

CE 0413



# Schick WiFi System User Guide

**REF** B1051080

 Sirona Dental, Inc.  
30-30 47<sup>th</sup> Avenue, Suite 500  
Long Island City, NY 11101  
USA

(718) 937-5765  
(718) 937-5962 (fax)

**EC|REP** Sirona Dental GmbH  
Sirona Straße 1  
5071 Wals bei Salzburg  
Austria

Copyright © 2015 by Sirona Dental, Inc.  
All Rights Reserved

Sirona Dental, Inc. products are covered by one or more US patents. For a current listing, please type Patent Notice into the Search box of the Schick by Sirona website or enter the following page information into your browser's address bar.

<http://www.schickbysirona.com/items.php?itemid=13112>

September 3, 2015



Printed in the United States of America

This document was originally prepared in English

# Contents

<b>1.</b>	<b>SYSTEM OVERVIEW .....</b>	<b>1</b>
1.1.	PURPOSE .....	1
1.2.	INDICATIONS FOR USE.....	1
1.3.	SYSTEM DESCRIPTION.....	1
1.4.	WIRELESS INTERFACE.....	5
1.5.	RFID READER.....	5
1.6.	ACCESSORIES .....	6
1.7.	SENSOR HOLDERS AND SHEATHS.....	6
1.8.	PC WORKSTATION .....	11
1.9.	SOFTWARE.....	12
<b>2.</b>	<b>INSTALLATION.....</b>	<b>19</b>
2.1.	INSTALL WiFi CONFIGURATION UTILITY.....	19
2.2.	INSTALL WIRELESS SOFTWARE .....	22
2.3.	CONNECT THE DOCKING STATION .....	24
2.4.	CONFIGURE THE SCHICK WiFi INTERFACE FOR YOUR WIRELESS NETWORK .....	25
2.5.	PAIR THE SCHICK WiFi INTERFACE WITH THE PC WORKSTATION (SOFTWARE OPTION).....	30
2.6.	PAIR THE SCHICK WiFi INTERFACE WITH THE PC WORKSTATION (RFID OPTION) .....	33
2.7.	START CDR, CONNECT THE SENSOR, AND PREPARE FOR USE .....	35
2.8.	INSTALLING STORAGE HOLSTERS, MOUNTS, AND CLIPS.....	37
<b>3.</b>	<b>CONTROLS AND LED INDICATORS .....</b>	<b>41</b>
3.1.	SCHICK WiFi DOCKING STATION .....	41
3.2.	SCHICK WiFi INTERFACE.....	42
<b>4.</b>	<b>OPERATION.....</b>	<b>45</b>
4.1.	CONFIGURING THE SCHICK WiFi INTERFACE.....	45
4.2.	PAIRING .....	54
4.3.	PAIRING RECOVERY AND AUTO PAIRING .....	54
4.4.	PAIRING (RFID OPTION).....	55
4.5.	UNPAIRING .....	56
4.6.	AUTO RESEND.....	58
4.7.	RESEND LAST IMAGE MANUALLY .....	59
4.8.	IMAGE ENHANCEMENT (SCHICK ELITE) .....	60
4.9.	HIGH RESOLUTION IMAGE ACQUISITION (SCHICK 33).....	66
4.10.	SHARPEN AND HIGH-RESOLUTION IMAGES .....	69
4.11.	DIAGNOSTIC TASKS AND USER PROFILES .....	74
4.12.	ENHANCEMENT MODES.....	80
4.13.	SCHICK 33 IMAGE ENHANCEMENT.....	81
4.14.	CDR AUTODETECT .....	84
<b>5.</b>	<b>WEB SERVER AND UPGRADE UTILITY .....</b>	<b>86</b>
5.1.	STATUS TAB.....	87
5.2.	FIRMWARE UPGRADE TAB .....	88
5.3.	DIAGNOSTIC TAB.....	102
5.4.	SETTINGS TAB .....	105
<b>6.</b>	<b>PROTECTIVE MEASURES.....</b>	<b>110</b>
6.1.	INTRODUCTION.....	110
6.2.	SENSOR CLEANING AND DISINFECTING.....	111
6.3.	SCHICK WiFi INTERFACE CLEANING .....	112

6.4.	SCHICK WiFi DOCKING STATION CLEANING .....	112
6.5.	SCHICK WiFi MOUNT AND CLIP CLEANING .....	112
6.6.	RECOMMENDED DISINFECTANT .....	112
6.7.	PROTECTIVE HOLSTERS, MOUNTS, AND CLIPS .....	113
<b>7.</b>	<b>MAINTENANCE .....</b>	<b>114</b>
7.1.	DAMAGED SENSOR.....	114
7.2.	PART NUMBERS .....	114
7.3.	BATTERY DISPOSAL.....	118
7.4.	BATTERY CONDITIONS.....	118
7.5.	UPGRADES AND DIAGNOSTICS .....	118
7.6.	QUALITY PROCEDURE .....	119
<b>8.</b>	<b>SCHICK ELITE CABLE REPLACEMENT .....</b>	<b>121</b>
<b>9.</b>	<b>SCHICK 33 CABLE REPLACEMENT .....</b>	<b>125</b>
<b>10.</b>	<b>REFERENCE .....</b>	<b>129</b>
10.1.	SYSTEM SUMMARY .....	129
<b>APPENDIX A.</b>	<b>BATTERY SAFETY INFORMATION AND REPLACEMENT .....</b>	<b>135</b>
A-1.	GENERAL GUIDELINES AND WARNINGS.....	135
A-2.	DOCKING PROCESS .....	135
A-3.	STORAGE AND TRANSPORTATION.....	135
A-4.	BATTERY LIFE .....	136
A-5.	BATTERY REPLACEMENT .....	136
A-6.	LIST OF MATERIALS.....	140
A-7.	FOR MORE INFORMATION . . . ..	140

## List of Figures

Figure 1.	Schick WiFi System Connections.....	2
Figure 2.	Schick Sensor and WiFi Interface (Schick Elite Shown) .....	3
Figure 3.	Schick WiFi Interface and Docking Station .....	4
Figure 4.	Schick WiFi Status Tab .....	17
Figure 5.	Schick WiFi Firmware Upgrades Tab .....	17
Figure 6.	Schick WiFi Diagnostic Tab.....	18
Figure 7.	Schick WiFi Settings Tab.....	18
Figure 8.	Schick WiFi Docking Station Connections and LEDs .....	41
Figure 9.	Schick WiFi Interface Pushbutton Switch and LED Indicator .....	42
Figure 10.	Schick WiFi Interface LED Color Range during Operation .....	43
Figure 11.	Schick WiFi Interface LED Color Range during Boot-up.....	43
Figure 12.	Schick WiFi Interface LED Color Range during Firmware Upgrade .....	43
Figure 13.	WiFi Configuration Utility .....	47
Figure 14.	Connect to New Network (Open, WEP, WPA/WPA2) .....	48
Figure 15.	Connect to New Network (WPA Enterprise) .....	51
Figure 16.	Diagnostic Tests.....	53
Figure 17.	Enhancements: Edge Pro (top) and Smooth (bottom) .....	63
Figure 18.	Enhancements: Edge High (top) and Edge Low (bottom).....	64
Figure 19.	Enhancements: None Applied .....	65
Figure 20.	Sharpen Slider Menu Selections .....	69
Figure 21.	Sharpen Slider (Top Position) .....	71
Figure 22.	Sharpen Slider (Bottom Position) .....	71
Figure 23.	Sharpen Slider (Overlay Position).....	71
Figure 24.	User Profile Menu Selections.....	76

Figure 25. Diagnostic Tasks: General Dentistry (top) and Endodontic (bottom)	77
Figure 26. Diagnostic Tasks: Periodontic (top) and Restorative (bottom)	78
Figure 27. Diagnostic Task: Hygiene	79
Figure 28. Enhancement Mode Selections	80
Figure 29. Selecting Fixed Enhancement in CDR Dicom	81
Figure 30. X-ray Properties Page with CDR Autodetect Option Selected	85
Figure 31. CDR Autodetect Monitor	85
Figure 32. Schick Battery	106
Figure 33. Sirona Battery	106
Figure 34. Comparing Quality Procedure Images	120

## List of Tables

Table 1. Sensor Positioning (AimRight Grip System)	7
Table 2. Proper Sensor Removal from Sheath (AimRight Autoclavable System)	9
Table 3. Proper Sensor Removal from Sheath (AimRight Adhesive System)	10
Table 4. Schick WiFi Interface LED Indications (Status)	44
Table 5. Schick WiFi Interface LED Indications (Battery Power)	44
Table 6. Configuration Utility Description	46
Table 7. New Network Connection (WPA/WPA2 Security)	48
Table 8. New Network Connection (WPA Enterprise Security)	50
Table 9. Configuration Utility Diagnostic Tests	53
Table 10. Schick WiFi Interface Status Showing Paired / Unpaired Conditions	57
Table 11. Diagnostic Task Descriptions and Default Values	74
Table 12. Selecting Fixed or Dynamic Enhancement	82
Table 13. Fixed Enhancement in CDR Dicom	83
Table 14. Web Server Diagnostic Tests	104
Table 15. Schick WiFi Replacement Kit Part Numbers	114
Table 16. Schick WiFi Room and Upgrade Kit Part Numbers	114
Table 17. Schick WiFi Accessories	115
Table 18. Schick WiFi with Schick Elite Sensor Orderable Item Part Numbers	115
Table 19. Schick WiFi with Schick 33 Sensor Orderable Item Part Numbers	116
Table 20. Schick WiFi System Summary	129
Table 21. Wireless Interface Characteristics	130
Table 22. Compliance Specifications	130
Table 23. Environmental Specifications	130
Table 24. Guidance and Manufacturer's Declaration - Electromagnetic Emissions	131
Table 25. Guidance and Manufacturer's Declaration - Electromagnetic Immunity	132
Table 26. Recommended Separation Distance between Portable and Mobile RF Communications Equipment and the System	134

# Safety Issues

## FCC Compliance Statement

---

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) This device must accept any interference received, including interference that may cause undesired operation.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

The maximum wireless signal rate for the system is derived from IEEE Standard 802.11a/b/g specifications. Actual data throughput will vary. Network conditions and environmental factors, including the volume of network traffic, building materials, and construction, and network overhead, may lower actual data throughput rate. Environmental conditions will adversely affect wireless signal range.

## Observe Proper Handling, Storage, and Disposal for Batteries

---

Schick WiFi Interfaces are equipped with disposable lithium ion batteries. Be sure to read and understand the special instructions relating to battery usage and follow all of the guidelines for usage, storage, and disposal. Improper use can result in serious injury, fire, or death.

