

# Panoramic Modality User guide

for CS 8100 Family

Including

CS 8100

CS 8100 Access

CS 8100SC

CS 8100SC Access

# Notice

Congratulations on your purchase of the CS 8100 Family. Thank you for your confidence in our products and we will do all in our power to ensure your complete satisfaction.

The **Panoramic Modality User guide for CS 8100 Family** provides information on complete or segmented tomographic digital panoramic X-ray image modalities. We recommend that you thoroughly familiarize yourself with this guide in order to make the most effective use of your system.

For Cephalometric Modality, see the **Cephalometric Modality User guide** for CS 8100 Family and CS 8100 3D Family.

The CS 8100 Family includes:

- CS 8100: the complete Panoramic Modality.
- CS 8100 Access: the Panoramic Modality without the 2D+ radiological exam.
- CS 8100SC: the complete Panoramic and Cephalometric Modalities.
- CS 8100SC Access: the Panoramic Modality (without the 2D+ radiological exam modality) and the Cephalometric Modality (without the 26x24 FoV (Field of View)).

This document refers to all models as CS 8100 unless otherwise specified.



**Important:** We recommend that you consult the **CS 8100 Family Safety, Regulatory and Technical Specification User Guide** (SM785) before using the CS 8100 Family.

The information contained in this Guide may be subject to modification without notice, justification or notification to the persons concerned.

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This document is originally written in English.

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The CS 8100 Family complies with Directive 93/42/EEC relating to medical equipment.



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# 1 Conventions in This Guide

## Conventions in this Guide

The following special 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.



# 2 CS 8100 Overview

The CS 8100 Family includes:

- CS 8100: the complete Panoramic Modality.
- CS 8100 Access: the Panoramic Modality without the 2D+ radiological exam.
- CS 8100SC: the complete Panoramic and Cephalometric Modalities.
- CS 8100SC Access: the Panoramic Modality (without the 2D+ radiological exam modality) and the Cephalometric Modality (without the 26x24 FoV (Field of View)).

**This document refers to all models as CS 8100 unless otherwise specified.**

The following figures illustrate the general overview of the CS 8100.

## Mobile Components

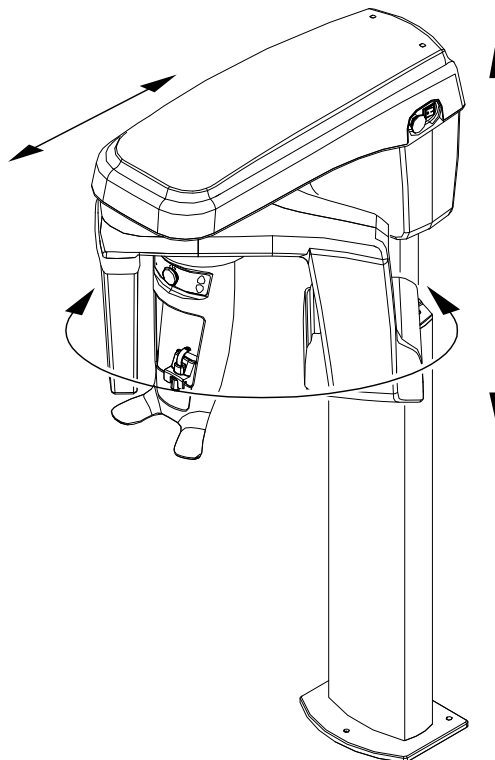
Figure 1 illustrates the:

- up and down movement of the unit
- rotation and translation movement of the rotative arm



**Important: The patient can enter through either the left side or the right side of the unit.**

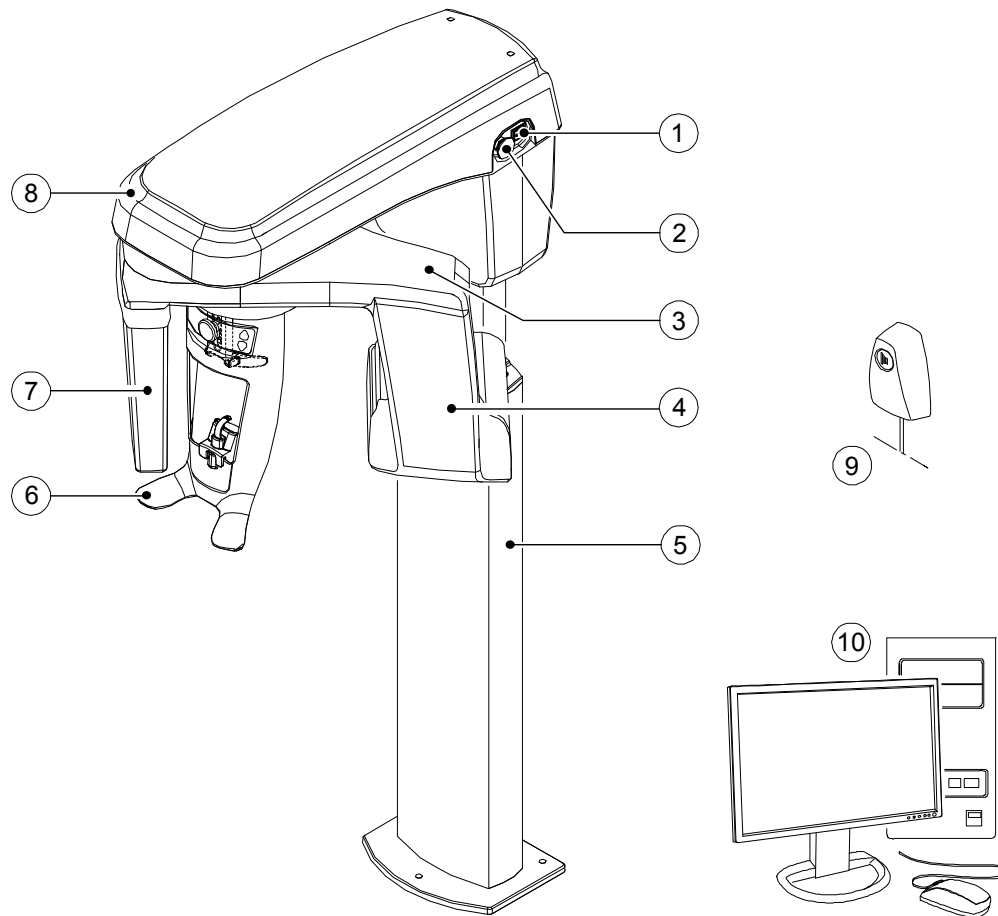
**Figure 1 Unit Mobile Components**



## General Functional Components

Figure 2 illustrates the general functional components of the unit.

**Figure 2 Unit Functional Components**



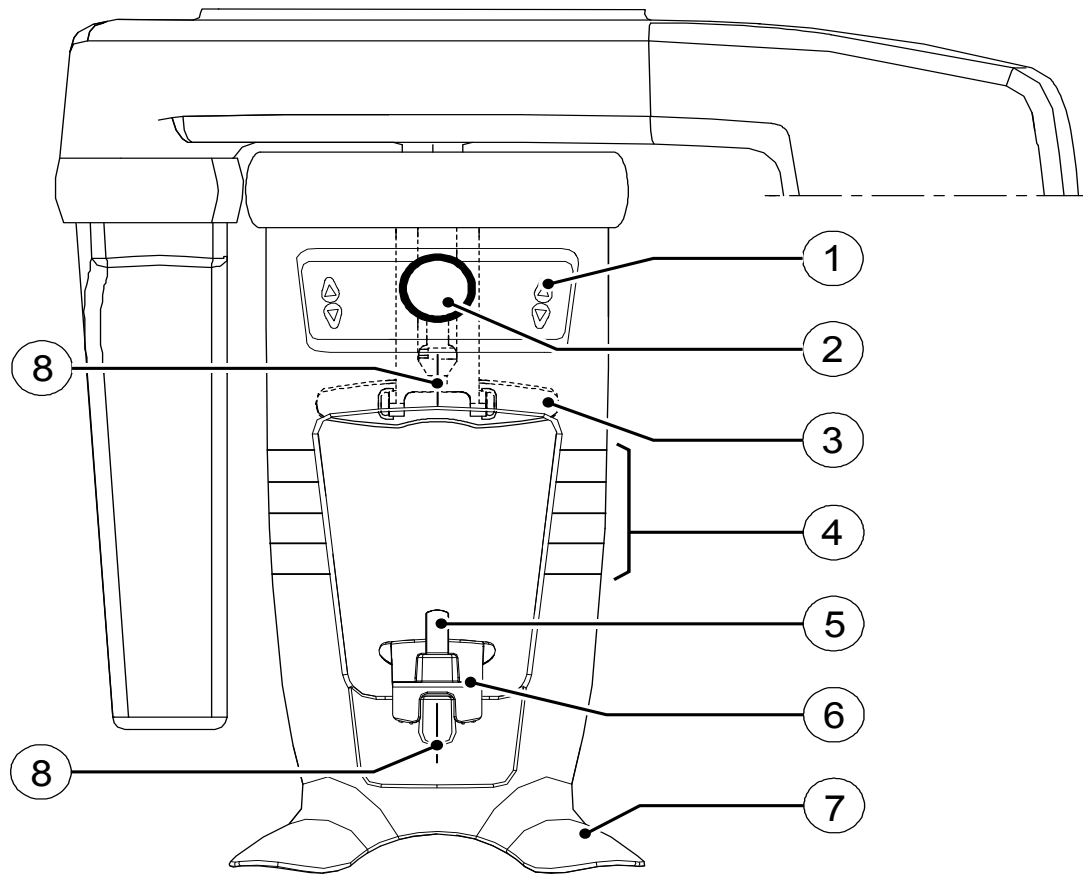
- |   |                       |    |                                                     |
|---|-----------------------|----|-----------------------------------------------------|
| 1 | ON/OFF button         | 6  | Head and chin rest                                  |
| 2 | Emergency stop knob   | 7  | Digital panoramic sensor                            |
| 3 | Unit rotative arm     | 8  | Unit head                                           |
| 4 | X-ray source assembly | 9  | X-ray remote control                                |
| 5 | Unit column           | 10 | PC hosting the imaging and the acquisition software |



## Head and Chin Rest

Figure 3 illustrates the functional components of the head and chin rest.

