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Made in France by Kodak-Trophy
A Subsidiary of Eastman Kodak Company
Marne-la-Vallée, France
About This Guide

This manual contains information on using the following products:

- KODAK RVG 5100 digital radiography sensor
- KODAK RVG 6100 digital radiography sensor

The following list describes information contained in each chapter of this guide:

1. Compliance and Safety  
   Describes compliance information and indicates potential risks to personnel or equipment.

2. Getting Started  
   Describes preliminary use of the sensor.

3. Acquiring Images  
   Describes the procedures for acquiring images.

4. Disinfecting and Maintaining the Sensor  
   Describes the procedures for disinfecting and maintaining the sensor.

5. Troubleshooting Images  
   Describes techniques for producing better images.

Note

Contact your Kodak dealer for any additional information you may need.
Foreword

For optimum image display and processing quality, use the sensor with the Kodak dental imaging software. The Kodak dental imaging software is specifically designed to make the most of the capabilities of the sensor.

The sensor is a class I device in accordance with annex VII of directive 93/42/EEC concerning medical devices. The CE marking guarantees compliance with the main requirements of this directive.

A thorough review of this user guide is necessary to fully use the sensor.
Enforcing Compliance with Applicable Standards

This chapter includes the following topics:

- Ensuring Compliance with Applicable Standards on page 1–1
- Directive 93/42/CEE Concerning Medical Devices on page 1–2
- Marking and Labeling Symbols on page 1–2
- Non-Medical Devices on page 1–3

Ensuring Compliance with Applicable Standards

The electronics used in the sensor are designed to observe all applicable standards.

Do the following to ensure compliance with the applicable standards:

- After installation, ensure that the system does not represent any risk to the operator or patient.
- Ensure all equipment associated with the system bears a CE marking.
- Check that the electrical network complies with the current standards of the country of installation.
Directive 93/42/CEE Concerning Medical Devices

The sensor belongs to class I of the Directive Concerning Medical Devices. The sensor is an active device that temporarily penetrates the body through a body orifice for diagnostic purposes. The applicable European standards are the General requirements for Safety (IEC/EN 60601-1 and collaterals) and Electromagnetic Compatibility (EN 60601-1-2).

Marking and Labeling Symbols

Table 1–1 describes the applicable marking and labeling symbols.

Table 1–1  Marking and Labeling Symbols

<table>
<thead>
<tr>
<th>Label</th>
<th>Description</th>
</tr>
</thead>
</table>
| ![Type BF Device symbol](Image) | Type BF Device  
The sensor is a Type BF device. |
| ![WEEE Symbol](Image) | WEEE Symbol  
In the European Union, this symbol indicates that when the last user discards this product, it must be sent to appropriate facilities for recovery and recycling. Contact your local Kodak representative or refer to www.kodak.com/go/recycle for additional information on the collection and recovery programs available for this product. |
Non-Medical Devices

This warning symbol means: “Warning: Consult the accompanying documents” and refers to this document. Using accessories that do not meet the equivalent sensor security requirements could result in a lower level of security for the entire system. When choosing an accessory, take into account its use around the patient and ensure that it complies with the harmonized standards IEC/EN 60 601-1 and IEC/EN 60 601-1-1. Install and use computer or video peripheral equipment while closely following the steps in this manual to ensure compliance with these standards.
Chapter 2
Getting Started

This chapter includes the following topics:

- Understanding the Imaging Chain on page 2–1
- Adjusting Exposure Time on page 2–5
- Sharing the Sensor Between Workstations on page 2–9
- Acquiring a Good Image on page 2–10
- Enhancing the Digital Image on page 2–16

Understanding the Imaging Chain

The imaging chain consists of the following components:

- Sensor and remote control
- X-ray generator
- Timer
- Computer and monitor

Note

To determine the exposure time and create an exposure time table for your sensors, see “Customizing the Exposure Chart” on page 2–7.

