



Schick USB Module and Sensors User Guide

Schick 33
Schick Elite

REF 100003870



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Safety Issues

Check Schick Sensor, USB Interface, and USB Cable before Using Them

Before each usage, check the outer surface of the Sensor and cable, the USB Interface, and the USB cable for any signs of physical damage or defect. Sensor and USB Interface surfaces should have a smooth finish, with no evidence of chipping or damage. If detected, contact your local distributor of Dentsply Sirona products for further instructions.

Operate Sensor and USB Interface as Directed

Always use the Sensor and USB Interface in accordance with the directions and recommendations contained in this User Guide. Do not attempt to modify the Sensor and USB Interface or use it in system configurations not specified in this document.

Do Not Touch Exposed Connectors on Non-Medical Equipment and the Patient at the Same Time

When the Sensor and USB Interface are in use, avoid touching exposed connectors on non-medical electrical equipment and the patient at the same time. The human body is capable of conducting electrical current and may cause a shock hazard to patients if appropriate safety practices are not observed.

RF Interference Considerations

Although the Sensor and USB Interface are designed to provide a reasonable degree of protection from electromagnetic interference, according to IEC International regulations, they must be installed at an adequate distance from electricity transformer rooms, static continuity units, two-way amateur radios and cellular phones. To ensure proper operation, the latter (meaning, electricity transformer rooms, static continuity units, two-way amateur radios and cellular phones) can be used only at a minimum distance of 5 feet (1.5m) from any part of the Sensor and USB Interface.

Any instrumentation or equipment for professional use located near the Sensor and USB Interface must conform to Electromagnetic Compatibility regulations, to which the EMC tables in this document's Appendix serve as guidance. Non-conforming equipment, with known poor immunity to electromagnetic fields, may not operate properly unless they are installed at a distance of at least 10 feet (3m) and supplied by a dedicated electrical line.

Apply Recommended Procedures for Cleaning

Safe and proper operation of the equipment requires following a regular schedule of preventive maintenance. To help ensure proper hygiene and to protect against infectious disease, refer to the Protective Measures section on page 60 of this document and observe all device cleaning and patient protection recommendations specified there.

Although water-resistant, **the Sensor should never be soaked or submerged in disinfecting solution during any cleaning procedure.** Failure to comply with this precaution may cause liquid to enter the Sensor and can prevent it from operating properly.

Do Not Connect Items that are Not Part of the System

Only items specified for use with the Sensor and USB Interface are to be connected to it. The device should not be used adjacent to other equipment that is not part of the system. If, however, use with adjacent equipment is necessary, normal operation should be observed and verified in that configuration.

Installers to Ensure that Sensor and USB Interface Operate Optimally

Installers must ensure that the Sensor and USB Interface provide the user with the optimal use of the equipment. This includes, but is not limited to, ensuring that the system operates as described in this document. To avoid unintentional contact with the USB Interface by the patient, place the USB Interface in a location where accidental contact is prevented. Similarly, connect the USB cable to the USB Interface before the patient enters the operatory.

Installers must also ensure that the system presents no physical obstacles or hazards during operation and when not in use. To verify this requirement, installers shall confirm that the Sensor and USB Interface are installed as described in this User Guide and shall perform the appropriate procedures therein.

Ensure Proper System and PC Workstation Installation and Operation

The Sensor and USB Interface have been determined to be in accordance with international safety standards and are deemed suitable for use within the patient area, which extends from the patient for a distance of 5 ft (1.5m). To comply with these standards, do not operate non-medical equipment (such as a PC workstation) inside the patient area. Outside the patient area, the presence of approved non-medical grade equipment and Listed / Approved / IEC 60950-1 certified Information Technology Equipment (ITE) computer equipment is acceptable.

The host computer (PC workstation) should be CE-approved and conform with the Low Voltage [73/23/EC] and EMC Directive [89/336/ERC]. Also, to help ensure optimal performance, ensure that all software programs residing on the workstation are virus-free and have been adequately tested so they will not impact imaging applications after installation.

Only Dentists or Authorized Designees Are Permitted to Operate the System

To ensure the correct use of the Sensor and USB Interface in a clinical environment, for purposes that correspond to its intended design and application, only dentists, or their designees, are authorized to operate the system.

Protect Sensor from Potential ESD Damage

Like other electronic devices, your Sensor is susceptible to electrostatic discharge (ESD), particularly when the device is used in or around carpeted areas or low-humidity environments. During cable replacement, when Sensor contacts are exposed, it is especially important to protect the device from potential ESD damage. Touching a metal surface prior to replacing the cable will reduce the risk of damaging Sensor components by accidental static discharge. Using anti-static floor mats or floor treatments (for example Staticide 2005/2002) will also help eliminate static build-up in your office.

Wait for Appropriate Prompts before Operating X-ray Source

To avoid exposing the patient to unnecessary X-rays, ensure that the CDR exam window viewbox is flashing green (default color) in

AutoTake mode, or that the message, “Waiting to take X-ray,” is displayed before triggering the X-ray Source.

Always Use Sheaths with Sensors

Use Dentsply Sirona sheaths every time the Sensor is used. **Never use the Sensor without a protective sheath. Never use a damaged sheath. Always dispose of the sheath after every patient.**

Protective sheaths are single-use items and must not be reused under any circumstance. Reuse of single-use items/instruments may cause them to become contaminated, compromise their intended function, and result in patient and user infection, injury and/or illness.

Take Appropriate Precautions during X-ray Operation

Always observe the safety guidelines and precautions supplied with your X-ray generator and by local regulatory authorities.

Follow All Instructions to Ensure Cable Replacement Procedures are Performed Correctly

Follow all instructions to ensure the successful replacement of your Sensor cables. When performing the cable replacement procedure, it is especially important to tighten the screws that attach the cable to the Sensor by turning them *at least one-quarter revolution clockwise after initial resistance or until they cannot be turned any further*. An improperly attached cable may cause an intermittent connection and prevent the Sensor from operating effectively. Refer to either the Schick 33 or the Schick Elite sections for complete instructions.

Product Manuals from Dentsply Sirona

The contents of this manual are subject to change without prior notice. For the latest version of this user guide and other product information, please visit our website: www.dentsplysironasupport.com.

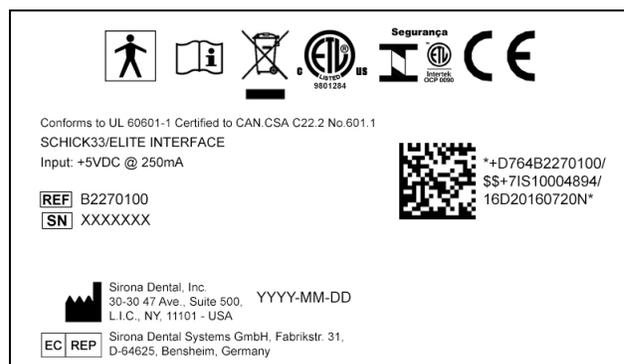
Explanation of Symbols

Dentsply Sirona products display markings to indicate compliance with regulatory requirements and applicable technical standards.

Symbols and Descriptions

| SYMBOL | DESCRIPTION |
|---|---|
|  | Indicates Type BF equipment in accordance with applicable medical device safety standards (IEC/EN/UL 60601-1) |
|  | Indicates an attention to customers to consult accompanying documents for information needed for proper use of device |
|  | Manufacturer's address |
|  | Indicates that the USB Interface conforms to European Union Medical Devices Directive (MDD) 93/42/EEC |
|  | Indicates that the Sensor conforms to European Union Medical Devices Directive (MDD) 93/42/EEC |
|  | This identification signifies fulfillment of the requirements of the national standards of the USA and Canada |
|  | Refers to Directive 2002/96/EC and ENC 50419 Do not dispose of device with domestic waste |
|  | This indication signifies compliance with the requirements of the national standards of Brazil |

Label Locations



Schick 33/Elite USB Interface

Sensor

Waste Electrical and Electronic Equipment

Background

The European Union's Waste Electrical and Electronic Equipment (WEEE) Directive (2002/96/EC) has been implemented in member states as of August 13, 2005. This directive, which seeks to reduce the waste of electrical and electronic equipment through re-use, recycling, and recovery, imposes several requirements on producers. Dentsply Sirona and its Dealers are committed to complying with the Directive.

WEEE Marking

All Sirona products subject to the WEEE Directive and shipped after August 13, 2005 will be compliant with the WEEE marking requirements. These products will be identified with the "crossed-out wheeled bin" WEEE symbol shown below, as defined in European Standard EN 50419, and in accordance with WEEE Directive 2002/96/EC.



This "crossed-out wheeled bin" symbol on the product or its packaging indicates that this product must not be disposed of with other unsorted municipal waste. Instead, it is the user's responsibility to dispose of Electrical and Electronic Equipment (EEE) by handing it over to a designated collection point for the reuse or recycling of waste electrical and electronic equipment. The separate collection and reuse or recycling of Electrical and Electronic waste equipment will help to conserve natural resources and ensure that it is recycled in a manner that protects the environment and human health. For more information about where you can drop off your waste equipment for recycling, please contact your local officials.

Reporting

According to the WEEE Directive, Dentsply Sirona or its Dealers will ensure that information needed to calculate the financial obligations with respect to EEE products will be provided as required.

WEEE from Users other than Private Households

According to the WEEE Directive, Dentsply Sirona or its Dealers will fulfill its obligations for the management of WEEE from users other than private households.

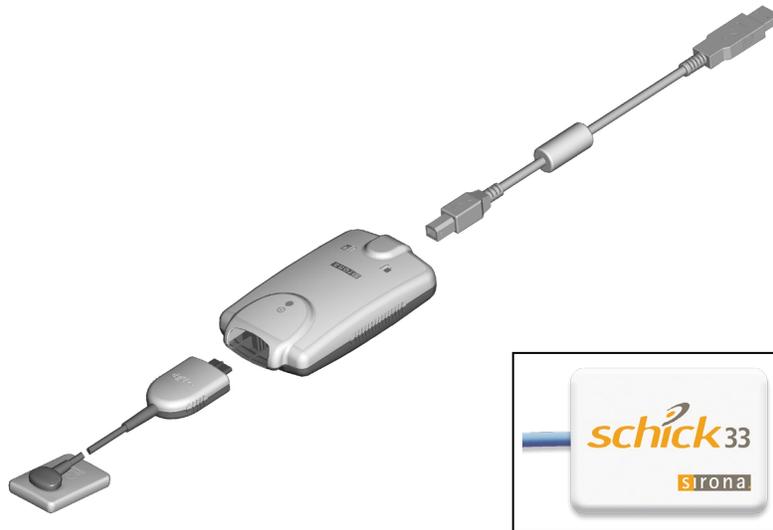
Furthermore, as required by the WEEE Directive, in order to determine unequivocally when the equipment was put on the market, the manufacturer's date is placed on the equipment.

Information for Reuse Centers, Treatment and Recycling Facilities

As required by the WEEE Directive, Dentsply Sirona or its Dealers will provide reuse, treatment, and recycling information for each type of new EEE put on the market within one year of the date in which the equipment is put on the market.

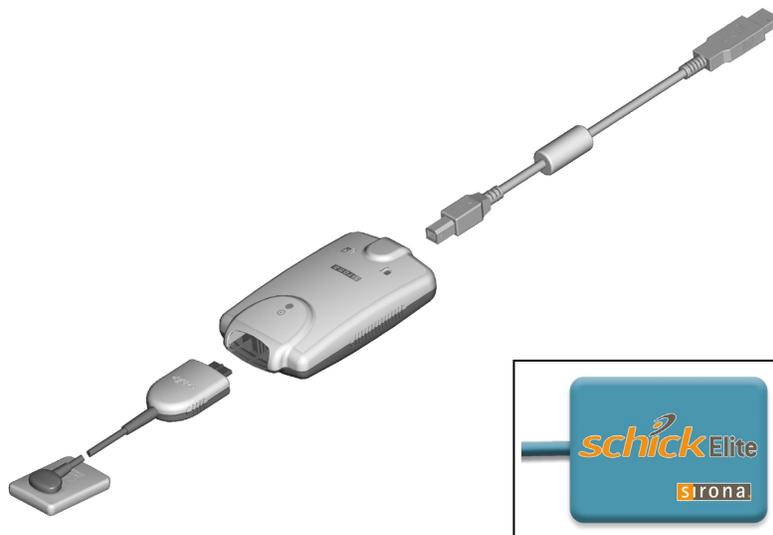
Information will include the different EEE components and materials as well as the location of substances in these items. The information will be provided as a printed document or in electronic media (on CD-ROM or by web download, for example)

Schick 33 / Schick Elite Systems



SCHICK 33

Schick 33 Sensor with Schick 33/Elite USB Interface and USB Cable



SCHICK ELITE

Schick Elite Sensor with Schick 33/Elite USB Interface and USB Cable

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1. System Overview

1.1. Purpose

Schick Sensors and the USB Interface¹ combine our latest advances in design and usability, are supported by innovative imaging software features, and provide a unique modular platform that includes:

- No separate calibration disks are required for Schick 33 or Schick Elite Sensors and serviceable Sensor cables are standard.
- Image enhancement options: Edge Pro, Edge High, Edge Low, Smooth, and Edge Pro (*Schick Elite*)
- High resolution image acquisition: 28 lp/mm (Nyquist Limiting Frequency of 33.3 lp/mm) (*Schick 33*)
- Dynamic sharpening and support for task-based user profiles available with CDR DICOM 5 and higher and Sidexis 2.5.6 and higher (*Schick 33*).

1.2. Indications for Use

The Schick Elite and Schick 33 systems are intended for any dental practice that uses X-ray equipment for intraoral diagnostic purposes. It can be used by trained dental professionals for patients receiving intraoral X-ray examinations and produces digital images that can be displayed, enhanced, printed, and saved.

1.3. Description of Schick 33 and Schick Elite Systems

The Schick 33 or Schick Elite Sensor connects to the Schick33/Elite Interface, which is a separate module and is connected to a compatible PC workstation via USB A-to-B cable (*supplied separately*). The workstation hosts a compatible Windows operating system and also provides the power source for the USB device.

¹ “Sensors” refer to Schick 33 and Schick Elite Sensors. “USB Interface” refers to the Schick 33/Elite USB Interface, which provides a physical and electronic connection between the Sensor and the imaging PC.

Additional details can be found in the following sections:

- PC specifications may be found in Section 1.5 on page 3.
- System specifications may be found in Section A-3 on page 71.

Support for the Sensor is provided by compatible software programs such as CDR DICOM for Windows and Sidexis.

1.4. Replaceable Cable

The Sensor imaging system is designed to meet the practical, timely needs of dental professionals.

For this reason, all Sensor sizes (0, 1 and 2) of Schick Elite and Schick 33 systems support a replaceable-cable design that enables customers to make immediate, in-office cable replacements. Manufactured for safe and reliable operation, the replaceable cable provides appropriate strain relief, molded protection from electronic contacts and components, and easy installation.

Type of protection against electric shock:



Applied part type BF

Details on replacing Sensor cables may be found in the Schick 33 and the Schick Elite sections of this document.

1.5. PC Workstation Description

The PC workstation connects to the USB Interface via USB cable (supplied separately) and serves as the host for CDR DICOM or other compatible imaging software products. The workstation provides the capability to display, manipulate, store, and print images acquired from Schick Sensors.

Getting the best results begins with having a computer system suitable for capturing and displaying intraoral images. *For optimum performance*, we recommend the following:

1.5.1. Client or Standalone

- Windows 10 Pro, Windows 8.1 Pro, or Windows 7 x64
- Intel i7 or equivalent
- 8 GB RAM
- 4 GB video (non-shared memory)
- 500 GB hard drive
- Intel USB 2.0 or 3.0 port.

1.5.2. Server

- Windows Server 2012 R2 or Windows 10 Pro
- SQL Server Express 2014 SP1
- TCP/IP networking protocols (for DICOM Servers)
- 16 GB RAM
- 1 TB (practice-specific, depends on number of patients, 500 MB minimum).

1.6. Software Available for Schick Sensors

To benefit from imaging features designed specifically for Schick 33 Sensors, customers will need to upgrade to the following software versions (*CDR DICOM 5 or Sidexis 2.6.1 or higher*). These software versions are fully compatible with Schick Elite Sensors as well, and also with our other Sensor and USB products.

Schick Elite and Schick 33 Sensors can be detected automatically by CDR software when connected (*depending on your preferences*) via Schick 33/Elite USB Interface to a PC workstation. (*For more information, refer to the AutoDetect feature, as described in Section 4.3 on page 22*).

Please note that the Schick 33/Elite USB Interface enclosure is specifically designed for Schick 33 and Elite Sensors and will accommodate only those Sensor types.

1.7. Schick Sensor Product Platforms

In addition to the USB configurations described in this manual, Schick 33 and Schick Elite Sensors can be used with other product technologies. This modular approach, designed into Schick Sensor products, means that they can operate effectively in multiple environments: in cable-connected USB systems, in wireless systems, and in Ethernet-based solutions.

The following table summarizes these configurations.

| SENSOR | SCHICK 33/ELITE (USB) | SCHICK WIFI (WIRELESS) | SCHICK WALL ADAPTER (ETHERNET) |
|--------------|-----------------------|------------------------|--------------------------------|
| Schick 33 | ☑ | ☑ | ☑ |
| Schick Elite | ☑ | ☑ | ☑ |

2. Installation

2.1. What You Will Need to Complete this Section

To expedite installation, please have the following items available:

- Schick 33/Elite USB Interface Driver CD (or download link from Schick by Sirona website)
- Schick 33/Elite USB Interface to be used with your Schick system
- USB cable to connect the USB Interface to your PC workstation: a USB 2.0 A-B cable for Schick 33/Elite Interfaces (*cable supplied separately*).

You should also have CDR DICOM 5 Software installed (or other compatible imaging program)

2.2. Before You Install the Schick 33/Elite USB Driver

IMPORTANT! Please do not connect the USB Interface and USB cable to your computer until after you have installed the device driver. Procedures for installing these files are found on the following pages.

If you are using a Schick 33/Elite USB Interface for the first time, or if either is being used on a different PC workstation for the first time, you will need to install the device driver. You must install this driver successfully to ensure proper operation of your USB Interface.

If you have a previous version of the driver for the USB Interface, please uninstall it. Section 2.3 on page 6 describes the driver uninstallation procedure.

Section 2.4, Installing the Schick 33/Elite USB Driver, on page 7, describes the driver installation procedure for Windows 7 (*installation on other Windows operating systems is similar*).

