



User and Installation Guide

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We recommend that you thoroughly familiarize yourself with this Guide in order to make the most effective use of your system.



WARNING: We recommend that you consult the "Safety Sheet" and the "Safety and Regulatory Guide" before using the CS 1200 Systems.

All trademarks and registered trademarks are the property of their respective holders.

The CS 1200 is intended for professional use only.
US Federal law restricts this device to sale by or on the order of a dentist.

Manual Name: CS 1200 Intraoral Camera User and Installation Guide

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#### **Conventions in This Guide**

The following messages emphasize information or indicate potential risk to personnel or equipment:



WARNING: Warns you to avoid injury to yourself or others by following the safety instructions precisely.



CAUTION: Alerts you to a condition that might cause serious damage.



Important: Alerts you to a condition that might cause problems.



Note: Emphasizes important information.



Tip: Provides extra information and hints.

## **CS 1200 System Description**

The CS 1200 system is available in a wired USB configuration.

See "Packaging of the CS 1200 Camera" for the packaging components list. Inspect the packages of the CS 1200 intraoral camera after the shipment is received. If there are any signs of damage or missing parts, contact the shipping company and Carestream Dental LLC immediately.

#### Packaging of the CS 1200 Camera

Table 1 Packaging of the CS 1200 Camera

Component	Description	Quantity
	CS 1200 camera	1
	Camera holder	1
-	USB cable	1
	Protective sheaths	10
	Document and software package:  CS Intraoral Cameras Installation Wizard DVD  Documents on DVD:  User and Installation Guide Safety, Regulatory, and Technical Specifications User Guide Safety Information Sheet Quick Start Guide  Documents Printed: Warranty Sheet Quick Start Guide Safety Information Sheet	

# 3 CS 1200 Intraoral Camera Overview

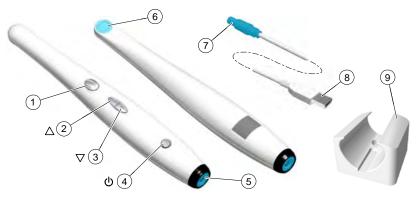
The CS 1200 intraoral camera is an easy-to-use, simple-to-share, and high-quality imaging system.

When connected to a computer, it has the following functions:

- Recording videos
- Capturing images
- · Reviewing recorded videos and captured images

#### **Camera Overview**

Figure 1 Camera Components Overview



- 1 Capture button
- 2 Review button (backward)
- 3 Review button (forward)
- 4 Power button (LED indicator)

Press to capture an image.

Press to view the previous image.

Press to view the next image.

- Press 3 seconds to power ON.
- Press 3 seconds to power OFF.
- Press 1 second to turn OFF the LED of the lens window.
- indicates the power is ON.
- indicates the power is OFF.
- 5 Cable connection
- 6 Camera lens
- 7 Push-pull connector
- 8 USB connector
- 9 Camera holder
- 10 Protective sheaths (not pictured)

USB

## CS 1200 Software Overview

#### **Minimum Computer System Requirements**

For the minimum computer system requirements, see the CS 1200 Safety, Regulatory, and Technical Specifications User Guide.



Important: It is MANDATORY to check that your computer system configuration is compatible with the computer system requirements for the CS 1200 software.

#### **General Software Overview**

The CS 1200 intraoral imaging system operates with the following software:

- CS Imaging Software
- Imaging software using a TWAIN interface
- CS 1200 Acquisition interface

#### **CS 1200 Acquisition Interface Overview**

The CS 1200 Acquisition interface can acquire, review, and store videos and images of the oral cavity.



Figure 2 Acquisition Interface Overview

- 1 Title Bar: Displays the patient's name.
- 2 Toolbar: See "Toolbar Overview" on page 8.
- 3 View Screen: Displays live video, selected captured image, or recorded video.
- 4 Image Gallery: Displays thumbnails of all captured images and recorded videos.

#### **Toolbar Overview**

The **Toolbar** enables you to manage the following features:

- Live video recording, viewing, and managing features.
- Image capturing, viewing, and managing features.

#### Video Toolbar

The video toolbar enables you to launch, record, and play a live or recorded video.

Video record button: Records a live video.

Play button: Plays a recorded video.

Pause button: Pauses a recorded video.

Stop button: Stops a recorded video.

#### **Image Toolbar**

The image toolbar enables you to capture, view, and manage a still image.