Sensor and Remote Control

The sensor consists of two inseparable parts:

- Sensor
- Remote control

Note

Because these sensors are used in the same manner, this manual references use of the size 1 sensor.
Sensor

The sensor is radio-sensitive. The active surface is the flat surface marked with the Kodak logo. The marking #0, #1 or #2 indicates the size of the sensor, respectively size 0, 1, or 2. The back of the sensor, non-reactive to x-rays, is rounded and contains the cable attachment.

The use of your sensor depends on the kit ordered:

- Size 1, universal, sensor—Use for regular periapical and retro-coronal procedures.
- Size 2 sensor—Use for bitewings and peri-apical procedures.
- Size 0 sensor—Use for pediatric intraoral exams. The Size 0 sensor requires less x-ray doses and has a very small size to fit in a child’s mouth.

Remote Control

The remote control contains all the electronics of the sensor. The button on the remote control activates, at a distance, the acquisition in the Kodak dental imaging software. See “Preparing the Software” on page 2–10.
The remote control is connected to the computer with its USB 2 connector. You can connect the remote control with the power on, when the computer is switched on. You do not need to start the Kodak dental imaging software before you connect the sensor. However, you can acquire the image only in the imaging module. You can disconnect the remote control with the power on, but do not disconnect the remote control when you are acquiring an image. This can damage the sensor.

**X-ray Generator**

The x-ray generator has a significant impact on image quality. Due to its high sensitivity and capacity to store an enormous quantity of information, the sensor requires high-energy rays generated over very short time periods. This way, the images are formed by a maximum number of gray levels and you can process the images digitally to assist in extracting the clinical information. The Kodak generators meet the requirements.

As a general rule, the sensor is compatible with all generators provided the generator meets the current standard of intraoral radiology. You can use a high-frequency or conventional generator. The generator must operate with a voltage of 60 to 70kV.

The generator head must have a long cone with a focal point / film distance of at least 20 cm, to concentrate the x-rays toward the sensor. Select a mechanism that supports the generator and provides stability to avoid any motion blurring due to vibration of the x-ray source.

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**Caution!**

See “Acquiring Images” on page 3–1 for the precautions to take when connecting and disconnecting the sensor in certain operating modes.

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**Important**

The power of a generator decreases over time. Have the generator inspected annually to determine any difference between its nominal and effective power.

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**Important**

The sensor is not compatible with generators of lesser specifications.
Timer

Use the timer to control exposure times. Depending on the technologies used, the selected exposure time does not exactly represent the dose of x-rays output by the generator since the timing does not systematically take into account variations in the mains current. Avoid x-ray sources of inconsistent quality. Use a digital timer to compensate for current variations in conventional generators.

You can connect the Kodak generators directly to the electronics of the sensor to synchronize image acquisition with the trigger action. This link provides an ergonomic advantage that eliminates the need for the operator to click on the acquisition icon prior to each exposure. See “Preparing the Software” on page 2–10.

Remember that the image quality for short exposures is linked to the use of the physical synchronization function of the sensor and the timer, in particular with the very high-frequency Kodak intraoral x-ray units.
Computer and Monitor

Place the computer and its monitor in or close to the operating area, in the visual field of the practitioner when he is at the chair. Provide visual access for the patient, to encourage communication. This enables you to access the RVG system and maintain the working ergonomics at the chair.

Use a monitor with proper technical display characteristics for the visualization of radiological images. Select and set up the monitor according to the procedure described in the installation guide for the sensor. Position the monitor to avoid direct light or reflections that could hinder the reading of the clinical information.

Adjusting Exposure Time

As in conventional radiology, the exposure time depends on the following:

- Generator type
- Patient's morphology
- Tooth that is x-rayed

Caution!

A poor monitor setting or a poor quality monitor can cause diagnostic errors due to the inability of the equipment to display the image properly.
Using the Dose Indicator

Use the dose indicator to help you correctly determine the exposure time for your generator. For each image taken with a sensor, the dose indicator is displayed at the bottom of the Control Panel window. Use the dose indicator to observe the quality of the image exposure.

