

Initial Training Workbook

CS Orthodontic Imaging and
CS OMS Imaging Software

Your Guide to a Successful Transition

CS Orthodontic Imaging and CS OMS Imaging Software

Initial Training Workbook

Notice

© 2020 Carestream Dental LLC. No part of this publication may be reproduced, stored in a retrieval system, translated to another language, or transmitted in any form by any means, electronic, mechanical, photocopied, recorded, or otherwise, without prior written permission.

NEITHER CARESTREAM DENTAL NOR ITS PARENTS OR ANY OF ITS SUBSIDIARIES MAKES ANY WARRANTY OF ANY KIND WITH RESPECT TO THIS MATERIAL INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY, NONINFRINGEMENT, AND FITNESS FOR A PARTICULAR PURPOSE.

The information in this document is subject to change. Neither Carestream Dental LLC nor its parents, affiliates, or any of its subsidiaries shall be liable for errors contained herein, omissions herefrom, or for indirect, incidental, consequential, or special damages (including, without limitation, lost profits or lost revenue) in conjunction with the furnishing, performance, or use of this material.

CS Orthodontic Imaging and CS OMS Imaging are trademarks of Carestream Dental Technology Topco Limited. All other trademarks and registered trademarks are the property of their respective holders.

Current Dental Terminology (CDT) © American Dental Association (ADA). All rights reserved.

U.S. Federal law restricts the CS 1200 intraoral camera, CS 1500 intraoral camera, CS 1600 intraoral camera, CS 2100 system, CS 2200 system, RVG 5100 system, RVG 5200 system, RVG 6100 system, RVG 6200 system, RVG 6500 system, CS 7400 system, CS 7600 system, 8000 digital panoramic system, 8000C digital panoramic and cephalometric unit, CS 8100 panoramic system, CS 8100 Access panoramic system, CS 8100SC panoramic system, CS 8100SC Access panoramic system, CS 8100 3D extraoral imaging system, CS 8100 3D Access extraoral imaging system, CS 9000 panoramic imaging system, CS 9000C extraoral and cephalometric imaging system, CS 9000 3D system, CS 9300 system, CS 9300C system, CS 9300 Select system, CS 9300C Select system, 9500 Cone Beam 3D system, CS 9600 extraoral imaging system, and CS OMS Imaging software to sale by or on the order of a dentist or physician.

Manual Name: *CS Orthodontic Imaging and CS OMS Imaging Initial Training Workbook*
Part Number: OR150
Revision Number: 08
Print Date: June 2020

The names of persons and the data reflected in this guide are fictitious and are not intended to represent any real individual, event, or condition. Any resemblance or similarity of the names of persons or data reflected in this guide to any actual person's name or any event or condition is purely coincidental and unintended.

Warning: Radiographic images are not intended for diagnostic use when viewed on displays or monitors that do not meet system specifications. For more information, see the CS Orthodontic Imaging Software and CS OMS Imaging Software system requirements.

Warning: Modified radiographic images are not intended for diagnostic use.

Warning: When you launch CS Orthodontic Imaging from CS OrthoTrac Cloud or CS WinOMS Cloud and the bandwidth between the Cloud server and your office is limited, the displayed image may contain artifacts. The software is an aid to diagnosis only; you must apply your professional training and judgment before deciding a course of treatment.

Warning: Printed radiographic images are not intended for diagnostic use.

Warning: The implant module is intended to present surgical options to patients. It is not intended as a tool for surgical planning, mapping, or navigation.



Manufacturer



Carestream Dental LLC
3625 Cumberland Boulevard, Suite 700
Atlanta, GA 30339 USA

Authorized Representative in the European Community



Trophy
4, Rue F. Pelloutier, Croissy-Beaubourg
77435 Marne la Vallée Cedex 2
FRANCE

Contents

Introduction

Navigating in the Software

Accessing the Software	1
Using the Image Chart Window	1
Using the Table of Contents	1
Using the Image Chart Toolbar	2
Using the Tool Box	3
Using the Annotations Toolbar	6
Using Gallery Edit View	7

Setting Preferences

Setting Global Prefences	9
Setting Basic Preferences	10
Adding or Changing Your Logo	12

Using the Software

Creating Visits	15
Deleting Visits	16
Editing Visits	16
Moving Visits	17
Adding Images	17
Deleting Images	18
Archiving Images	18
Displaying and Hiding Gridlines	19
Adding Gridlines	19

Moving Gridlines	20
Autosizing Images	20
Changing the Size of an Image	21
Rotating an Image	22
Using the Gripper	23
Using the Tools in the Tool Box	23
Rotating in 90 Degree Increments	23
Rotating an Image by Degrees	24
Changing Brightness	25
Using the Contrast Tool	25
Changing the Intensity of an Image	26
Sharpening an Image	26
Changing the Hue	27
Changing the Saturation Levels	28
Balancing Contrast and Color	28
Using the Despeckle Tool	29
Using the Median Tool	29
Using the Emboss Tool	29
Using the Masking Tool	30
Using the Flip Tool	30
Using the Mirror Tool	31
Using the Invert Tool	31
Using the Grayscale Tool	32
Using the Annotation Tools	32
Using the Text Tool	32
Drawing Polygons	33

Hiding Annotations.	33
Deleting Annotations.	33
Using the Metal Artifact Reduction (MAR).	34
Using the Auto Detect Landmarks Feature	34
Working with Images and Documents.	35
Copying Images	35
Attaching Images.	35
Printing Images	36
Printing Single Images	36
Printing Multiple Images	36
Changing the Orientation of Images	37
Printing a Date of Birth on Images	38

Glossary

Index

Introduction

You can use this workbook to become acquainted with the CS Ortho Imaging and CS OMS Imaging software before you are trained, while you are training, and after training is finished.

For more information about using the software, see the CS Orthodontic Imaging Software Online Help and the CS OMS Imaging Software Online Help.

About This Guide

The following notices, in the sidebar areas of the workbook, emphasize information or indicate potential risks to personnel and equipment:

Warning

Warns you to avoid injury to yourself or others by following the safety guidelines precisely.

Caution

Alerts you to a condition that might cause serious damage.

Important

Alerts you to a condition that might cause problems.

Note

Provides additional information.

Tip

Provides extra information and helpful hints.

Accessing This Guide Electronically

When you install CS Orthodontic or OMS Imaging software, an electronic version of this guide is installed on your computer.

To access this electronic document:

- 1 On the Microsoft Windows task bar, click **Start**.
- 2 Do one of the following:
 - Select **All Programs > CS Orthodontic Imaging > Online Documentation**.
 - Select **All Programs > CS OMS Imaging > Online Documentation**.
- 3 Select a document from the drop-down list.

The electronic documents are in PDF file format and can be opened with Adobe Reader software. If the Adobe Reader software is not installed on your computer:

- 1 On the Microsoft Windows task bar, click **Start**.
- 2 Do one of the following:
 - Select **All Programs > CS Orthodontic Imaging > Online Documentation > Install Acrobat Reader**.
 - Select **All Programs > CS OMS Imaging > Online Documentation > Install Acrobat Reader**.
- 3 Follow the on-screen instructions to install the software.

Note

Customer Support does not provide assistance on backup procedures.

Backing Up Data

Back up your data every day. You should have a backup for each day of the week, with copies stored off-site. Keep your backups in a fire-resistant safe. It is recommended that you work with your hardware vendor to create and maintain a backup routine.

Navigating in the Software

This lesson includes the following topics:

- [Accessing the Software](#)
- [Using the Image Chart Window](#)
- [Using the Tool Box](#)
- [Using the Annotations Toolbar](#)
- [Using Gallery Edit View](#)

Accessing the Software

You can access the software in two ways:

- In the practice management software, select a patient and click the **Imaging** button.
- In stand-alone mode, double-click the desktop icon for the software. The **Patient Lookup** window is displayed. Select the patient and click **OK**.

The **Image Chart** window is displayed.



Using the Image Chart Window

The **Image Chart** is the primary workspace. In this window, you can import, export, display, and enhance images. You can add annotations, make copies, and print images.

Using the Table of Contents

The **Table of Contents (TOC)** tree runs down the left side of the window. It displays a patient's name, a list of visits, and objects associated with each visit.

To change the width of the **TOC**, move your cursor to the vertical line that divides the **TOC** from the primary display area. When the pointer changes to an arrow, click-and-drag to increase or decrease the area displayed.

To hide the **TOC**, click the **Table of Contents** button on the toolbar. Click the button again to return to normal view.

The **TOC** is made up of individual visits. Each visit is identified by type and date. The following default types are for CS Orthodontic Imaging:

- **Initial records**
- **Progress records**
- **Poor oral hygiene records**
- **Final records**

The following default types are for CS OMS Imaging:

- **Biopsy Consult**
- **Extraction Consult**

Tip

Each item in the **TOC** is called an *object*.



Imaging



Table of Contents

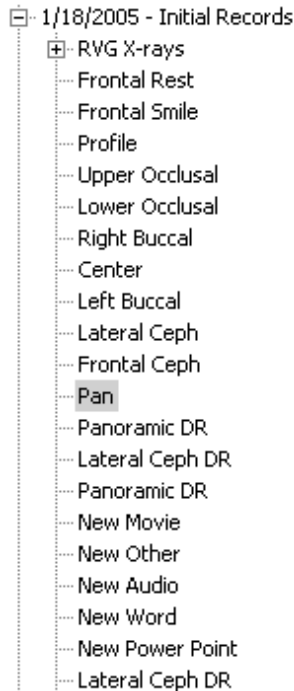
- **Implant Consult**
- **Post-Operative**

Tip

To expand the tree, click the plus sign. To contract the tree, click the minus sign.

Each visit is organized in a tree structure. A plus sign next to a visit indicates that images are associated with it. Click the plus sign, and a list of the images is displayed.

The name of the image identifies the type of image: panoramic, cephalometric, right buccal, and so on. The following example shows a visit in a **TOC**:



Note

If you select an object and right-click it, more options are available; for example, if you use CS 3500 or CS 3600, you can right-click and select **Export to 3M** to send a model.

To change the display of images, use the **Display Gallery** menu. To display a single image in the **Image Chart** window, double-click an image. To return to multiple images, click the description of the image in the **TOC**.

Using the Image Chart Toolbar

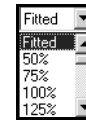
At the top of the **Image Chart** window is the **Image Chart** toolbar. The following toolbar buttons control basic tasks, such as creating a visit, setting and changing preferences, and viewing images:



Add a Visit—Adds a visit to the **TOC** tree.

Gallery View menu—Provides a list of options for displaying images in the **Image Chart** window. Options include:

- **None**—Hides images.
- **Thumbnails**—Displays miniature versions of all images.
- **Records+** and **Records**—Displays the following types of images: frontal rest, frontal smile, 45 degree smile, profile, and intra-oral.
- **Intra-Oral**—Displays only intra-oral images.
- **Profile & Ceph**—Displays a profile photo and a corresponding scanned cephalometric x-ray.
- **Panorex**—Displays only panoramic images.



View menu—Increase or decrease the size of images. The default value is **Fitted**.



Table of Contents—Displays and hides the **TOC**.



Print—Prints images.



Email—Creates email messages with the active image or gallery attached.



Tool Box—Displays and hides the tools available in the **Tool Box**. The tools are used to manipulate images, to add annotations to images, and to use painting features.



Annotations Properties—Displays the **Annotations** toolbar.



Preferences—Opens the **Preferences** window. Default values can be set or edited in this window.



Full Screen—Closes the TOC and enlarges the images to fit the screen if you select **Fitted** from the **View** menu. Press any key to return to the standard **Image Chart** window.

With full screen displayed, right-click to see other options.



Gripper—Enables you to move an image that is larger than the window. The gripper works in conjunction with the **View** menu. It is not active unless the zoom percentage is over 100.



Gallery Edit View—Use to edit images in the Gallery view.

Using the Tool Box

With a single image displayed, click the **Tool Box** icon to display the tools.



Use these Tool Box tools to manipulate and annotate your images:



Use the **Grayscale** tool to remove the color from an image, creating an image in shades of black and white. To revert to the original image, click the **Grayscale** tool again.



Use the **Invert** tool to invert an image, producing an image that looks like the negative of a photo.



Use the **Emboss** tool to raise the edges of an image.



Use the **Brightness** tool to increase or decrease the brightness of an image. Display an image, click the **Brightness** tool, and use the slider bar to adjust the brightness. To revert to the original image, click the **Brightness** tool again.



Use the **Contrast** tool to adjust the amount of color shading in an image.



Use the **Gamma** tool to adjust the overall intensity of an image. To revert to the original image, click the **Gamma** tool again.



Use the **Sharpen** tool to define the edges of an image. To revert to the original image, click the **Sharpen** tool again.



Use the **Median** tool to soften an image and reduce graininess. To revert to the original image, click the **Median** tool again.



Use the **Despeckle** tool to increase the clarity of an image. Click the **Despeckle** tool, and specks are removed from the image.



Use the **Hue** tool to change the primary color of an image.



Use the **Saturation** tool to adjust the amount of color in an image.



Use the **Equalize** tool to balance the contrast and color in an image. It works best on black and white images. To revert to the original image, click the **Equalize** tool again.



Use the **Red Eye Reduction** tool to reduce the red-eye effect in an image.



Use the **Flip** tool to rotate an image 180 degrees and mirror it.



Use the **Mirror** tool to create a mirror image of your original image. To revert to the original image, click the **Mirror** tool again.



Use the **Mask** tool to remove part of an image from view, enabling you to show only a section of an image.



Use the **Rotate Left** tool to rotate an image counterclockwise in 90-degree increments.