**Figure 3 Head and Chin Rest Functional Components**



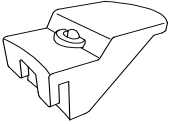
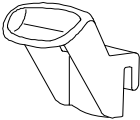
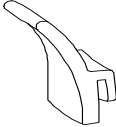
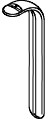
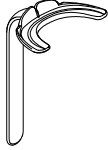
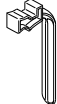

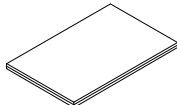
- |   |                                   |   |                                 |
|---|-----------------------------------|---|---------------------------------|
| 1 | Positioning Panel                 | 5 | Bite block support              |
| 2 | Frontal head rest adjustment knob | 6 | Chin rest                       |
| 3 | Frontal head rest                 | 7 | Hand grips                      |
| 4 | Horizontal positioning indicators | 8 | Vertical positioning indicators |

## Positioning Accessories

The following accessories are used when positioning a patient. They are delivered with the CS 8100.

Table 1 lists the positioning accessories.

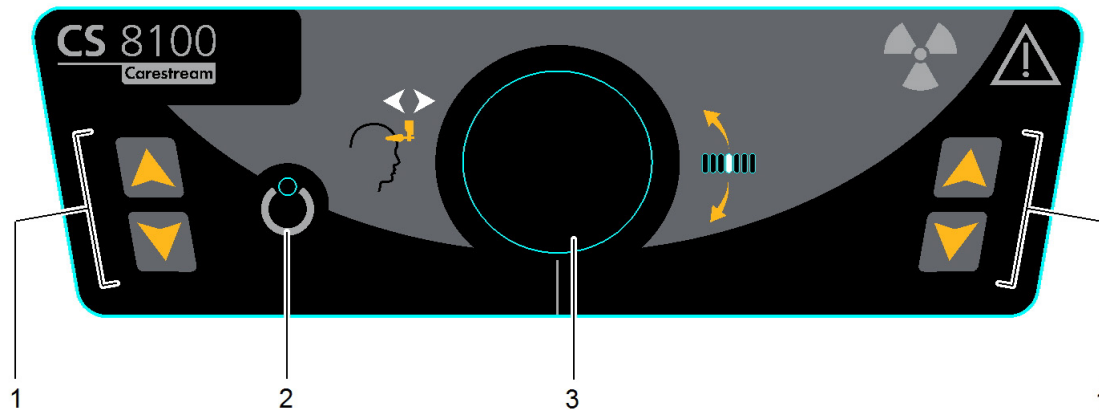
**Table 1 Positioning Accessories**

Accessory	Description
	Panoramic chin rest
	Sinus chin rest
	TMJ nose rest
	Standard bite block (x5)
	Frankfort guide bite block for panoramic (x3)
	Bite block for edentulous patients (x2)
	Single use sheaths for bite block (500 pcs box)
	Single use sheaths for Frankfort guide bite block (100 pcs box)

## Positioning Panel

The positioning panel is a console on the head and chin rest that enables you to correctly position and align a patient before you acquire an image.

Figure 4 Unit Positioning Panel



**1 Height Adjustment buttons:**

- Adjusts the height of the unit to the height of the patient.
- **When the unit is not in use**, places the rotative arm in a parallel position to the unit head, leaving more free space around the unit.  
To do so, press and hold both buttons until the **Ready Indicator LED** switches off.  
When you release both buttons, the **Ready Indicator LED** will flash before the rotative arm turns to the parallel position.

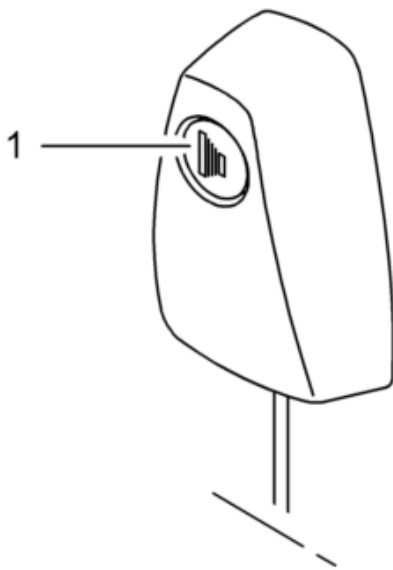
**2 Ready Indicator LED:** Green indicates that the unit is ready for acquisition.

**3 Frontal head rest adjustment knob:** Positions the up or down inclination of the patient head by turning the knob.

## X-Ray Remote Control Overview

The X-ray remote control enables you to launch a radiological image acquisition via the exposure button from outside the X-ray room. You must press and hold the exposure button until the end of acquisition. Premature release of the exposure button interrupts the acquisition.

Figure 5 X-Ray Remote Control



- 1 **Exposure button:** launches image acquisition.



**WARNING:** X-rays can be harmful and dangerous if not used properly. The instructions and warnings contained in this guide must be followed carefully.

# 3 Imaging Software Overview

## Computer System Requirements

For the minimum computer system requirements and configuration for the Imaging Software, see the **CS 8100 Family Safety, Regulatory and Technical Specifications User Guide**.



**Important:** It is MANDATORY to check that the computer system configuration is compatible with the computer system requirements for the CS 8100 software. If necessary you MUST update your computer system configuration.



**Important:** The unit MUST be connected to the computer via a point-to-point Ethernet link and not via a LAN.

## General Software Overview

The CS 8100 operates with the following software:

- CS Imaging Software
- Panoramic Acquisition Interface

### CS Imaging Software

The CS Imaging Software is a user-friendly working interface designed and developed specifically to support image diagnosis.

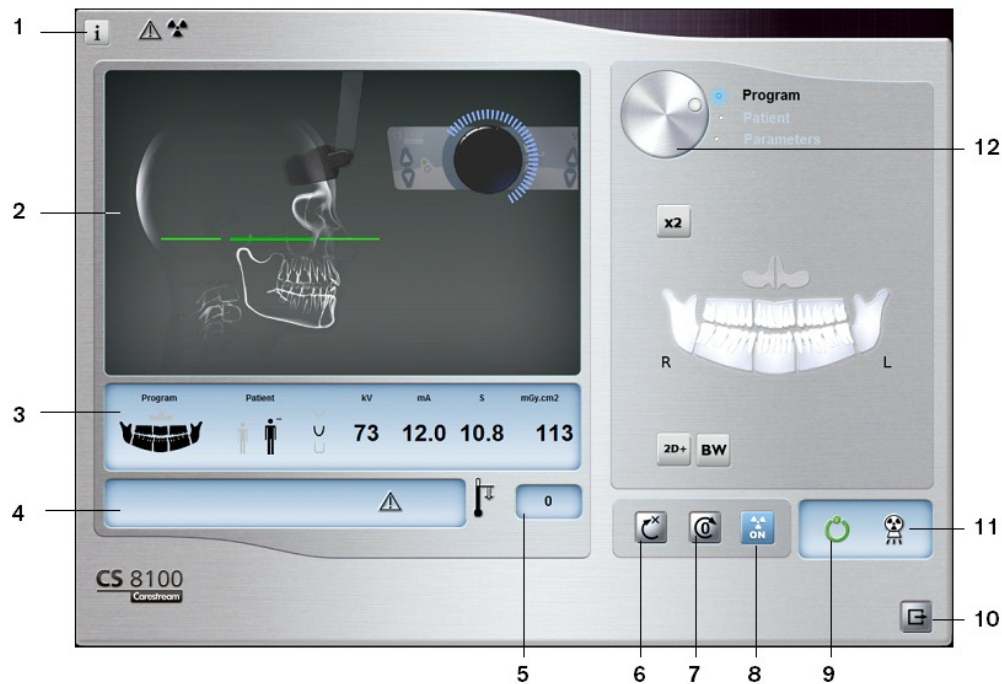
### Panoramic Acquisition Interface

The **Panoramic Acquisition Interface** is a user-friendly image acquisition interface designed and developed specifically for the CS 8100 Family.

## Panoramic Acquisition Interface Overview

The **Panoramic Acquisition Interface** provides you with panoramic image acquisition functions.

