Progeny Imaging 1.2

User's Guide

Part Number: 00-02-1598

ECN: P1568

REV. C

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Contents

Section 1: About This Manual

This section explains how to use this manual.

Text Conventions

The following typographic conventions are used in this manual.

Type of Information	Convention	Example
Menu selection	Bold font, menus in path connected by '>'	Select **Tools > User Management**
User interface objects and controls	Bold font	Click **Next**
Program information and information typed by the user	Fixed-width font	Change directories to `C:/program_files/ProgenyDental`
User-specific information typed by the user	Fixed-width fontwith italics and '< >'	Type `C:/program_files/`*<user_database>*, substituting the name of your database for *<user_database>*

Section 2: Welcome to Progeny Imaging

This section introduces Progeny Imaging features and configurations.

Progeny Imaging Features and Functions

Progeny Imaging acquires, displays, and stores digital dental X-rays and intraoral video images. Progeny Imaging stores digital sensor images in DICOM format (Digital Imaging and Communications in Medicine). The DICOM format assures that each image contains patient identification and acquisition information.

Progeny Imaging works with the following image acquisition modules and devices:

- Progeny MPSe and VisionDX digital X-Ray image sensor systems
- Progeny VisionDX USB digital X-Ray image sensor systems
- TWAIN-compliant devices
- Progeny Vivid USB Video Camera

You can use Progeny Imaging to:

- Configure devices to work with Progeny Imaging
- Create login IDs for users of Progeny Imaging
- Manage patient records
- Acquire, manipulate, and communicate images

System Components and Configurations

When you use Progeny Imaging, you work in several related contexts. This topic describes the following:

- Progeny Imaging Components
- Image Acquisition Modules
- 3rd Party Applications, such as practice management software

Progeny Imaging Components

Progeny Imaging consists of two main components: a graphical user interface and a database. The database stores image acquisition module configurations, user information, patient information, and patient images. Patient and user information is stored in an MS SQL Server database, while patient images are stored in computer files.

Progeny Imaging is installed on every computer where you want to use it. The database component of Progeny Imaging is installed by default on the same computer that runs the Progeny Imaging graphical user interface. You can instead choose to locate the database on another computer on the same dental office network and configure other computers on the network to use this database.

Image Acquisition Modules

Progeny Imaging works with Progeny MPSe, VisionDX, and VisionDX USB digital X-Ray image acquisition modules and sensors as well as with the Progeny Vivid USB Video Camera.

Options for installing MPSe and VisionDX modules and sensors are:

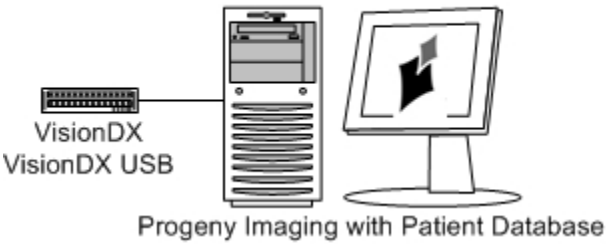
- Install a module directly to a computer with Progeny Imaging for use only from that computer
- Install a module directly to a hub in the dental office network and enable other computers with Progeny Imaging on the network to use the module

You must install the VisionDX USB and the Progeny Vivid USB Video Camera directly to a computer. They can be used only from the computer to which they are installed.

Standalone Configuration

In a standalone configuration, Progeny Imaging is installed on a computer that is not connected to any other computers. The patient database is located on the computer. Imaging modules are connected directly to the computer. No other computers use the database or modules that are installed on this computer.

Standalone Configuration



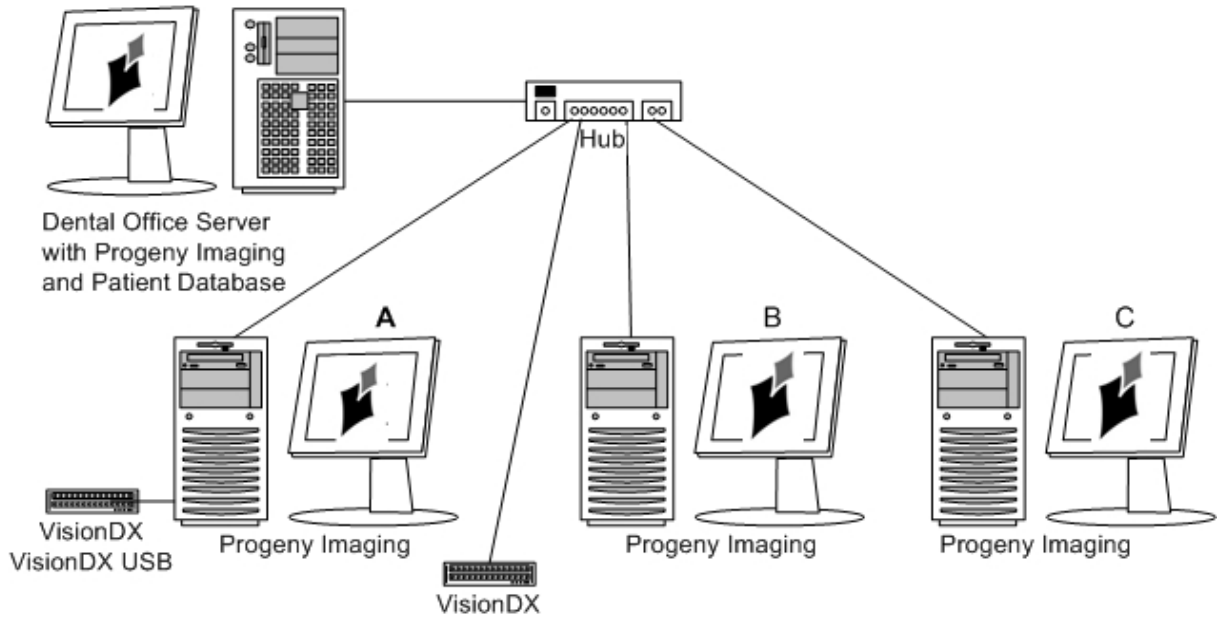
Networked Configuration

In a networked configuration, computers are connected to a Peer-to-Peer (P2P) Windows network or a Windows network that is managed by a domain server.

Progeny Imaging is installed on each computer and on the dental office server. Computers A, B, and C use the Progeny Imaging database on the dental office server. Computer A only uses the VisionDX and VisionDX USB modules connected directly to

it. Computers A, B, and C all use the image acquisition module connected to the network hub.

Networked Configuration



Bridge to Third-party Applications

PIBridge is an additional software application from Progeny Dental that enables you to integrate Progeny Imaging with 3rd-party applications, such as practice management software. With PIBridge, you can add Progeny Imaging's image acquisition and analysis capability seamlessly to your practice management software. After accessing a patient's records in your practice management application, you use PIBridge commands to "call" Progeny Imaging. At your command, Progeny Imaging opens for you to acquire images and create studies.

For information on PIBridge and integrating a 3rd party application with Progeny Imaging, contact Progeny Technical Support. *For more information, see* Progeny Imaging Contact Information *on page 11.*

Progeny Imaging Contact Information

For product technical questions, call Technical Support. For literature, location of your nearest Progeny Sales Representative, and all other questions, call Progeny Customer Service. Hours of operation are 8am-5pm Central Time, Monday-Friday.

For Technical Support

+1-847-415-9800

+Toll Free: 888-924-3800

Press Option 2

For Customer Service

+1-847-415-9800

+Toll Free: 888-924-3800

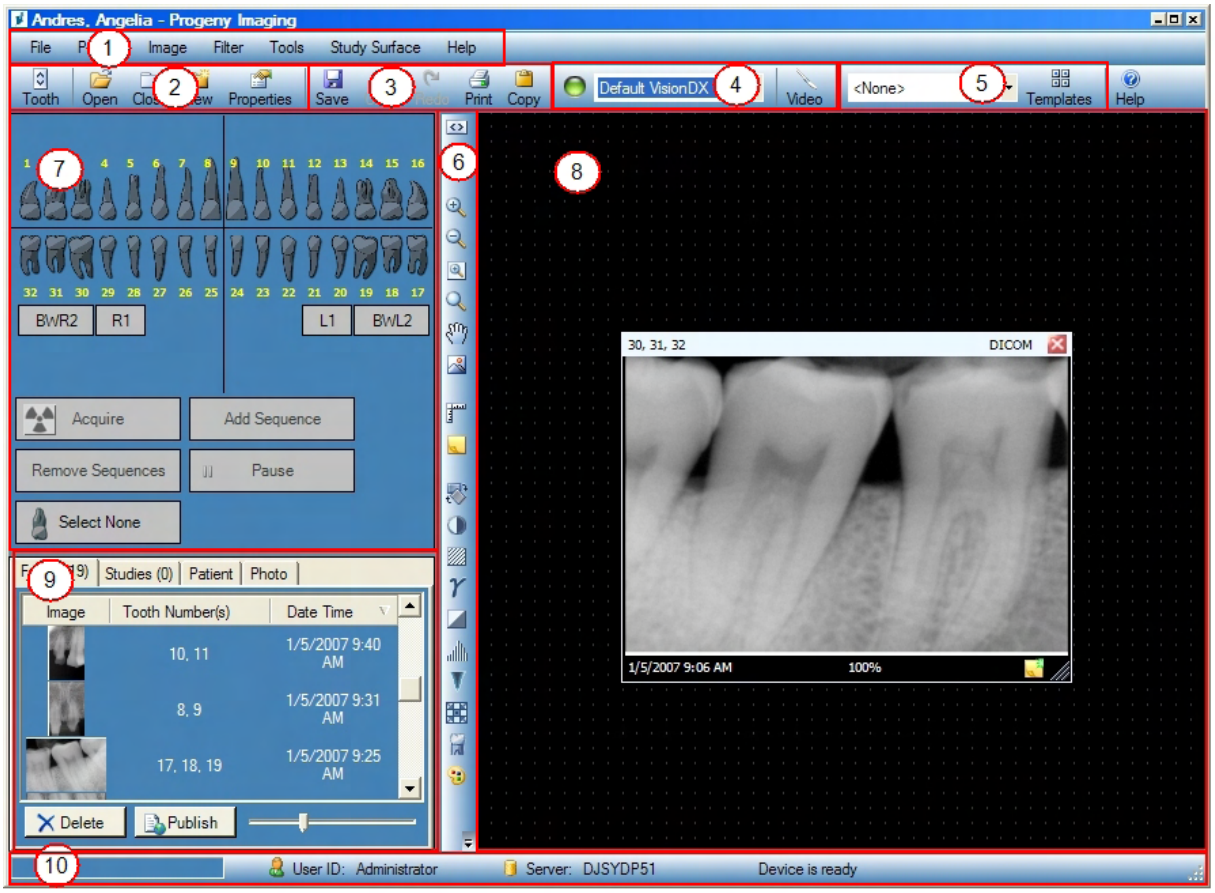
Press Option 1

Section 3: Tour Progeny Imaging

This section introduces key features of the Progeny Imaging user interface.

Progeny Imaging Screen Layout

Progeny Imaging's screen layout is easy to learn and use.



Main Menu Bar (1)

The Main Menu bar contains menus of commands to perform most Progeny Imaging functions.

For more information, see Main Menu Bar *on page 105.*

Toolbars

Toolbars are groups of icons to select frequently performed actions. Progeny Imaging contains the following toolbars:

- Patient Toolbar (2)
- Image Operations Toolbar (3)
- Device Controls Toolbar (4)
- Template Toolbar (5)
- Filter Toolbar (6)

For more information, see Toolbars *on page 15.*

Tooth Panel (7)

The Tooth Panel allows you to select sequences of teeth and to acquire images.

> ***Note:*** *To activate and use the Tooth Panel, a patient record must be open and an image acquisition module must be selected.*

For more information, see Tooth Panel *on page 132.*

Study Surface (8)

The Study Surface is where you display, filter, and annotate images that are part of a patient record.

For more information, see Study Surface *on page 125.*

Image Container (9)

The Image Container contains thumbnail images and information that are part of a patient record.

For more information, see Image Container *on page 97.*

Progress and Status Bar (10)

Information at the bottom of the Progeny Imaging screen gives you information on the progress of image acquisition, image acquisition module readiness, and current user and server.

Main Menu Bar

The Main Menu bar contains menus of the major functions provided by Progeny Imaging.

Main Menu Bar

Menu	Description
File	The File menu contains options for basic tasks in Progeny Imaging. *For more information, see* File Menu *on page 92.*
Patient	The Patient menu contains options for working with patient records. *For more information, see* Patient Menu *on page 117.*
Image	The Image menu contains settings that allow you to work with an image that is displayed in the study surface. *For more information, see* Image Menu *on page 101.*
Filter	The Filter menu contains a subset of the image manipulation options that are found on the Filter toolbar. *For more information, see* Filter Menu *on page 93.*
Tools	The Tools menu contains settings that allow you to modify how Progeny Imaging looks and functions. *For more information, see* Tools Menu *on page 130.*
Study Surface	The Study Surface menu contains options for working with studies. *For more information, see* Study Surface Menu *on page 126.*
Help	The Help menu contains options for displaying Progeny Imaging user assistance and product information. *For more information, see* Help Menu *on page 97.*

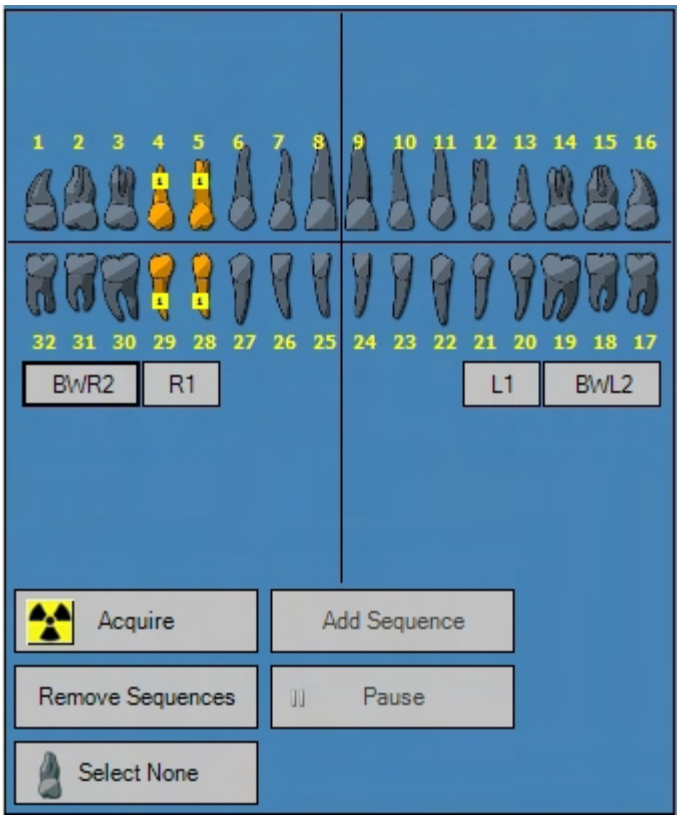
Toolbars

Toolbars are groups of icons to select frequently performed actions.

Toolbars

Toolbar	Description
Patient Controls	The Patient Controls toolbar allows you to work with patient records. *For more information, see* Patient Controls Toolbar *on page 116.*
Image Operations	The Image Operations toolbar allows you to perform basic operations on images. *For more information, see* Image Operations Toolbar *on page 104.*
Filter	The Filter Toolbar has controls to change or manipulate the way an image is displayed. *For more information, see* Filter Toolbar *on page 94.*
Device Controls	The Device Controls Toolbar allows you to select and configure image acquisition modules. *For more information, see* Device Controls Toolbar *on page 90.*
Template Controls	The Template Controls toolbar allows you to select a template and open the Template Manager. *For more information, see* Template Controls Toolbar *on page 127.*
Annotate and Measure	The Annotate and Measure Toolbar contains the tools to highlight or mark up an image. *For more information, see* Annotate and Measure Toolbar *on page 84.*

Tooth Panel



The Tooth Panel allows you to select sequences of teeth and to acquire images.

For more information, see Acquiring X-ray Image Sequences *on page 72.*

If the Tooth Panel is not displayed, click the **Tooth** icon, select **File > Toggle Tooth Panel**, or **ALT + 1**.

> ***Note:*** *To activate and use the Tooth Panel, a patient record must be open and an image acquisition module must be selected.*

Tooth Panel

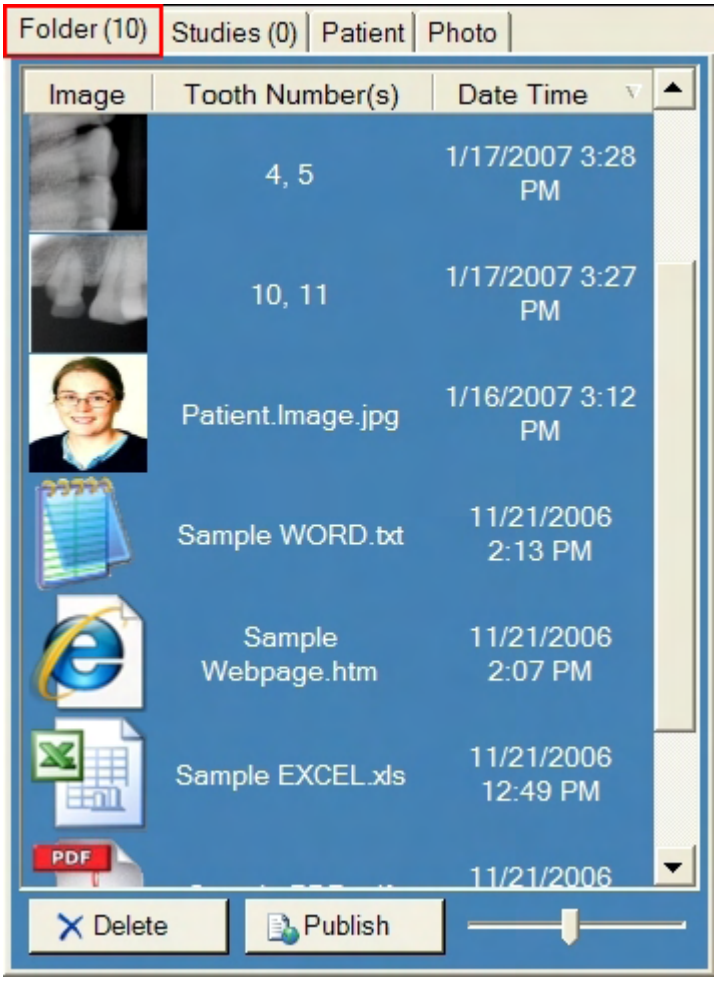
Item	Description
Teeth	Selects teeth to add to an image sequence. Selected teeth are highlighted.
BWR2, R1, L1, BWL2	Selects predefined bitewing and incisor sequences. Teeth that are included in the sequence are highlighted.
Acquire	Acquires the selected sequence(s) of teeth.
Add Sequence	Adds sequence for imaging. Teeth that are part of the sequence change shade to indicate that the sequence is selected for acquisition.
Remove Sequences	Removes a highlighted sequence.
Pause	Pauses image acquisition.
Select None	Deselects teeth that had been selected.

Image Container

The Image Container consists of four tabs with the information and images that are part of a patient record. You must open a patient record to view information in the Image Container.

For more information, see Opening a Patient Record *on page 70.*

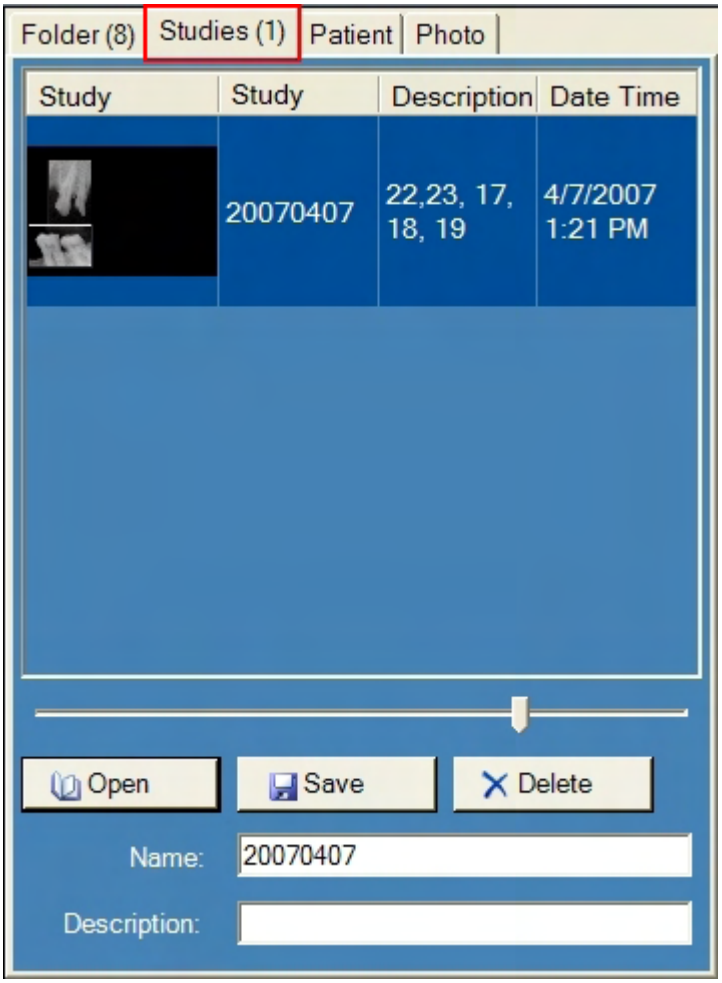
Folder Tab



The Folder tab contains thumbnail images of X-rays and other files in the patient's record. The number in the tab is the number of items in the patient's record. Scroll down to see all items. The slider at the bottom of the Folder tab adjusts the view so that you can more easily find images. For X-ray images, the Folder tab lists the tooth or teeth in the image sequence and the date and time that the image was acquired. For other items, the Folder tab lists the file name and time of creation. Drag an image from the Folder tab to the study surface to view the image at actual size. To delete an image from the Folder tab, select the image and click Delete, or ALT + D.

For more information, see Acquiring X-ray Image Sequences *on page 72.*

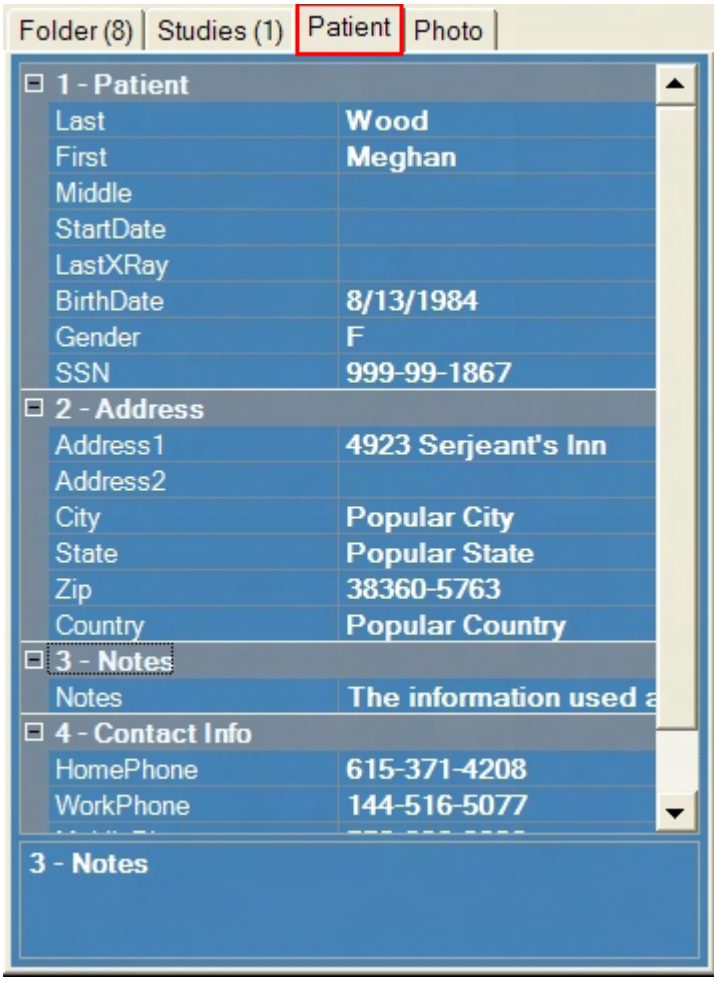
Studies Tab



The Studies tab contains studies that have been saved in the patient's record. The number in the tab is the number of studies in the patient's record. Scroll down to see all items.The slider at the bottom of the Studies tab adjusts the view so that you can more easily find studies. The Studies tab shows a thumbnail image of the study and provides the name or number of the study, a description of the study, and the date on which the image in the study was created. Select a study and click Open to display it in the study surface. To save a study, display an image in the study surface, then click Save, or ALT + S. To delete a study from the Studies tab, select the study and click Delete, or ALT + D.

For more information, see Creating Studies *on page 81.*

Patient Tab



The Patient tab contains information from the patient's Patient Properties screen. To edit the information, select the row and type in the new information. Changes made to patient information in the Patient tab are automatically saved to the patient's record and displayed in the Patient Properties screen.

For more information, see Patient Properties Screen *on page 119.*

For more information, see Creating a Patient Record *on page 70.*

Photo Tab

The Image Container Photo tab displays the patient's picture that was included in the patient's Patient Properties screen.

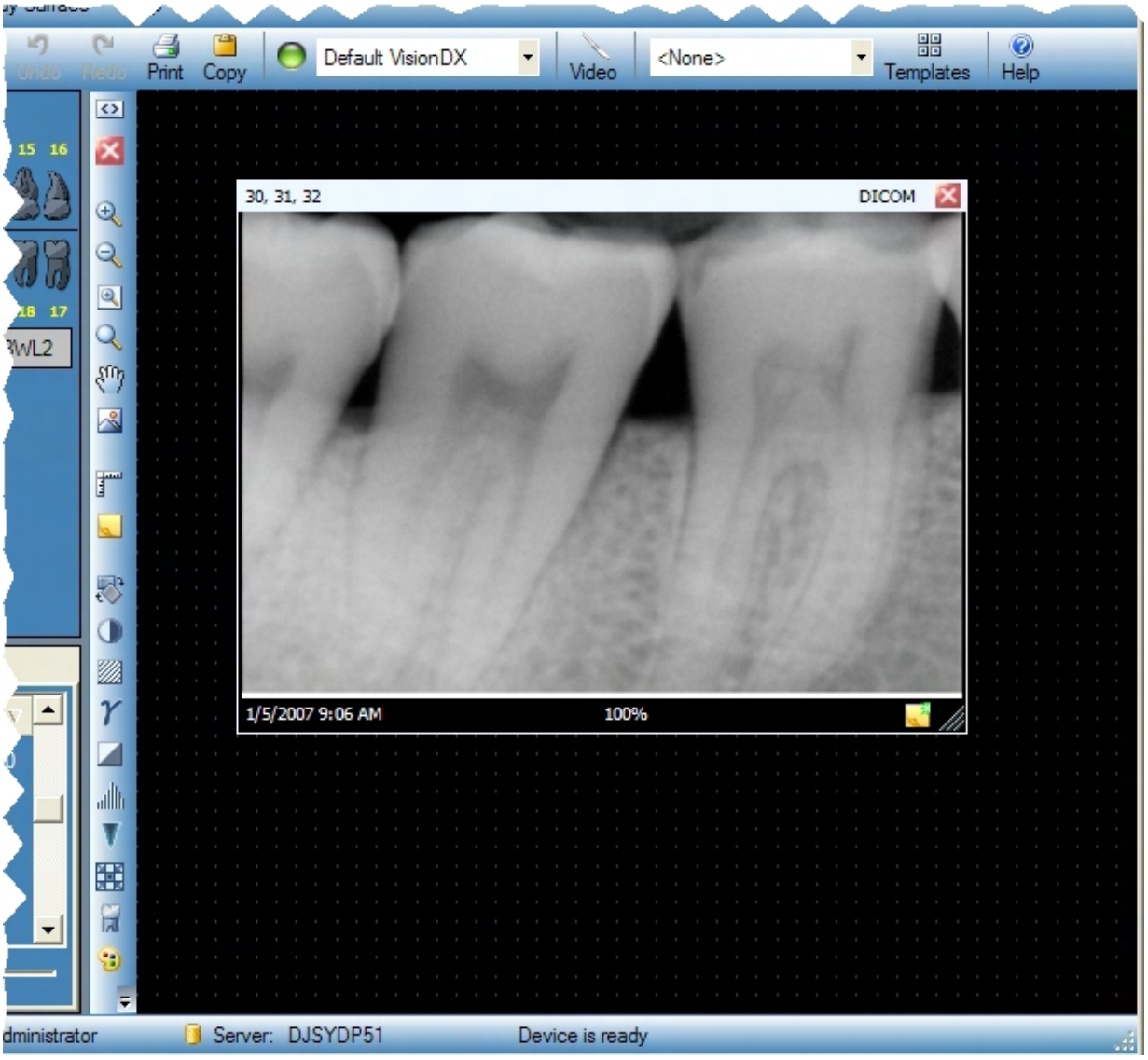
For more information, see Creating a Patient Record *on page 70.*

Study Surface

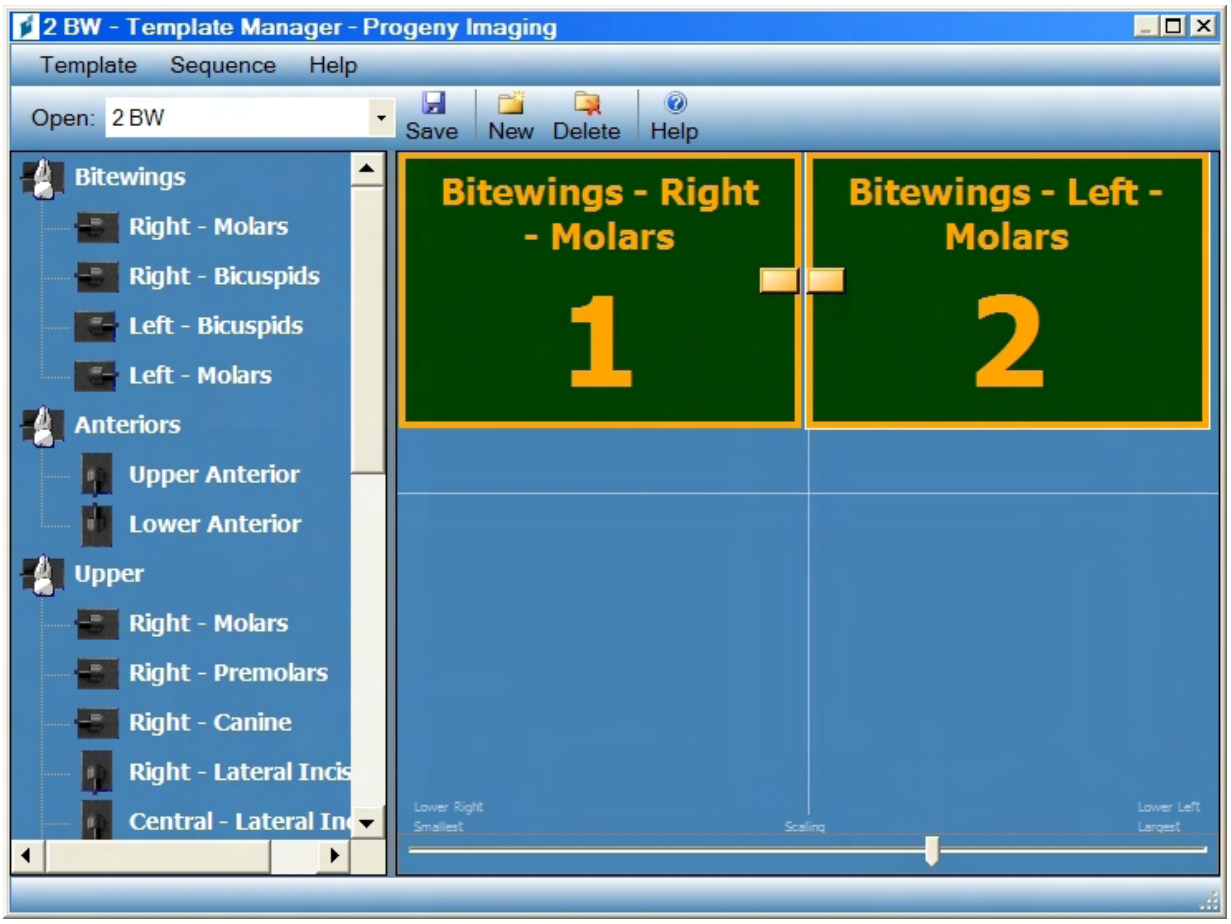
The Study Surface is where you display, filter, and annotate images that are part of a patient record.

For more information, see Displaying Images *on page 77.*

For more information, see Creating Studies *on page 81.*



Template Manager



Templates are pre-defined groupings of image acquisition sequences that you can use to streamline image acquisition. You use the Template Manager to create and modify templates.

Open the Template Manager by selecting **Tools > Template** or click the **Templates** icon in the Template toolbar.

For more information, see Creating and Modifying Image Acquisition Templates *on page 62.*

Template Manager

Item	Description
Template Menu	Options for working with templates • New: Opens the New Template dialog box where you name and save a new (blank) template. The new template will be open in the

Item	Description
	design surface. • Save: Saves changes to the template currently open in the design surface. • Save As: Opens a Save As dialog box where you select a new name or location for a template that is open. • Delete: Deletes the template currently open in the design surface. The template no longer appears in the Open list. • Remove All Sequences: Removes all sequences from the template. • Exit: Closes the Template Manager.
Sequence Menu	Remove: Deletes the first or selected sequence from the template.
Help Menu	Displays the help file.
Open	Selects a template to display in the design surface. Templates listed are those that come with Progeny Imaging and templates you create using the Template Manager.
Save	Saves changes to the template currently open in the design surface.
New	Opens a box where you name and save the template that you are creating.
Delete	Deletes the template currently open in the design surface. The template no longer appears in the Open list.
Sequence Panel	Sequences of teeth that can be included in the template. Tool tips show the tooth number for teeth that are part of the sequence. Drag one or more sequences to the design surface to create the template.
Design Surface	Layout area of the Template Manager where you arrange sequences of teeth to create the template.

Section 4: Installing Progeny Imaging

This section tells how to install Progeny Imaging.

Recommended System Requirements

The performance of Progeny Imaging software is affected by the amount of RAM and storage memory available to the system for acquisition, displaying, storing, and printing digital X-ray images. The recommended requirements are listed below as a guideline only.

As you review these guidelines, please be aware that your patient volume, and the specific demands of your practice, may require you to adjust these guidelines accordingly. The system requirements of other programs operating on the same computer or network may affect these guidelines as well.

Recommended System Requirements

System Component	Requirement
Computer Hardware	PC-compatible Pentium 4 / 1.4 GHz or greater computer
Memory System	1 GB RAM or higher (minimum 512 MB)
Operating System	Microsoft Windows XP ® with Service Pack 2 Microsoft Vista (all editions)
Disk Space	450 MB minimum You will need additional disk space depending on the size of your practice and the number of images and other information you plan to store. Each DICOM image is approximately 4 MB. For example, if you plan to store 75,000 images, you will need approximately 300 GB disk space.

System Component	Requirement
Display Settings	800 x 600 (16-bit or higher) with 32 MB of Video RAM Note: It is possible for you to increase these settings based on the actual settings defined by the video adapter and/or capture card installed in the system.

Installing Progeny Imaging

Progeny Imaging contains the patient database and screens for creating and managing patient records and acquiring images as well as drivers that enable Progeny Imaging to work with image acquisition modules.

You must install Progeny Imaging on every computer where you want to use it to view patient records or acquire images, even if you later decide to use a patient database or modules located elsewhere in your dental office network.

After installing Progeny Imaging, you open the software. If you are installing Progeny Imaging for the first time on the computer, Progeny Imaging will create the database.

Installation of Progeny Imaging requires only a few minutes.Progeny Imaging is installed from the Progeny Installation CD-ROM, which also contains the help file and the database software, MS SQL Server 2005 Express Edition. If MS SQL Server is not already installed on your computer, the Progeny Software Installer will install it.