Capture button: Captures an image.

Reset button: Clears all changes made to an image.

Rotation button: Rotates an image 45°.

Rotation button: Rotates an image 90°.

#### **Common Video and Image Toolbar**

The following buttons are shared by the video and image screens:

Live video button: Launches the live video.

Review button: Reviews images and recorded videos.

Tooth chart comment button: Accesses the tooth chart dialog box to associate a tooth/teeth with the selected image and enables you to write comments in the Comments field.

Select a format button: Click to access the last selected format. Click to access the Select a format dialog box to select a new display format.

Mirror image and Video button: Mirrors the live video and the captured images.

Full screen button: Displays the live video, recorded video, and the captured images in full screen.

<b>Exit</b> button: Closes the acquisition interfa
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•	<b>USB connection status</b> icon: Displays the camera USB connection status.
	If the icon is red, the USB is disconnected.

•	
	Preference button: Accesses the Preferences dialog box

	Information button: Accesses information on software version, firmware version,
i	and camera serial number.

Online help button: Accesses the online help.

#### **Image Gallery Toolbar**

The image gallery toolbar enables you to manage videos and images displayed in the image gallery.

« <b>‹ › »</b>	Scroll button: Scrolls images and recorded videos in the image gallery.
	Delete button: Deletes selected images and recorded videos.
ීදු	<b>Delete all</b> button: Deletes all images and recorded videos in the image gallery.
	Restore button: Restores the last deleted image or recorded video

#### **Monitor Connection Overview**

#### **Transfer Toolbar**

The transfer toolbar enables you to transfer images from the camera to the **Acquisition** interface or to the computer. The transfer toolbar displays when the camera supports the monitor connection.





#### **Select Patient Dialog Box**

The **Select Patient** dialog box enables you to transfer images of the selected patient number to the **Acquisition** interface.

Figure 3 Select Patient Dialog Box



#### **Dialog Boxes Overview**

#### **Image Processing Dialog Box**

The image processing dialog box enables you to manage the image contrast and brightness.

Figure 4 Image Processing Dialog Box



- **Brightness** button: Adjusts the brightness of the image.
- Contrast button: Adjusts the contrast of the image.
- Scroll button: Increases or decreases the brightness and contrast of the image.
- Reset button: Clears all brightness and contrast changes made to the image.

#### **Tooth Chart Dialog Box**

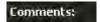
The **Tooth Chart** dialog box enables you to select tooth numbers associated with the image or video.

Figure 5 Tooth Chart

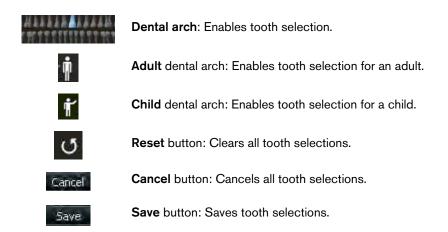




Date field: Displays the current date.



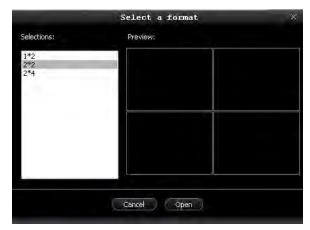
**Comments** field: Enables you to enter comments to be associated with an image or video.

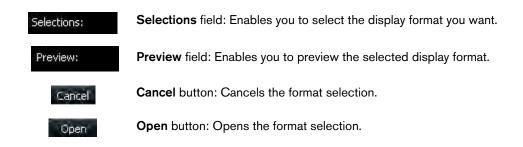


#### **Select a Format Dialog Box**

The Select a format dialog box enables you to select the display format you want.

Figure 6 Select a Format Dialog Box





#### **Preferences Dialog Boxes Overview**

The **Preferences** dialog boxes enable you to select the camera and acquisition software settings. Set up your preferences before using the camera.

#### **General Preferences**

Figure 7 General Preferences



The General Preferences dialog box enables you to select the following options:

- Language: Select the menu language.
- Tooth numbering system: Select the tooth numbering system.
- Frequency setting: Select the local electric frequency.
- Power off automatically: Select the camera's automatic power off time, from 1-9 hours.
- **Power on automatically**: Enable/disable the camera's automatic power on feature for the camera's support monitor connection.
- Capture sound: Enable/disable the audio sound when an image is captured.
- Record sound: Enable/disable the audio sound when a video is recorded.