Do not short circuit, disassemble, or modify the batteries. Do not place them near high-temperature locations. Do not place the batteries in fire or apply heat to them. Do not subject the batteries to strong impacts or shocks. Do not expose the batteries to water or allow them to get wet. A fire extinguisher must be used if a lithium ion battery is burning. Do not use water. **Refer to Appendix A on page 135 for complete details regarding battery usage.**

## Check Sensor and WiFi Interface Before Using Them

---

Before each use, check the Sensor and the WiFi Interface for any signs of physical damage or defect. When checking the WiFi Interface, be sure to note any deficiencies, either in the case itself or around the battery compartment. If the Sensor or the WiFi Interface appear damaged, do not use them.

If you are using a recommended positioning system for Schick Sensors, such as the Schick WiFi Holder system, refer to appropriate documentation for the proper use of sheaths, holders, and tabs before taking X-rays. This information can be found in the holder system kits and on our website.

## Radio Frequency (RF) Interference Considerations

---

Although the Schick WiFi System equipment is designed to provide a reasonable degree of protection from electromagnetic interference according to International Electrotechnical Commission (IEC) regulations, it 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 can be used only at a minimum distance of 5 feet (1.5m) from any part of the equipment.

Any instrumentation or equipment for professional use located near the Schick WiFi system must conform to Electromagnetic Compatibility regulations appropriate to this type of equipment. 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 electric line.

## Do Not Use Snap-A-Ray Holders with Sensors

---

Any type of clamping holder, or equivalent instrument, can exert damaging pressure on the Sensor case, including the material and components enclosed inside. This type of damage is not covered by warranty.

## Installers to Ensure that Schick WiFi System Operates Optimally

---

Installers must ensure that the Schick WiFi system provides 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. 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 WiFi system is 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 Schick WiFi 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, verify 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 Permitted to Operate the System

---

To ensure the correct use of the Schick WiFi system 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.

## Operate the Schick WiFi System as Directed

---

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

## 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. Sensor contacts are exposed when replacing the Schick Sensor cable, so it is especially important to protect it from potential ESD damage. Touching a metal surface prior to installing the replaceable 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.

## Observe Proper Handling and Placement for Sensors

---

As with any dental device or instrument placed intraorally, proper care must be taken when using Sensors to ensure they are handled and positioned properly. Practitioners should observe standard guidelines, use recommended holders and other Sensor positioning elements, and follow accepted clinical methods to make sure that the patient does not bite down on or damage the Sensor during the X-ray examination.

## Do Not Stack Schick WiFi Equipment or Connect it to Items that are Not Part of the System

---

The Schick WiFi system equipment should not be used adjacent to or stacked with other equipment, nor should other items be connected to it that are not part of the system. If adjacent or stacked use is necessary, normal operation shall be observed and verified in that configuration.

## 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 Sirona Dental 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 devices and must not be reused under any circumstance. Reuse of single-use devices/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.

## Product Manuals from Sirona Dental

---

The contents of this manual are subject to change without prior notice. For the latest version of this user guide and other product manuals from Sirona Dental, please consult our website: [www.schickbysirona.com](http://www.schickbysirona.com).

# Explanation of Symbols

Some symbols on the Schick WiFi system identify it as having met the requirements for sale within the United States and for export internationally. The “CE” symbol is an example of this type of mark. The remaining symbols provide either technical or directive information, as described below.

SYMBOL	DESCRIPTION
	Indicates Type BF equipment.
	Indicates Class II 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 the proper use of the device
	Indicates an attention to customers to consult the accompanying documents for important safety-related information
	Conforms to European Union Medical Devices Directive (MDD) 93/42/EEC
	Indicates that in the European Union, at the end of product life, this device must be disposed of in accordance with the requirements of the Waste Electrical and Electronic Equipment (WEEE) directive 2002/96/EC
	Indicates that under certain ambient environmental conditions (especially low humidity), this device may be susceptible to electrostatic discharge (ESD). Appropriate care and handling must be observed to avoid damage.
	Indicates that the Schick WiFi Sensor is a source for non-ionizing radiation
	Indicates that Schick WiFi has been tested by TUV Rheinland and has met the applicable requirements for product safety and quality

# 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. Sirona Dental and its Dealers are committed to complying with the Directive.

## WEEE Marking

---

All Schick 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, Sirona Dental 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, Sirona Dental 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, Sirona Dental 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.

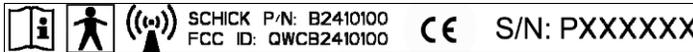
Information will include the different EEE components and materials as well as the location of substances in these items. The information will be provided as a printed document or in electronic media (on CD-ROM or by web download, for example).

# Label Locations

## Schick WiFi Interface Battery Labels



## Schick WiFi Interface Module Label



## Schick WiFi Docking Station Module Label



## Schick WiFi Docking Station Power Adapter Labels



North America



International

## Lithium Ion Battery Packaging Label

---



## System Shipping Label

---



## RFID Reader Label

---



# Product Names Used in this Document

## **CDR DICOM**

Sirona Dental software that provides advanced features for image acquisition, review, manipulation, printing, and storage.

## **Schick WiFi Docking Station**

Charges battery (external power cable connection) and is used for initial configuration (USB cable connection).

## **Schick WiFi Interface**

Provides power to, and receives image data from, the Schick Sensor, and transfers images wirelessly to the PC workstation.

## **RFID**

*(Radio Frequency Identification)* Alternate method to detect / pair / unpair the Schick WiFi Interface and the PC using this technology.

## **Schick WiFi System**

Describes a wireless implementation of the CDR imaging system, using Schick Sensors and other Schick WiFi-specific components, manufactured by Sirona Dental.

## **Schick WiFi CD**

The CD containing the USB drivers and software for the system.

## **USB**

*(Universal Serial Bus)* Plug and play interface between host computer and connected USB-compatible devices.

## **Web Server and Upgrade Utility**

Provides Schick WiFi Interface status information, enables in-office updates of Sensor and firmware, performs diagnostic tests, and displays user-configurable settings.

## **Wireless Monitor**

Opens the Schick WiFi Interface Status and Management windows to enable or disable Schick WiFi Interface-to-workstation pairing and to display status information regarding detected Schick WiFi Interfaces, including signal strength, battery level, pairing availability, and Sensor serial number.

## **WiFi Configuration Utility**

Configures the Schick WiFi Interface to be detected by, and ready for use on, the user's wireless network.

# 1. System Overview

## 1.1. Purpose

The Schick WiFi system represents the latest advances in our intraoral sensor technology and provides the following advantages:

- Wirelessly acquires and transmits intraoral X-ray images
- Expands the product options of Schick sensors
- Leverages the capabilities of in-office wireless networks.

## 1.2. Indications for Use

The Schick WiFi system is 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. System Description

The Schick WiFi system includes the following:

- Schick Sensor, which is used for intraoral imaging
- Schick WiFi Interface, which provides power to the Schick Sensor and supports image acquisition
- Schick WiFi Disk, which includes the drivers and software for the Schick WiFi Interface and the Schick WiFi Docking Station.
- Schick WiFi Docking Station, which is used primarily to charge the battery, but is also used during initial system setup and for upgrades.<sup>1</sup>

---

<sup>1</sup> Use only the power adapter (Schick P/N A3303200) supplied with the Schick WiFi Docking Station and be sure to verify that its mains power plug contacts are compatible in your country and region.

In addition to the items mentioned above, Sensor positioning accessories and wall-, apron- and instrument-mounting kits are available for the Schick WiFi system. To expedite the pairing between the Schick WiFi Interface and the PC workstation, an RFID reader is also available. Accessories are described separately in this document.

An illustration of the Schick WiFi system is shown in Figure 1.

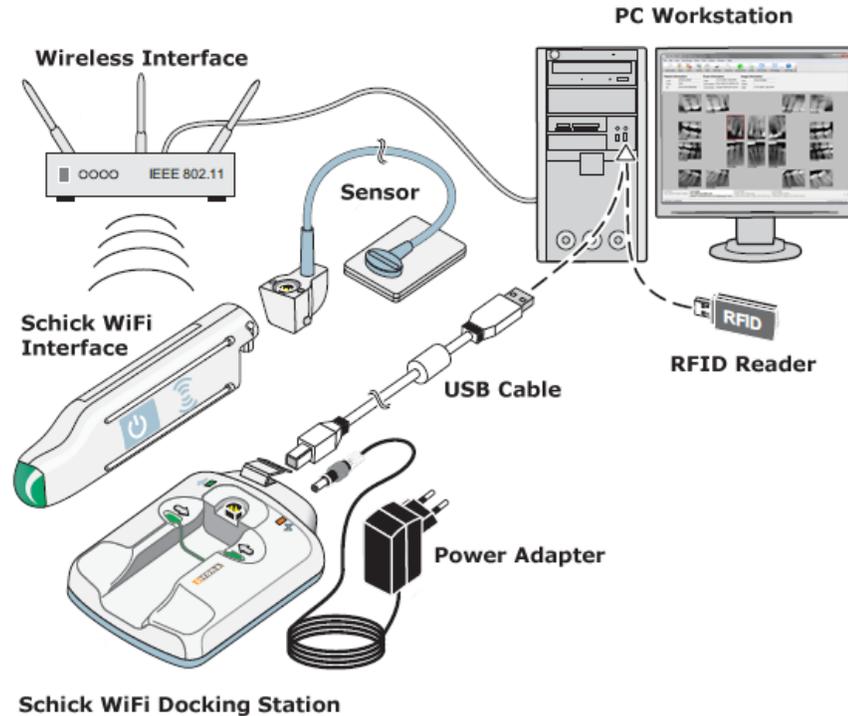


Figure 1. Schick WiFi System Connections<sup>2</sup>

The Schick WiFi Interface and Schick WiFi Docking Station also provide additional functions and are described in the following pages of this section.

The Schick WiFi system acquires X-ray images and transmits them to the PC workstation through an 802.11 b/g compliant WiFi access point. Temporary memory storage in the Schick WiFi Interface enables images to be retransmitted, potentially recovering from severe interferences that may occur while the Schick WiFi Interface and sensor are in use.

---

<sup>2</sup> Schick WiFi system illustration © 2013 Sirona Dental Systems GmbH

### 1.3.1. Schick Sensor

Schick Sensors are available in sizes 2, 1, and 0 to suit different patient sizes and anatomies and to guarantee a comfortable fit for patients of all ages. Providing levels of convenience, durability, and flexibility that remain unmatched, Schick Elite and Schick 33 Sensors raise the standard of care for every dental practice.