Before Installing Progeny Imaging

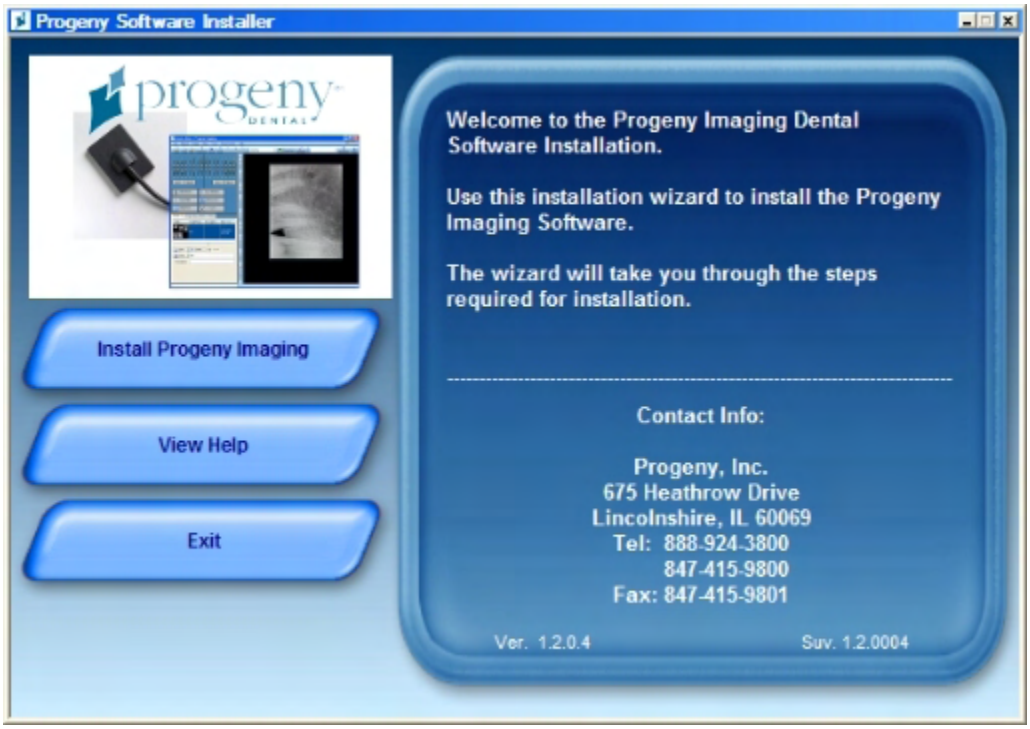
- If you are upgrading from a previous version of Progeny Imaging, you must uninstall Progeny Device Service. *For more information, see* Uninstalling Progeny Imaging *on page 39.*
- Locate the Progeny Imaging Installation CD-ROM.
- Ensure that you are logged into your computer using an account that has Windows computer administrator privileges.

Note: *Progeny Imaging currently requires that all users be logged into Windows as a computer administrator. This will be changed in a future release.*

To Install Progeny Imaging

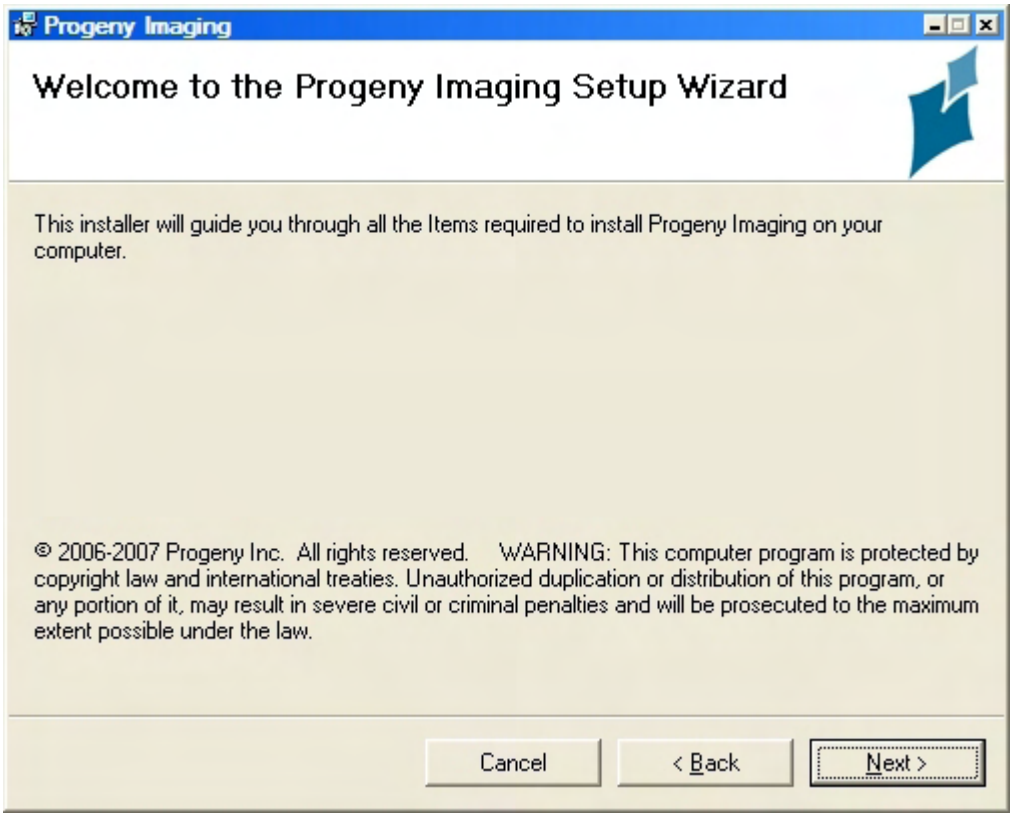
1. Insert the Progeny Imaging Installation CD-ROM into the computer's CD-ROM drive. The Progeny Software Installer starts automatically.

Note: *If the Progeny Software Installer does not start automatically, use the Windows Start menu and select Run. Then type the path to the program on the Progeny Imaging Installation CD-ROM.*

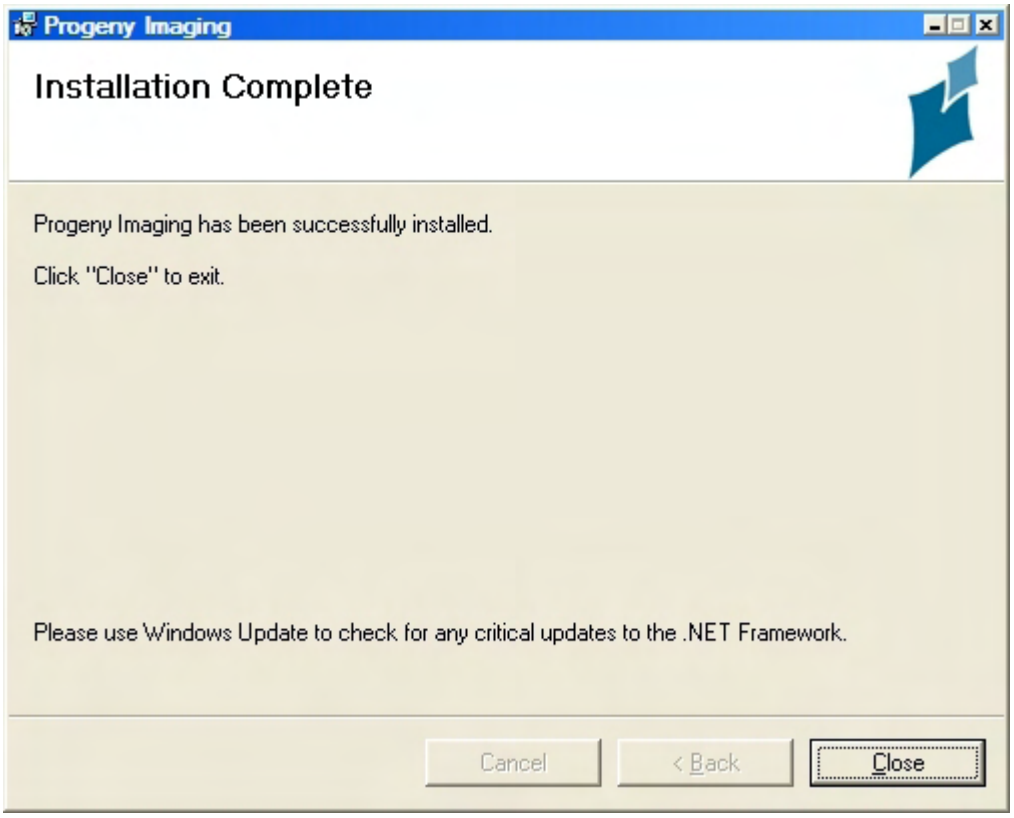


2. In the Progeny Imaging Software Installer, click **Install Progeny Imaging**.
3. In the pop-up message, click **Yes** to confirm that you want to start the installation.
4. If your computer does not have MS SQL Server 2005 Express Edition installed, you will see a license agreement. Click **Accept**. Clicking Don't Accept ends the installation. You will see the Progeny Imaging screen.

5. In the Progeny Imaging screen, click **Next**.



6. In the Welcome screen, click **Next**.
7. In the Confirm Installation screen, click **Next** to launch the installation. During installation, you will see the Installing Progeny Imaging screen and a black command window may appear briefly. This is normal. When the installation is complete, you will see the Installation Complete screen.



8. Click **Close**.
9. In the Progeny Software Installer, click **Exit**.
10. In the pop-up message, click **Yes** to confirm that you want to exit.

To Open Progeny Imaging

1. On your computer's desktop, double-click on the **Progeny Imaging** icon, or select Progeny Imaging from your Windows Start menu.
2. If this is the first time Progeny Imaging has been installed on the computer, you will see a message stating that the database was not found, and you will be asked to create a new database. Click **Yes**, even if you will be using a database on another computer.
3. Log into Progeny Imaging as the Administrator.

   For more information, see Logging in as Administrator *on page 30.*

Logging in as Administrator

Every time Progeny Imaging is launched, the Login window appears. You must log in to use Progeny Imaging. Immediately after installing Progeny Imaging, you will log in as Administrator. For security purposes, add a password for Administrator the first time that you log in.

> ***Note:*** *While other users can be given application administrator privileges within Progeny Imaging, you use the Administrator login in the event that you need to contact Technical Support.*

You can configure Progeny Imaging to open without requiring users to log in. *For more information, see* Removing the Login Screen *on page 68.*

Before Logging in as Administrator for the First Time

Ensure that you are logged into an account that has Windows computer administrator privileges.

> ***Note:*** *Progeny Imaging currently requires that all users be logged into Windows as a computer administrator. This will be changed in a future release.*

To Log in as Administrator for the First Time

1. On your computer's desktop, double-click the Progeny Imaging icon, or select Progeny Imaging from your Windows Start menu.
2. In the Login screen User ID field, type Administrator.

3. Leave the Password field blank.
4. Click **Login**.

To Set a Password for Administrator

CAUTION!
In order to ensure the security of patient data, you must set an Administrator password.

1. Log in as Administrator.
2. Select **File > User Manager**. The User Manager screen will appear.
3. In the User Manager screen, click the **Password** button to the left of the Administrator user ID.
4. In the User Password screen, enter a password in the **Password** field. When creating a password, remember the following password rules:
   - Passwords must be at least 5 characters long
   - Passwords are case sensitive
5. Retype the password in the **Re-Enter Password** field.
6. Click **OK**.

When you next log in, you will enter the User ID, Administrator, and the password that you just created.

Configuring the Progeny Imaging Database for Use on a Network

The Progeny Imaging database stores image acquisition module configurations, user information, patient information, and patient images. Patient and user information is stored in an MS SQL Server database, while patient images are stored in computer files.

By default, Progeny Imaging uses the database that is installed on the same computer that runs the Progeny Imaging graphical user interface. Image files are stored in `C:\Program Files\Progeny\Progeny Imaging\Images`.

You can instead choose to have all computers running Progeny Imaging use a Progeny Imaging database on one computer on the dental office network. Configuring the database for use on a network requires the following tasks:

- On the computer that hosts the Progeny Imaging database, configure sharing for the Progeny Imaging directory.
  - Configure sharing on a Windows domain network
  - Configure sharing on a Peer-to-Peer network
- On the computer that hosts the Progeny Imaging database, configure the MS SQL Server database to be accessed over the network.
- On every other computer that runs Progeny Imaging, configure Progeny Imaging to use the networked database.

- *For more information, see* Configuring Progeny Imaging to Use a Networked Database *on page 38.*

Note: *Progeny Imaging requires that your dental office network be a setup as a Peer-to-Peer (P2P) or Windows domain (client-server) network. In a P2P or domain network, all users must have local administrator privileges on all clients in the network. On a domain network, a domain server is required for authentication.*

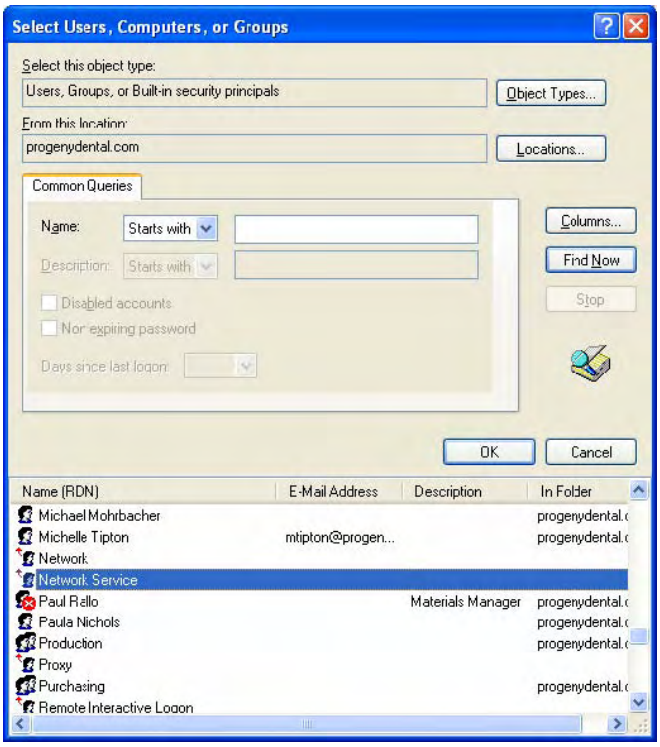
Before Configuring the Progeny Imaging Database for Use on the Network

- Install Progeny Imaging on all computers where it will be used.

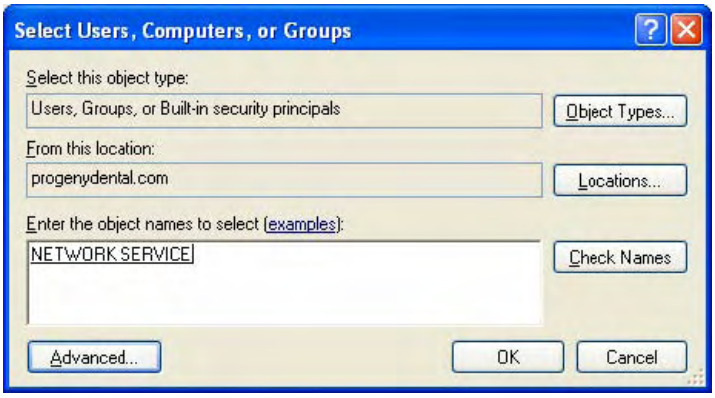
To Configure Sharing for the Progeny Imaging Directory on a Windows Domain Network

1. Navigate to `C:\Program Files\Progeny`.
2. In the Progeny folder, highlight the **Progeny Imaging** folder.
3. Right click and select **Sharing and Security**.

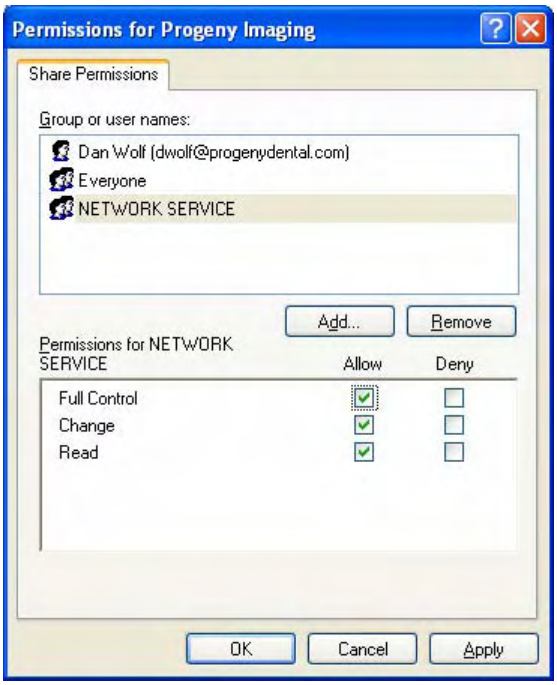
4. In the Progeny Imaging Properties box, select the **Sharing** tab.
5. Click **Share this folder**.
6. Click **Permissions**.
7. Click **Add**.
8. Click **Advanced**.



9. In the Select Users, Computers, or Groups box, click **Find Now**.
10. Select **Network Service**.
11. Click **OK**.



12. Click **OK**.



13. In the Permissions for Progeny Imaging box, select **Allow** for Full Control.
14. Click **OK**.
15. Click **OK**. The Progeny Imaging folder icon should indicate that the folder is now shared.

To Configure Sharing for the Progeny Imaging Directory on a Peer-to-Peer Network

1. Navigate to `C:\Program Files\Progeny`.
2. In the Progeny folder, highlight the **Progeny Imaging** folder.
3. Right click and select **Sharing and Security**.

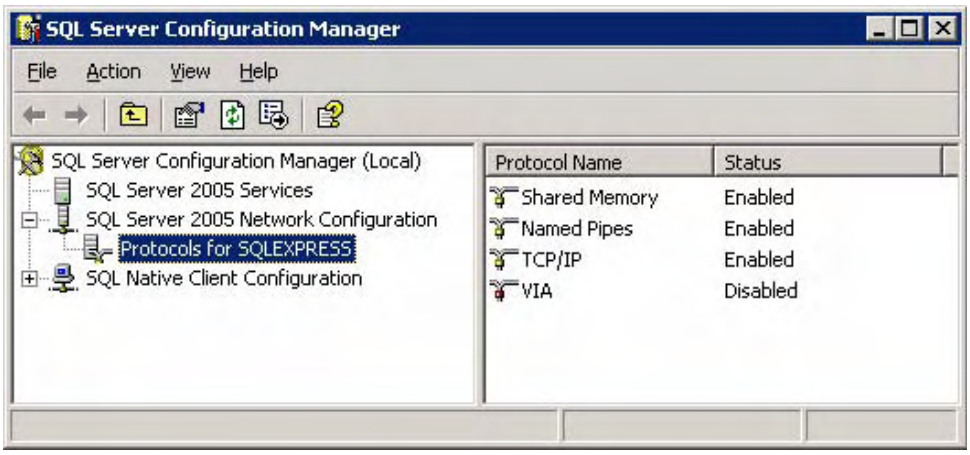
4. In the Progeny Imaging Properties box, select the **Sharing** tab.
5. Click the sentence link: **If you understand the security risks but want to share files without running the wizard, click here.**

6. Select **Just enable file sharing** and click **OK**.

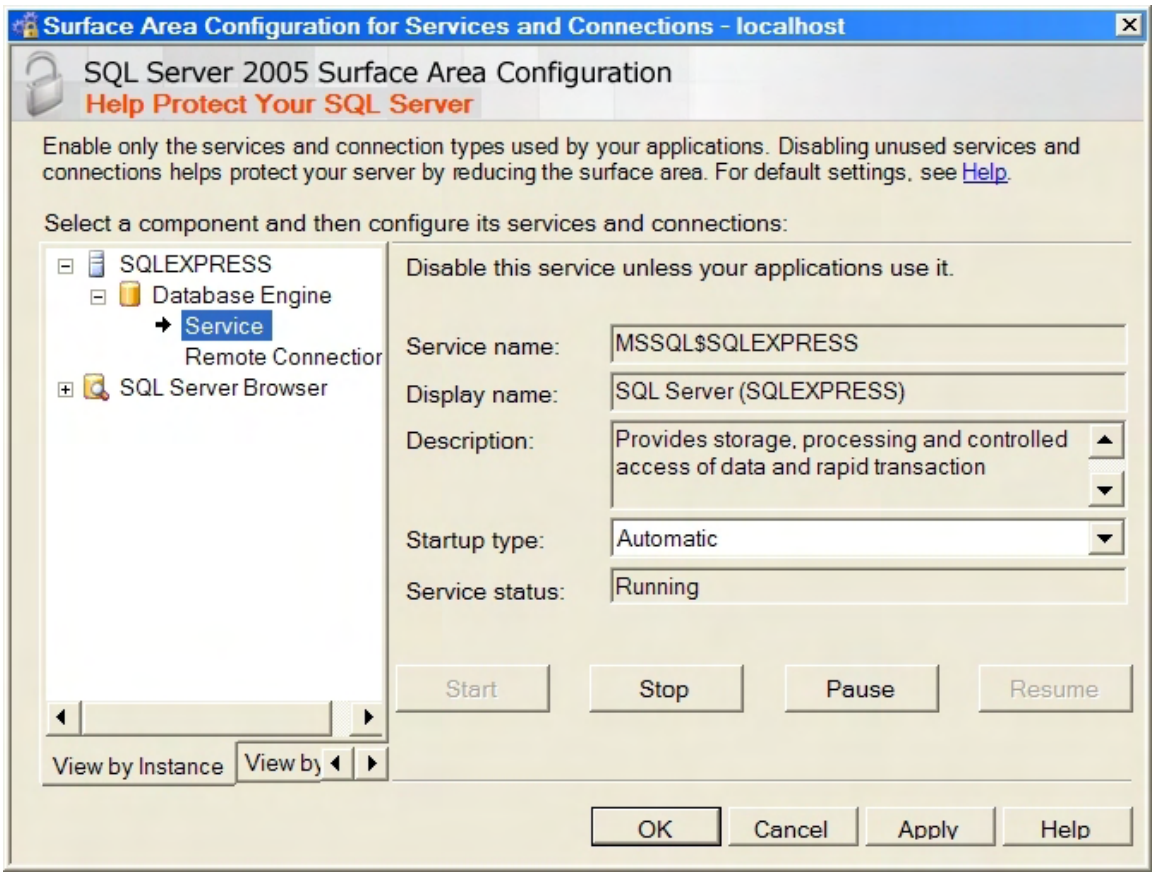
7. The Sharing tab now shows that Progeny Imaging is shared. Select **Allow network users to change my files** and click **OK**.
8. In the warning about share name length, click **OK**.

To Configure MS SQL Server for Network Access

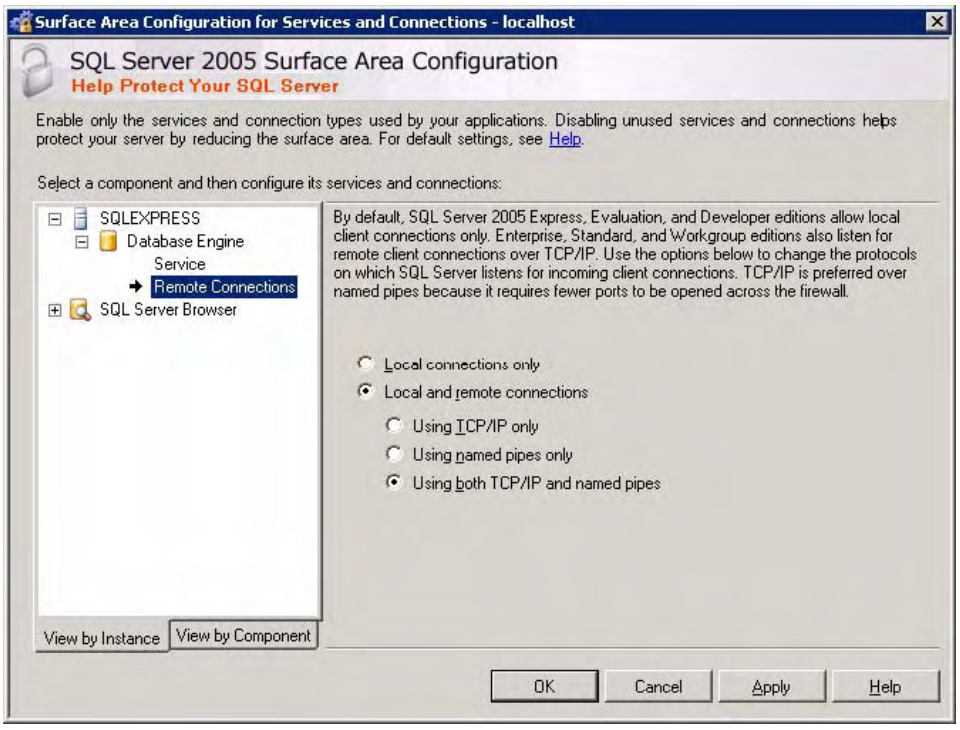
1. From the Windows Start menu, select **Programs > Microsoft SQL Server 2005 > Configuration Tools > SQL Server Configuration Manager**.
2. In the SQL Server Configuration Manager, expand **SQL Server 2005 Network Configuration**.



3. Click **Protocols for SQLEXPRESS**.
4. Verify that Shared Memory, Named Pipes, and TCP/IP are Enabled. If any of these items are not enabled, select, right-click, and enable them. Ignore any warnings that are displayed.
5. Expand **SQL Native Client Configuration**.
6. Click **Client Protocols**.
7. Verify that Shared Memory, Named Pipes, and TCP/IP are Enabled. If any of these items are not enabled, select, right-click, and enable them. Ignore any warnings that are displayed.
8. Close the SQL Server Configuration Manager.
9. From the Windows Start menu, select **Programs > Microsoft SQL Server 2005 > Configuration Tools > SQL Server Surface Area Configuration**.
10. Near the bottom of the screen, click **Surface Area Configuration for Services and Connections**.
11. Expand **SQLEXPRESS**.
12. Click **Service**.



13. In the Service status field, verify that the service is running. If the service is not running, click Start. Also, if the service is running, but you made changes in the SQL Server Configuration Manager, click Stop, then click Start.
14. Click **Remote Connections**.
15. Click **Local and remote connections**.



16. Click **Using both TCP/IP and named pipes**.
17. Click **Apply**.
18. Click **SQL Server Browser**.
19. Click **Service**.
20. In the Service status field, verify that the service is running. If the service is not running, select Automatic from the Startup Type drop-down list. Click Apply, then click Start.
21. Click **OK** to close Surface Area Configuration for Services and Connections.

Next Steps

On every other computer that runs Progeny Imaging, configure Progeny Imaging to use the networked database. *For more information, see* Configuring Progeny Imaging to Use a Networked Database *on page 38.*

Configuring Progeny Imaging to Use a Networked Database

The Progeny Imaging database stores image acquisition module configurations, user information, patient information, and patient images. Patient and user information is stored in an MS SQL Server database, while patient images are stored in computer files.

By default, Progeny Imaging uses the database that is installed on the same computer that runs the Progeny Imaging graphical user interface. Image files are stored in `C:\Program Files\Progeny\Progeny Imaging\Images`.

You can instead set the options for each computer that is running Progeny Imaging to use a Progeny Imaging database that is located on another computer on the dental office network.

Note: *Progeny Imaging requires that your dental office network be a setup as a Peer-to-Peer (P2P) or Windows domain (client-server) network. In a P2P or domain network, all users must have local administrator privileges on all clients in the network. On a domain network, a domain server is required for authentication.*

Before Configuring Progeny Imaging to Use a Database on the Network

- Install Progeny Imaging on all computers where it will be used.
- Configure the Progeny Imaging database to be used on a network.
    - *For more information, see* Configuring the Progeny Imaging Database for Use on a Network *on page 31.*

To Configure Progeny Imaging to Use a Database on the Network

1. Log into Progeny Imaging.
2. Select **Tools > Options**.
3. In the Options screen, select the **Database** tab.
4. Select **Networked** to indicate that you are using a Progeny Imaging database that is located on another computer in the dental office network.
5. Click **Find Servers** and select the computer that is running the Progeny Imaging database that you want to connect to.
6. Click **Test Database** to verify that your computer can connect to the database.
7. Click **OK**. If you change the database, you must restart Progeny Imaging.

For more information, see Options Screen *on page 115.*

Uninstalling Progeny Imaging

To remove Progeny Imaging or Progeny Device Service

The steps below assume you are running Windows XP. If you are running Windows Vista, use the Programs and Features icon in the Control Panel.

1. From the Windows Start menu, select **Control Panel**. Then click on **Add or Remove Programs**.
2. In the Add or Remove Programs screen, select **Progeny Device Service**.
3. Click **Remove**.

4. In the Add or Remove Programs screen, select **Progeny Imaging**.
5. Click **Remove**.

***Note**: Uninstalling Progeny Imaging and the Progeny Device Service does not remove the Progeny Imaging database or MS SQL Server 2005 Enterprise Edition, because these components will be used if you re-install Progeny Imaging. However, if MS SQL Server 2005 is removed or becomes corrupted, later installation of Progeny Imaging will fail unless you remove the Progeny Imaging database. To remove the Progeny Imaging database after removing MS SQL Server, navigate to `C:\Program Files\Microsoft SQL Server\MSSQL.1\MSSQL\Data`. Remove the file ProgenyStudyLab.mdf.*

Section 5: Installing Image Acquisition Modules

This section explains how to install the VisionDX, MPSe, VisionDX USB, and Progeny Vivid USB Video Camera to work with Progeny Imaging.

Installing VisionDX Modules

Progeny VisionDX is an intraoral system for digital imaging of teeth and the oral cavity. The VisionDX image acquisition module can be used from the computer where you install it. This topic describes how to install VisionDx modules directly to your computer.

Alternatively, you can install the VisionDX on a computer, configure it for use over the dental office network, then reconnect it to a network hub so that it can be used from other computers on the dental office network.

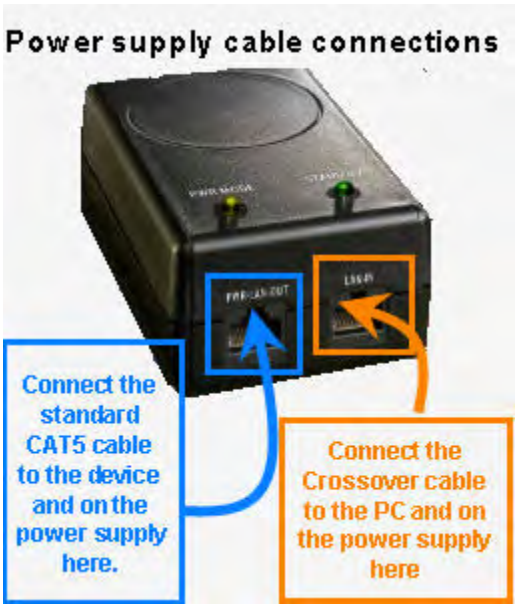
For more information, see Configuring VisionDX and MPSe Modules for Use on a Network *on page 43.*

Before Installing VisionDX Modules

- Install Progeny Imaging on your computer.
- Examine the contents of your VisionDX kit. You should have the following items:
  - Sensor(s)
  - VisionDX Module
  - Power Cable
  - Power Supply (Power over Ethernet Injector, IEEE802.3af compatible)
  - CAT5 Cross-over Cable (shorter cable; usually orange, but may be purple, yellow, or green)
  - CAT5 Standard Ethernet Network Cable (longer cable; usually white, but may be gray or blue)
  - Progeny VisionDX User Manual
  - Sensor Sheaths
- You must have a free network connection on your computer.

To Install the VisionDX Directly to your Computer

1. Plug the cross-over cable into the LAN-IN connection on the power supply.
2. Plug the standard Ethernet cable into the PWR LAN-OUT connection on the power supply.



3. Connect the other end of the cross-over cable into the network connection on the back of your computer.
4. Connect the other end of the Ethernet cable into the Ethernet port on the VisionDX.
5. Connect the sensor to the VisionDX.
6. Connect the power cord to the power supply and to an electrical outlet.
7. Power on the VisionDX. Once the module is powered up, one or more pop-up messages will appear in the lower-right hand side of the screen as the Windows network detects that a new module is connected.
8. Log into Progeny Imaging. Progeny Imaging will detect the VisionDX and you can begin acquiring images immediately.
    - *For more information, see* Logging in as a User *on page 69.*
9. Select **Tools > Devices > Device Configuration** to configure a name for your VisionDX module.
    - *For more information, see* VisionDX Configuration Screen *on page 137.*

Installing MPSe Modules

Progeny MPSe is an intraoral system for digital imaging of teeth and the oral cavity. The MPSe image acquisition module can be used from the computer where you install it. This topic describes how to install MPSe modules directly to your computer.

Alternatively, you can install the MPSe on a computer, configure it for use over the dental office network, then reconnect it to a network hub so that it can be used from other computers on the dental office network.

For more information, see Configuring VisionDX and MPSe Modules for Use on a Network *on page 43.*

Before Installing MPSe Modules

- Install Progeny Imaging on your computer.
- Examine the contents of your MPSe kit. You should have the following items:
  - Sensor(s)
  - MPSe Module
  - Power Cable
  - Power Supply
  - CAT5 Standard Ethernet Network Cable (longer cable; usually white, but may be gray or blue)
  - Progeny MPSe User Manual
  - Sensor Sheaths
- You must have a free network connection on your computer.

To Install the MPSe Directly to your Computer

1. Plug the standard Ethernet cable into the Ethernet connection on the MPSe module.
2. Connect the other end of the Ethernet cable into the network connection on the back of your computer.
3. Connect the sensor to the MPSe module.
4. Connect the power cord to the power supply and to an electrical outlet.
5. Power on the MPSe module. Once the module is powered up, one or more pop-up messages will appear in the lower-right hand side of the screen as the Windows network detects that a new module is connected.
6. Log into Progeny Imaging. Progeny Imaging will detect the MPSe and you can begin acquiring images immediately.
   - *For more information, see* Logging in as a User *on page 69.*
7. Select **Tools > Devices > Device Configuration** to configure a name for your MPSe module.
   - *For more information, see* VisionDX Configuration Screen *on page 137.*

Configuring VisionDX and MPSe Modules for Use on a Network

Progeny VisionDX and MPSe image acquisition modules can be configured on the dental office network so that they can be used from any computer on the network that is running Progeny Imaging. This topic describes how to configure a VisionDX or MPSe module that is connected to a hub on the dental office network.