Use the **Rotate Right** tool to rotate an image clockwise in 90-degree increments.



Use the **Rotate by Degree** tool to rotate an image by small, specified increments. To revert to the original image, click the **Rotate by Degree** tool again.



Use the **Isodensity** tool to display an image so that areas of equal density are the same color. This tool is reserved for intra-oral digital radiography images.



Use the **Densitometric Analysis** tool to analyze the relative density in an image. Depending on the contrast, you can compare two points on the same image.



Use the **Select** tool to select an object, drag it to a new location, or delete it.



Use the **Polygon Line** tool to draw an irregular shape or line around an object of interest in an image.



Use the **Freehand Draw** tool to draw a free-form line or shape to emphasize an area in an image.



Use the **Line** tool to draw a straight line to emphasize an area of interest in an image.



Use the **Ellipse** tool to draw an ellipse or circle around an area of interest in an image.



Use the **Rectangle** tool to draw a rectangle to emphasize an area of interest in an image.



Use the **Pointer** tool to draw an arrow pointing at an area of interest in an image.



Use the **Text** tool to add text to an image. Click the **Text** tool, place the cursor over the image. Click-and-drag diagonally to create a text box. Type the text. Click outside the box, and the text is displayed.



Use the **Highlight** tool to draw a transparent colored box to emphasize an area of interest in an image.



Use the **Calibrate** tool to establish the distance between two points in an image.



Use the **Ruler** tool to measure an area in an image. Calibrate the image before using the ruler.



Use the **Protractor** tool to measure an angle in an image.



Use the **Magnifying Glass** tool to zoom in on an area in the image.



Use the **X-Ray Highlight** tool to reinforce contrasts locally in an area of an image. This is useful for investigating interproximal areas and detecting caries and fractures. Click and hold the mouse button to activate the tool on the area you want. Use the slider at the bottom-right of the **Image Chart** window to decrease or increase the size of the highlight.



Use the **Morph to Other Images** tool to create a movie showing treatment results.



Use the **Undo** tool to reverse your last action. If you make a mistake on an image, click the **Undo** tool before doing anything else.



Use the **Undo All** tool to reverse all your actions.



Use the **Smile Library** tool to access smile images.



Use the **Copy Rectangle** tool to copy a rectangle you have drawn on the image.



Use the **Copy Polygon** tool to copy a polygon you have drawn on the image.



Use the **Smudge** tool to blur the lines.



Use the **Stretch** tool to stretch part of an image.



Use the **Brush** tool to brush a change on an image.



Use the **Eraser** tool to erase an area.

Note

The icons used to adjust paintings are disabled unless you are working in a painting—a copy of an image displayed in the workspace.



Use the **Region Select** tool to outline a region on an image.



Use the **Paste Region** tool to paste from the clipboard.



Use the **Show Original** tool to revert to an original image.

Using the Annotations Toolbar

To create an annotation with a single image displayed, click the **Text** tool. Place the cursor over the image. Click-and-drag diagonally to create a text box. Type the text. Click outside the box, and the text is displayed.

Use tools in the **Tool Box** to draw lines and arrows, enclose an area of concern, and manipulate the image in different ways.

To change the appearance of the annotation or drawings you made, use the tools found on the **Annotations** toolbar.

With an annotated image displayed, click the **Annotations Toolbar** button to activate the annotation tools. The tools are displayed at the bottom of the window:



These buttons are found on the **Annotations Toolbar**:



Click the **Font Properties** button to open the **Font** window, where you can change the properties of the text.



Click the **Bold** button to apply bold font style to selected text.



Click the **Italic** button to italicize selected text.



Click the **Underline** button to underline selected text



Click the **Increase Font** button to increase the font size of selected text by one point.



Click the **Decrease Font** button to decrease the font size of selected text by one point.



Click the **Font Color** button to apply a color to the selected text.



Click the **Highlight Color** button to select the color used by the **Highlight** tool.



Click the **Fill Color** button to select the color used by the **Rectangle** tool and **Ellipse** tool.



Click the **Fill Pattern** button to select the fill pattern used by the **Rectangle** tool and **Ellipse** tool.



Click the **Fill Mode** button to select the fill mode used by the **Rectangle** tool and **Ellipse** tool. There are three fill modes: transparent, opaque, and translucent.



Click the **Line Width** button to select the line width used by the **Line** tool and **Object** tool.



Click the **Line Style** button to select the line style used by the **Line** tool and **Object** tool. This button is only available when the line width is 1 point.

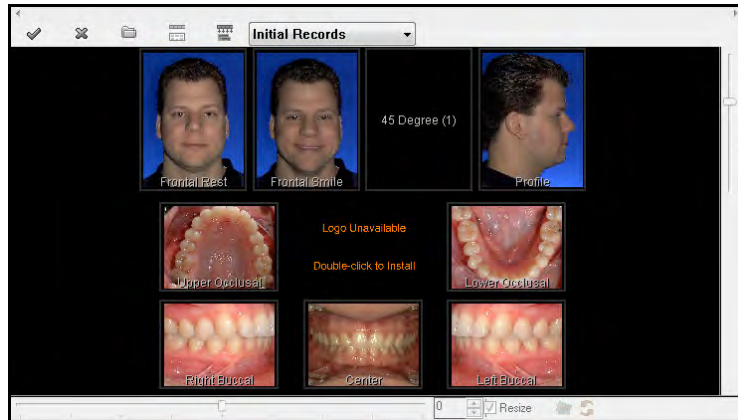


Click the **Line Color** button to select the line color used by the **Line** tool and **Object** tool.

Using Gallery Edit View

In the **Gallery Edit View** window, you can display or hide grid lines, change grid lines, and increase or decrease magnification of an image.

When multiple images are displayed in the **Image Chart** window, the **Gallery Edit View** button is activated on the toolbar. Click the button to display the **Gallery Edit View** window.

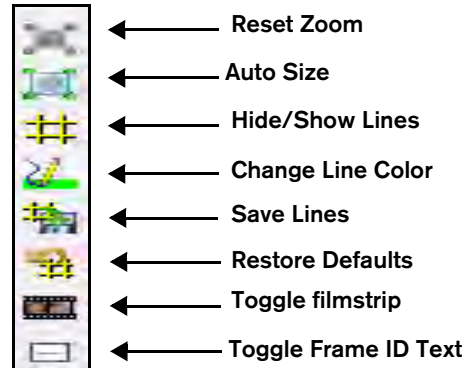


In the **Gallery Edit View** window, click an image to select it. A red frame is displayed around the image.

At the bottom of the **Gallery Edit View** window is a horizontal slider bar that enables you to rotate an image clockwise or counter-clockwise to achieve the correct angle. You can also rotate an image in increments, reset the angle of the view, and undo any changes you have made to the rotation and zoom.

To the right of the **Gallery Edit View** window is a vertical slider bar that enables you to increase or decrease the size of an image.

Below the vertical slider bar is the **Gallery Edit View** toolbar.



To return to the **Image Chart** window, click the **Gallery Edit View** button.

Tip

In Gallery Edit view, you can display a filmstrip and drag an image onto it.

Skill Sharpeners

Exercise 1—Determine the Software Version Number

If you call Customer Support, you must provide the version number of the software you are using.

To determine the version number:

- 1 In the **Image Chart** window, right-click the tab with the patient's name. A menu is displayed.
- 2 Select **Help > About Imaging**. The **About Imaging** window is displayed.
- 3 Make a note of the version number and click **Close**.

Exercise 2—Change to Full Screen Mode

Expand the **Image Chart** window so that it fills the entire screen. Then return to the normal view.

To expand the **Image Chart** window and then return to normal view:

- 1 Click the **Full Screen** button. The **Image Chart** window expands so that it fills the entire screen, and the **TOC** is no longer displayed.
- 2 To return to normal view, press Esc.

Exercise 3—Change to Gallery Edit View

In Gallery Edit view, you can make adjustments to the images in a gallery. Display a visit in Gallery Edit view.

To display a visit in Gallery Edit view:

- 1 Click on a visit in the **TOC**. If the gallery is **Records** or **Records +**, all images associated with the visit are displayed.
- 2 Click the **Gallery Edit View** button. The **Image Chart** window changes to the **Gallery Edit View** window. Gridlines are displayed by default.

Exercise 4—Change Gallery Views

Select a visit and display the **Records +** view. Select the smile photo and display it by itself. Change back to the **Records +** view.

To change the gallery views for a visit:

- 1 Select a visit by clicking on the description in the **TOC**.
- 2 In the **Image Chart** window, click the **Gallery View** menu. A drop-down list is displayed.
- 3 Scroll until the **Records +** option is displayed.
- 4 Select **Records +**. The images in the **Image Chart** window are displayed in the **Records +** layout.
- 5 Double-click the smile photo. The image is displayed.

To return to the **Records +** layout, click on the visit description in the **TOC**.

Setting Preferences

This lesson includes the following topics:

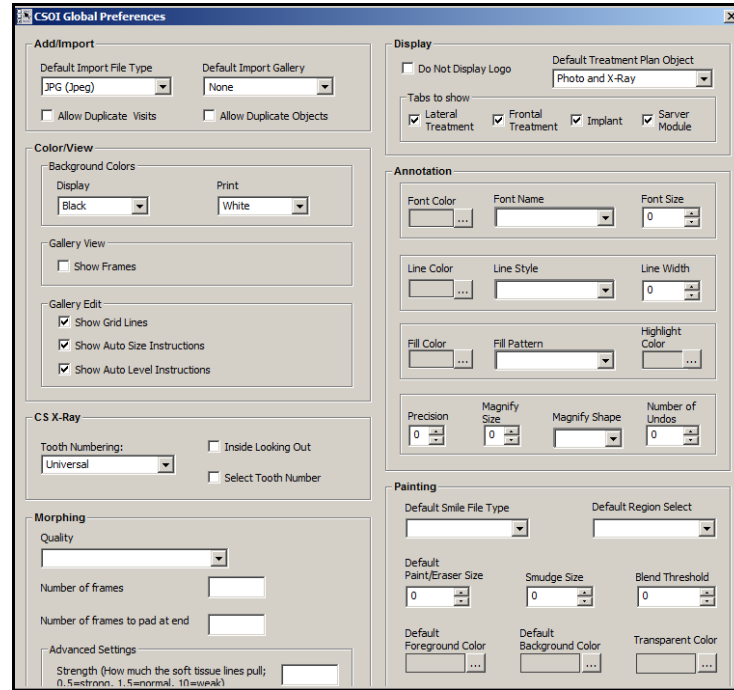
- [Setting Global Prefences](#)
- [Setting Basic Preferences](#)
- [Adding or Changing Your Logo](#)

Your preferences are the default values for the following items in your software:

- Import types and galleries
- Tooth numbering system
- Morphing options
- Painting options
- Location of imported and exported images
- Display and print options
- Color and view options
- Annotation options
- Location of your logo

Setting Global Preferences

Certain default settings are set in the **Global Preferences** window. To set them, select **Start > All Programs > CS Orthodontic Imaging > Set Global Preferences**. The **CSOI Global Preferences** window is displayed.



You can set the following settings in the **CSOI Global Preferences** window:

- **Add/Import**—Type and gallery
- **Color/View**—Background color and view options
- **CS X-Ray**—Tooth numbering system
- **Morphing**—Quality and frames
- **Display**—Logo, tabs, and treatment plan
- **Annotation**—Fonts and colors
- **Painting**—Default options

Setting Basic Preferences

You can set preferences for each workstation, or you can standardize preferences for all workstations in the office.

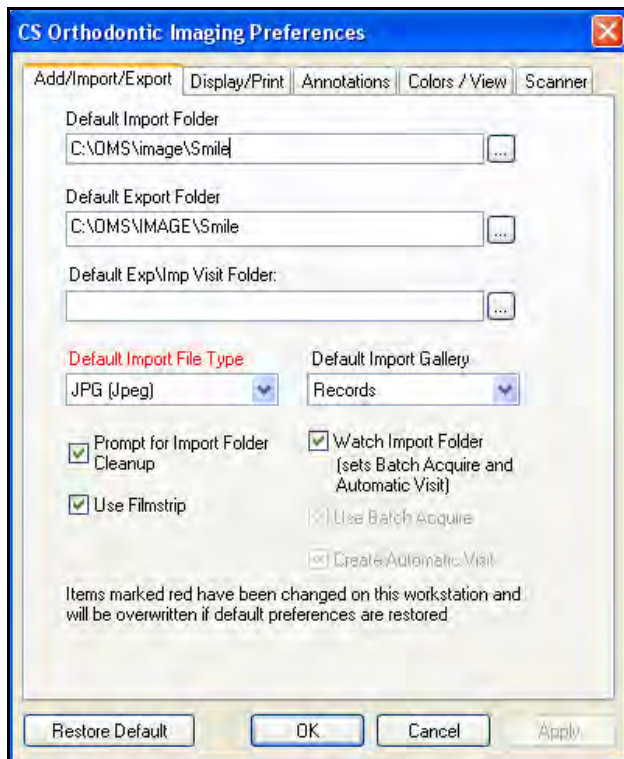
To change preferences or to see the current preferences, in any **Image Chart** window, click the **Preferences** button. The **Preferences** window is displayed.



