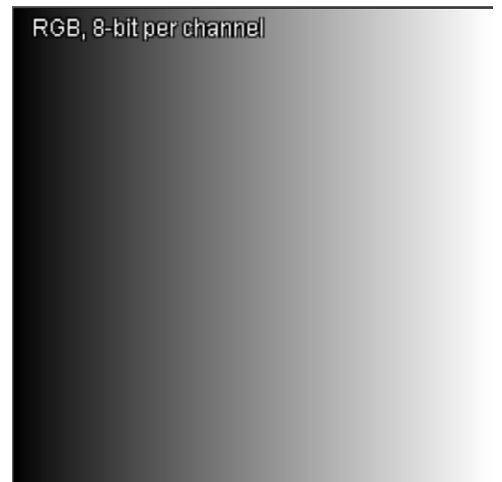
Apply color to a grayscale image, with matching grayscale intensities assigned one color. This filter applies only in a temporary manner and cannot be saved.

Histogram

This shows a graphical representation of the image data.

Threshold

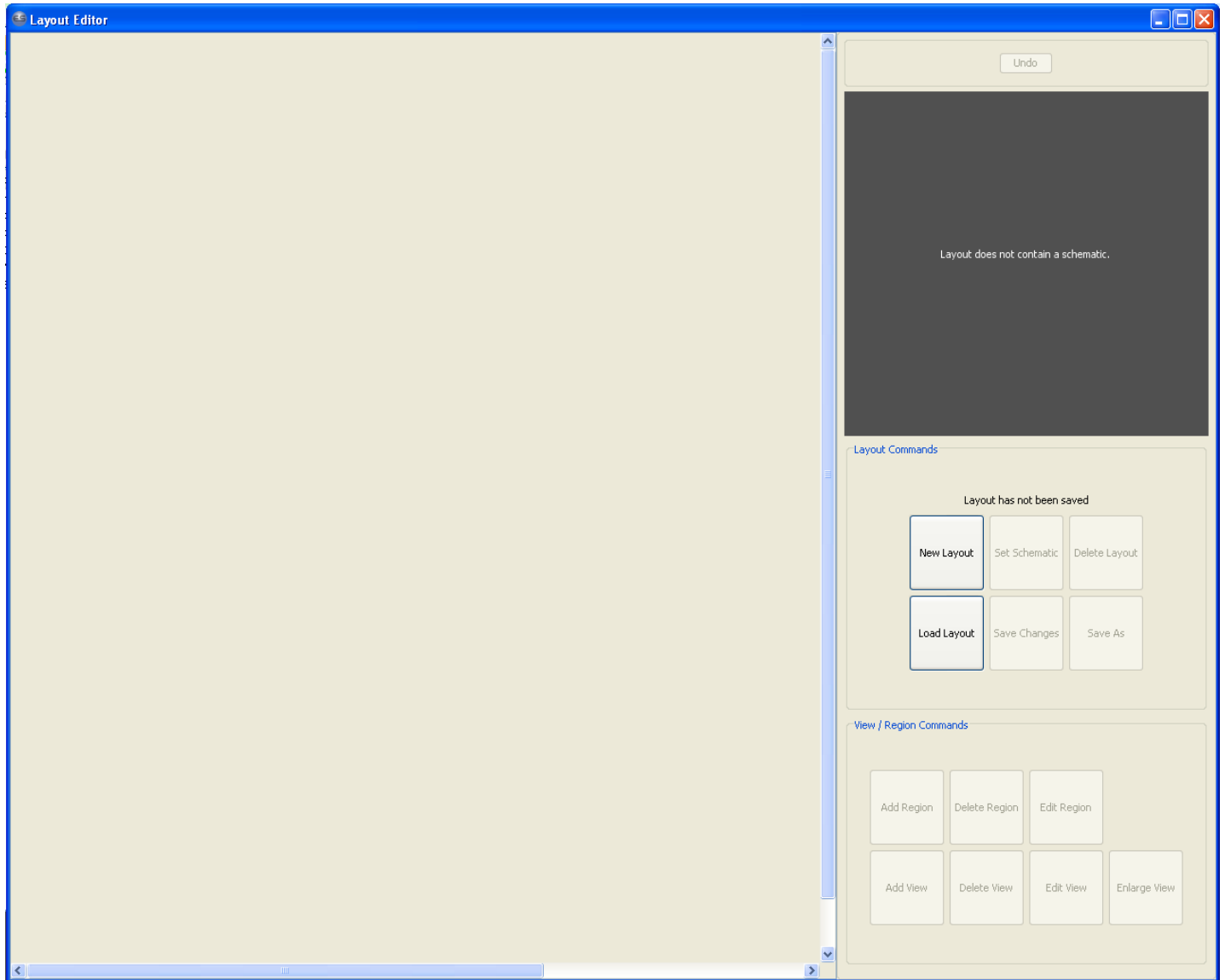
Selects a pixel intensity value to highlight in the image. The user can also select different colors and how far from the original pixel value to highlight. This filter applies only in a temporary manner and cannot be saved.



Appendix A

Layout Editor

Select Layout Editor from the Edit menu. The following window will open:



To create a custom layout, click on the New Layout Button.

If there is an image file you wish to use as the background to the layout, select File < Import Image and import the image into ViewAll, to any tab. Then in the layout editor, click on the Schematic button and select the imported image file!

Now add Regions, **each region must have a unique name.**
Move the Region marker to the corresponding region in the schematic.