Configuring VisionDX and MPSe image acquisition modules for use on the network requires the following tasks:

- Install the image acquisition device directly to any computer
- Configure the image acquisition module with information about the network

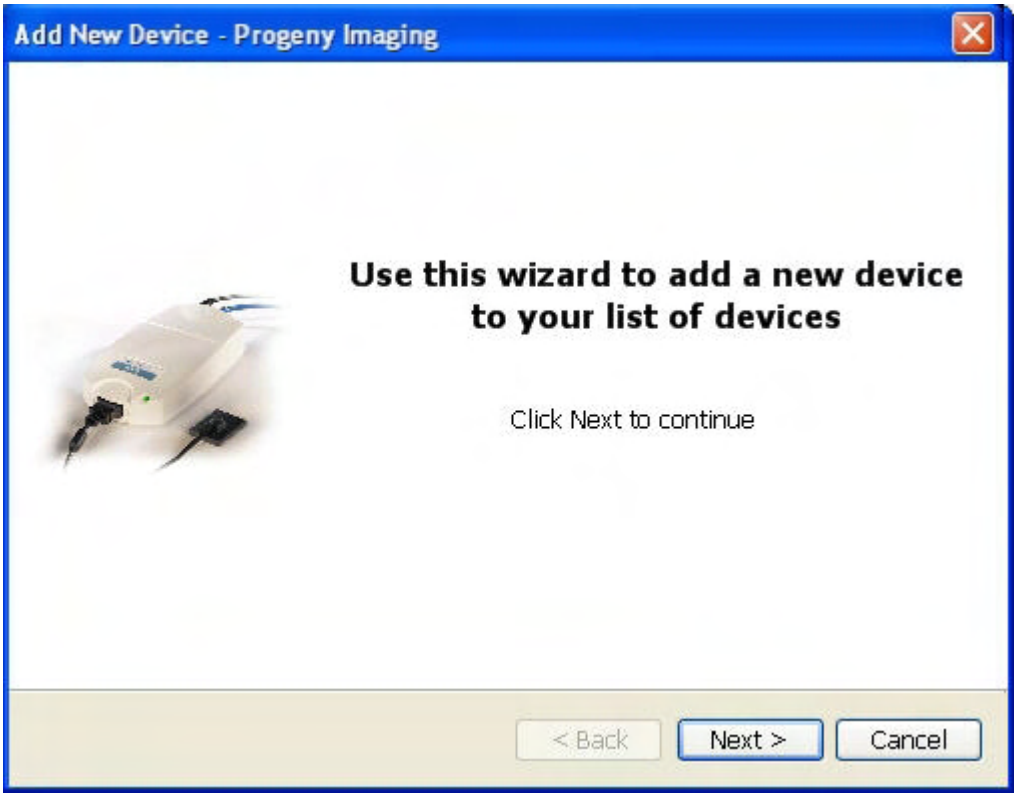
- Reconnect the image acquisition module to the network hub
- Direct each computer with Progeny Imaging to recognize the networked module.
  - *For more information, see* Configuring Progeny Imaging to Use a Networked Image Acquisition Module *on page 51.*

Before Configuring VisionDX and MPSe Modules for Use on a Network

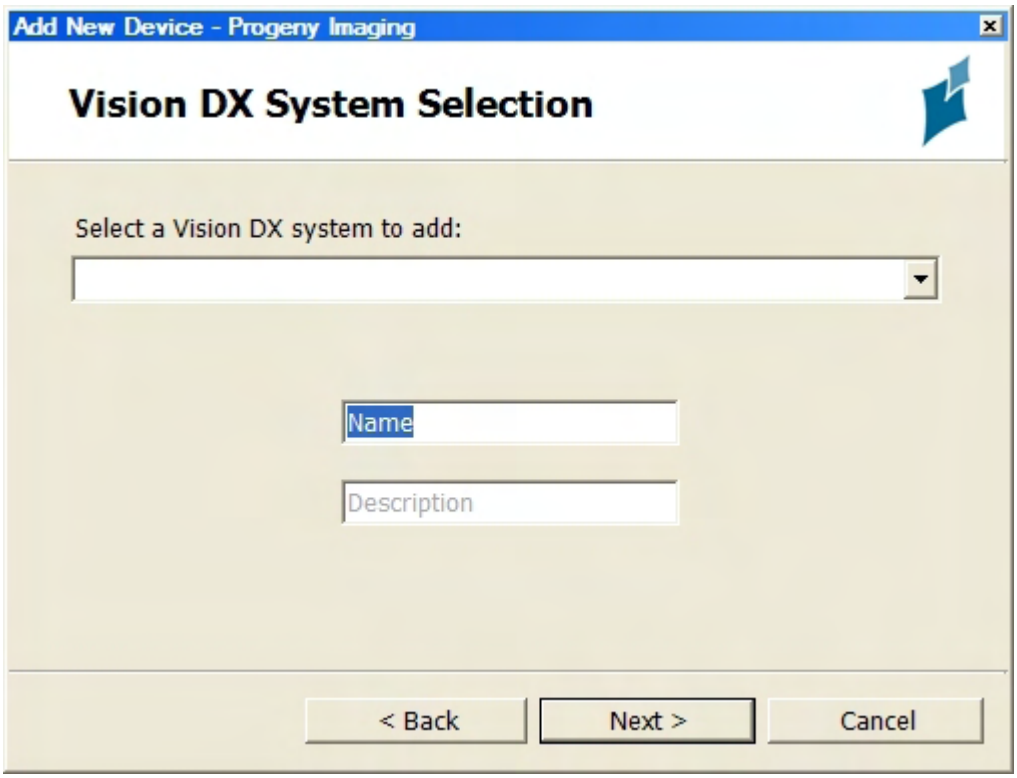
- Install Progeny Imaging
- Install the VisionDX or MPSE module
  - *For more information, see* Installing VisionDX Modules *on page 41.*
  - *For more information, see* Installing MPSe Modules *on page 42.*
- Obtain the following information that you will need to configure the module so that it can be recognized on the network:
  - Name
  - Description
  - IP address
  - Subnet mask
  - Gateway

To Configure a VisionDX or MPSe Module for Use on a Network

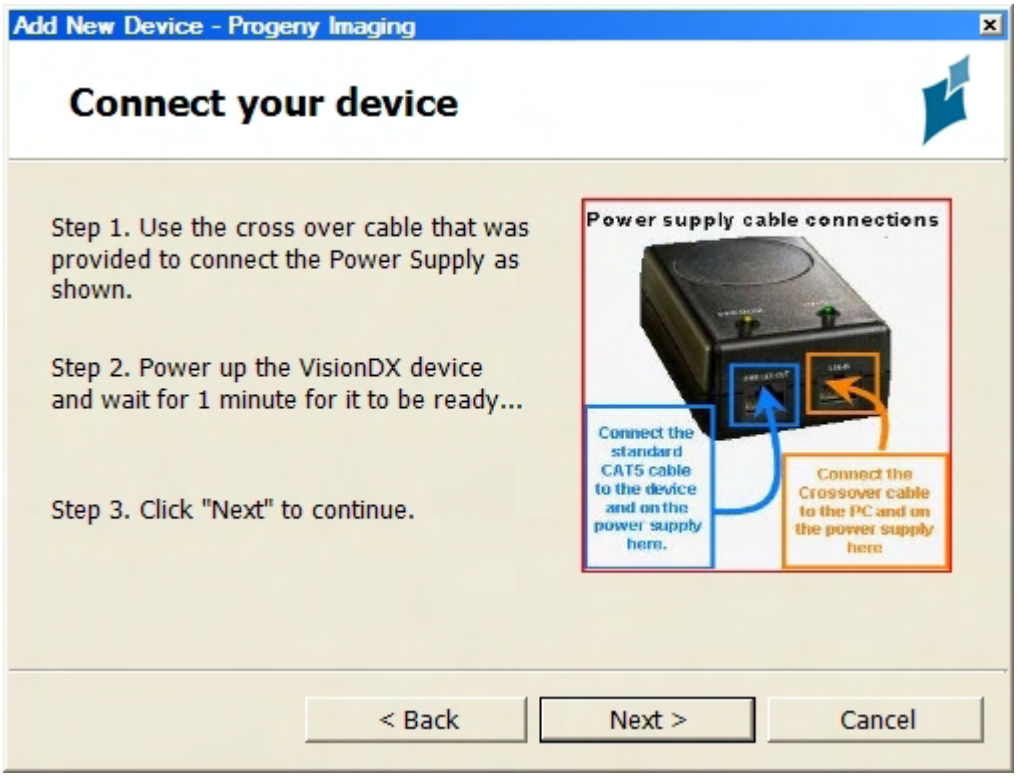
1. Select **Tools > Devices > Add New Device Wizard**.



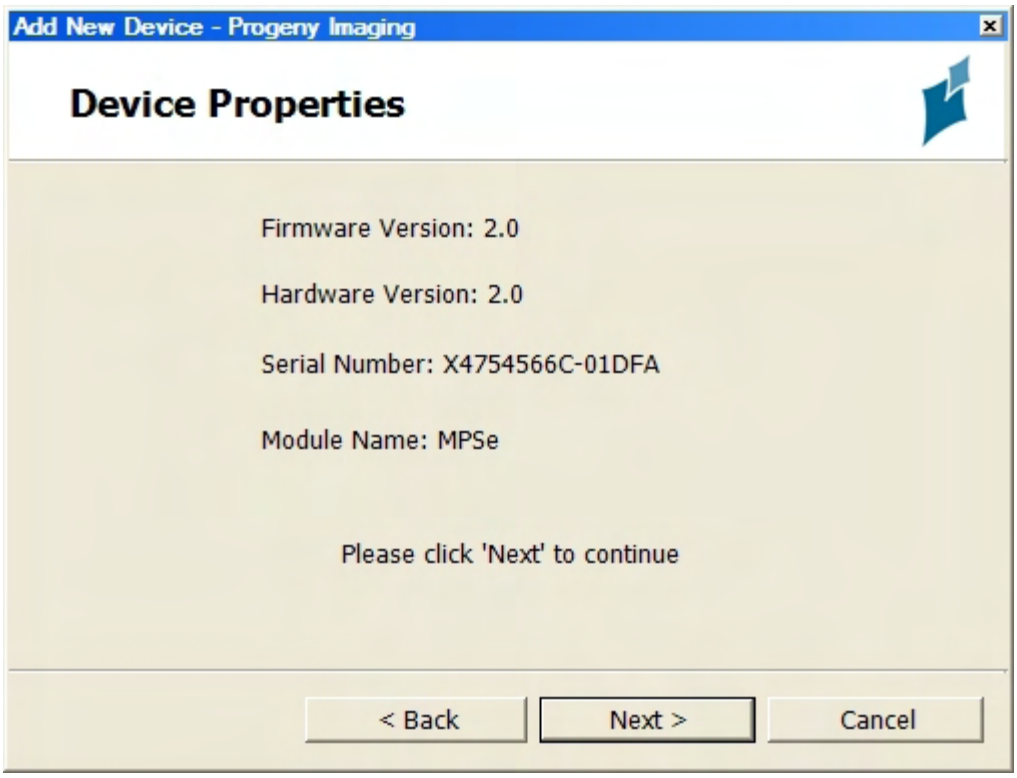
2. In the Device Installation Wizard, click **Next**.



3. In the Device Selection screen, use the **Product** drop-down to select your image acquisition module. You can also enter a name and description for the module. Click **Next**.



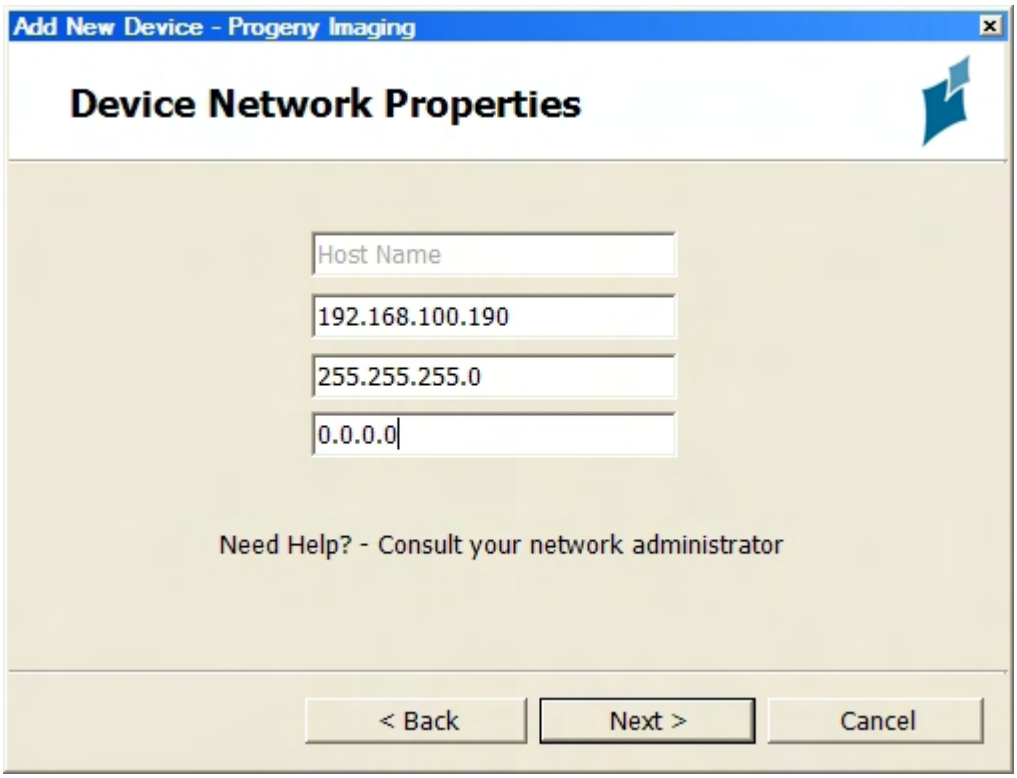
4. Be sure the device that you are configuring is already connected to the computer where you are running the Add New Device wizard. If the device is not connected, use the cross-over cable provided to connect the device.
5. Click **Next**. The Device Properties screen will display the version and serial number of the device.



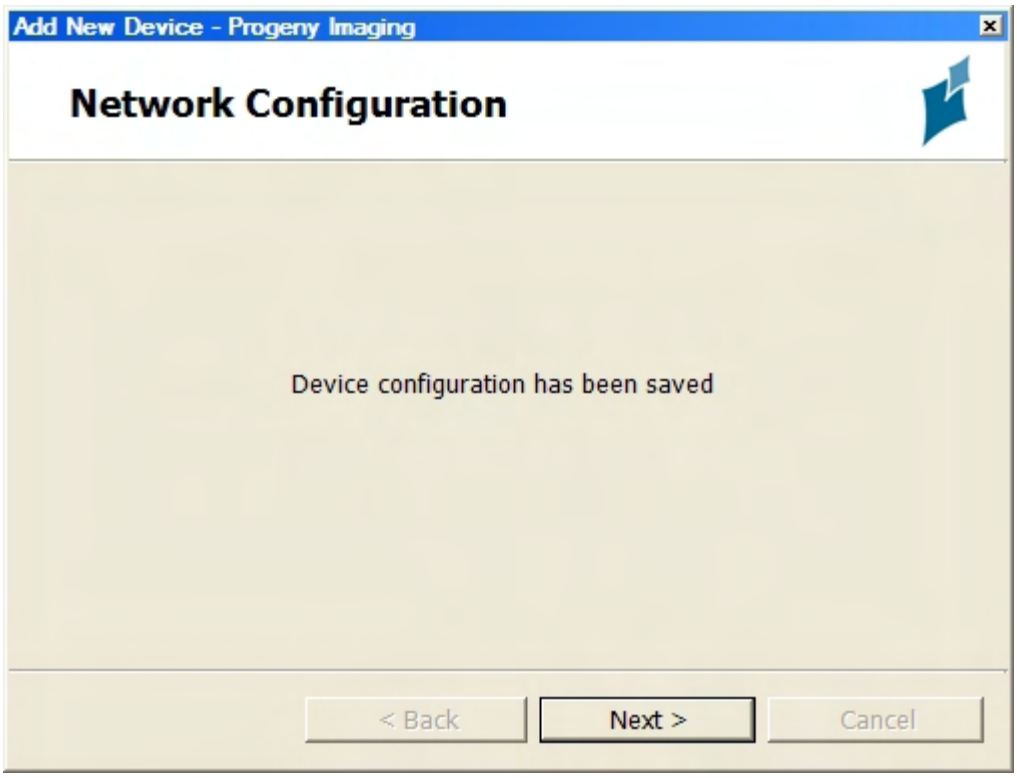
6. Click **Next**.

7. In the Select your connection type screen, select **Network Connection**.

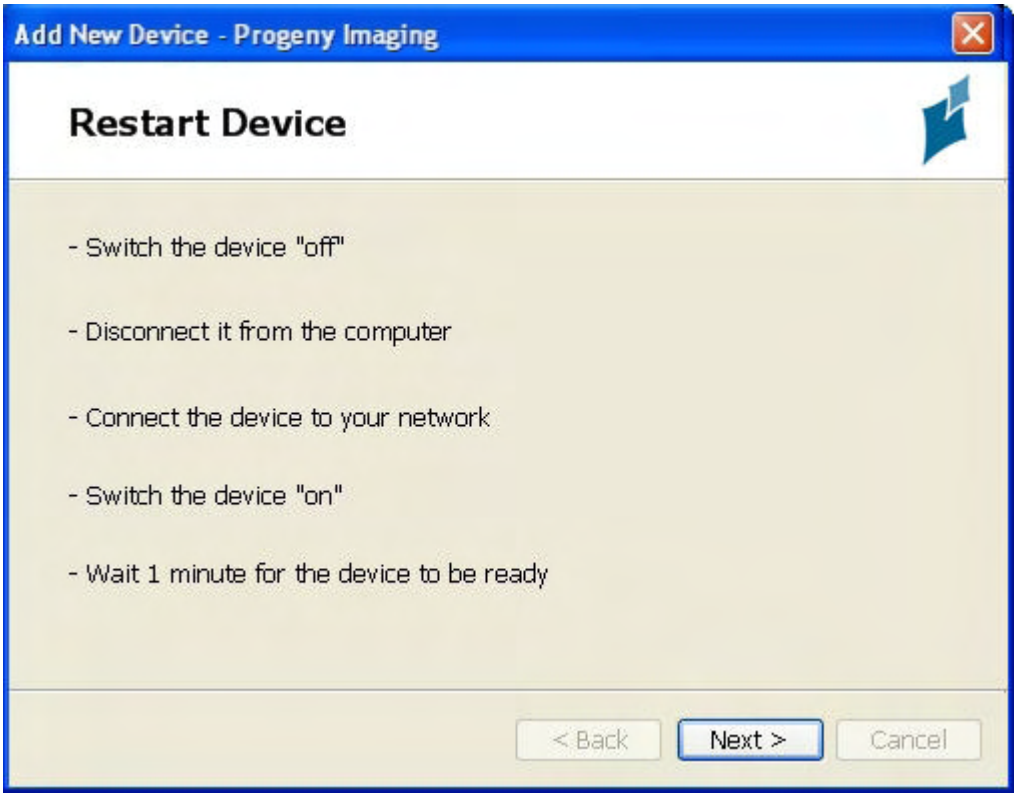
8. Click **Next**.



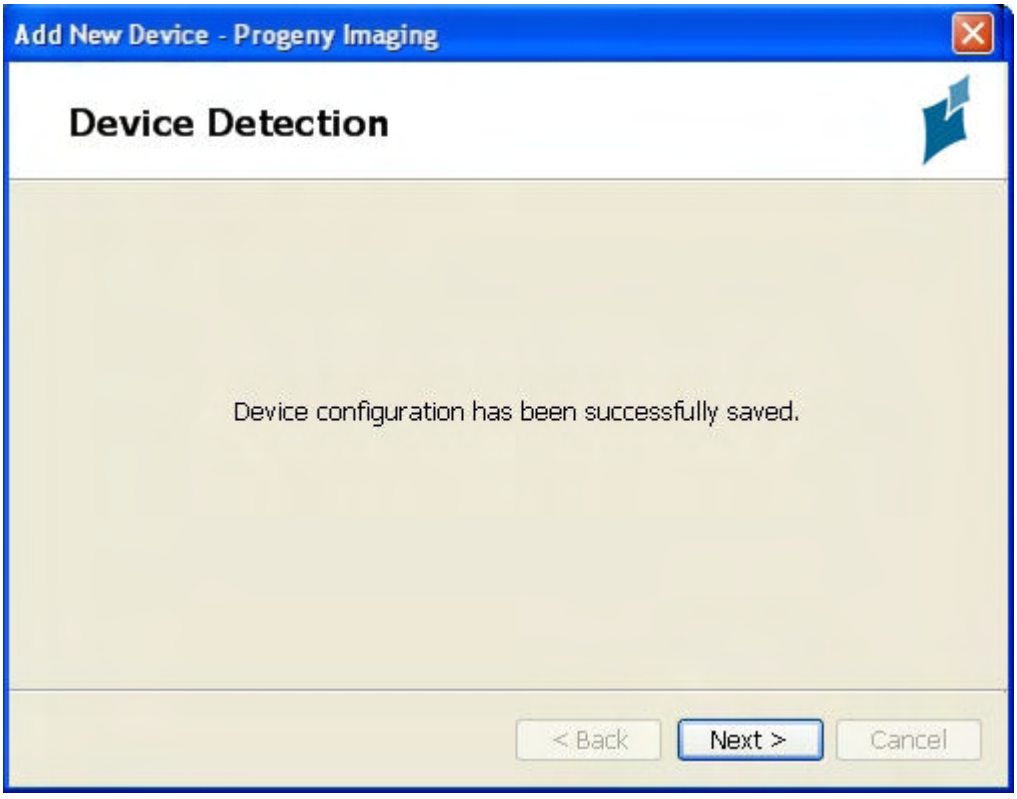
9. In the Device Network Properties screen, change the information to be correct for the dental office network. The IP Address must be a number that is not used by any other device on the network.
10. Click **Next** to save the information to the device.



11. Click **Next**.



12. Follow the instructions in the Restart Device screen to remove the image acquisition module from the computer. Reconnect it to the network hub.
13. Turn the module on and wait for one minute.
14. In the Restart Device screen, click **Next**. The Device Detection screen verifies that the module is now recognized on the network.



15. Click **Next**.
16. Click **Finish**.

Next Steps

Direct each computer with Progeny Imaging to recognize the networked module. *For more information, see* Configuring Progeny Imaging to Use a Networked Image Acquisition Module *on page 51.*

Configuring Progeny Imaging to Use a Networked Image Acquisition Module

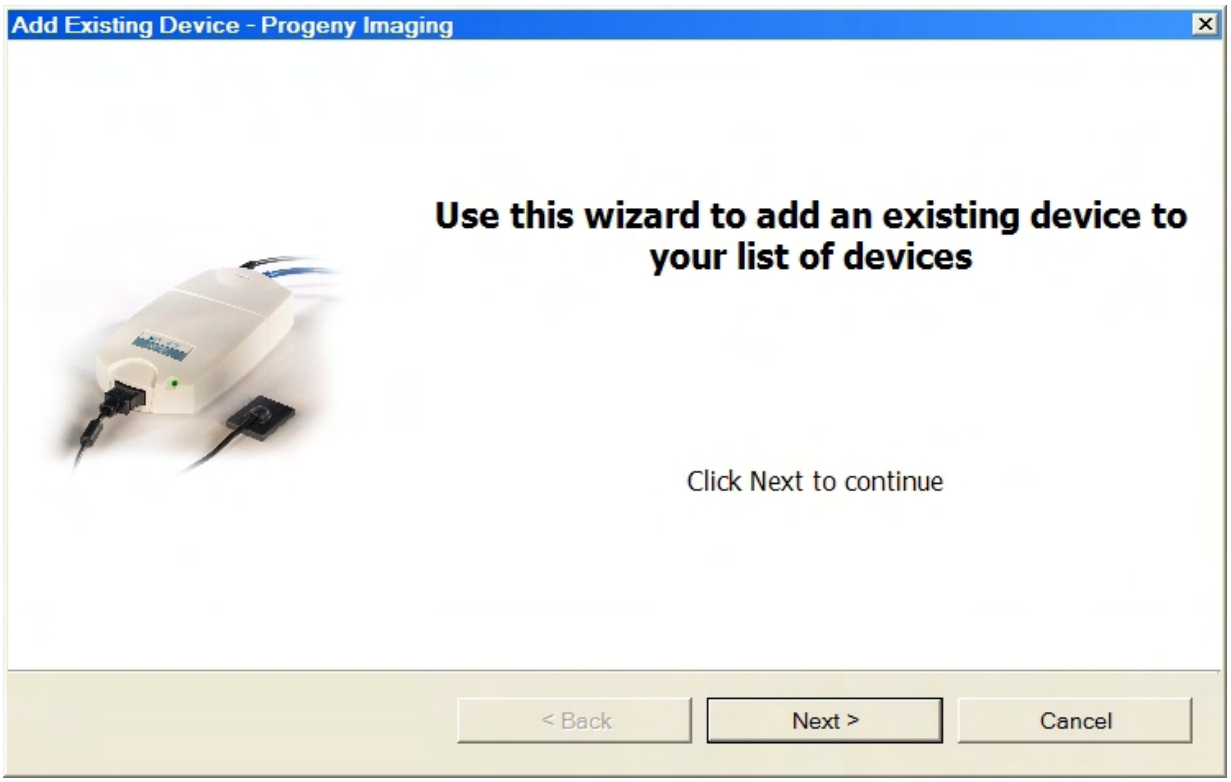
After you install a VisionDX or MPSe acquisition module for use on the dental office network, you must configure Progeny Imaging to recognize it. You do this on each computer that is running Progeny Imaging.

Before Configuring Progeny Imaging to Use a Networked Acquisition Module

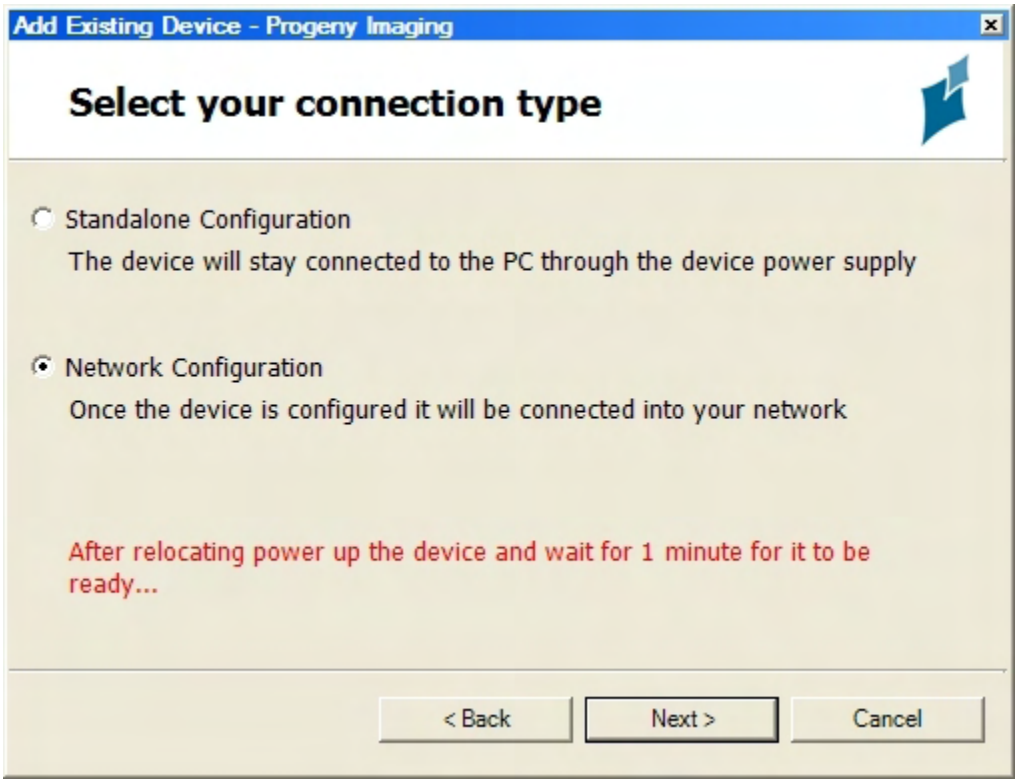
- Install an MPSe or VisionDX acquisition module and configure it for use on the network.
  - *For more information, see* Configuring VisionDX and MPSe Modules for Use on a Network *on page 43.*
- Obtain the following information about the networked VisionDX or MPSe acquisition module:
  - Name
  - Description
  - IP address
  - Subnet mask
  - Gateway
- Log into Progeny Imaging

To Configure Progeny Imaging to Use a VisionDX or MPSe Acquisition Module on the Network

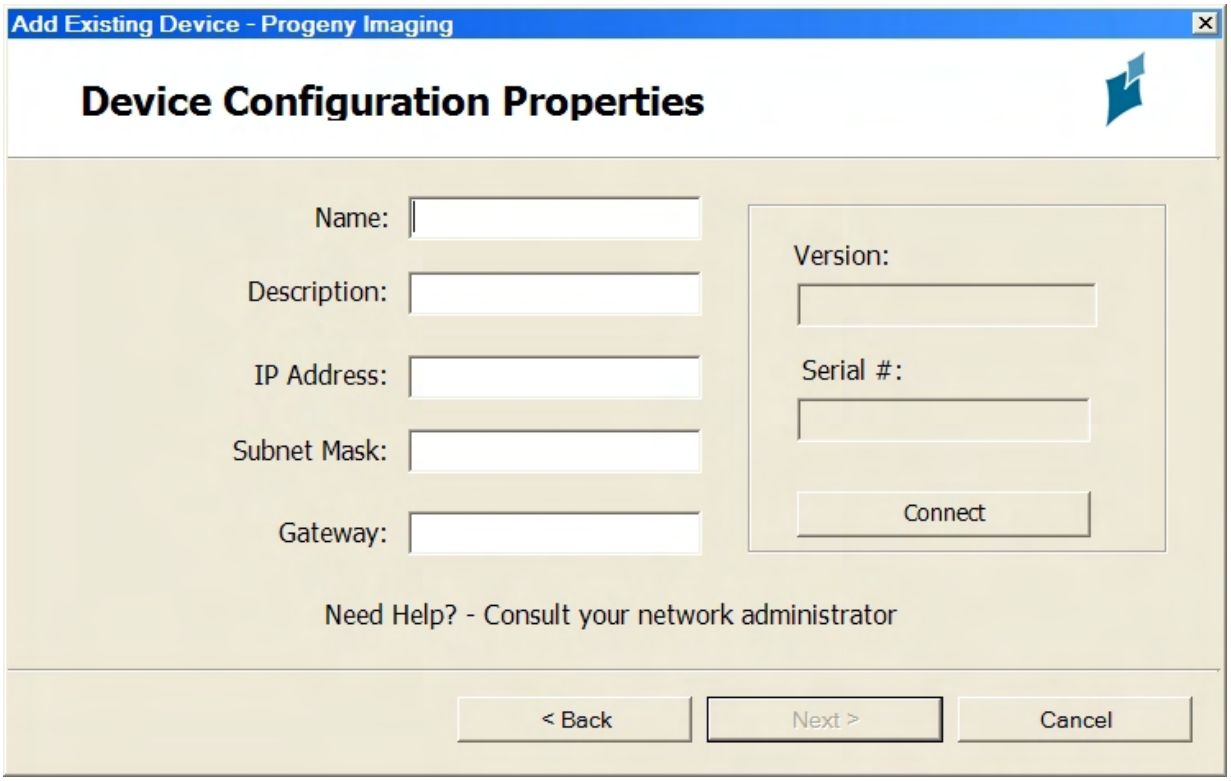
1. Select **Tools > Devices > Add Existing Device**.



2. In the Device Installation Wizard, click **Next**.



2. In the Select Your Connection Type screen, select **Network Connection**. Click **Next**.



3. In the Device Configuration Properties, enter the properties of the Vision DX or MPSe acquisition module that has been configured for use on the dental office network.
4. Click **Connect** to connect to the image acquisition module. If Progeny Imaging can connect with the module, the Version and Serial # fields will show information about the module.
5. Click **Next**. The device configuration will be saved.
6. Click **Next**.
7. Click **Finish**.

Installing VisionDX USB Modules

Progeny VisionDX USB is an intraoral system for digital imaging of teeth and the oral cavity. The VisionDX USB image acquisition module must be used from the computer where you install it. Installing the VisionDX Module means connecting it to the computer and using Progeny Imaging and the Sensor Calibration Files CD-ROM to add and calibrate the sensor. This topic describes how to connect and calibrate the VisionDX USB module.

Before Installing VisionDX USB Modules

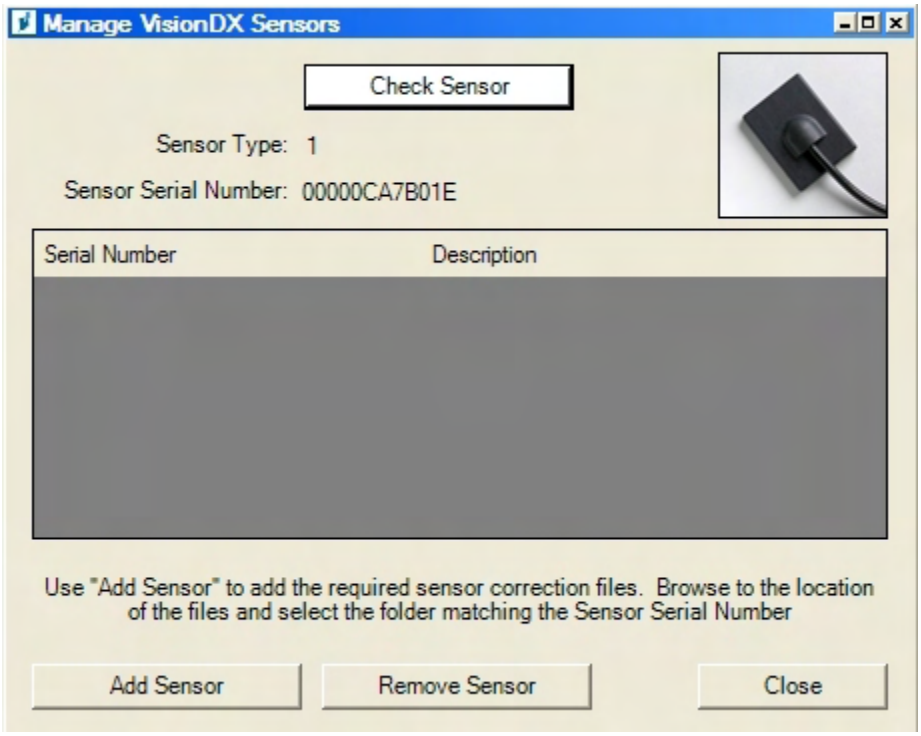
- Install Progeny Imaging on your computer.
- Examine the contents of your VisionDX USB kit. You should have the following items:
  - Sensor(s)
  - VisionDX USB Interface Module
  - USB Cable
  - Sensor Calibration Files CD-ROM
  - Sensor Sheaths
  - Progeny VisionDX USB User Manual
- You must have a free USB 2.0 connection on your computer.

To Connect the VisionDX USB Module

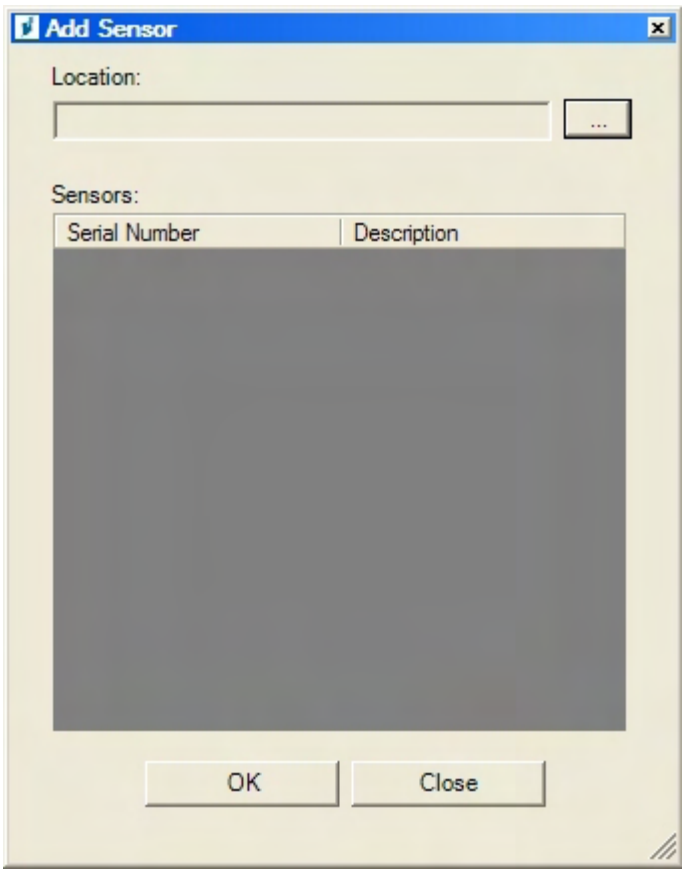
1. Plug the square end of the USB cable into the VisionDX USB Interface Module.
2. Plug the sensor into the VisionDX USB Interface Module.
3. Plug the flat end of the USB cable into the computer's USB connection. Pop-up windows will display on your computer indicating that the computer recognizes the new device. The green light on the Device toolbar will indicate that Progeny Imaging recognizes the device, but you must add and calibrate the device before you can acquire images.

