Please Read This First

Getting Started with Schick 33

For complete details about your Schick 33 system
and the latest software, please visit our website at
www.dentsplysironasupport.com

Getting Started

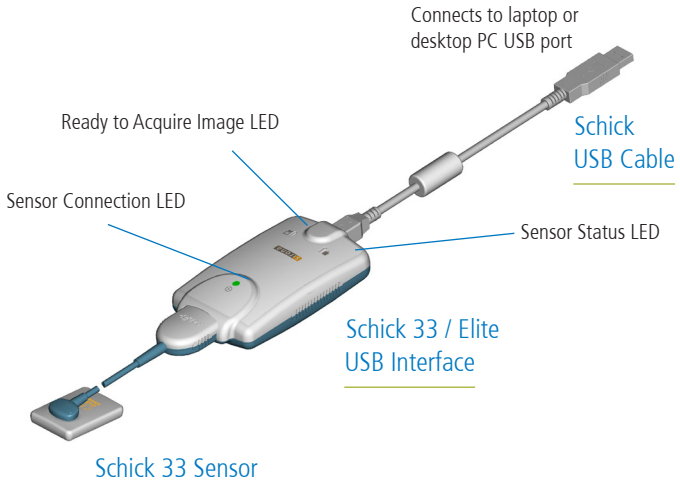Congratulations on the purchase of your Schick 33 system.

Schick 33 combines high-resolution image acquisition with dynamic, user-controlled image sharpening, and an easy-to-use design that includes in-office serviceable cables.

The Schick 33 system acquires intraoral X-ray images and transmits them by USB connection to desktop or laptop PCs. There are two main devices in the system: the Schick 33 Sensor, which acquires the intraoral X-ray images and the Schick 33 / Elite USB Interface (also referred to as the USB Interface in this document), which sends the images by USB cable to the PC. Images can be viewed, enhanced, saved, and printed.

To install the system, please follow the steps starting on page 4 of this guide. For the latest updates, please check our website at www.dentsplysironasupport.com.

The illustration on the next page shows the location of visual indicators and connections to your Schick 33 system.

Schick 33 at a Glance

Connects to laptop or
desktop PC USB port

Ready to Acquire Image LED

Sensor Connection LED

**Schick
USB Cable**

Sensor Status LED

**Schick 33 / Elite
USB Interface**

Schick 33 Sensor

Schick 33 Connections and LED Indicators

Installation and Operation

1. **Prepare for Installation**

   » Exit CDR DICOM or other compatible imaging program.
   » Verify that the Schick 33/Elite USB Interface is NOT connected to laptop or desktop PC. If connected, disconnect the Schick 33/Elite USB Interface by unplugging the USB cable.

2. **Install the Schick 33 / Elite USB Interface Driver**

   » Type this link into your browser: http://tiny.cc/33driver. Press Enter for the download page and unzip the latest driver.
   » Click on the Welcome page and press the Install the Schick USB Driver.
   » If prompted, click Yes to install Microsoft's .NET framework. *This may take up to 5 minutes to complete.*
   » Follow the on-screen instructions until installation is complete.
   » If prompted, click Yes to restart the laptop or desktop PC.

3. **Connect the USB Interface**

   » Connect the USB cable to the Schick 33/Elite USB Interface.
   » Connect the USB cable to the laptop or desktop PC. *The amber LED on the Schick 33/Elite USB Interface illuminates momentarily.*

Installation and Operation (continued)

» Connect the Schick 33 Sensor to the Schick 33/Elite USB Interface. *The green LED on the Sensor side of the Schick 33/Elite USB Interface illuminates*.

4. Verify Firmware Version

» Click Windows > Start > All Programs > CDR DICOM for Windows > Upgrade Utility.
» Upgrade any Firmware / FPGA number in red by clicking the appropriate button.
» When the upgrade is complete, verify that all version numbers are green. If any version numbers remain red, please contact your service provider for Sirona Dental products.
» Click Close to exit the utility.

5. Start Imaging Program and Take Sample Exposures

» Start your imaging program. If CDR DICOM, is your imaging program, refer to the User Guide for instructions.
» Create a sample X-ray exam.
» Place a radio-opaque object like a coin or clip on the active side of the Sensor.
» Take several sample exposures and verify image quality.

LED Indications

Normal Indications

LED	Color	Indication	Description
	Green	ON	Sensor is connected, imaging software is running, and device is ready to support image acquisition.
	Green	ON	Sensor is connected, and imaging software is running.
	Amber	FLASHING	Sensor is connected, imaging software is running, and device is ready to receive, or is receiving, image from Sensor.