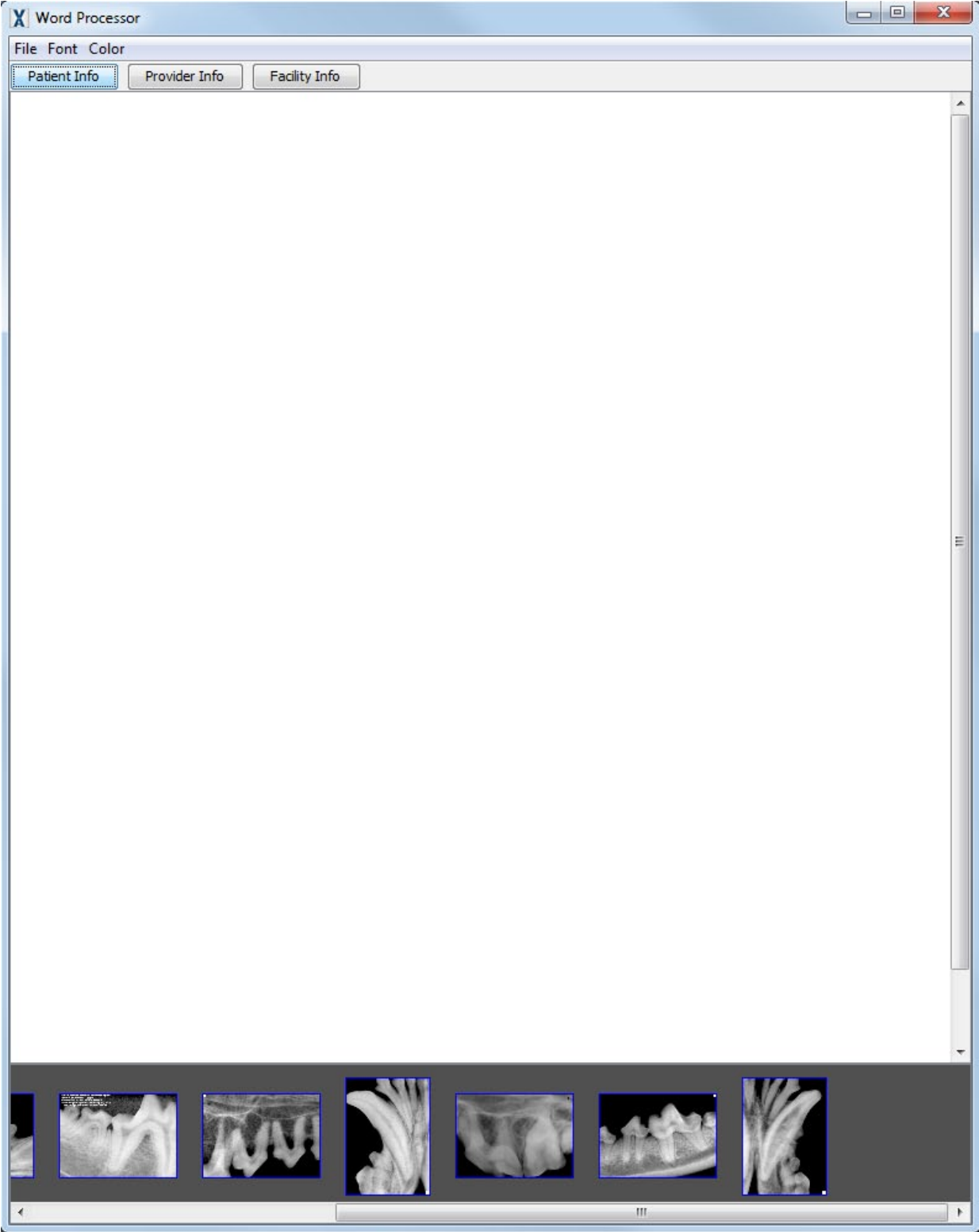
Appendix B

Print PDF Reports

From the Patient Tab, clicking on the PDF report button



will bring up a small word processor as shown:



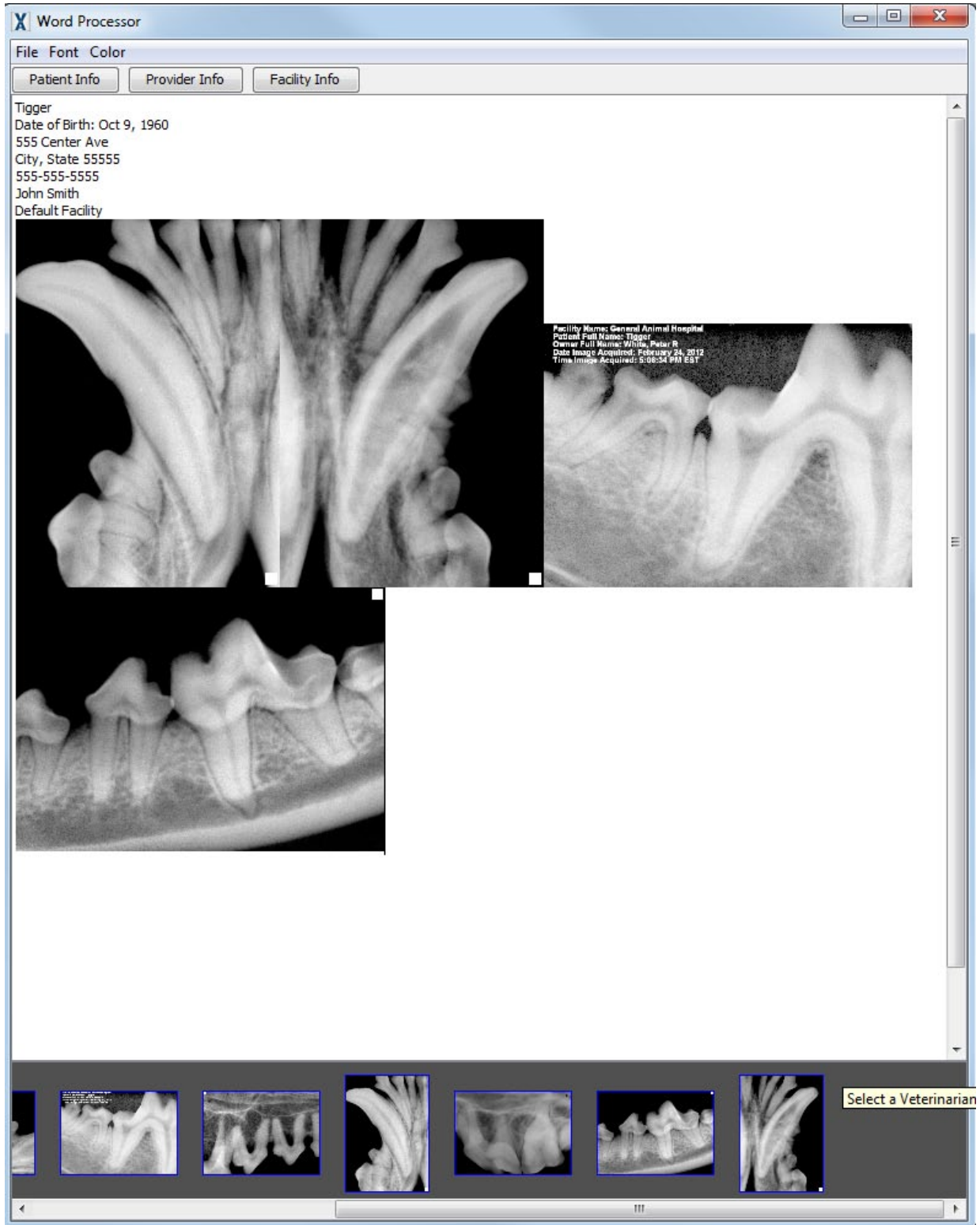
Appendix B (Cont'd)

Print PDF Reports

There is a filmstrip at the bottom of this window that contains the radiographs of the current patient/study.

Patient, Provider and Facility Information tabs allow this information to be entered easily.

The File drop-down menu provides for opening existing reports, creating new reports, saving as an ViewAll file, printing a PDF file, or closing the window. Font and Color drop-down menus are for font sizing and color.