Preferences

Note

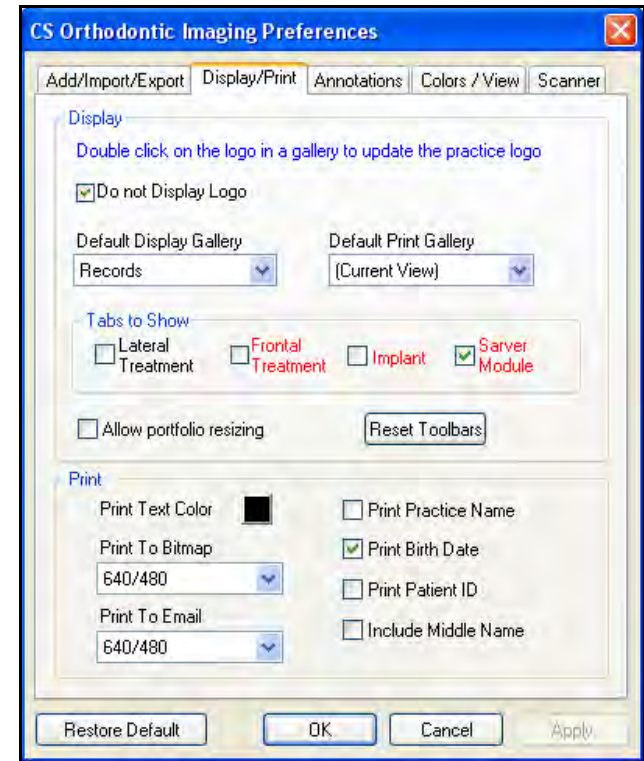
If you acquire x-rays from a non-Carestream product, an additional tab might be displayed in the **Preferences** window.



By default, the **Preferences** window opens with the **Add/Import/Export** tab active. Use this window to set the default import folder and the default export folder, among other options.

The following tabs are also found in the **Preferences** window:

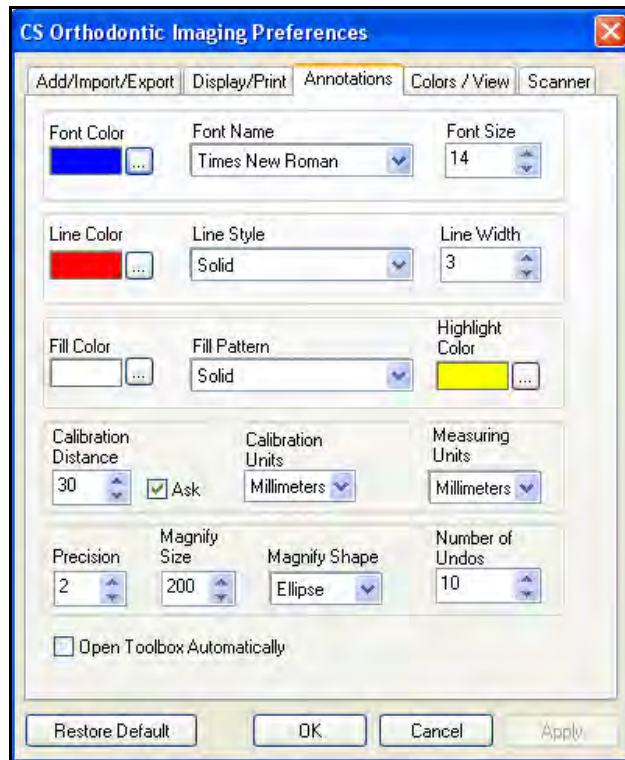
- **Display/Print**—Click this tab, and the **Display/Print Preferences** window is displayed.



Use this tab to set the following defaults:

- Display gallery
- Print gallery
- Print options

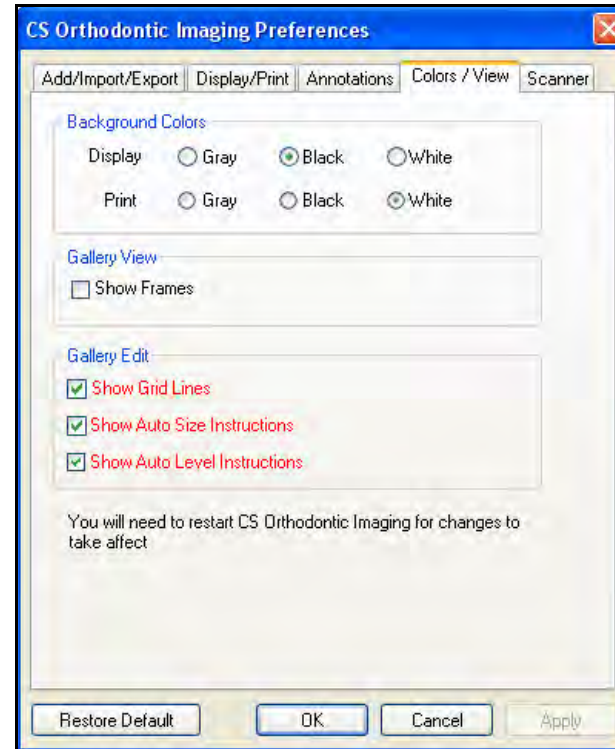
- **Annotations**—Click this tab, and the **Annotations Preferences** window is displayed.



Use this tab to set the following defaults:

- Font color, type, and size
- Line color, style, and width
- Highlight color
- Number of times you can click **Undo**

- **Colors/View**—Click this tab, and the **Colors/View Preferences** window is displayed.



Use this tab to set the following defaults:

- Display and print background colors
- Gallery view and edit options

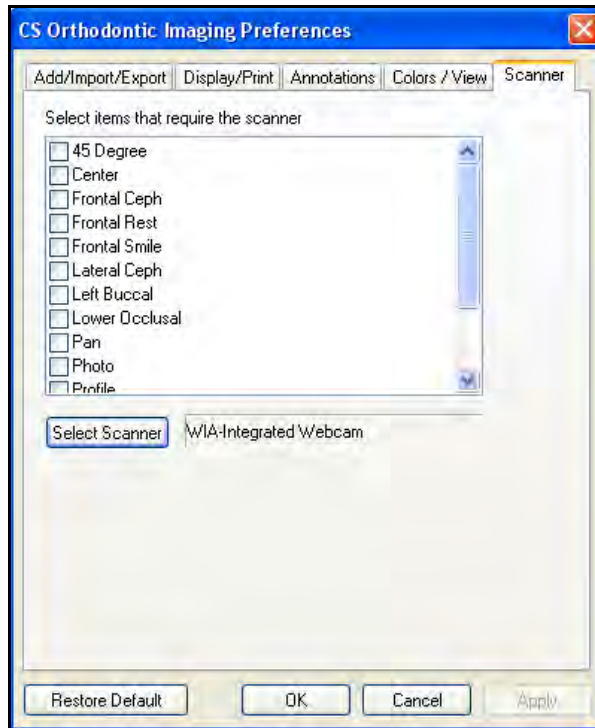
- **Scanner**—Click this tab, and the **Scanner Preferences** window is displayed.

Tip

To display the logo on all workstations, install it on the server.

Note

The logo file must be in **.bmp, .cmp, .jpg, .pcs,** or **.tif** format.



Use this tab to set the following default:

- Images to be scanned
- Scanner to use

Adding or Changing Your Logo

To add or change a logo:

- 1 In the **Imaging** window, double-click the logo. If you are installing a logo for the first time, double-click **Logo Unavailable Double-click to Install**. The **Add/Update Logo** window is displayed.
- 2 Click **Browse**. The **Open** window is displayed.
- 3 Select the file that contains your logo and click **Open**. The **Add/Update Logo** window is displayed.
- 4 Click **Install**. The logo is displayed.

To display the logo:

- 1 In the **Preferences** window, click the **Display/Print** tab.
- 2 Deselect the **Do not Display Logo** option.

Skill Sharpeners

Exercise 1—Establish a Default Import Visit Folder

To create a default import folder:

- 1 In the **Image Chart** window, click the **Preferences** button. The **Preferences** window is displayed.
- 2 Click the **Add/Import/Export** tab.
- 3 In the **Default Exp/Imp Visit Folder** field, type the path and folder name, **OR** click the **Browse** button to the right of the field and navigate to the folder.
- 4 Click **OK**. The path and folder name are displayed in the **Default Import Folder** field.

Exercise 2—Establish a Default Export Visit Folder

To create a default export folder:

- 1 In the **Image Chart** window, click the **Preferences** button. The **Preferences** window is displayed.
- 2 Click the **Add/Import/Export** tab.
- 3 In the **Default Export Folder** field, type the path and folder name, **OR** click the **Browse** button to the right of the field and navigate to the correct folder.
- 4 Click **OK**. The path and folder name are displayed in the **Default Exp/Imp Visit Folder** field.

Exercise 3—Display Gridlines

To display gridlines:

- 1 In the **Image Chart** window, click the **Preferences** button. The **Preferences** window is displayed.
- 2 Click the **Colors/View** tab.
- 3 Select **Show Grid Lines**.
- 4 Click **OK**.

Exercise 4—Change Background Colors

To change the background color from black to gray:

- 1 In the **Image Chart** window, click the **Preferences** button. The **Preferences** window is displayed.
- 2 Click the **Colors/View** tab.
- 3 In the **Background Colors** section, select **Gray**.
- 4 Click **OK**.

Exercise 5—Display Instructions for Autosizing

To display the instructions for autosizing:

- 1 In the **Image Chart** window, click the **Preferences** button.
- 2 Click the **Colors/View** tab.
- 3 To display the instructions when autosizing is used, select **Show Auto Size Instructions**.

Exercise 6—Designate a Default Gallery

You can change the gallery layout from **Records** or **Records +** to **Pans** or **Profile & Ceph** or **Intraorals**, but the view you use most often should be displayed when you open the software. This view is determined by the default you select in your preferences.

To designate **Records** as your default gallery view:

- 1 Click the **Preferences** button. The **Preferences** window is displayed.
- 2 Click the **Display/Print** tab.
- 3 From the **Default Display Gallery** drop-down list, select **Records**.
- 4 Click **OK**.

Exercise 7—View the Annotation Properties

To examine the current values for annotations:

- 1 Click the **Preferences** button. The **Preferences** window is displayed.
- 2 Click the **Annotations** tab. The **Annotations** window is displayed.
- 3 View the **Font Color** field to determine the color used for text.

Using the Software

This lesson includes:

- [Creating Visits](#)
- [Using Gallery Edit View](#)
- [Using the Tools in the Tool Box](#)
- [Using the Annotation Tools](#)
- [Using the Metal Artifact Reduction \(MAR\)](#)
- [Using the Auto Detect Landmarks Feature](#)
- [Working with Images and Documents](#)
- [Printing Images](#)

The CS Orthodontic Imaging and CS OMS Imaging software now support the CS 9600 extraoral imaging system. See the online help and the product documentation for more information.

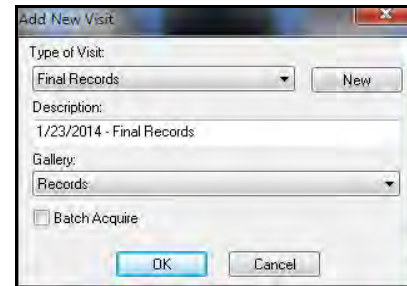
Creating Visits

A visit typically consists of two parts: (1) a visit description, which includes the date of the visit, the type of visit, and the gallery used to display the images associated with the visit; (2) the images or other objects associated with the visit.

When you create a visit, you should be ready to import or add the images associated with the visit.

To create a visit:

- 1 In the **Image Chart** window, click the **Add a Visit** button. The **Add New Visit** window is displayed.



- 2 From the **Type of Visit** drop-down list, select the type.
- 3 From the **Gallery** drop-down list, select the gallery.
- 4 Click **OK**.



Add a Visit

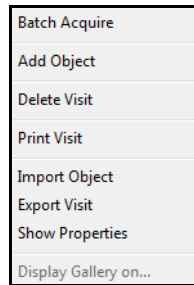
Note

Intraoral screenshots selected in the acquisition software are automatically saved in the visit.

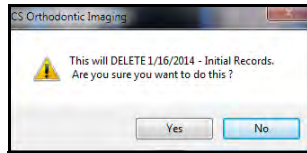
Deleting Visits

You can delete visits after they have been created, if necessary. To delete a visit:

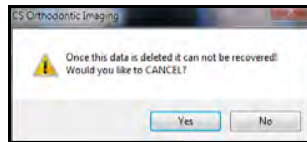
- 1 In the **Image Chart** window, right-click on the visit date/description. A short-cut menu is displayed.



- 2 Select **Delete Visit**. A message asks you to confirm the deletion.



- 3 Click **Yes**. A message asks if you want to cancel the action.



- 4 Click **No**.

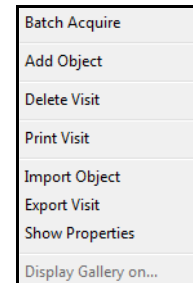
Note

You can also click the drop-down arrow and select a date from the calendar that is displayed.

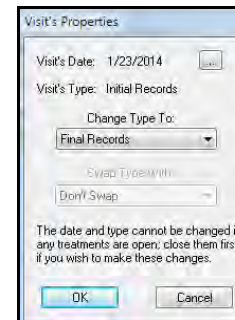
Editing Visits

To change information about a visit after the visit was created:

- 1 In the **Image Chart** window, right-click on the visit date/description. A short-cut menu is displayed.

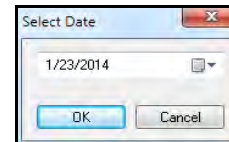


- 2 Click **Show Properties**. The **Visit's Properties** window is displayed.



- 3 To change the type of visit, click the drop-down arrow in **Change Type To** field, select another type, and click **OK**.

- 4 To change the date, click the navigation button to the right of the **Visit's Date** field. Type a new date and click **OK**.



Moving Visits

If you accidentally create a visit in the wrong image chart, export the visit to a temporary location, open the image chart for the correct patient, and import the visit.