- If the dose indicator band is displayed in red and towards the left of the band, it indicates an under-exposure of the image. Increase the x-ray dose.

- If the dose indicator band is displayed in red and towards the right of the band, it indicates an over-exposure of the image. Decrease the x-ray dose. Certain areas of the image can be saturated, but depending on the areas of interest in the image, the image can nevertheless contain desired information, for instance in the areas that are denser.

- If the dose indicator band is displayed in green and anywhere in the middle of the band, it indicates a correct exposure of the image.
Customizing the Exposure Chart

Table 2–1 provides you with guidelines for exposure times for an average generator at 70kV and 8mA. These are approximate values. Adjust the values for your specific generator.

Adjust the values for your generator:

- If the images are displayed too dark, reduce the exposure settings.
- If the images are displayed too light, increase the exposure settings.

Add the values for corrections in the second column of Table 2–1.

Table 2–1  Sensor Exposure Times

<table>
<thead>
<tr>
<th>Acquisition Mode</th>
<th>High Resolution</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Seconds</td>
<td>Correction</td>
</tr>
<tr>
<td>Adult with #1 or #2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Upper incisor/canine</td>
<td>0.18</td>
<td></td>
</tr>
<tr>
<td>Upper premolar</td>
<td>0.24</td>
<td></td>
</tr>
<tr>
<td>Upper molar</td>
<td>0.40</td>
<td></td>
</tr>
<tr>
<td>Lower incisor/canine</td>
<td>0.12</td>
<td></td>
</tr>
<tr>
<td>Lower premolar</td>
<td>0.18</td>
<td></td>
</tr>
<tr>
<td>Lower molar</td>
<td>0.24</td>
<td></td>
</tr>
</tbody>
</table>

Note

The exposure times in Table 2–1 are suggested times. Over time and with experience, you can identify the settings specific to the configuration in your practice.
Operating tips and recommended exposure times are given for an average case, representing an adult patient weighing approximately 80 kg. The distance between the sensor and the generator's focal point is approximately 23 cm. The exposure times varies according to the patient and the angle used to take the x-ray. Increase the dose proportionally to the square of the distance.

Table 2–1 Sensor Exposure Times (Continued)

<table>
<thead>
<tr>
<th>Child with #0</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Upper incisor/canine</td>
<td>0.11</td>
</tr>
<tr>
<td>Upper premolar</td>
<td>0.15</td>
</tr>
<tr>
<td>Upper molar</td>
<td>0.24</td>
</tr>
<tr>
<td>Lower incisor/canine</td>
<td>0.075</td>
</tr>
<tr>
<td>Lower premolar</td>
<td>0.11</td>
</tr>
<tr>
<td>Lower molar</td>
<td>0.15</td>
</tr>
</tbody>
</table>

Note
The programmed time varies as the square of the distance. If the distance sensor/focal point of the generator increases, increase the dose.
Sharing the Sensor Between Workstations

You can share the sensor between several workstations to provide access for several practitioners based on an agreed-upon arrangement. The workstation must have the Kodak dental imaging software and corresponding drivers.

To share the sensor between several computers, move it from workstation to workstation. When you connect the sensor to a USB 2 port on the computer, the sensor is recognized automatically and is operational.

To share images between workstations, you can connect them to a network without having to change the configuration described above. The Kodak dental imaging software needs only to access a shared database on the same workstation or on a remote workstation.

You can print images either on a printer attached to each computer or to a printer shared on the network.

Caution!
Do not disconnect the sensor after you click on the RVG Acquisition button. This can damage your sensor.
Acquiring a Good Image

To obtain a good image in digital radiology, follow the rules that apply to classic radiology. The same anatomy limitations determine the positioning of the sensor in the mouth. You may require time to adapt to the new dimensions of the sensor.

Preparing the Sensor

To ensure maximum hygiene, cover the sensor with a disposable protective sheath prior to using the sensor.