Appendix C

Network Setup

ViewAll can be set up to run in two (2) modes: Stand-Alone OR Network.

The mode of operation should be decided at the time of installation.

Stand-Alone mode should be used for any installation that will only use one computer to acquire and view images using ViewAll. Simply select the Stand-Alone mode during the InstallShield window as shown below. No additional steps are required.

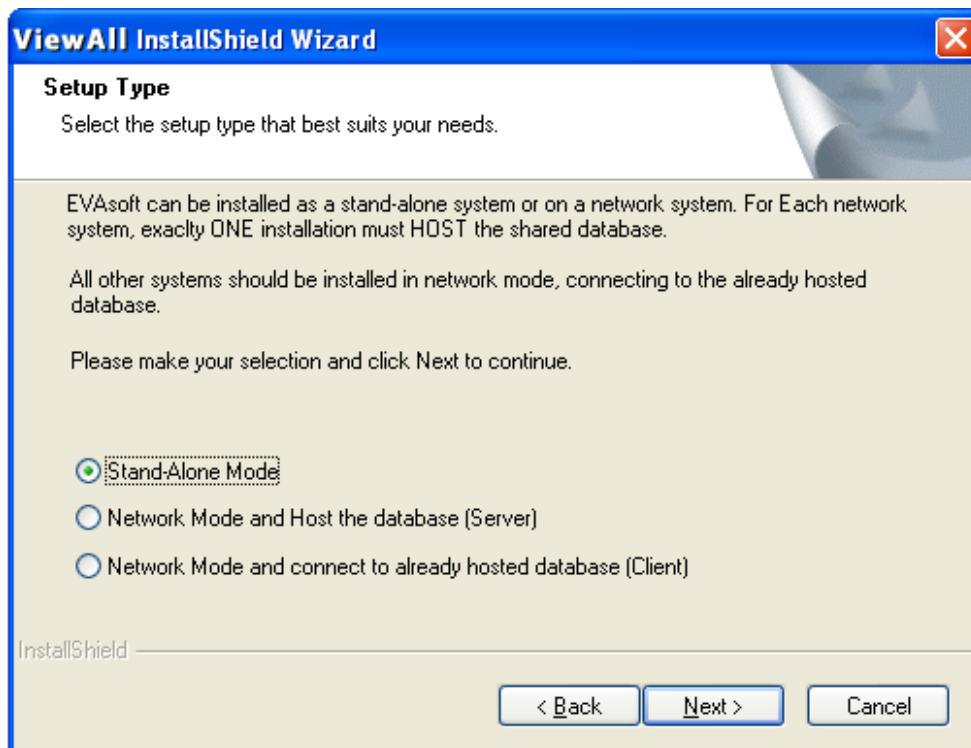
Network mode should be used for installations where several different computers will be used to acquire and view images with ViewAll.

To have multiple computers connect to ONE ViewAll database, one installation must HOST the database. The Host computer must ALWAYS be on and ViewAll must ALWAYS be running. The only registration required in network mode is the host. This should be done first before installing any of the clients.

Step One: The first installation should be done on the computer (preferably a server) that will be hosting the Database. Choose the "Network Mode and Host the database" option during the InstallShield window as shown below.

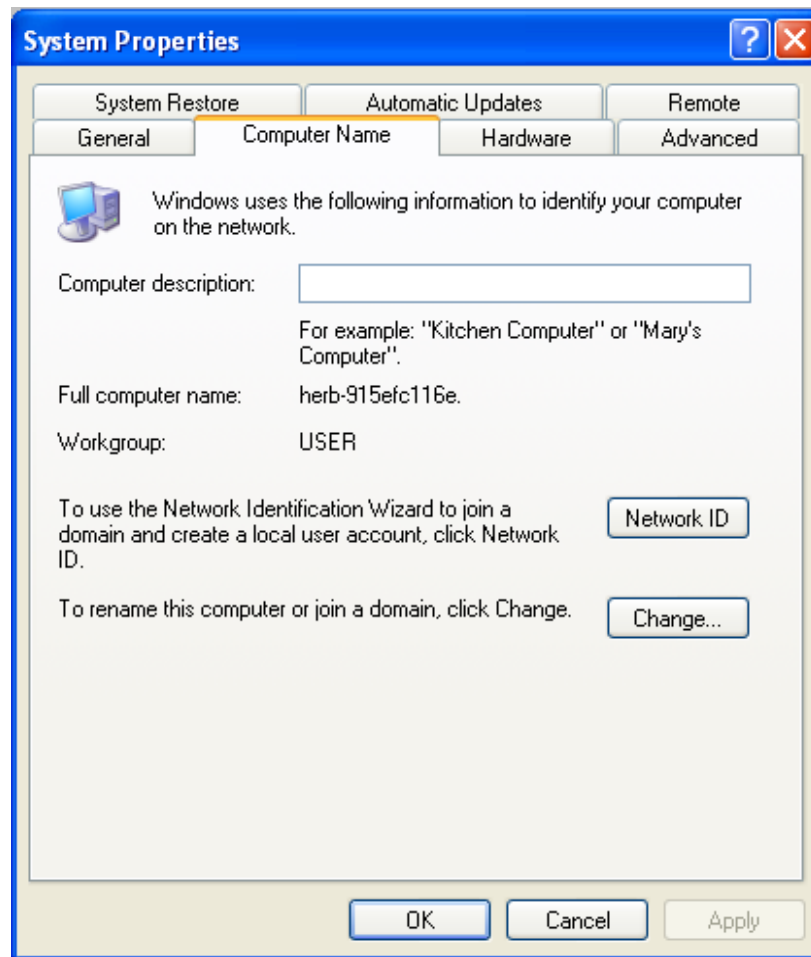
Step Two: All additional computers should be installed as clients, to do that select "Network Mode and connect to already hosted database" option during the InstallShield window as shown below.

NOTE: The mode of operation, whether it is Network or Stand-Alone has nothing to do with ViewAll's ability to send DICOM images over an existing network. Network mode is simply to ensure that multiple installations of ViewAll can utilize a central or common HOST database.



In order for all the CLIENT computers to find the HOST, the user may need to enter the computer name of the Host computer/server.