**Figure 6 Panoramic Acquisition Interface**



- 1 **Information button:**
  - **Show versions ...:** Identifies Software and Firmware versions.
  - **Resetting Anatomy setting:** Resets to the manufacturing parameter settings.
  - **Memorize Anatomy setting:** Memorizes the user preference settings for each patient type (kV, mA and seconds).
- 2 **Preview Screen:** Displays the acquired image after a few seconds.
- 3 **Selected Parameter Display:** Displays the current acquisition parameter settings.
- 4 **System Status Screen:** Displays various alert or warning messages originating from the unit.
- 5 **Generator Cooling indicator:** Indicates the automatic cooling time (mm:ss) required for the generator to reach 0 for a new acquisition.
- 6 **Reset button:** Resets the unit to the starting position to enable you to position a patient in the unit.
- 7 **Parallel position button:** Leaves more free space around the unit when it is not in use by placing the rotative arm in a parallel position to the unit head.
- 8 **X-ray On/Off button:** Enables or disables X-ray emission.
- 9 **Ready Indicator LED**
  - Green indicates the unit is ready to start acquisition.
  - Black indicates the unit is not ready to start acquisition.
- 10 **Exit button:** Closes the Acquisition interface.
- 11 **X-ray Emission indicator:** Yellow, indicates the X-ray emission status.
- 12 **Selector Button:** Selects different acquisition setting options.
  - Click **Program** to select examination type options.
  - Click **Patient** to select patient type parameters.
  - Click **Parameters** to select exposure parameter options.

## Program Pane

The **Program pane** enables you to choose different radiological exams. The diagram in the **Program pane** represents a jaw, with the **R** side of the diagram corresponding to the right side of the patient.

Figure 7 Program Pane



### Radiological exam options:

#### Segmented panoramic acquisition:


Click on the following areas of interest that you want to examine:

- Posterior
- Anterior

The selected area of interest will highlight. Example (anterior exam):



Maxillary Sinus acquisition:

Click  .

TMJ acquisition:

Click  for a TMJ x2 acquisition.

Click  and click  for a TMJ x4 acquisition.


#### Full panoramic acquisition:

Click on all the areas of interest. Example:




Bitewing acquisition:

Click  .

Select one or both area(s) of interest  .

## 2D+ acquisition:

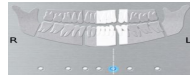


Click  to examine a selected area of interest in 2D+ slices that can be moved in the buccal/lingual direction across a jaw.

You can select 7 areas of interest:



Incisor block



Left canine block



Left premolar block



Left molar block



Right canine block

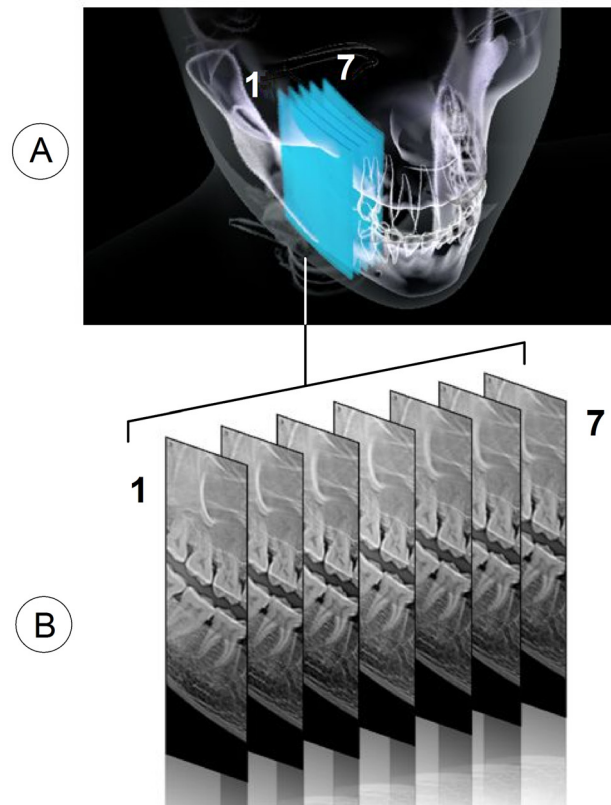


Right premolar block



Right molar block

The following figure illustrates a buccal to lingual block area of interest (A) and the 7 acquired 2D+ image slices (B) at different depths inside the jaw.



**NOTE:** The 2D+ feature is available for CS 8100 and CS 8100SC. It is not available for CS 8100 Access and CS 8100SC Access.



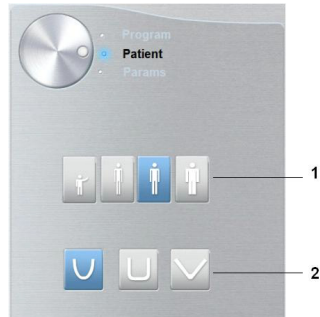
## Patient Pane

The **Patient pane** enables you to choose and select the different patient parameters. The selected parameters for a patient influences the image quality because:

- The default KV and mA exposure settings are set for the selected patient mode.
- The image is reconstructed according to the patient dental arch morphology.

The selected parameters must be based on the age and morphology of the patient .

**Figure 8 Patient Pane**




**Note:** A selected patient mode sets the:


- kV and mA
- jaw size


### 1 Patient type parameters:


Pediatric mode:

Click  if the patient is a child.

Adult mode:

Click  if the patient is small.

Click  if the patient is medium.

Click  if the patient is large.





#### **Important:**

See the *CS 8100 Family Safety, Regulatory and Technical Specifications User Guide* for information on radiation protection and recommendations when you select a patient type especially the pediatric patient.

### 2 Patient dental arch morphology:

Click  for a **normal** shape dental arch.

Click  for a **square** dental arch.

Click  for a **sharp** dental arch.

## Parameter Pane

The **Parameter Pane** enables you to choose exposure parameters for the radiological image acquisition. If the default parameter setting is not adapted to your patient type, you can manually adapt the parameter setting to the patient type and save this setting as the default setting.


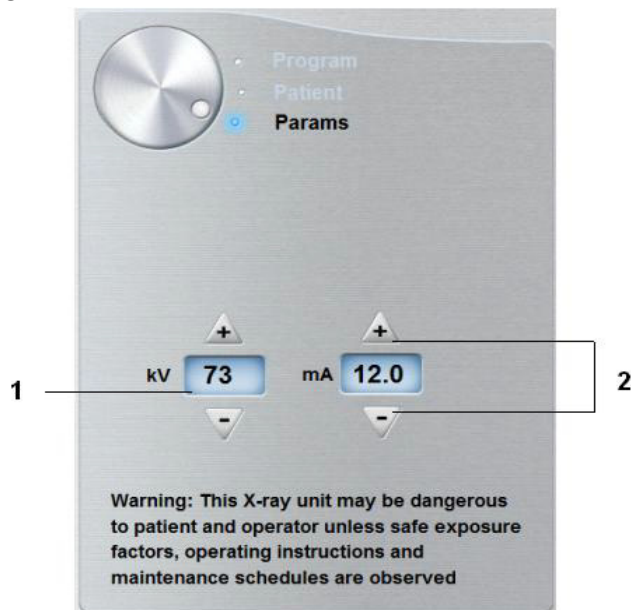
To save a parameter setting, click  and select **Memorize Anatomy setting**.

Figure 9 Parameter Pane





1 **Exposure setting options:**

 73 kilovolt

 12.0 milliampere

2 **Fine-tuning buttons:**

Click  or  to fine-tune the kV and the mA.

# 4 Getting Started

## Switching on the Unit

Before switching on the unit, check that:

- The installation of the unit is complete.
- The computer is switched on.
- The imaging software is not opened.



**Important: You must switch on the computer and wait for it to be ready for the connection before switching on the unit.**

To switch on the unit, follow these steps:

1. On the unit column, press the **ON** button.
2. You must wait for a minute for the connection between the unit and the computer to be established. If you start the imaging software before the connection is established an error message is displayed. Click **OK**, close the imaging software and wait for the connection to be established.
3. You can now proceed to start the **CS Imaging Software**.

## Increasing the operating life of the X-ray tube



**Important: To increase the operating life of the X-ray tube, if the unit has not been used for a month, you must follow the following procedures before use.**

To increase the operating life of the X-ray tube, follow these steps:


1. In the **Panoramic Acquisition Window**, select the **Parameter pane**.
2. Select the following series of parameter settings:
  - 70 kV - 6.3 mA
  - 80 kV - 10 mA
  - 85 kV - 10 mA
3. Leave the X-ray room and close the door. For each parameter setting, from the X-ray remote control, press and hold the button to launch the X-ray

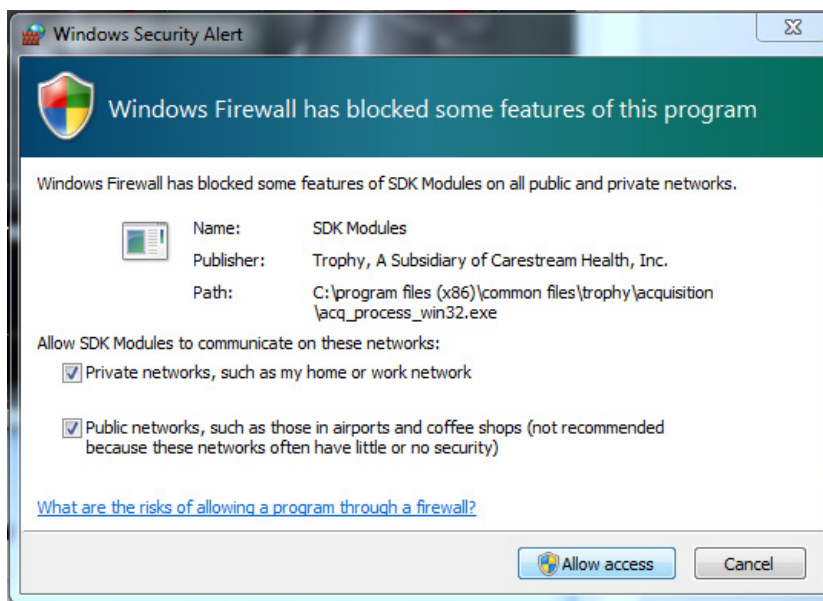
The unit is now ready to be used for acquisition.