Use a new protective sheath for each patient. For optimum performance, use protective sheaths specifically designed for each size of sensor: size 0, size 1 or size 2. You can obtain these from your Kodak dental systems supplier.

Preparing the Software

To prepare the software for an image acquisition, click the **RVG Acquisition** button or use **F2** on the keyboard.

- The button is red when it is not active.
- The button is green when it is active.

For greater flexibility and ergonomics, activate the **RVG Acquisition** button from a distance. Press the button on the remote control to activate the sensor.

Note

For the additional instructions on hygiene, see “Disinfecting the Sensor and Maintaining Hygiene” on page 4–2.

Note

You have 90 seconds to acquire the image

Caution!

Never disconnect the sensor during the 90-second countdown or during image acquisition. This can seriously damage the sensor.
Using a Synchronization Link

If a Kodak generator is linked to the computer using a synchronization link, you can acquire a new image without using the F2 button, clicking on the RVG Acquisition icon, or pressing the sensor remote control button. The Kodak generator informs the software that radiation is about to be produced and triggers the appropriate receptive state in the sensor. When using a synchronization link, the **RVG Acquisition** button is constantly green.

Orienting the Image

If you press F2 or click the **RVG acquisition** button, by default, images are displayed vertically as though an image of a tooth from the lower dental arch was acquired.

To orient the image before acquisition, follow these steps:

1. Press the button on the remote control.
2. Click the button until you reach the configuration that is most fitting. The image is displayed in the clinical sense.
Positioning the Sensor

Place the sensor in the mouth in the same way regardless of the type of positioner used.

Figure 2–1 shows a positioning example.

**Figure 2–1       Positioning Example**

**Positioning the Sensor for a Mandibular Image**

To position the sensor for a mandibular image, follow these steps:

1. Have the patient draw the tongue towards the back of the mouth. Insert the sensor holding it horizontally.

2. Then turn the sensor downward to place it in a vertical position.
3. Center the sensor on the targeted tooth. Slide it distally, and ask the patient to push the tongue to the opposite side. Do not hesitate to compress the mucous membranes to properly frame the apical area. The patient can then relax the tongue, to allow the sensor to fit naturally.

For premolars and incisors, move the sensor towards the center of the mouth by compressing the tongue when the mouth closes to relax the muscles. The rigidity of the sensor and the positioning system aids in obtaining the image.

**Positioning the Sensor for a Maxillary Image**

To position the sensor for a maxillary image, follow these steps:

1. Insert the sensor, maintaining it horizontally.

2. Turn the sensor upward so that it is vertical or parallel to the axis of the target tooth.

3. Center the sensor on the tooth to be x-rayed by sliding it distally. Do not hesitate to use the roundness of the palatal arch and place the sensor at the center of the cavity.
Using the Different Positioning Systems

Apply the same rules for positioning the sensor in the mouth that you use in classic radiology. You may require time to adapt due to the rigidity of the sensor.

You can use different systems for positioning the sensor in the mouth. None, however, can fulfill by itself all possible needs. How you position the sensor is dictated by the morphology of the patient, the habits of the practitioner and what needs to be seen, rather than the positioner itself. Use the tools according to the restrictions dictated by the external parameters. You can switch from the paralleling technique to the bisecting technique, from holding the sensor with the finger to using the holders.
Table 2–2 describes examples of positioning.

**Table 2–2  Positioning Examples**

<table>
<thead>
<tr>
<th>Example</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upper posterior region</td>
<td>Use the roundness of the palate to place the sensor to frame the apical area. Use Rinn type positioners for paralleling technique.</td>
</tr>
<tr>
<td>Maxillary Anterior region</td>
<td>Use a bisecting technique. Have the patient hold the sensor against the tooth with a finger. For the paralleling technique, move the lower part of the sensor away from the incisive edge to place it parallel to the real axis of the teeth.</td>
</tr>
<tr>
<td>Lower Anterior Region</td>
<td>For a narrow mouth, move the sensor back parallel to the real axis of the teeth while pushing back the tongue slightly. Use the blunt edges of the sensor to depress the floor of the mouth to better frame the apical area.</td>
</tr>
</tbody>
</table>
Enhancing the Digital Image

The digital images of the sensor contain a vast quantity of information. To explore the images fully, use the tools in the Kodak dental imaging software.