### 1.3.2. Schick WiFi Interface

The Schick WiFi Interface provides power to the Schick Sensor, contributes to the process of acquiring an image, and transfers the image to the PC workstation, where it can be displayed, reviewed, and stored. The LED on the Schick WiFi Interface provides information continuously about the status of the WiFi Interface and its battery strength. Table 4 on page 44 supplies additional details about the LED indications.

The Schick WiFi Interface is also responsible for monitoring the strength of the rechargeable Lithium cell battery located in this module. In addition to the LED color on the Schick WiFi Interface, battery strength is also reported by the Wireless Monitor, a separate utility distributed with Schick WiFi software.

For upgrading the Schick WiFi Interface when new features are available, a Web Server and Upgrade Utility is distributed with Schick WiFi software. This utility also includes bandwidth testing and status information for troubleshooting purposes. For details on how to upgrade the firmware and for status and settings information, please refer to Section 5 on page 86.

---



Figure 2. Schick Sensor and WiFi Interface (Schick Elite Shown)

### 1.3.3. Schick WiFi Docking Station

**WARNING:** To reduce the potential hazard caused by power surges, please position the Schick WiFi Docking Station so that the power cord plug can be removed easily, isolating the device from the mains power.

The Schick WiFi Docking Station performs several important functions:

- Recharges the battery located inside the Schick WiFi Interface.
- Supports the initial configuration of the Schick WiFi Interface so it can be used in your wireless network.
- Serves as a convenient storage unit when the Schick WiFi Interface is not in use and maintains its battery charge as well.

**PLEASE NOTE:** Use only the power adapter (Schick P/N A3303200) supplied with the Schick WiFi Docking Station and be sure to verify that its mains plug contacts are compatible in your country and region.

The Schick WiFi Configuration Utility, described in more detail in Section 1.9.2 on page 15, is the software interface used to set up the Schick WiFi Interface for the wireless network and provides other information, including network connections and settings.



Figure 3. Schick WiFi Interface and Docking Station

## 1.4. Wireless Interface

A WiFi-compliant wireless router or access point is required to provide the connection between the Schick WiFi Interface and the PC workstation. The wireless interface must be TCP/IP-based and compatible with 802.11B/G protocols for transferring data. Please be sure that the wireless interface is NOT set to “N only” as the Schick WiFi Interface will be unable to establish a wireless connection.

Access point placement and other office environment factors are critical factors in the ability of the Schick WiFi system to function optimally. Recommendations supplied with the manufacturer’s access point will be helpful in this regard, and the following guidelines regarding placement may be useful as well.

The access point should be positioned in a location that offers the Schick WiFi system the best opportunities for maximum signal strength. Keep in mind that system performance may decrease as the distance between the access point and the Schick WiFi system increases. Physical obstructions and electronic interference will also adversely affect signal reception, so customers may wish to spend some time evaluating their office environments when positioning the access point.

The Wireless Monitor, available in the Windows System Tray when the Schick WiFi system is installed, can assist with determining signal strength between the Schick WiFi Interface and the access point. Refer to Section 1.9.1 on page 13 for more information.

## 1.5. RFID Reader



An RFID (radio frequency identification) Reader offers a different approach to the “pairing” step that connects the Schick WiFi Interface and Sensor to the PC workstation and enables X-ray images to be sent wirelessly.

Especially appropriate in offices where multiple Schick WiFi Interfaces are present, RFID Readers recognize an RFID tag inside the Schick WiFi Interface to instantly pair / unpair Schick WiFi Interfaces with PC workstations. For steps on how to use the RFID Reader for pairing, please refer to Section 2.6 on page 33.

## 1.6. Accessories

Schick WiFi is available with a range of accessories that aid the clinical user in the proper use and storage product.

- Schick AimRight Holder System – designed to mount to the WiFi interface for easy positioning and patient comfort, Schick AimRight is available in autoclavable form for multiple uses or in Adhesive form for maximum flexibility and comfort. Schick AimRight offers simple, repeatable parallel positioning for optimal diagnostics.
- Mounting options – enables the user to clip the Schick WiFi Interface to the patient’s radiation shield or mount it to the delivery system while in use. When not in use, Schick WiFi can be stored in the Docking Station and the Sensor is provided with its own wall mount for safe and secure storage.

## 1.7. Sensor Holders and Sheaths

New holder sets (part of the Schick AimRight positioning system) were produced for the Schick WiFi system to accommodate the unique design of the Schick WiFi Interface and to help ensure that your image acquisition setup and workflow are optimal.

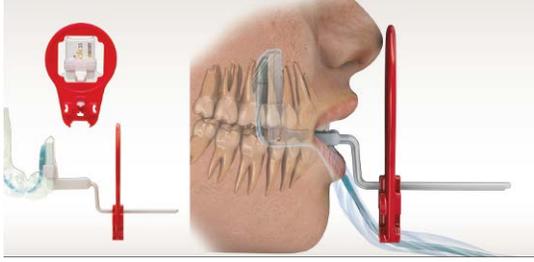
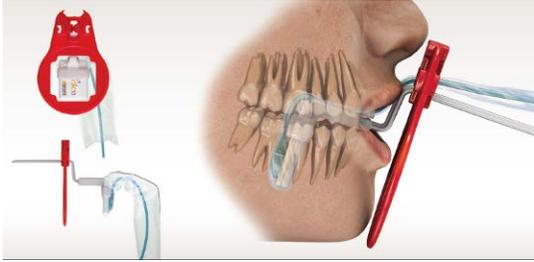
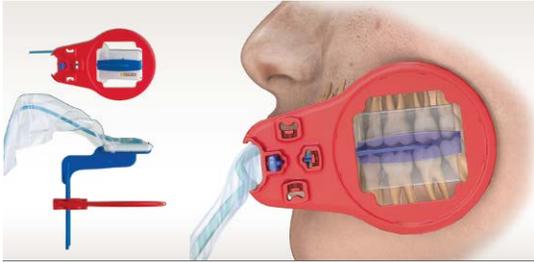
Table 1 describes the placement and use of the AimRight system for various anatomical regions.

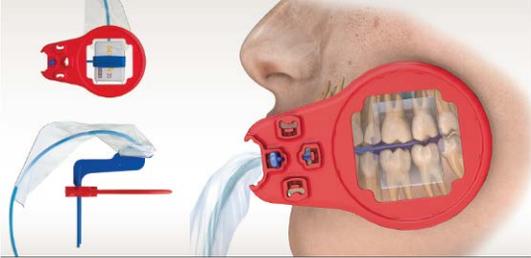
Sheaths and the appropriate holders are required for Schick Sensors. Sheaths provide cross-contamination protection via custom-designed sheaths to minimize the risk of the Sensor being contaminated while in the oral cavity. *Sensors must be cleaned before using they are used the first time and before every new patient (refer to Section 6.2).* Sensor holders, if disposable, are also required for each new patient and must be disposed of properly after patient use.

Table 2 and Table 3 describe the correct procedures for removing the sheath from the Sensor, with and without a Sensor holder attached.

Two designs are available: a grip-style and an adhesive-style, enabling customers to select a holder style that best fits their own Sensor positioning routines and preferences. Compatible with all sizes of the Schick Sensor, the holder sets are appropriate for Schick WiFi and Schick USB systems. More information about Schick holder sets is available from our website at [www.schickbysirona.com](http://www.schickbysirona.com).

Table 1. Sensor Positioning (AimRight Grip System)

EXAMPLES	PLACEMENT INSTRUCTIONS
	<p><b>Maxillary Anterior</b></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><b>Mandibular Anterior</b></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><b>Horizontal Bitewing</b></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><b>Vertical Bitewing</b></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><b>Mandibular Periapical</b></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><b>Maxillary Posterior</b></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](http://schickbysirona.com) website.*

Table 2. 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](http://schickbysirona.com) website.*

Table 3. 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](http://schickbysirona.com) website.*

## 1.8. PC Workstation

The PC workstation (CE-approved computer system conforming to the Low Voltage [73/23/EC] and EMC Directive [89/336/ERC]) connects to the USB Interface of the Schick WiFi Docking Station via a compatible USB cable (Part number B2250151) and serves as the host for imaging software and utilities. For safety, connect the cable from the USB Interface to Listed / Approved / Certified Information Technology Equipment (ITE) computer equipment only. The workstation provides the capabilities to display, manipulate, store, and print images acquired with Schick WiFi hardware.

Recommended system requirements for the PC workstation are listed below. *(For the latest information, please refer to the system requirements page on our website.)*

- Windows 8 and Windows 8 x64, and Windows 7 (*Home Premium, Professional, Ultimate*) and Windows 7 x64.
- CDR DICOM for Windows 5 and higher. (EagleSoft and Patterson Imaging software versions to be determined.) Please visit our website, or contact support for Sirona Dental products in your area or region. In the United States, customers can contact the Patterson Technology Center at 877-498-6505.
- Intel i7 or equivalent
- 8 GB RAM
- 1 TB hard drive (practice-specific, depends on number of patients)
- Intel USB 2.0 or 3.0.

When connecting the Docking Station via USB cable to the PC workstation, we recommend the use of a 2 meter (6.6 feet) USB cable — supplied with the Schick WiFi system — and having the following specification: 28 AWG/2C and 20 AWG/2C with the “/2c” designation marked along the cable, typically at either end and close to the connector. The “/2c” designation is the USB spec designation for power connectors inside the cable, and is a requirement for this system.

## 1.9. Software

CDR Dicom is one of the imaging applications that can provide the software interface between the Schick WiFi system hardware and the computer (*other compatible imaging programs include EagleSoft and Patterson Imaging*). CDR provides the customer with advanced features for acquisition, display, manipulation, storage, and printing of acquired X-ray images. Please refer to the CDR DICOM User Guide, available on our website, [www.schickbysirona.com](http://www.schickbysirona.com), for more details.

Several software utilities specific to the Schick WiFi system have been developed to assist with product configuration, monitoring, and diagnosis. These include the following:

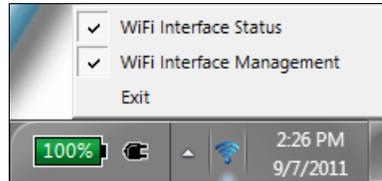
- Wireless Monitor  
(Section 1.9.1 on page 13)
- WiFi Configuration Utility  
(Section 1.9.2 on page 15)
- Web Server and Upgrade Utility  
(Section 1.9.3 on page 16).

PLEASE NOTE: When released officially, software updates are available from the Schick WiFi product page on our website. In some cases, features described in this user guide may be found in software that is currently pending release. These features will be noted as such in text.