To export a visit to a temporary storage location:

- 1 Open the **Image Chart** that contains the misplaced visit.
- 2 Right-click the visit.
- 3 Select **Export**. The **Select Folder** window is displayed.
- 4 Navigate to the folder in which you want to temporarily store the visit. We recommend using a folder on your desktop.
- 5 Click **Select**. The visit is exported to the folder you identified.
- 6 Right-click on the visit in the **Table of Contents** tree where you mistakenly created it, and select **Delete**.

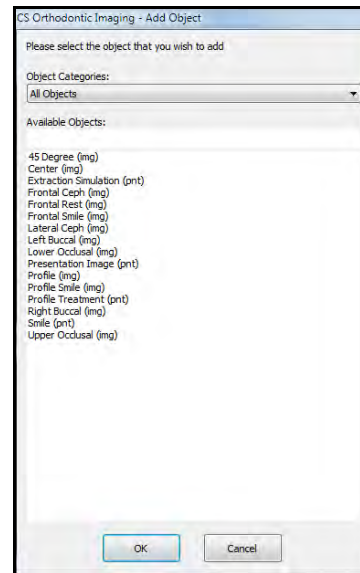
To import the visit into the correct image chart:

- 1 Open the **Image Chart** for the correct patient.
- 2 Right-click the patient's name at the top of the **Table of Contents** tree.
- 3 Select **Import Single Visit**, and browse to the location of the previously exported visit.

Adding Images

To add an image to a visit:

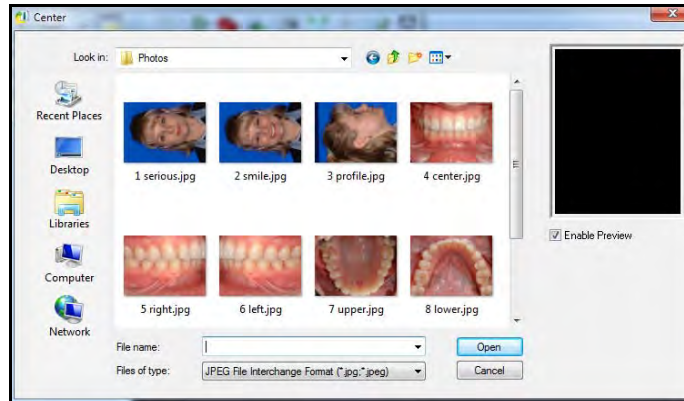
- 1 In the **Image Chart** window, right-click the visit to which you want to add an image. A short-cut menu is displayed.
- 2 Click **Add Object**. A list of image types is displayed.



Note

In version 11.9 and higher, up to five intraoral images can be generated and exported automatically.

- 3 Select an image type. The **Image Type** window is displayed.



Note

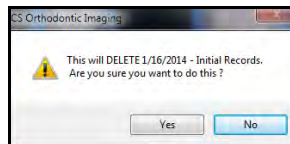
If the image is not displayed in the **Preview** pane, make sure the **Enable preview** option is selected.

- 4 Navigate to the image and select it. The image is displayed in the **Preview** pane.
- 5 Click **Open**. The image is added to the visit.

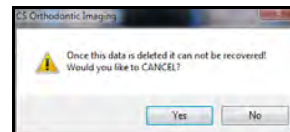
Deleting Images

To delete an image:

- 1 In the **Table of Contents**, right-click the image. A short-cut menu is displayed.
- 2 Select **Delete Image**. A message asks you to confirm the deletion.



- 3 Click **Yes**. A message asks if you want to cancel the action.

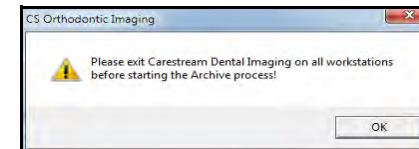


- 4 Click **No**.

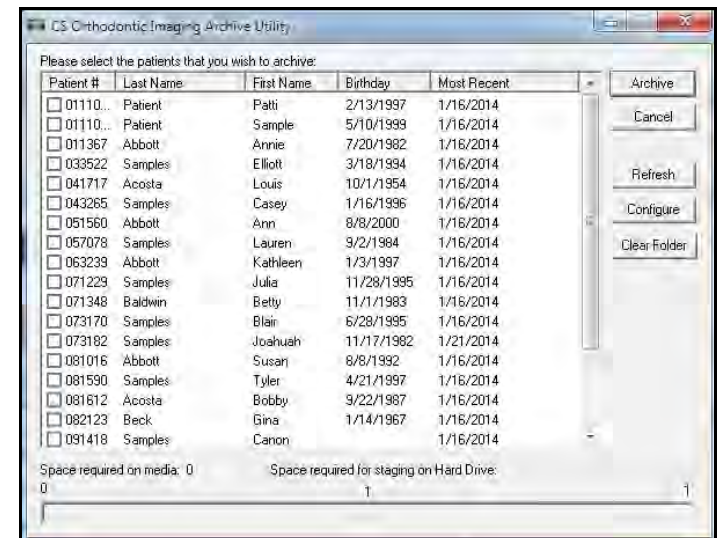
Archiving Images

To archive the image chart associated with a patient:

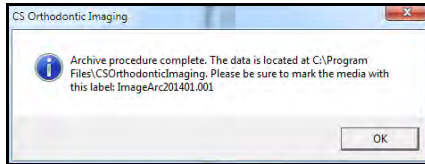
- 1 Make sure that the imaging software and practice management software are closed.
- 2 Do one of the following:
 - Select **Start > All Programs > CS Orthodontic Imaging > Imaging Archive**. A message reminds you to close the software.
 - Select **Start > All Programs > CS OMS Imaging > Imaging Archive**. A message reminds you to close the software.



- 3 Click **OK**. The **Image Archive Utility** window is displayed.



- Select the patient number of the patient whose image you want to archive.
- Click **Archive**. The images are removed from your software.
A message indicates when the process is complete.



- Click **OK**.

Using Gallery Edit View

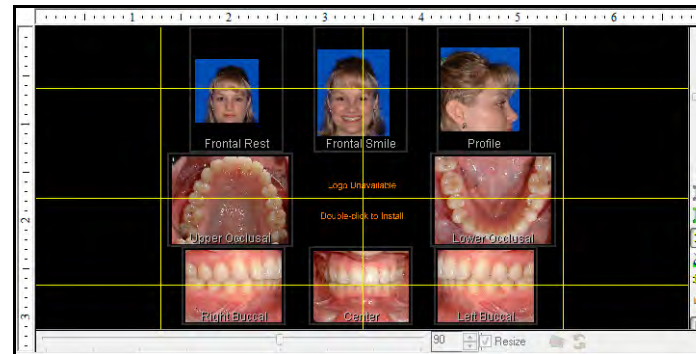
In the **Gallery Edit View** window, you can display or hide gridlines, change the gridlines, and increase or decrease magnification of an image.

Displaying and Hiding Gridlines

To display and hide gridlines:

- Open a visit that contains more than one image. Display it as a **Records** or **Records +** gallery.
- In the **Image Chart** window, click the **Gallery Edit View** button.

The **Gallery Edit View** window is displayed.



- Gridlines are displayed in the **Gallery Edit View** window if you selected **Show Gridlines** in your preferences. To the right of the **Gallery Edit View** window is a toolbar. Click the **Hide/Show Lines** button to hide the gridlines.

Click the **Hide/Show Lines** button again to display the gridlines.

- Click the **Gallery Edit View** button to return to the **Image Chart** window.

Adding Gridlines

By default, each column of images has one gridline and each row of images has one gridline.

To add gridlines:

- In the **Image Chart** window, click the **Edit Gallery View** button. The **Gallery Edit View** window is displayed with gridlines.
- To add a horizontal gridline, click on the left ruler where you want the gridline to be.

Note

If you are using Gallery Edit view, the slider bars on the bottom and right side are inoperable if you are in full-screen mode. To exit full-screen mode, press Esc.



Hide/Show Lines



Gallery Edit View

Tip

The source image and target image should be similar in orientation.



Auto Size



Restore Defaults

- 3 To add a vertical gridline, click on the top ruler where you want the line to be
- 4 To remove the extra gridlines, click the **Restore Defaults** button on the **Gallery Edit View** toolbar.

Moving Gridlines

To move a gridline:

- 1 With the gridlines showing in the **Gallery Edit View** window, point at a gridline. The cursor changes to a double-headed arrow.
- 2 Click-and-drag the line to a new position.
- 3 To change the gridline to its original position, click the **Restore Defaults** button on the **Gallery Edit View** toolbar.

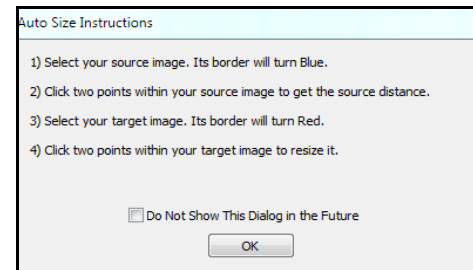
Autosizing Images

Autosizing enables you to match the size of images. The image that you want to match is called the *source* image. The image that you want to resize is the *target* image.

To autosize an image:

- 1 In the **Gallery Edit View** window, click the **Auto Size** button on the toolbar.

The **Auto Size Instructions** window is displayed if you selected the option in your preferences. Click **OK**.



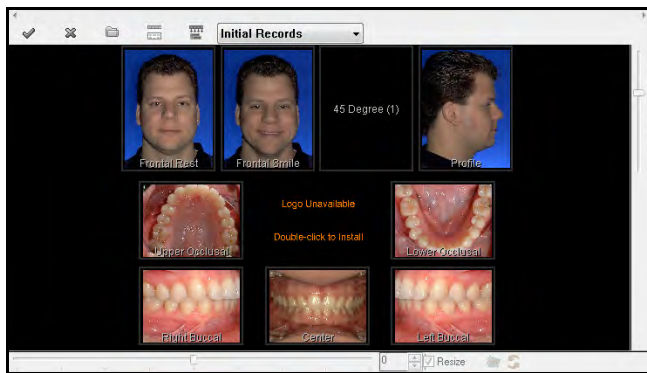
- 2 Click the source image to select it. The frame turns blue.
- 3 Click on two points in the source image that will be used by the software for the display resolution distance.
- 4 Select the target image. The frame turns red.
- 5 Click on the same two points in the target image as you did in the source image. The target image is resized.

Changing the Size of an Image

Change the size of an image by using the slider bars in the **Gallery Edit View** window.

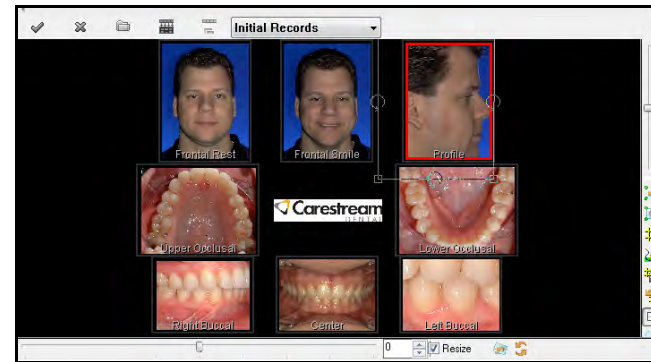
To use the slider bars to change the size of an image:

- 1 In the **Image Chart** window, display the images associated with a visit.
- 2 Click the **Gallery Edit View** button. The **Gallery Edit View** window is displayed.

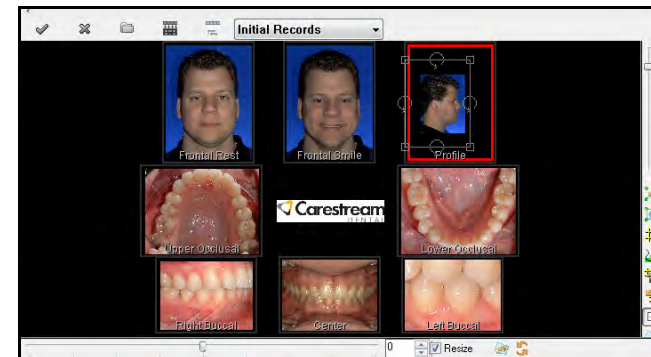


- 3 Click the first image in the top row to select it. The frame turns red, and the slider bars are activated.

- 4 Move the right-hand slider down. As you do, the image size increases.



- 5 Move the slider up. As you do, the image size decreases.



- 6 To return the image to its original size, click the **Reset Zoom** button below the slider bar.



Gallery Edit View

Rotating an Image

Rotate an image by using the slider bars in the **Gallery Edit View** window.

To use the slider bars to rotate an image:

- 1 In the **Image Chart** window, display the images associated with a visit.
- 2 Click the **Gallery Edit View** button. The **Gallery Edit View** window is displayed.



Gallery Edit View

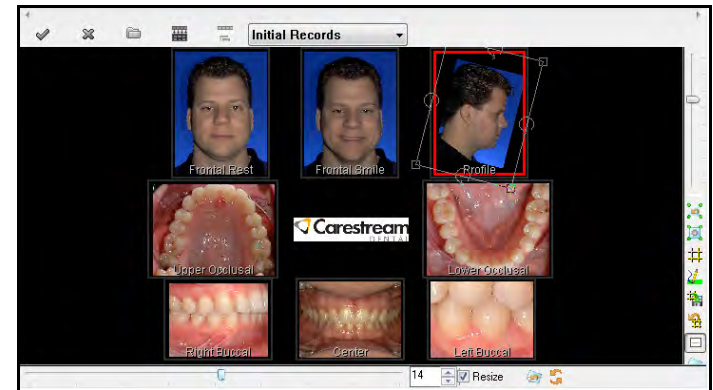


- 3 Click on the third image in the top row. The frame turns red, and the slider bars are activated.