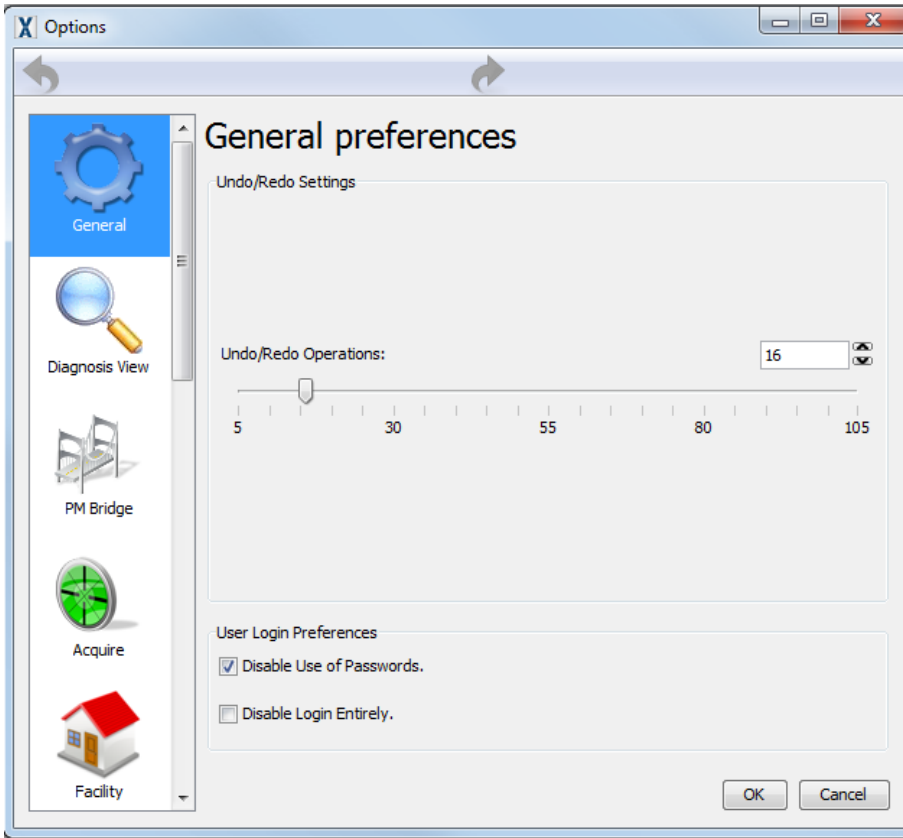
To find the computer name, right-click on My Computer and select Properties from the pop-up menu. Click on the Computer Name tab, as shown below. The Full computer name should be entered on the client computers, if ViewAll cannot automatically find the Host.



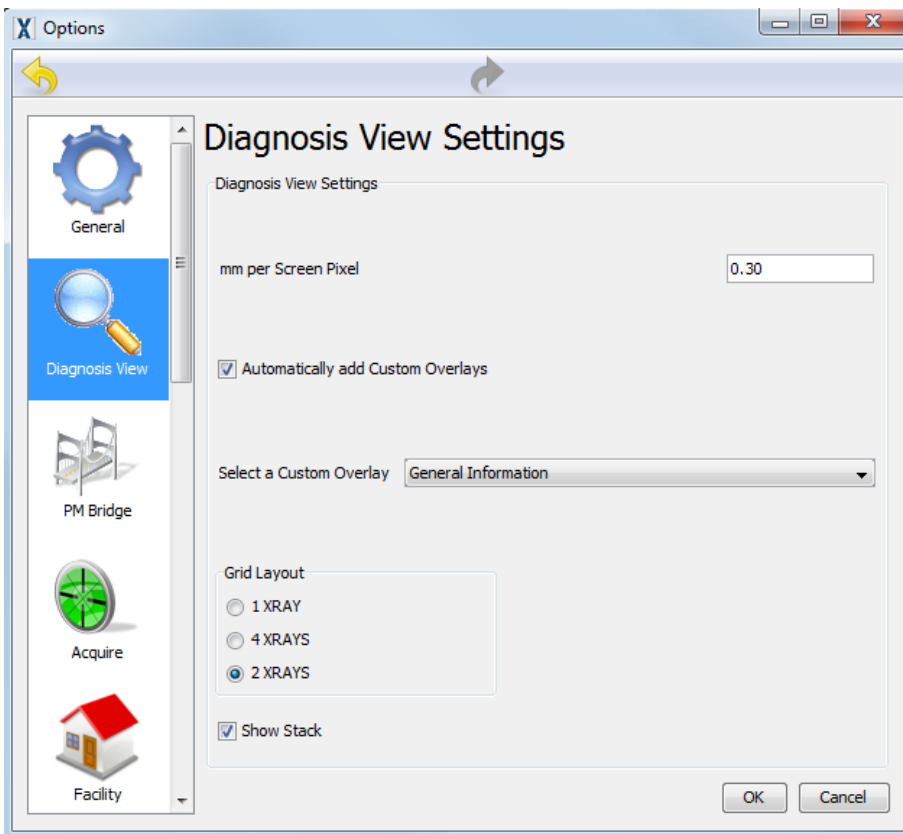
Appendix D

Tools > Options:

ViewAll has a set of option preferences that can be set for various default values used within the software. These can range from pixel sizing on the monitor used, to acquisition preferences, to login and password information, amongst many other features. Here are the options offered:



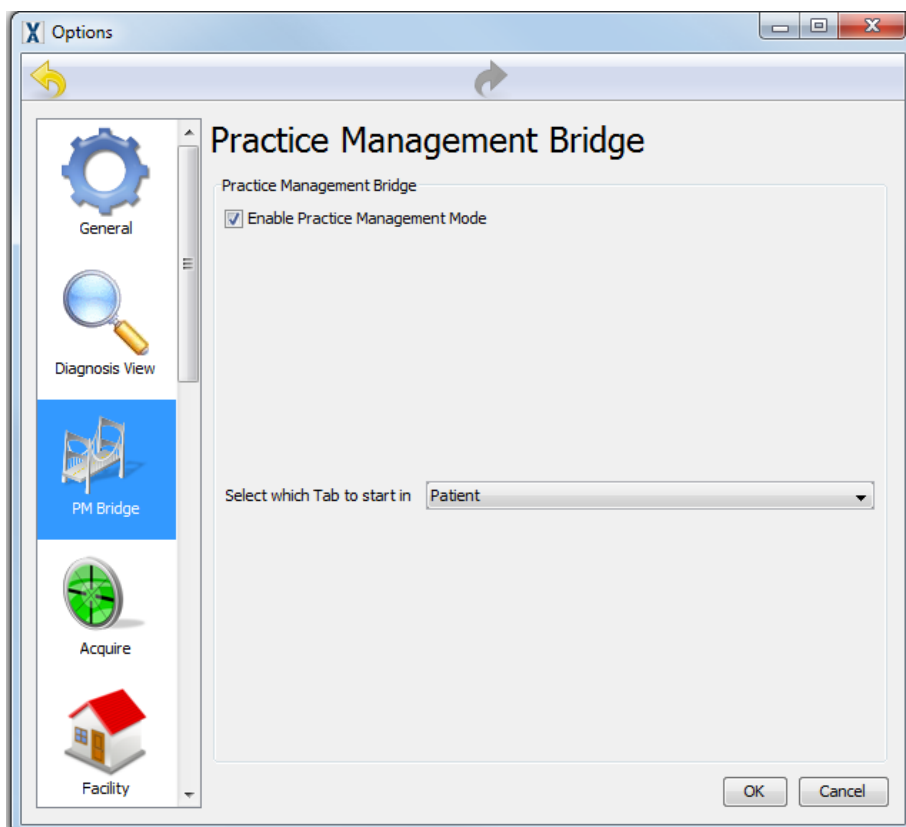
The General Preferences option allows you to set the number of undo/redo operations. It also will let you choose whether or not a login is required and if so, whether or not a password is required.