To Add and Calibrate the VisionDX USB Module

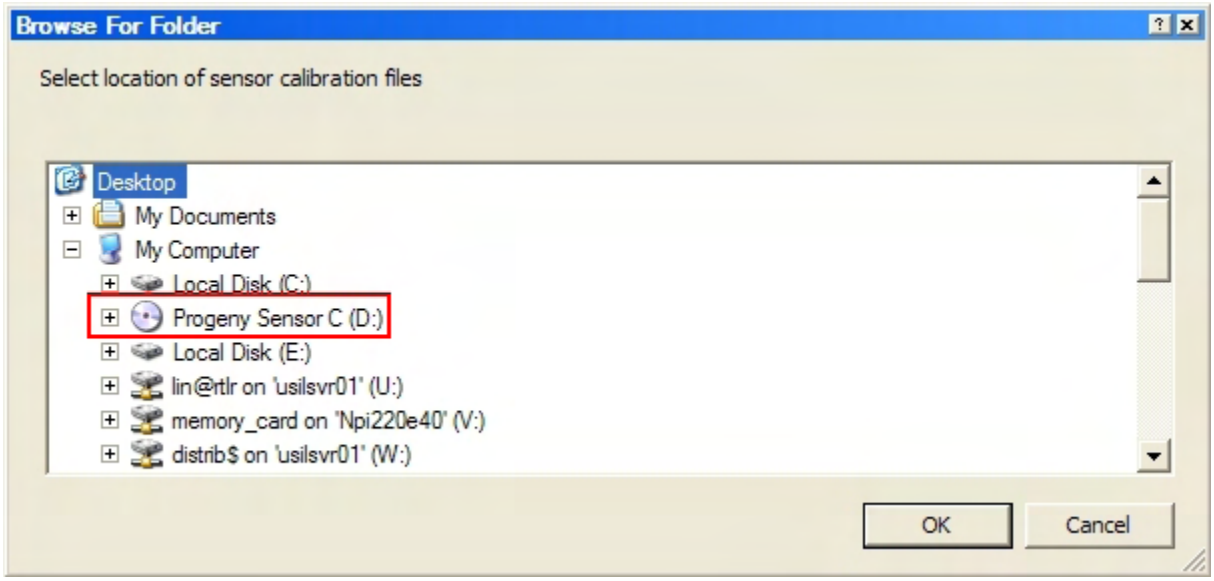
1. Log into Progeny Imaging. Progeny Imaging will display the Manage VisionDX Sensors screen. The screen shows the serial number for the sensor at the top, but the serial number does not appear in the Serial Number list.
- *For more information, see* Logging in as a User *on page 69.*



2. In the Manage VisionDX Sensors screen, click **Add Sensor**. Progeny Imaging will display the Add Sensor screen.

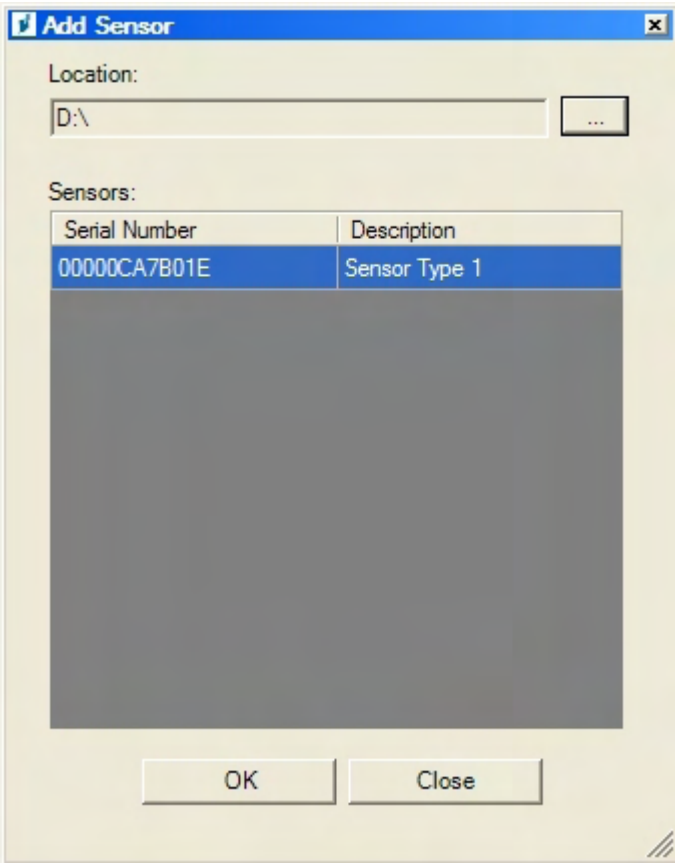


3. Place the Sensor Calibration Files CD-ROM in the computer's CD-ROM drive.
4. In the Add Sensor screen, click the '**...**' button to open the Browse for Folder screen.

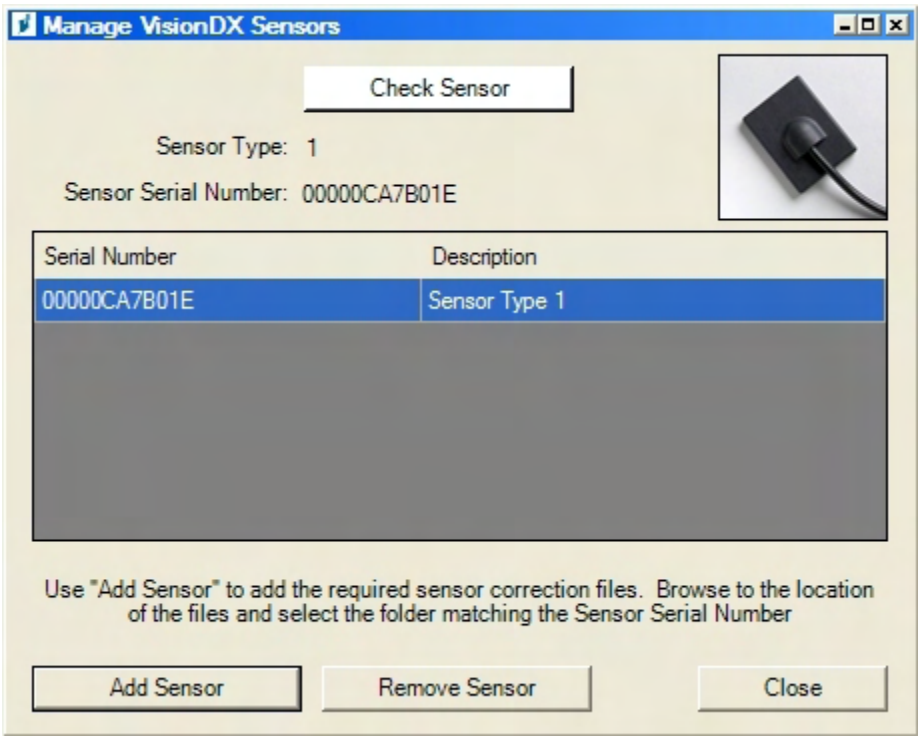


5. In the Browse for Folder screen, browse and select the Progeny Sensor C.

6. Click **OK**. The Add Sensor screen will now contain the sensor serial number highlighted in blue.



7. In the Add Sensor screen, click **OK**.
8. In the confirmation pop-up, click **Yes**. The Manage VisionDX Sensors screen will now contain the sensor serial number highlighted in blue.



9. Click **Close**. You can now acquire images with the VisionDX USB module.
10. Select **Tools > Devices > Device Configuration** to configure a name for your VisionDX USB module.

- *For more information, see* VisionDX Configuration Screen *on page 139.*

Installing the Vivid USB Camera

Follow the installation instructions in the Progeny Vivid USB Camera Installation and User's Guide. The Vivid USB Camera will automatically be recognized by Progeny Imaging. No additional installation or configuration is required.

For more information, see Video Screen *on page 136.*

Section 6: Setup and Maintain Progeny Imaging

This section contains instructions for getting ready to use Progeny Imaging and safeguarding patient records.

Managing Users

Everyone who uses Progeny Imaging must log in. When Progeny Imaging is installed, only one user, the Administrator, can log in. In order to implement security for patient records, you must create additional users.

For more information, see Logging in as Administrator *on page 30.*

Progeny Imaging has three types of users, each with specific privileges.

- Administrator -- Administrator is a special user that Progeny Imaging requires for Technical Support. The Administrator user can create and manage other users and is a primary dentist with access to all patient records.
- Application Administrator -- Application Administrator users create and manage other users and are primary dentists with access to all patient records. You make a user an application administrator by checking the Administrator box in the User Manager screen.
- Ordinary Users -- Ordinary users are primary dentists who create and manage only their own patients' records. In the User Manager screen, leave the Administrator box unchecked to create an ordinary user.

Before Creating Users

To create a user, you must be logged in to Progeny Imaging as the Administrator or as an application administrator user.

To Create a User

1. Select **File > User Manager,** or **CTRL + U**.

2. In the User Manager screen, click **New**. A blank row is added to the User Manager screen.
3. In the new row, configure the following information for the user:
   - Type a **User ID**.
   - (Optional) Select the **Administrator** box to make the user an application administrator.
   - (Optional) Click the **Password** box to assign a password for the user. In the User Password screen, enter and re-enter the password. When creating a password, remember the following password rules:
     - Passwords must be at least 5 characters long
     - Passwords are case sensitive
   - (Optional) In the remaining fields, enter other information about the user.
4. Click **Close** to save the user information and close the User Manager screen.

Modifying User Information

To modify user information, you must be logged in to Progeny Imaging as an application administrator user.

To Modify User Information

1. Select **File > User Manager**, or **CTRL + U**.
2. In the User Manager screen, select the user whose information you want to change.
3. Change the user's information.
4. Click **Close** to save the user information and close the User Manager screen.

Deleting Users

Before Deleting Users

- If the user to be deleted has patients assigned to him or her, assign the patients to another user.
- To delete users, you must be logged in to Progeny Imaging as an application administrator user.

To Delete a User

1. Select **File > User Manager ,** or **CTRL + U**.
2. In the User Manager screen, select the user to delete.
3. Click **Delete**.
4. Click **OK** to delete the user.

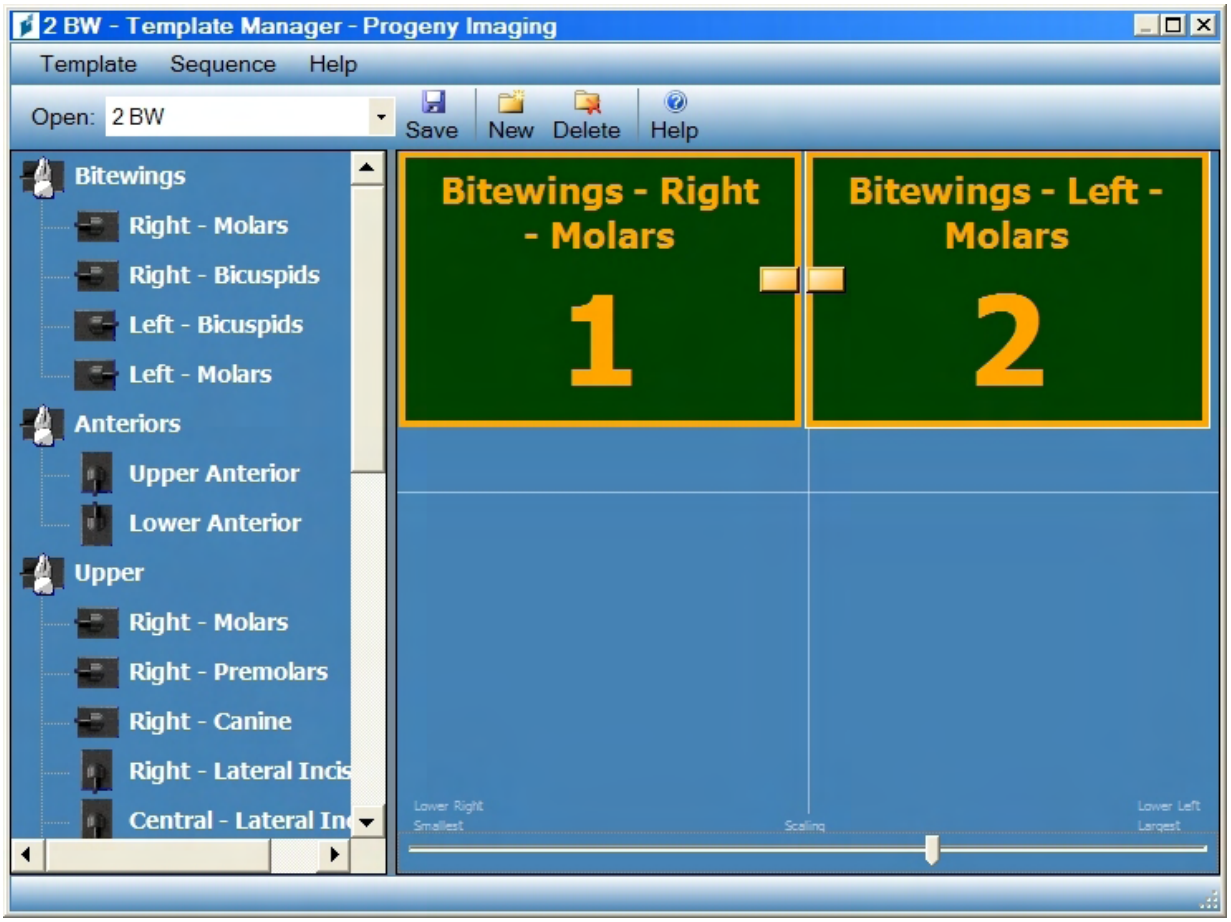
To Assign Patients to Another User

1. Log in as the user whose patients you are reassigning.
2. Click **Open.**
3. Write down the names of the user's patients that appear in the Select Patient screen.
4. Select **File > Log Out**.
5. Log into Progeny Imaging as an application administrator user.
6. Select **Patient > Open**, or click the **Open** icon.
7. In the Select Patient screen, select a patient who is assigned to the user whom you are deleting.
8. Click **Properties.**
9. In the Patient Properties screen, change the patient's primary dentist to a dentist other than the user whom you are deleting.
10. Click **Apply** to save your changes and continue working in the Patient Properties screen.
11. When you have reassigned all the patients, click **OK**.

Creating and Modifying Image Acquisition Templates

Templates are pre-defined groupings of image acquisition sequences that you can use to streamline image acquisition. You use the Template Manager to create, modify, and delete templates. On the left side of the Template Manager are sequences of teeth to include in the template. On the right side of the Template Manager is the design surface where you assemble sequences for the template. The design surface is oriented from the patient's point of view.

For more information, see Streamlining Image Acquisition with Templates *on page 74.*



To Create a Template

1. Select **Tools > Templates**, or click the **Template** icon in the Template toolbar.
2. In the Template Manager, select **Template > New**, or click **New**.
3. In the New Template screen, enter a name for the template and click **OK**. The template name appears as the open template.
4. Drag sequences of teeth to the design surface, positioning the sequences in the order in which they will be acquired.

- To remove a sequence from the design surface, select the sequence, then select **Sequence > Remove**. To remove all sequences, select **Template > Remove All Sequences**.

5. Select **Template > Save**, or click **Save**.
6. To close the Template Manager, select **Template > Exit**.

To Modify a Template

1. Select **Tools > Templates**, or click the **Template** icon.
2. In the Template Manager, use the drop-down list to select the template to modify.
3. In the design surface, select a sequence. Then click the right mouse button to display a menu of actions that you can perform on the sequence.
4. Select an action to perform on the sequence. You can perform the following actions on sequences in a template:
   - Make First in Sequence: Reorders the sequences in the template so that the selected sequence will be acquired first
   - Make Last in Sequence: Reorders the sequences in the template so that the selected sequence will be acquired last
   - Move Up in Sequence: Reorders the sequences in the template so that the selected sequence will be acquired before the immediately preceding sequence
   - Move Down in Sequence: Reorders the sequences in the template so that the selected sequence will be acquired after the immediately following sequence
   - Background Color: Displays a color palette from which you select the color of the background for the template
   - Remove: Removes the selected sequence from the template
5. Select **Template > Save**, or click **Save**.
6. To close the Template Manager, select **Template > Exit**.

Backing up and Exporting a Patient Database

Progeny Imaging stores patient data in a Microsoft SQL Server database on the computer where Progeny Imaging is installed or on another computer on the same network.

Backing up the patient database regularly is important to ensure that patient data is not lost in case of computer failure. By default, the database backup file is written to `C:\Progeny Imaging\Database\database.bak`. For security, specify a backup location on removable media or on another computer on your network.

Note: *Progeny Imaging does not currently support Backup and Restore for Windows Vista operating systems. Vista support for Backup and Restore is planned for a future release.*

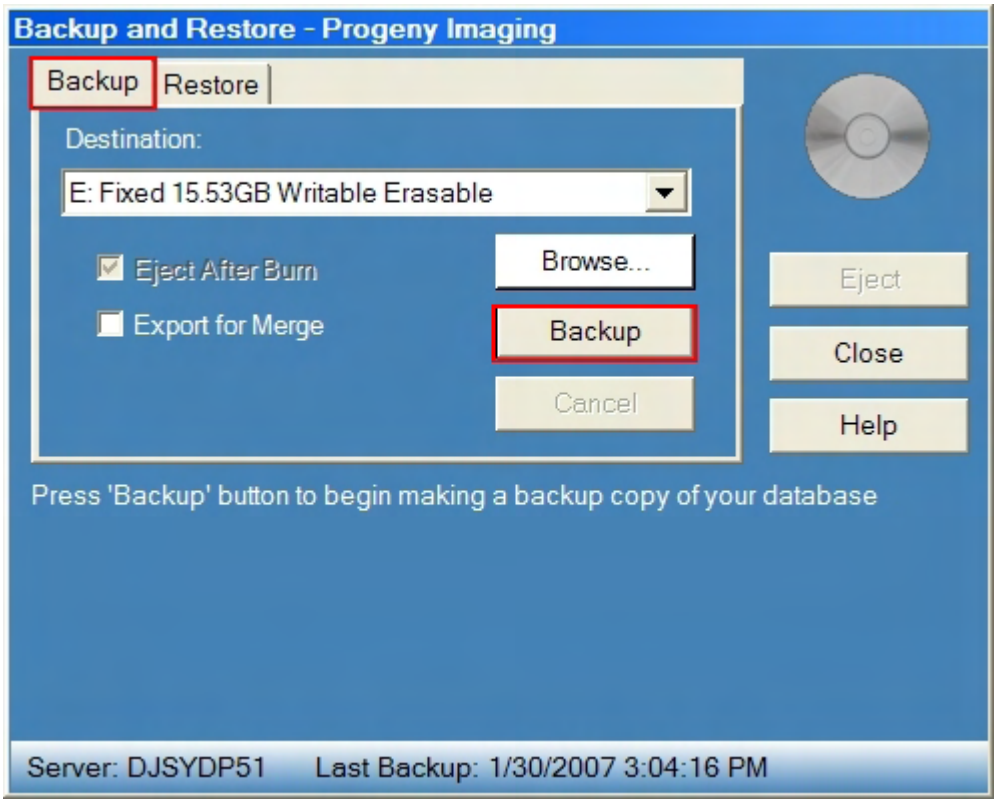
You can also export a patient database for later merge with another Progeny Imaging patient database. This is useful if you see some patients in one office and wish to merge their records with a Progeny Imaging patient database in another office. To merge records, you first use the Backup and Restore screen to export the records, selecting Export for Merge. Then you use the Restore tab to merge the records.

For more information, see Backup and Restore Screen *on page 85.*

For more information, see Restoring and Importing a Patient Database *on page 65.*

To Backup the Patient Database

1. Select **File > Backup and Restore**.



2. In the Backup tab of the Backup and Restore screen, use the **Destination** field to select a location for the backup file. Use the Browse button to find additional destinations.

   CAUTION!
   For security reasons, specify a backup destination on removable media or on another computer. If you create the backup on your computer, be sure to transfer it to removable media or another computer.

3. Click **Backup**.

4. When you see a message telling you that the backup completed successfully, click **Close**.

To Export the Patient Database for Merge

1. Select **File > Backup and Restore**.
2. In the Backup tab of the Backup and Restore screen, select a destination for the backup file. Use the Browse button to find additional destinations.
3. Select **Export for Merge**.
4. Click **Backup**.
5. When you see a message telling you that the backup completed successfully, click **Close**.

Restoring and Importing a Patient Database

You can restore a patient database from a backup file that was created by Progeny Imaging. The backup file must exist on the computer with Progeny Imaging or on another computer on the same network. By default, the database backup file is written to `C:\Progeny Imaging\Database\database.bak`.

Note: *Progeny Imaging does not currently support Backup and Restore for Windows Vista operating systems. Vista support for Backup and Restore is planned for a future release.*

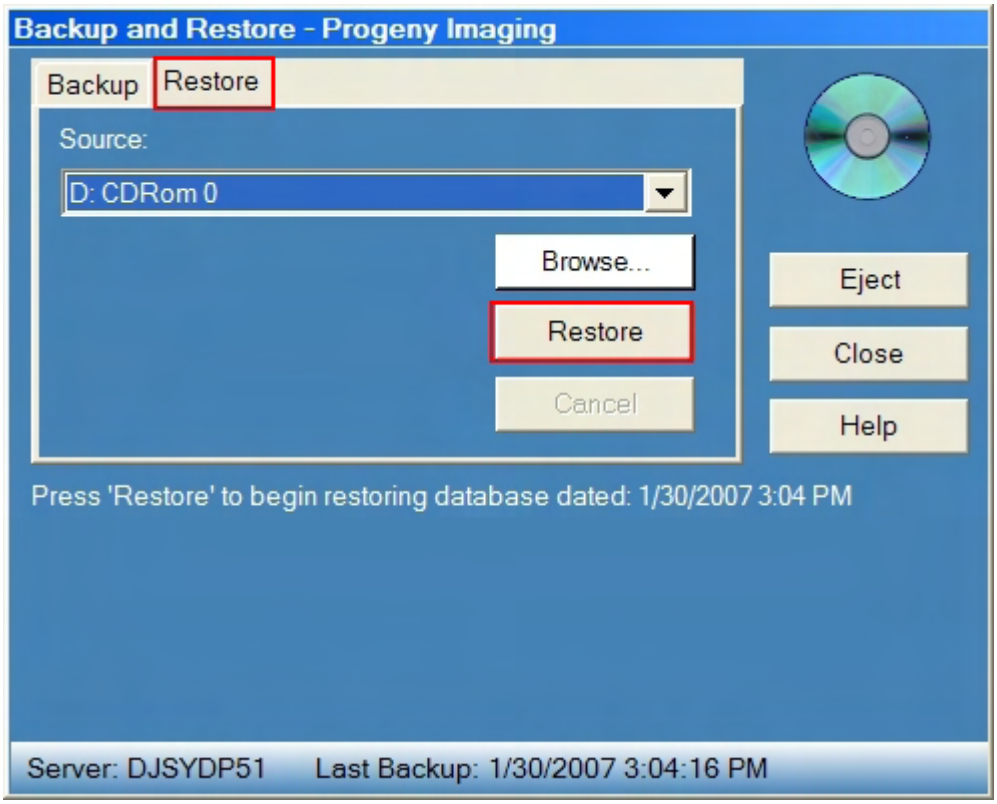
You can also merge records from one Progeny Imaging patient database into another Progeny Imaging patient database. This is useful if you see some patients in one office and wish to merge their records with a Progeny Imaging patient database in another office. To merge records, you first export the records, selecting Export for Merge in the Backup and Restore screen Backup tab. Then you use the Restore tab to merge the records.

For more information, see Backup and Restore Screen *on page 85.*

For more information, see Backing up and Exporting a Patient Database *on page 63.*

To Restore a Patient Database

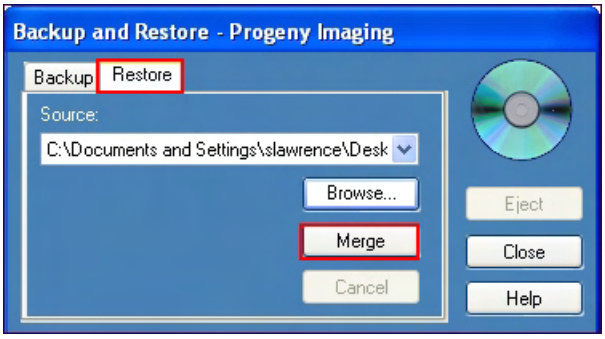
1. Select **File > Backup and Restore**.
2. In the Backup and Restore screen, select the **Restore** tab.



3. In the **Source** field, select the location of the backup file. Use the Browse button to find additional locations.
4. Click **Restore**.
5. When you see a message telling you that the restore operation completed successfully, click **Close**.

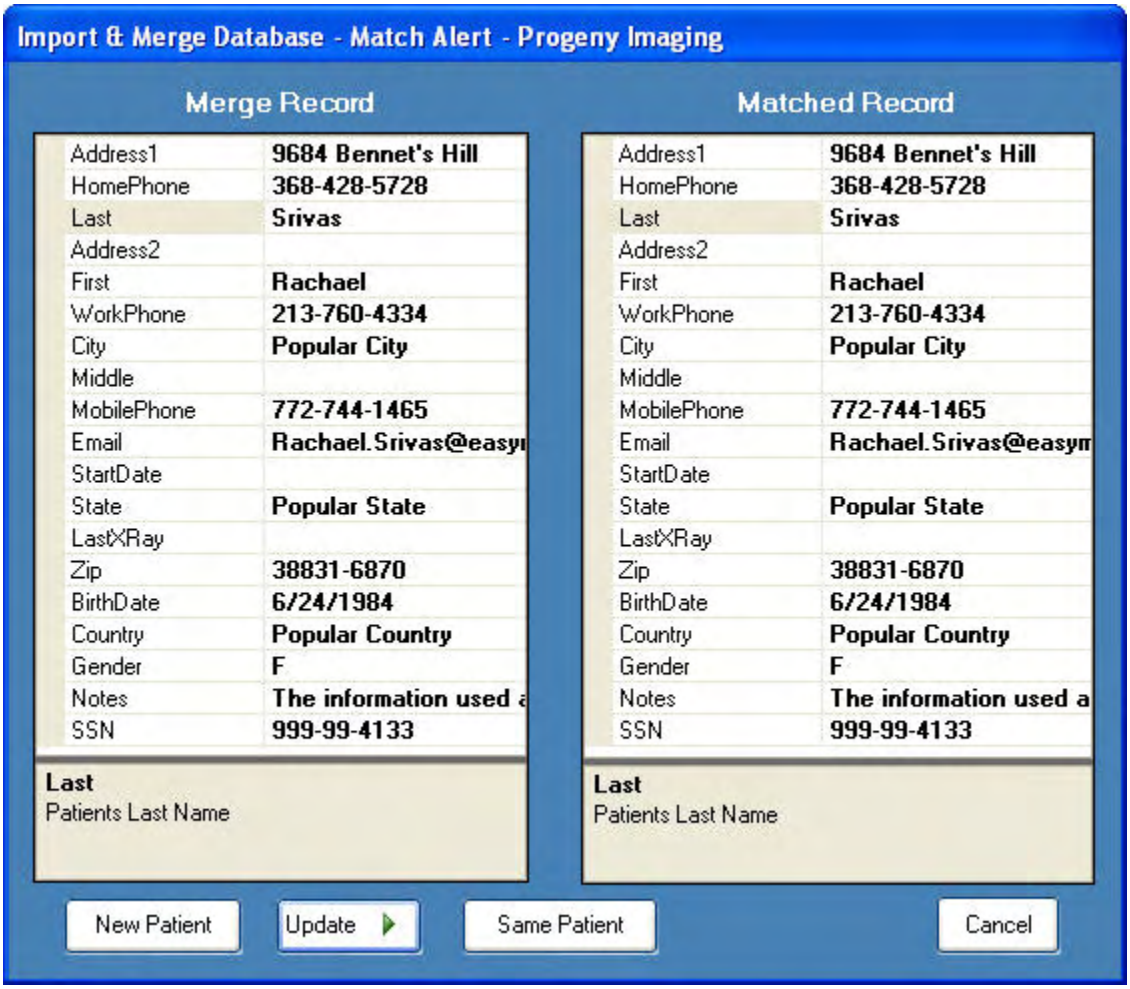
To Merge Records into a Patient Database

1. Select **File > Backup and Restore**.
2. In the Backup and Restore screen, select the **Restore** tab.



3. In the **Source** field, select the location of the file that was created by exporting the database for merge. Use the Browse button to find additional locations.
4. Click **Merge**.

5. If the merge process encounters patient records with the same last name, Progeny Imaging displays the records side-by-side. Compare the records.



6. Do one of the following:
   - If the records are the same, click **Same Patient**.
   - If you want to create a new patient by modifying the information, for example, for two members of the same family, click **New Patient**.
   - If you want to update information in the patient's record, click **Update**.
   - Click **Cancel** to skip updates to this patient record.
7. When you see a message telling you that the merge operation completed successfully, click **Close**.

Removing the Login Screen

Every time you launch Progeny Imaging, the Login window appears. If you want to use Progeny Imaging without requiring users to log in, you must create a new desktop shortcut.

Note: *When the Login screen is not used, the only Progeny Imaging user is Administrator and you cannot create other users. The Administrator user is a primary dentist with access to all patient records. For more information, see Managing Users on page* 59*.*

To Remove the Login Screen

1. Select the Progeny Imaging executable file. By default, the file is located in: `C:\Program Files\Progeny\Progeny Imaging\ProgenyImaging.exe`
2. Copy `ProgenyImaging.exe`.
3. On your computer's desktop, right click and select **Paste Shortcut** from the option menu.
4. With the shortcut selected, right click and select **Properties**.
5. In the Properties dialog box, select the **Shortcut** tab.
6. In the Target text field, place your cursor to the right of the last character.
7. Type a space, and then type `login=false`.
8. Click **Apply**.
9. Click **OK**.

Section 7: Use Progeny Imaging

This section contains procedures for using Progeny Imaging to manage patient records, acquire images, and create studies.

Logging in as a User

Every time Progeny Imaging is launched, the Login window appears. You must log in to use Progeny Imaging.

You can configure Progeny Imaging to open without requiring users to log in. *For more information, see* Removing the Login Screen *on page 68.*

Before Logging In

- Ensure that you are logged onto your computer using an account that has Windows computer administrator privileges.

  Note: *Progeny Imaging currently requires that all users be logged into Windows as a computer administrator. This will be changed in a future release.*

- Obtain a user ID from your system administrator. You may also be given a password.

To Log In

1. On your computer's desktop, double-click the Progeny Imaging icon, or select Progeny Imaging from your Windows Start menu.
2. In the Login screen, enter your user ID and password, if you have one. Remember that passwords are case sensitive.

3. Click Login.

Creating a Patient Record

Progeny Imaging associates X-Ray images and other patient files with a patient record. You need a record for each patient for whom you want to acquire images.

Before Creating a Patient Record

- You must be logged into Progeny Imaging to create a patient record.
- When you create a patient record, you must assign the patient a primary dentist. The person who will be the primary dentist must already be set up as a user of Progeny Imaging.
  - *For more information, see* Managing Users *on page 59.*
- If you want to include the patient's picture in their record, place a JPEG image file of the patient in a directory on your computer or on a computer that you can reach from Progeny Imaging.

To Create a Patient Record

1. Select **Patient > New** or click the **New** icon or **ALT + N**.
2. In the Patient Properties screen, enter patient information. Fields marked with an asterisk '*' are required.
3. (Optional) Click **Browse** to locate and include a picture of the patient. Pictures must be JPEG image files.
4. Click **Apply** to save your changes and continue working in the Patient Properties screen. Click **OK** to save your changes and close the screen.

For more information, see Patient Properties Screen *on page 119.*

Opening a Patient Record

Progeny Imaging requires that you open a patient record in order to acquire images and create studies.

Before Opening a Patient Record

The patient record must be created before you can open it.

To Open a Patient Record

1. Select **Patient > Open**, or **ALT + O**, or click the **Open** icon.
2. In the Select Patient screen, select a patient. To search for a patient by last name, enter all or part of the patient's last name in the Last Name Filter field.
3. Click **Open**, or double-click next to the left of the patient's information, to open the patient's record. When the record is open, you will see the patient's name at the

top of the Progeny Imaging window and the patient's information will appear in the Image Container.

Note: *If the Image Container is not displayed, select Patient > Show Patient Panel, or ALT + 2.*

For more information, see Select Patient Screen *on page 123.*

Adding Files to a Patient Record

While most images in your patient's records will be X-rays, you can also add files created in other applications to patients' records. For example, if you find a Web page or a PDF that contains information related to a patient, you can store this information in the patient's record. Storing these files in a patient's record creates a copy of the file. When you open these files from the Image Container, the application associated with the file opens so that you can edit the copy of the file that Progeny Imaging stored in the patient's record.

Before Adding Files to a Patient's Record

- Files to be added to a patient's record must be located in a directory on your computer or on a computer that you can reach from Progeny Imaging.
- Files to be added must be Word (.doc) files, Acrobat (.pdf) files, Web (.htm or .html) files, Excel files (.xls), or text (.txt) files.
- The patient's record must be open.
- The application associated with the file must be located on your computer if you want to open and edit these files from the Image Container.

To Add Files to a Patient Record

1. Select **Image > Import**.
2. In the file selection box, navigate to the folder where the file is located.
3. Select the file.
4. Click **Open**. The file is added to the patient's record and an icon representing the file type and the name of the file appear in the Folder tab of the Image Container.

Modifying a Patient Record

Before Modifying a Patient Record

The patient record must be created before you can modify it.

To Modify a Patient Record

1. Select **Patient > Open**, or **ALT + O**.
2. In the Select Patient screen, highlight the patient record and click **Properties**. You can also open the patient's record, then select **Patient > Properties**, or **CTRL + ALT + P**, or click the **Properties** icon. You can also modify the patient record using the Patient tab in the Image Container.
3. In the Patient Properties screen, modify the patient's information.
4. Click **Apply** to save your changes and continue working in the Patient Properties screen. Click **OK** to save your changes and close the screen.

For more information, see Patient Properties Screen *on page 119.*

Acquiring X-ray Image Sequences

Progeny Imaging allows you to acquire images of sequences of teeth. The sequence defines the teeth that will be imaged and the order in which the images will be acquired. In the Tooth Panel, you can use the preset sequences or create your own sequences by selecting individual teeth. To streamline image acquisition, you can use the Template Manager to save frequently used sequences as templates.

For more information, see Streamlining Image Acquisition with Templates *on page 74.*

Before Acquiring X-ray Image Sequences

- Open a patient record.
- Verify that the image acquisition module you want to use is installed and available.
- Dipslay the Tooth Panel. If the Tooth Panel is not displayed, click the Tooth icon, select File > Toggle Tooth Panel, or ALT + 1. The Patient Panel must be displayed in order to display the Tooth Panel.

For more information, see Tooth Panel *on page 16.*

To Image a Sequence of Teeth

1. Select an X-ray image acquisition module from the Device Controls drop-down list. The Connection Indicator will become green showing that the module is ready.
2. In the Tooth Panel, select one or more teeth to image, or click **BWR1**, **R1**, **BWL2**, or **L1** to select the sequence to image. The teeth that are included in the selected sequence will become white.
3. Click **Add Sequence**. The selected teeth change to orange to indicate that they are now part of a sequence.

   To select more than one sequence, repeat steps 2 and 3.

   To remove the sequence, click **Remove Sequence**. Then click **Select None**.

4. Click **Acquire**. The teeth in the first sequence will flash to indicate that Progeny Imaging is ready to accept an image from the X-ray sensor. At any time during acquisition, click Cancel to stop the acquisition.

CAUTION!
Before clicking Cancel to stop the acquisition, ensure that the patient will not be unnecessarily exposed to X-ray radiation.

5. Visually verify that the VisionDX is ready to accept an X-ray exposure. The light on the front of the VisionDX control module should be yellow.
6. Insert the X-ray sensor into a protective sheath and position the X-ray sensor in the patient's mouth.
7. Select the appropriate exposure and prepare the X-ray source to produce the selected X-ray exposure.
8. Align the X-ray source with the X-ray sensor as appropriate for the desired radiographic technique.
9. Check again that Progeny Imaging, the X-ray sensor and the X-ray source are ready for an X-ray exposure.

CAUTION!
The X-ray sensor is active and waiting for X-Ray exposure for a limited time. At the end of the time period, the sensor times out, requiring you to start the procedure again. You should always verify that Progeny Imaging and the X-ray sensor are ready before exposing the patient to X-ray radiation. If you need more time, change the sensor timeout by in the VisionDX Configuration screen.

10. Activate the X-ray source to expose the sensor.

    During acquisition, the teeth in the first sequence change shade to yellow and flash to indicate that the image transfer is in progress. When the acquisition is complete, the teeth change shade to green, the image is automatically saved, and appears in the study surface and in the Folder tab of the Image Container.

11. If you selected more than one sequence for acquisition, Progeny Imaging will automatically begin to acquire the next sequence. Repeat steps 5 to 10.
12. To pause acquisition between two sequences, click **Pause** during the first acquisition before the second acquisition begins. To continue acquiring the next sequence, click **Resume**.
13. Record the X-ray exposure parameters or other information related to the acquired image as an image note. To create a note, click the yellow note icon in the bottom right corner of the image. Click **Save** to save the added text with the image. If the note icon is not visible, select **Study Surface > Expanded View**.

Streamlining Image Acquisition with Templates

Templates are pre-defined groupings of image acquisition sequences that you can use to streamline image acquisition. For example, the 2 BW template that is delivered with Progeny Imaging sets up two bitewing sequences. When you select this template, the template is displayed in the design surface and the sequences are added in the Tooth Panel. When you acquire images using this template, Progeny Imaging creates a two-image study, with the images displayed on the design surface in the order in which the sequences appeared in the template.

Progeny Imaging is delivered with several templates. In addition, you can create and modify templates. Templates can also be imported and exported for use in Progeny Imaging on other computers.

Before Acquiring Images Using a Template

- Open a patient record.
- Verify that the image acquisition module you want to use is installed and available.
- Verify that the template you want to use is available.
    - *For more information, see* Creating and Modifying Image Acquisition Templates *on page 62.*

To Acquire Images Using a Template

1. Select an X-ray sensor image acquisition module from the Device Controls drop-down list. The Connection Indicator will become green showing that the module is ready.
2. In the Template toolbar, select the template from the template drop-down list. The sequences in the template appear in the study surface. In the Tooth Panel, the teeth in the template sequences change to orange.
3. Click **Acquire**. The teeth in the first sequence will flash to indicate that Progeny Imaging is ready to accept an image from the X-ray sensor. At any time during acquisition, click Cancel to stop the acquisition.

CAUTION!
Before clicking Cancel to stop the acquisition, ensure that the patient will not be unnecessarily exposed to X-ray radiation.