LED Indications (continued)

Error Indications

LED	Indication	Sensor	Description
⊞	FLASHING	Connected	Low current condition. Replace Sensor cable. Replace Sensor if problem persists.
⊞	OFF	Connected	Cable short or over-current condition. Replace Sensor cable. Replace Sensor if problem persists.
⊞	AMBER	Connected or not connected	Low USB voltage condition. Use Sirona USB cable or try different USB port / hub.
⊞	AMBER OR GREEN (Other LEDs Flashing)	Connected	Start the Upgrade Utility and refer to diagnostic messages for corrective action.

Diagnostic Task Choices

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. The table "Anatomy Optimized by Diagnostic Task" on page 10 contains additional details.

To select a diagnostic task, simply right-click on an image (opening a short menu), choose Select Task, and click on one of the tasks. You can also select any diagnostic task from the Tasks menu (CDR DICOM).

In addition to contrast optimization, the visibility of some anatomical structures benefit from additional image sharpening.

A slider control is available (shown on the next page) to dynamically change the level of image sharpness in real time. The slider can be used also in conjunction with the "Save As Default" button to change the initial sharpen level for each clinical task: Endodontic, Periodontic, General Dentistry, Restorative, and Hygiene.

Diagnostic Task Choices (continued)
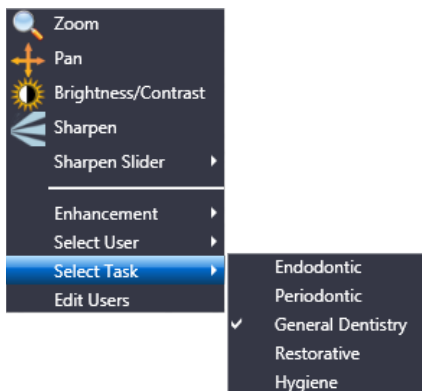
Selecting Diagnostic Tasks
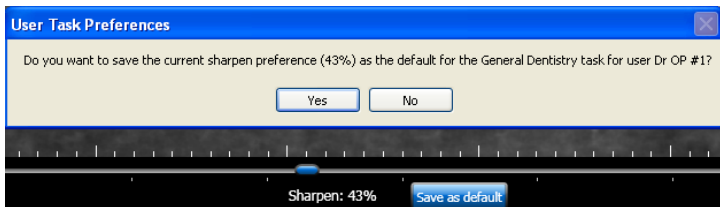
Changing the Default Sharpen Level

Diagnostic Task Choices (continued)

Anatomy Optimized by Diagnostic Task

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%

Enhancement Modes

Some of the principal advantages of dynamic image enhancement with Schick 33 Sensors 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. These features, which are always available to Schick 33 customers with CDR DICOM, include an additional enhancement mode.

Two modes are available: Mode A, which is the enhancement initally provided for Schick 33 Sensors, and Mode B, which offers a slightly different appearance, but may be attractive to customers who prefer a generally softer enhancement in their images.
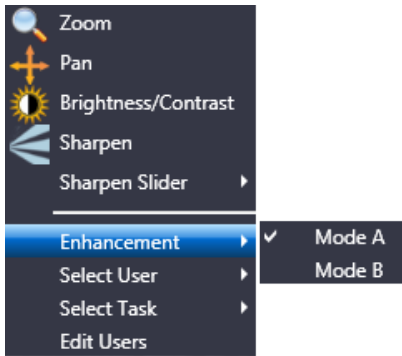
Selecting Enhancement Modes

High Resolution Acquisition

Schick 33 Sensors are capable of acquiring images in either High-resolution mode, which is unique to Schick 33 Sensors, or Standard mode. When High resolution is selected, images will be acquired with more detail and will also have larger file sizes when saved. By default, high-resolution acquisition is selected automatically.
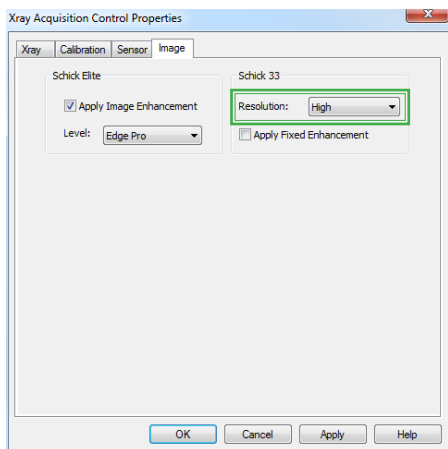
Selecting High Resolution Mode

Sharpen

Sharpen is a new enhancement tool developed specifically for Schick 33 images. Sharpen optimizes Schick 33 images for detail and contrast and is applied automatically to every image taken with Schick 33 Sensors.

Image sharpness can be adjusted dynamically, using either a slider or a cursor. The Sharpen slider can be positioned at the Top or Bottom areas outside the image, or as an Overlay on the image. If you prefer the Sharpen cursor, right-click on the image and select "Sharpen."