### 1.9.1. Wireless Monitor

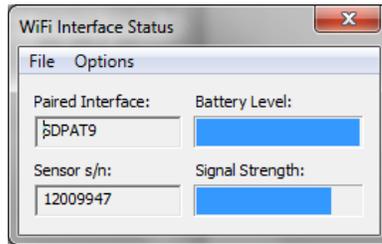
The Wireless Monitor is included with Schick WiFi software and is installed automatically. When the workstation is turned on, the Wireless Monitor initializes automatically and remains active until the workstation is turned off.

A sample screen of the Wireless Monitor is shown below.



The Wireless Monitor menu items are described below:

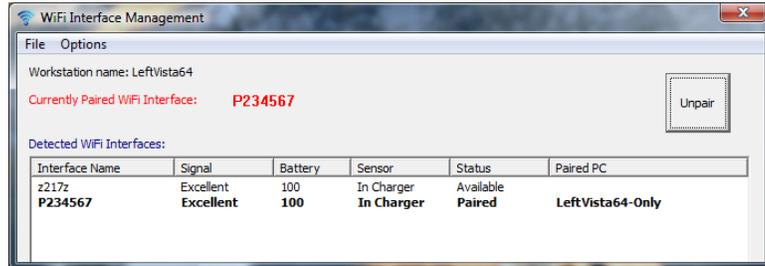
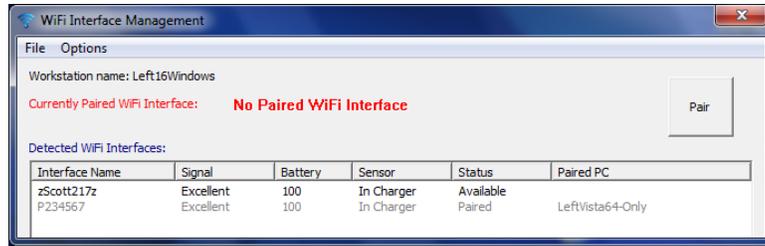
- Schick WiFi Interface Status: Reports the battery level to its currently paired workstation and the signal strength relative to the wireless access point. When paired, Schick WiFi Interface names will be displayed. When connected, Sensor serial numbers will be shown.



- Schick WiFi Interface Management: Lists all detected Schick WiFi Interfaces, their name, signal strength, battery level, and the Sensor and workstation where they are connected.
- Exit: Closes the Wireless Monitor and removes it from the Windows System Tray. Exiting the Wireless Monitor also unpairs any Schick WiFi Interface paired to that workstation.

A sample screen of the Schick WiFi Interface Status window is shown below. Other examples are described in Table 10 on page 57.

Sample screens of the WiFi Interface Management window are shown below.



Detected devices display in different font styles in the WiFi Interface Management window. This is done intentionally to provide a quick snapshot of the Schick WiFi system. In fact, the way the Schick WiFi Interfaces appear in the window provides status information about them.

- If the Schick WiFi Interface appears in **bold type**, it is paired to the current workstation.
- If the Schick WiFi Interface appears in **gray type**, it is paired to a different workstation.
- If the Schick WiFi Interface appears in regular type, it is unpaired.
- If the Schick WiFi Interface has the words “-Only” in the Paired PC column, it is paired exclusively with the workstation listed.

A Schick WiFi Interface can only be paired to one workstation at a time. You cannot pair to a Schick WiFi Interface if it is already paired to a different workstation.

Schick WiFi Interface pairing, as a term to describe how Schick WiFi Interfaces and workstations connect to transfer images wirelessly, is discussed in more detail in Section 3 on page 41.

## 1.9.2. WiFi Configuration Utility

The WiFi Configuration Utility enables customers to configure the Schick WiFi Interface to communicate with their wireless network. Configuring the Schick WiFi Interface is necessary before using it with imaging applications but this action is needed only when setting up the Schick WiFi system initially or if the wireless network changes in any way.

A sample screen of the WiFi Configuration Utility is shown below. For additional information and instructions regarding the utility, please refer to Section 3 on page 41.



### 1.9.3. Web Server and Upgrade Utility

The Web Server and Upgrade Utility enables wireless upgrades of firmware or other files in either the Schick Sensor or the Schick WiFi Interface, provides updates, including new features, and can be used for system status and diagnostic purposes.

The Web Server and Upgrade Utility performs the following:

- Displays Schick WiFi Interface and Sensor status information.
- Upgrades firmware in the Schick WiFi Interface wirelessly. Although not required, we recommend that the Schick WiFi Interface be in the Docking Station (“docked”). *Flash and FPGA upgrades can be performed with the device outside the Docking Station, but the battery charge must be 50% or higher to ensure there is no interruption to power during the upgrade process.*
- Upgrades firmware in the Schick Sensor wirelessly. The Schick WiFi Interface must be outside the Docking Station (“undocked”) and the Schick Sensor must be connected to the Schick WiFi Interface.
- Performs tests for Speed, Hardware, and Sensors as described in Section 5.3 on page 102.
- Provides user-configurable settings.

For sample images, refer to the figures on the pages that follow. For procedures, skip ahead to Section 5, starting on page 86.