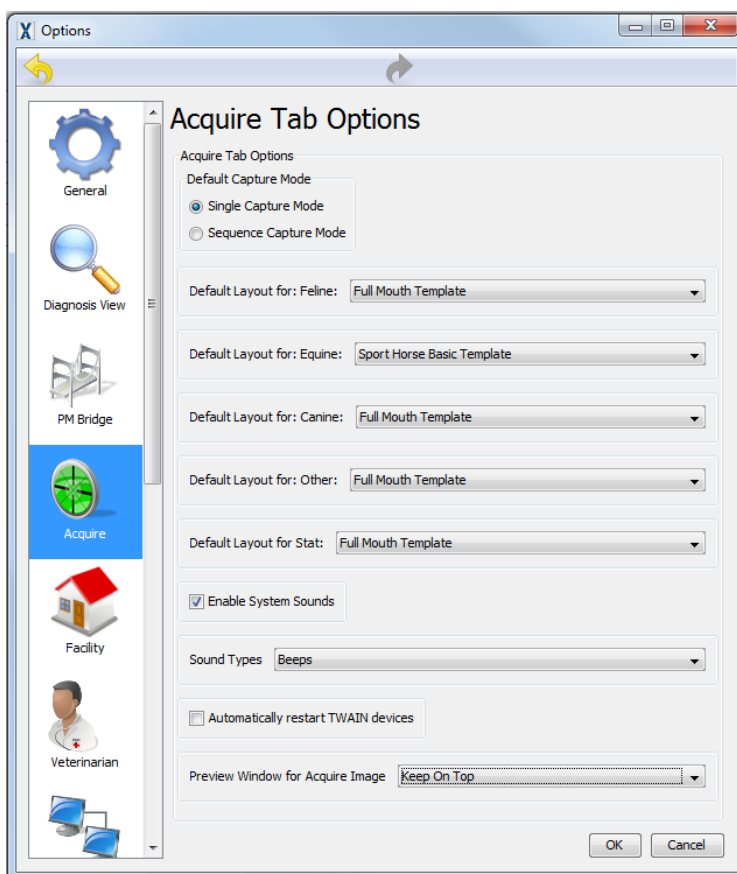
The Diagnosis View Settings window allows one to set the number of millimeters per screen pixel. The choice can be made as to whether or not a custom overlay (demographics) will be displayed on acquired images as a default. If so, the type of overlay can be specified here as well.

Appendix D (Cont'd)

Tools > Options:



The Practice Management Bridge window allows one to choose whether or not the program will be operating in Practice Management Mode as well as whether the program starts in the Patient Tab or Acquire Tab.

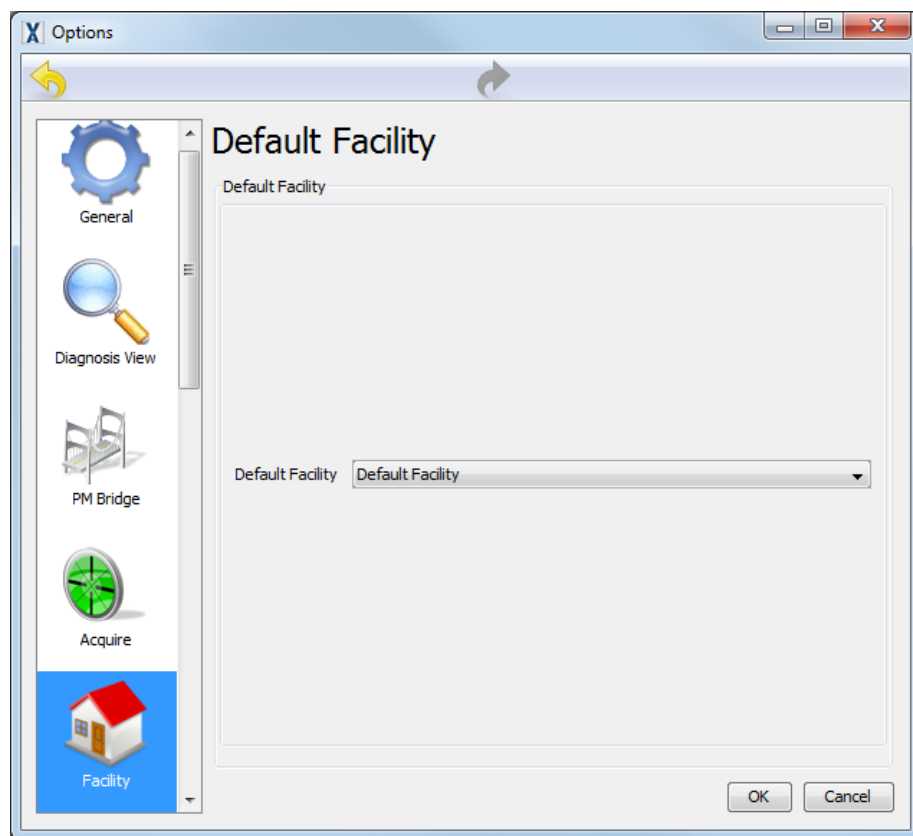


The Acquire Tab Options window allows one to choose between Single Capture or Sequence Capture modes. The default layout and enabling of systems sounds along with desired sound type may be chosen.