Important: Ensure that the proper frequency setting is selected for your region. The wrong setting can negatively impact image quality.

#### **Video Adjustment Preferences**

Figure 8 Video Adjustment Preferences



The Video Adjustment Preferences dialog box enables you to select the following options:

- Brightness Setting: Select the video brightness setting.
- Contrast Setting: Select the video contrast setting.

#### **Tools Preferences**

Figure 9 Tools Preferences



The **Tools Preferences** dialog box enables you to select the following option:

Create log file: Save log files for service information.



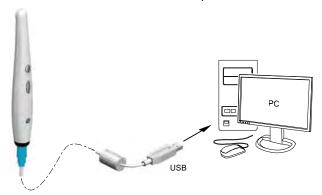
# 5

## Setting Up the CS 1200 Intraoral Camera

#### Connecting the Camera to a Computer and Installing the Software

To connect the camera to a computer and install the software, follow these steps:

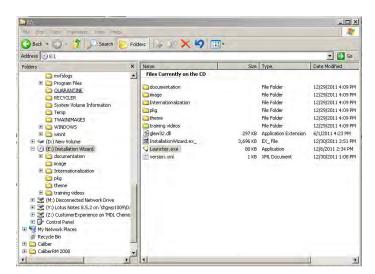
1 Connect the camera to the computer.



Insert the CS Imaging Software DVD in the DVD drive and install the software. See the CS Imaging Software documentation: CS Imaging Installation and Configuration Guide (SM998), for more information.

To install the imaging software using a TWAIN interface, see your imaging software user guide.

Insert the **CS Intraoral Cameras Installation Wizard** DVD in the DVD drive. If the DVD does not run automatically, navigate to your DVD drive in Windows Explorer and double-click the **Launcher.exe** file.



Follow the on-screen instructions to install the Acquisition interface and set up the camera. A prompt asking you if you want to install the software might display.

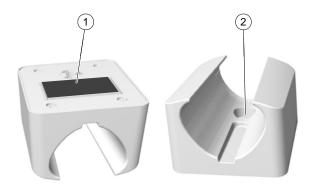
Check Always trust software from "Carestream Dental LLC" and click Install.

#### **Installing the Camera Holder**

#### **Camera Holder Components Overview**

Place the camera in the holder when you are not using the camera.

Figure 10 Camera Holder Components Overview



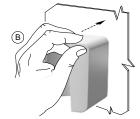
- 1 Adhesive tape
- 2 Opening to fasten the holder securely to the mounting surface using a screw

#### **Installing the Camera Holder**

To install the camera holder, follow these steps:

- 1 Choose a clean area on the wall that you can access easily.
- 2 Clean the surface on which you are going to fasten the camera holder.
- 3 Remove the adhesive tape protection from the support (A).
- 4 Place the taped side of the camera holder on the clean surface (B) and press firmly several times for correct adherence. The maximum adherence is obtained after two hours.







Important: You must avoid all stress on the camera holder during the first 2 hours.



Important: Adhesive tape can lose its adherence capability due to environmental and other factors. Check the adherence regularly to ensure that it is secure.



Important: Carestream Dental LLC is not responsible for accidents involving the camera falling due to loosening of the adhesive tape.

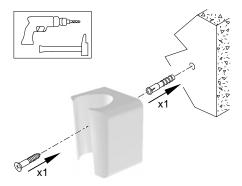


**Note:** The camera automatically goes into sleep mode when inserted into the camera holder or left idle for 1.5 minutes. To use it again, pick it up or press the Capture button.



Note: When the camera is idle for more than 3 hours (default), it powers off. To change the default automatic power-off time, see "General" Preferences" on page 12.

For places on which you cannot use the adhesive tape, insert a screw through the appropriate hole in the camera holder to affix it to a solid surface.





# 6 Getting Started

#### **Accessing the Acquisition Interface**

To access the **Acquisition** interface, follow these steps:

- 1 In the **Imaging** window:
  - If you installed only the CS 1200 or you have installed the CS 1500 and/or CS 1600 camera before the CS 1200, click or
  - If you have installed a K 1000 camera before the CS 1200, click the arrow button on or and select the CS 1200 camera from the drop-down list.

The **Acquisition** interface is displayed.

2 Select your preference settings.

#### **Setting Up Preferences**

Set up your preferences before using the camera. To set up the preferences, follow these steps:

- 1 On the **Acquisition** interface, click . The **Preferences** dialog box is displayed.
- 2 Click to set the General preferences.
- 3 Click profese to set the Video Adjustment preferences.
- 4 Click to set the Tools preferences.