Positioning the Sharpen Slider below the Image

Image Enhancement Choices

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 would not otherwise benefit from the enhancements available for Schick 33 high-resolution images.
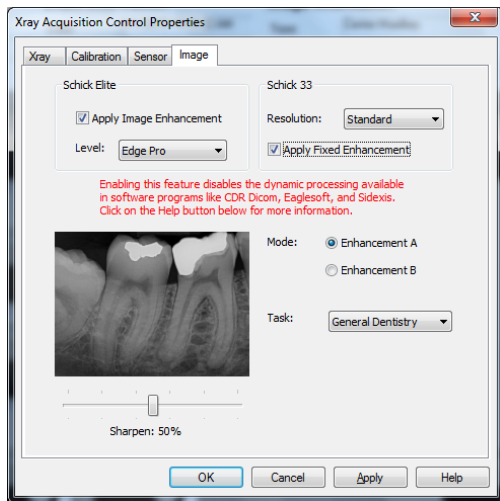
Selecting Fixed Enhancement in CDR DICOM

Image Enhancement Choices (continued)

Selecting Fixed or Dynamic Enhancement

Apply Fixed Enhancement	Results
☐ Not selected	Applies dynamic processing in CDR DICOM software. Enables users to adjust the sharpness slider, to choose any diagnostic task, and to select a different enhancement mode AFTER the image is displayed. This box is unchecked by default.
☑ Selected *	Applies fixed processing in any imaging software compatible with Schick 33 sensors. Enables users to select a specific degree of sharpness, a particular diagnostic task, and either enhancement mode BEFORE the image is acquired. The effects of fixed processing cannot be changed after image display.

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

Image Enhancement Choices (continued)

Fixed Enhancement

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.

Sensor Calibration

Calibration data for Schick 33 Sensors is programmed directly into the Sensor. A separate calibration disk CD is not needed.

To install the calibration file, perform the following steps.

1. Verify that all Schick 33 system cables are connected securely.

2. Start CDR DICOM for Windows. CDR DICOM will automatically detect the Sensor and determine whether a calibration file has been installed for this Sensor previously. If the calibration file was not installed already, it will be copied from the Sensor itself.

3. A message will be displayed momentarily, "Reading sensor calibration file . . . please wait." Installation is completed in approximately 10 seconds.

Safety and Compliance

NOTE: Please refer to the User Guide for the latest information.

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 and the cables should appear undamaged. If visual defects are detected, discontinue use and contact your local distributor of Sirona Dental products for further instructions.

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

When the Schick 33 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

Follow All Instructions to Ensure Cable Replacement Procedures are Performed Correctly

Follow all instructions to ensure the successful replacement of your Schick 33 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 the Schick 33 User Guide for complete instructions.

Use Only USB Cables Approved for the Schick 33 System

For normal operation of your Schick 33 system and to ensure compliance with regulatory EMC and EMI standards, use only the USB cables described and specified for your system. Refer to the User Guide for details.

Do Not Connect Items that are Not Part of the System

Only items specified for use with the Schick 33 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.

RF Interference Considerations

Although the Schick 33 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 Schick Sensor and USB Interface.

Safety and Compliance (continued)

Any instrumentation or equipment for professional use located near the Schick 33 Sensor and USB Interface must conform to Electromagnetic Compatibility regulations, to which the EMC tables in the Appendix of the User Guide 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.

Installers to Ensure that Schick 33 Sensor and USB Interface Operate Optimally

Installers must ensure that the Schick 33 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. 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 Schick 33 Sensor and USB Interface are installed as described in the User Guide and shall perform the appropriate procedures therein.

Only Dentists or Authorized Designees Are Permitted to Operate the System

To ensure the correct use of the Schick 33 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.

Ensure Proper System and PC Workstation Installation and Operation

The Schick 33 Sensor and USB Interface have been determined to be in accordance with international safety standards andare 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.

Operate the Schick 33 Sensor and USB Interface as Directed

Always use the Schick 33 Sensor and USB Interface in accordance with the directions and recommendations contained in the Schick 33 User Guide. Do not attempt to modify the Schick 33 Sensor and USB Interface or use it in system configurations not specified in the User Guide.

Safety and Compliance (continued)

Protect Sensor from Potential ESD Damage

Like other electronic devices, your Schick 33 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 will also help eliminate static build-up in your office.

Apply Recommended Procedures for Cleaning

To help ensure proper hygiene and to protect against infectious disease, refer to the User Guide 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.

Always Use Sheaths with Schick Sensors

Use sheaths every time the Sensor is used. 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.

Product Manuals from Dentsply Sirona

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