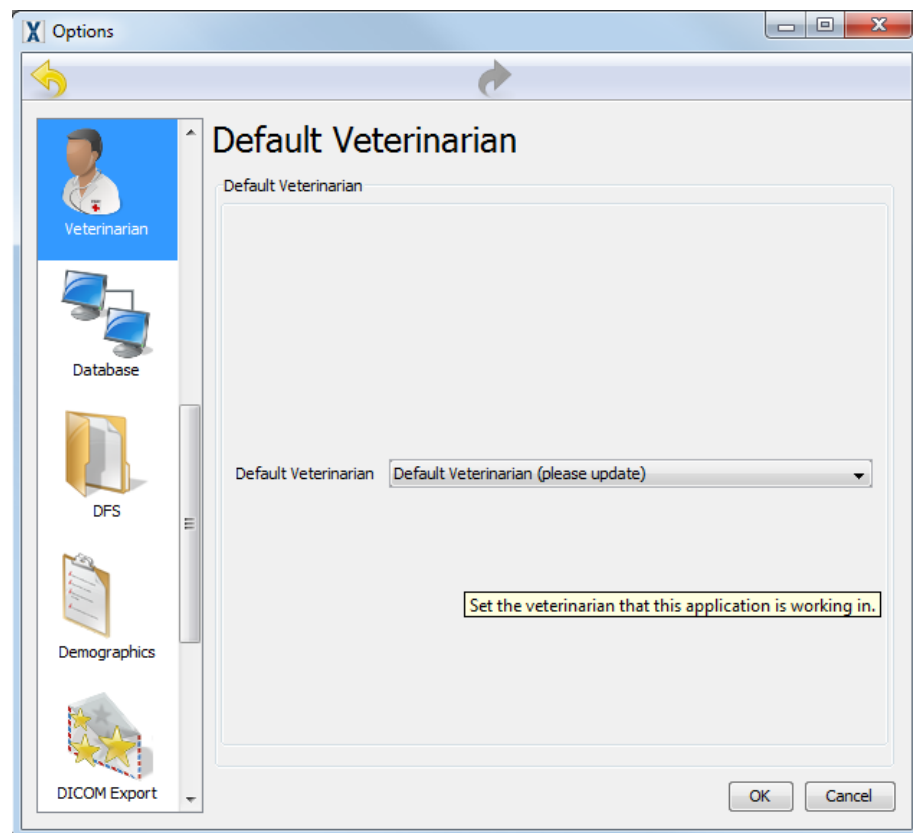
There is also a check box that can be used to automatically restart Twain devices. This is most useful in eliminating the need to constantly click the start button with devices such as cameras.

Appendix D (Cont'd)

Tools > Options:



The Default Facility window allows one to choose a facility from the drop-down list.

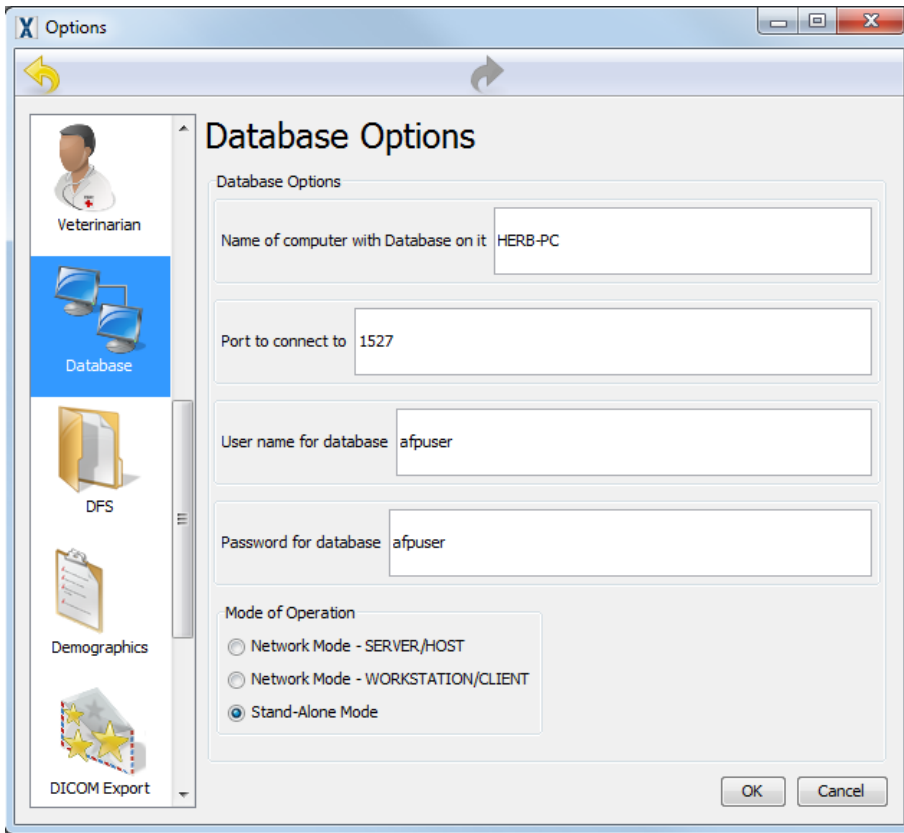


The Default Veterinarian window allows one to choose a dentist from the drop-down list.

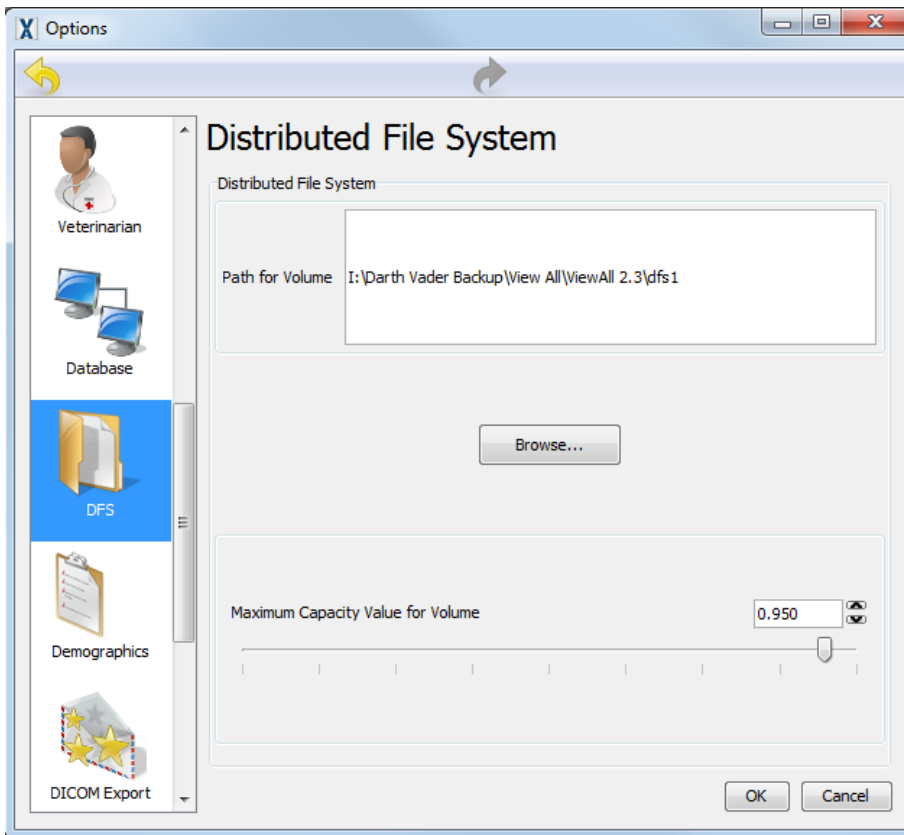
It is suggested that Vet Technicians also enter their information. Technicians are often responsible for taking dental radiographs in addition to veterinarians.