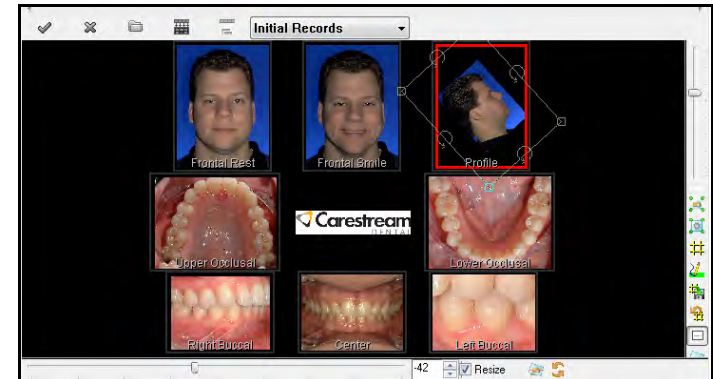
Note

To rotate the image a small amount, click the up or down arrows to the right of the **Degrees Rotated** field.

- 4 Move the bottom slider to the right. The image rotates clockwise.



- 5 Move the bottom slider to the left. The image rotates counterclockwise.



- 6 To restore the image to its original position, type **0** in the **Degrees Rotated** field on the slider bar at the bottom of the window and press Enter.

Using the Gripper

If an image is too large to fit in a window, you can use the **Gripper** tool to view parts of the image.

To use the **Gripper** tool:

- 1 In the **Image Chart** window, double-click an image so that it is displayed by itself.
- 2 From the **View** menu drop-down list, magnify the image by selecting a percentage.
- 3 Click the **Gripper** button. The cursor changes to a hand.
- 4 Click-and-drag the mouse to the right until the left edge of the image comes into view. Move the mouse back until the image is centered and then release the mouse button.
- 5 Click-and-drag the mouse up until you can see the bottom of the image. Move the mouse back down and then release the mouse button.
- 6 To return the image to its original size, select **Fitted** from the **View** menu.

Using the Tools in the Tool Box

Using the Tool Box, you can annotate and improve the appearance of images.

Rotating in 90 Degree Increments

To rotate an image:

- 1 In the **Image Chart** window, double-click an image.
- 2 Click the **Tool Box** button on the **Image Chart** toolbar.

The tools on the **Tool Box** toolbar are displayed.



Gripper



Rotate Right

- 3 Click the **Rotate Right** button. The image is rotated 90 degrees to the right.



Tool Box



Rotate by Degree

- 4 Click the **Rotate Right** button again. The image has been rotated 180 degrees.



Show Original

- 5 To return the image to its original orientation, click the **Show Original** button.

Rotating an Image by Degrees

To rotate an image in uneven increments:

- 1 In the **Image Chart** window, double-click an image.



Tip

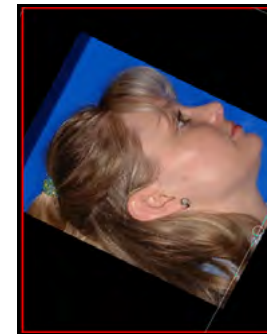
To rotate an image a specific number of degrees counter-clockwise, type a minus sign before the number.

- 2 On the **Tool Box** toolbar, click the **Rotate by Degree** button. The **Rotate** toolbar is displayed at the bottom of the window.



- 3 To rotate the image clockwise, move the slider to the right; to rotate it counterclockwise, move the slider to the left. The number of degrees you rotate the image is displayed in the box to the right of the slider bar.

To rotate an image a specific number of degrees, type the number in the box to the right of the slider bar and press Enter.



To rotate an image a specific number of degrees counter-clockwise, type a minus number in the box to the right of the slider bar and press Enter.

- 4 To restore the image to its original orientation, click the **Show Original** button.

Changing Brightness

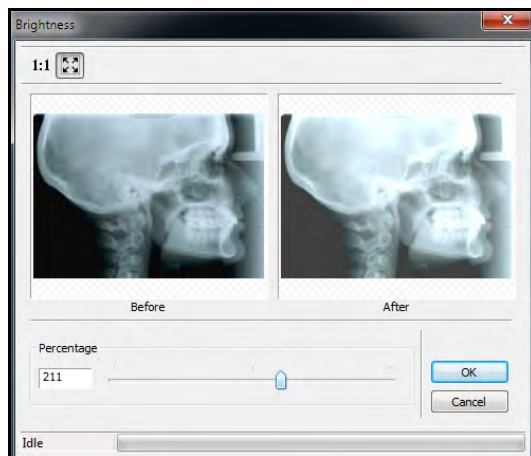
The **Brightness** tool enables you to increase or decrease the brightness of an image.

To change the brightness of an image:

- 1 In the **Image Chart** window, double-click an image.



- 2 On the **Tool Box** toolbar, click the **Brightness** button. The **Brightness** window is displayed.



- 3 Move the slider or type a number in the **Percentage** field.
- 4 Click **OK**. The image is displayed with the enhanced brightness.
- 5 To revert to the original level of brightness, click the **Brightness** button again.

Using the Contrast Tool

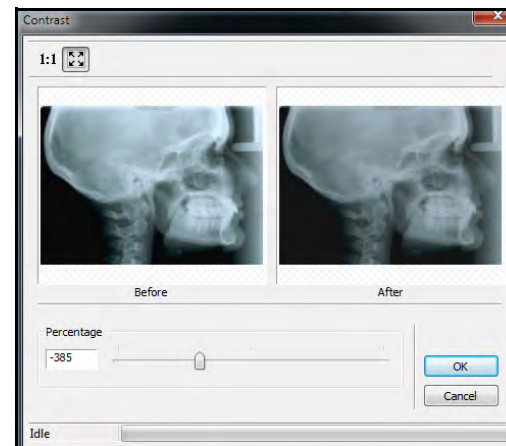
You can change the contrast of an image by 90 percent. The **Contrast** tool makes the whites whiter and the darks darker.

To use the **Contrast** tool:

- 1 In the **Image Chart** window, double-click an image.



- 2 On the **Tool Box** toolbar, click the **Contrast** button. The **Contrast** window is displayed.



- 3 Move the slider or type a number in the **Percentage** field,
- 4 Click **OK**. The image is displayed with the new contrast.
- 5 To revert to the original image, click the **Contrast** button again.



Brightness



Contrast

Changing the Intensity of an Image

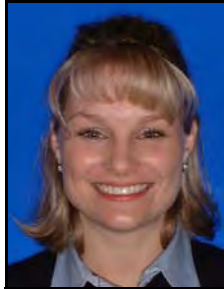
The **Gamma** tool adjusts the overall intensity of an image. The **Gamma** tool combines the effects of the **Brightness** tool and the **Contrast** tool.

Note

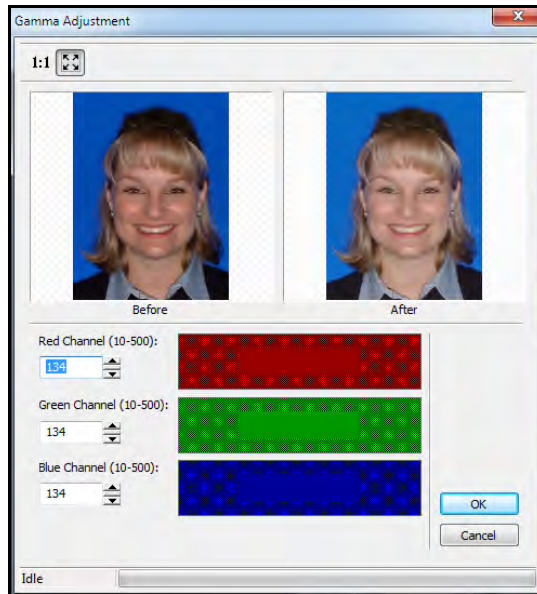
The Gamma tool is not available with digital images.

To increase the gamma value:

- 1 In the **Image Chart** window, double-click an image.



- 2 On the **Tool Box** toolbar, click the **Gamma** button. The **Gamma Adjustment** window is displayed.



Gamma

Note

You cannot sharpen an out-of-focus image. If the image is blurry, acquire the image again.

- 3 Change the values in the **Channel** fields, and click **OK**. The modified image is displayed.
- 4 To revert to the default value of 1.0, click the **Gamma** button again.

To decrease the gamma value:

- 1 On the **Tool Box** toolbar, click the **Gamma** button. The **Gamma Adjustment** window is displayed.
- 2 Change the values to minus numbers, and click **OK**. The modified image is displayed.
- 3 To revert to the gamma value of 1.0, click the **Gamma** button again.

Sharpening an Image

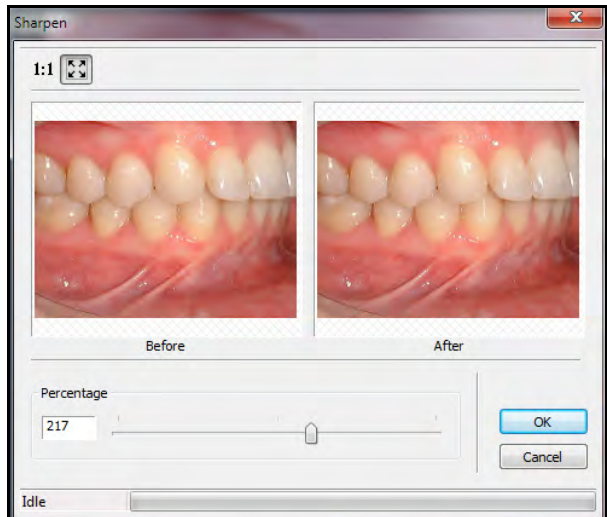
The **Sharpen** tool sharpens the pixels and changes the definition of the edges of an image.

To sharpen an image:

- 1 In the **Image Chart** window, double-click an image.



- 2 On the **Tool Box** toolbar, click the **Sharpen** button. The **Sharpen** window is displayed.



- 3 Move the slider or type a number in the percentage field.
- 4 Click **OK**. The modified image is displayed.
- 5 To revert to the original image, click the **Sharpen** button again.

Changing the Hue

The **Hue** tool changes the predominant color of an image.

To change the hue of an image:

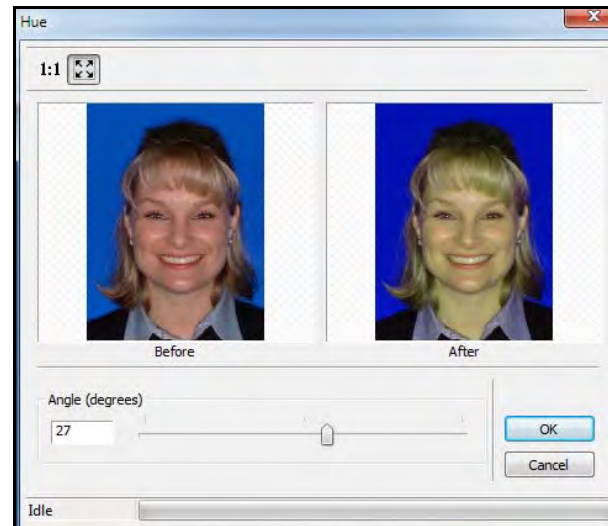
- 1 In the **Image Chart** window, display a color image.
- 2 On the **Tool Box** toolbar, click the **Hue** button. The **Hue** window is displayed.



Sharpen



Hue



- 3 Move the slider or type a number in the **Angle (degrees)** field.
- 4 Click **OK**. The modified image is displayed.
- 5 To revert to the original image, click the **Hue** button again.

Changing the Saturation Levels

The **Saturation** tool adjusts the amount of color in an image.

To change saturation levels in an image:

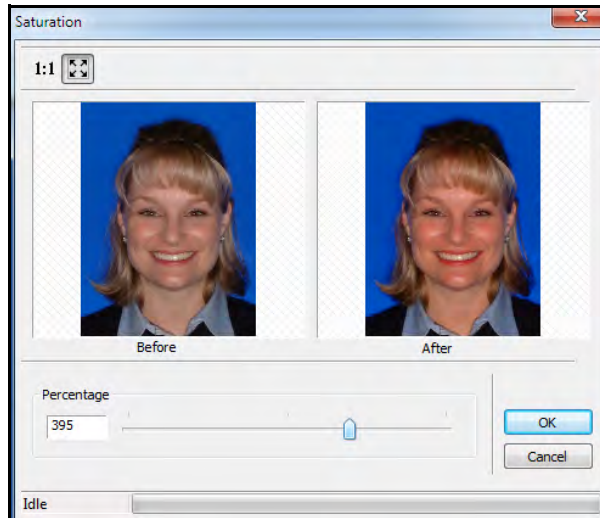
- 1 In the **Image Chart** window, display a color image.
- 2 On the **Tool Box** toolbar, click the **Saturation** button. The **Saturation** window is displayed.



Saturation



Equalize



- 3 Move the slider or type a number in the **Percentage** field.
- 4 Click **OK**. The modified image is displayed.
- 5 To revert to the original image, click the **Saturation** button again.

Balancing Contrast and Color

The **Equalize** tool balances the contrast and color in an image.

To balance the contrast and color in a black-and-white image:

- 1 In the **Image Chart** window, display a black-and-white image.



- 2 On the **Tool Box** toolbar, click the **Equalize** button. The color and contrast are automatically adjusted.



- 3 To revert to the original image, click the **Equalize** button again.

Using the Despeckle Tool

The **Despeckle** tool improves the clarity of a photograph by removing specks.

To use the **Despeckle** tool:

- 1 In the **Image Chart** window, display a photo with specks.
- 2 On the **Tool Box** toolbar, click the **Despeckle** button. The specks are removed from the image.
- 3 To revert to the original image, click the **Despeckle** button again.