See the online Help of the Kodak dental imaging software for more information regarding the visualization, the display organization, the acquisition of full mouth series, the printing or sharing of images as well as the use of the other sensors in the Kodak range.

Enhancing Zones of Interest

The black and white of the film is replaced in digital by a vast quantity of gray levels. It is difficult to simultaneously distinguish the same level of detail in the dense tissues and the soft tissues. Therefore, the image is divided into zones of interest to enable you to focus the reading of the image on a group of details:

- Crowns and inter-proximal zones
- Bone crest, soft tissues and the cervical part of the tooth
- Apical region

Use the contrast management tools to enhance a specific zone and extract information. Examine the specific zone while the other zones are saturated with black or white. The advantage of the digital image is the possibility to move from one zone to another while working on the same image, as if acquired with different exposure settings.
Managing Image Contrasts

To manage contrast after you acquire the image, use the Perio, Endo and Dentin-Enamel Junction (DEJ) buttons to enhance the different zones of interest.

For more precision and freedom, use the Control Panel window to gain access to the manual contrast and brightness controls. Apply strong contrasts to create zones of investigation.

Using the Filters and Tools

Use the following filters and tools to enhance the digital image:

- Sharpness filter
- Highlight tool
- Relief filter
- Measurement tool
Using the Sharpness Filter

Use the Sharpness filter to emphasize a radiological feature that could go unnoticed in the pure image and spot the subtleties of the image. The filter emphasizes lateral ducts or small fissures, exaggerates details that are already clearly visible on the image, such as amalgams or any other high-density material. Always compare the filtered image to the pure image.

To confirm the interpretation, remove the Sharpness filter and use a contrast tool such as the Highlight tool.

Using the Highlight Tool

The Highlight tool reinforces contrasts locally in an area of the image. This tool is useful for investigating interproximal areas and detecting caries and fractures. You can apply the tool on a reduced image as well as on a real-size image 100% (1:1) or at 200% (2:1).

To use the Highlight tool, click the Highlight button, and click and hold the mouse button to activate the tool on the area of the image you want to investigate.

To adjust the diameter of the contrast enhancement circle, use the slider displayed above the Control Panel window. Move the slider left to decrease the size or right to increase the size.

Note

The data from the Highlight tool is exempt of artifacts and there is no counter-indication to its use.
Using the Relief Filter

The Relief filter interprets the gray shades in bulk. Use the filter to distinguish and compare between similar shades of gray.

For example, use this filter to distinguish the extremity of an endodontic file placed in a canal that is confused with Gutta Percha or cement.

To tweak the Relief filter, manually adjust brightness and contrast.

Using the Measurement Tool

Use the Measurement tool to calculate the distance between points on an image. Measurements taken on x-ray images always contain a certain degree of uncertainty due to the properties of the radiological examination itself. The projection phenomenon renders a three-dimensional reality into a reduced two-dimensional image. The curves positioned in the axis of the x-ray beam are thus translated into straight lines on the image.

Make sure the sensor positioning technique respects the rule of parallel planes and that the targeted subject does not contain any curves in the axis of the x-ray beam. Depending on the distance object to sensor or focal point to object, calibrate the tool to compensate for the conic enlargement of the projection. Refer to the Kodak dental imaging software online Help.

Caution!
The information provided by the filters is only indicative. Confirm diagnosis on a non-filtered image.

Caution!
Take the measurements in the software with the tools provided in the Kodak dental imaging software. Do not take measurements on a printed image.
Using Full Resolution

By default, images are displayed at a reduced size to allow you to view several images at a time. To increase the visible details in the image window, do the following:

- To display the image at 100% or 1:1, double-click the image, or right-click the image and select Full Screen Actual Size.