Appendix D (Cont'd)

Tools > Options:



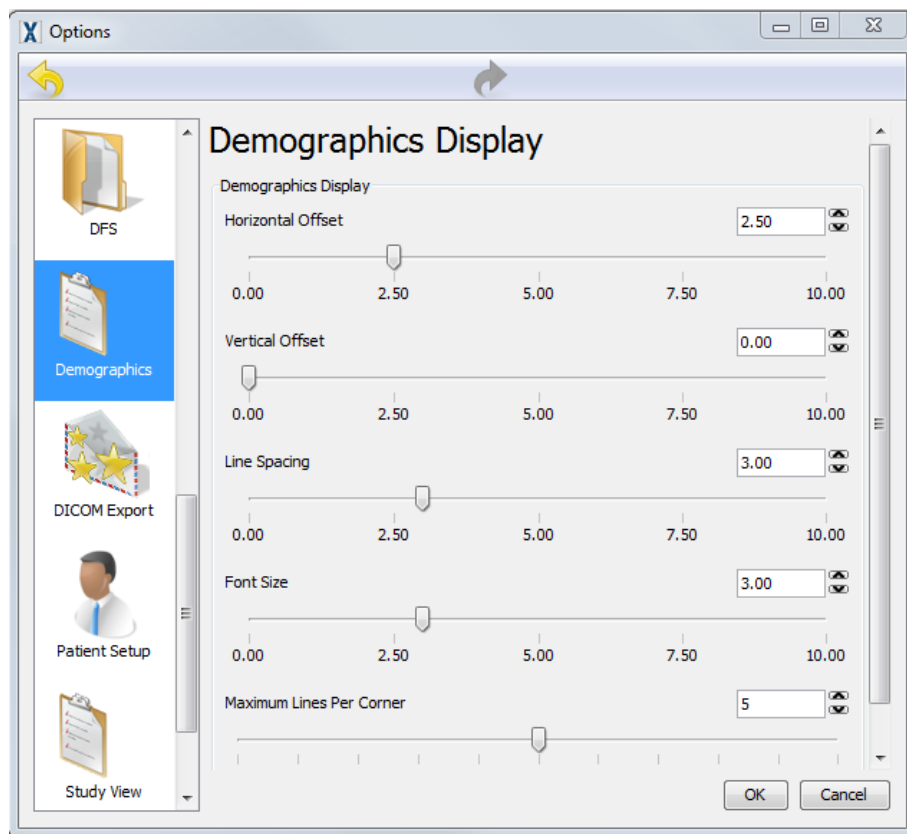
Database Options should not be altered except by authorized technical support or IT personnel.



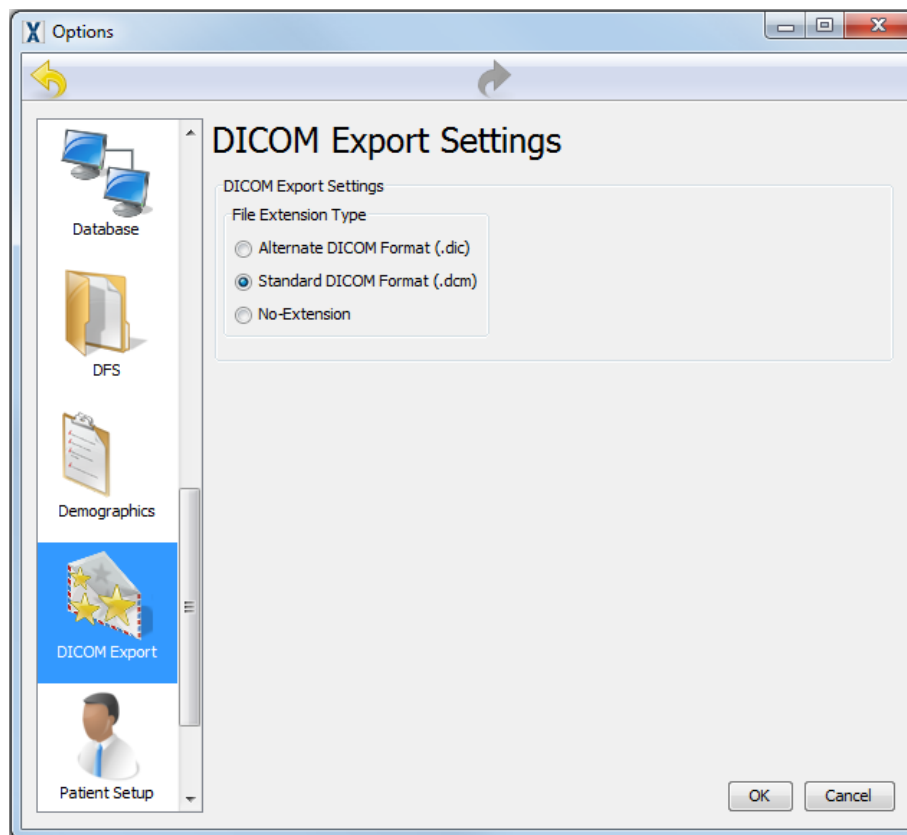
Distributed File System options allows one to choose the location of the volume and its maximum capacity.

Appendix D (Cont'd)

Tools > Options:



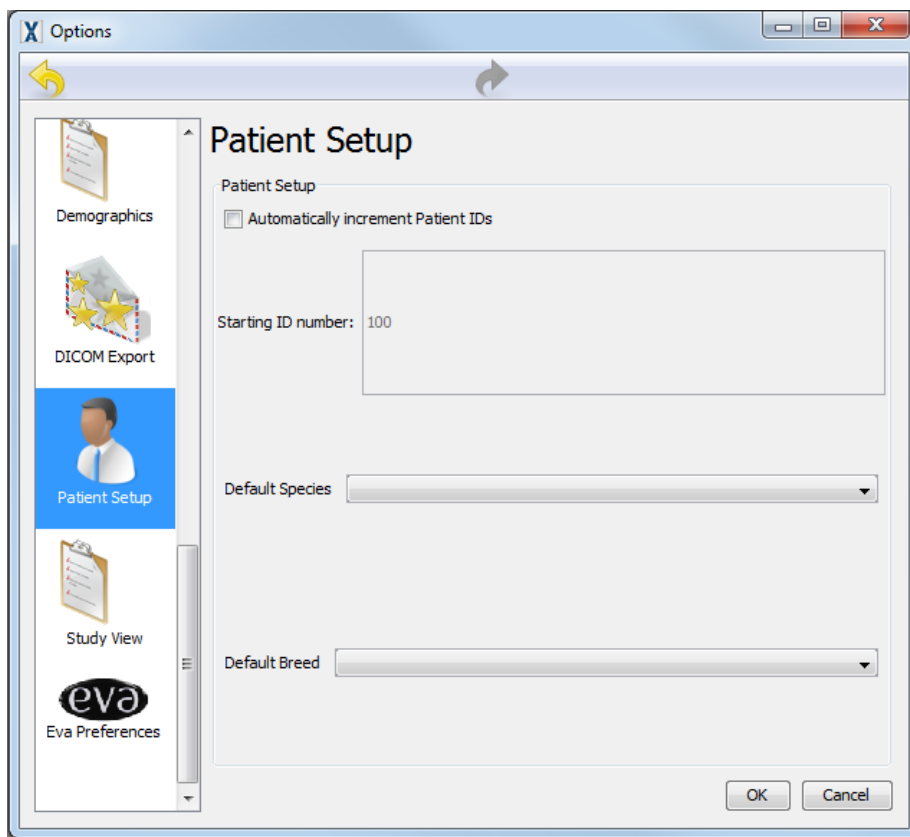
The **Demographics Display** option allows one to set the horizontal and vertical offsets for type. Line spacing, relative font size and maximum number of lines for the corner of the image may be specified.