## Firewall or Network Settings

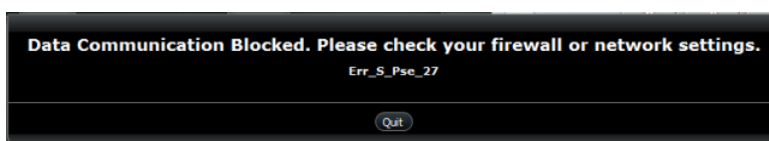
You will not be able to access the **Acquisition Interface** if you have not configured the firewall or network settings.


To configure the firewall or network settings, follow these steps:

1. On your desktop, double-click  to open the **CS Imaging Software**.  
The **Windows Security Alert** dialog box displays. Select **Private networks**, **Public networks**, and click **Allow access**.



2. Click **Quit** on the following dialog box:



3. Close the imaging software.
4. On your desktop, double-click  to re-open the **CS Imaging Software**.



**Note:** See your firewall documentation for information on how to configure the firewall or network settings.


## Accessing the Panoramic Acquisition Interface

To access the **Panoramic Acquisition Interface**, follow these steps:

1. On your desktop, double-click  to open the **CS Imaging Software**.



**Important:** If the Windows Security Alert dialog box opens to block the imaging software, you must configure the firewall or network settings. See [“Firewall or Network Settings”](#).

2. Find or create the patient record.
3. Select and double-click the patient card in the patient list.  
The imaging window is displayed.
4. In the imaging window, click  to access the **Panoramic Acquisition Interface**.

To launch an acquisition, see the following chapter:

[Chapter 5—Acquiring Images](#)



# 5 Acquiring Images

## Acquiring a Panoramic, TMJ x2, or Sinus Image for the Adult and Pediatric Patient

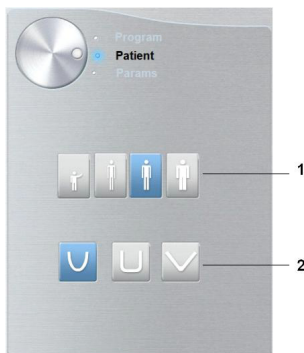
Before acquiring an image, check that you have:

- Reset the unit rotative arm to the start position for patient to enter the unit.
- Selected the patient record.
- Accessed the imaging window.
- Accessed the **Acquisition Interface**.

### Preparing the Unit and Setting the Acquisition Parameters

To set the acquisition parameters, follow these steps:

1. Click the **Patient** button to access the **Patient pane**.



Select the patient:






**Important:** See the *CS 8100 Family Safety, Regulatory and Technical Specifications User Guide (SM785)* for information on radiation protection and recommendations when you select a patient type.

- Type (1):
  - Child
  - Adult: Small, Medium, Large
- Dental arch morphology (2)

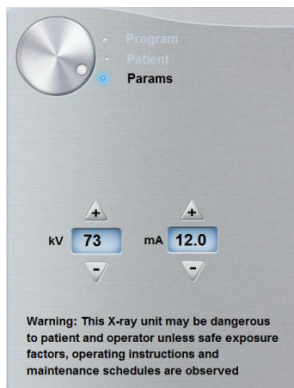
- In the **Acquisition Interface**, click the **Program** button to access the **Program pane**.




Click on one area of interest that you want to examine:

- Panoramic: for example, 
- TMJ x2: 
- Sinus: 

- (Optional) If the default parameter setting is not adapted to your patient type, click the **Parameter** button:

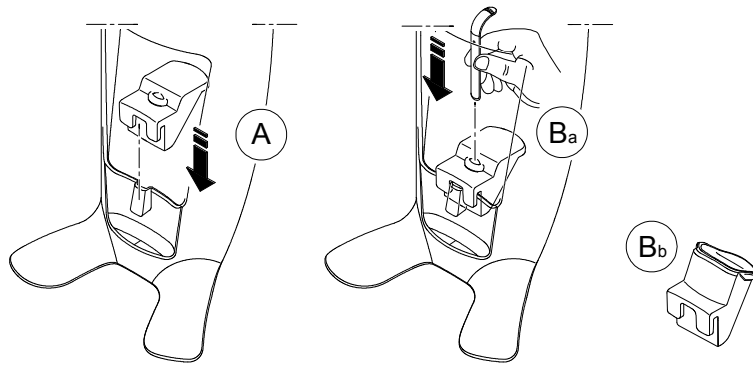


- Select the appropriate parameters.
  - Click  and select **Memorize Anatomy setting** to save the new parameter settings as the default settings.
- Position and fix the panoramic chin rest (A). Fit the bite block to the panoramic chin rest (Ba). Make sure that you click it well into place. If needed, use the edentulous bite block or the sinus chin rest (Bb). You may if required use the **Frankfort guide bite block for panoramic** to help position the patient.



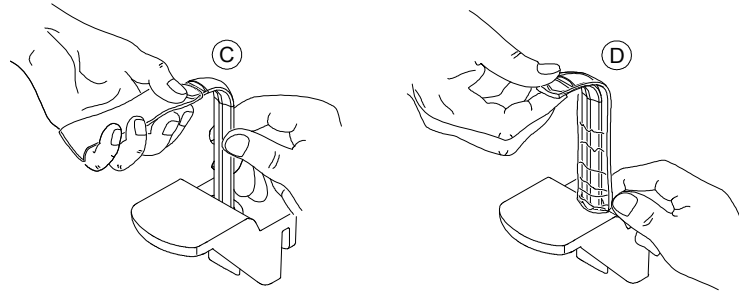
**Note:** Use the panoramic chin rest (A) for a panoramic or TMJ x2 image acquisition. Use the sinus chin rest (Bb) for a sinus image acquisition. Use the TMJ nose rest for a TMJ x4 acquisition.



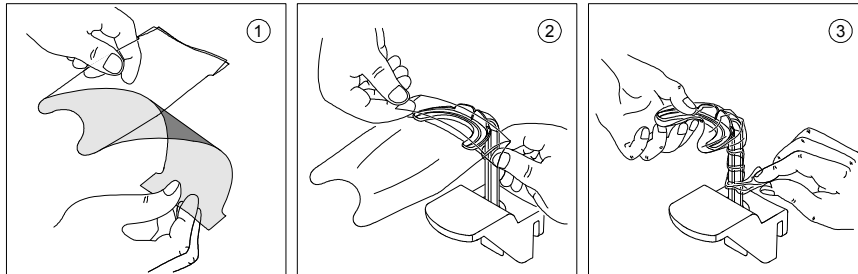


5. Insert a hygienic barrier over the bite block.

- **If you are using the standard panoramic bite block**, fit the hygienic barrier as shown in (C) and (D).



- **If you are using the Frankfort guide bite block for panoramic**, use the required single use hygienic sheath.



Make sure that you cover the bite block completely with the hygienic barrier.



**Important:** You must cover the bite blocks with FDA-cleared protective sheaths that are available from distributors.



**Note:**

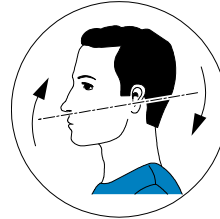
To acquire a bitewing segmented panoramic image:

- Click **BW**.

- Select one or both area of interest



- Position the patient in the Camper plane alignment (horizontal occlusion) as shown.



**Important: Do not use the Frankfort guide bite block when performing bitewing procedures.**

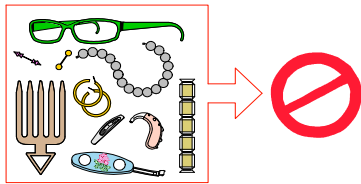


**Important: The acquisitions that you obtain using the bitewing segmented panoramic program are not equivalent to an intraoral bitewing examination.**

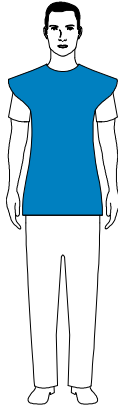
## Preparing and Positioning the Adult and Pediatric Patient

To prepare and position the patient, follow these steps:

1. Ask the patient to remove all metal objects.



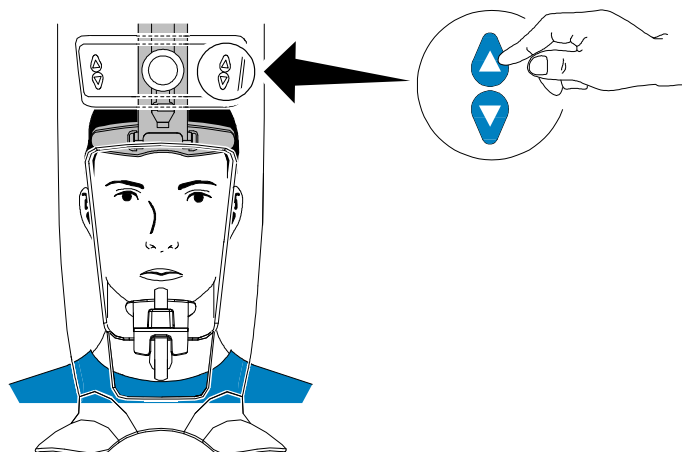
2. Ask the patient to wear a lead apron. Ensure that the apron lays flat across the patient's shoulders.



3. Ask the patient to enter the unit. On the **Positioning panel**, press and hold  to raise the chin rest to the height of the patient.