You can now capture images or record videos.

## Using the Imaging Software with TWAIN

#### Starting the Imaging Software

To acquire an image using imaging software via TWAIN, follow these steps:

From your imaging software, such as Photoshop, open the TWAIN interface.
For example, in Photoshop, go to Import > Select Source.

The **Select Source** window is displayed.



- Select CS Intraoral Camera 2.3 (32-32) and click Select.
- Open the **Acquisition** interface using the TWAIN interface; see the user guide for your imaging software.



Note: The software used for image acquisition must be compliant with

#### TWAIN has the following limitations:

- TWAIN does not support the video file or tooth comment feature within the Acquisition interface. The video file or tooth comment feature is disabled.
- After capturing images, click to return to the imaging software interface. If the imaging software supports multiple image transfers, all images will be transferred. If the imaging software supports only a single image transfer, either the first or the last acquired image will be transferred.



Note: If the message Camera setting changed, please restart your third party software is displayed, you must restart the software and reopen the Acquisition interface.

#### **Setting Up Preferences**

Set up your preferences before using the camera. To set up the preferences, see "Setting Up Preferences" on page 19.

You can now capture images.

# Recording Video and Capturing Images on a Computer

#### **Preparing for Acquisition**

#### **Preparing the Camera**

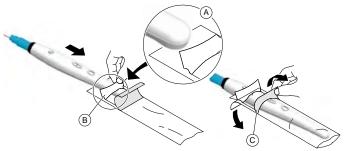
The protective sheath covers the camera and provides a sanitary shield for the patient. **Use a new protective sheath with each patient**. **Always discard the protective sheath after each use**. For additional protective sheaths, contact your dealer or the protective sheaths manufacturer.



Important: Use only the protective sheaths designed specifically for this camera.

To prepare the camera, follow these steps:

- 1 Make sure the window is clean by wiping it with a moist, lint-free cloth or lens tissue.
- 2 Place the protective sheath, paper side down, on a flat surface.
- With the camera window facing down (A), insert the camera all the way into the protective sheath between the protective sheath's white tab and paper backing (B).



- 4 Hold the protective sheath in place on the camera by gently pressing the white tab against the camera with your thumb or finger.
- Pull the blue tab on the front of the protective sheath straight down away from the camera (C) until the paper backing is pulled away. Discard the paper backing, leaving the clear plastic protective sheath on the camera.
- Adjust the protective sheath if necessary. The end should be tight to prevent fogging or blurring of the image.



**Note:** Installing the sheath incorrectly has a negative effect on image quality.

#### **Acquiring Live Video or Images**

#### **Accessing the Acquisition Interface**

To access the **Acquisition** interface:

- If you use CS Imaging Software, click or in the Imaging window and select your camera.
- If you use imaging software via a TWAIN interface, see the user guide of your imaging software for details on opening the **Acquisition** interface.

#### **Recording or Viewing a Video**

To record or view a video, follow these steps:

1 Press the ON/OFF button 3 seconds to power on the camera.



- 2 Hold the camera over the area you want to view. Live video appears on the **Preview** screen.
- 3 To record the video, on the **Acquisition** interface, click to record and click again to stop the recording.

The video recording is displayed on the **Preview** screen of the **Acquisition** interface.



- 4 Use the video toolbar to view the recorded video (see "Video Toolbar" on page 8).
- 5 Use the image gallery toolbar to scroll through, save, or delete the recorded video (see "Image Gallery Toolbar" on page 9).

- to close the  $\mbox{\bf Acquisition}$  interface and return to the imaging software interface. The recorded video is saved and displayed in the Patient history.
- Remove and dispose of the protective sheath.

#### **Capturing and Viewing Images**

To capture or view an image, follow these steps:

Press the ON/OFF button 3 seconds to power on the camera.



- Hold the camera over the area you want to view. Live video appears on the Preview screen.
- To capture an image, do one of the following:
  - Press the Capture button on the camera.

OR

Click on the **Acquisition** interface.

The image is displayed on the **Review** screen of the **Acquisition** interface.



to access the Tooth Chart dialog box, select the relevant tooth, and type comments in the Comments field (see "Tooth Chart Dialog Box" on page 10).

The selected images are displayed and saved temporarily in the image gallery.