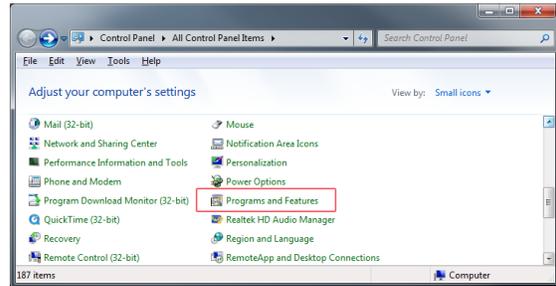
If you are not sure which operating system is installed on your computer, right click on My Computer on your desktop and select Properties. (*Pressing the Windows Start (⊞) and Break keys will also display System Properties.*) In Windows 8, swipe in from the right edge of the desktop screen, tap Search, and type “My Computer”. Right click on My Computer and select Properties.

2.3. Uninstalling the Previous Schick 33/Elite USB Driver

NOTE: Customers will not need to uninstall the previous Schick 33/Elite driver unless prompted by the software or instructed by customer support.

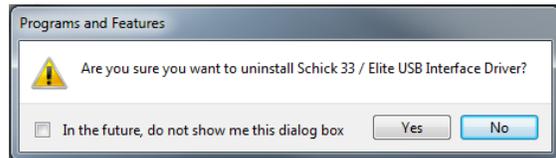
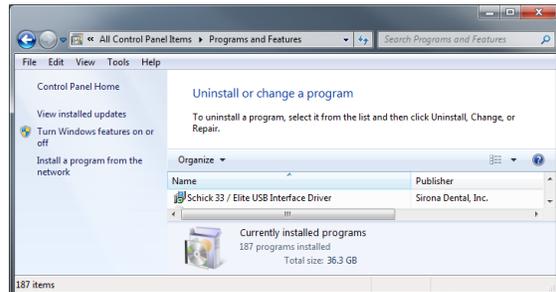
STEP 1

- A. Exit CDR DICOM (or other compatible imaging program).
- B. Verify that the USB Interface is NOT connected to laptop or desktop PC. If connected, disconnect the USB Interface by unplugging the USB cable.
- C. Click Windows **Start > Control Panel** and open the **Programs and Features** item.



STEP 2

- A. Browse for the CDR Elite or Schick Elite USB Driver and select it. If no entry is found, close the Control Panel and skip to Section 2.4 on page 7. Otherwise, continue with the following steps.
- B. If an entry for the CDR Elite or Schick Elite USB Driver is found, click **Uninstall / Change**.
- C. Click **Yes** when prompted to confirm the driver uninstallation.
- D. After the driver is uninstalled successfully, close the Control Panel.
- E. Continue with the next section to install the latest USB driver.

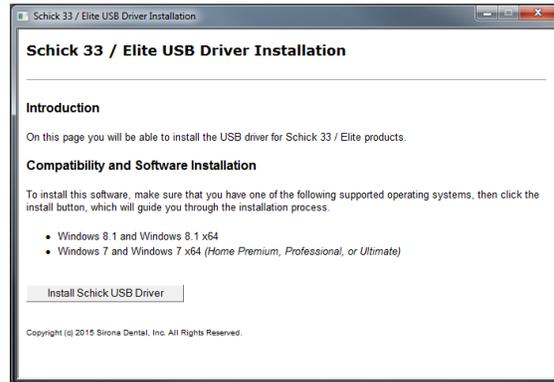


2.4. Installing the Schick 33/Elite USB Driver

PLEASE NOTE: Installation on other operating systems is similar to Windows 7, described below.

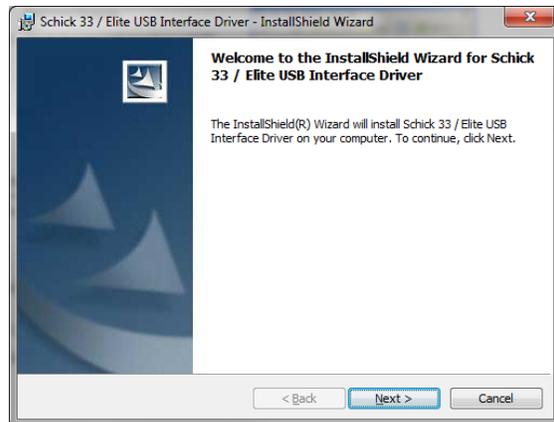
STEP 1

- A. Insert the Schick 33/Elite USB Interface Driver disk into your CD or DVD drive.
- B. Click the **Install Schick USB Driver** button on the start page.
- C. When prompted, choose your setup language.



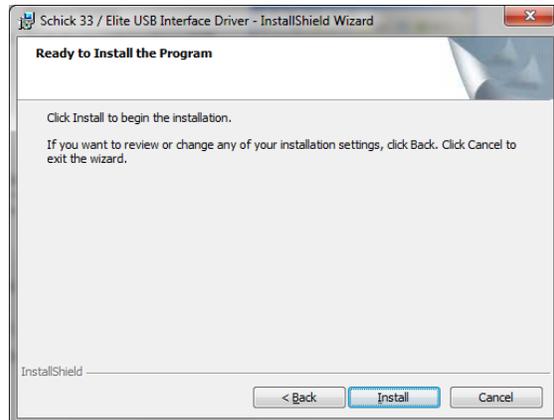
STEP 2

Click **Next** to begin the setup process.



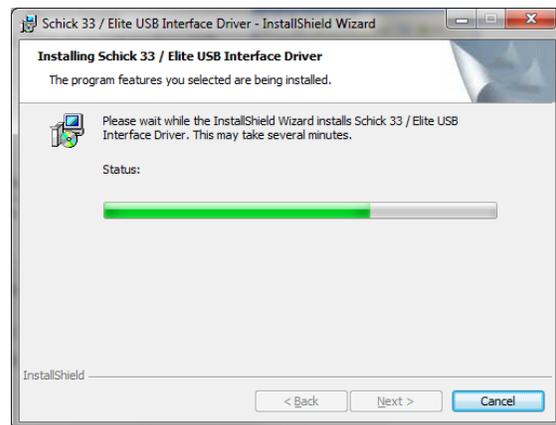
STEP 3

Click **Install**.



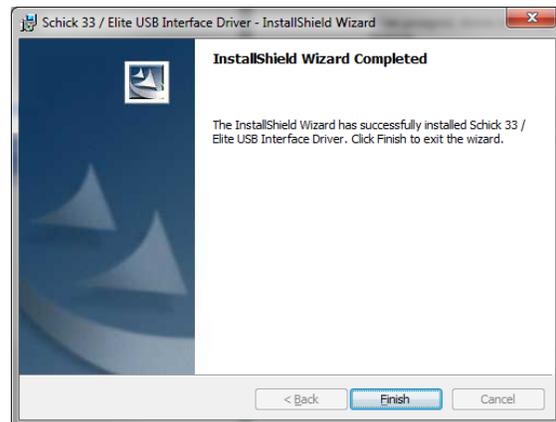
STEP 4

Setup will copy the driver to your workstation.



STEP 5

- A. Click **Finish**.
- B. Remove the USB Interface Driver CD.
- C. Continue with the next section to connect the USB Interface.



2.5. Connecting the Schick 33/Elite USB Interface

IMPORTANT! Do not connect the USB Interface and cable to your computer until after you have successfully run the setup program. Procedures for installing these files are supplied on the previous pages.



The USB cable has a Series "A" USB plug on one side and a Series "B" USB plug on the other. The "A-type" plug connects to any available USB port on the computer. The "B-type" plug connects to the USB Interface.

Cable part numbers and lengths can be found in Table 13 on page 69, as well as other orderable parts.

IMPORTANT! For normal operation and to ensure compliance with regulatory EMC and EMI standards, use only the USB cables described and specified for your system.

An illustration of the Sensor and USB Interface are shown in Figure 1 (*below*). For a description of cable connections to the device, refer to Table 1 (*below*).

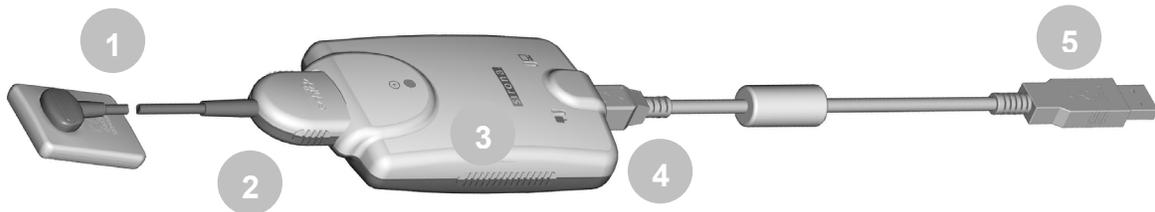


Figure 1. Schick 33/Elite USB Interface Cable Connections

Table 1. Schick 33/Elite USB Interface Cable Connections

| NUMBER | DESCRIPTION |
|--------|---|
| 1 | Sensor (<i>Schick 33 shown</i>) |
| 2 | Sensor cable connection |
| 3 | USB Interface |
| 4 | USB cable connection (<i>"B" end of USB cable connects here</i>) |
| 5 | USB cable connection (<i>"A" end of USB cable connects to PC</i>) |

3.LED Indicators

3.1. Schick 33/Elite USB Interface

Table 2. Schick 33/Elite USB Interface LED Indications (Normal Conditions)

| SENSOR | CDR DICOM |  SENSOR STATUS |  READY TO ACQUIRE |  SENSOR CONNECTED | DESCRIPTION |
|---------------|-------------|---|--|--|--|
| Connected | Running | ON | Flashing every 1/2 - 1 1/2 seconds | ON | Ready for image acquisition |
| Connected | Running | ON | OFF | ON | Image acquisition |
| Connected | Not running | OFF | OFF | ON | Start CDR DICOM to prepare for image acquisition |
| Not connected | Not running | OFF | ON | OFF | Connect Sensor and start CDR DICOM |

Table 3. Schick 33/Elite USB Interface LED Indications (Error Conditions)

| SENSOR | CDR DICOM |  SENSOR STATUS |  READY TO ACQUIRE |  SENSOR CONNECTED | DESCRIPTION |
|-----------|-------------|---|--|--|--|
| Connected | Not running | OFF | ON | OFF | Cable short or over-current condition. Replace Sensor cable. Replace Sensor if problem persists. |
| Connected | Not running | OFF | ON | Flashing Green | Low current condition. Replace Sensor cable. Replace Sensor if problem persists. |

| SENSOR | CDR DICOM |  SENSOR STATUS |  READY TO ACQUIRE |  SENSOR CONNECTED | DESCRIPTION |
|----------------------------------|------------------------------|---|--|--|---|
| Connected | Running or not running | OFF | ON | OFF | Over current condition. Replace Sensor cable. Replace Sensor if problem persists. |
| Connected or not connected | Running or not running | ON or OFF | ON or OFF | Amber | Low USB voltage condition. Use Schick USB cable or try different USB port / hub. |
| Connected | Running or not running | Flashing rapidly | Flashing rapidly | Amber or Green | Start the Upgrade Utility and refer to diagnostic messages for corrective action. |

4. Operation

4.1. Operating the System

4.1.1. Power On

1. Turn on the PC workstation used with imaging applications.
2. Connect the “B” end of the cable to the USB Interface (*if not connected already*).
3. Connect the “A” end of the cable to the PC work-station (*if not connected already*).
4. Connect the Sensor edge-card to the USB Interface.
5. The amber LED on the USB side of USB Interface illuminates and turns off after a few seconds.
6. The green LED on the Sensor side of the USB Interface illuminates and remains steady on, indicating proper current condition for the Sensor.

4.1.2. Power Off

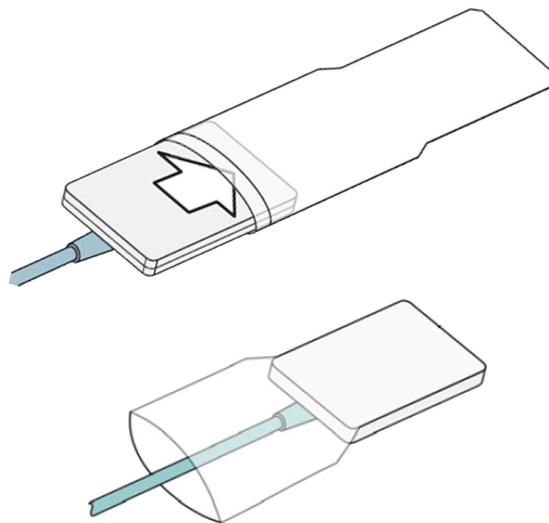
1. Disconnect the USB cable from the PC workstation.
2. Disconnect the USB cable from the USB Interface.
3. Power is removed from the Schick USB Interface and Sensor and the green LED on the Sensor side is turned off.

4.2. Using Your Sensor

4.2.1. Sensor Sheaths

Sirona sheaths are required for Sensors. New sheaths are required for each new patient and must be disposed of properly after patient use. Sensor holders (if they are the disposable type) should follow the same procedure.

Before using a new sheath, select one that is appropriate for the size of the Sensor. You may find that the sheath seems slightly undersized, which is necessary to provide a secure barrier around the Sensor. Once you have selected the sheath, slide the Sensor into it, as shown below.



To remove the Sensor from the sheath, refer to the examples in Table 4 and Table 5 on pages 15 and 16.

4.2.2. Sensor Positioning

To achieve stable Sensor positioning during X-ray exams, use the appropriate tabs and holders available with the Schick Sensors.

Using an appropriate Sensor positioning system, adjusting the X-ray setting depending on intraoral position, and placing the X-ray source as close as possible to the imaging area of the Sensor: all of these contribute towards obtaining quality digital X-ray images.

For proper placement and usage of Schick positioning systems, please refer to the documentation distributed with those kits and the information available on our website. Positioning examples with the AimRight Grip system can be found Table 6 on page 17. Examples of Sensor-to-image orientation can be found in Table 7 on page 19.

4.2.3. Sensor Cleaning and Disinfecting

Before using the Sensor the first time, and before every new patient, please perform the steps described in Section 9.2 on page 60.

Table 4. Proper Sensor Removal from Sheath (AimRight Autoclavable System)

| EXAMPLES | ACTIONS |
|---|--|
|  | <p>1. Begin by pinching the distal end of the Sensor out of the sheath.</p> |
|  | <p>2. As the Sensor is pushed into the wider area of the sheath, gently slide the sheath away from the Sensor.</p> |
|  | <p>3. Be careful to prevent the Sensor from falling on the floor.</p> |

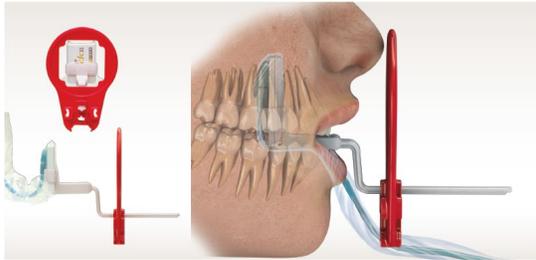
NOTE: Additional information regarding Sensor usage can be found in the Sensor Care Guide, available from the schickbysirona.com website.

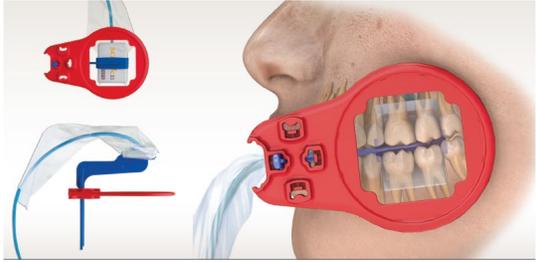
Table 5. Proper Sensor Removal from Sheath (AimRight Adhesive System)

| EXAMPLES | ACTIONS |
|---|--|
|  | <p>1. Keeping the Sensor attached to the positioning tab, grasp the aiming bar where it joins the Sensor and begin pushing the distal end of the Sensor out of the sheath.</p> |
|  | <p>2. As the Sensor is pushed into the wider area of the sheath, gently slide the sheath away from the Sensor.</p> |
|  | <p>3. Be careful to prevent the Sensor from falling on the floor.</p> |

NOTE: Additional information regarding Sensor usage can be found in the Sensor Care Guide, available from the schickbysirona.com website.

Table 6. Sensor Positioning (AimRight Grip System)

| EXAMPLES | PLACEMENT INSTRUCTIONS |
|--|--|
|  <p>The diagram shows a red sensor device with a blue X-ray head. On the left, the device is shown in its disassembled state. On the right, a side-view illustration of a human mouth shows the sensor placed against the roof of the mouth, with the X-ray head positioned against the front of the upper teeth.</p> | <p>Maxillary Anterior</p> <p>Place the distal end of the sensor against the roof of the mouth, with the incisal edge of the teeth against the front of the tab.</p> <p>Sensor should be parallel to the long axis of the maxillary anterior teeth. Ensure the ring is as close to the patient's face as possible and place the x-ray head against the ring.</p> |
|  <p>The diagram shows the red sensor device and its X-ray head. On the right, a side-view illustration of a human mouth shows the sensor placed in the lower anterior area, resting on top of the tongue, parallel to the first molar teeth.</p> | <p>Mandibular Anterior</p> <p>Place the Sensor into the lower anterior area, positioning it on top of the tongue, parallel to the first molar.</p> <p>Sensor should be centered on the mandibular anterior teeth when the patient is occluded. Ensure the ring is as close to the patient's face as possible and place the x-ray head against the ring.</p> |
|  <p>The diagram shows the red sensor device and its X-ray head. On the right, a side-view illustration of a human mouth shows the sensor placed between the tongue and the teeth, with the bite area resting on the premolar teeth. The device's ring is positioned close to the patient's face.</p> | <p>Horizontal Bitewing</p> <p>Place the Sensor between the tongue and the teeth with the bite area resting on the premolar teeth.</p> <p>The patient should close on their back teeth to ensure centric occlusion and as they do so, the arm should be angled gently toward the midline of the mouth to ensure the Sensor is parallel with the teeth and to provide open contacts. Ensure the ring is as close to the patient's face as possible and place the x-ray head against the ring.</p> |

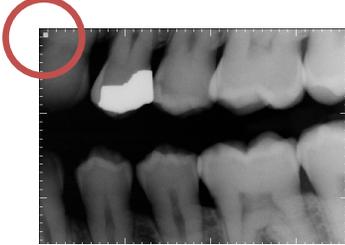
| EXAMPLES | PLACEMENT INSTRUCTIONS |
|---|---|
|  | <p>Vertical Bitewing</p> <p>The sensor should enter the mouth horizontally. Once past the incisors, “roll” it into a vertical position.</p> <p>Sensor should be placed with the cable pointing upwards toward the hard palate. Ensure the ring is as close to the patient’s face as possible and place the x-ray head against the ring.</p> |
|  | <p>Mandibular Periapical</p> <p>Retract the cheek with a finger and place the sensor between the tongue and the teeth, bringing the cheek around the bite block.</p> <p>Slide the sensor down and in gently until it is in position—the bite tab should be directly above the teeth to be imaged. Ensure the ring is as close to the patient’s face as possible and place the x-ray head against the ring.</p> |
|  | <p>Maxillary Posterior</p> <p>The Sensor/aiming device is angled upward toward the midline with placement of the bite block under the teeth to be captured.</p> <p>The Sensor should be angled slightly past the midline of the palate as the patient closes for comfort and to ensure capture of the apices. Ensure the ring is as close to the patient’s face as possible and place the x-ray head against the ring.</p> |

NOTES:

When using the Aim Right grip system, always insert the Sensor by aligning one end and then “snapping” the Sensor into place. Refrain from sliding the Sensor into the grip holder.