- To revert to the initial size, double-click the image, or right-click the image and select Exit Full Screen Mode.

- To display the image at 200% or 2:1, press the space bar when at 100%, or right-click the image and select Full Screen.

- To revert to the actual size, press the space bar, or right-click the image and select Full Screen Actual Size.

Tip
Step back from the monitor to better investigate an image.
Saving Images
Images are saved when you exit the imaging window. The Kodak dental imaging software automatically checks the images you have not saved and prompts you to save each image. When you save the image, you can specify a tooth number and add comments. The saved images are stored in the patient file.

Printing Images
You can print images on any printer connected to the computer and recognized by the Microsoft Windows operating system. For optimal depiction, use a black and white printer, either inkjet, or thermal. If you use a printer that only has a color cartridge and constitute the gray levels with base colors, the print is then not of optimal quality.

Caution!
Regardless of the paper quality, it is impossible to faithfully reproduce the content of a digital image. Therefore the true clinical support remains the digital file.
Working with the Image Windows

Images are displayed in windows that you can drag and drop. Additionally, use the buttons in the taskbar to manipulate the windows.

Table 2–3 describes the image window buttons.

<table>
<thead>
<tr>
<th>Image</th>
<th>Button</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>![Full screen]</td>
<td>Full screen</td>
<td>Displays the image in a full screen.</td>
</tr>
<tr>
<td>![Restore Down]</td>
<td>Restore Down</td>
<td>Displays the image in an image window.</td>
</tr>
<tr>
<td>![Minimize]</td>
<td>Minimize</td>
<td>Reduces the window to an icon that is displayed at the bottom of the screen. To restore the image click the button, again.</td>
</tr>
<tr>
<td>![Close]</td>
<td>Close</td>
<td>Closes the window.</td>
</tr>
</tbody>
</table>
Chapter 3
Acquiring Images

This chapter describes the procedures for acquiring images.

This chapter includes the following topics:

- Launching an Image Acquisition on page 3–1
- Using the Standard Procedure to Acquire Images on page 3–1
- Using Templates to Acquire Images on page 3–3

Launching an Image Acquisition

To launch an RVG image acquisition, click RVG Acquisition on the toolbar.

Using the Standard Procedure to Acquire Images

To acquire a digital intraoral radiographic image, follow these steps:

1. Cover the sensor with a barrier and place the sensor in the applicable positioner.

2. Select the timer parameters for your generator.
3. Position the sensor and its positioner in the patient’s mouth.

4. Position the beam indicating device as close as possible to the patient.

5. Use the button on the sensor remote control to activate the sensor.

   The sensor image displays vertically by default, as if from a tooth from the lower dental arch.

6. Use the sensor remote control to pre-orient the image prior to acquisition.

7. Select the orientation by pressing the button on the sensor remote control for the required position. Each click rotates the sensor image 90°.

8. Make sure RVG Acquisition still displays in green. If not, click the button again or use the sensor remote control button, align the beam indicating device, and capture the image.

   You have 90 seconds to capture the x-ray image.

   The image is displayed after a few seconds.

9. Examine the image. If it is acceptable, capture the next image.

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**Note**

To prevent cross-contamination, use a new barrier for each patient. For optimum performance, use barriers specifically designed for your sensor.

**Note**

If you are using an FMS mount or a display format, the orientation of the image is pre-selected for you.

**Caution!**

Never disconnect the sensor during the 90-second countdown or image acquisition. This can damage the sensor.
Using Templates to Acquire Images

Use a Full Mouth Series (FMS) to track and acquire digital intraoral radiographic images. The templates consist of boxes corresponding to a region of the mouth with a preview frame displaying an enlarged view of the selected image.

The templates are based on the type of sensor you are using and the region of the mouth you are targeting. If you select a Size 1 frame but try to insert a Size 2 image, the Size 2 image is inserted in the next free Size 2 frame.