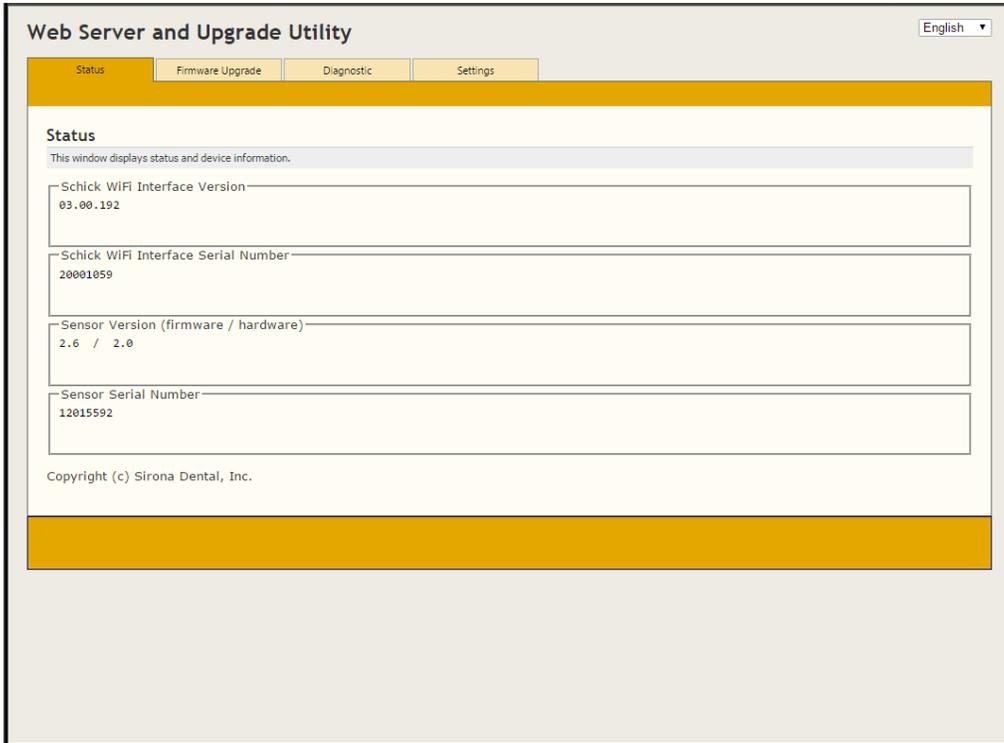


Figure 4. Schick WiFi Status Tab

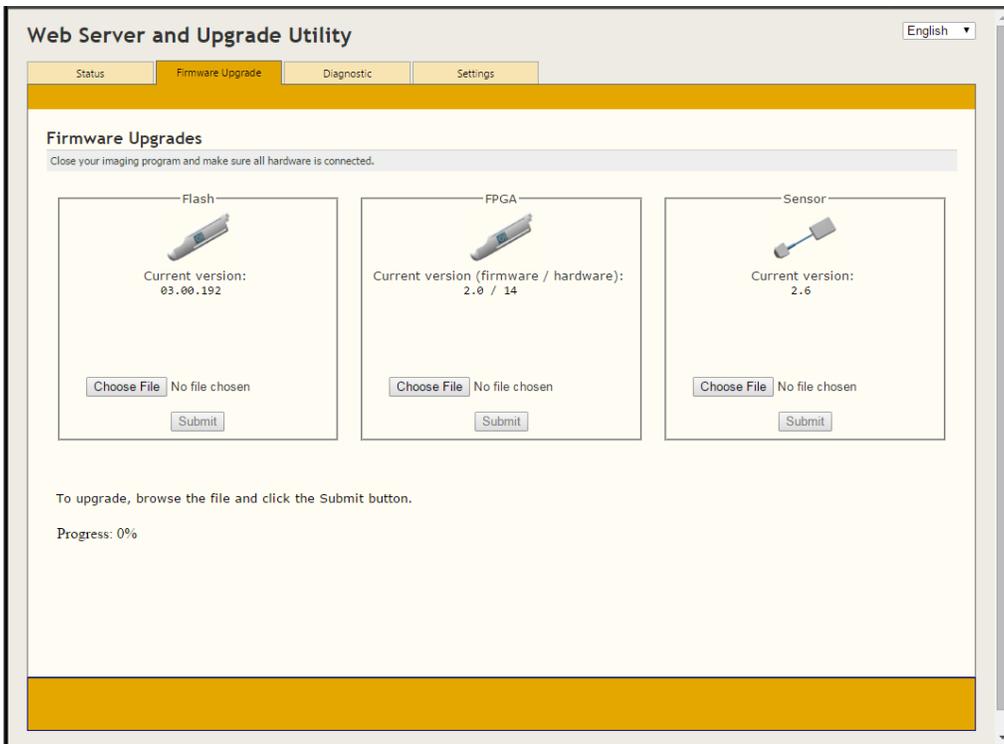


Figure 5. Schick WiFi Firmware Upgrades Tab

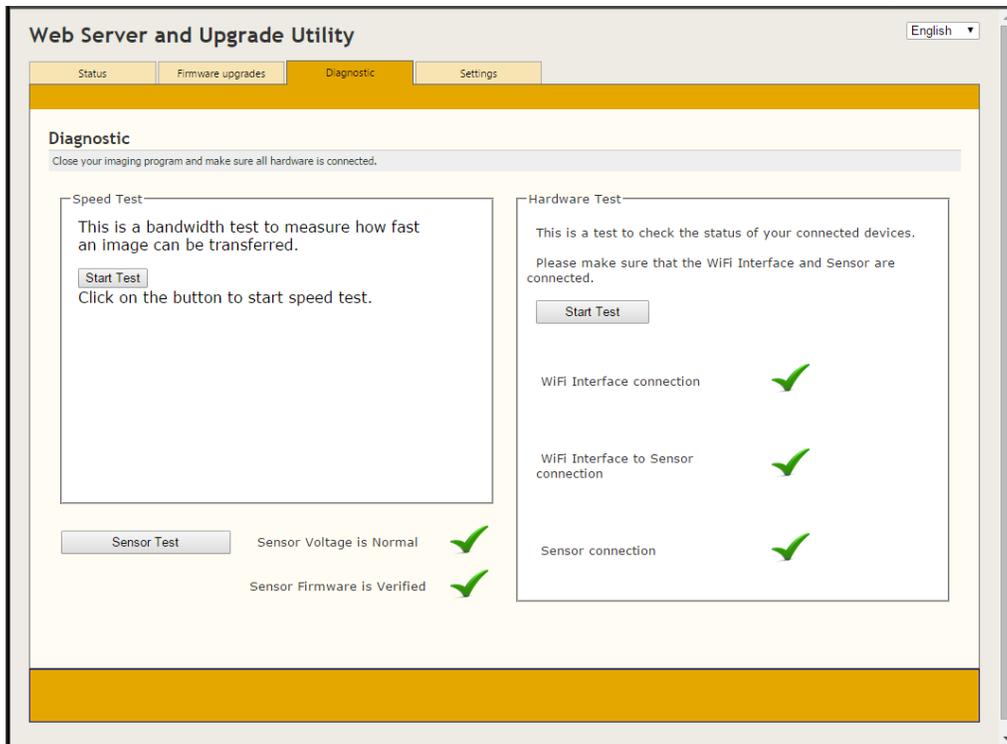


Figure 6. Schick WiFi Diagnostic Tab

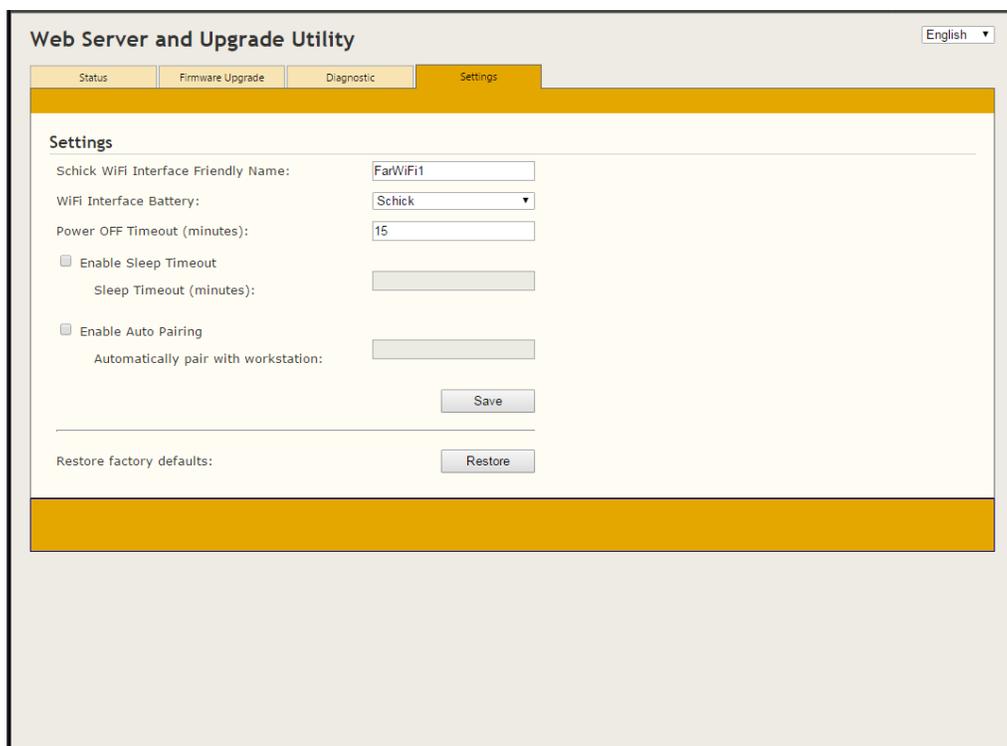


Figure 7. Schick WiFi Settings Tab

# 2. Installation

## 2.1. Install WiFi Configuration Utility

**PLEASE NOTE:** You will only need to perform the following steps on the PC being used to configure the Schick WiFi Interface for your wireless network.

### STEP 1

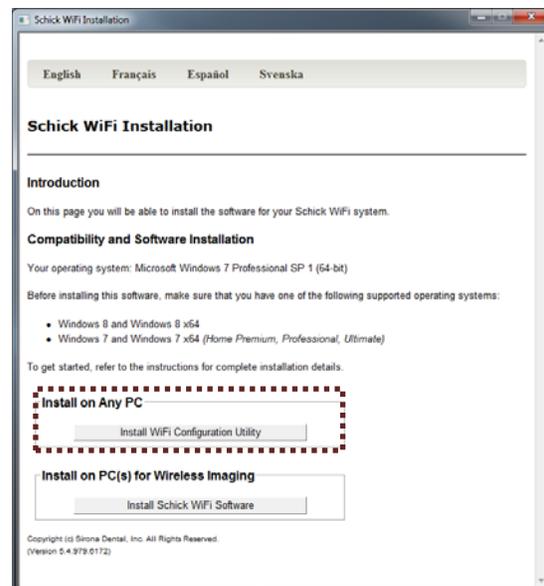
Insert the Schick WiFi CD into your CD-ROM or DVD drive. The Schick WiFi Start page should display automatically. If it does not, browse the CD and double-click on Setup.exe.

If you do not have the CD, you can download the latest driver from the Schick WiFi Support area on our website.



### STEP 2

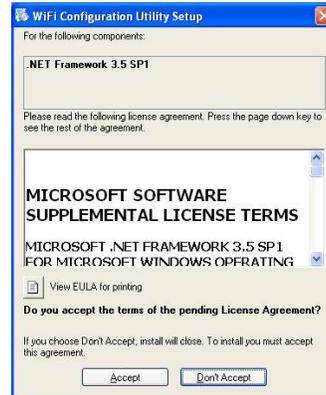
Click Install WiFi Configuration Utility.



### STEP 3

If prompted, install the .NET Framework.

**NOTE:** Depending on your system, other prerequisite programs may be required. For a successful installation, allow these prerequisites to install until complete.



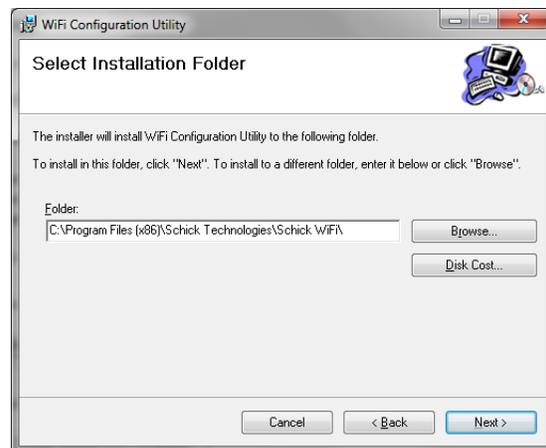
### STEP 4

Click Next at the Welcome screen.



### STEP 5

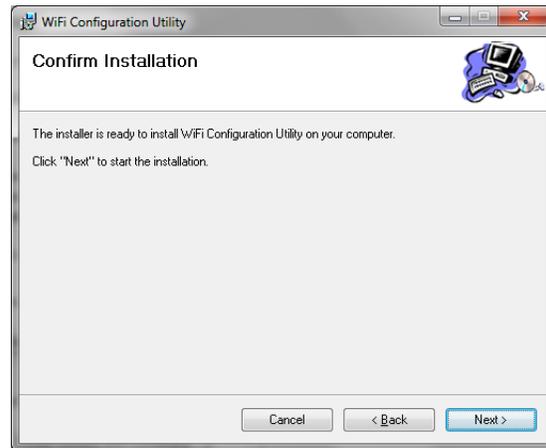
Click Next at the Select Installation Folder screen.



## STEP 6

---

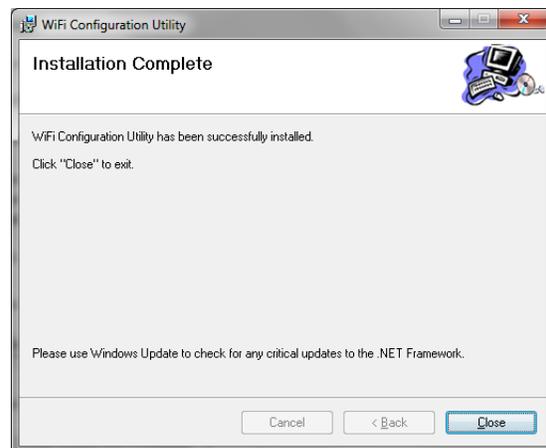
Click Next at the Confirm Installation screen.



## STEP 7

---

Click Close when installation is complete.



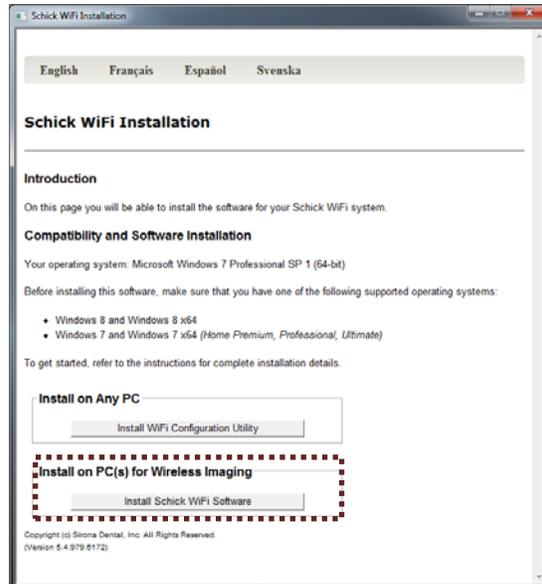
## 2.2. Install Wireless Software

**PLEASE NOTE:** Perform the following steps on the PC(s) being used for imaging on your wireless network.

### STEP 1

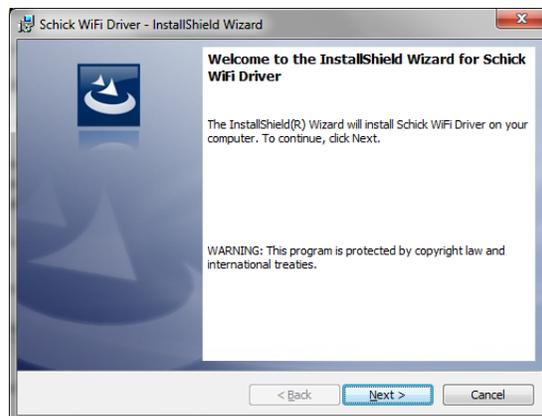
Click Install Wireless Software on the Schick WiFi Start page or browse the CD (if you are installing from disk) and double-click on Schick WiFi Setup.exe.