Additional information regarding Sensor positioning can be found in the Schick AimRight Positioning System Guide, available from the schickbysirona.com website.

Table 7. Examples of Sensor-to-Image Orientation

| SENSOR LOCATION | SENSOR ORIENTATION | INVERSE PIXELS (CIRCLED) AND IMAGE ORIENTATION |
|---------------------|---|--|
| Patient's left side |  |  <p data-bbox="1084 730 1256 762">Left Bitewing</p> |
| |  | |
| Patient's upper jaw |  |  <p data-bbox="992 1371 1354 1402">Anterior Periapical, Maxillary</p> |
| |  | |

4.2.4. Taking X-rays

NOTE: Refer to the CDR DICOM User Guide, Schick P/N 1051047, for detailed information on the use and operation of CDR DICOM software.

STEP 1

Start CDR DICOM from the Windows **Start** button or by clicking the shortcut to CDR DICOM for Windows on your desktop.

STEP 2

When the CDR exam window appears, click on **New Exam** under the **File** menu or just click the **New Exam** button on the toolbar.

STEP 3

- A. Enter the appropriate patient information and then click on **X-ray Series**. If your practice management software includes a bridge to CDR DICOM, patient information is already supplied in the text boxes. At this point you may use a pre-defined intraoral series or create a new one.
- B. To customize an X-ray series for the current exam, click **Edit Series**, which opens the Edit Viewset dialog box. (Re-usable, customized series can be created at the **Series > New Intraoral Series** menu.)
- C. The numbers in the text boxes correspond to how many target frames (view boxes) are included in this series. You can edit the numbers, creating a series customized with the views you wish to include.
- D. Enter a name for this X-ray series. Click **OK**.

STEP 4

- A. Slide an appropriately-sized sheath over the Sensor. Select a CDR holder specific to the intraoral area intended for exposure and place it on the sheath. Attach a positioning arm and aiming ring, as needed
- B. Verify the X-ray exposure settings. Proper technique factors depend on several variables, among them, the type of X-ray tube, the anatomy of the patient, the source-to-Sensor distance, and the location of the Sensor in the oral cavity. *As a guideline, CDR Sensors require 85% less dosage than D-speed film.*

STEP 5

IMPORTANT! To avoid exposing the patient to unnecessary X-rays, ensure that the CDR exam window viewbox is flashing green (default color) in AutoTake mode, or that the message, “Waiting to take X-ray,” is displayed before triggering the X-ray source.

- A. If your acquisition mode is set to AutoTake, the first empty view box in the exam is pre-selected and flashes green (default setting). Skip ahead to step 7.
- B. If your acquisition mode is set to manual, select an empty target frame that corresponds to the Sensor’s location in the patient’s mouth. When the view box is highlighted, click on it again. If using a serial footpedal, press the amber pedal.

STEP 6

The system is ready to acquire an X-ray image. A “Please Wait” message may appear momentarily.

STEP 7

- A. In AutoTake mode, activate the X-ray source. The message, “Reading Image from Sensor” appears momentarily.
- B. In manual mode, activate the X-ray source when the message, “Waiting to take X-ray” appears.
- C. The acquired image appears automatically in the zoom or exam window, depending on system settings.

STEP 8

- A. In AutoTake mode, the next empty view box in the series sequence is selected. To acquire the next X-ray image, repeat this procedure starting at Step 7.
- B. In manual mode, close the zoom window. To acquire the next X-ray image, repeat this procedure starting at Step 5.

4.3. AutoDetect

The CDR AutoDetect feature instantly recognizes when a different Schick USB device or paired Schick WiFi Interface is connected, enabling customers to skip the additional step of manually selecting a different Schick device before using it.

Schick devices supported by CDR AutoDetect include:

- Schick 33/Elite USB interfaces
- Paired Schick WiFi Interfaces
- Standard (CDR) and high-speed (CDR Remote HS) remote modules
- Wireless / SDX interfaces.

With CDR AutoDetect enabled, any new Schick device is recognized when connected and is ready for use.

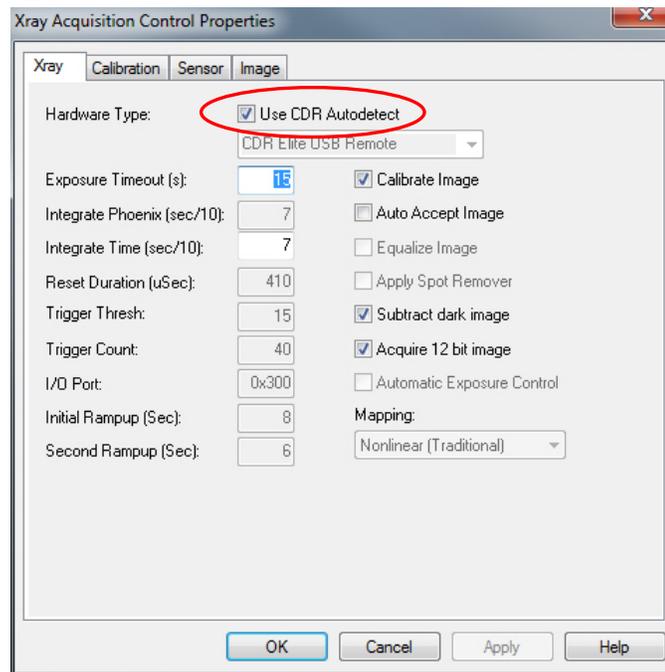
CDR AutoDetect will be most useful for offices that employ a mix of Schick interfaces and use them interchangeably within one or several operatories.

4.3.1. Enabling CDR AutoDetect

CDR AutoDetect is enabled by default. If, however, it has been disabled and you wish to re-enable it, open the X-ray acquisition options page (in CDR DICOM, browse to the System menu and select X-ray Settings). If unchecked, click on the CDR AutoDetect to mark the checkbox and enable this option. You might also notice that the Hardware Type drop-down box becomes unavailable, as detection of Schick USB devices will be performed automatically.

4.3.2. Disabling CDR AutoDetect

CDR AutoDetect can be disabled at any time by clicking the checkbox again, which removes the checkmark. By disabling CDR AutoDetect you will need to return to this property page when switching different hardware types on the same workstation and manually select the new device from the drop-down menu.



4.3.3. How Schick Devices are Detected

For CDR AutoDetect to recognize a Schick device, the device must be connected to the specific PC workstation used during imaging. Once the Schick device is connected, we say that it is “known” by CDR AutoDetect, which informs the imaging program to begin using that device. Only the CDR2000 USB Remote Module behaves differently, meaning that the USB device and the Sensor (both of them) must be connected for CDR AutoDetect to recognize the CDR2000 USB device. If no Schick intraoral device for X-ray acquisition is connected, a notification window reports this when the CDR DICOM application starts.

4.3.4. Changing Schick USB Devices

When a known Schick USB device is plugged into the system, a notification window appears momentarily, indicating that the device was just detected and has become active.



It is also possible to interact with the CDR AutoDetect feature by clicking on the notification window when it appears or by double-clicking on the CDR AutoDetect graphic in the Windows system tray when CDR AutoDetect is enabled. Performing this action will display a pop-up dialog that lists all the “known” Schick devices currently connected to the system.



When the imaging software is loaded initially, or when CDR AutoDetect is initially turned on, the system will populate the dialog with all known currently connected devices. If several devices are listed, the one that is highlighted signifies the currently active device. To select a different device using the monitor, select the device (highlighting it), and then click the Select Device button.

5. Schick 33

5.1. Schick 33

5.1.1. Schick 33 Sensor



Available in three Sensor sizes (0,1, and 2), three Sensor cable lengths (3-, 6-, and 9-ft), and incorporating Schick's unique field-replaceable cable design, Schick 33 provides an unprecedented level of resolution and control over intra-oral digital images. With pre-set clinical mapping options and an adjustable image sharpness feature, Schick 33 displays your images just the way you want to see them.

5.1.2. Schick 33 /Elite USB Interface

Portable, easy to move or to secure in any location using the supplied holder, the USB Interface connects to the PC by a Schick USB A-to-B cable at 0.5-, 2-, and 5-meter cable lengths. The USB Interface also includes three LED indicators for reporting the status of system operation: amber (*USB cable side*), green (*USB cable side*), and green (*Sensor cable side*).

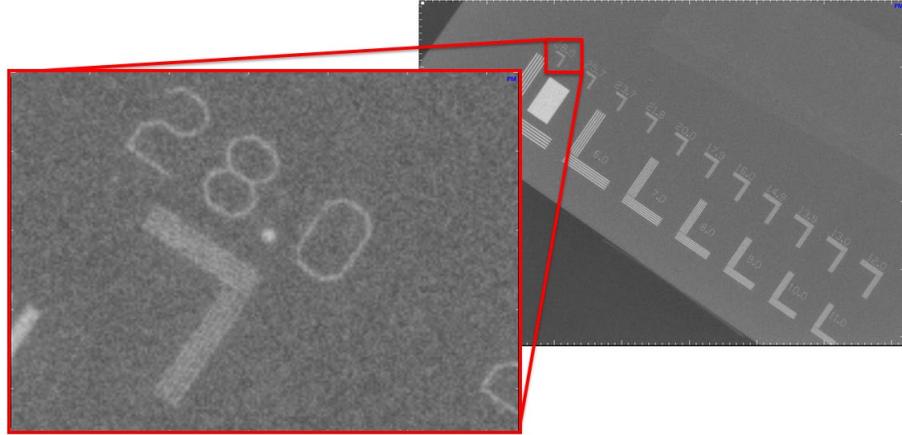
The location and description of the LEDs are shown below and are described in Table 2 and Table 3 on page 10.



Figure 2. Schick 33/Elite USB Interface LED and Connector Views

5.2. High Resolution Image Acquisition

Schick 33 Sensors have a theoretical resolution (*Nyquist Limiting Frequency*) of 33.3 lp/mm (*33.3 line pairs per millimeter*). The Sensor is capable of acquiring images in either high resolution mode or standard mode. High-resolution mode, which is unique to Schick 33 Sensors, captures a level of detail measured at 28 lp/mm.



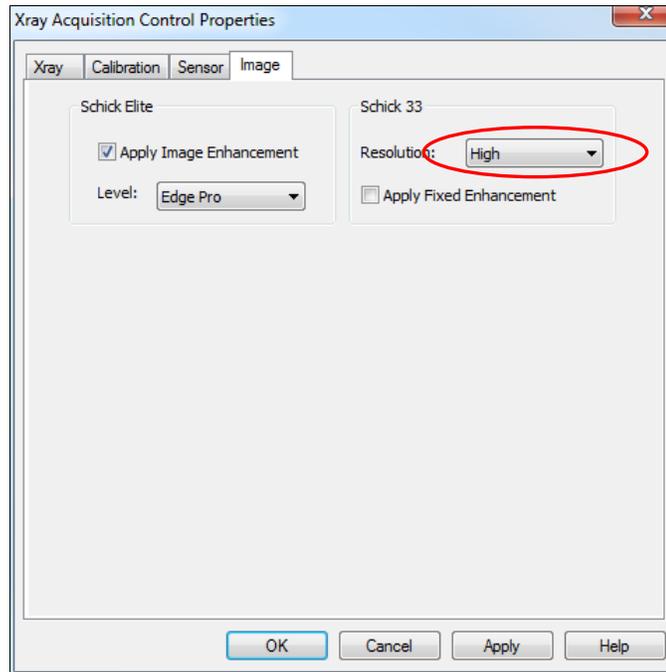
The above image shows a line pair measurement phantom captured with a size 2 Schick 33 Sensor. The phantom measures up to 28 lp/mm, which the Schick Sensor is able to demonstrate in the enlarged section highlighted in red.

The increase in image information in high-resolution mode means also that the transfer from acquisition-to-display time may be higher. On newer PCs with multiple processors this difference is negligible. High-resolution images are also physically larger in terms of their file sizes: approximately 8 MB / image with a size 2 Sensor.

5.2.1. Selecting High Resolution Acquisition

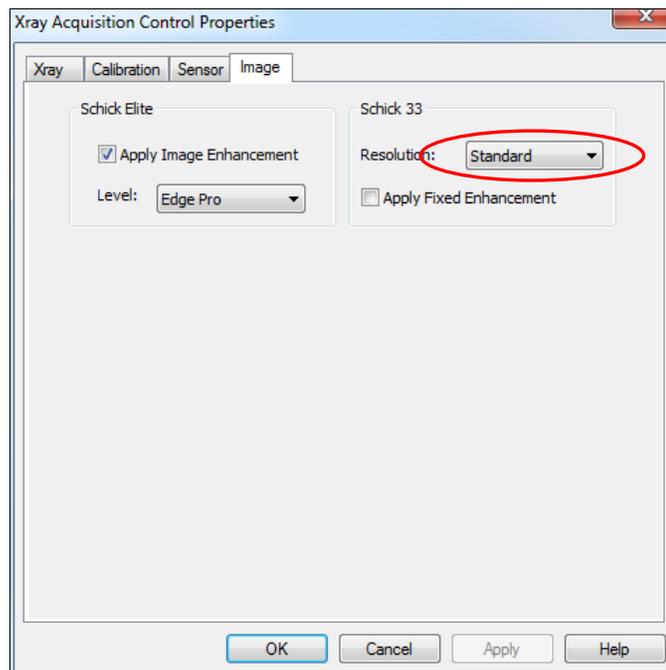
Taking high-resolution images with Schick 33 Sensors is enabled by default (*High Resolution menu option selected*). If High Resolution has been de-selected and you wish to re-enable it, open X-ray acquisition options and select High from the Resolution menu.

(In CDR DICOM, browse to the System menu, select X-ray Settings, click on the Image tab, and select High from the Resolution drop-down menu. Click Apply, and click OK to close the page for X-ray acquisition options.)



5.2.2. Selecting Standard Resolution Acquisition

Images can be acquired in Standard resolution using the same Schick 33 drop-down menu under X-ray acquisition options. Physically smaller (in terms of file size) when compared with high-resolution images, standard-resolution images are approximately 2 MB per image with a Size 2 Sensor. High-resolution images are approximately 8 MB per image with the same size Sensor.



5.3. Sharpen and High-Resolution Images

Sharpen is a tool for image enhancement developed specifically for Schick 33 images. Sharpen uses a combination of different functions to optimize images for detail and contrast. It is applied automatically to every image taken with Schick 33 Sensors.

To adjust image sharpness dynamically, a Sharpen slider and a Sharpen cursor are available. The slider can be shown or hidden. It can also be positioned at the Top or Bottom areas outside the image, or as an Overlay on the image.

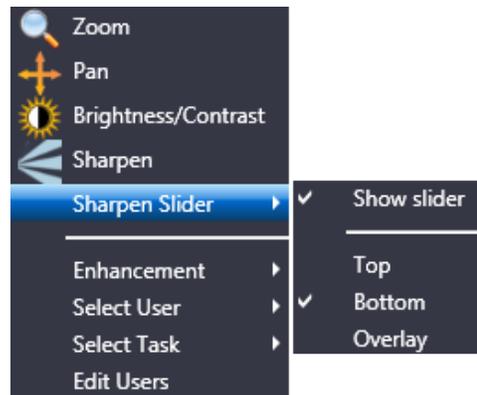


Figure 3. Sharpen Slider Menu Selections

5.3.1. Showing the Sharpen Slider

To show the Sharpen slider (if currently hidden), perform the following steps:

1. Move your cursor over a high-resolution image (taken with a Schick 33 Sensor).
2. Press the right-mouse button to open a short menu.
3. Select Sharpen Slider.
4. Click on Show Slider (this will *apply* the check mark and *display* the slider).

5.3.2. Hiding the Sharpen Slider

Although the Sharpen slider is shown by default when high-resolution images are displayed, it can also be hidden to maximize the image area inside the Zoom window. Please note that even with the slider hidden, image sharpness can be adjusted dynamically using the Sharpen cursor, by following the steps in the next paragraph.

1. Move your cursor over a high-resolution image (taken with a Schick 33 Sensor).
2. Press the right-mouse button to open a short menu.
3. Select Sharpen Slider.
4. Click on Show Slider (this will *remove* the check mark and *hide* the slider).

5.3.3. Positioning the Sharpen Slider

To position the Sharpen slider, perform the following steps:

1. Move your cursor over a high-resolution image (taken with a Schick 33 Sensor).
2. Press the right-mouse button to open a short menu.
3. Select Sharpen Slider.
4. Verify that the Show Slider item is checked. If checked, continue with the next step. If unchecked, click on this item and repeat steps 1 through 3.
5. Click on the position in the Zoom Window where the slider will be shown (*Top, Bottom, or Overlay*). For examples, see the following figures.



Figure 4. Sharpen Slider (Top Position)



Figure 5. Sharpen Slider (Bottom Position)



Figure 6. Sharpen Slider (Overlay Position)

5.3.4. Using the Sharpen Slider

The Sharpen slider is used to adjust image sharpness dynamically, as additional enhancement to the automatic sharpening that occurs when high-resolution images are displayed. A Sharpen percentage is shown on the slider and serves as an easy way to remember the specific Sharpen settings that are most useful to you.

User profiles, described in detail in Section 5.4 on page 33 can save Sharpness settings for various commonly-performed clinical tasks such as Endodontic, Periodontic, General Dentistry, Restorative, and Hygiene. For example, once you have set a Sharpness setting for a particular clinical task, the slider will move automatically to that position.

Please note that manual adjustments of image sharpness by using the Sharpen slider or the Sharpen cursor are not saved with the image.