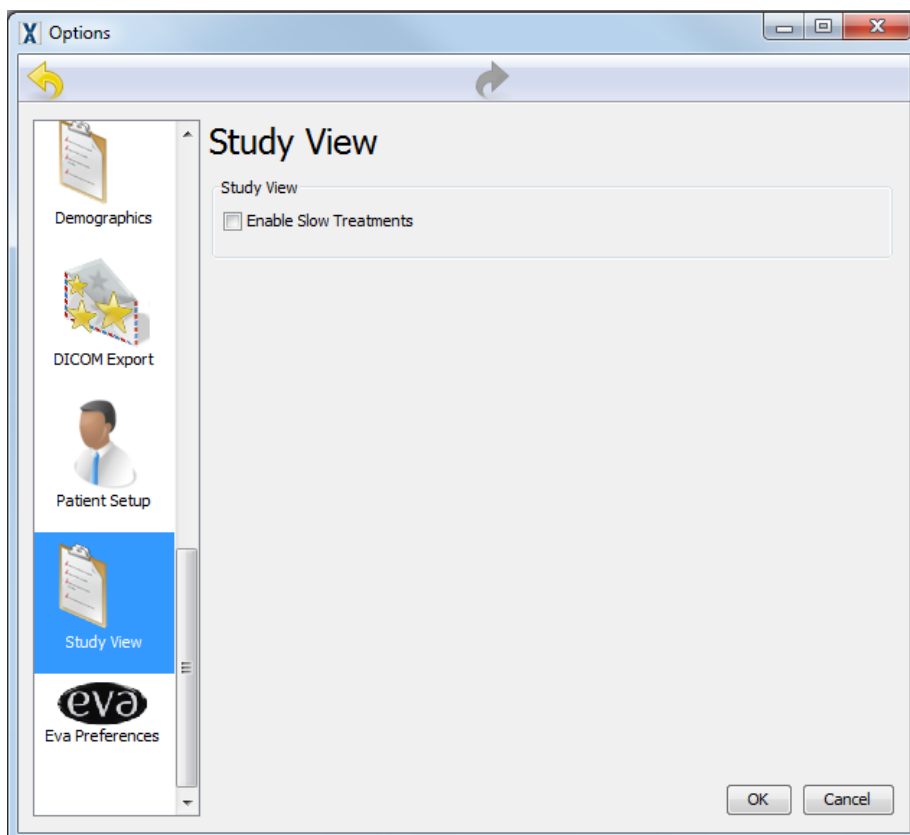
The **DICOM Export Settings** option allows one to choose between the .dic and .dcm extensions OR no file extension at all when exporting an image in the DICOM format.

Appendix D (Cont'd)

Tools > Options:



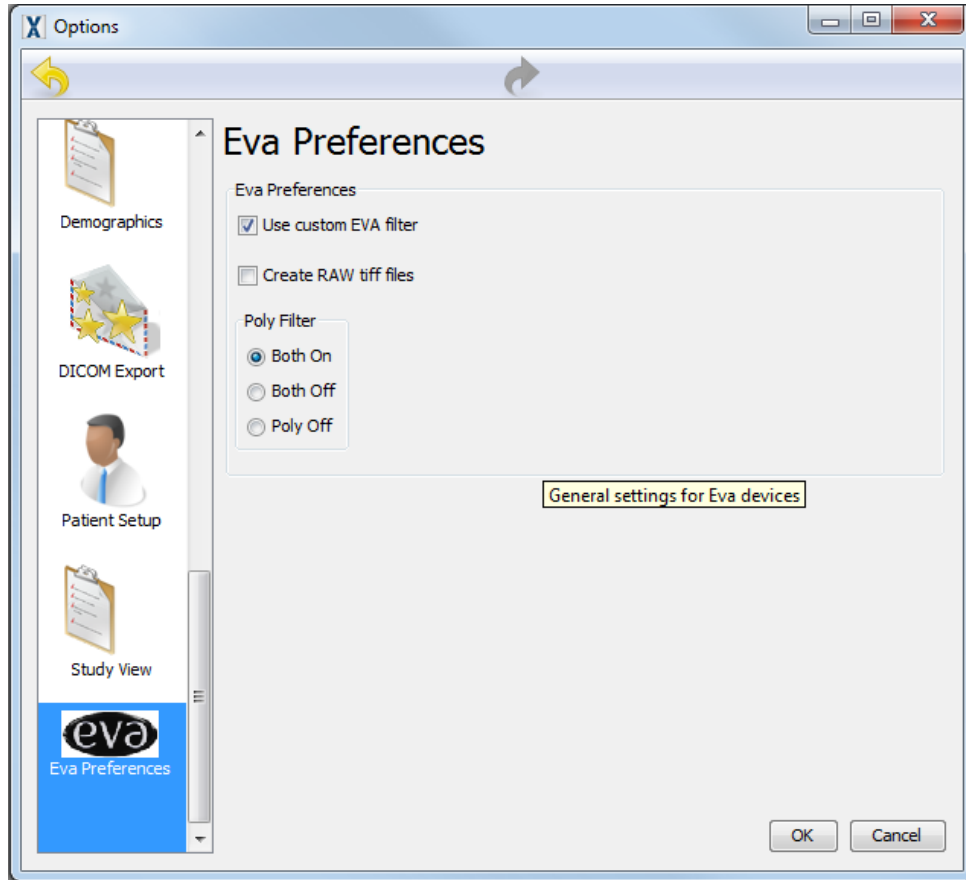
The **Patient Setup** option allows the choice of whether or not there is automatic incrementing of Patient ID's. Also the default Species and Breed can be set for new patients.



The **Study View** option allows a faster display of the complete chart by not running the slower image treatments on the thumbnails in the chart. The default is disabled.

Appendix D (Cont'd)

Tools > Options:



EVA Preferences in the Options menu is for technical support only.