**NOTE:** Depending on your system, other prerequisite programs may be required. For a successful installation, allow these prerequisites to install until complete.



### STEP 2

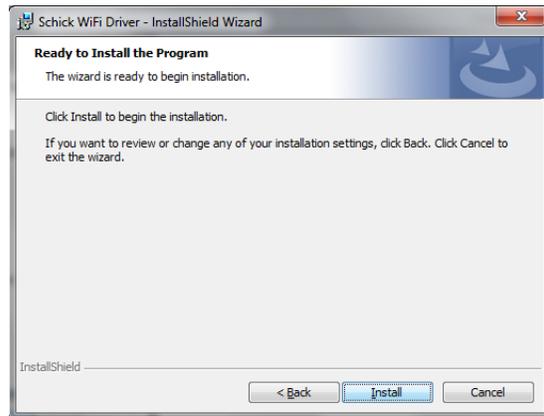
Click Next at the Welcome screen.



### STEP 3

---

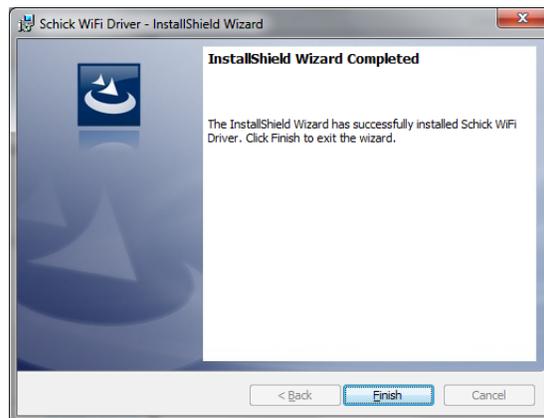
Click Install at the Ready to Install screen.



### STEP 4

---

- A. Click Finish.
- B. Close the Schick WiFi start page.



## 2.3. Connect the Docking Station

### STEP 1

---

- A. Connect power supply cable to the Schick WiFi Docking Station.
- B. Connect power supply adapter to a wall outlet in the operatory.



### STEP 2

---

- A. Open the compartment on the Docking Station and connect the USB cable to the Docking Station and to the PC workstation with the WiFi Configuration Utility installed.
- B. Several drivers install automatically. At the end of the installation, the message, “Your device is ready for use” appears momentarily.



## 2.4. Configure the Schick WiFi Interface for your Wireless Network

**PLEASE NOTE:** Your Schick WiFi system will operate with wireless routers and access points from many well-known manufacturers. In the event you experience a wireless network-related issue during installation, please consult the documentation supplied with your router or access point for details and additional information.

### STEP 1

---

Insert the Schick WiFi Interface into the Docking Station and wait about 15 seconds for the Schick WiFi Interface LED to start flashing.

#### *Notes:*

*If the Schick WiFi Interface is switched off, it will turn on and the LED light will display a blue-purple color (shown in Figure 11 on page 43) when inserted into the Docking Station. Please wait 15 seconds for boot-up to complete; at that point, the LED will begin to flash, indicating the current battery level.*

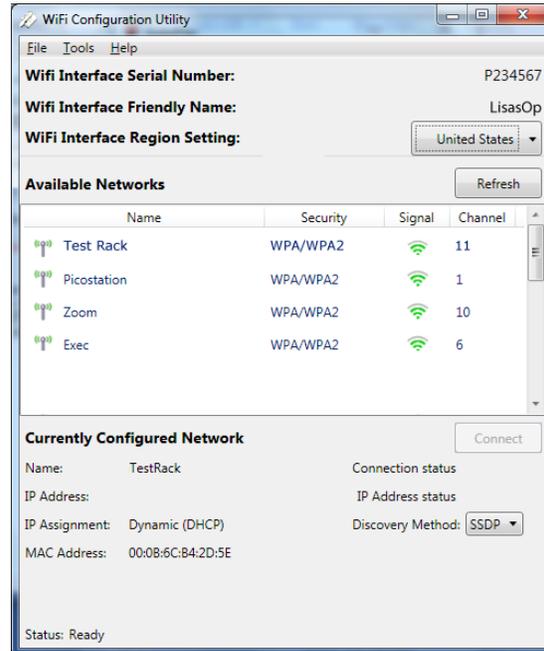
*If you are using the Schick WiFi Interface for the first time and notice that the LED indicates a low battery charge (orange-to-red color range), the Schick WiFi Interface will need to be charged in the Docking Station.*

*To recharge fully, the Schick WiFi Interface may require up to 2 hours of charging. For configuration purposes, however, it is acceptable to continue with this procedure.*



## STEP 2

Start the WiFi Configuration Utility (Windows Start > Programs > Sirona Dental > Schick WiFi > WiFi Configuration Utility).



## STEP 3

- A. Select your wireless network from the Available Networks window.

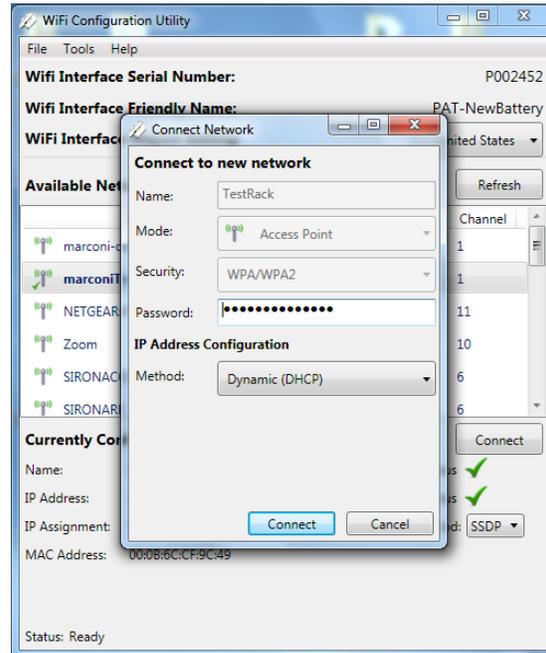
**PLEASE NOTE:** A hidden wireless network that does not broadcast its name or SSID might not appear on the list of available networks. In this case, you will need to follow the steps to create a new network (File > Create a new network) and connect to it using the hidden network's SSID, password, and security.

- B. Press Connect.



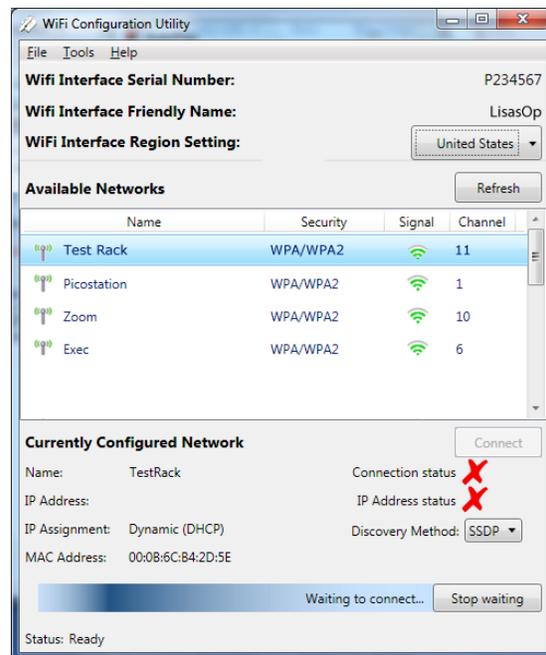
## STEP 4

If connecting to a secure network, enter the network password and click Connect (or press the Enter key).



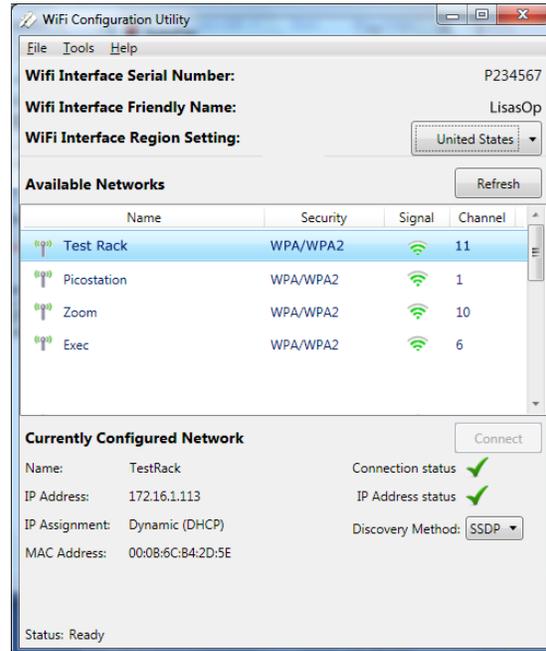
## STEP 5

A progress bar is displayed as the Schick WiFi Interface is configured for the network.



## STEP 6

When configuration is complete, Connection status and IP address status are indicated by green checkmarks and the Status is shown as Ready.



## STEP 7

- Remove the Schick WiFi Interface.
- Close the WiFi Configuration Utility.



## STEP 8

---

- A. Disconnect the USB cable from the Docking Station.
- B. Launch the Wireless Monitor by either starting CDR DICOM (which opens the monitor automatically), or by clicking on Windows Start > Programs > Startup > Wireless Monitor.
- C. If a Windows Firewall message appears, click Unblock.



## 2.5. Pair the Schick WiFi Interface with the PC Workstation (Software Option)

**PLEASE NOTE:** If you are using the RFID option, which is using the RFID Reader for pairing, please skip the following steps and continue with Section 2.6.

### NOTES

---

Make sure that the Schick WiFi Interface is ON and its LED is flashing.

If the Schick WiFi Interface is OFF (*LED not flashing*), press the Schick WiFi Interface button to turn it on, then wait about 15 seconds as the Schick WiFi Interface boots up (*LED is solid purple*) and begins flashing (*LED color depends on the battery charge*).