4. Visually verify that the VisionDX is ready to accept an X-ray exposure. The light on the front of the VisionDX control module should be yellow.
5. Insert the X-ray sensor into a protective sheath and position the X-ray sensor in the patient’s mouth.
6. Select the appropriate exposure and prepare the X-ray source to produce the selected X-ray exposure.
7. Align the X-ray source with the X-ray sensor as appropriate for the desired radiographic technique.

8. Check again that Progeny Imaging, the X-ray sensor and the X-ray source are ready for an X-ray exposure.

CAUTION!
The X-ray sensor is active and waiting for X-Ray exposure for a limited time. At the end of the time period, the sensor times out, requiring you to start the procedure again. You should always verify that Progeny Imaging and the X-ray sensor are ready before exposing the patient to X-ray radiation. If you need more time, change the sensor timeout by in the VisionDX Configuration screen.

9. Activate the X-ray source to expose the sensor.

   During acquisition, the teeth in the first sequence change shade to yellow and flash to indicate that the image transfer is in progress. When the acquisition is complete, the teeth change shade to green, the image is automatically saved, and appears in the study surface, replacing the template sequence, and in the Folder tab of the Image Container.

10. If the template contains more than one sequence, Progeny Imaging will automatically begin to acquire the next sequence. Repeat steps 4 to 9.
11. To pause acquisition between two sequences, click Pause during the first acquisition before the second acquisition begins. To continue acquiring the next sequence, click Resume.

    When all images for the template have been acquired, the images appear in the Image Container Folder tab, and a study, which includes all the images specified by the template, appears in the Image Container Studies tab.

12. Progeny Imaging will ask you if you wish to close the template. Closing the template removes the sequences from the Tooth Panel. Click Yes to close the template or No to leave the sequences selected.
13. Record the X-ray exposure parameters or other information related to the acquired image as an image note. To create a note, click the yellow note icon in the bottom right corner of the image. Click **Save** to save the added text with the image. If the note icon is not visible, select **Study Surface > Expanded View**.
14. If you are satisfied with the images, click Save in the Image Container Studies tab to save the study. You can enter a name for the study in the text field next to the Save button.

Acquiring Images Using a TWAIN-compliant Device

TWAIN is a cross-platform interface for acquiring images. The TWAIN-compliant device must be on the dental office network. TWAIN-compliant devices include digital intraoral X-Ray sensor systems,TWAIN-compliant intraoral video cameras, and certain scanners. The TWAIN-compliant device driver must be present on your computer before you can acquire images in Progeny Imaging using the TWAIN-compliant device. For information on the TWAIN-compliant device, refer to the device manufacturer's installation information.

Images that you acquire using a TWAIN-compliant device are displayed in Progeny Imaging as DICOM images. You can then annotate the images and save them to the patient's record.

Before Acquiring Images Using a TWAIN-compliant Device

- Open a patient record.
- Verify that the TWAIN-compliant device is available on the dental office network.

To Acquire Images Using a TWAIN-compliant Device

1. In the Device Controls drop-down list, select **TWAIN Device**.
2. In the Tooth Panel, select one or more teeth to image, or click **BWR1**, **R1**, **BWL2**, or **L1** to select the sequence to image. The teeth that are included in the selected sequence will become white.
3. Click **Add Sequence**. The selected teeth change to orange to indicate that they are now part of a sequence.

   To select more than one sequence, repeat steps 2 and 3.

   To remove the sequence, click **Remove Sequence**. Then click **Select None**.

4. Click **Acquire**. The Select Source screen will appear.
5. In the Select Source screen, highlight the TWAIN-compliant device that you want to use as the image source.
6. Click **Select**. The image acquisition window of the source device that you selected will open. You will now be using the source device and the features that it provides to acquire the image.

For more information, see Select Source Screen *on page 125.*

Displaying Images

You can display previously acquired images in the study surface.

Before Displaying Images

- Open a patient record that contains images.
- Display the Patient Panel. If the Patient Panel is not displayed, select Patient > Show Panel.

To Load a Previously Saved Image

1. In the Image Container, select the **Folder** tab.
2. Select the image to display. Use the horizontal slider to adjust the view of the Image Container to help you find the image.
3. Drag the image to the study surface.

Annotating Images

Annotations are lines, measurements, and text that you add to images. When you annotate an image, Progeny Imaging stores the annotations in separate files so that the original image remains intact. You can apply several annotations simultaneously to the image or you can clone the image and annotate each copy separately.

CAUTION!
The accuracy of measurements made with Progeny Imaging virtual measurement tools is not guaranteed and depends upon accurate calibration of the tool object.

For more information, see Annotate and Measure Toolbar *on page 84.*

To Annotate an Image

1. Display an image or study in the study surface.
2. Select the image.
3. In the Filter toolbar, click the **Annotate** icon, or **ALT + A**, or select **Image > Annotate**.
4. In the Annotate and Measure toolbar, you can:
    - Select an existing annotation, use the Select tool.
    - Add a virtual measurement tool, such as a ruler, tape, or protractor, by selecting the Ruler, Distance, or Angle tool. Then click the image where you want to begin the measurement. Hold the left mouse button down and drag the tool to complete the measurement.

CAUTION!
The accuracy of measurements made with Progeny Imaging virtual measurement tools is not guaranteed and depends upon accurate calibration of the tool object.

- Add a marker by selecting the Marker tool. Then click the image where you want to place the marker.
- Add text to the image by selecting the Text tool. Then, holding down the left mouse button, draw a text box on the image. Enter text in the text box. Text will be formatted according to settings in the Options screen Annotation Defaults tab.
- Add an arrow, rectangle, or circle, by selecting the Arrow, Rectangle, or Circle tool. Then click the image where you want the line or shape to begin. Hold the left mouse button down and drag the line or shape to the desired size.

5. Click **Save** to save the image with the annotation.

To Modify Annotations in an Image

1. Display an image containing annotations in the study surface.
2. Place your cursor over the image and click the right mouse button. A pop-up menu appears with options for modifying annotations and filters.
3. Select the Annotations option to display a list of annotations in the image.
4. Select the annotation that you want to modify. The Annotation Properties box for that annotation appears.
5. Modify properties for the annotation.
6. Click **Save** to save the image with the changes that you made.

To Remove Annotations from an Image

1. Display an image containing annotations in the study surface.
2. Open the Annotate and Measure Toolbar by selecting **Image > Annotate**, or by clicking the **Annotate and Measure** icon on the Filter Toolbar.
3. In the Annotate and Measure Toolbar, click the **Select** icon.
4. In the image, click the annotation that you want to delete. A box will appear around the annotation.
5. Click the **Delete** key on your computer.
6. Click **Save** to save the image with the changes that you made.

Moving Images to Another Patient Record

You can use the Move File to Patient screen in the event that you acquire an image, but need to store it in another patient record.

Before Moving an Image

- The patient record that contains the image to be moved must be open.
- The patient record to which the image will be moved must exist.

Moving an Image

1. Open the Move File to Patient screen by selecting **Image > Move to Patient**, or **ALT + M**.
2. In the Move File to Patient screen, select the patient whose record will contain the image.
3. In the Image Container Folder tab, select the image to move.
4. Drag the image from the Image Container Folder tab to the Drag here icon in the Move File to Patient screen.
5. When Progeny Imaging asks you to confirm that you want to move the image to the selected patient's record, click **Yes**.

For more information, see Move File to Patient Screen *on page 107.*

Exporting Patient Images

Progeny Imaging allows you to export images in various formats.

Exporting DICOM Images from a Patient Record

You can use the Export Patient Images and Image Viewer screen to copy images from a patient record to a removable media device (flash drive). Images are exported as DICOM image files. When you export images, a copy of the ImageJ viewer, a DICOM-compliant image viewer, is also written to the removable media device. Using ImageJ, the recipient of images from Progeny Imaging can view the DICOM image information. When you export patient images, Progeny Imaging creates a Removable Progeny folder on the removable media device. The folder contains the ImageJ Viewer, viewer instructions, and a folder with the image files that you exported. The names of the image files are the names of the files assigned by Progeny Imaging.

Before Exporting DICOM Images

- The patient record that contains the images to be exported must be open.
- A removable media device must be present on the computer from which you are exporting the patient images.

To Export DICOM Images

1. Open the Export Patient Images and Image Viewer screen by selecting **Patient > Export Patient Images**.
2. Select the images that you want to export. To select several images, hold down the CTRL key while selecting the images. To select all images, click **Select All**.
3. In the **Select a Removable Media Device** drop-down list, select the device where the images will be copied.
4. Click **Export**.

For more information, see Export Patient Images and Image Viewer Screen *on page 91.*

Exporting JPEG Images from the Study Surface

You can export the images in a study as JPEG files to a location on your computer, on a removable media, or on the dental office network. The file names are the patient's name followed by the name of the image file that is assigned by Progeny Imaging.

Before Exporting Study Images

- The study must be open in the Study Surface.

To Export Study Images

1. From the Study Surface menu, select **Export All**. The Browse for Folder screen appears.
2. In the Browse for Folder screen, select the location to copy the files.
3. Click **OK**. The images will be copied to the location that you specified.

Exporting Various Image Formats from the Image Menu

You can export images from a patient record in various image formats, such as BMP or JPEG, to a location on your computer, on a removable media, or on the dental office network. You assign the file name and select the image format when you export the image.

Before Exporting Images from a Patient Record

- The Image must be open in the Study Surface.

To Export an Image from a Patient Record

1. From the Images menu, select **Export > Other Format**. The Save As screen will appear.
2. In the Save As screen, select the location to copy the image.
3. In the **Filename** field, enter the name to use when saving the image.
4. In the **Save as** type drop-down list, select the image format.
5. Click **OK**. The image will be saved in the location and with the name that you specified.

Deleting Images

Deleting images permanently removes the image and its associated files.

CAUTION!
Do not delete the image if regulations for your jurisdiction require you to save all X-ray exposures.

Before Deleting Images

- Display the image in the study surface.

To Delete Images

1. In the study surface, select the image.
2. Click **Delete** in the Folder tab of the Image Container.
3. If prompted, confirm that you want to delete the file.

Creating Studies

Studies are saved to the Study Manager located in the Image Container Studies tab. Images acquired using a template automatically appear in the Study Manager and can be saved as a study. In addition, you can save any image(s) that is displayed in the study surface as a study.

Progeny Imaging offers a large number of filters and annotation options to enhance the images in your study. When you annotate or filter an image, Progeny Imaging stores the annotations and filters in separate files so that the original image remains intact.

CAUTION!
The accuracy of measurements made with Progeny Imaging virtual measurement tools is not guaranteed and depends upon accurate calibration of the tool object.

For more information, see Image Container *on page 99.*

To Save a Study

1. In the study surface, display the image or images to be included in the study.
2. (Optional) Use filters or annotations to modify the image(s). When you annotate or filter an image, Progeny Imaging stores the annotations and filters in separate files so that the original image remains intact.
3. In the Image Container, select the **Studies** tab.
4. In the Studies tab, enter a name and description for the study in the text fields and click **Save**, or select **Study Surface > Save as Study,** or **ALT + S**.

To Load a Previously Saved Study

1. In the Image Container, select the **Studies** tab.
2. Select the study to open. Use the horizontal slider to adjust the view of the Image Container to help you find the study.
3. Click **Open**. The study images will appear in the study surface.

Using Filters on Images

Filters allow you to modify or add information to an image. When you use filters, Progeny Imaging stores the filter settings in separate files so that the original image remains intact. You can apply several filters simultaneously to the image or you can clone the image and apply filters individually to each copy of the image.

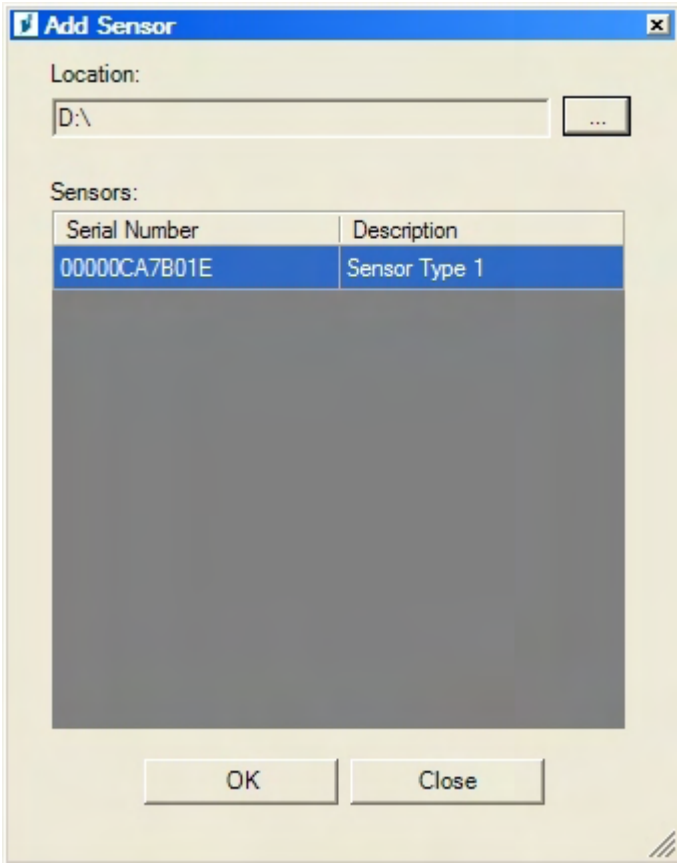
To Apply Filters to an Image

1. Display an image or study in the study surface.
2. Select the image.
3. In the Filter toolbar, click on one of the filter icons, or select the filter from the Filter menu.
    - *For more information, see* Filter Toolbar *on page 94.*
4. Adjust the filter controls. You will see a preview of your image with the filter applied.
5. Click **OK** to apply the filter and close the filter controls. Click **Cancel** to close the filter without applying it.
6. Click **Save** to save the filter defined for the image.

Section 8: Screen and Menu Reference

This section describes each menu, toolbar, and screen in the Progeny Imaging user interface. User interface elements are listed in alphabetical order.

Add Sensor Screen



The Add Sensor screen allows you to add a VisionDX USB image acquisition device to the list of devices available in Progeny Imaging. Adding a sensor means that Progeny Imaging recognizes the sensor and that the sensor's calibration files have been installed.

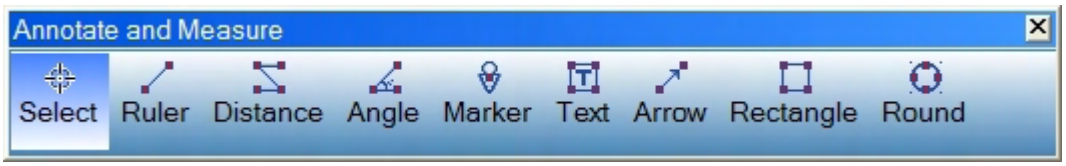
To open the Add Sensor screen, click **Add Sensor** in the Manage VisionDX Sensors screen.

For more information, see Installing VisionDX USB Modules *on page 54.*

Add Sensor Screen

Item	Description
Location	Path to the sensor calibration files. Clicking the "**...**" button opens the Browse for Folders screen that you use to navigate to the location of the sensor calibration files.
Serial Number	Serial number of the device. Each sensor has a unique, factory-installed serial number.
Description	Type of the sensor. Each sensor has factory-installed type (type 1 or type 2).

Annotate and Measure Toolbar



The Annotate and Measure Toolbar contains the tools to highlight or mark up an image.

Open the Annotate and Measure Toolbar by selecting **Image > Annotate**, or by clicking the **Annotate and Measure** icon on the Filter Toolbar.

CAUTION!
The accuracy of measurements made with Progeny Imaging virtual measurement tools is not guaranteed and depends upon accurate calibration of the tool object.

To calibrate measurement tools, such as the Ruler, place the tool in an image. Then right-click on the tool and display the Annotation Properties dialog box.

To view and modify the default properties of text and lines created with the Annotate and Measure toolbar, Select **Tools > Options** and then click **Annotation Defaults**.

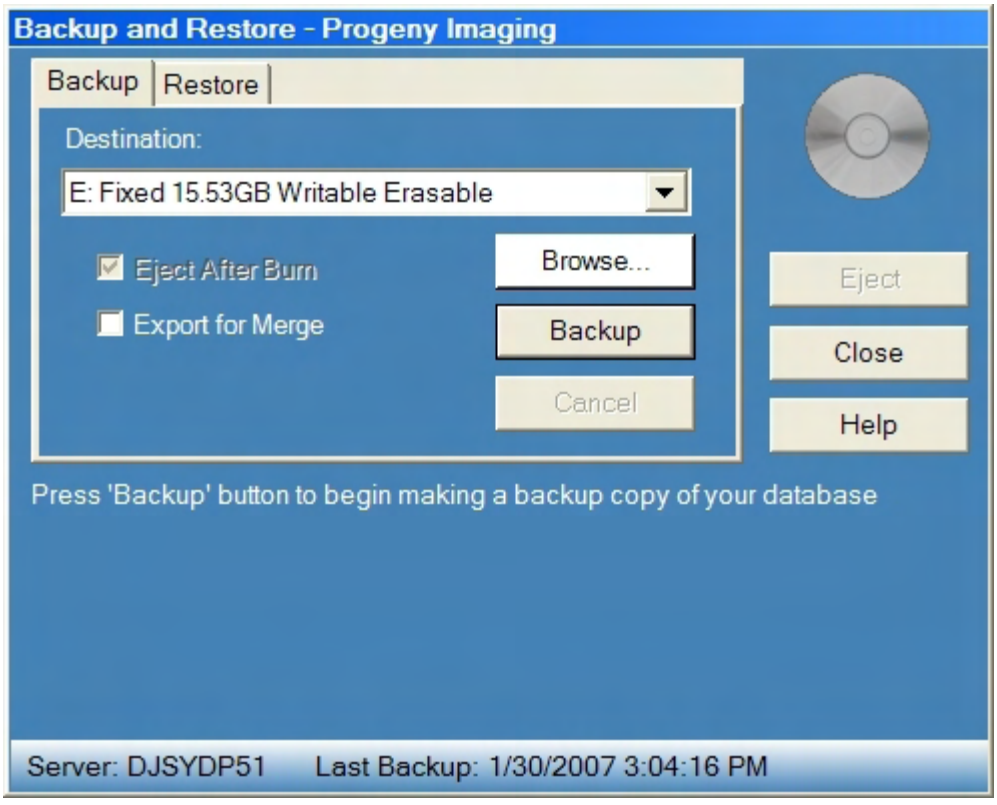
For more information, see Annotating Images *on page 77.*

Annotate and Measure Toolbar

Item	Description
Select	Allows for easy selection of any annotation applied to an image. Click Select then click on the annotation you want to manipulate.
Ruler	Adds a virtual ruler to the image.

Item	Description
Distance	Adds a virtual tool that sums the total distance of all lines within the annotation.
Angle	Allows you to us a virtual protractor to mark up your image.
Marker	Marks a point on an image. Select Marker, then click on the image to insert the marker.
Text	Adds an editable text box to an image allowing you to make a note on the image. Select Text, then click and hold the left mouse button to draw the text box on the image.
Arrow	Adds a line with an arrowhead to an image. Select Arrow, then click and hold the left mouse button to draw the arrow on the image.
Rectangle	Adds a rectangular shape to an image. Select Rectangle, then click and hold the left mouse button draw the shape on the image.
Round	Adds a circular shape to an image. Select Round, then click and hold the left mouse button draw the shape on the image.

Backup and Restore Screen



The Backup and Restore screen allows you to backup a patient database, export records from a patient database, restore a patient database, and merge records from a

patient database into another patient database. By default, the database backup file is written to `C:\Progeny Imaging\Database\database.bak`.

Note: *Progeny Imaging does not currently support Backup and Restore for Windows Vista operating systems. Vista support for Backup and Restore is planned for a future release.*

Open the Backup and Restore screen by selecting **File > Backup and Restore**. Click the Backup or Restore tab to display controls for backing up and restoring.

Backup Tab

Item	Description
Destination	Displays the available drives where Progeny Imaging will create the backup or export file.
Browse	Opens a folder selection screen for you to select a location for the backup or export file.
Eject After Burn	When selected, ejects the CD-ROM when the backup is complete.
Export for Merge	When selected, exports patient records that can be imported into an existing Progeny Imaging patient database.
Backup	Starts the backup or export.
Cancel	Cancels the backup or export.
Eject	Ejects the CD-ROM.
Close	Closes the Backup and Restore screen.

Item	Description
Help	Opens the help file.

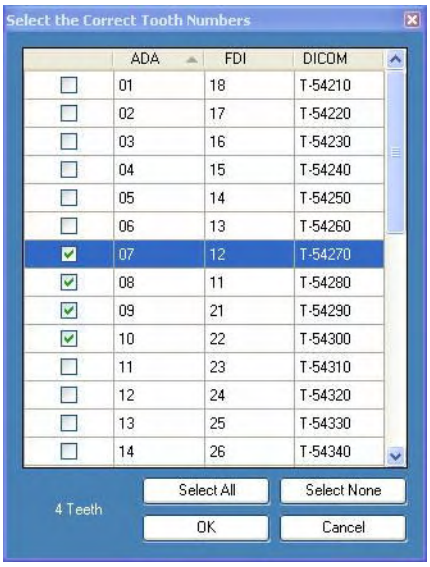
For more information, see Backing up and Exporting a Patient Database *on page 63.*

Restore Tab

Item	Description
Source	Displays the available drives where the backup or export file is located.
Browse	Opens a folder selection screen for you to select where the backup or export file is located.
Restore	Starts importing the backup file. If Progeny Imaging finds a file created by exporting the patient database, this button will be labeled 'Merge'.
Cancel	Cancels the restore or import.
Eject	Ejects the CD-ROM.
Close	Closes the Backup and Restore screen.
Help	Opens the help file.

For more information, see Restoring and Importing a Patient Database *on page 65.*

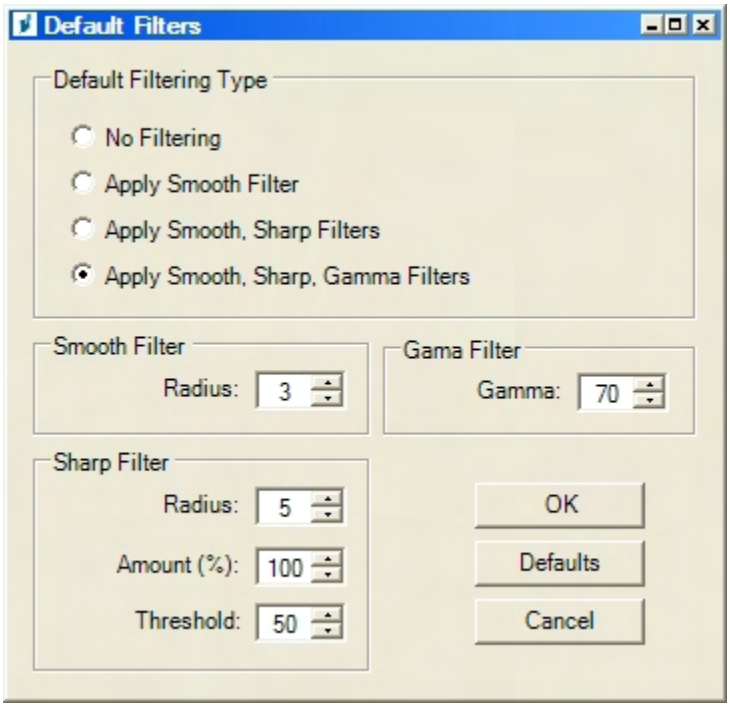
Correct Tooth Numbers Screen



The Correct Tooth Numbers screen allows you to correct the teeth associated with an image's DICOM information. This screen is useful if you acquire an image for a tooth but had selected a different tooth in the Tooth Panel. Using the Correct Tooth Numbers screen, you can assign the correct tooth information to the image's DICOM information.

Open the Correct Tooth Numbers screen by selecting **Image > Correct Tooth Numbers**. An image must be displayed in the Study Surface. Click column headers for ADA, FDI, or DICOM to order the teeth according to the selected tooth numbering scheme. Check the boxes for the correct tooth numbers, then click **OK**.

Default Filters Screen



The Default Filters screen allows you to select and configure default filters. When you select a default filter, Progeny Imaging will apply the filter to an image automatically after the image has been acquired. By default, no default filter is applied. Once a default filter is selected, all images that you acquire will have this filter applied until you remove or change the default filter option. Filters applied by default cannot be removed from images as can filters that are applied to images after acquisition.

Open the Default Filters screen from the VisionDX Configuration screen. Select **Tools > Devices > Device Configuration**. Then click **Default Filters**.

After selecting a default filter, you can use Progeny Imaging's default settings for the filter or configure your own. Click Default to reset filter settings to Progeny Imaging default settings.

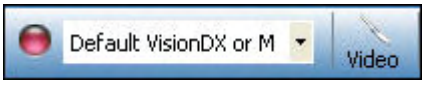
Default Filters

Item	Description
No Filtering	No default filter will be applied.
Apply Smooth Filter	The Median filter will be applied by default.

Item	Description
Apply Smooth, Sharp Filters	Median and Sharp filters will be applied by default.
Apply Smooth, Sharp, Gamma Filters	Median, Sharp, and Gamma filters will be applied by default.
Smooth Filter	Set the smooth filter radius.
Sharp Filter	Set the sharp filter radius, percentage, and threshold.
Gamma Filter	Set the gamma filter gamma.

For more information, see VisionDX Configuration Screen *on page 137.*

Device Controls Toolbar



The Device Controls Toolbar allows you to select and configure image acquisition modules.

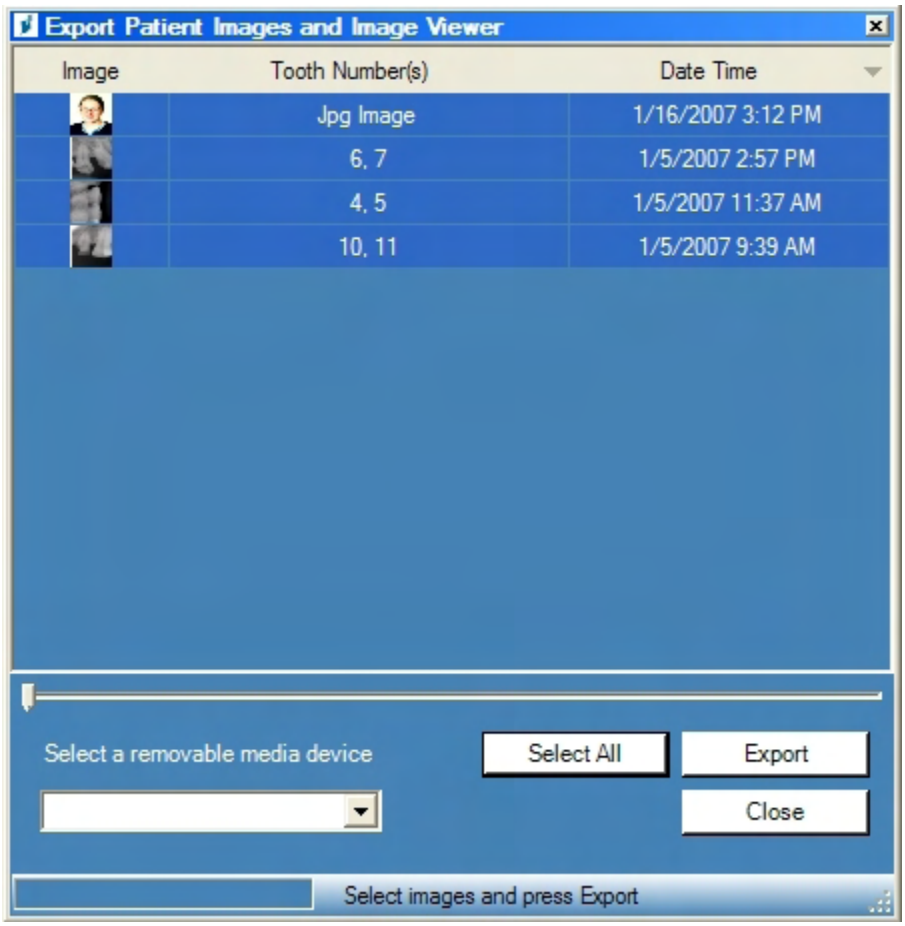
Device Controls Toolbar

Item	Description
Connection Indicator	Shows whether the selected module is ready for image acquisition. Green indicates that the module is ready; red indicates that the module is not ready. The Connection Indicator flickers as Progeny Imaging checks for the presence of the module.
Device List	Displays default and installed VisionDX, MPSe, and VisionDX USB modules. You can also select TWAIN Device to open the TWAIN Device Selection screen.
Video	Opens the Video screen. This control is available only when the Progeny Vivid USB Camera is installed.

For more information, see Video Screen *on page 136.*

For more information, see Select Source Screen *on page 125.*

Export Patient Images and Image Viewer Screen



The Export Patient Images and Image Viewer screen allows you to transfer images from an open patient record to a removable media device. When you export images, a copy of the ImageJ viewer, a DICOM-compliant image viewer, is also written to the removable media device. Using ImageJ, the recipient of images from Progeny Imaging can view the DICOM image information.

For more information, see Exporting Patient Images *on page 79.*

Open the Export Patient Images and Image Viewer screen by selecting **Patient > Export Patient Images**.

Export Patient Images and Image Viewer

Item	Description
Image	Thumbnail image of images available for export.
Tooth Number	Tooth number (for DICOM images) or file type for other images.
Date/Time	Date and time when the image was acquired.
Select a Removable Media Device	Lists devices to which the images and the ImageJ viewer can be exported.
Select All	Selects all the available images for export.
Export	Export the selected images to the removable media device.
Close	Closes the Export Patient Images and Image Viewer.

File Menu

The File menu contains options for basic tasks in Progeny Imaging.

File Menu

Menu Option	Description
Toggle Tooth Panel	Hides and redisplays the Tooth Panel. The Patient Panel must be displayed in order to display the Tooth Panel.
User Manager	Displays the User Manager where you can add and delete users and modify user profiles. *For more information, see* User Manager Screen *on page 133.*
Backup and Restore	Displays the Backup and Restore screen where you backup the patient database. *For more information, see* Backup and Restore Screen *on page 85.*

Menu Option	Description
Log Out	Logs out the current user and redisplays the login screen.
Exit	Closes the Progeny Imaging application.

Filter Menu

The Filter menu contains a subset of the image manipulation options that are found on the Filter toolbar. These options are applied to images displayed in the study surface.

Filter Menu

Menu Option	Description
Adjust	Displays a filter with controls to adjust the brightness, contrast or intensity of the selected image.
Edge	Displays a filter to mark the points in the image where the luminous intensity changes sharply.
Gamma	Displays a filter to make changes to the overall brightness (and color saturation) of an image as it is displayed on a monitor.
Invert	Reverses the hue, saturation, and brightness values of the content of the image.
Level	Uses histogram information to remove extraneous information from the image.
Sharpen	Displays a filter to enhance the sharpness and crispness of image details.
Smooth	Displays a filter to soften the focus of the image.

Menu Option	Description
Emboss	Displays a filter to add texture to an image using grayscale values.
Filter A, B, C, D	Apply user-configurable filters, A, B, C, and D. You configure these filters by selecting **Tools > Options** and clicking the ABCD Filters tab. Only one customized filter can be applied to an image.

For more information, see Filter Toolbar *on page 94.*

Filter Toolbar

The Filter Toolbar has controls to change or manipulate the way an image is displayed. You must display an image in the study surface to use these controls.

Filter Toolbar

Item	Icon	Description
Hide/Show Patient Panel		Hides and redisplays the Patient Panel.
Close Image		Closes the selected image in the study surface.
Zoom In		Enlarges the view of the image contents. Use Zoom Out to restore your view.
Zoom Out		Reduces the view of the image contents.
Zoom To		Enlarges a user selected area of the image. To define an enlarged area, click the Zoom To tool. Then click and drag the tool anywhere on the image to identify a specific area to zoom in on. Use Zoom Out to restore your view.
Magnifying		Displays a virtual magnifying glass. Click the Magnifying Glass

Item	Icon	Description
Glass		tool. Then click an area of the image that you want to magnify. Continue holding the mouse button down and dragging to magnify other areas of the image. Release the left mouse button to return to normal view. Set the level of magnification for the Magnifying Glass tool by selecting **Tools > Options**, then clicking the **General** tab.
Pan		On an image that is zoomed in, moves the image so that you can view different parts.
UnZoom All		Restores all enlarged areas to their original view.
Annotate & Measure		Displays the Annotate and Measure toolbar with controls to add virtual tools, markers, text, lines, and shapes to images.
Show/Hide Notes		Displays and hides a text area below an image where you can view, add, and modify notes on the image.
Rotate 90º		Changes the orientation of an image 90º in the clockwise direction. Clicking Rotate 90º again returns the image to its original orientation.
Adjust Brightness, Contrast, Intensity		Displays a filter with controls to adjust the brightness, contrast or intensity of the selected image.
Edge Detection		Displays a filter to mark the points in the image where the luminous intensity changes sharply.
Gamma		Displays a filter to make changes to the overall brightness (and color saturation) of an image as it is displayed on a monitor.

Item	Icon	Description
Invert		Reverses the hue, saturation, and brightness values of the content of the image.
Image Leveling		Uses histogram information to remove extraneous information from the image.
Sharpen		Displays a filter to enhance the sharpness and crispness of image details.
Smooth		Displays a filter to soften the focus of the image.
Emboss		Displays a filter to add texture to an image using grayscale values.
IsoDensity Colorization		Uses histogram information to change the saturation and hue so that you can highlight specific areas of interest in the image.
Customized Filters		Apply user-configurable filters, A, B, C, and D. You configure these filters by selecting **Tools > Options** and clicking the ABCD Filters tab.

Help Menu

The Help menu contains options for displaying Progeny Imaging user assistance and product information.

Help Menu

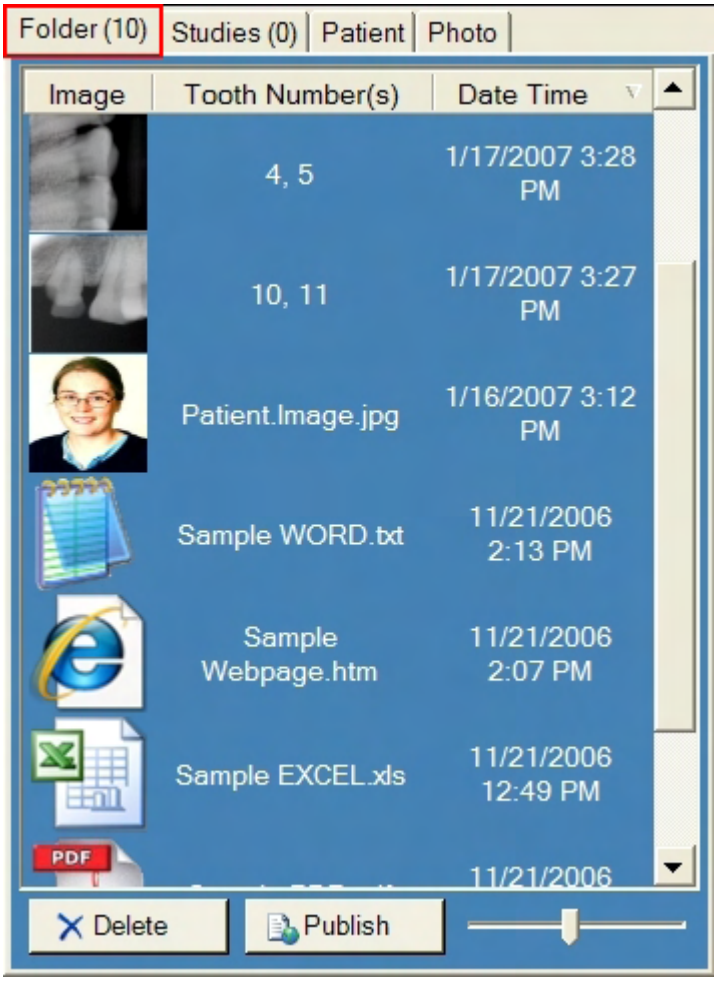
Item	Description
Contents (ALT + H)	Opens the help file with the contents pane selected.
Index	Opens the help file with the index pane selected.
About Progeny Imaging	Displays Progeny Imaging version information.
Check for Updates	Compares your version of Progeny Imaging with the latest version available on the Progeny Dental website. If a newer version is available, you can download it from the Progeny Dental website.

Image Container

The Image Container consists of four tabs with the information and images that are part of a patient record. You must open a patient record to view information in the Image Container.