5.3.5. Using the Sharpen Cursor

Adjusting the slider dynamically is one way of varying the effects of the Sharpen tool. It is also possible to use the Sharpen cursor to change the amount of sharpening. To adjust image sharpness dynamically by using the cursor, perform the following steps:

1. Move your cursor over a high-resolution image (taken with a Schick 33 Sensor).
2. Press the right-mouse button to open a short menu.
3. Select Sharpen.
4. Press the left-mouse button, which changes the Sharpen graphic to a two-arrow cursor.
5. Keeping the mouse button depressed, move the cursor up to increase sharpness.
6. Keeping the mouse button depressed, move the cursor down to decrease sharpness
7. Sharpen remains active until another tool (like Zoom, Pan, or Brightness / Contrast) is selected.

5.3.6. Using Sharpen with Other Image Enhancements

Since Sharpen is applied automatically each time a Schick 33 image is displayed, the Sharpen enhancement cannot be saved with the image in the way that other image tools in the Zoom Window are (*like Colorize, Equalize, etc.*). For the same reason, Sharpen does not appear on the Change List (*Edit > List All Changes in the CDR Zoom Window*), nor are user adjustments in Sharpen retained when the Zoom Window is closed.

Please note that the image enhancements introduced with the Schick Elite product — Edge Pro, Edge High, Edge Low, and Smooth — have no effect on images acquired with Schick 33 Sensors and their effects are effectively ignored. (*They are still available, when enabled, for images taken with Schick Elite Sensors.*)

5.4. Diagnostic Tasks and User Profiles

Schick 33 sensors and supporting software enable the clinician to optimize image presentation to a level appropriate for the diagnostic task being performed. These settings are applied at display time and do not affect the original image data. Diagnostic Task selections can be changed for any image, from one task to another, and back at will.

The different task selections optimize the contrast and brightness of the displayed image to improve visibility of the anatomical structures important for that diagnostic task. Refer to the table below.

In addition to contrast optimization, the visibility of some anatomical structures benefit from additional image sharpening. Selecting any diagnostic task applies an initial level of sharpening to the image. A slider control is available to dynamically change the level of image sharpness in real time. Users also use the slider in conjunction with the “Save As Default” button to change the default sharpen level to their personal viewing preferences for each clinical task described here.

The table below shows the diagnostic task to select to improve visibility of relevant dental anatomy. Figure 8 and Figure 9 on pages 36 and 37, respectively, provide several sample images.

Table 8. Diagnostic Task Descriptions and Default Values

| DIAGNOSTIC TASK | OPTIMIZED ANATOMY | SHARPEN DEFAULT (USER CHANGEABLE) |
|-------------------|--|-----------------------------------|
| General Dentistry | Balanced for general tooth and bone display | 75% |
| Endodontic | Root apices, pulp chamber, lamina dura, periodontal ligament, cementum | 70% |
| Periodontic | Alveolar and crestal bone, calculus | 50% |
| Restorative | Enamel, Dentin, DEJ, CEJ | 85% |
| Hygiene | Balanced for general tooth and bone display but with a lighter tone to the image | 55% |

To create your own user profile, or to perform other profile actions, complete the steps in the following paragraphs.

5.4.1. How to Add a User Name

1. In the Zoom Window, right-click on an image acquired with a Schick 33 Sensor.
2. Click on the Edit Users menu item.
3. Click on the Add User button.
4. Click inside the New User name text box and type in a user name.
5. Click Close.
6. To verify, right-click on the image again and click on Select User. The new user name will appear in the menu.

5.4.2. How to Edit a User Name

1. In the Zoom window, right-click on an image acquired with a Schick 33 Sensor.
2. Click on the Edit Users menu item.
3. Locate the user name you wish to edit.
4. Double-click on the user name, which becomes an editable text box.
5. Type in a new name for this user.
6. Click Close.
7. To verify, right-click on the image again and click on Select User. The edited name will appear in the menu.

5.4.3. How to Delete a User Name

1. In the Zoom window, right-click on an image acquired with a Schick 33 Sensor.
2. Click on the Edit Users menu item.
3. Select the user name you wish to delete from the list.
4. Click on the Delete user button.
5. Click Close.
6. To verify, right-click on the image again and click on Select User. The edited name will appear in the menu.

5.4.4. How to Edit a Task

1. In the Zoom window, right-click on an image acquired with a Schick 33 Sensor.
2. Click on the Select User menu item.
3. Select a user name from the list.

Note: The [default] name is not editable. To create your own custom profile, add a user name and then perform the following steps.

4. Right-click on the image again and click on the Select Task.
5. Choose one of the task categories from the list.
6. Adjust the slider to a level of Sharpening that you feel is appropriate.
7. Click on the Save as default button.
8. When prompted, click Yes to save the new the Sharpen value as the default setting for this task category and this user.
9. To check or compare the Sharpen settings with other user profiles or default values, click on Edit User, which opens the user profile dialog.

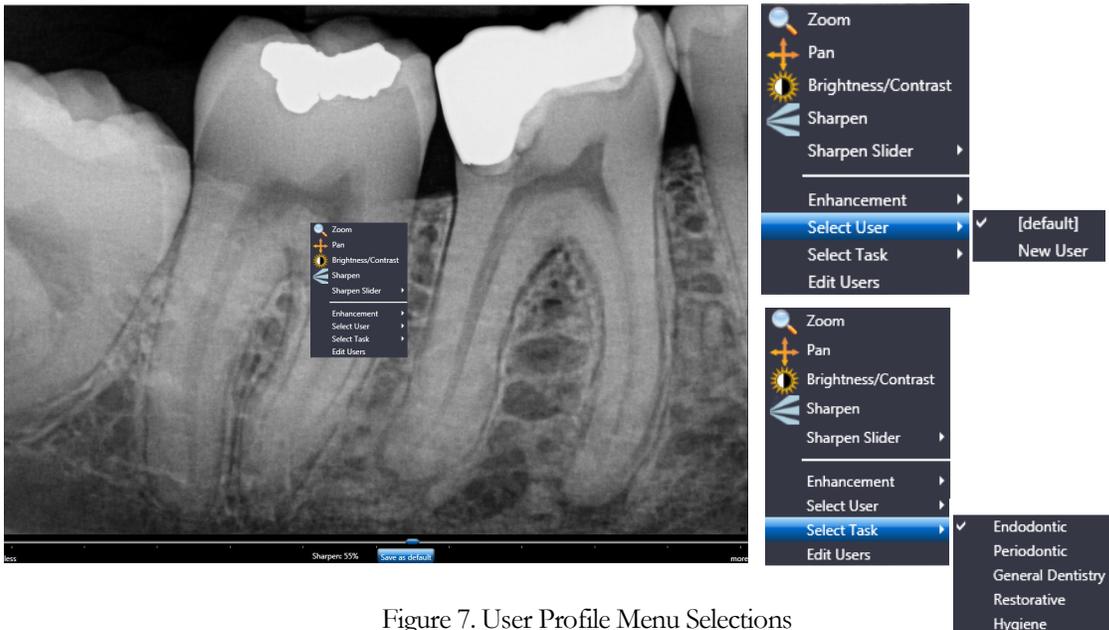


Figure 7. User Profile Menu Selections

(Shown expanded at right)



Figure 8. Diagnostic Tasks: General Dentistry (top) and Endodontic (bottom)



Figure 9. Diagnostic Tasks: Periodontic (top) and Restorative (bottom)



Figure 10. Diagnostic Task: Hygiene

5.5. Enhancement Modes

Dynamic image enhancement with Schick 33 Sensors represents a departure from the traditional method of image processing that is performed at the time of acquisition. Schick 33 Sensors perform only basic processing at acquisition and instead process the image at display time, providing customers with the flexibility to adjust various enhancements and mapping choices after the image is acquired.

This flexibility, which is always available to Schick 33 customers with CDR DICOM and Sidexis imaging software, include the ability to adjust the amount of sharpness in an image after it is acquired and to choose and customize brightness and contrast settings in diagnostic tasks. Additional enhancement is also possible.

Two modes are available as described in the following table.

| MODE | DESCRIPTION |
|------|---|
| A | Displays image features in vivid detail and supports a wide sharpening range. |
| B | Provides a softer enhancement, especially around object edges, and supports a tighter sharpening range. |

Mode A is the enhancement initially provided for Schick 33 Sensors. Mode B offers a slightly different appearance, but may be attractive to customers who prefer a generally softer enhancement in their images.

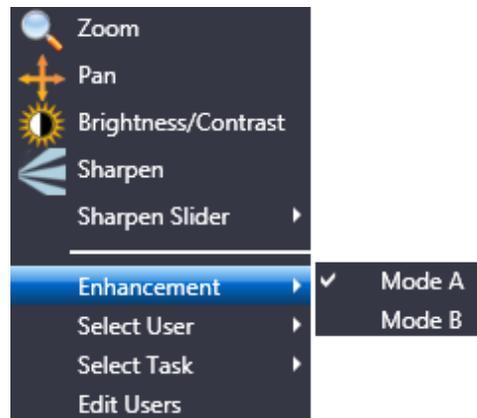


Figure 11. Enhancement Mode Selections

5.6. Schick 33 Image Enhancement

An alternate option in the way Schick 33 images are presented for display is available. This alternative, known as fixed enhancement, is intended primarily for third-party imaging customers that do not have access to the dynamic processing in CDR Dicom and Sidexis and would not otherwise benefit from the enhancements available for Schick 33 high-resolution images.

Fixed enhancement is also an option to CDR Dicom and Sidexis customers, although this choice will disable the benefits associated with dynamic processing, such as the availability of the Sharpen slider, Diagnostic tasks, and Enhancement modes after the image is presented for display.

In CDR Dicom, image enhancement choices are selected in the Image tab of the Xray Acquisition Control Properties page.

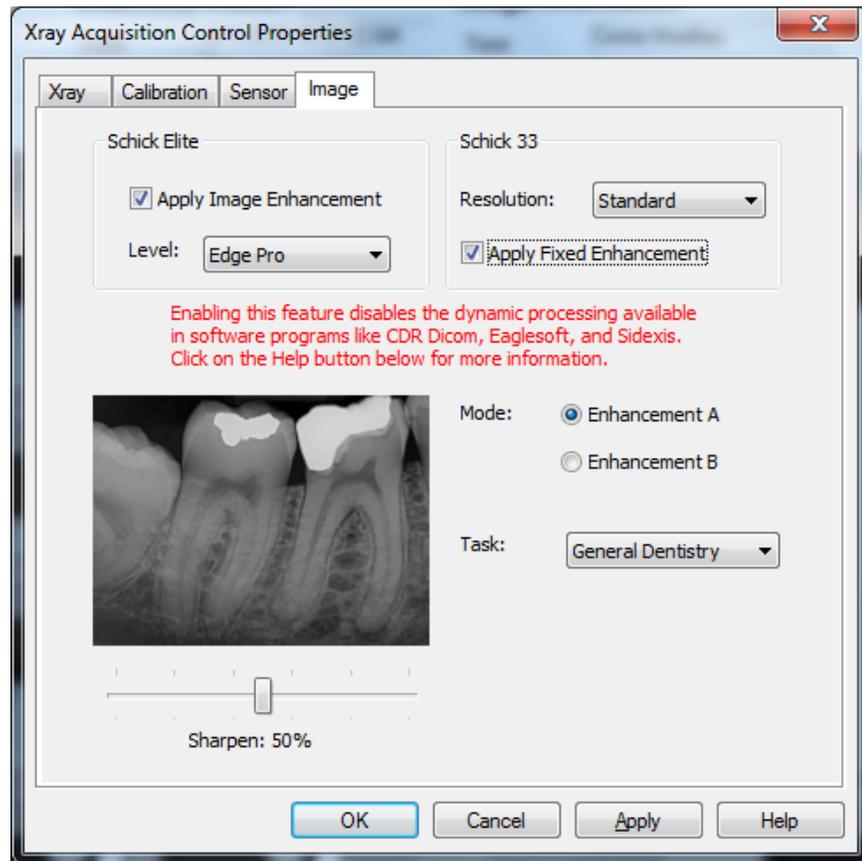


Figure 12. Selecting Fixed Enhancement in CDR Dicom

Referring to the previous image, additional information about the differences between fixed and dynamic enhancement may be found in the following table.

Table 9. Selecting Fixed or Dynamic Enhancement

(See Figure 12 for reference)

| APPLY FIXED ENHANCEMENT | RESULTS |
|---|---|
| <input type="checkbox"/> Not Selected | <p>Applies dynamic processing in CDR Dicom and Sidexis software.</p> <p>Enables users to adjust the sharpness slider, to choose any diagnostic task, and to select a different enhancement mode AFTER the image is displayed.</p> <p>This box is unchecked by default.</p> |
| <input checked="" type="checkbox"/> Selected* | <p>Applies fixed processing in any imaging software compatible with Schick 33 sensors.</p> <p>Enables users to select a specific degree of sharpness, a particular diagnostic task, and either enhancement mode BEFORE the image is acquired.</p> <p>The effects of fixed processing cannot be changed after image display.</p> |

** Selecting this option by CDR DICOM and Sidexis customers will disable dynamic processing and the availability of the Sharpen slider, Diagnostic tasks, and Enhancement Modes after the image is presented for display.*

5.6.1. Dynamic Enhancement

A description of dynamic enhancement may be found in Section 5.6 on page 40..

5.6.2. Fixed Enhancement

A description of the options available with fixed enhancement is described in the following table.

Table 10. Fixed Enhancement in CDR Dicom

(See Figure 12 for reference)

| FIXED ENHANCEMENT | RESULTS |
|----------------------|---|
| Sharpen Slider | Enables users to select a specific degree of sharpness, along a scale from 0 to 100%, BEFORE the image is acquired. The selected sharpness is applied in addition to the other choices made for fixed enhancement, such as Mode and Task |
| Sample Image Preview | Provides a preview of how an image might be affected by user-selected fixed enhancement choices (Mode, Task, and Sharpen). |
| Mode A | Provides the original image enhancement processing for Schick 33 sensors. It displays image features in vivid detail and supports a wide sharpening range. |
| Mode B | Provides a softer enhancement, especially around object edges, and supports a tighter sharpening range. |
| Task | Provides the same diagnostic tasks optimized for brightness and contrast described previously in this document. |

NOTE: The subtle difference between Mode A and B may be difficult to see in the sample image preview. It may be helpful to move the slider to 100% to note the differences more easily.

6. Schick Elite

6.1. Schick Elite

6.1.1. Schick Elite Sensor



Available in in three Sensor sizes (0,1, and 2), three Sensor cable lengths (3-, 6-, and 9-ft), and incorporating Schick's unique field-replaceable cable design, Schick Elite combines truly outstanding image quality and robust hard-wearing construction to provide a user experience that is truly Elite.

6.1.2. Schick 33/Elite USB Interface

Portable, easy to move or to secure in any location using the supplied holder, the USB Interface connects to the PC by a Schick USB A-to-B cable at 0.5-, 2-, and 5-meter cable lengths. The USB Interface also includes three LED indicators for reporting the status of system operation: amber (*USB cable side*), green (*USB cable side*), and green (*Sensor cable side*).

The location and description of the LEDs are shown below and described in Table 2 and Table 3 on page 10.



Figure 13. Schick 33/Elite USB Interface LED and Connector Views

6.2. Schick Elite Image Enhancement

Options are available to enhance the appearance of X-ray images before they are displayed on your screen or monitor. There are four options — Edge Pro, Edge High, Edge Low, and Smooth — and the names themselves generally describe the enhancements they perform. *Edge Pro*, a recent addition, displays a smoother image with lower contrast and brightness for customers who prefer their images displayed with these characteristics. ²

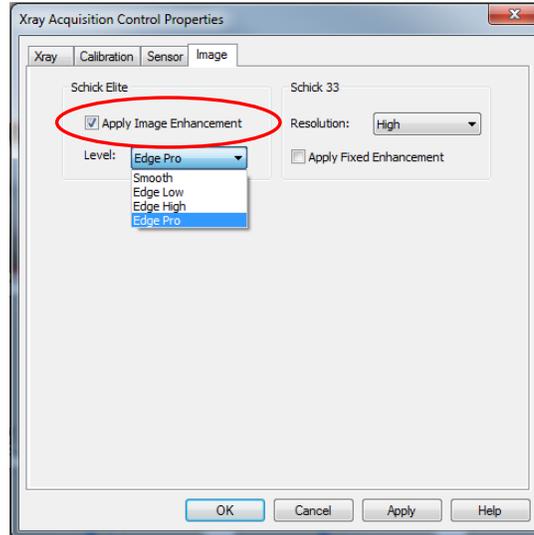
For sample X-rays that illustrate the effects of these enhancements, please refer to Figure 14 on page 46, Figure 15 on page 47, and Figure 16 on page 48. Using these options is discretionary, so you can try each of them and select the one that works best for you. Alternatively, you can choose to turn off these enhancements, if you prefer.

Please note that the image enhancements, when applied, cannot be undone or changed, nor will they affect images you have acquired already.

² NOTE: The Edge Pro filter is more sensitive to severe underexposure than other Schick Elite enhancements. Very light images are an indication that the dose is insufficient for the anatomy being imaged and a slight increase in exposure time is indicated.

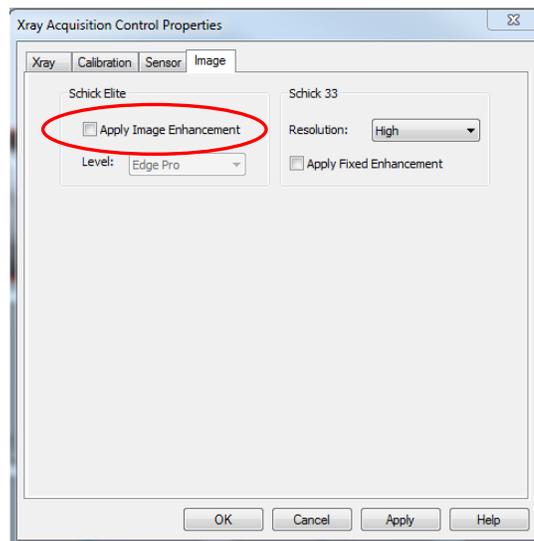
6.2.1. Enabling Image Enhancement

On new installations, Image Enhancement is enabled by default with the *Edge Pro* option selected. If the option was disabled however, it can be re-enabled at the X-ray control properties options page (*in CDR DICOM, browse to the System menu, select X-ray Settings, click on the Image tab, and mark the Apply Image Enhancement checkbox*). All enhancements are available from the drop-down menu. After selecting the option, click Apply, and click OK to close the X-ray acquisition options page.