Using the Median Tool

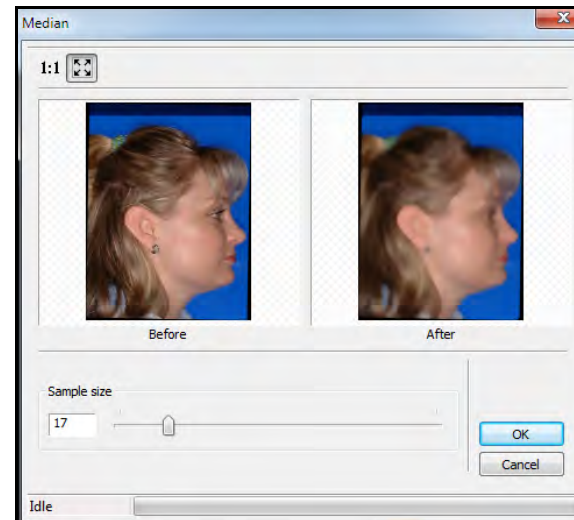
The **Median** tool softens an image and can reduce graininess. The default value of the **Median** tool is **3**, which is the lowest setting, but you can increase the value to **11**.

To use the **Median** tool:

- 1 In the **Image Chart** window, display an image.



- 2 On the **Tool Box** toolbar, click the **Median** button. The **Median** window is displayed.



- 3 Enter **10** in the **Sample size** field, and click **OK**. A modified, softer image is displayed.
- 4 To revert to the original image, click the **Median** button again.

Using the Emboss Tool

The **Emboss** tool raises the edges of an image. Embossing can help to show differences between hard tissue and soft tissue.

To use the **Emboss** tool:

- 1 In the **Image Chart** window, display an image.
- 2 On the **Tool Box** toolbar, click the **Emboss** button. The **Emboss** window is displayed.



Median



Despeckle

Note

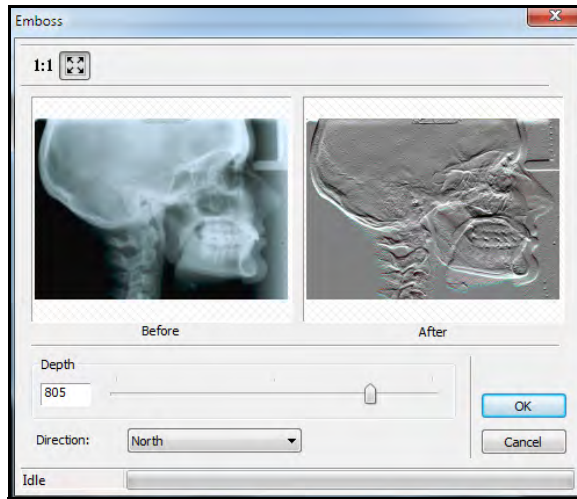
When photos taken with a high-resolution camera are displayed on a flat panel monitor, they appear grainy or pixelated. The **Median** tool corrects this condition.



Emboss



Masking



- 3 In the **Direction** field, select the direction of the emboss.
- 4 Use the slider or type the amount of depth in the **Depth** field.
- 5 Click **OK**. The embossed image is displayed.
- 6 To revert to the original image, click the **Emboss** button again.

Using the Masking Tool

The **Masking** tool is used to select a part of an image.

To mask part of an image:

- 1 In the **Image Chart** window, display an image.



- 2 On the **Tool Box** toolbar, click the **Masking** button. The cursor changes to a crosshair.
- 3 Select the upper-left 1, 2, and 3 teeth by clicking-and-dragging a box around them.

When you have a box around the target, release the mouse button.



- 4 To revert to the original image, click the **Masking** button again.

Using the Flip Tool

If an image is upside down, use the **Flip** tool to flip the image from top to bottom.

To flip an image:

- 1 In the **Image Chart** window, display an image.



- 2 On the **Tool Box** toolbar, click the **Flip** button. The image is inverted.



Using the Mirror Tool

If an image needs to be reversed, use the **Mirror** tool.

To produce a mirror image:

- 1 In the **Image Chart** window, display the image to be reversed.



- 2 On the **Tool Box** toolbar, click the **Mirror** button. The image is reversed.



Using the Invert Tool

The **Invert** tool makes an image appear as a negative—white becomes black and black becomes white. Use the **Invert** tool to help distinguish between hard tissue and soft tissue.



Flip

To use the **Invert** tool:

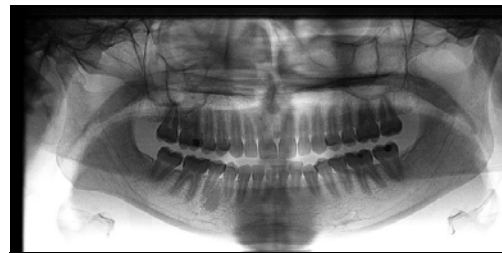
- 1 In the **Image Chart** window, display an x-ray image.



- 2 On the **Tool Box** toolbar, click the **Invert** button. The image is inverted.



Invert



- 3 To revert to the original image, click the **Invert** button again.



Mirror

Using the Grayscale Tool

If you scan a cephalometric image, it might display bluish tints. Use the **Grayscale** tool to remove color in an image.

To use the **Grayscale** tool:

- 1 In the **Image Chart** window, display an image from which you want to remove the color.
- 2 Click the **Grayscale** button. The image is displayed in shades of gray.



Grayscale



Text

Using the Annotation Tools

You can use the following tools to annotate images:

- **Text**—Enables you to add words to an image.
- **Pointer**—Enables you to draw arrows on an image.
- **Rectangle**—Enables you to draw a rectangle around an area in an image.
- **Ellipse**—Enables you to draw an ellipse or circle around an area in an image.
- **Polygon**—Enables you to draw a polygon around an area in an image.
- **Line**—Enables you to draw straight lines on an image.
- **Freehand**—Enables you to draw irregular lines on an image.

All of the annotation tools can be used in combination with each other. You can hide the annotations and display them again later. You can change the properties of the annotation tools—line thickness, font size, colors, and so on—with the **Annotation Properties** toolbar.

Using the Text Tool

To add an annotation:

- 1 In the **Image Chart** window, display an image.



- 2 On the **Tool Box** toolbar, click the **Text** button. The cursor changes to a crosshair.
- 3 Move the cursor to where you want the text to start, click-and-drag the cursor diagonally down. The text box is displayed with sample text.



- 4 Double-click on the text box, and it turns white. This indicates that you can enter text.

- 5 Click in the text box, and type the text you want to be displayed on the image.



Drawing Polygons

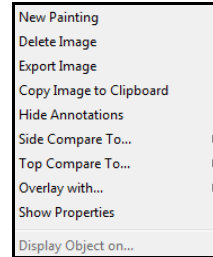
To draw a polygon:

- 1 On the **Tool Box** toolbar, click the **Polygon** button. The cursor changes to a crosshair.
- 2 Click-and-drag the cursor to form the first side of the polygon.
- 3 Click again to indicate the end of the first side and the start of the second side.
- 4 Continue to draw sides until the polygon is complete.
- 5 Double-click to finish; click once anywhere in the image to establish the polygon.

Hiding Annotations

To hide annotations:

- 1 With an annotated image open, right-click the image identifier in the **TOC**. A short-cut menu is displayed.



- 2 Click **Hide Annotations**.
- 3 To see the annotations, right-click the image identifier, and select **Show Annotations**.



Polygon

Deleting Annotations

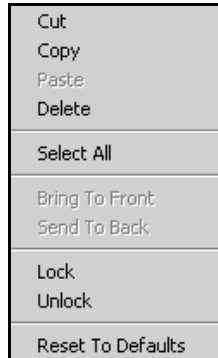
To delete annotations:

- 1 In gallery view, double-click the annotated image to display it by itself.
- 2 Hold down the Shift key, and select the annotations to be deleted by clicking once on the text box and once on each arrow.

Note

To delete all of the annotations you made, open the **Tool Box** and click **Undo All**.

- 3 Right-click, and a shortcut menu is displayed.



Auto Detect Landmarks

- 4 Click **Delete**.

Using the Metal Artifact Reduction (MAR)

Tip

To conserve hard drive space, use MAR on an as-needed basis.

CS Orthodontic Imaging and CS OMS Imaging, versions 11.9 and higher, include CS MAR, an algorithm that improves image quality by reducing the distortion caused by metal from objects such as prostheses, screws, or dental filings. You can compare images with and without the MAR filter to increase the accuracy of diagnoses.

To apply the MAR filter to regular 3D volumes:

- 1 In the **Table of Contents** pane, right-click the volume and select **Launch MAR Reconstruction**.
- 2 To view the volume, right-click it and select **Launch Object**. When the volume is displayed, use the **CS MAR** button in the **Adjustments** pane to toggle between the filtered and unfiltered views.

To export a MAR volume, right-click it and select **Export**.

To delete a MAR volume, right-click it and select **Delete Object**.

Using the Auto Detect Landmarks Feature

You can use the **Auto Detect Landmarks** feature to identify and outline anatomical and landmark structures automatically on cephalometric images acquired by the CS 9000, CS 9300, and CS 9600.

To detect landmarks automatically on a cephalometric image:

- 1 Display a lateral x-ray of an image in the **Digitizing/Editing** window.
- 2 On the **Digitizing** toolbar, click the **Auto Detect Landmarks** button. When the points are digitized, editing details are displayed on the **Guide** tab of the **Digitizing/Editing** window.
- 3 Review the landmark for accuracy. If you need to edit it, click-and-drag the landmark to a new position.
- 4 Click **Done**.

Automatic tracings are intended to support diagnoses. Typically, you may need to modify up to three or more points on each image for the tracing to be accurate.



CS MAR

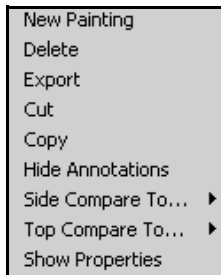
Working with Images and Documents

You can copy images to documents and attach images to email messages.

Copying Images

To copy an image to a document:

- 1 In the **TOC**, right-click the image you want to copy. A short-cut menu is displayed.

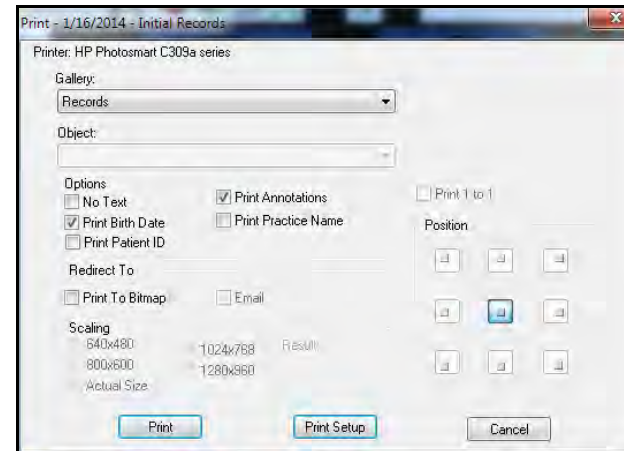


- 2 Click **Copy**.
- 3 Open a Microsoft Word document and select **Paste**.

Attaching Images

To attach an image to an email message:

- 1 Select the visit containing the image you want.
- 2 Click the **Print** button. The **Print** window is displayed.



- 3 From the **Gallery** drop-down list, select **Single object**. The **Object** field is activated.
- 4 From the **Object** drop-down list, select the image that you want.
- 5 In the **Redirect to** field, select **Print to Bitmap** and **Print to Email**.
- 6 To print the image at a different size, select an option in the **Scaling** field.
- 7 Click **Print**.

Tip

You can send multiple images as separate .jpg files.



Print

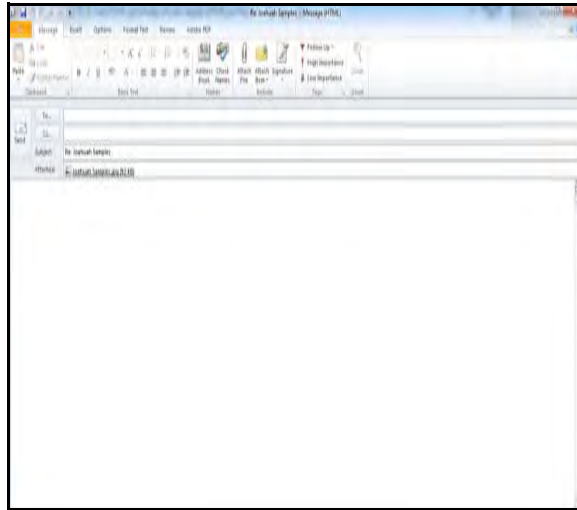
Note

You cannot print random images at one time.



Print

- 8 Switch to your email application, and an email is displayed with the subject line filled in and the image attached. Double-click on the attachment to see the image.



- 9 Enter information in the **To:** field and send the message.

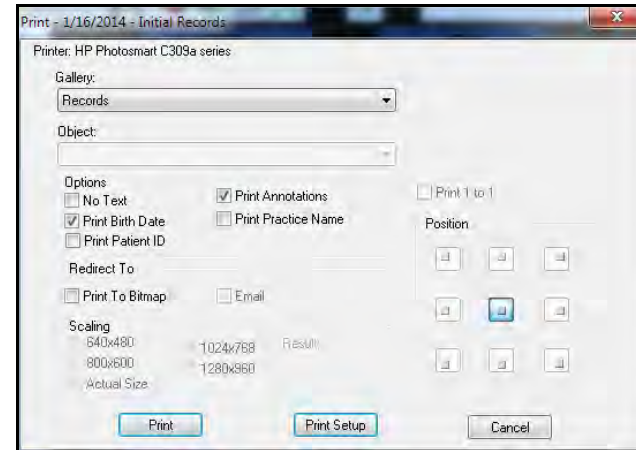
Printing Images

You can print single images or all of the images in a gallery.