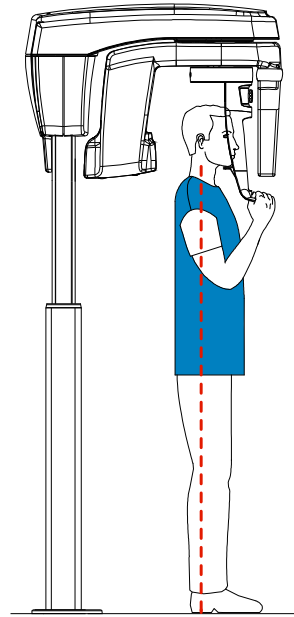


**Note:** If the patient is too tall, tell the patient to sit on a stool.



4. Ask the patient to:

- Stand up straight (**do not position the feet slightly forward**).
- Grip both the lower handles of the head and chin rest.
- Relax and lower the shoulders for full motion of the unit rotative arm.

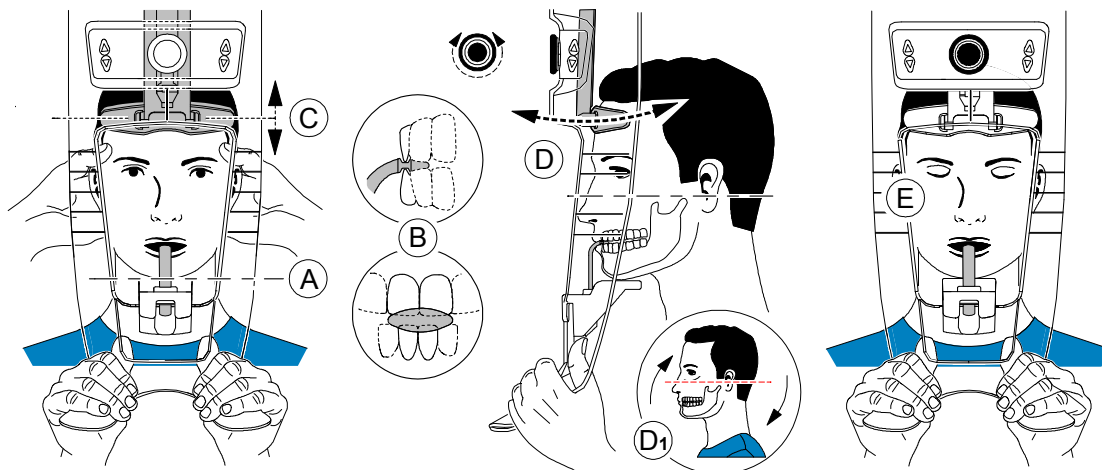


**Note:** By correctly positioning the patient, you can reduce the spinal column shadow that is transferred to the acquired image.

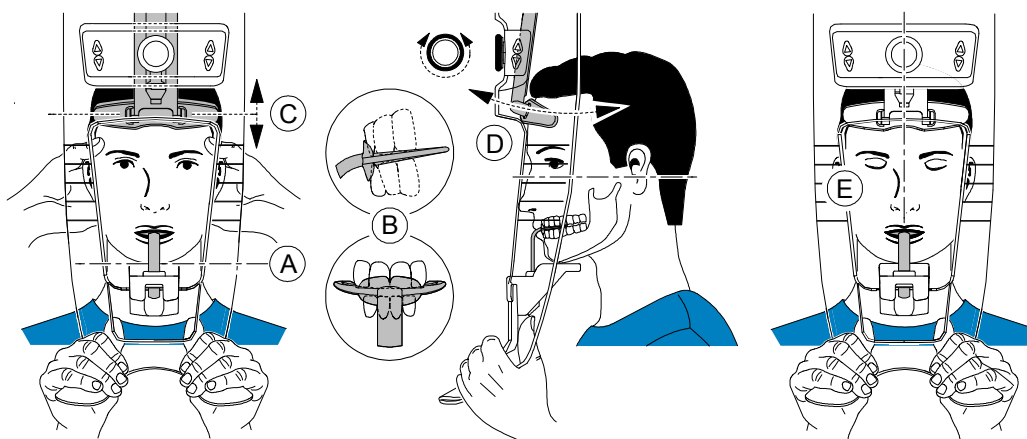
5. Ask the patient to place the chin on the chin rest support (A).

6. Ask the patient to bite on the bite block:

- **If you are using the standard panoramic bite block**, ask the patient to bite **into the groove** of the bite block (B) as shown.



- If you are using the Frankfort guide bite block for panoramic, ask the patient to bite on the bite block (B) as shown.



**Important:** If you are using the **Frankfort guide bite block**, make sure the patient bites on the complete block, and that the patient's occlusal plane inclination **follows the angle** of the bite block.

7. Adjust the frontal head rest (C) to the forehead. Make sure that the forehead is firmly fixed on the frontal head rest.

Use your hands and the vertical positioning indicators as visual aids to align the head to the Sagittal plane.



**Important:** The spinal column and the nose of the patient must be aligned in a straight vertical line (E).

8. Turn the frontal head adjustment knob (D). **If you are using the standard panoramic bite block**, you can use the horizontal positioning indicators as visual aid to adjust the up or down inclination of the patient head (D<sub>1</sub>) to obtain a Frankfort plane horizontal alignment.
9. Ask the patient to:
  - Close the eyes (E).
  - Swallow.
  - Remain still.
  - Breathe through the nose.
  - Place the tongue on the palate.

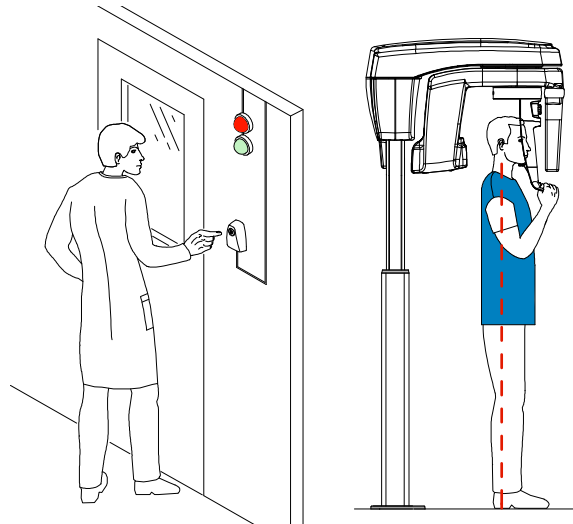
## Launching the X-ray

To launch the X-ray, follow these steps:


1. Leave the X-ray room and close the door. You must keep visual contact with the patient during acquisition.



**Important:** To stop the acquisition, if there is any problem, release the exposure button of the remote control or press the red emergency stop button.



2. Launch the X-ray with the remote control.

The  turns yellow and a warning sound is heard, indicating X-ray emission. Press and hold the exposure button until the end of the acquisition is indicated by the on-screen “Release Handswitch” message.

When the acquisition ends, the **Acquisition** interface disappears and the acquired image is automatically transferred to the **Imaging Window**.



3. Check the image quality.
4. Do the following when the acquisition is finished:
  - Release the patient.
  - Remove the hygiene barrier from the bite block.

## Acquiring a 2D+ Image for the Adult and Pediatric Patient

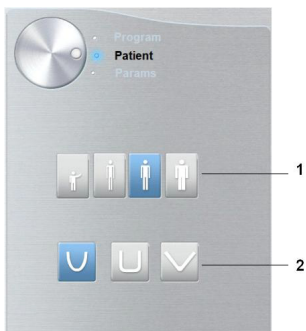
Before acquiring an image, check that you have:

- Reset the unit rotative arm to the start position for patient to enter the unit.
- Selected the patient record.
- Accessed the imaging window.
- Accessed the **Acquisition** interface.

### Preparing the Unit and Setting the Acquisition Parameters

To set the acquisition parameters, follow these steps:

1. Click the **Patient** button to access the **Patient pane**.



Select the **Patient** type and **Dental arch morphology**:





**Important:**

See the *CS 8100 Family Safety, Regulatory and Technical Specifications User Guide* for information on radiation protection and recommendations when you select a patient type especially the pediatric patient.

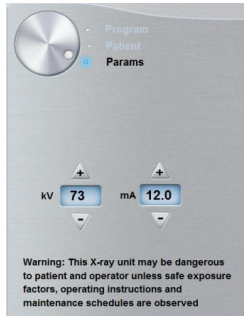
- Type (1):
  - Child
  - Adult: Small, Medium, Large
- Dental arch morphology (2)


2. In the **Acquisition** interface, click the **Program** button to access the **Program pane**.




3. Click on  and click on the area of interest that you want to examine. Example: 

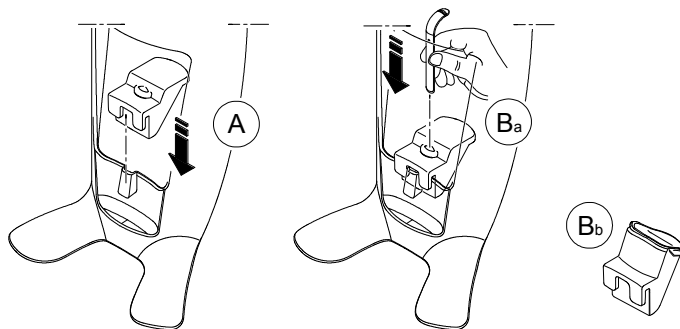
4. (Optional) If the default parameter setting is not adapted to your patient type, click the **Parameter** button:



- Select the appropriate parameters.
- Click  and select **Memorize Anatomy setting** to save the new parameter settings as the default settings.