6.2.2. Disabling Image Enhancement

Image Enhancement can be disabled at any time by clicking the “Apply Image Enhancement” checkbox again, which removes the checkmark. When the checkbox is cleared, all of the enhancements are unavailable.



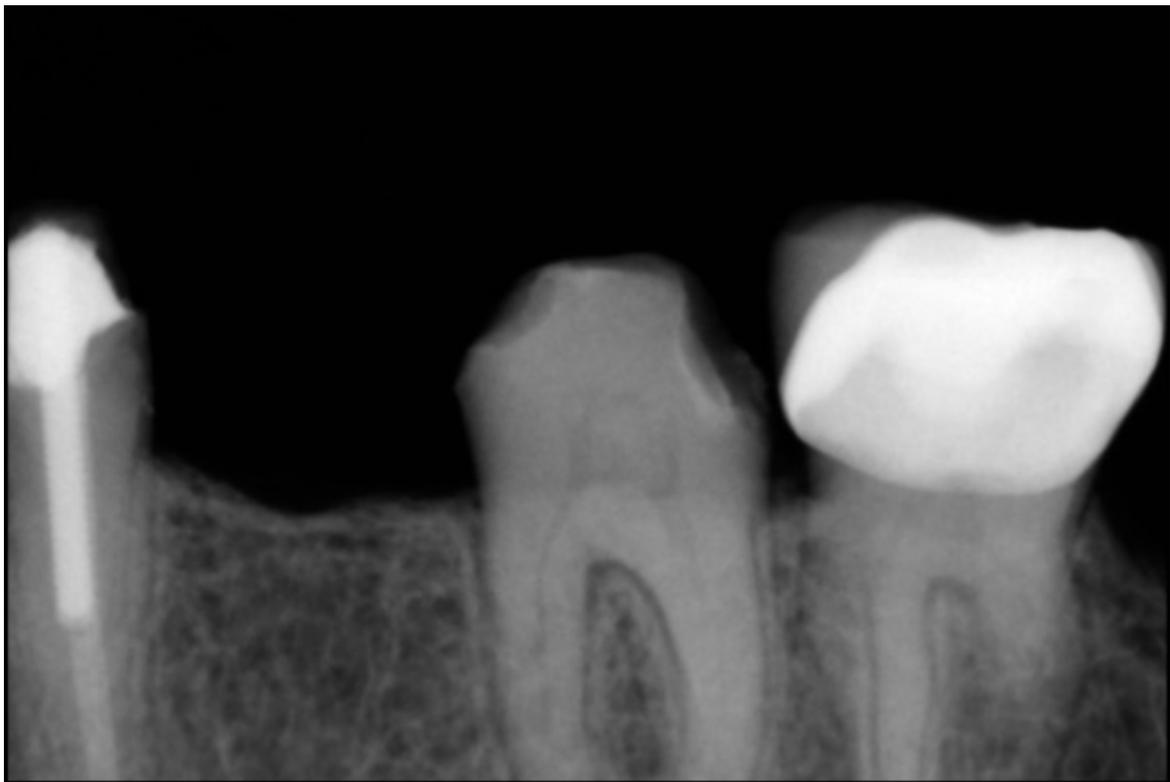
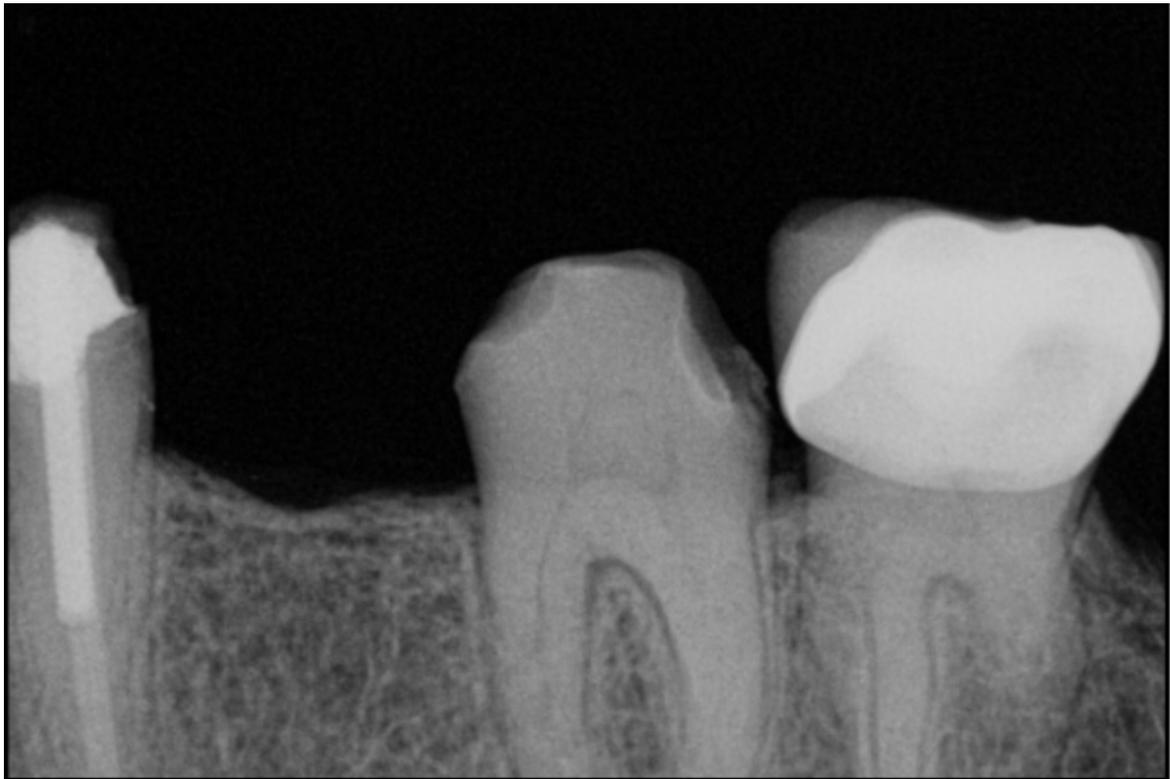


Figure 14. Enhancements: Edge Pro (top) and Smooth (bottom)

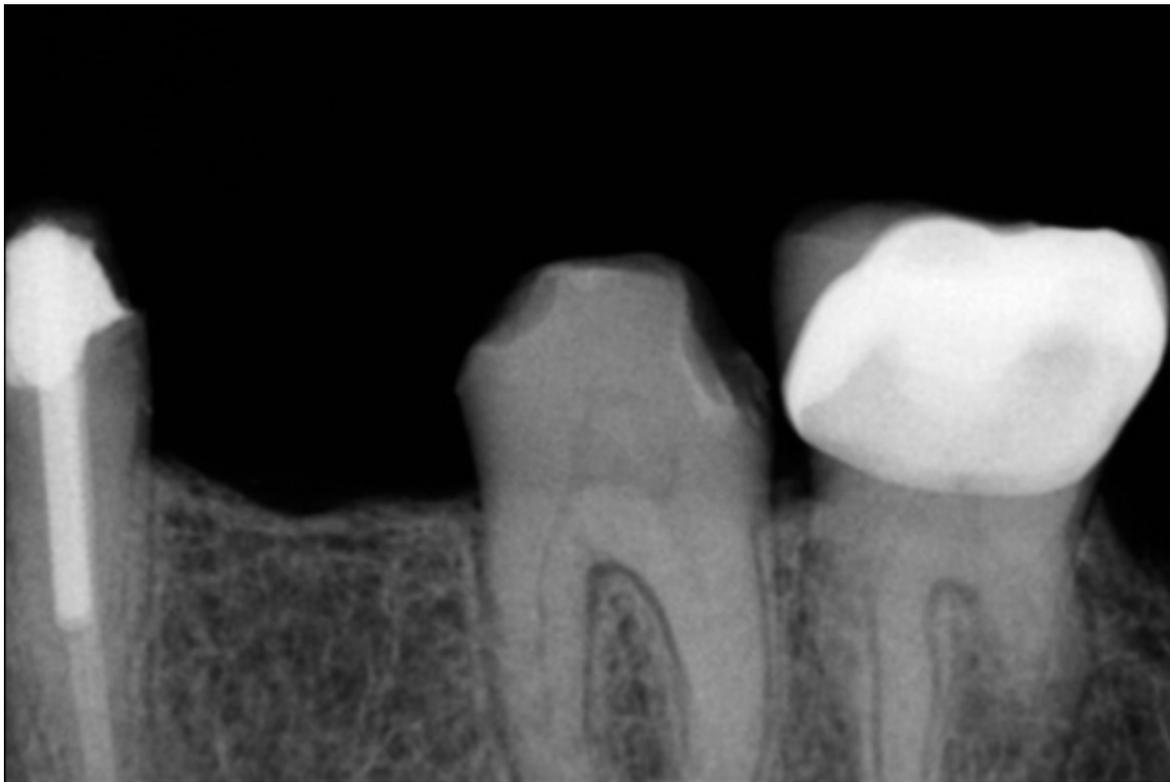
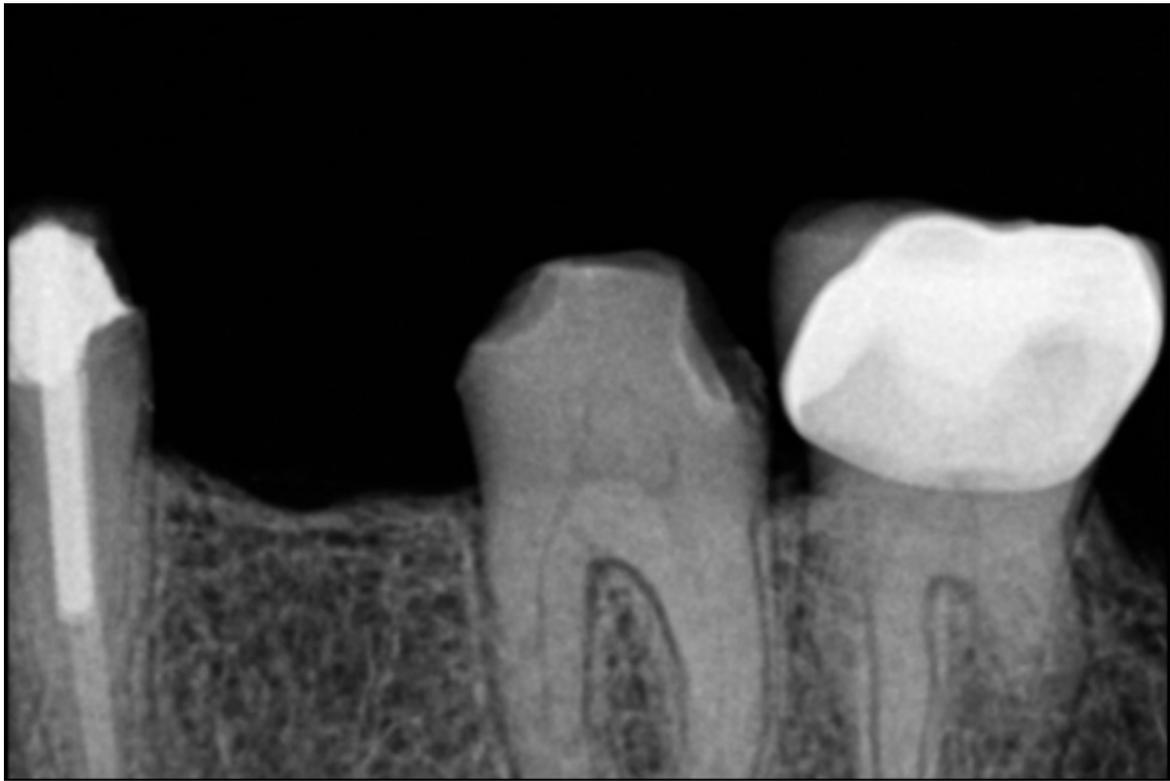


Figure 15. Enhancements: Edge High (top) and Edge Low (bottom)



Figure 16. Enhancements: None Applied

7. Using the Upgrade Utility

7.1. Introduction

The upgrade utility is installed during the Driver setup program and can be used to accomplish the following tasks:

- Perform USB Interface tests (Section 7.2 on page 51)
- Perform Sensor Pattern tests (Section 7.3 on page 52)
- Perform USB Interface firmware upgrades (Section 7.4 on page 53)
- Perform Sensor Module firmware upgrades (Section 7.5 on page 54)
- Display corrective actions for low voltage and other system conditions (Section B-2 on page 77).

7.1.1. Upgrade Utility Names

When used with Schick 33/Elite USB Interfaces the upgrade utility is called the **Schick 33/Elite Utility**. This name appears at the top of the dialog window when a Schick 33/Elite USB Interface is connected and several small graphics representing the connected hardware are displayed along with their current firmware versions. (*See Figure 17 on page 50.*)

In cases where no Schick interfaces are connected or detected, the title will simply display a more generic name: “Upgrade Utility.”

7.1.2. Schick 33/Elite Utility

A sample screen of the utility is shown below. *(Please note that the version numbers shown in the picture below are examples only and may differ from those reported for your system.)*

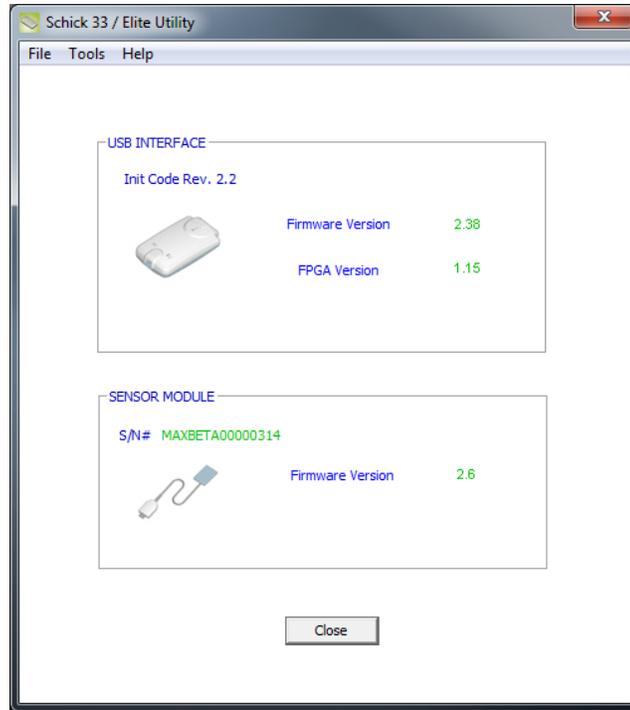
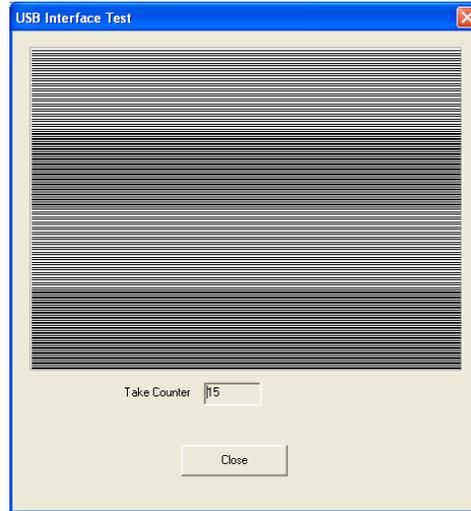


Figure 17. Schick 33/Elite Utility

7.2. USB Interface Test

The USB Interface Test checks the connection between the *USB Interface and the host computer*. During this check, a test pattern appears with alternating sections of black and white rows. A counter located below the image window updates as the pattern is generated.



A count of at least 10 test pattern images is usually sufficient to determine if there are USB problems that would cause poor test patterns to be generated. The absence of any test pattern (blank image window), or the appearance of distorted lines, indicates a problem between the *USB Interface and the host computer* to which it is connected.

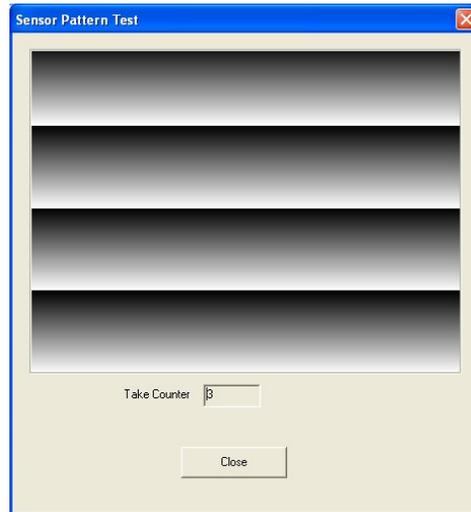
There may be one or more reasons for poor test patterns, which can be the result of a problem with the USB Interface or its USB connector, or the USB cable and / or port, or corrupt firmware inside the USB Interface. Additional troubleshooting can be performed if another USB Interface is available. In this case, connecting a different USB device to the USB cable and repeating the USB Interface Test may help to identify the possible cause of the problem.

Perform the following steps to run the USB Interface diagnostic test.

| STEP | ACTION |
|--|---|
| 1 | Close CDR DICOM (if running). |
| 2 | Verify that USB Interface is connected to the host computer. |
| 3 | Start the Utility (Start > All Programs > CDR DICOM for Windows > Upgrade Utility). |
| 4 | Click Tools > USB Interface Test. |
| <i>Note: After a momentary pause, a test pattern is displayed. The orange LED on the USB Interface blinks as the test pattern scrolls.</i> | |
| 5 | Click Close to exit this test. |
| 6 | Click Close to exit the Upgrade Utility. |

7.3. Sensor Pattern Test

The Sensor Pattern Test checks the connection between the *USB Interface and the Sensor*. During this check, a gradient test pattern appears with repeating sections. A counter located below the image window updates as the pattern is generated.



A count of at least 10 test pattern images is usually sufficient to determine if there are USB problems that would cause poor test patterns to be generated. The absence of any test pattern, or (blank image window) or the appearance of distorted lines indicates a problem between the *USB Interface and the Sensor* to which it is connected.