For more information, see Opening a Patient Record *on page 70.*

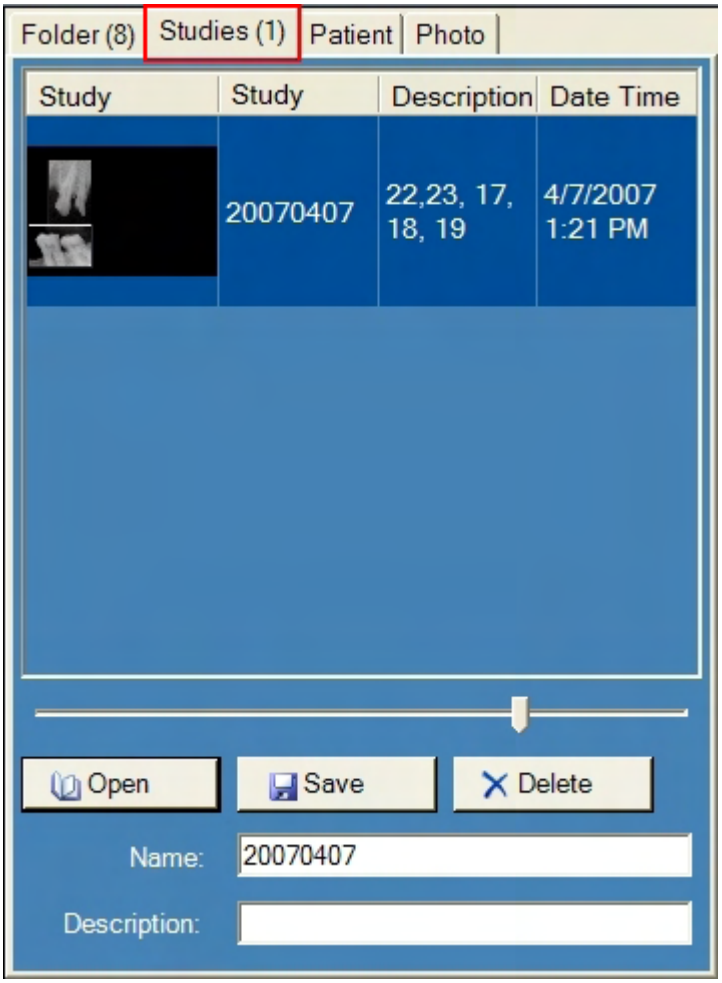
Folder Tab



The Folder tab contains thumbnail images of X-rays and other files in the patient's record. The number in the tab is the number of items in the patient's record. Scroll down to see all items. The slider at the bottom of the Folder tab adjusts the view so that you can more easily find images. For X-ray images, the Folder tab lists the tooth or teeth in the image sequence and the date and time that the image was acquired. For other items, the Folder tab lists the file name and time of creation. Drag an image from the Folder tab to the study surface to view the image at actual size. To delete an image from the Folder tab, select the image and click Delete, or ALT + D.

For more information, see Acquiring X-ray Image Sequences *on page 72.*

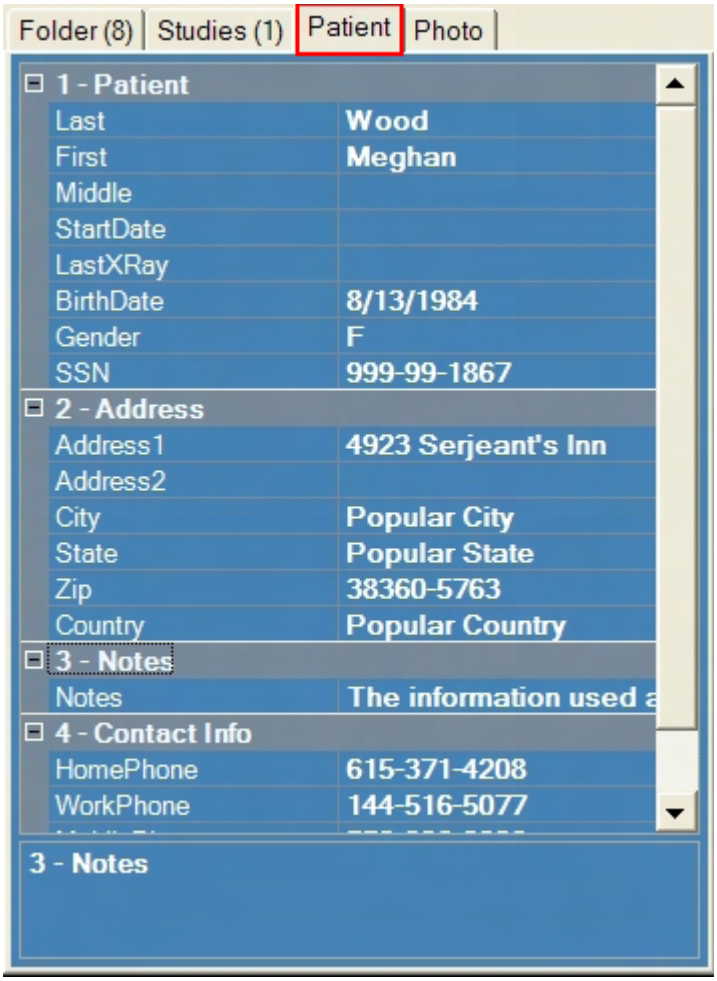
Studies Tab



The Studies tab contains studies that have been saved in the patient's record. The number in the tab is the number of studies in the patient's record. Scroll down to see all items.The slider at the bottom of the Studies tab adjusts the view so that you can more easily find studies. The Studies tab shows a thumbnail image of the study and provides the name or number of the study, a description of the study, and the date on which the image in the study was created. Select a study and click Open to display it in the study surface. To save a study, display an image in the study surface, then click Save, or ALT + S. To delete a study from the Studies tab, select the study and click Delete, or ALT + D.

For more information, see Creating Studies *on page 81.*

Patient Tab



The Patient tab contains information from the patient's Patient Properties screen. To edit the information, select the row and type in the new information. Changes made to patient information in the Patient tab are automatically saved to the patient's record and displayed in the Patient Properties screen.

For more information, see Patient Properties Screen *on page 119.*

For more information, see Creating a Patient Record *on page 70.*

Photo Tab

The Image Container Photo tab displays the patient's picture that was included in the patient's Patient Properties screen.

For more information, see Creating a Patient Record *on page 70.*

Image Menu

The Image menu contains settings that allow you to work with an image that is displayed in the study surface. Select the image, and then select an option from the Image menu.

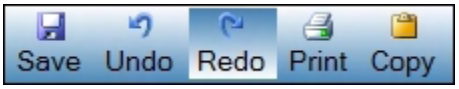
Image Menu

Menu Option	Description
Undo Filter (ALT + U)	Removes the last filter applied.
Redo Filter (ALT + R)	Reapplies the last filter removed.
Undo All Filters	Removes all filters.
Annotate (ALT + A)	Displays the Annotate and Measure toolbar with controls for annotating the image.
Correct Tooth Numbers	Opens the Select Correct Tooth Numbers screen so that you can change the tooth number stored in the image's DICOM information. *For more information, see* Correct Tooth Numbers Screen *on page 88.*
Notes	Displays and hides a text area below an image where you can view, add, and modify notes on the image.
Flip Vertical	Flips the selected image along the vertical axis.
Flip Horizontal	Flips the selected image along the horizontal axis.
Rotate	Displays a menu of options for rotating the selected image.
Full Screen (ALT + F)	Expands the display of the selected image to fill the computer monitor. Double-click on the image to return to the Progeny Imaging application.

Menu Option	Description
Maximize	Expands the display of the selected image to fill the study surface. Double-click on the image to display it in Full Screen mode. Select Image > Restore Down to display the image again in its actual size.
Restore Down	Displays the current image in a window.
Import	Adds an image or other file to a patient folder.
Export	Displays options for copying an image to a specified location on your computer or removable media. Export copies all supported image formats except DICOM images. To export DICOM images, use **Patient > Export Patient Images**. *For more information, see* Exporting Patient Images *on page 79.*
Move to Patient (ALT + M)	Allows a user with administrative privileges to move a patient's image to another patient. The moved image appears in the target patient folder and the DICOM information associated with the image is updated to reflect the new owner of the image. You use Move to Patient the wrong patient folder was open during image acquisition.
Clone	Creates a copy of the selected image and places the copy on the study surface.
Copy to Clipboard	Places a copy of the selected image on the Windows clipboard. You can then paste the image into another application such as Microsoft Word.
Expanded View (ALT + E)	Hides and displays a border on the image containing the name of the image file, date of acquisition, and other information.

Menu Option	Description
Print (ALT + P)	Opens the Print Preview screen where you preview and print the selected image.
Show Image Information	Displays DICOM information for the selected image.
Close (ALT + C)	Removes the selected image from the study surface. The image is not deleted and can be reopened.

Image Operations Toolbar



The Image Operations toolbar allows you to perform basic operations on images.

Image Operations Toolbar

Item	Description
Save	Save the image to the patient’s record.
Undo	Undo the last filter applied to the image.
Redo	Redo the last filter applied to the image.
Print	Opens the Print Preview window from where you can view and print the image.
Copy	Copy the image to the clipboard. The copied image can be pasted into another document.

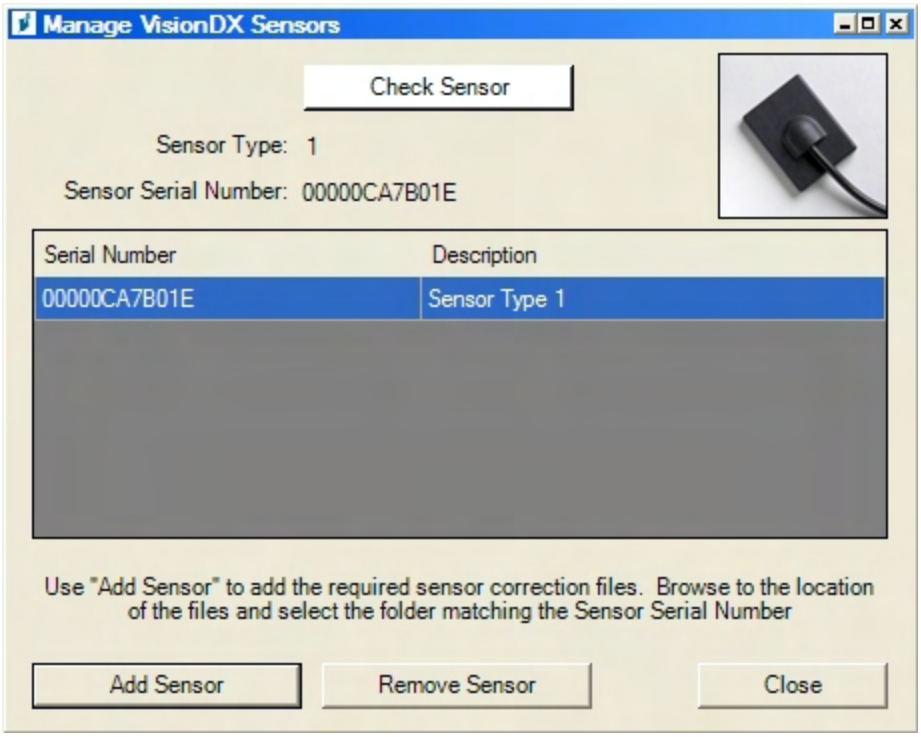
Main Menu Bar

The Main Menu bar contains menus of the major functions provided by Progeny Imaging.

Main Menu Bar

Menu	Description
File	The File menu contains options for basic tasks in Progeny Imaging. *For more information, see* File Menu *on page 92.*
Patient	The Patient menu contains options for working with patient records. *For more information, see* Patient Menu *on page 117.*
Image	The Image menu contains settings that allow you to work with an image that is displayed in the study surface. *For more information, see* Image Menu *on page 101.*
Filter	The Filter menu contains a subset of the image manipulation options that are found on the Filter toolbar. *For more information, see* Filter Menu *on page 93.*
Tools	The Tools menu contains settings that allow you to modify how Progeny Imaging looks and functions. *For more information, see* Tools Menu *on page 130.*
Study Surface	The Study Surface menu contains options for working with studies. *For more information, see* Study Surface Menu *on page 126.*
Help	The Help menu contains options for displaying Progeny Imaging user assistance and product information. *For more information, see* Help Menu *on page 97.*

Manage VisionDX Sensors Screen



The Manage VisionDX Sensors screen shows the installed VisionDX USB image acquisition devices and allows you to add or remove VisionDX USB sensors. The Manage VisionDX Sensors screen opens automatically when Progeny Imaging detects a new sensor. You can also open the Manage VisionDX Sensors screen by clicking **Sensors** in the Device Configuration screen.

For more information, see Installing VisionDX USB Modules *on page 54.*

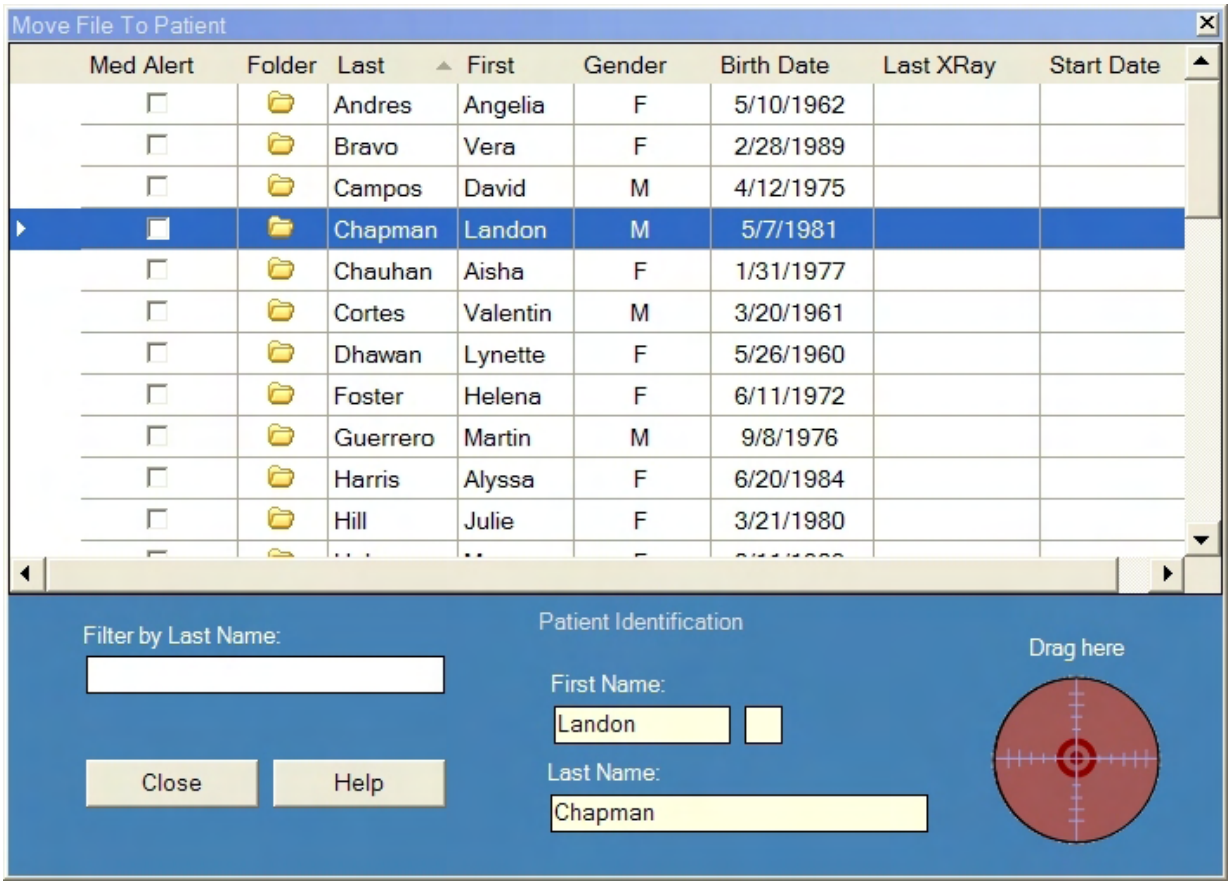
For more information, see Add Sensor Screen *on page 83.*

Manage VisionDX Sensors Screen

Item	Description
Check Sensor	Click to display the sensor type and serial number of a sensor that is currently connected to your computer.
Serial Number	Serial number of the device. Each sensor has a unique, factory-installed serial number.
Description	Type of the sensor. Each sensor has factory-installed type (type 1 or type 2).
Add Sensor	Opens the Add Sensor screen.

Item	Description
Remove Sensor	Removes sensor from the list of configured sensors. *Note: If the Default VisionDX USB device is removed from Progeny Imaging, select Tools > Devices > Add New Device.*
Close	Closes the Manage VisionDX USB screen.

Move File to Patient Screen



The Move File to Patient screen allows you to move an image to a patient record that is different than the patient record that was open when the image was acquired. When you move an image, the image is deleted from the open patient record and added to the selected patient record. Any filters, annotations, or notes associated with the image are also moved.

For more information, see Moving Images to Another Patient Record *on page 79.*

Open the Move File to Patient screen by selecting **Image > Move to Patient**, or **ALT + M**. Most fields in the Move File to Patient screen are informational only. To change patient information, use the Patient Properties screen.

For more information, see Patient Properties Screen *on page 119.*

Move File to Patient Screen

Item	Description
Med Alert	Indicates that the patient has a medical condition. Turn the medical alert on for the patient in the patient's Patient Properties screen.
Last	Patient's last name as entered in the patient's Patient Properties screen.
First	Patient's first name as entered in the patient's Patient Properties screen.
Folder	Double click to open the patient's folder in Windows. Patient folders contain DICOM images, associated files, and any other files that have been imported into the patient's folder.
Gender	Patient's gender as entered in the patient's Patient Properties screen.
Birth Date	Patient's birth date as entered in the patient's Patient Properties screen.
Last X-Ray	Date on which an X-ray acquisition was last performed for this patient. Progeny Imaging automatically updates this field.
Start Date	This option is not currently used.
Filter by Last Name	Enter all or part of a last name to limit the patients displayed in the Move File to Patient screen to those whose names match the name or letters entered. You can use an asterisk '*' to represent any letters.

Item	Description
First Name, Last Name	Name of patient to whose record the image will be moved.

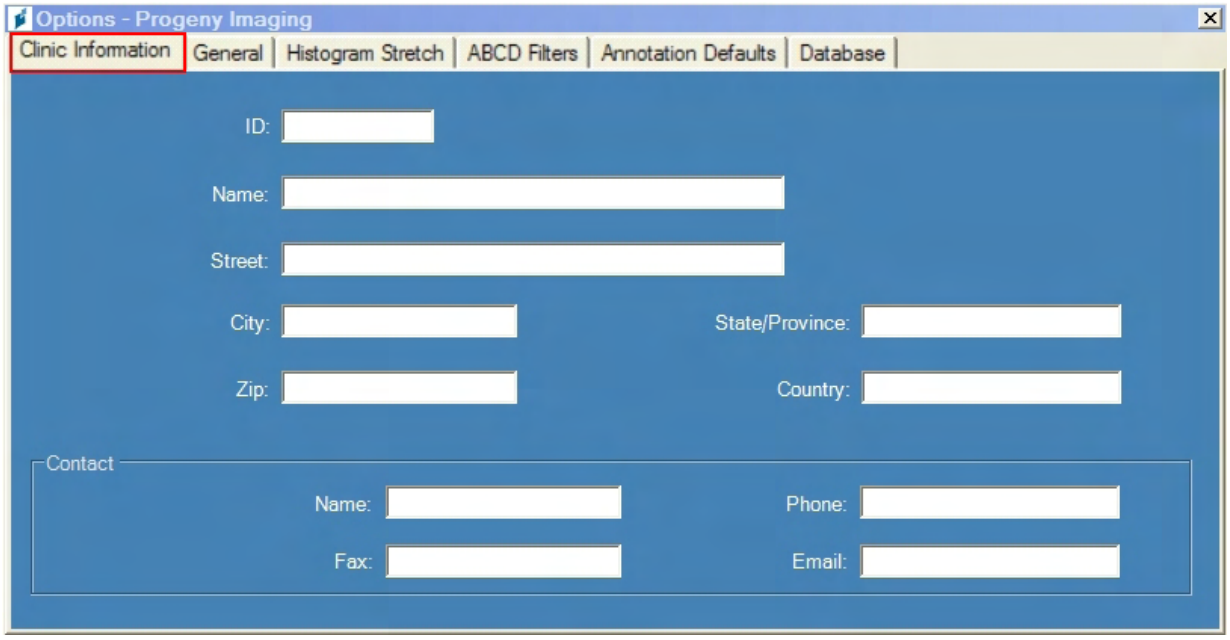
Options Screen

Open the Options screen by selecting **Tools > Options**. Then select the tab for the type of information to edit.

The Options screen is used to set and edit the following system information:

- Clinic information
- General image acquisition defaults
- Histogram stretch
- Customized filters
- Annotation defaults
- Database settings

Clinic Information

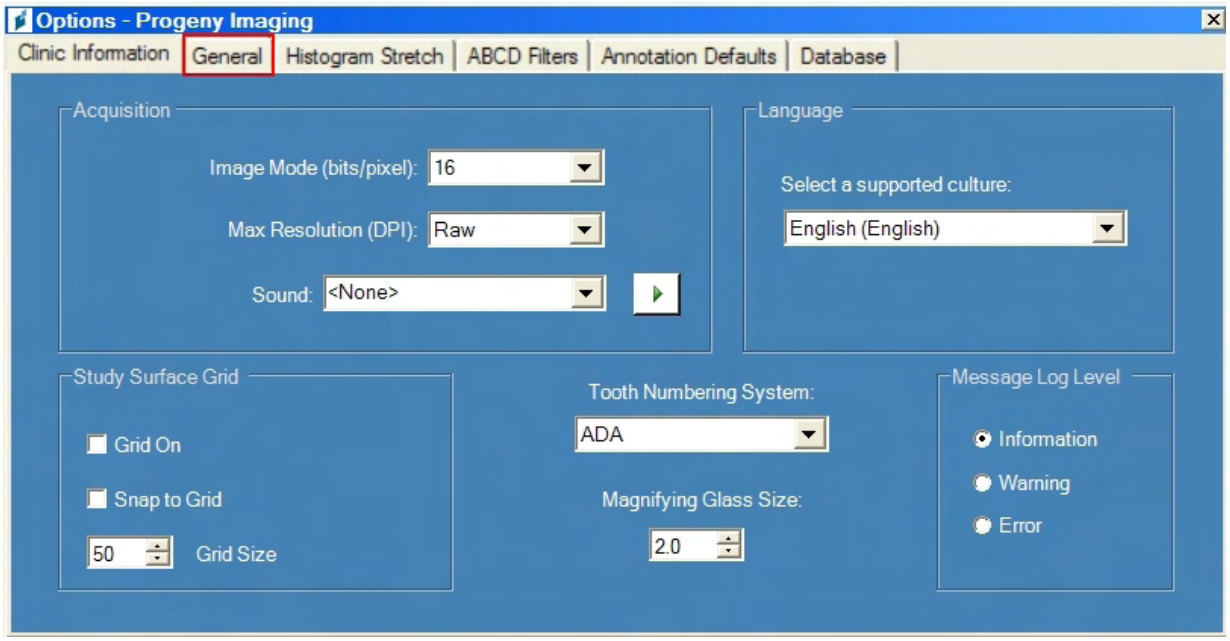


The Clinic Information tab describes your clinic. The information entered here appears in the DICOM Image Information and on printed images.

Clinic Information

Item	Description
ID	String of characters you define to identify your clinic.
Name	Name of your practice or clinic.
Street	Street address of the clinic.
City, State/Province, Zip, Country	City, state, zip code, and country of the clinic.
Name	Name of the contact for the clinic.
Phone	Phone number for the clinic.
Fax	Fax number for the clinic.
Email	Email address of the clinic.

General Tab



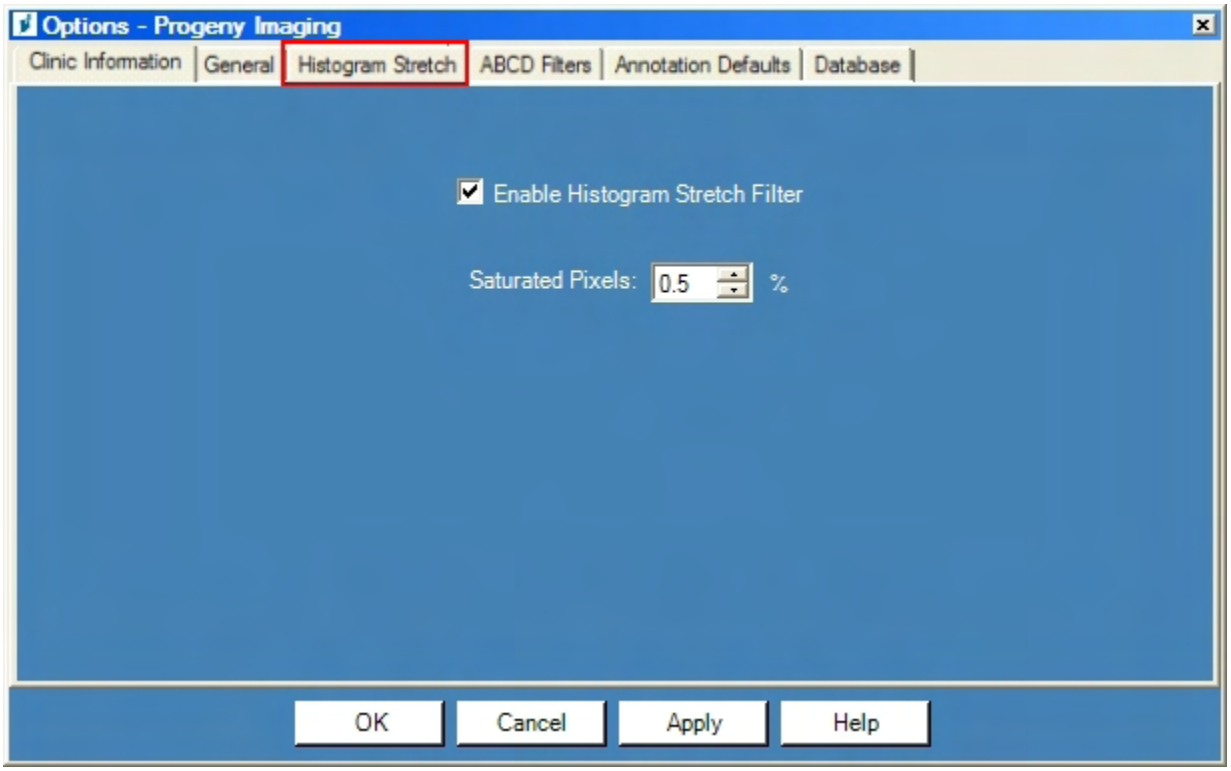
The General tab is used to enter default properties for image acquisition, language support, grid display, tooth numbering, and system log recording.

General Settings

Item	Description
Image Mode (bit/pixel)	Progeny Imaging acquires images using the 16 bit image mode, which provides unmatched image quality for radiographic images at lowest patient radiation dose. At 16 bit, digital detectors will acquire images with over 65,000 grey levels, yielding improved diagnostic information.
Max Resolution (DPI)	Selects the image resolution. Image resolution, measured in dots per inch, or DPI, is an indication of the quality of an image. Progeny Imaging supports raw, 300, or 600 DPI. Raw files represent the closest image format to the original sensor data, and, therefore, the most "pure" way to retain your image data.
Sound	Selects the sound that Progeny Imaging plays to indicate image acquisition. Use the drop-down to select the sound. The triangle button allows you to hear a sample of the sound.
Language	Displays a menu of language options. The default language is English. If Progeny Imaging has been localized for additional languages, you can select another language option. After selecting a language, you

Item	Description
	must exit and restart Progeny Imaging.
Grid On	Controls whether a grid will be displayed in the study surface each time Progeny Imaging is launched. If the grid is on by default, select Study Surface > Grid to toggle it off and on.
Snap to Grid	Sets the default behavior of the grid so that images placed on the study surface automatically align with grid points.
Grid Size	Sets the density of grid points on the screen.
Tooth Numbering	The Tooth Numbering System tab allows you to select the numbering system that is displayed in the Tooth Panel and recorded in image information. Progeny Imaging uses the American Dental Association (ADA) or FDI World Dental Federation Two-Digit Notation (FDI) for identifying the patient’s teeth.
Magnifying Glass	Sets the image magnification for the magnifying glass tool on the Filter toolbar. Two is the least magnification, five is the greatest.
System Log Recording Level	Selects the level of detail to be recorded in Progeny Imaging log files. Log files assist Technical Support in diagnosing the behavior of the application. Do not change the System Log Recording level unless directed to do so by Technical Support.

Histogram Stretch Tab

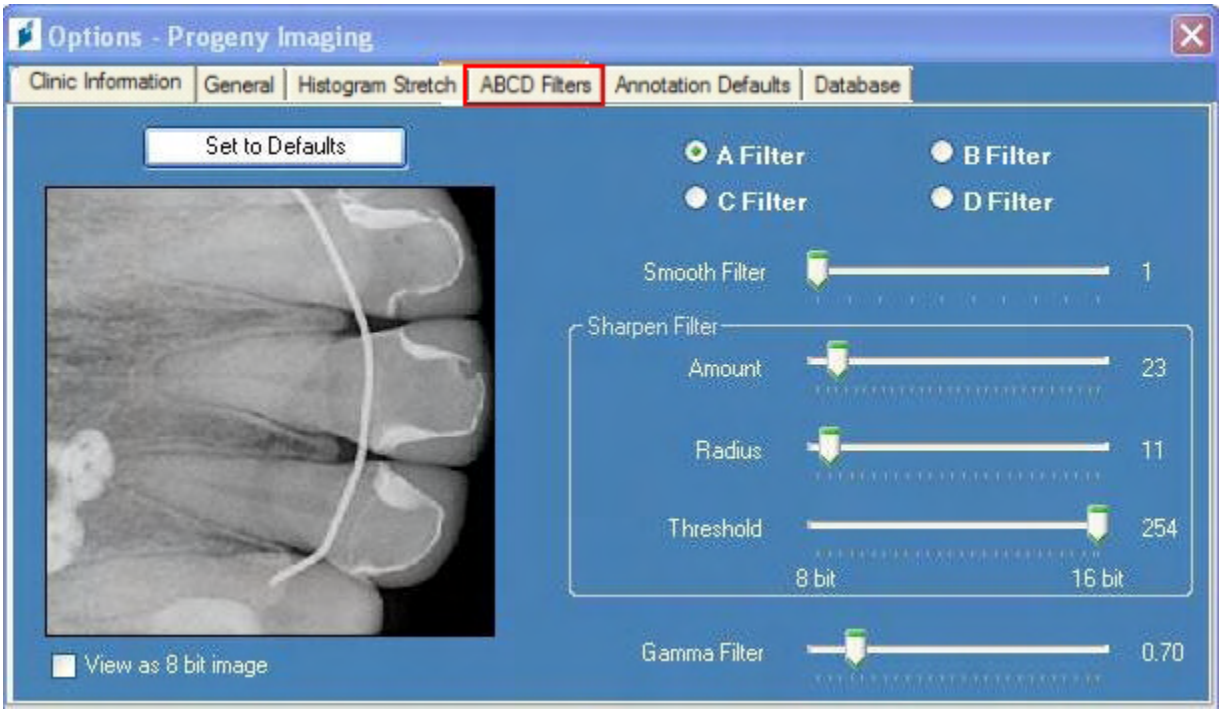


The Histogram Stretch tab is used to enable the Histogram Stretch Filter and set the pixel saturation percentage.

Histogram Stretch

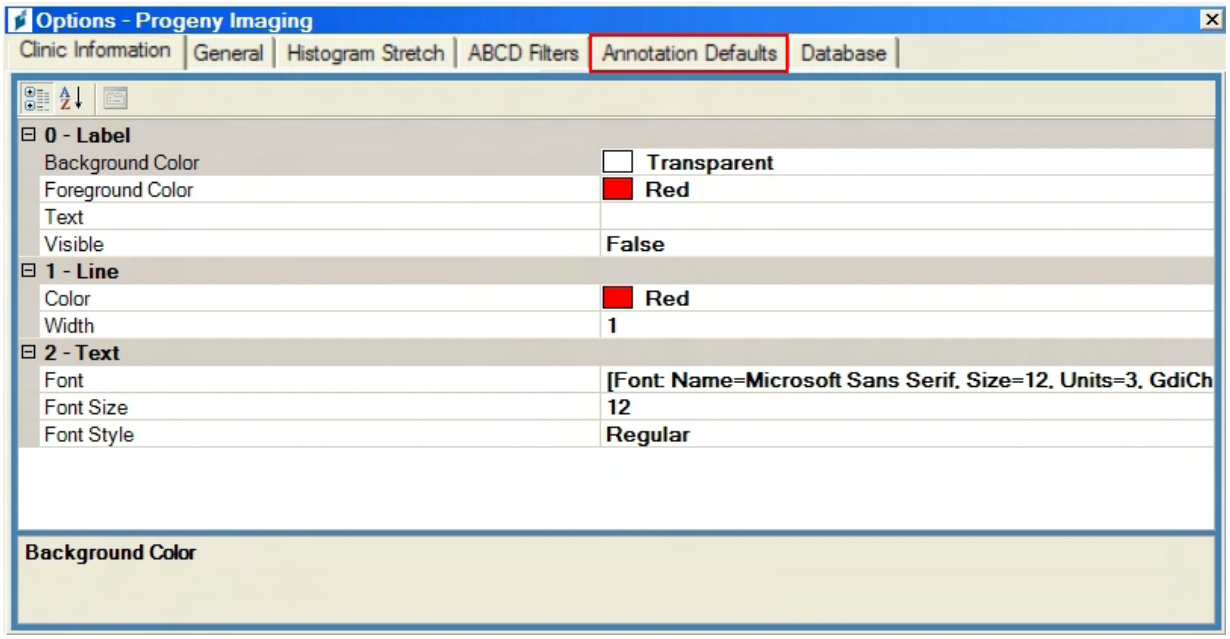
Item	Descriptionngs
Histogram Stretch Filter Enabled	When enabled, this option captures additional data so that a histogram can be displayed with the Image Leveling filter.
Saturated Pixels	Percentage

Customized Filters Tab



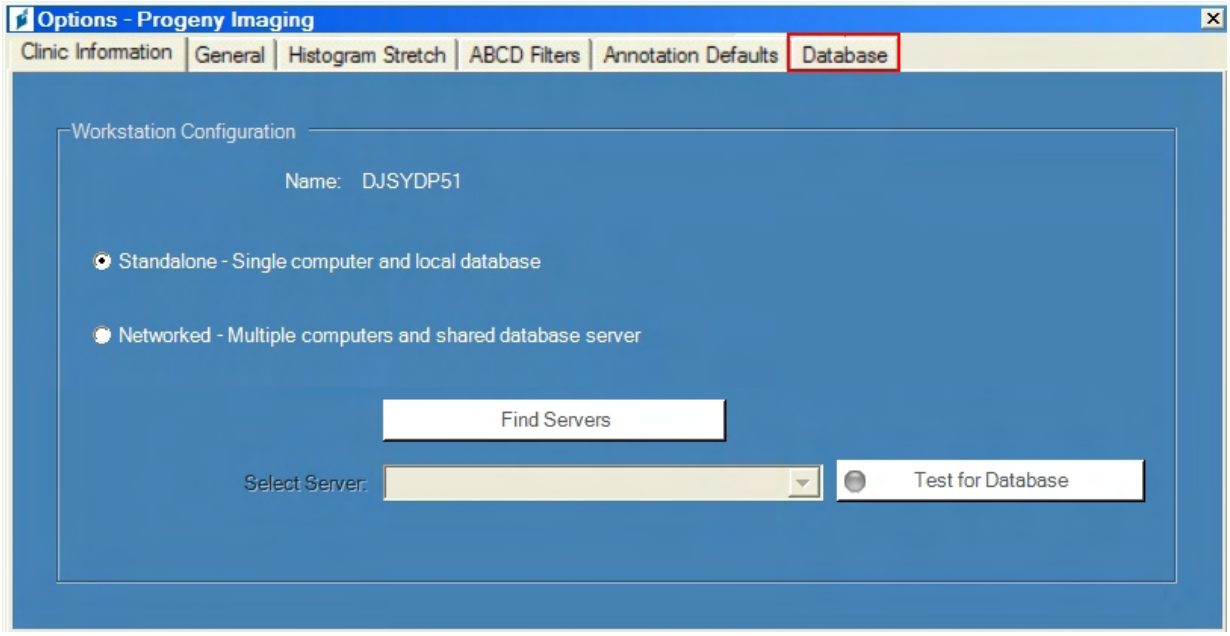
The Customized Filters tab allows you to define four custom filters. You apply your custom filters to images displayed in the study surface after acquisition by selecting the image and then clicking the A, B, C, or D icons in the Filter toolbar. To define a custom filter, select the filter that you are defining, then adjust the Smooth, Sharpen, and Gamma filter controls to the desired settings. By default, the image displays as a 16-bit image, but you can select to view it as an 8-bit image. Click Set to Defaults to cancel and redefine the custom filter.