Printing Single Images

To print an image:

- 1 Display the image to print.
- 2 Click the **Print** button. The **Print** window is displayed.



- 3 Change any options, if necessary.
- 4 Click **Print**.

Printing Multiple Images

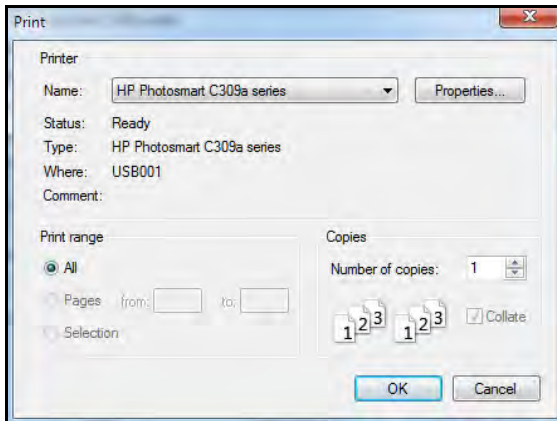
To print multiple images:

- 1 Display all of the images.
- 2 Click the **Print** button. The **Print** window is displayed.
- 3 Change any options, if necessary.
- 4 Click **Print**.

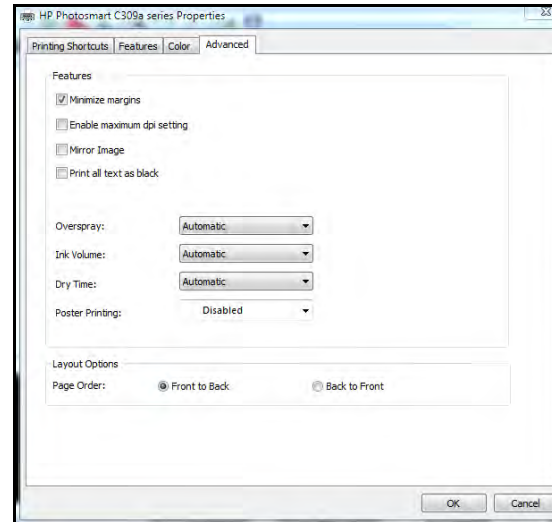
Changing the Orientation of Images

To change the orientation of a page:

- 1 Select an image to print.
- 2 Click the **Print** button. The **Print** window is displayed.
- 3 Click **Print Setup**.

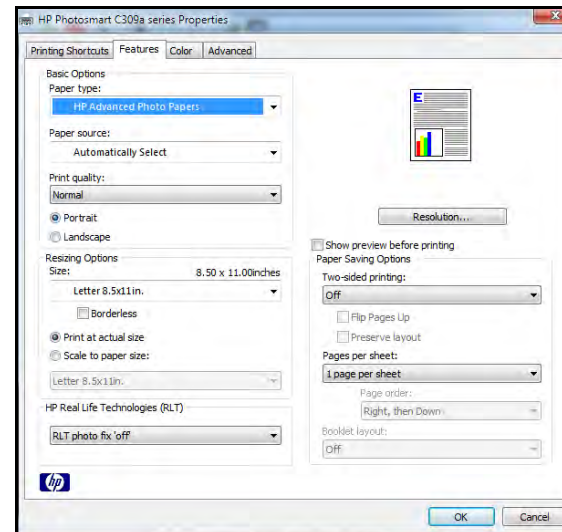


- 4 Click **Properties**. The **Print Properties** window is displayed.



Print

- 5 Click the **Features** tab. The **Print Features** window is displayed.



- 6 In the **Basic Options** section, select **Landscape**.

- 7 Click **OK**. The **Print Setup** window is displayed.
- 8 Click **OK**. The **Print** window is displayed.
- 9 Click **Print**.

Printing a Date of Birth on Images

To print a patient's date of birth on images:

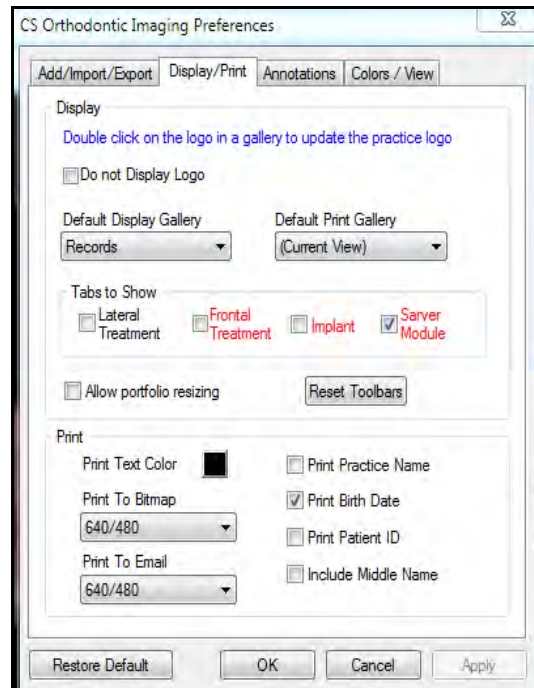
- 1 Click the **Preferences** button. The **Preferences** window is displayed.
- 2 Click the **Display/Print** tab.



Preferences

Tip

You can also print the name of your practice on images.



- 3 Select the **Print Birthdate** option.
- 4 Click **OK**.

Skill Sharpeners

Exercise 1—Create a Visit

Create a new visit for progress records. To create a new visit:

- 1 In the **Image Chart** window, click the **Add a Visit** button. The **Add New Visit** window is displayed.
- 2 From the **Type of Visit** drop-down list, select **Progress Records**.
- 3 Change the date in the **Description** field to one for images taken three months ago.
- 4 From the **Gallery** drop-down list, select **Records**.
- 5 Click **OK**.

Exercise 2—Change the Date

To change the date of a visit after the visit was created:

- 1 Right-click on the visit date/description. A short-cut menu is displayed.
- 2 Click **Show Properties**. The **Visit's Properties** window is displayed.
- 3 Click the navigation button to the right of the **Visit's Date** field. The **Select Date** window is displayed.
- 4 Type a new date and click **OK**. The **Select Date** window is displayed again with the new date.
- 5 Click **OK**. The software recreates the visit with the new date.
- 6 Click **OK**.

Exercise 3—Move a Visit to Another Image Chart

Because you have accidentally created a visit in the wrong chart, you must move it to a temporary location, open the image chart for the correct patient, and import the visit.

To export a visit to a temporary storage location:

- 1 Open the **Image Chart** that contains the misplaced visit.
- 2 Right-click the visit.
- 3 Select **Export Visit**. The **Browse for Folder** window is displayed.
- 4 Navigate to the folder in which you want to temporarily store the visit.
- 5 Click **Select**. The visit is exported to the folder you identified.
- 6 Right-click on the incorrect visit in the **Table of Contents** and select **Delete**.

To import the visit into the correct image chart:

- 1 Open the **Image Chart** for the correct patient.
- 2 Right-click the patient's name at the top of the **Table of Contents**.
- 3 Select **Import Single Visit**, and browse to the location of the previously exported visit.

Exercise 4—Move an Image to Another Visit

Move an image from one visit to another in the same **Image Chart** window. Then move it back.

To move an image from one visit to another:

- 1 Expand the **Table of Contents** so that the description of the image you want to move is displayed.
- 2 Right-click the image. A short-cut menu is displayed.
- 3 Click **Copy**.
- 4 Right-click the visit to which you want to move the image. A short-cut menu is displayed.
- 5 Click **Paste**.

To move the image back to its original visit:

- 1 Right-click the image. A short-cut menu is displayed.
- 2 Click **Cut**.
- 3 Right-click the visit to which you want to move the image. A short-cut menu is displayed.
- 4 Click **Paste**.

Exercise 5—Add an Image to a Visit

To add an image to a visit:

- 1 Right-click the visit to which you want to add an image. A short-cut menu is displayed.
- 2 Point the cursor to **Add**. A list of image types is displayed.

- 3 Select an image type. The **Add Image** window is displayed.
- 4 Navigate to the image and select it. The image is displayed in the **Preview** pane.
- 5 Click **Open**. The image is added to the visit.

Exercise 6—Archive an Image

Select a visit and archive the image chart. In the next exercise, restore the visit.

To archive the image chart associated with a patient:

- 1 Make sure that the imaging software and practice management software are closed.
- 2 Do one of the following:
 - Select **Start > All Programs > CS Orthodontic Imaging > Imaging Archive**. A message reminds you to close the software.
 - Select **Start > All Programs > CS OMS Imaging > Imaging Archive**. A message reminds you to close the software.
- 3 Click **OK**. The **Image Archive Utility** window is displayed.
- 4 Select the patient's image chart to archive by selecting the checkbox before the patient number.
- 5 Click **Archive**. The images are removed from your software, and a message indicates when the process is complete.
- 6 Click **OK**.

Exercise 7—Restore an Image from an Archive

Restore the visit that you archived in the preceding exercise.

To restore archived images:

- 1 Select the patient in your practice management software.
- 2 Click the **Imaging** button. The **Restore Patient** window is displayed, and the **Location of media** field indicates the archive location.
- 3 Click **OK**. The patient and associated images are restored to the imaging software. A message indicates when the process is complete.
- 4 Click **OK**.

Exercise 8—Display Images as Thumbnails

To display images as thumbnails:

- 1 With a group of images displayed, click the **Gallery View** drop-down list.
- 2 Use the scrollbar on the right side of the list, and scroll up until **Thumbnails** is displayed.
- 3 Click **Thumbnails**. The images in the **Image Chart** window are displayed as thumbnails.

Exercise 9—Change the Size of an Individual Image

Display a photo and reduce it by 125 percent. Return the photo to its original size.

To change the size of an image:

- 1 In the **Image Chart** window, double-click an image so that it is displayed by itself.
- 2 From the **View** menu drop-down list, select **125%**.

- 3 To return the image to its original size, select **Fitted** from the **View** menu.

Exercise 10—Display Two Images Side by Side

You want to show the patient the profile photo taken in the initial visit next to the profile photo taken in the final visit.

To display two images side by side:

- 1 Right-click the title of the profile image in the **Initial Records** visit in the **TOC**. A short-cut menu is displayed.
- 2 Select **Side compare to . . . > Final Records > Profile**. The two images are displayed side by side.
- 3 To close the side-by-side display, click on a visit name in the **TOC**.

Exercise 11—Display Two Images Vertically

Compare two images, one above the other.

To compare two images vertically:

- 1 Right-click the title of the profile image in the **Initial Records** visit in the **TOC**. A short-cut menu is displayed.
- 2 Select **Top compare to . . . > Type_of_Visit > Type_of_Image**. The two images are displayed with the first image on top and the second one below it.
- 3 From the **View** menu, select **50%**.
- 4 To return the photo to its original size, select **Fitted** from the **View** menu.
- 5 To return to gallery view, double-click the photo.

Exercise 12—Rotate an Image by Degrees

Rotate an image 27 degrees. Then rotate it 17 additional degrees, for a total of 44 degrees. Then return the image to its original position.

To rotate an image in uneven increments:

- 1 In the **Image Chart** window, double-click an image.
- 2 On the **Tool Box** toolbar, click the **Rotate by Degree** button. The **Rotate** toolbar is displayed at the bottom of the window.
- 3 To rotate the image clockwise, move the slider to the right; to rotate it counterclockwise, move the slider to the left. The number of degrees you rotate the image is displayed in the box to the right of the slider bar.

To rotate an image a specific number of degrees, type the number in the box to the right of the slider bar and press Enter. In this instance, type **27** and press Enter. The image rotates 27 degrees.

- 4 To rotate the image an additional 17 degrees, type **44**, the sum of 27 and 17, and press Enter. The image has now been rotated 44 degrees.
- 5 To restore the image to its original orientation, click the **Show Original** button.

Exercise 13—Change Brightness

Make the following changes to an image:

- Increase the brightness by 25 percent.
- Revert to the original value.
- Decrease the brightness by 25 percent.
- Revert to the original value.

To change the brightness of an image:

- 1 In the **Image Chart** window, double-click an image.
- 2 On the **Tool Box** toolbar, click the **Brightness** button. The **Change Brightness** window is displayed.
- 3 Type **25** in the **Percentage** field. The image preview is displayed 25 percent brighter.
- 4 Click **OK**. The image is displayed with the enhanced brightness.
- 5 To revert to the original level of brightness, click the **Brightness** button again.
- 6 Click the **Brightness** button again. The **Change Brightness** window is displayed.
- 7 Type **-25** in the **Percentage** field. The preview pane shows the effect of a 25 percent decrease in brightness.
- 8 Click **OK**. The image is displayed with the reduction in brightness.
- 9 To revert to the original level of brightness, click the **Brightness** button again.

Exercise 14—Change the Intensity of an Image

Make the following changes to an image:

- Increase the gamma value to 3.0.
- Revert to the original value.
- Decrease the gamma value to minus 0.5.
- Revert to the original value.

To increase the gamma value to 3.0:

- 1 In the **Image Chart** window, double-click an image.
- 2 On the **Tool Box** toolbar, click the **Gamma** button. The **Gamma Adjustment** window is displayed.
- 3 Type **3.0** in the **Value** field, and click **OK**. The modified image is displayed.
- 4 To revert to the default value of 1.0, click the **Gamma** button again.

To decrease the gamma value to 0.5:

- 1 On the **Tool Box** toolbar, click the **Gamma** button. The **Gamma Adjustment** window is displayed.
- 2 Change the gamma value to **0.5**, and click **OK**. The adjusted image is displayed.
- 3 To revert to the gamma value of 1.0, click the **Gamma** button again.