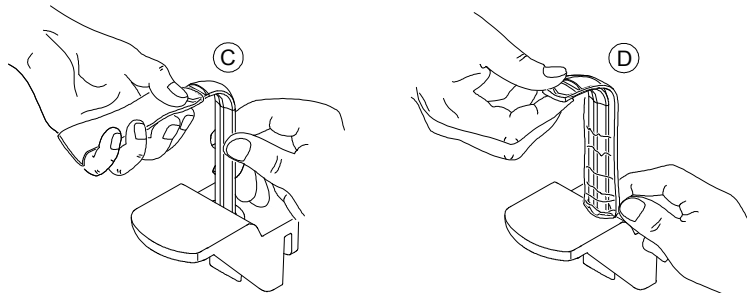
5. Position and fix the panoramic chin rest (A). Fit the bite block to the panoramic chin rest (Ba). Make sure that you click it well into place. If necessary, use the edentulous bite block. You can use the **Frankfort guide bite block for panoramic** to help position the patient.

 **Note:** Use the panoramic chin rest (A) for a panoramic or TMJ x2 image acquisition. Use the sinus chin rest (Bb) for a sinus image acquisition.



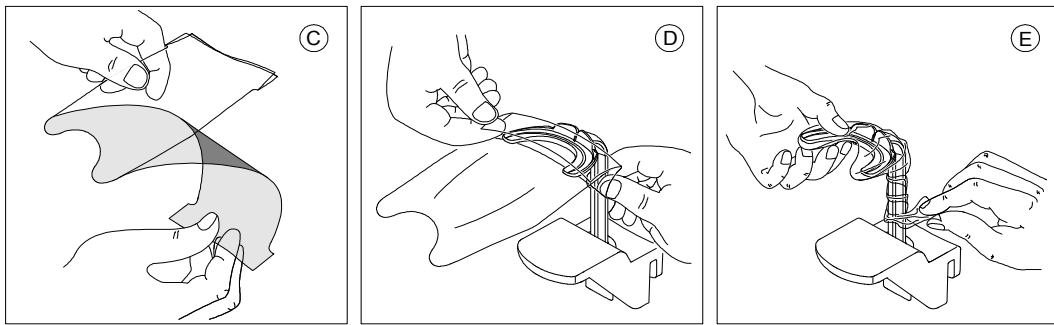
6. Insert a hygienic barrier over the bite block.

- **If you are using the standard panoramic bite block**, fit the hygienic barrier as shown in (C) and (D).





- If you are using the Frankfort guide bite block for panoramic, use specially adapted single use hygienic sheaths.



Make sure that you cover the bite block completely with the hygienic barrier.

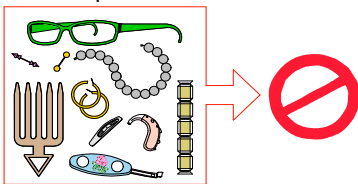


**Important: You must cover the bite blocks with FDA-cleared protective sheaths that are available from distributors.**

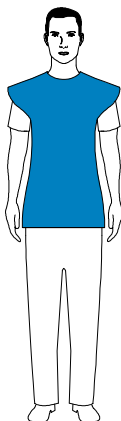
## Preparing and Positioning the Adult and Pediatric Patient

To prepare and position the patient, follow these steps:

1. Ask the patient to remove all metal objects.



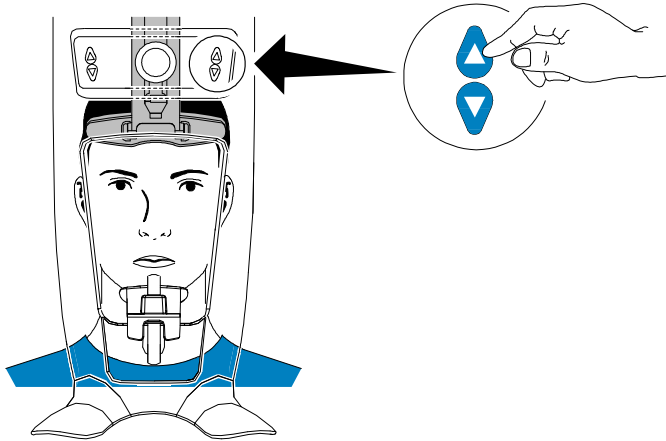
2. Ask the patient to wear a lead apron. Ensure that the apron lays flat across the patient's shoulders.



3. Ask the patient to enter the unit. On the **Positioning panel**, press and hold  to raise the chin rest to the height of the patient.

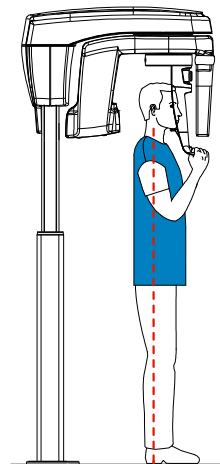


**Note:** If the patient is too tall, tell the patient to sit on a stool.



4. Ask the patient to:

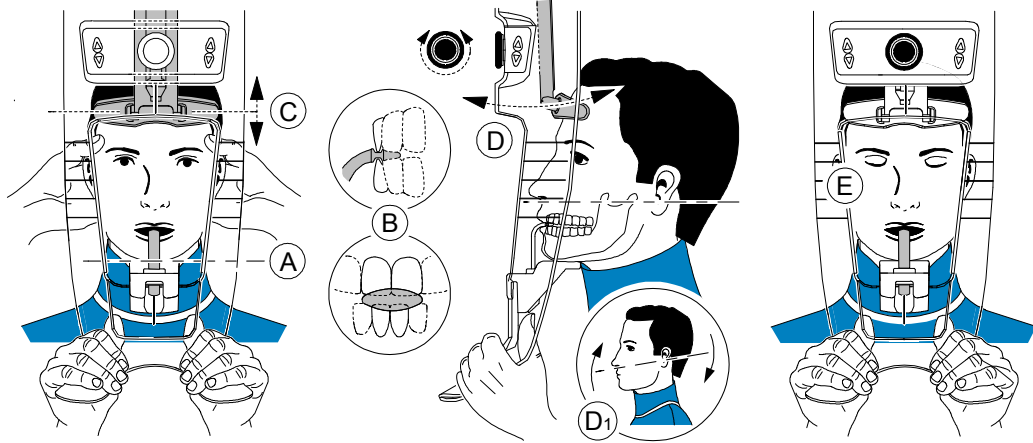
- Stand up straight (**do not position the feet slightly forward**).
- Grip both the lower handles of the head and chin rest.
- Relax and lower the shoulders for full motion of the unit rotative arm.



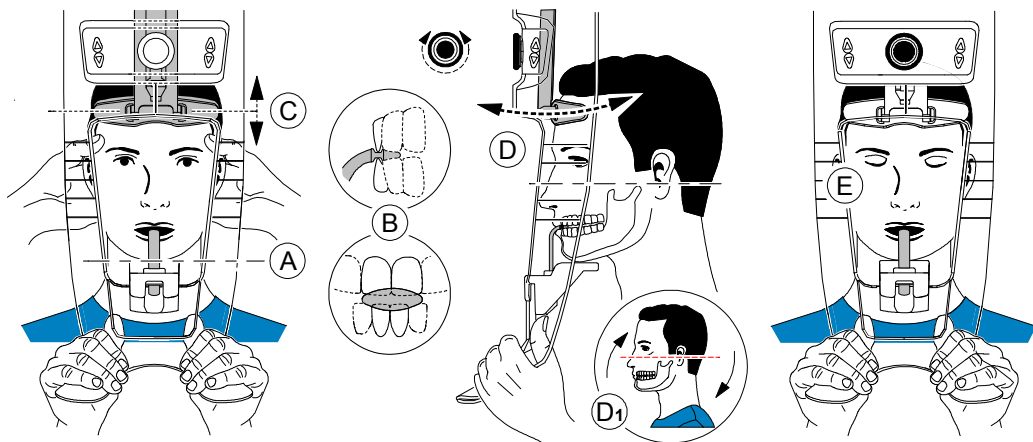
**Note:** By correctly positioning the patient, you can reduce the spinal column shadow that is transferred to the acquired image.

5. Ask the patient to place the chin on the chin rest support (A).
6. Ask the patient to bite on the bite block (A), (B).
  - **If you are using the standard panoramic bite block**, ask the patient to bite **into the groove** of the bite block (A), (B) as shown.

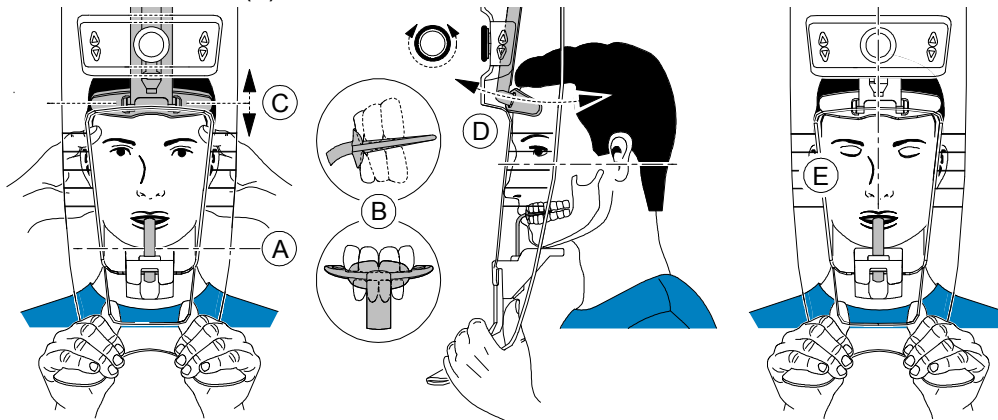
### Camper Plane positioning



### Frankfort Plane positioning



- If you are using the Frankfort guide bite block for panoramic, ask the patient to bite on the bite block (B) as shown.