Annotation Defaults Tab



The Annotation Defaults tab allows you to adjust characteristics of text blocks and lines that you add to images using the Annotate and Measure toolbar.

Database Tab



The Database tab allows you to specify where the patient database for Progeny Imaging will be located. By default, Progeny Imaging assumes that the patient database

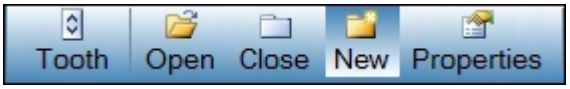
is located on the machine where you are running Progeny Imaging. You also use this tab to test connectivity to the database.

For more information, see Configuring Progeny Imaging to Use a Networked Database *on page 38.*

Database

Item	Description
Standalone	Select to indicate that the Progeny Imaging patient database is located on the computer where you are running Progeny Imaging.
Networked	Select to indicate that you are using a Progeny Imaging patient database located on a computer other than the one where you are running Progeny Imaging. The computer with the patient database must be on the same network as the computer where you are running Progeny Imaging.
Find Servers	Click to locate computers on your network.
Server Drop-down List	Select the computer where the Progeny Imaging patient database that you will connect to is located.
Test Database	Click to verify that Progeny Imaging can connect to the Progeny Imaging patient database on the computer that is selected in the Server Drop-down List.

Patient Controls Toolbar



Patient Controls allow you to work with patient records.

Patient Control Toolbar

Item	Description
Tooth	Toggles the display of the Tooth Panel. ***Note:*** *The Patient Panel must be displayed in order to display the Tooth Panel.*
Open	Opens the Select Patient screen so that you can select a patient.
Close	Closes the patient record that is currently open.
New	Opens the Patient Properties screen where you can create a patient folder.
Properties	Opens the Patient Properties screen for the patient record that is currently open.

Patient Menu

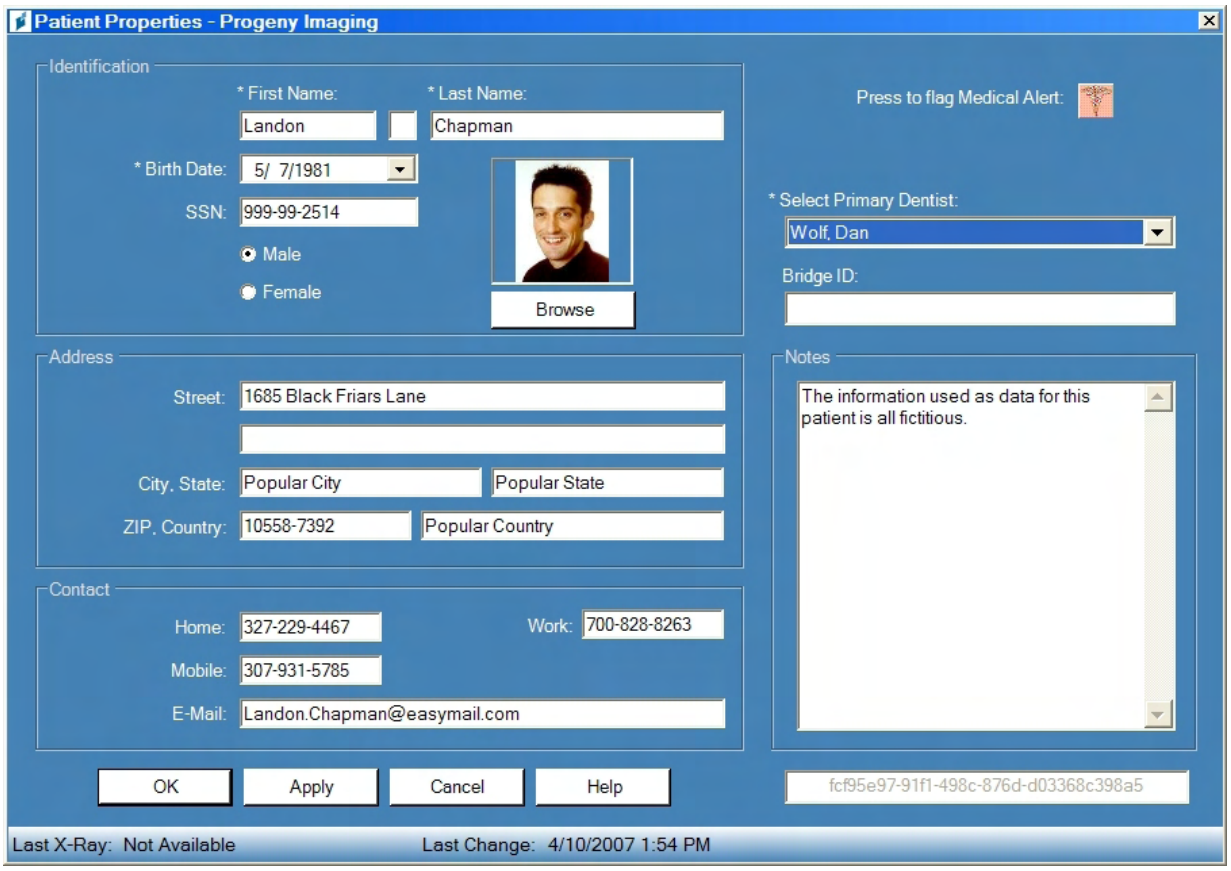
The Patient menu contains options for working with patient records. Options marked with '*' require that a patient record be open.

Patient Menu

Menu Option	Description
Toggle Patient Panel	Hides and redisplays the Patient Panel.
Open	Displays the Select Patient screen where you select a patient record to open.
*Close	Closes the currently open patient record.

Menu Option	Description
New	Opens the Patient Properties screen where you create a new patient record.
*Save	Saves the annotations or filtering for all images on the study surface.
*Add Patient Photo	Opens a file selection box where you locate and select a patient's image file to add to their record. Images must be JPEG files.
*Export Patient Images	Copies selected DICOM images to a removable media device (flash drive). DICOM Export copies all files associated with the image and a copy of ImageJ, a DICOM-compliant image viewer. *For more information, see* Exporting Patient Images *on page 79.*
*Send Email to Patient	Opens a blank email message using the computer's default email client. The email address in the message is the email address stored in the patient's record. You can type a message to the patient and add attachments.
*Delete Patient	Deletes the open patient record and any images, studies, and other documents that have been created for this patient. Progeny Imaging will ask you to confirm your selection to delete. **CAUTION!** To preserve patient data, be sure to backup the patient database before deleting patients.
*Properties	Opens the Patient Properties screen for the currently selected patient.

Patient Properties Screen



You use the Patient Properties screen to add and maintain patient data.

To open the Patient Properties screen and create a new patient, select **Patient > New**, or **ALT + N**. To open the Patient Properties screen for an existing patient, open the patient's record, then click the Properties icon or select **CTRL + ALT + P**. You can also open the Patient Properties screen for an existing patient by selecting the patient in the Select Patient screen and clicking Properties.

For more information, see Creating a Patient Record *on page 70.*

Patient Properties Screen

Item	Description
First Name	Patient's first name. You must enter a first name to create a patient.
Last Name	Patient's last name. You must enter a last name to create a patient.
Birth Date	Patient's date of birth. Enter the birth date using mm/dd/yyyy or select the date from the drop-down calendar.
SSN	Patient's Social Security number.
Male, Female	Patient's gender.
Browse	Opens a file selection box where you locate and include the patient's picture. Pictures must be JPEG image files.
Street	Patient's street address.
City, State, Zip, Country	Patient's city, state, zip code, and country.
Home, Work, Mobile	Patient's telephone numbers.
E-Mail	Patient's email address. This address is used when you select Patient > Send Email to Patient.

Item	Description
Medical Alert	Flags the patient record for a medical alert.
Primary Dentist	Progeny Imaging user to whom this patient record is assigned. When users are added to Progeny Imaging they appear in the Primary Dentist drop-down list. You must select a primary dentist in order to create a patient.
Bridge ID	Identifier for a 3rd party application, for example, practice management software, that is integrated with Progeny Imaging using the PIBridge application. For information on PIBridge and integrating a 3rd party application, contact Progeny Technical Support. *For more information, see* Progeny Imaging Contact Information *on page 11.*
Notes	Notes regarding the patient.

Print Preview Screen

You use the Print Preview screen to view and print images.

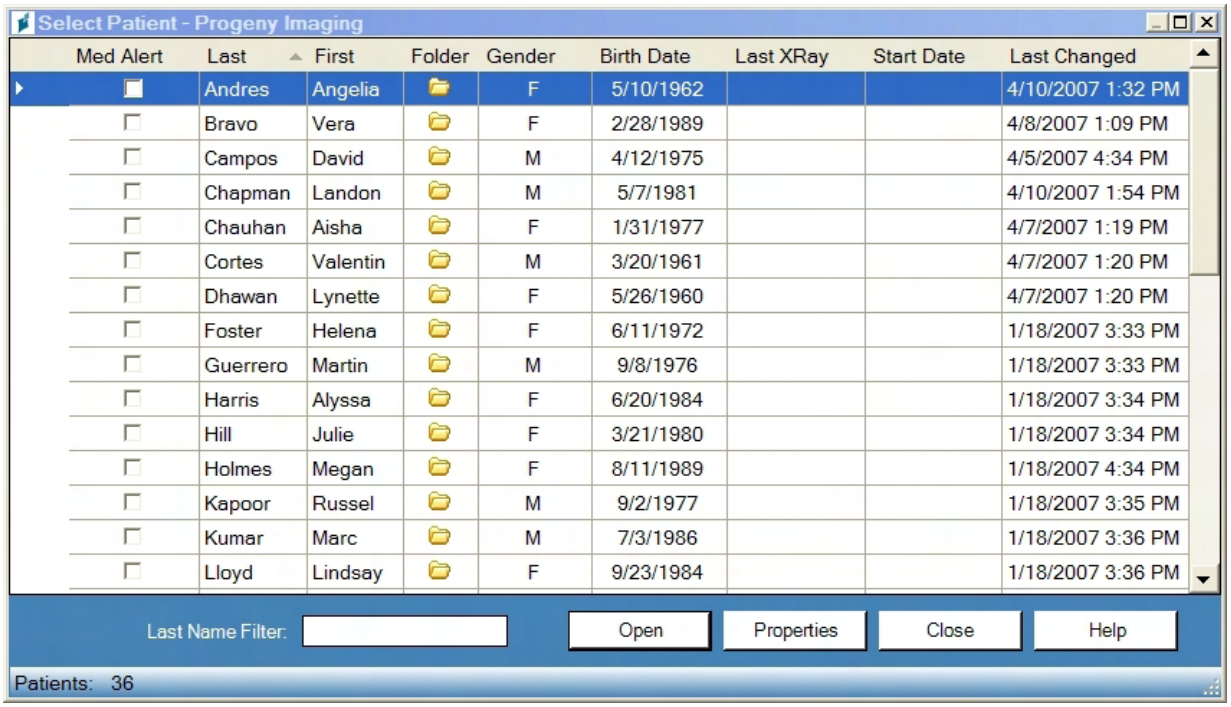
To open the Print Preview screen, select an image in the design surface. Then select **Image > Print**, or **ALT + P**, or click the **Print** icon.

Print Preview Screen

Item	Description
Print	Sends the image to the printer.
Zoom	Magnifies the image byy the percentage you select in the drop-down menu.
Page icons	Selects the number of pages to display in the Print Preview screen.

Item	Description
Close	Closes the Print Preview screen.
Page field	Selects the page to display in the Print Preview Screen. ***Note:*** *Progeny Imaging currently supports printing only a single image per page.*

Select Patient Screen



You use the Select Patient screen to open a patient record.

> ***Note:*** *If you are logged in to Progeny Imaging as an ordinary user, you will see only your own patients the Select Patient screen. If you are logged in as a user with administrator privileges, you will see all patients.*

For more information, see Opening a Patient Record *on page 70.*

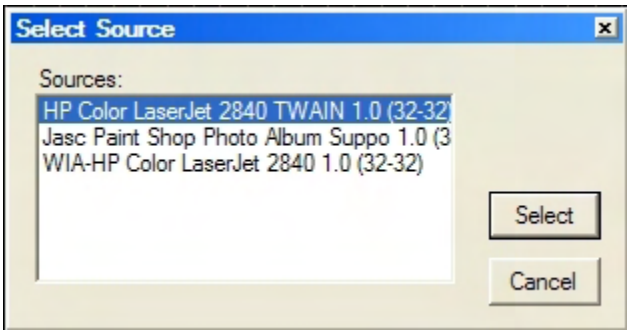
Open the Select Patient screen by selecting **Patient > Open**, or **ALT + O**, or by clicking the **Open** icon.

Select Patient Screen

Item	Description
Med Alert	Indicates that the patient has a medical condition. Turn the medical alert on for the patient in the patient's Patient Properties screen.
Last	Patient's last name as entered in the patient's Patient Properties screen.
First	Patient's first name as entered in the patient's Patient Properties screen.
Folder	Double click to open the patient's folder in Windows. Patient folders contain DICOM images, associated files, and any other files that have been imported into the patient's folder.
Gender	Patient's gender as entered in the patient's Patient Properties screen.
Birth Date	Patient's birth date as entered in the patient's Patient Properties screen.
Last X-Ray	Date on which an X-ray acquisition was last performed for this patient. Progeny Imaging automatically updates this field.
Start Date	This option is not currently used.
Last Changed	Date on which the patient's properties were last modified. Progeny Imaging automatically updates this field.
Last Name Filter	Enter all or part of a last name to limit the patients displayed in the Select Patient screen to those whose names match the name or letters entered. You can use an asterisk '*' to represent any letters.

Item	Description
Open	Opens the selected patient’s folder. Only one patient folder can be open at a time.
Properties	Opens the selected patient’s Patient Properties screen.

Select Source Screen



The Select Source screen allows you to select a TWAIN-compliant device so that you can use Progeny Imaging to acquire images using this device. TWAIN is a cross-platform interface for acquiring images. The TWAIN-compliant device must be on the dental office network. TWAIN-compliant devices include digital intraoral X-Ray sensor systems,TWAIN-compliant intraoral video cameras, and certain scanners. The TWAIN-compliant device driver must be present on your computer before you can acquire images in Progeny Imaging using the TWAIN-compliant device. For information on the TWAIN-compliant device, refer to the device manufacturer's installation information.

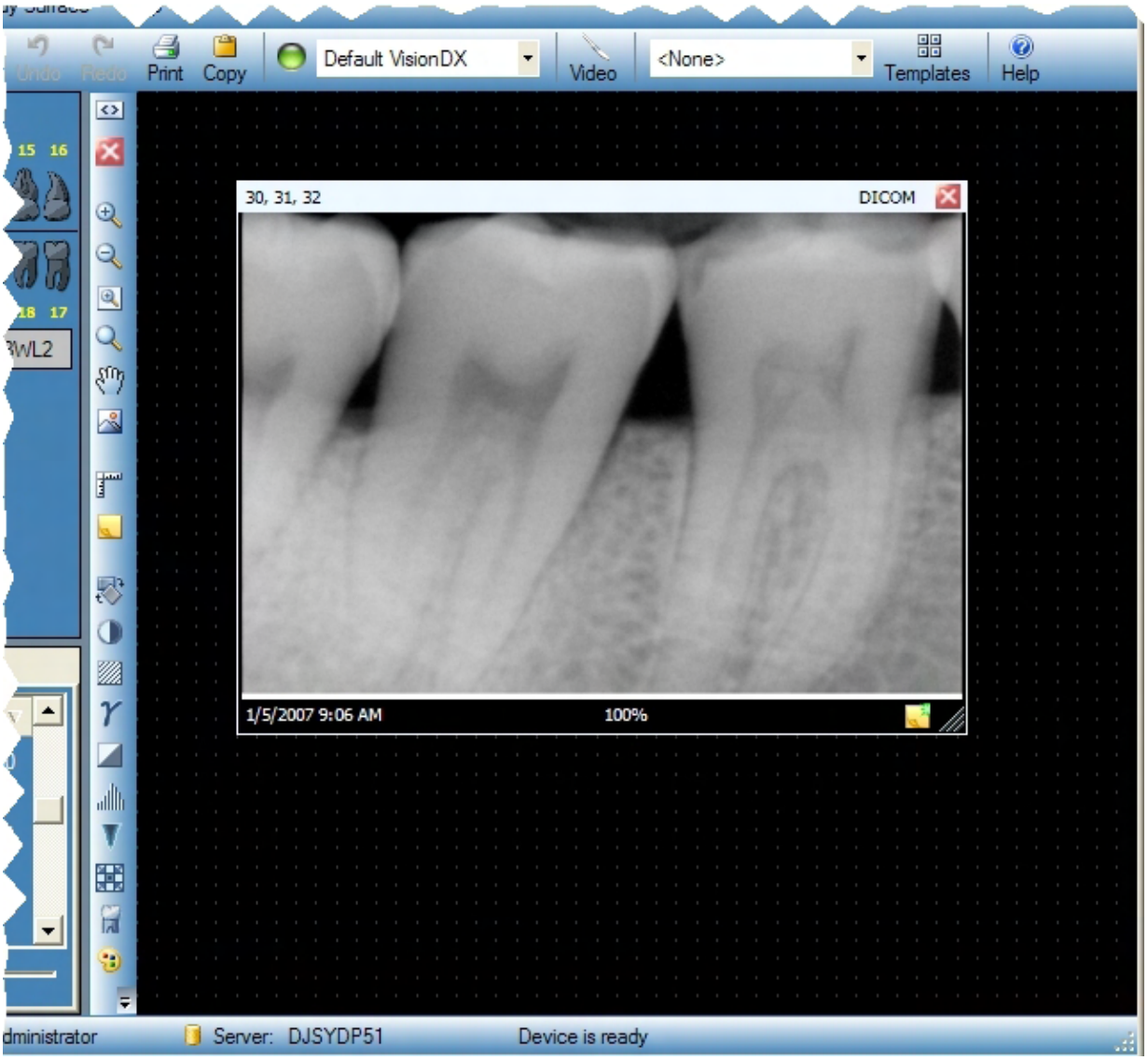
For more information, see Acquiring Images Using a TWAIN-compliant Device *on page 76.*

Study Surface

The Study Surface is where you display, filter, and annotate images that are part of a patient record.

For more information, see Displaying Images *on page 77.*

For more information, see Creating Studies *on page 81.*



Study Surface Menu

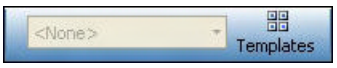
The Study Surface menu contains options for working with studies.

Study Surface Menu

Menu Option	Description
Expanded View	Hides and displays additional image information for images in the study. Additional image information appears as a border on the image containing the name of the image file, date of acquisition, and other information. By default, Progeny Imaging displays the expanded view of images. When you click Expanded View (CTRL + ALT+ E), Progeny Imaging hides a border on all images in the Study Surface. If the information is hidden,

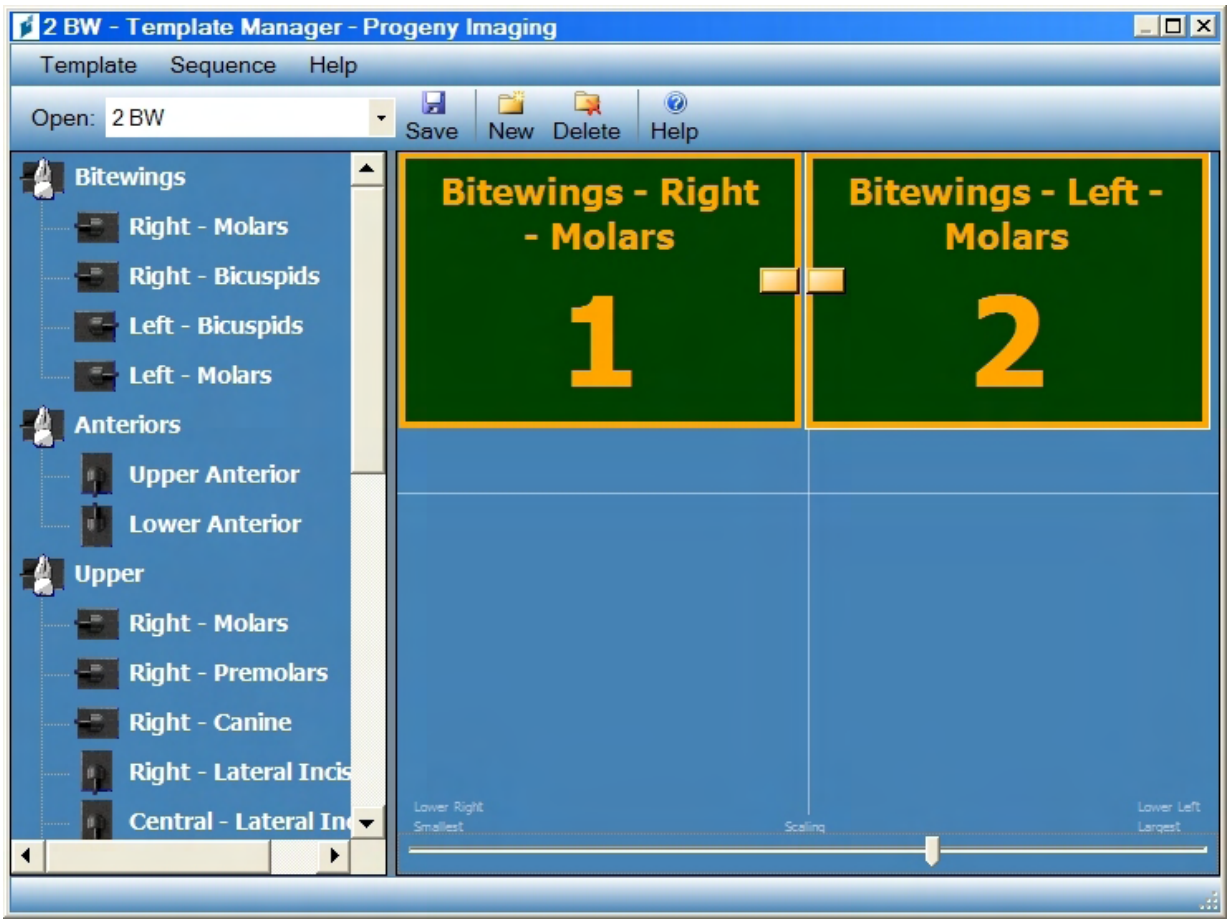
Menu Option	Description
	clicking Expanded View (CTRL + ALT + E) displays the additional information. To show or hide additional information for a single image, select the image and choose **Image > Expanded View** (ALT + E).
Export All	Opens a folder selection box where you choose a location to save the study image(s) as JPEG files. To export DICOM images, use **Patient > Export Patient Images**. To export in other image formats, use **Image > Export**. *For more information, see* Exporting Patient Images *on page 79.*
Grid	Toggles on and off the grid in the study surface. Grid properties are set by selecting Tools > Options, then selecting the General tab.
Print All	Sends the images or study to the printer.
Remove All	Closes an open study or all open images.
Save as Study (ALT + S)	Saves the open study or saves images as a study.
Tile (ALT + T)	Repositions images that are displayed in the study surface.

Template Controls Toolbar



Template controls allow you to select a template and open the Template Manager.

Template Manager



Templates are pre-defined groupings of image acquisition sequences that you can use to streamline image acquisition. You use the Template Manager to create and modify templates.

Open the Template Manager by selecting **Tools > Template** or click the **Templates** icon in the Template toolbar.

For more information, see Creating and Modifying Image Acquisition Templates *on page 62.*

Template Manager

Item	Description
Template Menu	Options for working with templates • New: Opens the New Template dialog box where you name and save a new (blank) template. The new template will be open in the

Item	Description
	design surface. • Save: Saves changes to the template currently open in the design surface. • Save As: Opens a Save As dialog box where you select a new name or location for a template that is open. • Delete: Deletes the template currently open in the design surface. The template no longer appears in the Open list. • Remove All Sequences: Removes all sequences from the template. • Exit: Closes the Template Manager.
Sequence Menu	Remove: Deletes the first or selected sequence from the template.
Help Menu	Displays the help file.
Open	Selects a template to display in the design surface. Templates listed are those that come with Progeny Imaging and templates you create using the Template Manager.
Save	Saves changes to the template currently open in the design surface.
New	Opens a box where you name and save the template that you are creating.
Delete	Deletes the template currently open in the design surface. The template no longer appears in the Open list.
Sequence Panel	Sequences of teeth that can be included in the template. Tool tips show the tooth number for teeth that are part of the sequence. Drag one or more sequences to the design surface to create the template.
Design Surface	Layout area of the Template Manager where you arrange sequences of teeth to create the template.

Tools Menu

The Tools menu contains settings that allow you to modify how Progeny Imaging looks and functions.

For more information, see VisionDX Configuration Screen *on page 137.*

For more information, see Configuring VisionDX and MPSe Modules for Use on a Network *on page 43.*

For more information, see Template Manager *on page 128.*

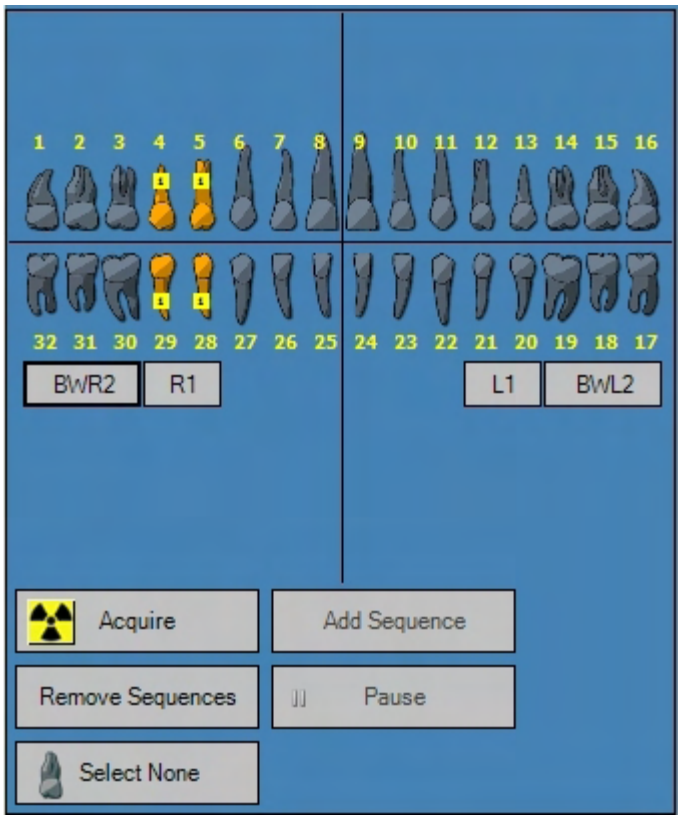
For more information, see Options Screen *on page 109.*

Tools Menu

Menu Option	Description
Video (ALT + V)	Opens the Video screen if the Progeny Vivid USB Camera is installed. You use the Video screen to capture video images and configure video.
Devices	Displays a menu with options for configuring installed image acquisition modules or adding new modules. Tools > Devices > Device Configuration opens the Device Configuration screen where you change settings of an installed VisionDX, VisionDX USB, or MPSe module. Tools > Devices > Add New Device Wizard runs the Device Installation Wizard so you can configure a VisionDX or MPSe module for use on a dental office network or reinstall a VisionDX USB module. Tools > Devices > Add Existing Device Wizard runs the Device Installation Wizard so you can configure Progeny Imaging to recognize a VisionDX or MPSe module that is installed on a dental office network.
Templates	Opens the Template Manager. Templates are image acquisition sequences used to streamline the image capture process for a dental study.

Menu Option	Description
Light Box	The Light Box is used to light X-ray images using the computer screen. When you select Tools > Light Box, the computer screen will go completely white so X-ray images can be displayed. Press Esc to return to Progeny Imaging.
Options	Opens the Options Screen where you can customize program defaults including Clinic Information, Default Filter, Annotation Defaults, and Tooth Numbering System.
Color Theme	Displays a menu of color themes. Color themes change the colors used in the Progeny Imaging screen.
License	Displays the currently installed Progeny Imaging license.

Tooth Panel



The Tooth Panel allows you to select sequences of teeth and to acquire images.

For more information, see Acquiring X-ray Image Sequences *on page 72.*

If the Tooth Panel is not displayed, click the **Tooth** icon, select **File > Toggle Tooth Panel**, or **ALT + 1**.

> ***Note:*** *To activate and use the Tooth Panel, a patient record must be open and an image acquisition module must be selected.*

Tooth Panel

Item	Description
Teeth	Selects teeth to add to an image sequence. Selected teeth are highlighted.
BWR2, R1, L1, BWL2	Selects predefined bitewing and incisor sequences. Teeth that are included in the sequence are highlighted.

Item	Description
Acquire	Acquires the selected sequence(s) of teeth.
Add Sequence	Adds sequence for imaging. Teeth that are part of the sequence change shade to indicate that the sequence is selected for acquisition.
Remove Sequences	Removes a highlighted sequence.
Pause	Pauses image acquisition.
Select None	Deselects teeth that had been selected.

User Manager Screen

The User Manager screen allows you to add users and create and maintain user profiles.

For more information, see Managing Users *on page 59.*

Open the User Manager screen by selecting **File > User Manager**, or **CTRL + U**.

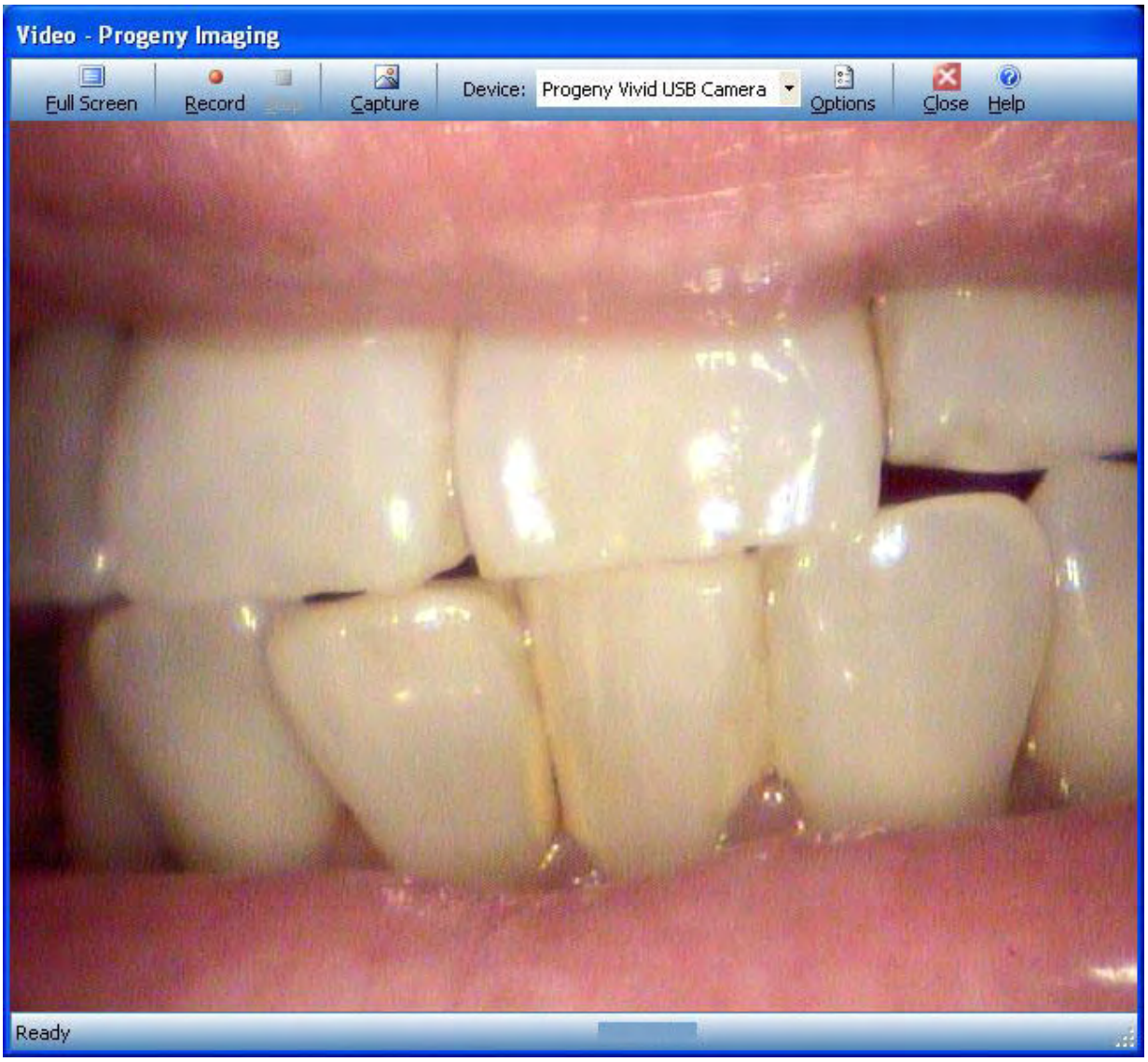
Note: You must be logged in as the Administrator or as an application administrator user in order to open the User Manager screen.

User Manager Screen

Item	Description
Administrator	Checkbox that grants the user administrator privileges. Users with administrator privileges create and manage other users and have access to all patients. Users without administrator privileges can access only their own patients.
Password	Password for the user. If a password is set, the user must enter the password each time they log in. Passwords are optional. Passwords must contain a minimum of 5 characters and are case-sensitive.
User ID	User's login ID. User ID is required to create a user.
First	User's first name. This field is optional.
MI	User's middle initial. This field is optional.
Last Name	User's last name. This field is optional.
Address 1, 2	User's address. This field is optional.
City, State, Zip, Country	User's city, state, zip code, and country. These fields are optional.
Home, Work,	User's phone numbers. These fields are optional.

Item	Description
Mobile Phone	
Email	User’s email address. This field is optional.
New	Adds a blank row to the User Manager screen where you can create a new user.
Delete	Deletes the selected user. If the user has patients assigned to him or her, you must reassign them before Progeny Imaging will allow you to delete the user.

Video Screen



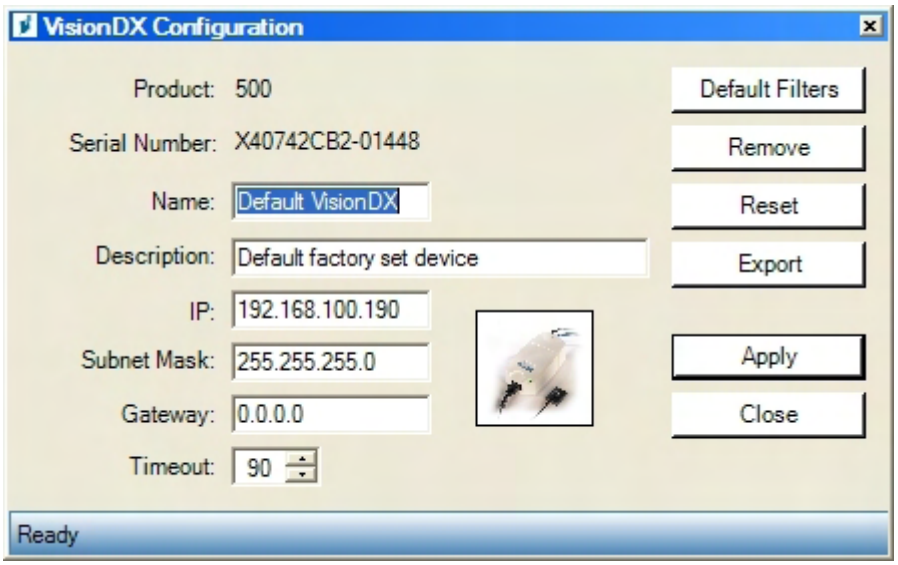
The Video screen allows you to capture and view images from the Progeny Vivid USB Camera. You use controls on the Video screen to configure capture settings. You must have a Progeny Vivid USB Camera installed in order to use the Video screen.

To open the Video screen, click **Video** on the Device Configuration toolbar, or select **Tools > Video**, or **ALT + V**.

VisionDX Configuration Screen

The VisionDX Configuration screen allows you to configure an image acquisition module. The controls that appear on the VisionDX Configuration screen differ depending upon whether you are configuring a VisionDX or VisionDX USB module.

VisionDX Device Configuration Screen



Changes made on this screen are stored in the module's non-volatile memory and will affect all clients (users) of this module.

CAUTION!
The VisionDX Configuration screen allows you to configure the image acquisition module's non-volatile memory. Changes made in the VisionDX Configuration screen affect all clients using this device. Any Progeny Imaging user of the image acquisition module can change its device configuration.