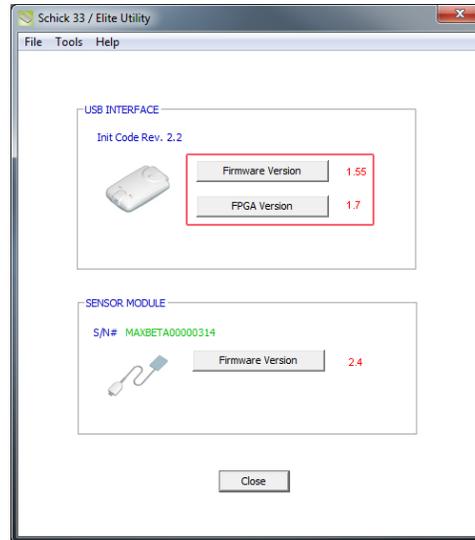
There may be one or more reasons for poor test patterns, which can be the result of a problem with the USB Interface or its Sensor connector, or the Sensor cable, or corrupt firmware inside the USB Interface. Additional troubleshooting can be performed if another Sensor is available. In this case, connecting a different Sensor to the USB Interface and repeating the Sensor Pattern Test may help to identify the possible cause of the problem.

Perform the following steps to run the Sensor Pattern diagnostic test.

| STEP | ACTION |
|--|---|
| 1 | Close CDR DICOM (if running). |
| 2 | Verify that USB Interface is connected to the host computer. |
| 3 | Verify that the Sensor is attached to the USB Interface. |
| 4 | Start the Upgrade Utility (Start > All Programs > CDR DICOM for Windows > Upgrade Utility). |
| 5 | Click Tools > Sensor Pattern Test. |
| <i>Note: After a momentary pause, a test pattern is displayed. The orange LED on the USB Interface blinks as the test pattern scrolls.</i> | |
| 6 | Click Close to exit this test. |
| 7 | Click Close to exit the Upgrade Utility. |

7.4. USB Interface Firmware Upgrades

Field updates to the *USB Interface* can be accomplished by installing new firmware.



When new firmware is available, it is typically provided with software release and becomes part of the update to your existing system.

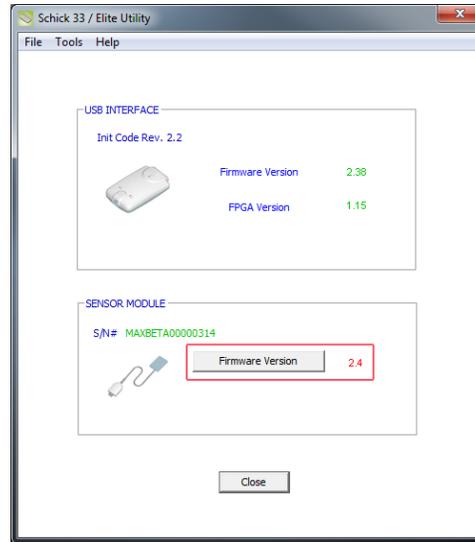
In the event that version information is displayed with red lettering, we recommend that you perform the upgrade, referring to the procedure below.

Perform the following steps to upgrade USB Interface firmware.

| STEP | ACTION |
|------|---|
| 1 | IMPORTANT! Close CDR DICOM (if running). |
| 2 | Verify that USB Interface is connected to the host computer. |
| 3 | Start the Upgrade Utility (Start > All Programs > CDR DICOM for Windows > Upgrade Utility). |
| 4 | If the firmware version number is listed in red, click the Firmware Version button to upgrade. The firmware version number will change to green letters when the upgrade is completed successfully. |
| 5 | If the FPGA version number is listed in red, click the FPGA Version button to upgrade. The firmware version number will change to green letters when the upgrade is completed successfully. |
| 6 | Verify that the USB Interface firmware and FPGA version numbers are listed in green. If not, please contact your distributor of Dentsply Sirona products for additional information. |
| 7 | Click Close to exit the Upgrade Utility. |

7.5. Sensor Module Firmware Upgrade

Field updates to the *Sensor* can be accomplished by installing new firmware.



When new firmware is available, it is typically provided with software release and becomes part of the update to your existing system.

In the event that version information is displayed with red lettering, we recommend that you perform the upgrade, referring to the procedure below.

Perform the following steps to upgrade Sensor firmware.

| STEP | ACTION |
|------|---|
| 1 | IMPORTANT! Close CDR DICOM (if running). |
| 2 | Verify that the Sensor is connected to the USB Interface host computer. |
| 3 | Start the Upgrade Utility. (Start > All Programs > CDR DICOM for Windows > Upgrade Utility). |
| 4 | If the firmware version number is listed in red, click the Firmware Version button to upgrade. The firmware version number will change to green letters when the upgrade is completed successfully. |
| 5 | Verify that the Sensor Module firmware version number is listed in green. If not, please contact your distributor of Dentsply Sirona products for additional information. |
| 6 | Click Close to exit the Upgrade Utility. |

8. Cable Replacement

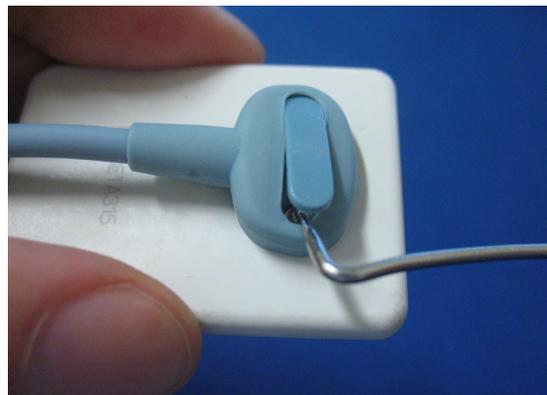
IMPORTANT! Always disconnect the Sensor from the USB interface before cable replacement to avoid potential damage to Sensor components. Close CDR DICOM or any other imaging application prior to starting cable replacement. When performing cable replacement, always work outside the patient area, using the tools and materials supplied and / or recommended by Dentsply Sirona.

IMPORTANT! Like other electronic devices, your Sensor is susceptible to electrostatic discharge (ESD), particularly when the device is used in or around carpeted areas or low-humidity environments. During cable replacement, when Sensor contacts are exposed, it is especially important to protect the device from potential ESD damage. Touching a metal surface prior to replacing the cable will reduce the risk of damaging Sensor components by accidental static discharge. The use of anti-static floor mats or floor treatments (for example Staticide 2005/2002) will also help eliminate static build-up in your office.

The following procedure illustrates cable replacement for a Schick size 2 Sensor. Procedures for other Schick Sensor sizes will be similar.

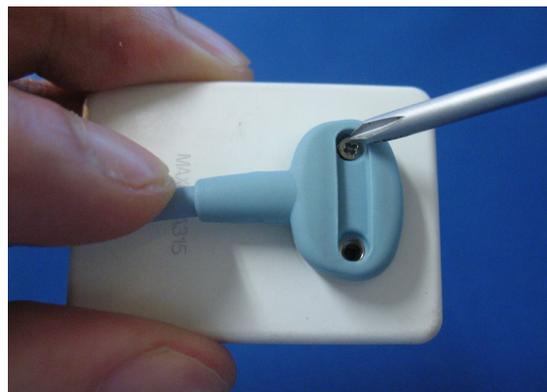
STEP 1

- A. Please clean and dry your hands before performing this procedure. Do not wear gloves since the powder inside them could be deposited on sensor contacts while replacing the cable.
- B. Make sure the Sensor is placed securely on a clean, moisture-free surface.
- C. Using a dental instrument, carefully lift and remove the tab cover from the back of the Sensor cable. Dispose of the tab cover as a new one will be used when the new cable is attached.



STEP 2

- A. Using the screwdriver provided, loosen and remove the 2 screws that secure the cable to the Sensor. *If silicone gel is present, remove this material with the screws.* Dispose of the screws as new ones are supplied.
- B. Remove the cable from the Sensor.



STEP 3

- A. If there is a white frame similar to the picture shown here, please continue with step 4A on page 57.



- B. If there is a red frame similar to the picture shown here, please continue with step 4B on page 57.



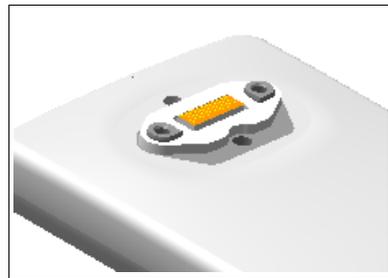
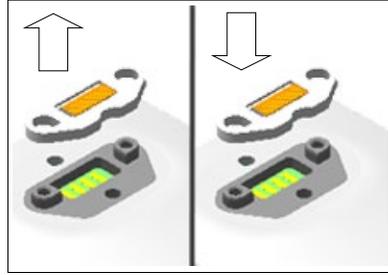
- C. If there is a blue frame similar to the picture shown here, please continue with step 4C on page 58.



STEP 4

A. For **WHITE** frame with elastomer, perform the following steps:

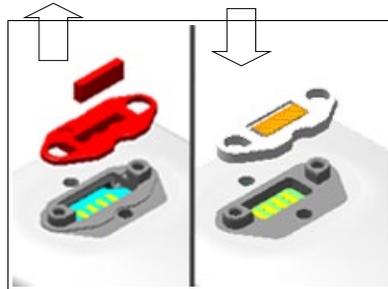
- Using fingers, remove the small frame with elastomeric strip from the Sensor. Dispose of part, as it will be replaced.
- Take a new frame / strip from the spare parts kit and carefully place it in position, **flat surface facing up and notched cutout facing the long side of the Sensor**. Avoid contact with the gold elastomeric in the center.
- After inserting the frame / strip, apply a small amount of finger pressure around the outer edges to ensure that it is seated squarely in the cutout area.



IMPORTANT! The frame / strip must be seated correctly for the Sensor to function.

B. For **RED** frame and elastomer, perform the following steps:

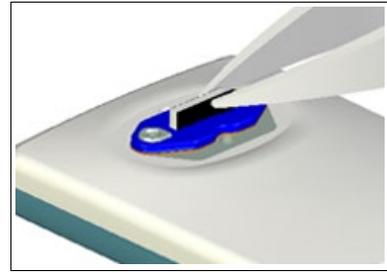
- Using your fingers, remove the red frame and the red elastomeric strip from the Sensor. Dispose of both items as they will be replaced.
- Take a new frame / strip from the spare parts kit and carefully place it into position, flat surface facing up and notched cutout facing the longer side of the Sensor. Avoid contact with the gold elastomeric strip in the center.
- After inserting the strip, apply a small amount of finger pressure to ensure the elastomer is seated squarely in the slot.



IMPORTANT! The frame / strip must be seated squarely in the slot for the Sensor to function.

C. For BLUE frame and elastomer, perform the following steps:

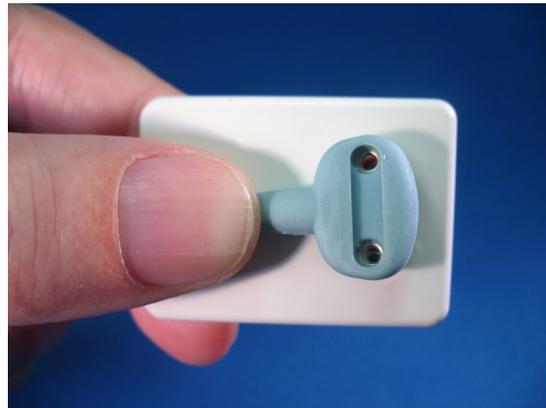
- Using tweezers, remove the small elastomeric strip from the Sensor. Dispose of strip, as it will be replaced.
- Take a new strip from the spare parts kit, holding it in the tweezers as shown. Strip shown darker for clarity.
- Insert the strip into its slot in the Sensor.
- After inserting the strip, apply a small amount of finger pressure to ensure the elastomer is seated squarely in the slot.



IMPORTANT! The elastomeric strip must be seated squarely in the slot for the Sensor to function.

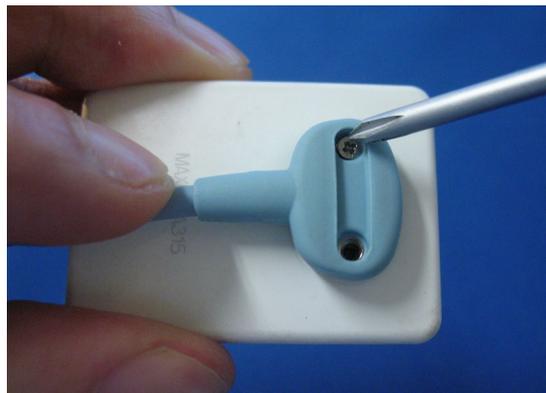
STEP 5

- A. Remove new cable from replacement kit.
- B. Align the new cable to Sensor, making sure that the Sensor keying feature connects to the corresponding key in the cable assembly.
- C. When properly aligned, the cable fits the back of the Sensor evenly and the metal area on the Sensor is completely covered by the cable.



STEP 6

- A. Holding the cable to the Sensor, insert one of the screws into its hole.
- B. Using the screwdriver, tighten the first screw just until you feel some resistance. Repeat this action for the second screw.
- C. Fully tighten both screws and make sure that they are securely tightened.



STEP 7

- A. Using tweezers, remove a gel disk from its paper backing and place it over one of the screws you just tightened.
- B. Make sure that the gel material completely covers the screw.
- C. Remove another gel disk and repeat this action for the second screw.



STEP 8

- A. Place the new tab cover over the screw slot and slide it across the slot while applying downward pressure, especially at the middle of the tab.
- B. When the tab completely covers the slot, snap it into place.
- C. Verify that the tab cover fits evenly in its slot. Cable replacement is complete.



9. Protective Measures

9.1. Introduction

IMPORTANT! Be sure to disconnect the USB Interface from the Sensor and the USB cable before performing any cleaning procedures.

The Sensor should be thoroughly cleaned after each use. The following cleaning and disinfection recommendations are intended to accomplish intermediate-level disinfection and will prepare the product to be safely used and reused during its life.

Although water-resistant, **the Sensor should never be soaked or submerged in disinfecting solution during any cleaning procedure.** Failure to comply with this precaution may cause liquid to enter the Sensor and can prevent it from operating properly

The USB Interface is not intended to be moved or to come in contact with a patient during clinical use. If the USB Interface becomes soiled or comes into contact with a patient, it should be cleaned following the same protocol as the Sensor.

Sensor positioning accessories, such as aiming rings, arms, and holders, should be cleaned and disinfected following manufacturer's instructions. If you are using the Rinn holder system, refer to their product documentation or their website for more information.

Schick's disposable tabs and holders are single-use only, as are the hygienic barriers (sheaths) that are used with them.

9.2. Cleaning and Disinfecting

In a clinical use environment, the health care provider should wear protective disposable gloves and cover the Sensor with a hygienic barrier. Before using the Sensor the first time, and before every new patient, the following protocol is recommended:

1. Remove and discard all protective hygienic barriers and / or sheaths from the Sensor prior to removing disposable gloves.
2. Place the Sensor on a tray covered by a disposable liner, or in a receptacle that can be thoroughly disinfected.
3. Remove and discard gloves.
4. Wash hands and put on a new pair of disposable gloves.
5. Disconnect Sensor from USB Interface.

6. If the Sensor or cable are visibly soiled (e.g., with blood or saliva), each should be cleaned with a soapy cloth or paper towel, and then dried with a clean lint-free cloth or paper towel.
7. Thoroughly spray or wipe the Sensor and cable with one of the disinfecting products recommended in Section 9.3 on page 61. Do not expose the Sensor cable connectors to any amount of liquid.
8. If using a spray disinfectant, allow it to remain on the Sensor for 5 minutes. If using a liquid disinfectant, allow it to remain on the Sensor for 30 seconds.
9. Repeat steps 7 and 8. When the Sensor has been sprayed or wiped two times, continue with the following steps.
10. Remove potential chemical build-up from the Sensor by wiping it with a lap sponge saturated with de-ionized water.
11. Use a dry lap sponge to dry the Sensor or cable, as needed.
12. Place the Sensor in a clean environment, ready for next use.
13. Reconnect the Sensor.
14. Remove and discard gloves.

9.3. Recommended Disinfectant

The following surface disinfectant has been found to be effective in achieving a desired level of disinfection and is available from other suppliers.

- Cavi-Wipes (Metrex Research, Kerr) or equivalent

10. Maintenance

10.1. Visual Inspection

Like all electrical equipment, the Sensor and USB Interface require not only correct use, but also visual inspection prior to operation, and routine checks at regular intervals. These precautions will help ensure that the Sensor and USB Interface operate accurately, safely, and efficiently.

Before operating the system, users shall check it for any signs of physical damage or defect. If detected, contact your local distributor of Dentsply Sirona products for further instructions.

10.2. Damaged Sensor

In the event of obvious physical damage to the Sensor, customers shall discontinue use of that Sensor, substitute another Sensor (if available), and contact their local Schick distributor for further instructions.

10.3. Periodic Maintenance

Periodic maintenance is performed as needed, but at least once a month. It consists of various checks performed by the operator or by a qualified service technician.

- Check that the labels are intact, readable, and adhere well to the surfaces on which they are positioned
- Check that all of the cables that connect to the USB Interface are undamaged
- Check that there is no external damage to the USB Interface which could compromise its ability to operate safely

10.4. Quality Procedure

10.4.1. Introduction

If you wish to perform an operational check of the system before using it on a patient, or if your local or state radiation agency requires you to perform a quality check periodically, then the following procedure may be used for this purpose. This is only a suggested method and other means of verifying proper operation may also be acceptable.

10.4.2. Items Required

The following quality procedure requires a small metal object (such as an alligator or paper clip) to be used with a Sensor and X-ray source.

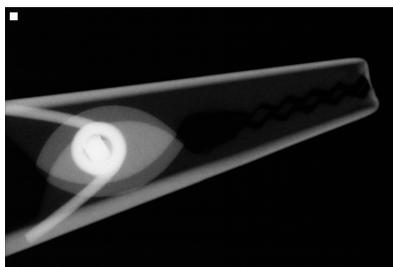
10.4.3. Procedure

1. Place the Sensor on a clean, moisture-free surface. The flat side of the Sensor is the active area; this side should be facing up. The side where the cable attaches to the Sensor will be facing down, towards the table surface.
2. Place a small metal object (an alligator clip in this procedure) on the Sensor and position the X-ray source above it by approximately 3 inches.
3. To avoid saturating the image with X-rays, set the technique factors to values that correspond to a typically-used minimum dosage.
4. Within your Imaging software (CDR DICOM or other imaging program), create or open an X-ray exam and click once on any selected target frame. Activate the X-ray source when the “Ready to acquire image . . . Activate X-ray unit now” message appears.

NOTE: If AutoTake is enabled, the target frame should NOT be flashing RED when ready to acquire an X-ray.