### STEP 1

---

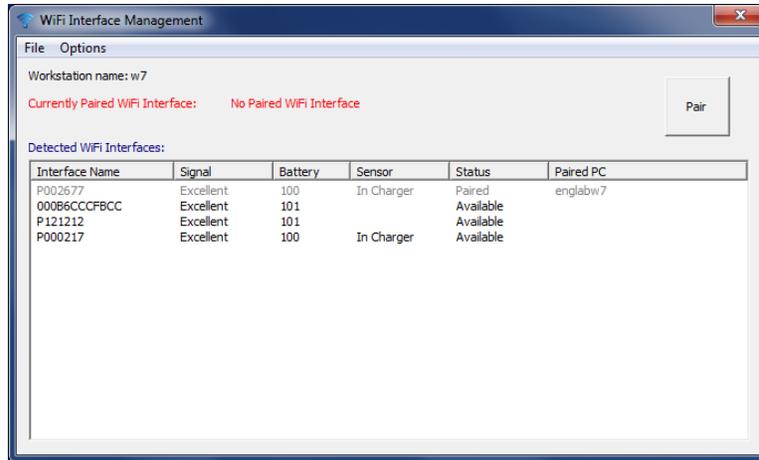
Click on the Wireless Monitor icon located in the Windows System Tray and select Schick WiFi Interface Management.



## STEP 2

---

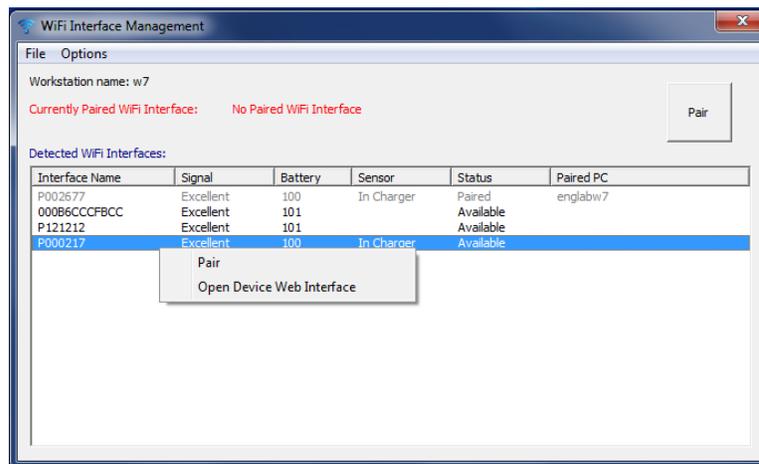
Click the Schick WiFi Interface to be paired, based on its serial number, as listed in the WiFi Interface Management *(It may take 25 seconds for the Schick WiFi Interface to appear on the list after it is turned on.)* The Schick WiFi Interface must be “Available” for pairing.



## STEP 3

---

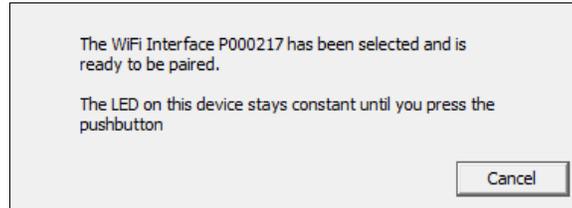
Right-click on the Schick WiFi Interface you wish to pair and select “Pair”. Alternatively, you can click the Pair button or double-click on the particular Schick WiFi Interface to be paired.



## STEP 4

---

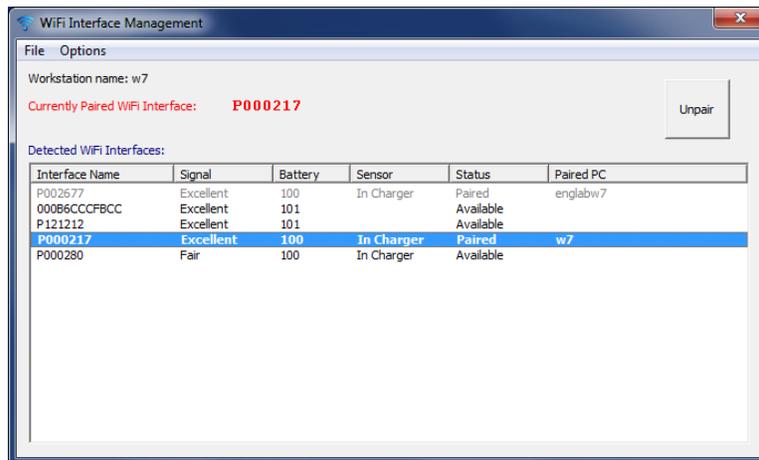
When the Schick WiFi Interface pairing message displays, press the Schick WiFi Interface button to confirm the pairing.



## STEP 5

---

The WiFi Interface Management window will indicate that the Schick WiFi Interface is paired.



## 2.6. Pair the Schick WiFi Interface with the PC Workstation (RFID Option)

### NOTES

---

Make sure that the Schick WiFi Interface is ON and its LED is flashing.

If the Schick WiFi Interface is OFF (*LED not flashing*), press the Schick WiFi Interface button to turn it on, then wait about 15 seconds as the Schick WiFi Interface boots up (*LED is solid purple*) and begins flashing (*LED color depends on the battery charge*).



### STEP 1

---

Click on the Wireless Monitor icon located in the Windows System Tray and select WiFi Interface Management.

Make sure that the Schick WiFi Interface is listed in the WiFi Interface Management window.



### STEP 2

---

Connect the RFID reader to an easily accessible USB port; one where you can also see the computer monitor screen (*for example, a USB port on the side of the monitor*). The monitor must connect by USB cable to the PC workstation. If a convenient USB port is not available, a USB extension cable is supplied to allow the RFID reader to be placed in another convenient location: on a counter top for instance).

The driver for the RFID reader will install automatically and a message confirming that the device is available for use will appear after a few seconds.



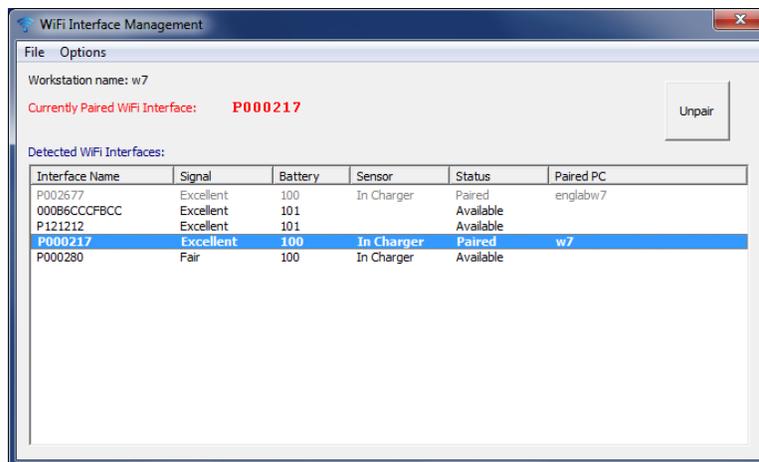
### STEP 3

Touch the RFID reader with the Schick WiFi Interface and make sure that the wireless symbol near the ON/OFF button comes very close to, or makes contact, with the RFID reader.



### STEP 4

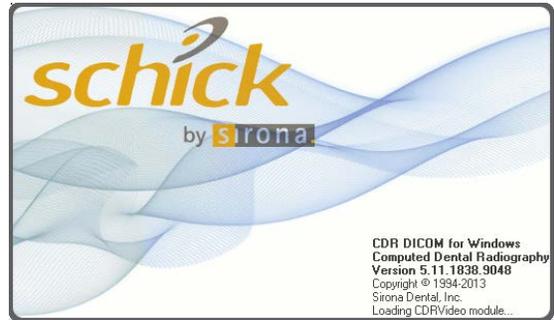
A momentary message displays above the System Tray, “Tag Read completed”. The WiFi Interface Management window will indicate that the Schick WiFi Interface is paired to the current workstation.



## 2.7. Start CDR, Connect the Sensor, and Prepare for Use

### STEP 1

- A. Start your dental imaging software (*in this example, CDR DICOM*).
- B. In the CDR Exam window, click File > New, or click the New Exam button. In the Patient Information dialog box, enter the appropriate information and select the series.
- C. Click OK.



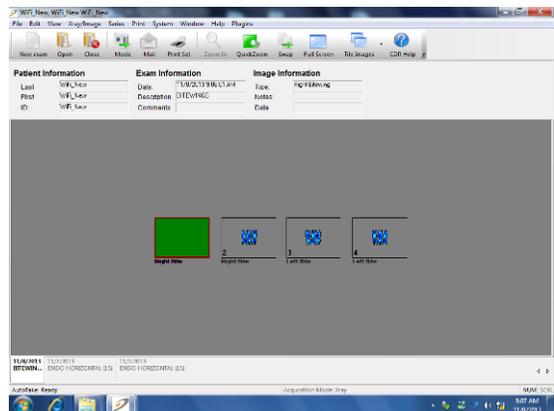
### STEP 2

- A. Connect the Schick sensor to the Schick WiFi Interface.
- B. Check the X-ray exposure settings. The proper settings depend on several factors, among them, the X-ray source itself, the anatomy of the patient, and the location of the Sensor in the oral cavity
- C. Place the Sensor in a positioning holder, and then place the sheath over the Sensor and holder. Place the Sensor in the patient's mouth with the flat side facing the X-ray source.



### STEP 3

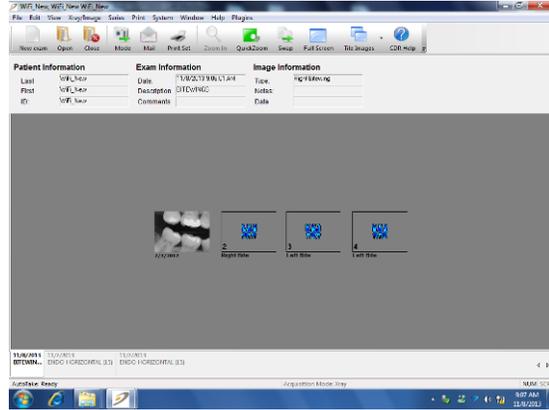
- A. If you are using the Sensor for the first time on this workstation, the calibration file will install automatically. If the calibration file does not download properly, disconnect the Sensor and re-connect it.
- B. The first empty view box is pre-selected and flashes green (default setting).



## STEP 4

---

- A. Activate the X-ray source. “Reading Image from Sensor” appears on the screen momentarily.
- B. When acquisition is complete, the image is displayed in the software. Depending on the settings selected under CDR Options, the image will appear either in the Exam or Zoom window.
- C. To take another image, reposition the Sensor and repeat the steps for image acquisition.
- D. Customers with other imaging software, such as EagleSoft and Patterson Imaging, should consult their documentation for steps on acquiring images.



## 2.8. Installing Storage Holsters, Mounts, and Clips

Several items are available with the Schick WiFi system to protect the devices from accidental damage and to keep them easily accessible. To install these items, please refer to the appropriate sections that follow.