**Important:** If you are using the Frankfort guide bite block for panoramic, make sure the patient bites on the complete block, and that the patient's occlusal plane inclination follows the angle of the bite

7. Carefully position the patient:

- **If you are using a standard bite block**, turn the frontal head adjustment knob (D) and use the horizontal positioning indicators as visual aid to adjust the patient head ( $D_1$ ) for a Camper plane or Panoramic plane alignment.
  - **If you are using the Frankfort guide bite block for panoramic**, make sure the patient bites on the complete block, and that the patient's occlusal plane inclination **follows the angle** of the bite block.
8. Adjust the frontal head rest (C) to the forehead.  
Make sure that the forehead is firmly fixed on the frontal head rest.  
Use your hands and the vertical positioning indicators as visual aids to align the head to the Sagittal plane.



**Important: The spinal column and the nose of the patient must be aligned in a straight vertical line.**

9. Ask the patient to:
- Close the eyes (E).
  - Swallow.
  - Remain still.
  - Breathe through the nose.
  - Place the tongue on the palate.

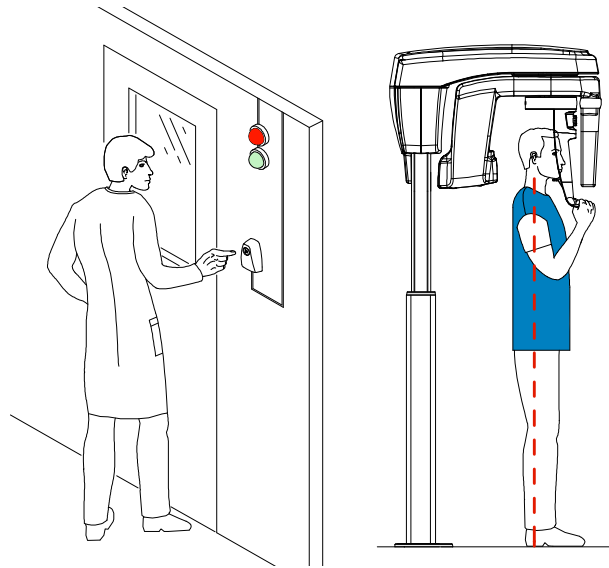
## Launching the X-ray

To launch the X-ray, follow these steps:


1. Leave the X-ray room and close the door. You must keep visual contact with the patient during acquisition.



**Important:** To stop the acquisition, if there is any problem, release the exposure button of the remote control or press the red emergency stop button.

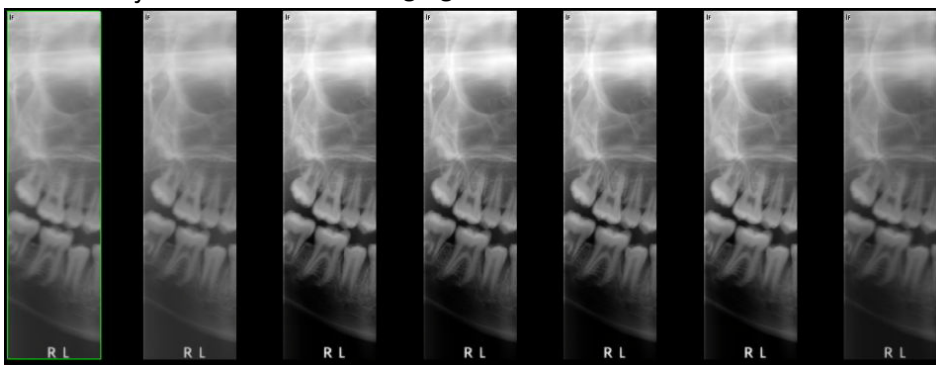


2. Launch the X-ray with the remote control.

The  turns yellow and a warning sound is heard, indicating X-ray emission.

Press and hold the exposure button until the end of the acquisition is indicated by the on-screen “Release Handswitch” message.

When the acquisition ends, the **Acquisition** interface disappears and the acquired image is automatically transferred to the **Imaging Window**.



3. Check the image quality.
4. Do the following when the acquisition is finished:
  - Release the patient.
  - Remove the hygiene barrier from the bite block.

## Acquiring a TMJ x4 Image for the Adult and Pediatric Patient

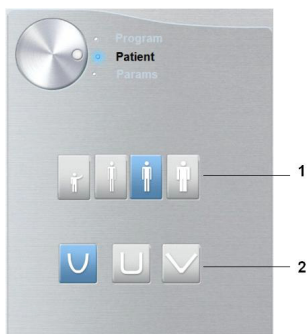
Before acquiring an image, check that you have:

- Reset the unit rotative arm to the start position for patient to enter the unit.
- Selected the patient record.
- Accessed the imaging window.
- Accessed the **Acquisition** interface.

### Preparing the Unit and Setting the Acquisition Parameters

To set the acquisition parameters, follow these steps:

1. Click the **Patient** button to access the **Patient** pane.



Select the patient:





**Important:**  
See the *CS 8100 Family Safety, Regulatory and Technical Specifications User Guide* for information on radiation protection and recommendations when you select a patient type especially the pediatric patient.

- Type (1):
  - Child
  - Adult: Small, Medium, Large
- Dental arch morphology (2)

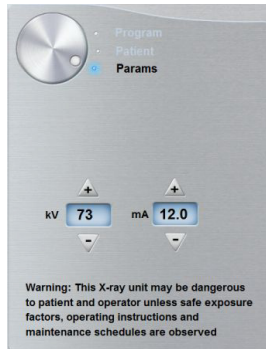
2. In the **Acquisition** interface, click the **Program** button to access the **Program** pane.




3. Click . The selected are of interest will highlight: 

4. Double click .  appears for a TMJ x4 acquisition.

5. **(Optional)** If the default parameter setting is not adapted to your patient type, click the **Parameter** button:



- Select the appropriate parameters.

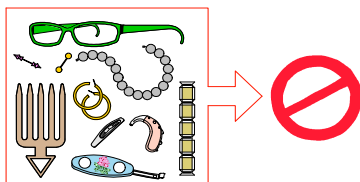
- Click  and select **Memorize Anatomy setting** to save the new parameter settings as the default settings.

6. On the head and chin rest, remove  or , fit the TMJ nose rest  and cover it with a hygienic barrier.

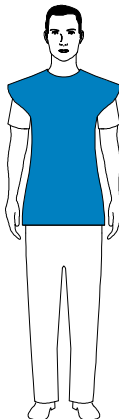
## Preparing and Positioning the Adult and Pediatric Patient

To prepare and position the patient, follow these steps:

1. Ask the patient to remove all metal objects.



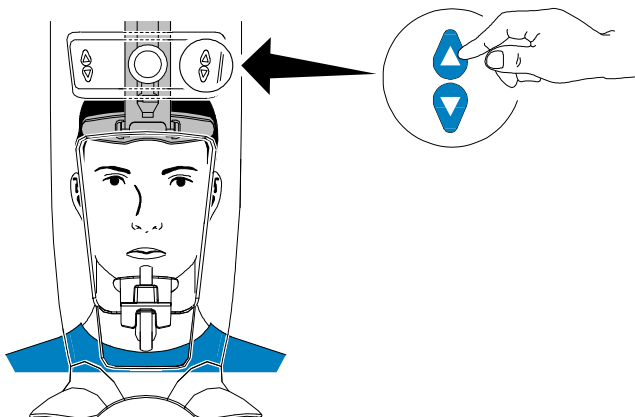
2. Ask the patient to wear a lead apron. Ensure that the apron lays flat across the patient's shoulders.



3. Ask the patient to enter the unit. On the **Positioning panel**, press and hold  to raise the chin rest to the height of the patient.

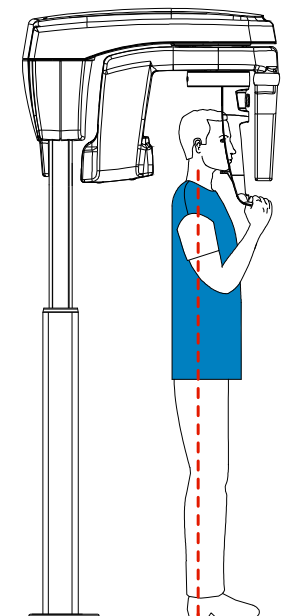


**Note:** If the patient is too tall, tell the patient to sit on a stool.



4. Ask the patient to:

- Stand up straight (**do not position the feet slightly forward**).
- Grip both the lower handles of the head and chin rest.
- Relax and lower the shoulders for full motion of the unit rotative arm.



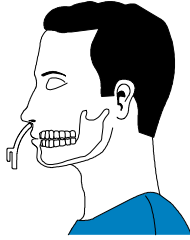
**Note:** By correctly positioning the patient, you can reduce the spinal column shadow that is transferred to the acquired image.