Use the toolbar to view the image (see "Image Toolbar" on page 8).

6 Press the **Review** button on the camera to review the images.

OR

Use the image gallery toolbar to scroll through, save, or delete the images (see "Image Gallery Toolbar" on page 9).

7 Click to close the **Acquisition** interface.

The images are saved and displayed in the Patient history.

8 Remove and dispose of the protective sheath.



**Note:** The camera automatically goes into sleep mode when inserted into the camera holder or left idle for 1.5 minutes. To use it again, pick it up or press the **Capture** button.



**Note:** When the camera is idle for more than 3 hours (default), it powers off. To change the default automatic power-off time, see "General Preferences" on page 12.

# Maintenance

## **Cleaning and Disinfecting the Camera**

You must clean and disinfect the camera and accessories regularly.

The camera is not delivered in disinfected condition. To ensure maximum hygienic safety for the patient, carefully follow the instructions to disinfect the camera before use.



Important: For information on cleaning and disinfecting, see the Safety, Regulatory, and Technical Specifications User Guide.

# 9 Troubleshooting

## **CS 1200 Troubleshooting Instructions**

Problem Description	Action
No image is displayed on the screen.	<ul> <li>Make sure the power indicator LED on the camera is green.</li> <li>Disable the firewall and the antivirus software, then try again. If an image is displayed, perform the necessary adjustments to the firewall and the antivirus software settings before opening the Acquisition interface again.</li> </ul>
The camera captures an image but does not display live video or record video.	Make sure the computer meets the minimum system requirements.
After installing the camera, other USB devices do not work correctly.	<ul> <li>Plug the camera into a different USB port (for desktops, it is recommended to use the rear USB ports).</li> <li>If the camera is directly connected to the computer, try using a USB hub. If using a USB hub, try connecting the camera directly to the computer.</li> </ul>
The camera is not active within the CS Imaging Software interface. The camera icon is "grayed out."	<ul> <li>In the CS Imaging Software, go to Options -&gt; Preferences -&gt; Camera. Make sure that Use a video capture source box is checked.</li> <li>From the Windows Control Panel, select Add or Remove Programs and make sure that CS Acquisition Interface is displayed.</li> <li>Reinstall the CS Imaging Software and the Acquisition software. See "Connecting the Camera to a Computer and Installing the Software" on page 15 for more information.</li> </ul>
The colors of the live video or captured images are not accurate.	<ul> <li>On the Acquisition interface, click and select Video Adjustment Preferences, then adjust contrast and brightness.</li> <li>Check the contrast and brightness of the computer monitor.</li> <li>Reboot the camera.</li> </ul>
Cannot enter tooth number in <b>Tooth</b> number option.	Make sure the correct country/region for the tooth number standard is selected in the <b>General Preferences</b> .
Blurred image.	Replace the sheath. See "Preparing for Acquisition" on page 21 for more information.
Live video/recorded video is choppy or lagging.	Make sure that the graphics card is using the latest drivers. Visit the website of the graphics card manufacturer to learn how to update the drivers.

Problem Description	Action
Glitches with the display in Windows Vista or 7. For example, a "picture in picture" effect in live video or a flashing screen when dragging windows within the <b>Acquisition</b> window.	<ul> <li>Click Start&gt;Control Panel (View by Large Icons)&gt;Performance Information and Tools, and select Re-run the assessment to refresh the rating score.</li> <li>Make sure that the graphics card is using the latest drivers. Visit the website of the graphics card manufacturer to learn how to update the drivers.</li> </ul>
Connection failure between the camera and the computer after computer standby.	Reboot the camera and the <b>Acquisition</b> interface.
For the monitor configuration, images cannot be found in drive <b>C:\</b> after they are exported to the disk from the camera.	The transferred images are saved in folder C:\Users\ <user account="">\AppData\ Local\VirtualStore. This folder is hidden by default. Change the default setting for the hidden folders in your Windows operating system.</user>
Tooth comments cannot be displayed correctly after they are exported to the CS Imaging Software.	Make sure that the language used for the tooth comments is the same as the language option in the CS Imaging Software.
Firmware upgrade fails when the <b>Acquisition</b> interface is opened.	Run your imaging software as an administrator.

## 10 Contact Information

#### **Manufacturer's Address**



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www.carestreamdental.com

#### **Authorized Representatives**

#### **Authorized Representative in the European Community**

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