Exercise 15—Sharpen an Image

Select an image, and sharpen it by 100 percent. Then revert to the original sharpness.

To sharpen an image:

- 1 Double-click an image.
- 2 On the **Tool Box** toolbar, click the **Sharpen** button. The **Sharpen** window is displayed.
- 3 Type **100** in the percentage field, and view the effect in the preview pane.
- 4 To see the full image, click **OK**.
- 5 To revert to the original image, click the **Sharpen** button again.

Exercise 16—Change the Hue of an Image

Change the hue of an image. Then revert to the original hue.

To change the hue of an image:

- 1 Display a color image.
- 2 On the **Tool Box** toolbar, click the **Hue** button. The **Change Hue** window is displayed.
- 3 Enter a value in the **Angle (degrees)** field, or use the scroll bar to adjust the hue.
- 4 When you have the hue that you want, click **OK**.
- 5 To revert to the original image, click the **Hue** button again.

Exercise 17—Change the Clarity of an Image

Apply the **Despeckle** tool to a frontal smile photo.

To use the **Despeckle** tool:

- 1 Display a frontal smile photo.
- 2 On the **Tool Box** toolbar, click the **Despeckle** button. The specks are removed from the image.
- 3 To revert to the original image, click the **Despeckle** button again.

Exercise 18—Use the Median Tool

Apply the **Median** tool to a profile photo, changing from a default value of **3** to **10**.

To use the **Median** tool:

- 1 Display a profile photo.
- 2 On the **Tool Box** toolbar, click the **Median** button. The **Median** window is displayed.
- 3 Enter **10** in the **Sample size** field, and click **OK**. A modified, softer image is displayed.
- 4 To revert to the original image, click the **Median** button again.

Tip

Click where you want the arrow head and then drag towards the end of the arrow.

Exercise 19—Select Part of an Image

Display an upper occlusal, and mask it so that only the upper-left 1, 2, and 3 teeth are displayed.

To mask part of an image:

- 1 Display an upper occlusal by itself.
- 2 On the **Tool Box** toolbar, click the **Masking** button. The cursor changes to a crosshair.

- 3 Select the upper-left 1, 2, and 3 teeth by holding down the left mouse button and dragging a box around them.
- 4 When you have a box around the target, release the mouse button.
- 5 To revert to the original image, click the **Masking** button again.

Exercise 20—Remove Color from a Cephalometric Image

Select a cephalometric image, and apply the **Grayscale** tool.

To use the **Grayscale** tool:

- 1 Display an image.
- 2 Click the **Grayscale** button. The image is displayed in shades of gray.

Exercise 21—Add Graphic Elements to an Annotation

Add two arrows as part of an annotation. Point the arrows from the text you created to the gum line.

To add arrows to an annotation:

- 1 Display an image with an annotation.
- 2 On the **Tool Box** toolbar, click the **Pointer** button. The cursor changes to a crosshair.
- 3 Click-and-drag the cursor to the text box. The arrow has a white box at each end, which means that the arrow can be edited. Press Delete if the arrow is unsatisfactory.
- 4 To stop drawing the arrow, click off of it.
- 5 Click the **Pointer** tool again. The cursor changes to a crosshair.
- 6 Click-and-drag to create the second arrow.

Exercise 22—Change Annotation Properties

Change the colors of arrows.

To change the colors of arrows:

- 1 In an annotated image displaying arrows, click one of the arrows. The arrow is displayed with a small white box at either end.
- 2 Click the **Annotations' Properties** button on the toolbar at the top of the window. The **Annotations Properties** toolbar is displayed at the bottom of the window.
- 3 Click the **Line Color** button. The **Color** window is displayed.
- 4 Select yellow and click **OK**.
- 5 Repeat the process to make the second arrow yellow.

Glossary

Absolute Template

A template drawn directly on an x-ray without regard to landmarks.

ALD

Arch length discrepancy, as measured in millimeters.

Archive

Storing all of the images associated with a patient in another location, typically in a location that is not on your PC. Archived images can be restored into the software, if necessary.

Autosizing

A function that enables you to change the size of an image so that it will match the size of another image.

Batch Acquisition

Importing all bitmap and movie files from a designated import folder into the software.

Bitmap

A standard format for the display of images on a computer screen. The image is represented by columns and rows of dots. The more dots per square inch (DPI), the better the resolution of an image on the screen.

Browse Button

Indicated by a rectangle with three dots on it, click the **Browse** button to look through the software for a particular file or folder.

Calibration

The process of verifying, and adjusting to, measurements on an image.

Clipboard

A temporary holding area for material that is cut or copied. When you paste, the contents of the clipboard are placed in the designated location. The material pasted, however, remains on the clipboard, so you can paste the same thing in several places without having to copy it again.

Close Up Window

Located to the right of the **Landmark** list, the **Close Up** window presents a magnified view of the area under the cross hairs of the cursor.

CPI

Condular positioning index.

CR

Computed radiograph.

DR

Digital radiograph.

Emboss

To raise the edges of an image, thereby suggesting a three-dimensional look.

Export

To send a copy of an image to another folder while leaving the image in the original folder.

Gallery

An arrangement of patient images contained in a single visit; a particular layout.

Gallery View

When multiple images are displayed simultaneously in the **Image Chart** window.

Gamma

The unit of measure for the intensity of an image. Use the Gamma tool to adjust the intensity of an image.

Gridlines

Use gridlines to align images in the **Gallery Edit View** window. By default, there is one gridline for each row of images and one gridline for each column of images.

Gripper

Found on the **Image window** toolbar, the Gripper tool is used to navigate an image that is larger than the screen.

Histogram

Bar graph that expresses the distribution of light in an image.

Import

To bring an existing image into the software. The **Import** function attaches a single image to the image chart without launching the associated equipment.

Isodensity Line

Areas of equal density shown as a single color on intraoral images.

Landmark

A point entered on an image that is used in measuring. The tip of the upper incisor is a typical measurement.

Landscape

The orientation of a printed page in which the page is wider than it is long. See [portrait](#) orientation.

MAPI-Enabled Software

An acronym for Messaging Application Programming Interface, MAPI is built into Microsoft Windows operating systems. The software enables email applications to work together to distribute email. You must have MAPI-enabled software to use the **Print to Email** option in the CS orthodontic or OMS imaging software.

MAR

A metal artifact reduction filter, available for 3D exams. The feature reduces the scatter caused by metal in a patient's mouth.

Mask

To hide part of an image.

Measurement

A mathematical calculation using landmarks, such as the distance between two landmarks or the angle defined by three landmarks.

Node

When an object is selected in an image, the white boxes that are displayed are the nodes. To change the size of an object, click on a node and drag it.

Object

Any file associated with a patient visit. Objects include the following file types: bitmap, painting, x-ray image, digital image, audio, movie, text documents.

Painting

A copy of an image that is currently displayed in the **Image** workspace.

Patient Demographics

The patient's name, date of birth, gender, ID assigned by your practice, and race. These are displayed on the **Patient's Properties** window.

Pixel

Pictorial element. The clarity of the picture is a function of the number of pixels.

Portrait

The orientation of a printed page in which the page is longer than it is wide. See [landscape](#) orientation.

Smile Library

A collection of images used to simulate various stages of treatment. Images from the Smile Library can be pasted on to a patient's image to show possible treatment results. The Smile Library cannot be used until it has been populated with images from existing cases.

STO

Surgical treatment objective.

Superimposition

A tracing placed on top of another tracing.

Table of Contents

The column that runs down the left side of the **Image Chart** window. The TOC presents a history of a patient's visits with the images associated with each image. Each visit is date and time stamped.

Template

For the purposes of this software, a drawing that represents an anatomic structure. Templates are composed of one or more parts, each part containing one or more points. Parts are used to draw separate components of the template.

Thumbnail

A small version of an image. Thumbnails are the default gallery for automatic visits. Thumbnail images load faster than larger images.

Visit

In this software, each visit is typically a record of a one patient appointment. Each visit is date and time stamped and contains all of the images related to that appointment. The visit identifies the type. In some cases, a series of appointments may comprise one visit.

VTO

Visual treatment objective.



Index

A

- add a visit button [2](#), [15](#), [39](#)
- add/import/export tab [10](#)
- Adobe Reader, installing [v](#)
- annotation tools [32](#)
- annotations
 - adding graphic elements [44](#)
 - changing properties [45](#)
 - deleting [33](#)
 - hiding [33](#)
 - properties [14](#)
 - showing [33](#)
- annotations properties toolbar [45](#)
- annotations tab [11](#)
- archive images [18](#), [40](#)
- arrows, changing color [45](#)
- Auto Detect Landmarks feature [34](#)
- autosizing
 - images [20](#)
 - setting defaults [13](#)

B

- background colors [13](#)
- brightness tool [25](#), [42](#)
- buttons
 - add a visit [2](#), [15](#), [39](#)
 - annotations toolbar [6](#)
 - auto size [20](#)
 - brightness [25](#)
 - color [6](#)
 - contrast [25](#)
 - despeckle [29](#)
 - emboss [29](#)

- equalize [28](#)
- fill [6](#)
- flip [31](#)
- font properties [6](#)
- full screen [3](#)
- gallery edit view [3](#), [7](#)
- gamma [26](#)
- grayscale [32](#)
- gripper [3](#), [23](#)
- hide/show lines [19](#)
- hue [27](#)
- imaging [1](#)
- invert [31](#)
- line [6](#)
- masking [30](#)
- median [29](#)
- mirror [31](#)
- preferences [3](#), [10](#)
- reset zoom [21](#)
- restore defaults [20](#)
- rotation [23](#)
- saturation [28](#)
- sharpen [27](#)
- table of contents [1](#)
- text [32](#)
- tool box [23](#), [25](#)

C

- clipboard, copying images to [35](#)
- colors
 - changing [45](#)
 - changing background [13](#)
- contrast tool [25](#)
- customer support, calling [8](#)

D

date, changing 16, 39
despeckle tool 29
display/print tab 10
drawing, as part of annotations 44

E

email, attaching an image to 35
emboss tool 29
equalize tool 28

F

flip tool 30
full screen button 3
full screen mode 8

G

galleries
 menu of 2
 panorex 2
 profile and ceph 2
 types 2
gallery edit view
 button 3
 gridlines 7
 returning to image chart 7
gallery edit view button, activating 7
gallery views, changing 8
gamma tool 26
grayscale tool 32
gridlines
 adding 19
 in gallery edit view 7
 moving 20
 removing 19
 setting defaults 13
gripper button 3

H

hue tool 27

I

image chart toolbar 2
image chart, returning from gallery edit view 7
images
 adding to a visit 17, 40
 archiving 18, 40
 attaching to e-mail 35
 autosizing 20
 brightness 25, 42
 changing orientation 37
 changing size 21
 copying to clipboard 35
 deleting 18
 displaying intraoral 2
 displaying vertically 41
 hue 27
 intensity 26
 moving 40
 panoramic 2
 printing 36
 printing date of birth on 38
 printing multiple 36
 printing name of practice 38
 rotating 22, 42
 selecting a single 7
 sharpening 26
 side by side 41
 types 17, 40
imaging software, accessing 1
installing Adobe Reader v

L

landmarks
 defining 48
 detecting 34
landscape orientation 37
logo, changing 12

M

MAR 34
masking tool 30

median tool [29](#)
metal artifact reduction [34](#)
mirror tool [31](#)

N

notices, defined [v](#)

O

online documentation, accessing [v](#)

P

panoramic, gallery type [2](#)
plus sign, in TOC [2](#)
portrait orientation [37](#)
practice, printing name on images [38](#)
preferences
 annotations [14](#)
 autosizing instructions [13](#)
 background colors [13](#)
 basic [10](#)
 default export [13](#)
 default import [13](#)
 global [9](#)
 gridlines [13](#)
preferences button [3](#)
printing
 date of birth on image [38](#)
 images [36](#)
 multiple images [36](#)
profile and cephalometric, gallery type [2](#)
properties
 changing annotation [45](#)
 document [37](#)

R

records +, gallery type [2](#)
reducing artifacts [34](#)
rotate by degree tool [42](#)

S

saturation levels, changing [28](#)
sharpen tool [26](#)
software, determining version [8](#)

T

table of contents
 changing width [1](#)
 structure [1](#)
table of contents button [1](#)
tabs
 add/import/export [10](#)
 annotations [11](#)
 display/print [10](#)
text tool [32](#)
thumbnails
 displaying images as [41](#)
 gallery type [2](#)
TOC
 button [2](#)
 plus sign [2](#)
toolbars
 annotations properties [45](#)
 gallery edit view [19, 20](#)
 image chart [2, 41](#)
 rotate [24, 42](#)
tools
 annotation [32](#)
 brightness [25, 42](#)
 contrast [25](#)
 despeckle [29](#)
 emboss [29](#)
 equalize [28](#)
 flip [30](#)
 gamma [26](#)
 grayscale [32](#)
 hue [27](#)
 masking [30](#)
 median [29](#)
 mirror [31](#)
 rotate by degree [42](#)

saturation [28](#)

saturation tool [28](#)

sharpen [26](#)

text [32](#)

tree structure, of TOC [2](#)

types of images [17](#), [40](#)

U

using this guide [v](#)

V

version of software, determining [8](#)

visits

add a visit button [15](#), [39](#)

adding [2](#)

adding an image [17](#), [40](#)

changing the date [16](#), [39](#)

deleting [16](#)

exporting [13](#)

importing [13](#)

importing into a patient [17](#), [39](#)

moving to another patient [17](#), [39](#)