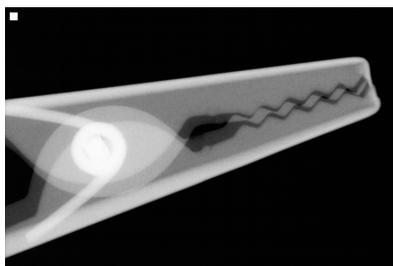
5. When the image is displayed, compare it with the samples shown in Figure 18 on page 64. An ideal image is one with sharp edges, clearly in focus, and having a distinct contrast between the object and the area around it. If necessary, adjust the technique factors and retake the image.
6. Record the results in last page of this document, or in a log book, and / or save the exam and its image(s) for future reference.

SATURATED



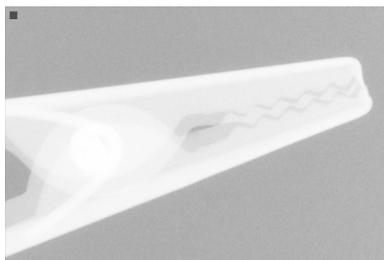
65 kVp 4mA 0.71s

ACCEPTABLE



65 kVp 4mA 0.32s

UNDEREXPOSED



65 kVp 4mA 0.07s

Figure 18. Comparing Quality Procedure Images

11. Accessories

11.1. Schick 33/Elite USB Interface Holder

The Schick 33/Elite USB Interface holder is designed for easy access to, and storage of, the USB Interface. Several mounting options are available: (1) Wall-mounted with fastening hardware, or (2) Attached to a wall or other acceptable bonding surface with Velcro adhesive. When installing your USB Interface choose a location that offers easy access and visibility during patient exams.

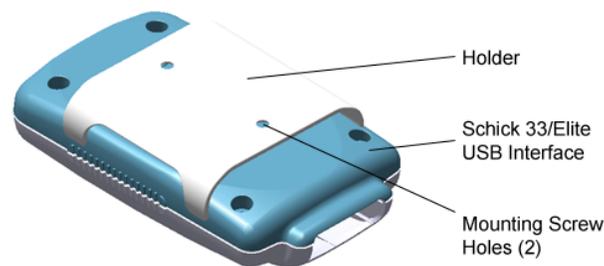


Figure 19. Schick 33/Elite USB Interface and Holder

11.1.1. Wall-Mounting Option (with Fasteners)

IMPORTANT! When following the wall-mounting option, choose a location for the holder where there are no electrical wires or connections that could be contacted accidentally when drilling.

Perform the following steps to install the holder by fastening it with the supplied hardware to a wall or other flat surface:

1. Remove the Schick 33/Elite USB Interface from the holder.
2. Position the holder on a smooth stable flat surface. Using the holes on the back of the holder as guides, fasten the holder securely to the wall using two (#4) dry wall screws (supplied) or other hardware appropriate to the mounting surface.
3. Snap the Schick 33/Elite USB Interface into the holder with the LEDs facing outward.

11.1.2. Wall-Mounting Option (with Adhesive)

Perform the following steps to install the holder by attaching it with Velcro adhesive to a wall or other flat surface:

1. Remove the Schick 33/Elite Interface from the holder.
2. Cut and trim a piece of Velcro adhesive (not supplied) to the size of the back of the holder. Remove one half of the tape and attach it to the holder.
3. Locate an accessible, stable, and flat surface for the interface. Apply the other half of the Velcro adhesive in that location and attach the holder securely.
4. Snap the Schick 33/Elite USB Interface into the holder with the LEDs facing outward.

11.2. Schick Sensor Holster

The Schick Sensor Holster is designed for easy access to, and storage of, Schick Sensors, including Schick 33 and Schick Elite Sensors. Several mounting options are available: (1) Wall-mounted with fastening hardware, or (2) Attached to a wall or other acceptable bonding surface with adhesive pad (supplied). When installing your Sensor Holster choose a flat, stable surface that offers easy access. For convenience, we also recommend placing the Sensor with its logo side facing outward (as shown below).



Figure 20. Schick Sensor Holster (Schick 33 Sensor Shown)

11.2.1. Wall-Mounting Option (with Fastener)

IMPORTANT! When following the wall-mounting option, choose a location for the holder where there are no electrical wires or connections that could be contacted accidentally when drilling.

Perform the following steps to install the holder by fastening it with the supplied hardware to a wall or other flat surface:

1. Remove the Schick Sensor from the holster.
2. Position the holster on a stable flat surface.
3. Using the hole on the back of the holder as a guide, fasten the holder securely to the wall using the one (#4) dry wall screw (supplied) or other hardware appropriate to the mounting surface.
4. Place the Sensor into the holster. Loosely coil the Sensor cable around the holster, using the slightly recessed area between the flat mounting surface and the retaining arms.

11.2.2. Wall-Mounting Option (with Adhesive)

IMPORTANT! When the protective layer is removed, the adhesive pad on the back of the holster will form a strong bond to most surfaces almost immediately. Be sure you have selected the best location for the holster before installing it.

Perform the following steps to install the holder by attaching it with the adhesive pad (on the back of the holster) to a wall or other flat surface:

1. Remove the Schick Sensor from the holster.
2. Locate a stable flat surface for the holster.
3. Remove the protective layer from the adhesive pad on the back of the holster.
4. Place the holder on the surface, pressing evenly to ensure complete contact.
5. Place the Sensor into the holster. Loosely coil the Sensor cable around the holster, using the slightly recessed channel between the flat mounting surface and the retaining arms.

Appendix A. Reference

A-1. Removal and Replacement

There are no user-serviceable parts inside the Schick 33/Elite USB interface and the service of Sensors is limited to cable replacement. Should you experience problems with the product, please contact the authorized dealer for Dentsply Sirona products in your country or region or Dentsply Sirona Technical Service at 800-659-5977 (U.S. customers).

A-2. Part Numbers

The following tables provide customer-orderable part number information for Schick 33 and Schick Elite configurations.

Table 11. Schick 33 Orderable Item Part Numbers (Latest Version)

| ITEM | SENSOR CABLE LENGTH | DESCRIPTION | FOR ORDERING | FOR REFERENCE |
|--------------------|---------------------|-----------------------------------|--------------|---------------|
| Size 0 Sensor Kit | 6 ft (1.8 meters) | Schick 33 S0 Sensor Ship Kit 6 ft | B1318000 | B1318000 |
| Size 0 Sensor Kit | 9 ft (2.7 meters) | Schick 33 S0 Sensor Ship Kit 9 ft | B1318001 | B1318001 |
| Size 0 Sensor Kit | 3 ft (0.9 meters) | Schick 33 S0 Sensor Ship Kit 3 ft | B1318002 | B1318002 |
| Size 1 Sensor Kit | 6 ft (1.8 meters) | Schick 33 S1 Sensor Ship Kit 6 ft | B1118000 | B1118000 |
| Size 1 Sensor Kit | 9 ft (2.7 meters) | Schick 33 S1 Sensor Ship Kit 9 ft | B1118001 | B1118001 |
| Size 1 Sensor Kit | 3 ft (0.9 meters) | Schick 33 S1 Sensor Ship Kit 3 ft | B1118002 | B1118002 |
| Size 2 Sensor Kit | 6 ft (1.8 meters) | Schick 33 S2 Sensor Ship Kit 6 ft | B1218000 | B1218000 |
| Size 2 Sensor Kit | 9 ft (2.7 meters) | Schick 33 S2 Sensor Ship Kit 9 ft | B1218001 | B1218001 |
| Size 2 Sensor Kit | 3 ft (1.8 meters) | Schick 33 S2 Sensor Ship Kit 3 ft | B1218002 | B1218002 |
| Size 0 Sensor Assy | 6 ft (1.8 meters) | Schick 33 S0 Sensor Assembly | — | B1318100 |
| Size 0 Sensor Assy | 9 ft (2.7 meters) | Schick 33 S0 Sensor Assembly | — | B1318101 |
| Size 0 Sensor Assy | 3 ft (0.9 meters) | Schick 33 S0 Sensor Assembly | — | B1318102 |
| Size 1 Sensor Assy | 6 ft (1.8 meters) | Schick 33 S1 Sensor Assembly | — | B1118100 |
| Size 1 Sensor Assy | 9 ft (2.7 meters) | Schick 33 S1 Sensor Assembly | — | B1118101 |
| Size 1 Sensor Assy | 3 ft (0.9 meters) | Schick 33 S1 Sensor Assembly | — | B1118102 |
| Size 2 Sensor Assy | 6 ft (1.8 meters) | Schick 33 S2 Sensor Assembly | — | B1218100 |
| Size 2 Sensor Assy | 9 ft (2.7 meters) | Schick 33 S2 Sensor Assembly | — | B1218101 |
| Size 2 Sensor Assy | 3 ft (0.9 meters) | Schick 33 S2 Sensor Assembly | — | B1218102 |
| Spare Cable Kit | 6 ft (1.8 meters) | Schick Replaceable Cable Kit 6 ft | B1209120 | B1209120 |
| Spare Cable Kit | 9 ft (2.7 meters) | Schick Replaceable Cable Kit 9 ft | B1209121 | B1209121 |
| Spare Cable Kit | 3 ft (0.9 meters) | Schick Replaceable Cable Kit 3 ft | B1209122 | B1209122 |
| Cable with Covers | 6 ft (1.8 meters) | Cable with Covers | — | B1209155 |
| Cable with Covers | 9 ft (2.7 meters) | Cable with Covers | — | B1209156 |
| Cable with Covers | 3 ft (0.9 meters) | Cable with Covers | — | B1209157 |
| USB Cable Kit | 16.5 ft (5 meters) | USB A/B 5M Cable with Ferrite | B2250150 | B2250150 |
| USB Cable Kit | 6.5 ft (2 meters) | USB A/B 2M Cable with Ferrite | B2250151 | B2250151 |
| USB Cable Kit | 1.6 ft (0.5 meters) | USB A/B 0.5M Cable with Ferrite | B2250152 | B2250152 |
| USB Remote Kit | — | Schick 33/Elite USB Int. Ship Kit | B2270000 | B2270000 |
| USB Remote | — | Schick 33/Elite USB Int. Assy. | — | B2270100 |

Table 12. Schick Elite Orderable Item Part Numbers (Latest Version)

| ITEM | SENSOR CABLE LENGTH | DESCRIPTION | FOR ORDERING | FOR REFERENCE |
|--------------------|---------------------|--------------------------------------|--------------|---------------|
| Size 0 Sensor Kit | 6 ft (1.8 meters) | Schick Elite S0 Sensor Ship Kit 6 ft | B1317000 | B1317000 |
| Size 0 Sensor Kit | 9 ft (2.7 meters) | Schick Elite S0 Sensor Ship Kit 9 ft | B1317001 | B1317001 |
| Size 0 Sensor Kit | 3 ft (0.9 meters) | Schick Elite S0 Sensor Ship Kit 3 ft | B1317002 | B1317002 |
| Size 1 Sensor Kit | 6 ft (1.8 meters) | Schick Elite S1 Sensor Ship Kit 6 ft | B1117000 | B1117000 |
| Size 1 Sensor Kit | 9 ft (2.7 meters) | Schick Elite S1 Sensor Ship Kit 9 ft | B1117001 | B1117001 |
| Size 1 Sensor Kit | 3 ft (0.9 meters) | Schick Elite S1 Sensor Ship Kit 3 ft | B1117002 | B1117002 |
| Size 2 Sensor Kit | 6 ft (1.8 meters) | Schick Elite S2 Sensor Ship Kit 6 ft | B1217000 | B1217000 |
| Size 2 Sensor Kit | 9 ft (2.7 meters) | Schick Elite S2 Sensor Ship Kit 9 ft | B1217001 | B1217001 |
| Size 2 Sensor Kit | 3 ft (0.9 meters) | Schick Elite S2 Sensor Ship Kit 3 ft | B1217002 | B1217002 |
| Size 0 Sensor Assy | 6 ft (1.8 meters) | Schick Elite S0 Sensor Assembly | — | B1317100 |
| Size 0 Sensor Assy | 9 ft (2.7 meters) | Schick Elite S0 Sensor Assembly | — | B1317101 |
| Size 0 Sensor Assy | 3 ft (0.9 meters) | Schick Elite S0 Sensor Assembly | — | B1317102 |
| Size 1 Sensor Assy | 6 ft (1.8 meters) | Schick Elite S1 Sensor Assembly | — | B1117100 |
| Size 1 Sensor Assy | 9 ft (2.7 meters) | Schick Elite S1 Sensor Assembly | — | B1117101 |
| Size 1 Sensor Assy | 3 ft (0.9 meters) | Schick Elite S1 Sensor Assembly | — | B1117102 |
| Size 2 Sensor Assy | 6 ft (1.8 meters) | Schick Elite S2 Sensor Assembly | — | B1217100 |
| Size 2 Sensor Assy | 9 ft (2.7 meters) | Schick Elite S2 Sensor Assembly | — | B1217101 |
| Size 2 Sensor Assy | 3 ft (0.9 meters) | Schick Elite S2 Sensor Assembly | — | B1217102 |
| Spare Cable Kit | 6 ft (1.8 meters) | Schick Replaceable Cable Kit 6 ft | B1209120 | B1209120 |
| Spare Cable Kit | 9 ft (2.7 meters) | Schick Replaceable Cable Kit 9 ft | B1209121 | B1209121 |
| Spare Cable Kit | 3 ft (0.9 meters) | Schick Replaceable Cable Kit 3 ft | B1209122 | B1209122 |
| Cable with Covers | 6 ft (1.8 meters) | Cable with Covers | — | B1209155 |
| Cable with Covers | 9 ft (2.7 meters) | Cable with Covers | — | B1209156 |
| Cable with Covers | 3 ft (0.9 meters) | Cable with Covers | — | B1209157 |
| USB Cable Kit | 16.5 ft (5 meters) | USB A/B 5M Cable with Ferrite | B2250150 | B2250150 |
| USB Cable Kit | 6.5 ft (2 meters) | USB A/B 2M Cable with Ferrite | B2250151 | B2250151 |
| USB Cable Kit | 1.6 ft (0.5 meters) | USB A/B 0.5M Cable with Ferrite | B2250152 | B2250152 |
| USB Remote Kit | — | Schick 33/Elite USB Int. Ship Kit | B2270000 | B2270000 |
| USB Remote | — | Schick 33/Elite USB Int. Assy | — | B2270100 |

Table 13. Schick 33 Orderable Item Part Numbers (Previous Version)

| ITEM | SENSOR CABLE LENGTH | DESCRIPTION | FOR ORDERING | FOR REFERENCE |
|--------------------|---------------------|-----------------------------------|--------------|---------------|
| Size 0 Sensor Kit | 6 ft (1.8 meters) | Schick 33 S0 Sensor Ship Kit 6 ft | B1309000 | B1309000 |
| Size 0 Sensor Kit | 9 ft (2.7 meters) | Schick 33 S0 Sensor Ship Kit 9 ft | B1309001 | B1309001 |
| Size 0 Sensor Kit | 3 ft (0.9 meters) | Schick 33 S0 Sensor Ship Kit 3 ft | B1309002 | B1309002 |
| Size 1 Sensor Kit | 6 ft (1.8 meters) | Schick 33 S1 Sensor Ship Kit 6 ft | B1109000 | B1109000 |
| Size 1 Sensor Kit | 9 ft (2.7 meters) | Schick 33 S1 Sensor Ship Kit 9 ft | B1109001 | B1109001 |
| Size 1 Sensor Kit | 3 ft (0.9 meters) | Schick 33 S1 Sensor Ship Kit 3 ft | B1109002 | B1109002 |
| Size 2 Sensor Kit | 6 ft (1.8 meters) | Schick 33 S2 Sensor Ship Kit 6 ft | B1209000 | B1209000 |
| Size 2 Sensor Kit | 9 ft (2.7 meters) | Schick 33 S2 Sensor Ship Kit 9 ft | B1209001 | B1209001 |
| Size 2 Sensor Kit | 3 ft (0.9 meters) | Schick 33 S2 Sensor Ship Kit 3 ft | B1209002 | B1209002 |
| Size 0 Sensor Assy | 6 ft (1.8 meters) | Schick 33 S0 Sensor Assembly | — | B1309100 |
| Size 0 Sensor Assy | 9 ft (2.7 meters) | Schick 33 S0 Sensor Assembly | — | B1309101 |
| Size 0 Sensor Assy | 3 ft (0.9 meters) | Schick 33 S0 Sensor Assembly | — | B1309102 |
| Size 1 Sensor Assy | 6 ft (1.8 meters) | Schick 33 S1 Sensor Assembly | — | B1109100 |
| Size 1 Sensor Assy | 9 ft (2.7 meters) | Schick 33 S1 Sensor Assembly | — | B1109101 |
| Size 1 Sensor Assy | 3 ft (0.9 meters) | Schick 33 S1 Sensor Assembly | — | B1109102 |

| ITEM | SENSOR CABLE LENGTH | DESCRIPTION | FOR ORDERING | FOR REFERENCE |
|--------------------|---------------------|-----------------------------------|--------------|---------------|
| Size 2 Sensor Assy | 6 ft (1.8 meters) | Schick 33 S2 Sensor Assembly | — | B1209100 |
| Size 2 Sensor Assy | 9 ft (2.7 meters) | Schick 33 S2 Sensor Assembly | — | B1209101 |
| Size 2 Sensor Assy | 3 ft (0.9 meters) | Schick 33 S2 Sensor Assembly | — | B1209102 |
| Spare Cable Kit | 6 ft (1.8 meters) | Schick Replaceable Cable Kit 6 ft | B1209120 | B1209120 |
| Spare Cable Kit | 9 ft (2.7 meters) | Schick Replaceable Cable Kit 9 ft | B1209121 | B1209121 |
| Spare Cable Kit | 3 ft (0.9 meters) | Schick Replaceable Cable Kit 3 ft | B1209122 | B1209122 |
| Cable with Covers | 6 ft (1.8 meters) | Cable with Covers | — | B1209155 |
| Cable with Covers | 9 ft (2.7 meters) | Cable with Covers | — | B1209156 |
| Cable with Covers | 3 ft (0.9 meters) | Cable with Covers | — | B1209157 |
| USB Cable Kit | 16.5 ft (5 meters) | USB A/B 5M Cable with Ferrite | B2250150 | B2250150 |
| USB Cable Kit | 6.5 ft (2 meters) | USB A/B 2M Cable with Ferrite | B2250151 | B2250151 |
| USB Cable Kit | 1.6 ft (0.5 meters) | USB A/B 0.5M Cable with Ferrite | B2250152 | B2250152 |
| USB Remote Kit | — | Schick 33/Elite USB Int. Ship Kit | B2270000 | B2270000 |
| USB Remote | — | Schick 33/Elite USB Int. Assy | — | B2270100 |