Table 3–1 shows the sensor size and image type for each template.

Table 3–1 Template Descriptions

<table>
<thead>
<tr>
<th>Template</th>
<th>Sensor Size</th>
<th>Image Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>RVG FMS #1</td>
<td>Size 1</td>
<td>Vertical PA images</td>
</tr>
<tr>
<td>RVG FMS #2</td>
<td>Size 1, Size 2</td>
<td>All Size 1 and Size 2 images</td>
</tr>
<tr>
<td>RVG FMS #3</td>
<td>Size 1, Size 2</td>
<td>All Size 1 vertical images; Size 1 and Size 2 bitewing images</td>
</tr>
<tr>
<td>RVG FMS #4</td>
<td>Size 1</td>
<td>Anterior images</td>
</tr>
<tr>
<td></td>
<td>Size 1, Size 2</td>
<td>Posterior images</td>
</tr>
<tr>
<td></td>
<td>Size 1, Size 2</td>
<td>Bitewing images</td>
</tr>
<tr>
<td>RVG FMS #5</td>
<td>Size 1</td>
<td>Bitewing images or PA images</td>
</tr>
<tr>
<td>RVG Bitewing format</td>
<td>Size 1</td>
<td>Four bitewing images</td>
</tr>
<tr>
<td></td>
<td>Size 2</td>
<td>Four bitewing images</td>
</tr>
</tbody>
</table>

Note

If you select an image other than Size 1, it is not inserted into the RVG FMS #1; it is opened in a single window.
Using an FMS to Acquire Images

To use an FMS to acquire images, follow these steps:

1. Connect the sensors to the digital imaging dock.

2. Open the patient’s record and launch the Imaging window.

3. Select Format > Use an FMS. The Select a format window is displayed.

4. Double-click a template.

5. Select a frame in which to insert the image. The frame is highlighted in green.

6. Acquire the image using the steps in “Using the Standard Procedure to Acquire Images” on page 3–1.

   After you acquire an image, you are automatically advanced to the next frame in the template in numerical order, although the next frame is not highlighted.

7. Continue to insert images until you have completed the template.

8. When finished, click Save and close the mount.

Note

When you acquire images in a template, the images are pre-oriented.
Using a Display Format to Acquire Images

There are three display formats you can use to acquire images:

- **Manual Format**—Used for single PAs, up to 40; this is the default position.
- **Operative Radiology Format**—Used for vertical PAs, displays four images simultaneously; useful in endodontics and implantology.
- **RVG Comparison Format**—Used with the Size 1 sensor for obtaining images of pre-, peri-, and post-operative treatments.

To acquire images using a display format, follow these steps:

1. Click **Manual Format** on the toolbar.
2. Select the required format from the drop-down list.
3. Acquire the image using the steps in “Acquiring Images” on page 3–1.
   - The image is displayed in the designated location.
4. Continue to acquire images until you complete the template.
5. When finished, click **Save**.

**Note**

In RVG comparison format, images are displayed and viewed in a vertical orientation.
Chapter 4
Disinfecting and Maintaining the Sensor

This chapter describes the procedures for disinfecting and maintaining the sensor.

This chapter includes the following topics:

• Disinfecting the Sensor and Maintaining Hygiene on page 4–2
• Cleaning the Cable and Sensor Remote Control on page 4–3
• Storing the Sensor After Use on page 4–3
• Maintaining the Sensor on page 4–3
• Preventing Electrostatic Discharge on page 4–4
• Protecting Computer Data on page 4–4
Disinfecting the Sensor and Maintaining Hygiene

Carefully follow the procedure detailed earlier in this manual on how to prepare the sensor to ensure maximum hygienic safety for the patient.