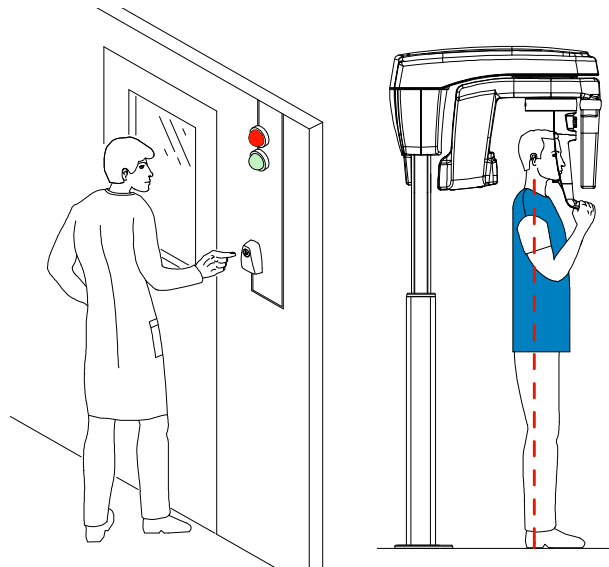
## Launching the X-ray

To launch the X-ray, follow these steps:


1. Tell the patient to remain still, eyes closed, and mouth closed. Leave the X-ray room and close the door. You must keep visual contact with the patient during acquisition.



**Important:** To stop the acquisition, if there is any problem, release the exposure button of the remote control or press the red emergency stop button.



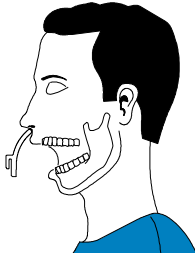
2. Launch the X-ray with the remote control to acquire an image.


The  turns yellow and a warning sound is heard, indicating X-ray emission.

Press and hold the exposure button until the end of the acquisition is indicated by the on-screen "Release Handswitch" message.

When the acquisition ends, the **Acquisition** interface disappears and the acquired image is automatically transferred to the **Imaging window**.

3. Tell the patient to stay in the same position but with mouth opened. Repeat Step 2 to acquire another image with the mouth opened.



4. Check the quality of the images.
5. Do the following when the acquisition is finished:
  - Release the patient.
  - Remove the hygiene barrier and the  from the head and chin rest.

## X-Ray Dose Emission Information

### Compliance with EURATOM 97/43 Directive

You can right-click on each image to display the estimated emitted dose received by the patient. You can use this information to calculate the effective dose received by the patient for the image.

The radiation emission dose is expressed in  $\text{mGy}\cdot\text{cm}^2$ . This dose is measured at the primary collimator outlet. The dose is accurate to  $\pm 30\%$ .

# 6 Maintenance

Perform the following maintenance activities on your CS 8100 and CS 8100 Access.



## **IMPORTANT**

**For information on cleaning and disinfecting, see the *CS 8100 Family Safety, Regulatory and Technical Specification User Guide (SM785)*.**

(For information on carrying out maintenance activities on CS 8100SC and CS 8100SC Access, see the relevant Cephalometric Modality documentation).

## Monthly


Wipe the outer covers of the unit with a soft and dry cloth.

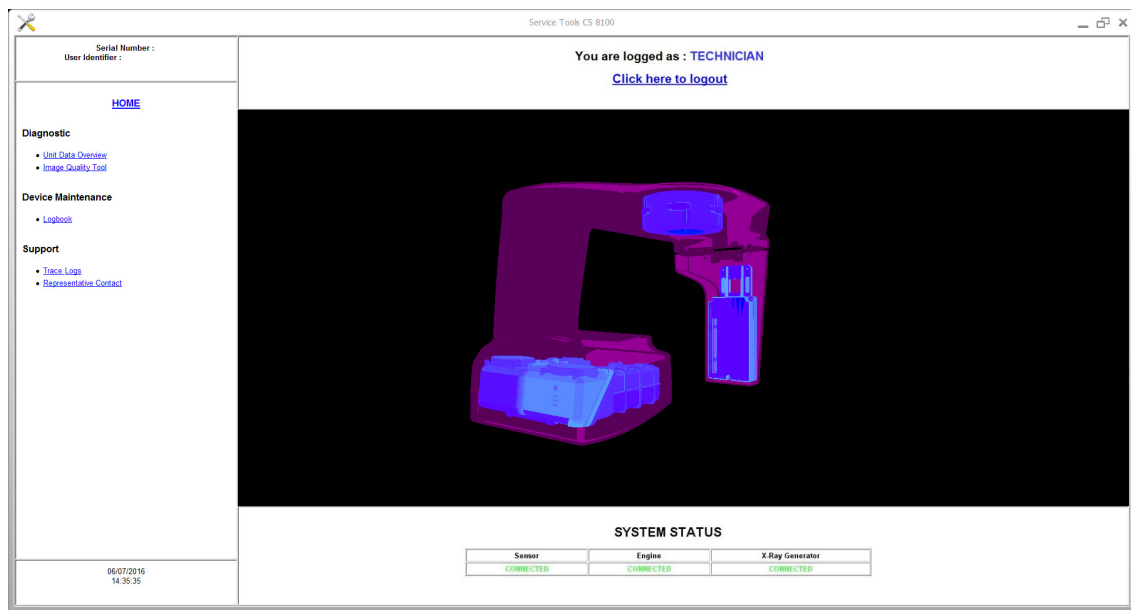
## Annually

We recommend a general inspection of the unit carried out by an authorized service technician.

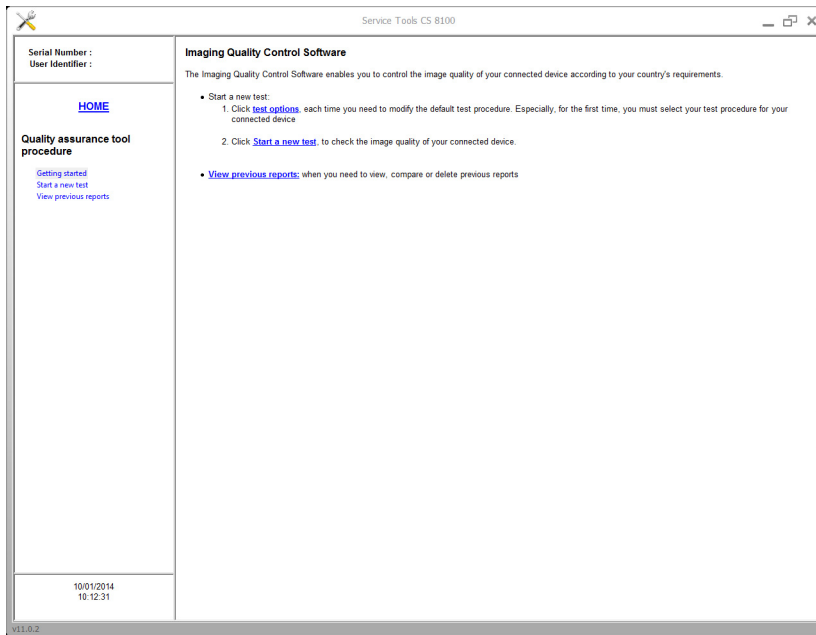
## Controlling the Image Quality

To maintain optimum image quality, the image quality must be controlled once a month. To control the image quality, follow these steps:

1. On your desktop, double-click . The **CS 8100 Technician Tools** window is displayed.



2. In the left pane, double-click **Image Quality Tool**. The **Image Quality Control** window is displayed.



3. Select the desired test and follow the on-screen instructions.

# 7 Troubleshooting

## Quick Troubleshooting

Occasionally, malfunctions can occur during use in the event of an incorrect action. An error message is displayed on the popup on the **Acquisition** interface **System Status Screen**.

The following table lists the information messages, their description and the action to take:



### **IMPORTANT**

If an **Error Code** message is displayed, the malfunction persists or more serious conditions occur, contact a qualified technician. When you call the qualified technician have the following information ready:

- **Model Serial Number**
- **Error Code Message**

**Table 2 Error Code Message**

Error Code	Error Message	Description	Action
<b>Err_S_GEN_36865</b>	Handswitch was released before the end of exposure.	The user has released the exposure button prematurely.	Relaunch the acquisition and hold the exposure button until the end of the acquisition cycle.

**Table 3 Quick Troubleshooting**

Message	Description	Action
X-ray tube cooling	Cooling in progress.	Wait until the <b>Generator Cooling Indicator</b> on the <b>Acquisition</b> interface reaches zero.
Thermal security	Cooling in progress.	Wait until the <b>Generator Cooling Indicator</b> on the <b>Acquisition</b> interface reaches zero.
Release handswitch	The acquisition has ended.	Release the exposure button of the x-ray remote control.
Start the acquisition	The acquisition has been launched.	Keep pressing and holding the exposure button.
Upgrade of the firmware	The system is being upgraded.	Wait for completion of the upgrade.



# 8 Contact Information

## Manufacturer's Address



Carestream Health, Inc.  
150 Verona Street  
Rochester, NY USA 14608

## Authorized Representatives

### European Authorized Representative for CS 8100 and CS 8100 Access

**EC** **REP**

TROPHY  
4, Rue F. Pelloutier, Croissy-Beaubourg  
77435 Marne la Vallée Cedex 2, France

### European Authorized Representative for CS 8100SC and CS 8100SC Access

**EC** **REP**

Carestream Health France  
1, rue Galilée  
93192 Noisy-le-Grand Cedex, France

### Representante no Brasil Carestream do Brasil Comércio e Serviços de Produtos Médicos Ltda.

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São Paulo - Brazil  
CEP (Zip code): 04552-060