Table 14. Schick Elite Orderable Item Part Numbers (Previous Version)

| ITEM | SENSOR CABLE LENGTH | DESCRIPTION | FOR ORDERING | FOR REFERENCE |
|--------------------|---------------------|--------------------------------------|--------------|---------------|
| Size 0 Sensor Kit | 6 ft (1.8 meters) | Schick Elite S0 Sensor Ship Kit 6 ft | B1307000 | B1307000 |
| Size 0 Sensor Kit | 9 ft (2.7 meters) | Schick Elite S0 Sensor Ship Kit 9 ft | B1307001 | B1307001 |
| Size 0 Sensor Kit | 3 ft (0.9 meters) | Schick Elite S0 Sensor Ship Kit 3 ft | B1307002 | B1307002 |
| Size 1 Sensor Kit | 6 ft (1.8 meters) | Schick Elite S1 Sensor Ship Kit 6 ft | B1107000 | B1107000 |
| Size 1 Sensor Kit | 9 ft (2.7 meters) | Schick Elite S1 Sensor Ship Kit 9 ft | B1107001 | B1107001 |
| Size 1 Sensor Kit | 3 ft (0.9 meters) | Schick Elite S1 Sensor Ship Kit 3 ft | B1107002 | B1107002 |
| Size 2 Sensor Kit | 6 ft (1.8 meters) | Schick Elite S2 Sensor Ship Kit 6 ft | B1207000 | B1207000 |
| Size 2 Sensor Kit | 9 ft (2.7 meters) | Schick Elite S2 Sensor Ship Kit 9 ft | B1207001 | B1207001 |
| Size 2 Sensor Kit | 3 ft (1.8 meters) | Schick Elite S2 Sensor Ship Kit 3 ft | B1207002 | B1207002 |
| Size 0 Sensor Assy | 6 ft (1.8 meters) | Schick Elite S0 Sensor Assembly | — | B1307100 |
| Size 0 Sensor Assy | 9 ft (2.7 meters) | Schick Elite S0 Sensor Assembly | — | B1307101 |
| Size 0 Sensor Assy | 3 ft (0.9 meters) | Schick Elite S0 Sensor Assembly | — | B1307102 |
| Size 1 Sensor Assy | 6 ft (1.8 meters) | Schick Elite S1 Sensor Assembly | — | B1107100 |
| Size 1 Sensor Assy | 9 ft (2.7 meters) | Schick Elite S1 Sensor Assembly | — | B1107101 |
| Size 1 Sensor Assy | 3 ft (0.9 meters) | Schick Elite S1 Sensor Assembly | — | B1107102 |
| Size 2 Sensor Assy | 6 ft (1.8 meters) | Schick Elite S2 Sensor Assembly | — | B1207100 |
| Size 2 Sensor Assy | 9 ft (2.7 meters) | Schick Elite S2 Sensor Assembly | — | B1207101 |
| Size 2 Sensor Assy | 3 ft (0.9 meters) | Schick Elite S2 Sensor Assembly | — | B1207102 |
| Spare Cable Kit | 6 ft (1.8 meters) | Schick Replaceable Cable Kit 6 ft | B1209120 | B1209120 |
| Spare Cable Kit | 9 ft (2.7 meters) | Schick Replaceable Cable Kit 9 ft | B1209121 | B1209121 |
| Spare Cable Kit | 3 ft (0.9 meters) | Schick Replaceable Cable Kit 3 ft | B1209122 | B1209122 |
| Cable with Covers | 6 ft (1.8 meters) | Cable with Covers | — | B1209155 |
| Cable with Covers | 9 ft (2.7 meters) | Cable with Covers | — | B1209156 |
| Cable with Covers | 3 ft (0.9 meters) | Cable with Covers | — | B1209157 |
| USB Cable Kit | 16.5 ft (5 meters) | USB A/B 5M Cable with Ferrite | B2250150 | B2250150 |
| USB Cable Kit | 6.5 ft (2 meters) | USB A/B 2M Cable with Ferrite | B2250151 | B2250151 |
| USB Cable Kit | 1.6 ft (0.5 meters) | USB A/B 0.5M Cable with Ferrite | B2250152 | B2250152 |
| USB Remote Kit | — | Schick 33/Elite USB Int. Ship Kit | B2270000 | B2270000 |
| USB Remote | — | Schick 33/Elite USB Int. Assy | — | B2270100 |

A-3. Summary of Specifications

The system has passed North American Safety Certification and complies with international EMC, safety, and quality standards below.

Table 15. Specifications

| ITEM | | VALUE | | |
|--------------------------------|---|--|--|--|
| EMC/Safety | | IEC60601-1 ed. 3.1 | Medical Electrical Equipment – Part 1: General Requirements for basic safety and essential performance | |
| | | IEC60601-2 ed. 4 | Medical Electrical Equipment – Part 1-2: General requirements for basic safety and essential performance - Collateral standard: Electromagnetic compatibility Requirements and tests | |
| | | UL60601-1 | UL Standard for Safety Medical Electrical Equipment – Part 1: General Requirements for Safety – Edition 1, Issued 2003/04/25 | |
| Quality | | AAMI TIR12:2004 | Designing, testing and labeling reusable medical devices for reprocessing in health care facilities: A guide for device manufacturers | |
| | | CAN/CSA C22.2 No. 60601.1:08 | Medical Electrical Equipment – Part 1: General Requirements for Basic Safety and Essential Performance | |
| | | 93/42/EEC | Council Directive of 14/6/ 1993 concerning medical devices amended by directives 98/79/EC (27/10/98); 2000/70/EC(16/10/2000); 2001/104/EC(7/12/2001); 2007/47/EC(5/9/2007) | |
| Classification | Class II, Type BF equipment Not Category AP Equipment Not Category APG Equipment | | | |
| Mode of Operation | Equipment is intended for continuous use | | | |
| Additional Notes | Equipment is not suitable for use in the presence of a Flammable Anesthetic Mixture with Air or with Oxygen or Nitrous Oxide. | | | |
| Schick 33/ Elite USB Interface | Supply Voltage | +5V DC (derived for PC USB port) | | |
| | Supply Current | 250 mA (derived for PC USB port) | | |
| | Power Consumption | 0.9W | | |
| | Weight | 2.4 oz. (68g) | | |
| | Dimensions | 4.26 x 2.45 x 0.95 in. (10.8 x 6.2 x 2.4 cm) | | |
| | Cable Length | 5 m (maximum) | | |
| Schick 33 Sensor | Technology | CMOS-APS (Active Pixel Sensor) | | |
| | Pixel Size | 15 μ m, image acquisition in 15 μ m | | |
| | Line Pairs | 28 lp (33.3 lp - Nyquist Limiting Frequency) | | |
| | Active Sensor Area | Size 0 | 18 x 24 mm | |
| | | Size 1 | 20 x 30 mm | |
| | | Size 2 | 25.6 x 36 mm | |
| | External Dimensions | Size 0 | 23.6 x 31.9 x 7.5 mm | |
| | | Size 1 | 25.4 x 38.3 x 7.5 mm | |
| Size2 | | 31.2 x 43.0 x 7.5 mm | | |
| Cable Length | 2.70 m (maximum) | | | |

| ITEM | | VALUE | | |
|----------------------------------|---|--|----------------------|--|
| Schick Elite Sensor | Technology | CMOS-APS (Active Pixel Sensor) | | |
| | Pixel Size | 15 μm (native); 30 μm (effective) pixel resolution | | |
| | Line Pairs | 16.7 lp at 30 μm | | |
| | Active Sensor Area | Size 0 | 18 x 24 mm | |
| | | Size 1 | 20 x 30 mm | |
| | | Size 2 | 26 x 36 mm | |
| | External Dimensions | Size 0 | 23.5 x 32 x 6.3 mm | |
| | | Size 1 | 25.3 x 38.4 x 6.7 mm | |
| Size2 | | 31.2 x 43.9 x 6.3 mm | | |
| Cable Length | 2.70 m (maximum) | | | |
| Transport and Storage Conditions | Ambient temperature range: -40° F (-40° C) to 158° F (+70° C) Relative humidity range: 10 to 100%, including condensation Atmospheric pressure range: 500 hPa to 1060 hPa | | | |
| Operating Conditions | Ambient temperature range: 50° F (+10° C) to 104° F (+40° C) Relative humidity range: less than 75% Atmospheric pressure range: 700 hPa to 1060 hPa | | | |
| Operating Altitude | ≤ 2000 m | | | |
| Restricted service statement | Unless otherwise specified, this unit should be serviced only by the manufacturer. It contains no user-serviceable parts. | | | |

A-4. Leakage Current Statement

The system complies with the leakage current requirements of IEC 60601-1 safety standard. Variations, however, may exist in the construction of computers to which the USB Interface is connected. Customers are advised to have a qualified electrician perform a leakage test on their equipment before using the USB Interface.

Type of protection against electric shock:



Applied part type BF

A-5. EMC Tables

The following tables provide system compliance information to electromagnetic compatibility (EMC) and electromagnetic immunity (EMI) standards. To ensure conformance, the customer or user must use the USB Interface in environments that are consistent with these standards.

The USB cable required with the USB Interface must also comply with the same standards. The operation of the USB Interface has been independently tested using USB cables identified in Table 13 on page 69. Compliance to EMC and EMI standards cannot be guaranteed by the use of alternate cables.

Table 16. Guidance and Manufacturer's Declaration - Electromagnetic Emissions

*PLEASE NOTE: The USB Interface is intended for use in the electromagnetic environment specified below.
The customer or user of the USB Interface must ensure that it is used in such an environment.*

| EMISSIONS TEST | COMPLIANCE | GUIDANCE |
|---|--|---|
| RF emissions CISPR 11 | Group 1 | The USB Interface uses RF energy only for its internal function. Therefore, its RF emissions are very low and are not likely to cause any interference in nearby electronic equipment. |
| RF emissions CISPR 11 Harmonic emissions IEC 61000-3-2 Voltage fluctuations/ flicker emissions IEC 61000-3-3 | Class B Class D Complies | The USB Interface is suitable for use in all establishments including domestic establishments and those directly connected to the public low-voltage supply network that supplies buildings used for domestic purposes. |

Table 17. Guidance and Manufacturer's Declaration - Electromagnetic Immunity

PLEASE NOTE: The USB Interface is intended for use in the electromagnetic environment specified below.
The customer or user of the USB Interface must ensure that it is used in such an environment.

| IMMUNITY TEST | IEC 60601 TEST LEVEL | COMPLIANCE LEVEL | GUIDANCE |
|--|---|--|---|
| Electrostatic discharge (ESD) IEC 61000-4-2 | ±8 kV contact ±15 kV air | ±68 kV contact ±15 kV air | Floors should be wood, concrete or ceramic tile. If floors are covered with synthetic material, the relative humidity should be at least 30%. |
| Electrical fast transient/burst IEC 61000-4-4 | ±2 kV for power supply lines ±1 kV for input/output lines | ±2 kV for power supply lines ±1 kV for input/output lines | Mains power quality should be that of a typical commercial or hospital environment. |
| Surge IEC 61000-4-5 | ± 1 kV differential mode ± 2kV common mode | ± 1 kV differential mode ± 2kV common mode | Mains power quality should be that of a typical commercial or hospital environment. |
| Voltage dips, short interruptions and voltage variations on power supply input lines IEC 61000-4-11 | Voltage dips: 0% U _T with 1/2 period at 0°, 45°, 90°, 135°, 180°, 225°, 270° and 315° 0% U _T with 1 period and 70% U _T with 25 periods at 50 Hz and 30 periods at 60 Hz each at 0° Short interruptions: 0% U _T with 250 periods at 50 Hz and 300 periods at 60 Hz | | Mains power quality should be that of a typical commercial or hospital environment. If the user of the USB Interface requires continued operation during mains interruptions, it is recommended that the PC workstation to which the USB Interface is connected be powered from an uninterruptible power supply or battery. NOTE: U _T is the AC mains voltage prior to application of the test level. |
| Power frequency (50/60 Hz) magnetic field IEC 61000-4-8 | 30A/m | 30A/m | Mains power quality should be that of a typical commercial or hospital environment. |
| Conducted RF IEC 61000-4-6 | 3 Vrms 150 kHz to 80 MHz | 3 Vrms | Portable and mobile RF communication equipment should be used no closer to any part of the USB Interface, including its cables, than the recommended separation distance calculated from the equation applicable to the frequency of the transmitter. Recommended separation distance: $d = 1.2\sqrt{P}$ |

| IMMUNITY TEST | IEC 60601 TEST LEVEL | COMPLIANCE LEVEL | GUIDANCE |
|------------------------------|----------------------------|------------------|---|
| Radiated RF IEC 61000-4-3 | 3 V/m 80 MHz to 2.7 GHz | 3 V/m | $d = 1.2\sqrt{P}$ for 80 MHz to 800 MHz $d = 2.3\sqrt{P}$ for 800 MHz to 2.7 GHz Where P is the maximum output rating of the transmitter in watts (W) according to the transmitter manufacturer and d is the recommended separation in meters (m). Field strengths from fixed RF transmitters, as determined by an electromagnetic site survey, ^a should be less than the compliance level in each frequency range. ^b Interference may occur in the vicinity of equipment marked with the following symbol.  |

NOTE 1: At 80 MHz and 800 MHz, the higher frequency range applies.

NOTE 2: These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people

^a Field strengths from fixed transmitters, such as base stations for radio (cellular/cordless) telephones and land mobile radios, amateur radio, AM and FM radio broadcast and TV broadcast cannot be predicted theoretically with accuracy. To assess the electromagnetic environment due to fixed RF transmitters, an electromagnetic site survey should be considered. If the measured field strength in the location in which the USB Interface is used exceeds the applicable RF compliance above, the USB Interface should be observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary, such as reorienting or relocating the USB Interface.

^b Over the frequency range 150 kHz to 80 MHz, field strengths should be less than 3 V/m

Table 18. Recommended Separation Distance between Portable and Mobile RF Communications Equipment and the USB Interface

PLEASE NOTE: The USB Interface is intended for use in an electromagnetic environment in which radiated RF disturbances are controlled. The customer or user of the USB Interface can help prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF communications equipment (transmitters) and the USB Interface as recommended below, according to the maximum output power of the communications equipment.

| RATED MAXIMUM OUTPUT POWER OF THE TRANSMITTER (W) | SEPARATION DISTANCE ACCORDING TO THE FREQUENCY OF THE TRANSMITTER (M) | |
|---|---|---|
| | 150 kHz to 800 MHz $d = 1.2\sqrt{P}$ | 800 MHz to 2.5 GHz $d = 2.3\sqrt{P}$ |
| 0.01 | 0.12 | 0.23 |
| 0.1 | 0.38 | 0.73 |
| 1 | 1.2 | 2.30 |
| 10 | 3.8 | 7.3 |
| 100 | 12.0 | 23.00 |

For transmitters rated at a maximum output power not listed above, the recommended separation distance d in meters (m) can be estimated using the equation applicable to the frequency of the transmitter, where P is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer.

NOTE 1: At 800 MHz, the separation distance for the higher frequency range applies.

NOTE 2: These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects, and people

Appendix B. Troubleshooting Tips

B-1. Introduction

In the event you experience a problem with the Sensor or USB Interface, refer to the table of troubleshooting tips on this page. If the problem persists, please contact the authorized dealer for Dentsply Sirona products in your country or region or Dentsply Sirona Technical Service at 800-659-5977 (U.S. customers).

B-2. Troubleshooting for Schick 33 and Schick Elite

| ITEM | DESCRIPTION | POSSIBLE CAUSE | CORRECTIVE ACTION |
|------|---|---|--|
| 1 | Imaging software does not detect Sensor. | Replaceable cable screws require tightening | Carefully remove screw tab cover from replaceable cable and tighten screws. Place tab cover over screws after tightening. |
| 2 | Both green LEDs are off when CDR DICOM is not running. | Cable short or over-current condition | Replace Sensor cable. |
| 3 | The green LED on the Sensor side is blinking, whether CDR DICOM is running or not. | Low current condition | Replace Sensor cable. |
| 4 | Both green LEDs are off, whether CDR DICOM is running or not. | Over current condition | Replace Sensor cable. |
| 5 | Both USB-side LEDs are flashing rapidly and the LED on the Sensor side is amber, whether CDR DICOM is running or not. | Low USB voltage condition | <p>If both USB-side LEDs are flashing rapidly and the Sensor-side LED is amber, please be sure that you are using a Schick USB cable to connect to the USB Interface.</p> <p>If you have connected several Schick cables to each other, their overall length should not exceed 15 feet (4.6 meters).</p> <p>You may also wish to try a different USB port if the problem persists.</p> |

| ITEM | DESCRIPTION | POSSIBLE CAUSE | CORRECTIVE ACTION |
|------|---|------------------------------|--|
| 6 | Both USB-side LEDs are flashing rapidly and the LED on the Sensor side is green, whether CDR DICOM is running or not. | Low Sensor voltage condition | <p>If both USB-side LEDs are flashing rapidly and the Sensor-side LED is green, please check if you have a spare elastomer, which is a small strip of conductive material supplied with Schick replaceable cables.</p> <p>If you do, please remove the Sensor cable and replace the elastomer. Instructions can be found on our website and with cable replacement kits.</p> <p>If the problem persists, replace the entire cable.</p> |

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Image Quality Inspection

The following table may be used to record the results of a quality check. For details on how to perform this procedure, please refer to Section 10.4.3 on page 63.

| INSPECTION | | | | IMAGE QUALITY | |
|------------|------|------|-----------|--------------------------|----------------------------|
| Year | Date | Name | Signature | Acceptable | Not Acceptable |
| | | | | <input type="checkbox"/> | <input type="checkbox"/> * |
| | | | | <input type="checkbox"/> | <input type="checkbox"/> * |
| | | | | <input type="checkbox"/> | <input type="checkbox"/> * |
| | | | | <input type="checkbox"/> | <input type="checkbox"/> * |
| | | | | <input type="checkbox"/> | <input type="checkbox"/> * |
| | | | | <input type="checkbox"/> | <input type="checkbox"/> * |
| | | | | <input type="checkbox"/> | <input type="checkbox"/> * |
| | | | | <input type="checkbox"/> | <input type="checkbox"/> * |
| | | | | <input type="checkbox"/> | <input type="checkbox"/> * |
| | | | | <input type="checkbox"/> | <input type="checkbox"/> * |

* In the event that image quality is unacceptable, please contact the authorized dealer for Dentsply Sirona products in your country or region or Dentsply Sirona Technical Service at 800-659-5977 (U.S. customers).