To disinfect the sensor and maintain proper hygiene, follow these guidelines:

- Always use the sensor with a hygienic barrier. Change the barrier between each patient.
- When selecting a disinfectant product, check the list with the product manufacturer's information.
- Thoroughly disinfect the sensor after each patient. Remove the hygienic protective sheath and thoroughly clean the sensor with a disinfecting wipe.
- Use only cold disinfecting products that are authorized by local dental regulatory agencies.
- Follow the manufacturer's recommendations for safety precautions when using the disinfectant product.
- Between each patient, clean the sensor and the first centimeters of the cable using a disinfecting cloth. Wipe down the sensor with a sterile solution. Keep the sensor and the remote control off of the floor at all times.

Note

Our sensors are supplied non-sterile.

Caution!

Never place the sensor or remote control in an autoclave. This can damage the system.

Caution!

Never immerse the connector located on the other end of the cable, nor the remote control.

Note

Immerse part of the cable to guarantee a good disinfection. Do not immerse the remote control.
Cleaning the Cable and Sensor Remote Control

Clean the cable carefully, using a disinfecting wipe.

To clean the cable and sensor remote control, hold the sensor in one hand and with the other hand run the wipe from the end of the sensor over the first twelve inches of the cable without pulling on the cable insulation. Slide the wipe without force, pinching the cable between the fingers with minimal pressure.

Storing the Sensor After Use

It is strongly recommended that you store the sensor in its case at the end of the day to prevent it from falling or from coming into contact with abrasive cleaning products when your office is being cleaned.

Maintaining the Sensor

To maintain the life of the sensor, do the following:

- Do not place the sensor in a sterilizer or autoclave.
- Do not pull on the cable, even when removing the disposable protective sheath.
- Do not walk on or roll objects over the cable.
- Do not request the patient to bite on the sensor or the cable.

**Important**

Follow these guidelines to prevent damage to the sensor.
Preventing Electrostatic Discharge

To prevent electrostatic discharge, do the following:

• When the sensor is not connected, store it in its case.

• Never touch the monitor’s screen and the sensor simultaneously. This can result in serious damage to the sensor.

• Never touch the contact points of the USB connector of the sensor.

Protecting Computer Data

Back up the database daily on several high capacity magnetic media, streamer, ZIP, DAT, used alternately. Ask for advice from your computer dealer. Store the copies in a secure location.
Appendix A

Troubleshooting Images

When troubleshooting problems that you may encounter with images, try to solve the problem by using the following instructions. If the problem persists, or if it is not outlined below, contact Kodak dental imaging support.

Table A–1 outlines troubleshooting methods for resolving most problems that you may encounter.

Table A–1  Troubleshooting Tips

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Cause and Corrective Action</th>
</tr>
</thead>
</table>
| After triggering the x-rays, no image is displayed. | • Make sure a patient record is open in imaging mode.  
• If the system is not connected to the timer:
  
  Check that the **RVG Acquisition** button is active, not grayed out. If the button is grayed out, check the connection of the sensor on the USB 2 port.  
  
  The acquisition function was not activated, click on the **RVG Acquisition** button. The button turns green or use the button on the remote control, take the X-ray image within 90 seconds.  
• If the system is connected to the timer:  
  Check the connection with the timer.  
  Check that the hub is powered properly.  
  Contact your dealer |
| The image is pale and grainy. | • The exposure time is too short; increase it. The selected acquisition mode does not correspond to the x-ray dose used.  
• The generator voltage is too low (<60 kV rms); have the generator checked.  
• The generator is too far from the patient with respect to the selected dose.  
• Check the monitor contrast and brightness settings and ensure there are no reflections on the screen. |
| The image is too dark. | • The exposure time is too high; lower it.  
• The selected acquisition mode does not correspond to the x-ray dose used.  
• Check the monitor settings (contrast and brightness) and ensure there are no reflections on the screen. |
| The image is blurred. | • Patient moved during exposure.  
• Generator head was not stable.  
• Use an image filter. |
| The image is white. | • Active face of sensor was not exposed to x-rays.  
• X-ray dose is insufficient.  
• Sensor is not connected, or is improperly connected.  
• Ensure the generator is producing x-rays; have it checked by a certified technician. |