A module must be installed before you can use the VisionDX Configuration screen to configure it. To open the VisionDX Configuration screen, first select a module in the **Device** drop-down list on the Device toolbar. Then select **Tools > Devices > Device Configuration**.

For more information, see Configuring VisionDX and MPSe Modules for Use on a Network *on page 43.*

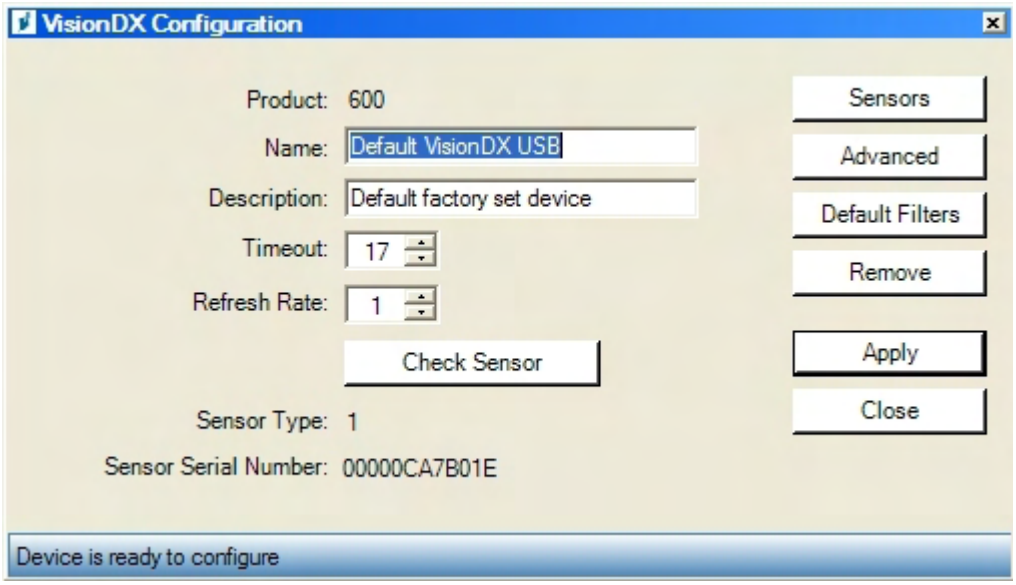
VisionDX Configuration Screen (for configuring VisionDX modules)

Item	Description
Product	Type of device; Progeny Imaging automatically detects the device type.
Serial	Serial number of the device; Progeny Imaging automatically detects the

Item	Description
Number	serial number.
Name	Name you assign to the module. When a device is installed initially Progeny Imaging assigns it a default name.
Description	Description for the module. When a device is installed initially, its description is ‘Default factory set device’.
IP Address	Internet Protocol address for the module as connected to the computer where Progeny Imaging is installed or on the dental office network. By default, the IP address is 192.168.100.190.
Subnet Mask	Internet Protocol address for data allowed into the dental office network. By default the subnet mask is 255.255.255.0.
Gateway	Internet Protocol address of the dental office network gateway. By default the gateway address is 0.0.0.0.
Timeout	Number of seconds allowed for image acquisition. The timeout period begins when you click Acquire in Progeny Imaging. At the end of the timeout period, if no X-ray exposure has been made, the digital sensor generates a gray-scale image. The factory default timeout setting is 90 seconds. Progeny recommends that you use this setting to ensure that you have enough time to acquire your image.
Default Filters	Click this to open the Default Filters screen to define filters that Progeny Imaging will automatically apply to all images that you acquire. By default, no default filters are configured. *For more information, seeon page 89.*
Remove	Deletes the module configuration.
Reset	Turns off and restarts the module.
Export	Stores the module configuration in a file. When you click Export, Progeny Imaging opens a dialog box for you to name and save the file. You can then move the module configuration file to another computer.
Apply	Applies the changes that you made to the device configuration. If you change the name of the device, Progeny Imaging will ask you to confirm

Item	Description
	the name change. Click Yes to create a new device configuration; click No to simply rename the current configuration.
Close	Click to close the VisionDX Configuration screen.

VisionDX USB Device Configuration Screen



A module must be installed before you can use the VisionDX Configuration screen to configure it. To open the VisionDX Configuration screen, first select a module in the **Device** drop-down list on the Device toolbar. Then select **Tools > Devices > Device Configuration**.

VisionDX Configuration Screen (for configuring VisionDX USB modules)

Item	Description
Product	Type of device; Progeny Imaging automatically detects the device type.
Name	Name you assign to the module. When a device is installed initially Progeny Imaging assigns it a default name.
Description	Description for the module. When a device is installed initially, its description is ‘Default factory set device’.
Timeout	Number of seconds allowed for image acquisition. The timeout period begins when you click Acquire in Progeny Imaging. At the end of the timeout period, if no X-ray exposure has been made, the digital sensor

Item	Description
	generates a gray-scale image. The factory default timeout setting is 90 seconds. Progeny recommends that you use this setting to ensure that you have enough time to acquire your image.
Refresh Rate	
Check Sensor	Click this to retrieve the type and serial number of the image acquisition module. The device must be ready.
Sensor Type	Size of the sensor. Type 1 sensors are smaller than Type 2 sensors.
Serial Number	Serial number of the device; Progeny Imaging automatically detects the serial number.
Sensors	Click this to open the Manage VisionDX Sensors screen where you add or remove sensors. *For more information, see* Manage VisionDX Sensors Screen *on page 106.*
Advanced	Click this to show or hide offset correction controls.
Default Filters	Click this to open the Default Filters screen to define filters that Progeny Imaging will automatically apply to all images that you acquire. By default, no default filters are configured. *For more information, seeon page 89.*
Remove	Deletes the module configuration.
Apply	Applies the changes that you made to the device configuration. If you change the name of the device, Progeny Imaging will ask you to confirm the name change. Click Yes to create a new device configuration; click No to simply rename the current configuration.
Close	Click to close the VisionDX Configuration screen.

Section 9: Keyboard Shortcuts

Keyboard Command Sequences

Use the commands below for efficient access to Progeny Imaging functions.

Keyboard Shortcuts

Shortcut Key	Command
File Menu	
ALT + 1	Show or Hide the Tooth Panel
CTRL + U	Open the User Manager
ALT + L	Logout of Progeny Imaging and redisplay the Login screen
ALT + X	Exit Progeny Imaging
Patient Menu	
ALT + 2	Show or Hide the Patient Panel
ALT + O	Open the Select Patient screen
ALT + N	Open the Patient Properties screen to create a new patient record
CTRL + ALT + P	Open the Patient Properties screen for a patient whose record is open
ALT + D	Delete the selected image in the Image Container Folder tab
Image Menu	
ALT + U	Undo filter
ALT + R	Redo filter
ALT + A	Open the Annotate and Measure toolbar
ALT + P	Open the Print Preview screen
ALT + F	Full-screen display of an image in the Study Surface
ALT + M	Open the Move to Patient screen
ALT + E	Hide and display an Expanded View of the image in the Study Surface
ALT + C	Close an image in the Study Surface
Tools Menu	
ALT + V	Display the Video screen if a video capture device is available

Study Surface Menu	
ALT + T	Tiles (repositions) images in the Study Surface
CTRL + ALT + E	Hides and displays an Expanded View of all images in the Study Surface
ALT + D	Delete Study that is selected in the Image Container Study tab
ALT + S	Save images in the Study Surface as a study
Help Menu	
ALT + H	Displays Progeny Imaging Help

Index

DICOM Conformance Statement

Progeny Imaging
DICOM Conformance Statement

Revision: 0.2

September 5, 2006

Document Status: Draft

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Keywords: Progeny, Dental, DICOM Conformance Statement, DICOM

1. DICOM CONFORMANCE STATEMENT OVERVIEW

1.1 Progeny Imaging

The Progeny Imaging software application is designed to facilitate the acquisition, analysis and organization of digital images and documents from a variety of other sources. Progeny Imaging supports multiple sensor systems for the acquisition of digital radiograph images. It also supports images of many types from a variety of sources and other input devices. Images are stored in an open architecture and related to a patient. A large number of diagnosis specific image processing functions are provided.

The application can be run standalone or integrated in a multi-user network environment to support typical dental clinics or scaled up to support larger dental organizations (e.g., Dental School). Progeny Imaging has its own patient database. Progeny Imaging can also be integrated with a third-party Patient Management Software system (which controls the patient related billing and scheduling information).

This conformance statement represents the functionality of Progeny Imaging with respect to its communication with other DICOM compliant components and systems. The document is formatted according to DICOM PS 3.2-2004

PS 3.2 (Part 2) of the DICOM Standard: http://medical.nema.org/dicom/2004/04_02PU.PDF
ADA: Working Group 22 - ADA SCDI WG 12.1

1.2 Network Services

SOP Classes	User of Service (SCU)	Provider of Service (SCP)
Transfer		
Stored Print Storage SOPClass	Stored only	No
Hardcopy Grayscale Image Storage SOP Class	Stored and Viewed	Yes
Hardcopy Color Image Storage SOP Class	Stored and Viewed	Yes
Computed Radiography Image Storage	Stored and Viewed	Yes
Digital X-Ray Image Storage – For	Stored and Viewed	Yes

Presentation		
Digital X-Ray Image Storage – For Processing	Stored only	Yes
Digital Intra-oral X-Ray Image Storage – For Presentation	Stored and Viewed	Yes
Digital Intra-oral X-Ray Image Storage – For Processing	Stored only	Yes
CT Image Storage	Stored and Viewed	Yes
Standalone Overlay Storage	Stored only	Yes
Standalone Modality LUT Storage	Stored only	Yes
Standalone VOI LUT Storage	Stored only	Yes
Grayscale Softcopy Presentation State Storage SOP Class	Stored and Viewed	Yes
Raw Data Storage	Stored only	Yes
RT Image Storage	Stored and Viewed	Yes
RT Dose Storage	Stored only	Yes
RT Structure Set Storage	Stored only	Yes
RT Beams Treatment Record Storage	Stored only	Yes
RT Plan Storage	Stored only	Yes
RT Brachy Treatment Record Storage	Stored only	Yes
RT Treatment Summary Record Storage	Stored only	Yes
Query/Retrieve		
Study Root Information Model FIND	Yes – Hierarchical only	No
Study Root Information Model MOVE	Yes – Hierarchical only	No
Workflow Management		
None		No
Print Management		
None		No

1.3 Media Services

Media Storage Application Profile	Write Files (FSC or FSU)	Read Files (FSR)
Compact Disk - Recordable		
General Purpose CD-R	Yes (on Backup Disks Only)	Yes
DVD		
General Purpose DVD-RAM	Yes (on Backup Disks Only)	Yes

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2. INTRODUCTION

2.1 Revision History

Revision	Date	Author	Change
Revision 0.1	June 5, 2006	Dan Wolf	Initial creation
Revision 0.2	September 6, 2006	Dan Wolf	SOP changes
Revision 0.3			
Revision 1.0			

2.2 Audience

Conformance of Progeny Imaging to the DICOM 3.0 Standard is discussed in this document. It specifies the Service Classes, Information Objects, and Communication Protocols supported by the implementation. This statement is intended to provide information about the functionality of Progeny Imaging in a clinical environment and aid the system integrator in designing the software and hardware infrastructure connecting Progeny Imaging to other components which make use of the DICOM 3.0 Standard for inter-network communication. The reader of this document should be familiar with the DICOM 3.0 Standard, the components being interconnected, and other references listed in Section 0.3 of this document.

2.3 Important Considerations for the Reader

There is no concept in DICOM of a singular “monolithic” compliance with the Standard. The DICOM Conformance Statement, is a document whose organization and content are mandated by the Standard (PS 3.2-2004) and which allows users to communicate how they comply with the Standard in their implementations. The presence of specific DICOM functionality in a Conformance Statement is not sufficient to guarantee inter-operability between components. When evaluating network inter-operability between the Progeny Imaging and some other DICOM component, the following should be considered:

The Progeny Imaging Conformance Claim is an appropriate starting point for ascertaining whether the Progeny Imaging software can communicate with a particular component on a protocol level.

The only way to know for certain whether Progeny Imaging can inter-operate with other DICOM components is to perform a connectivity test. This test must be completed before a field installation can occur. The developers or distributors of Progeny Imaging OEM normally do such testing in cooperation with the suppliers of other DICOM components.

The Progeny Imaging Conformance Claim represents a best effort at documenting the DICOM functionality of the software, but is not a functional specification of any image processing procedure. Oral Diagnostic Systems reserves the right to make changes at any time to the functionality of components described herein. Both Oral Diagnostic Systems and its regional distributors are

committed to following the evolution of the DICOM Standard with either modifications or additions to the DICOM functionality provided by the software.

2.4 Glossary of Terms

Term	Definition
Abstract Syntax	A DICOM term which is identical to a DICOM SOP Class; it identifies a set of SOPs which, when taken together, represent a logical grouping. An Abstract Syntaxidentifies one SOP Class or Meta SOP Class.
ACR	American College of Radiology.
ACR-NEMA	American College of Radiology - National Electrical Manufacturers Association
Annotation Box	A DICOM name for annotation text printed on the film or other media.
ANSI	American National Standards Institute
Application Entity (AE)	A DICOM term for defining a particular user at an IP address
Association	A DICOM term for a communication context which is used by two Application Entities that communicate to one another.
Association Negotiation	The software handshaking that occurs between two DICOM Application Entities to set up an Association
Attribute	Each DICOM information object has its own set of characteristics or attributes. Each attribute has a name and may have a value (see IOD), depending on its category.
Big Endian	A term for encoding data where the most-significant byte appears first and remaining bytes follow in descending order of significance; sometimes known as “Motorola” format (see Little Endian). (The term is used because of an analogy with the story Gulliver's Travels, in which Jonathan Swift imagined a never-ending fight between the kingdoms of the Big-Endians and the Little-Endians, whose only difference is in where they crack open a hard-boiled egg.)
Calling (Requesting) AE Title	The name used by the receiver in a DICOM Association to indicate which Application Entity it received the data from. It is the AE Title of the AE that is initiating the transfer
Called (Receiving) AE Title	The name used by the sender in a DICOM Association to indicate which Application Entity it wants to transmit its data to. It is the AE Title of the AE that is receiving the transfer.
Command Element	An encoding of a parameter of a command which conveys this parameter's value. Command Stream: The result of encoding a set of DICOM Command Elements using the DICOM encoding scheme.
Composite Information Object	A DICOM information object (see IOD) whose attributes contain multiple real world objects.
Conformance	Conformance in the DICOM sense means to be in compliance with the parts of the DICOM Standard.

Conformance Statement	A document whose organization and content are mandated by the DICOM Standard, which allows users to communicate how they have chosen to comply with the Standard in their implementations (see Section 8)
Combined Print Image	a pixel matrix created by superimposing an image and an overlay, the size of which is defined by the smallest rectangle enclosing the superimposed image and overlay
CR	Computed Radiography
Data Dictionary	A registry of DICOM Data Elements which assigns a unique tag, a name, value characteristics, and semantics to each Data Element (see the DICOM Data Element Dictionary in DICOM PS 3.6-1999)
Data Element	A unit of information as defined by a single entry in the data dictionary. An encoded Information Object Definition (IOD) Attribute that is composed of, at a minimum, three fields: a Data Element Tag, a Value Length, and a Value Field. For some specific Transfer Syntaxes, a Data Element also contains a VR Field where the Value Representation of that Data Element is specified explicitly
Data Set	Exchanged information consisting of a structured set of Attribute values directly or indirectly related to Information Objects. The value of each Attribute in a Data Set is expressed as a Data Element
Data Stream	The result of encoding a Data Set using the DICOM encoding scheme (Data Element Numbers and representations as specified by the Data Dictionary)
DICOM	Digital Imaging and Communications in Medicine
DICOM File	A DICOM File is a file with a content formatted according to the requirements of DICOM PS 3.10-1999
DICOM File Format	The DICOM File Format provides a means to encapsulate in a File the Data Set representing a SOP Instance related to a DICOM Information Object.
DIMSE	DICOM Message Service Element. This represents an abstraction of a common set of things that a user would do to a data element, would likely use over and over, and would appear in various different contexts.
DIMSE-C	DICOM Message Service Element—Composite
DIMSE-C Services	A subset of the DIMSE services which supports operations on Composite SOP Instances related to composite Information Object Definitions with peer DIMSE-service-users
DIMSE-N	DICOM Message Service Element—Normalized.
DIMSE-N Services	A subset of the DIMSE services which supports operations and notifications on Normalized SOP Instances related to Normalized Information Object Definitions with peer DIMSE-service-users.
Film Box	A Normalized Information Object which is the DICOM name for the equivalent of a sheet of physical film
Film Session	A Normalized Information Object which is the DICOM name for the equivalent of a typical “study” or “series”
FSC	File-set Creator
FSR	File-set Reader

FSU	File-set Updater
HIS	Hospital Information System
Image Box	A Normalized Information Object which is the DICOM name for the equivalent of a typical “frame” or “image”.
Information Object Class or Information Object [Definition] (IOD)	A software representation of a real object (e.g., CT Image, Study, etc.). An Information Object is generally a list of characteristics (Attributes) which completely describe the object as far as the software is concerned. The formal description of an Information Object generally includes a description of its purpose and the Attributes it possesses
Information Object	Instance or Instance (of an IOD): A software representation of a specific occurrence of a real object or entity, including values for the Attributes of the Information Object Class to which the entity belongs
IOD	Information Object Definition
Little Endian	A term for encoding data where the least-significant byte appears first and remaining bytes follow in ascending order of significance; sometimes known as ”Intel” format (see Big Endian)
LUT	Lookup Table
Message	A data unit of the Message Exchange Protocol exchanged between two cooperating DICOM Application Entities. A Message is composed of a Command Stream followed by an optional Data Stream
Meta SOP Class	A collection or group of related SOP Classes identified by a single Abstract Syntax UID, which, when taken together, represent a logical grouping and which are used together to provide a high-level functionality, e.g., for the purpose of negotiating the use of the set with a single item
Module	A logical group of the valid attributes of DICOM information objects
NEMA	National Electrical Manufacturers Association
Normalized Information Object	A DICOM Information Object (see IOD) whose attributes contain a single real world object. Note: the differentiation of normalized versus composite information object definitions is not strongly enforced in DICOM 3.0
OSI	Open Systems Interconnection
PACS	Picture Archive and Communication System
PDU	Protocol Data Unit
Presentation Context	A Presentation Context consists of an Abstract Syntax plus a list of acceptable Transfer Syntaxes. The Presentation Context defines both what data will be sent (Abstract Syntax) and how the data are encoded to be sent (Transfer Syntax).
Print Job SOP Class	A DICOM representation of a Print Job which consists of a set of IODs which describe a Print Job and a set of services which can be performed on those IODs
Print Management Service Class or Print Service Class (PSC)	A DICOM term for a logical grouping of Service Classes which all involve printing, also referred to as Print Management Service Class (an example of a Meta SOP Class)
Printer SOP Class	A DICOM representation of a Printer which consists of a set of IODs

	which describe a Printer and a set of services which can be performed on those IODs
Protocol Data Unit (PDU)	A data object which is exchanged by software protocol devices (entities, machines) within a given layer of the protocol stack
Real-World Activity	Something which exists in the real world and which pertains to specific area of information processing within the area of interest of the DICOM Standard. A Real-World Activity may be represented by one or more SOP Classes
Real-World Object	Something which exists in the real world and upon which operations may be performed which are within the area of interest of the DICOM Standard. A Real-World Object may be represented through a SOP Instance
RIS	Radiology Information System
SCP	Service Class Provider
SCU	Service Class User
Service Class (SC)	A group of operations that a user might want to perform on particular Information Objects. Formally, a structured description of a service which is supported by cooperating DICOM Application Entities using specific DICOM Commands acting on a specific class of Information Object
Service Class Provider (SCP, Provider, Server)	A device which provides the services of a DICOM Service Class or Classes which are utilized by another device (SCU) and which performs operations and invokes notifications on a specific Association
Service Class User (SCU, User, Client)	A device which utilizes the DICOM Service Class or Classes which are provided by another device (SCP) and which invokes operations and performs notifications on a specific Association
Service-Object Pair (SOP)	The combination of a DICOM Information Object and the Service Class which operates upon that object.
SOP	Service-Object Pair
SOP Class	A DICOM term which is identical to an Abstract Syntax; it identifies a set of SOPs which, when taken together, represent a logical grouping (see Meta SOP Class)
Storage Service Class (SSC)	A DICOM term for a logical grouping of Service Classes which all involve storage of images
Tag	A unique identifier for an element of information composed of an ordered pair of numbers (a Group Number followed by an Element Number), which is used to identify Attributes and corresponding Data Elements
TCP/IP	Transmission Control Protocol / Internet Protocol
Transfer Syntax	A part of the DICOM Presentation Context which specifies a set of encoding rules that allow Application Entities to unambiguously negotiate the encoding techniques (e.g., Data Element structure, byte ordering, compression) they are able to support, thereby allowing these Application Entities to communicate.
Unique Identifier (UID)	A globally unique identifier (based on the structure defined by ISO 8824 for OSI Object Identifiers) which is assigned to every DICOM information object as specified by the DICOM Standard (see Section

	2.1.1.4) and which guarantees global unique identification for objects across multiple countries, sites, vendors and equipment
Value Representation (VR)	A VR is the defined format of a particular data element.

2.5 References and Links

Item	Reference No.	Title
[1]	PS 3.x	ACR-NEMA DICOM 3.0 Standard, Parts 1 through 14 http://medical.nema.org/
[2]	PS 3.2-2004	Digital Imaging and Communications in Medicine (DICOM) Part 2: Conformance Document http://medical.nema.org/dicom/2004/04_02PU.PDF
[3]		

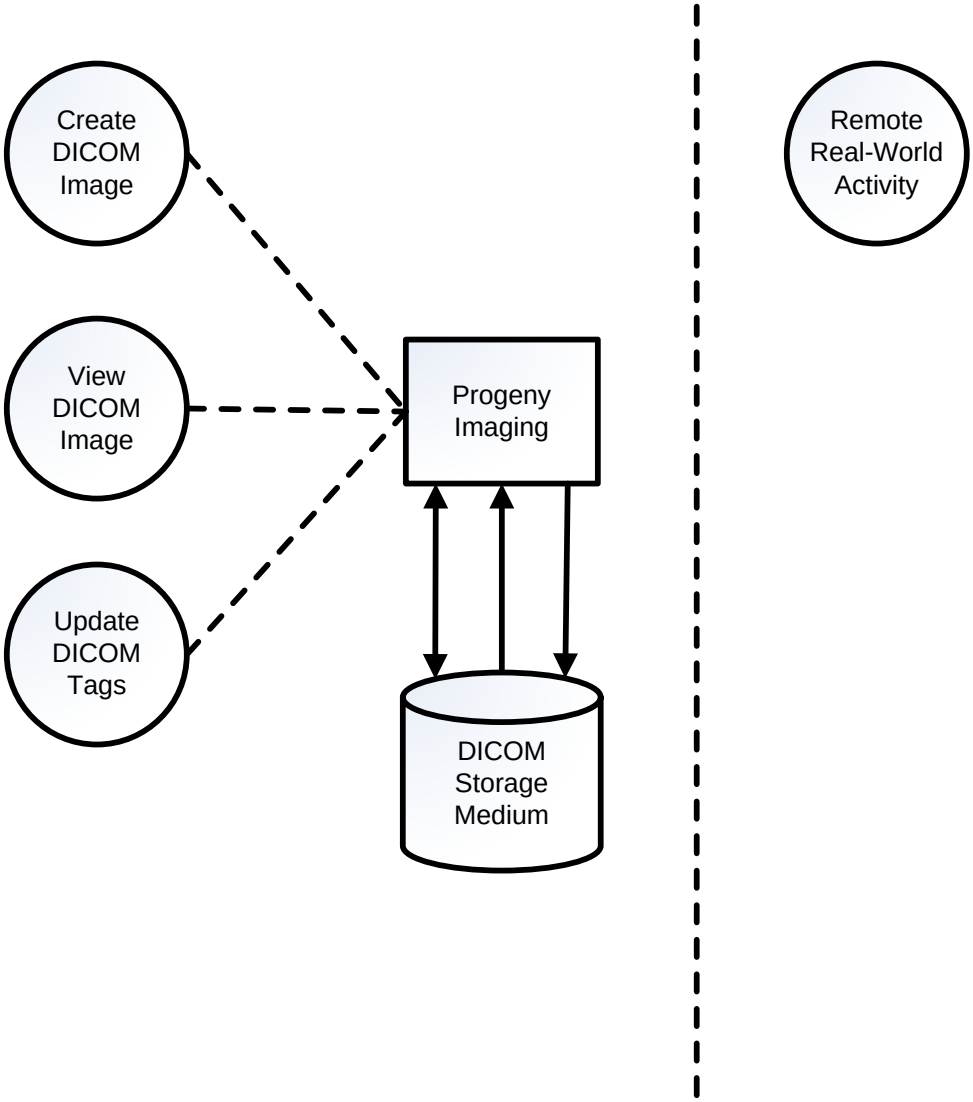
3. NETWORKING

3.1 IMPLEMENTATION MODEL

The Implementation model consists of three sections: the Application Data Flow Diagram, specifying the relationship between the Application Entities and the "external world" or Real-World activities, a functional description of each Application Entity, and the sequencing constraints among them.

3.1.1 Application Data Flow Diagram

The relationships between Real-World Activities and Application Entities are illustrated.



Functional Overview

3.1.2 Functional Definition of AE's (Application Entities)

The Progeny Imaging application entity can perform these functions:
It can write a new DICOM file-set.
It can read and existing DICOM file-set and display the image.
It can update and existing DICOM file-set.

3.1.2.1 Progeny Imaging Application Entity Specification

The Progeny Imaging application entity provides standard conformance to DICOM Interchange Option of the Media Storage Service Class. The Application Profiles and Roles are listed:

Application Profiles Supported	Real world activity	Role	SC Option
STD-DEN-CD	Export DICOM file-set	FSC	Interchange
STD-DEN-CD AUG-PRO-01	View DICOM file-set	FSR	Interchange
STD-DEN-CD AUG-PRO-01	Update DICOM file-set	FSU	Interchange

3.1.2.2 File Meta Information for the Progeny Imaging Application Entity

The Application Entity (AE) title is "Progeny Imaging".

3.1.3 Sequencing of Real World Activities

If applicable, this section shall contain a description of sequencing as well as potential constraints, of Real-World Activities, including any applicable user interactions, as performed by all the Application Entities. A UML sequence diagram, which depicts the Real-World Activities as vertical bars and shows the events exchanged between them as arrows, is strongly recommended.

3.2 AE SPECIFICATIONS

3.2.1 Progeny Imaging

3.2.1.1 SOP Classes

The specification for an Application Entity shall contain a statement of the form: "This Application Entity provides Standard Conformance to the following SOP Class(es):"

3.2.1.2 Association Policies

Each AE Specification shall contain a description of the General Association Establishment and Acceptance policies of the AE.

3.2.1.2.1 General

The DICOM standard Application context shall be specified.

3.2.1.2.2 Number of Associations

The number of simultaneous associations, which an Application Entity may support as a SCU or SCP, shall be specified. Any rules governing simultaneity of associations shall be defined here.
Note: For example an AE may have the capability to have up to 10 simultaneous associations, but may limit itself to have no more than 2 with any particular other AE. There may also be policies based upon combinations of simultaneous Real-World Activities.

3.2.1.2.3 Asynchronous Nature

If the implementation supports negotiation of multiple outstanding transactions, this shall be stated here, along with the maximum number of outstanding transactions supported.

3.2.1.2.4 Implementation Identifying Information

The value supplied for Implementation Class UID shall be documented here. If a version name is supplied, this fact shall be documented here. Policies defining the values supplied for version name may be stated here.

3.2.1.3 Association Initiation Policy

This describes the conditions under which the AE will initiate an association.

3.2.1.4 Association Acceptance Policy

Each AE Specification shall contain a description of the Association Acceptance policies of the AE. This describes the conditions under which the AE will accept an association.

3.3 NETWORK INTERFACES

3.3.1 Physical Network Interface

If applicable, specifies what physical network interface(s) are supported.

3.4 CONFIGURATION

3.4.1 AE Title/Presentation Address Mapping

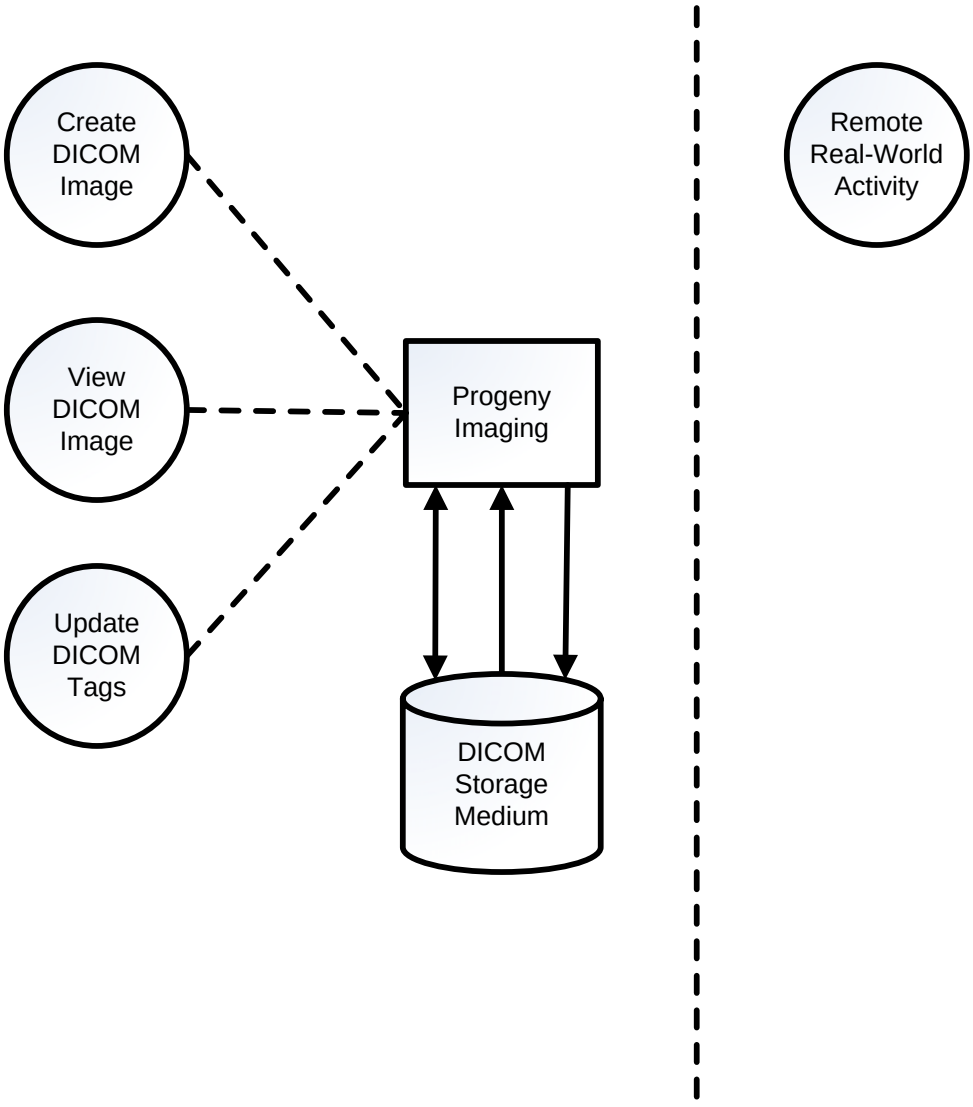
An important installation issue is the translation from AE title to Presentation Address. How this is to be performed shall be described in this section.

4. MEDIA INTERCHANGE

4.1 IMPLEMENTATION MODEL

The Implementation Model shall identify the DICOM Application Entities in a specific implementation and relate the Application Entities to Real-World Activities.

4.1.1 Application Data Flow Diagram



4.1.2 Functional definitions of AE's

4.1.2.1 Progeny Imaging

4.1.2.2 Create DICOM Image

The Progeny Imaging application acts as a FSC when acquiring images into the DICOM format.

4.1.2.3 Display DICOM Image

The Progeny Imaging application acts as a FSR when using the viewing and image in DICOM format. Application Profile AUG-PRO-01.

4.1.2.4 Update DICOM Image

The Progeny Imaging application acts as a FSU when updating image "notes".
Application Profile AUG-PRO-01.

4.1.2.4.1 Export DICOM Image

The Progeny Imaging application acts as an FSC when using the export function located in the file menu and subsequently selecting as the export format. When the Progeny Imaging Application is requested to export an image in the DICOM format, it will create a new File-set containing the information corresponding to the Application Profile STD-DEN-CD.

4.1.2.4.2 Media Storage Application Profile

No Application Profiles that invoke this AE for the Export DICOM image.
There are no extensions or specializations.

4.1.2.4.3 Display Directory

DICOMDIR IS NOT SUPPORTED

Future -> The Progeny Imaging application acts as a FSR using the open DICOMDIR from the file menu. When the Progeny Imaging Application is requested to read out a DICOMDIR it will read the File-set and display the DICOMDIR directory for those SOP Instances in the File-set that correspond to the AUG_EMG_01 Application Profile.

4.1.3 Sequencing of Real World Activities

4.1.4 File Meta Information for Implementation Class and Version

This section shall be used to list the values assigned to the File Meta Information attributes (see PS 3.10)
that pertain to the Implementation Class and Version. These are:

File Meta Information Version
Implementation Class UID

Implementation Version Name

4.2 AE SPECIFICATIONS

The next section in the DICOM Conformance Statement is a set of Application Entity Specifications. There shall be one such specification for each Application Entity type.

4.3 AUGMENTED AND PRIVATE APPLICATION PROFILES

4.3.1 Augmented Application Profiles

The Progeny Imaging application supports one augmented Application Profile: AUG-PRO-01.

4.3.1.1 Progeny Imaging

This Application Profile is an augmentation of the STD-DEN-CD Standard Application profile defined in supplement 92 of the dicom standard.

4.3.1.1.1 SOP Class Augmentations

The following IODs are part of the AUG-PRO-01. There are no requirements or restrictions on SOP options for these IODs beyond those in their standard definitions.

Table 3-1 - IODs for AUG-PRO-01

Information Object Definition (IOD)	SOP Class UID
Secondary Capture Image Storage	1.2.840.10008.5.1.4.1.1.7
Computed Radiography Image Storage	1.2.840.10008.5.1.4.1.1.1

All the transfer syntaxes AUG-PRO-01 support are described in table 3-2.

Table 3-2 – Transfer syntaxes for AUG-PRO-01

Transfer Syntax	Transfer Syntax UID
Implicit VR Little Endian	1.2.840.10008.1.2
Explicit VR Little Endian	1.2.840.10008.1.2.1
Explicit VR Big Endian	1.2.840.10008.1.2.2
JPEG Lossless, Non-Hierarchical (Process 14)	1.2.840.10008.1.2.4.57
JPEG Lossless, Non-Hierarchical First-Order Prediction (Process 14[Selection Value 1])	1.2.840.10008.1.2.4.70

JPEG-LS Lossless Image Compression	1.2.840.10008.1.2.4.80
JPEG-LS Lossy (Near-Lossless) Image Compression	1.2.840.10008.1.2.4.81
RLE Lossless	1.2.840.10008.1.2.5

4.3.1.1.2 Directory Augmentations

There are no additional directory keys, records, or options as part of this profile. None will be written as either FSU or FSC.

4.3.1.1.3 Other Augmentations

None.

4.3.2 Private Application Profiles

None.

4.4 MEDIA CONFIGURATION

Any implementation's DICOM conformance may be dependent upon configuration that takes place at the time of installation. Issues concerning configuration shall be addressed in this section (e.g. the configuration of the Source AE Title in File Meta Information).

5. SUPPORT OF EXTENDED CHARACTER SETS

The Progeny Imaging Application Entity will only support copy of SOP Instances containing the DICOM
default character set as defined in PS 3.5.

5.1 Codes and Controlled Terminology

This implementation uses the SNOMED DICOM Microglossary as a Mapping Resource.
No Private Mapping Resources or Coding Schemes are used.

6. SECURITY PROFILES

None.

7. COVER LETTER

This document provides written affirmation that the imaging software known as Progeny Imaging is DICOM compliant.

Progeny Dental, Inc., the maker of Progeny Imaging, is committed to delivering DICOM functionality. Progeny Imaging is currently producing DICOM compliant images following the ACR-NEMA DICOM standards parts 1 – 14 and supplement 32 (Digital X-ray). In addition, the implementation of the DICOM standard is in compliance with ADA WG 12.1. This involves the DICOM substandard for dental digital applications.

Thank you for your interest in Progeny Imaging

Sincerely,

Progeny Dental, Inc.