### 2.8.1. Sensor Holster Installation



Sensor holsters are a convenient way to keep your Sensors easily accessible and safe from accidental damage and misuse. The Sensor holster can be installed using either an adhesive pad or a flat-head Phillips screw (3/16-20 x 1) and anchor (*supplied*).

**Please Note:** When locating the holster, allow enough distance from the floor to accommodate the relaxed coils of the Sensor cable.

For the adhesive pad option, perform the following steps:

- Prepare the surface by cleaning it and allowing it to dry completely if you have applied a liquid solution. The pad is adhesive on both sides, and has protective layers on both ends.
- Remove one layer and apply it to the back of the Sensor holster. Remove the other layer and press firmly onto the surface where the holster will be located.

For an alternate option, perform the following steps:

- Position the Sensor holster on a smooth, stable, vertical surface.
- Drill a hole the same size as the anchor supplied; then, push the anchor completely into the drilled opening.
- Using the hole on the back of the holster as a guide, insert the screw through the holder and fasten it securely to the anchor and the wall.

## 2.8.2. Docking Station Mount Installation



Wall mounts (Part number B2420135) for the Docking Station also provide accessibility and protection. The mount can be installed using either an adhesive pad or two flat-head Phillips screws and anchors (*supplied*).

For the adhesive pad option, perform the following steps:

- Prepare the surface by cleaning it and allowing it to dry completely if you have applied a liquid solution. The pad is adhesive on both sides, and has protective layers on both ends.
- Remove one layer and apply it to the back of the wall mount. Remove the other layer and press firmly onto the surface where the holster will be located.

For an alternate option, perform the following steps:

- Position the mount on a smooth, stable, vertical surface.
- Using the back of the wall mount as a guide, drill two holes the same size as the anchors supplied; then, push the anchors completely into the drilled opening.
- Insert the screws through the holder and fasten it securely to the anchors and the wall.

### 2.8.3. Schick WiFi Interface Mount Installation



Delivery system mounts (Part number B2400260) for the Schick WiFi Interface offer quick access and temporary placement while working chair-side.

To install the mount, perform the following steps.

- Insert the Schick WiFi Interface mounting holder into an empty slot in the chair's instrument panel. The mount will fit most panels and should feel secure when placed inside the slot.
- With the Sensor cable end of the Schick WiFi Interface facing you, and the Schick logo easily readable, slide the Schick WiFi Interface into the mount, allowing the side rails on the Schick WiFi Interface to guide it along the gripping arms of the mount. Small stops at the end of the Schick WiFi Interface will prevent it from dropping.
- The Schick WiFi Interface can be left in this mount when using your Schick WiFi system. When your Schick WiFi Interface is not in use, please remove it from the mount and place it into the Docking Station so that it can remain charged and ready for the next exam.

#### 2.8.4. Schick WiFi Interface Radiation Shield Clip



Designed for the lead aprons used during X-ray exams, radiation shield clips (Part number B2400250) for the Schick WiFi Interface also offer quick access and temporary placement while working chair-side.

To attach the clip, perform the following step.

- With the Sensor cable end of the Schick WiFi Interface facing you, and the Schick logo easily readable, slide the Schick WiFi Interface into the clip, allowing the side rails on the Schick WiFi Interface to guide it along the gripping arms of the mount. Small stops at the end of the Schick WiFi Interface will prevent it from dropping.

# 3. Controls and LED Indicators

## 3.1. Schick WiFi Docking Station

There is a single connector for the Schick WiFi Interface to connect to the Docking Station. Located near the connector is a green indicator that illuminates and remains on when a Schick WiFi Interface is connected. When the Schick WiFi Interface is removed, this LED is off.

The Power LED illuminates when external power is available to the Docking Station. External power is supplied by a wall outlet and charges the Schick WiFi Interface when connected to the Docking Station.

**PLEASE NOTE:** Use only the power adapter (Schick P/N A3303200) supplied with the Schick WiFi Docking Station and be sure to verify that its plug contacts are compatible for use in your country and region.

The USB LED illuminates when the USB cable is connected during initial configuration. Except for this purpose, the USB cable may be disconnected. The following illustration (Figure 8) identifies the controls and indicators on the Docking Station.



Figure 8. Schick WiFi Docking Station Connections and LEDs

### 3.2. Schick WiFi Interface

**PLEASE NOTE:** To retain pairing with a specific workstation and to charge the battery, we recommend storing the Schick WiFi Interface in the Docking Station when not in use.

A multi-purpose pushbutton (Figure 9) on the Schick WiFi Interface controls power to the device and turns it on or off. When the Schick WiFi Interface is on, pressing and holding the pushbutton for 6 seconds turns it off. If the Schick WiFi Interface is off, pressing the pushbutton turns the device on.

The LED located on the Schick WiFi Interface displays a range of colors (Figure 10, Figure 11, and Figure 12 on page 43) to provide visual feedback regarding the battery charge and during boot-up and firmware upgrade operations. During regular use, the LED reflects the status of battery power from fully charged (green) to a level requiring recharge (red).

We **strongly** recommend recharging the battery before it displays red, for the following reasons: (a) When the LED displays red, there may be insufficient battery charge to complete image acquisition and display, thus exposing the patient to unnecessary radiation. (b) A battery whose charge is completely consumed will require a longer period to recharge.

Recharging the battery will take approximately one hour or longer, if the battery charge is significantly low or depleted. (*To recharge fully from a depleted state may be as long as three hours.*) Table 4 on page 44 provides additional information about the Schick WiFi Interface LED and describes the various patterns associated with its operation.



Figure 9. Schick WiFi Interface Pushbutton Switch and LED Indicator

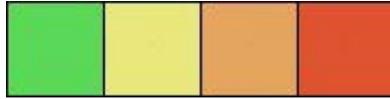


Figure 10. Schick WiFi Interface LED Color Range during Operation

(Full Battery Charge in Green to No Battery Charge in Red)

This color is displayed during Schick WiFi  
Interface boot-up

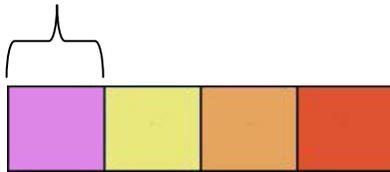


Figure 11. Schick WiFi Interface LED Color Range during Boot-up

This color is displayed during Schick WiFi  
Interface firmware upgrade

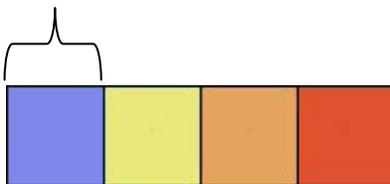


Figure 12. Schick WiFi Interface LED Color Range during Firmware Upgrade

Table 4. Schick WiFi Interface LED Indications (Status)

PATTERN  ACTION	LED INDICATION	
		
	No Sensor Connected	Sensor Connected
Preparing device for use (power on and boot-up)	Purple (solid)	(same)
Searching for WiFi connection	Short flash every 1/2 second	(same)
Unpaired, waiting to pair	Long flash followed by two short flashes	(same)
Pairing	Solid color (no flashing)	(same)
Paired (indication differs whether Sensor is connected or disconnected)	Short flash every 1 second	Ready for image acquisition (glows from dim to bright, “breathing”)
Transferring image data	Flashing rapidly	(same)

PLEASE NOTE: LED colors that range from green to yellow to orange indicate the battery charge of the Schick WiFi Interface (from full to medium to low). Refer to Table 5 for additional information.

Table 5. Schick WiFi Interface LED Indications (Battery Power)

LED INDICATION	BATTERY POWER LEVEL
<b>Normal Operation</b>	
Green	100-70%
Yellow	69-40%
Orange	39-0%
Red	Empty
<b>Firmware Upgrade</b>	
Blue	100-70%
Yellow	69-40%
Orange	39-0%
Red	Empty

# 4. Operation

## 4.1. Configuring the Schick WiFi Interface

Configuring the Schick WiFi Interface with the WiFi Configuration Utility is necessary before using it with imaging applications. (*This procedure is described in Section 2.4 on page 25.*)

The utility is needed just once when connecting the Schick WiFi Interface to the wireless network in the office, or if there changes in the wireless network itself. The Schick WiFi Interface must be in the Docking Station, and the USB cable from the Docking Station must be connected to the PC. After a successful configuration, the USB cable can be removed from the Docking Station.

The WiFi Configuration Utility detects wireless networks in the area and reports whether they are open or secure, their signal strength, and the channel they use.

PLEASE NOTE: Hidden networks may not be detected by the Configuration Utility. In this case, you will need to click File > Create a new network and add the network name, password, and security for the hidden network. When you connect successfully, the network will appear in the list of available networks.

Pressing the Connect button initiates the setup for the Schick WiFi Interface to communicate with the wireless network. If the network is secure, you will be required to enter the password for it.

PLEASE NOTE: Pressing the Refresh button will help verify the status of networks and devices reported by the WiFi Configuration Utility.

### 4.1.1. Configuration Utility Description

Information about the Configuration Utility can be found in Table 6 on page 46 and in Figure 13 on page 47.

Table 6. Configuration Utility Description

ITEM	SECTION	DESCRIPTION												
A	File Menu	Refreshes the list of available networks; opens the “Connect to new network” window to enable the Schick WiFi Interface to connect to a different wireless network than the one selected currently; enables the Schick WiFi Interface to forget a wireless network it was previously configured for; <sup>3</sup> creates a new network that the Schick WiFi Interface can connect to; resets the Schick WiFi Interface to its factory settings and disconnects from its current network; and closes the utility.												
B	Tools Menu	Starts diagnostic tests, which are automated tests of the Schick WiFi system; enables the selection of a different port in the event of a conflict with another USB device; provides an alternate method for upgrading Flash firmware if the recommended procedure ( <i>via Web Server and Upgrade Utility</i> ) has failed or if the Schick WiFi Interface is not booting up properly.												
C	Help Menu	Accesses help topics for the Configuration Utility and finds the software version of the Configuration Utility.												
D	Serial Number and Friendly Name	Serial Numbers uniquely identify the Schick WiFi Interface. Friendly Names are user-assigned and can be set in the Web Server and Upgrade Utility under the Settings tab.												
E	Region Setting <sup>4</sup>	<table border="0"> <tr> <td>United States</td> <td>Channels 1 through 11</td> </tr> <tr> <td>Canada</td> <td>Channels 1 through 11</td> </tr> <tr> <td>Europe</td> <td>Channels 1 through 13</td> </tr> <tr> <td>Spain</td> <td>Channels 10 and 11</td> </tr> <tr> <td>France</td> <td>Channels 10 through 13</td> </tr> <tr> <td>Japan</td> <td>Channels 1 through 14</td> </tr> </table>	United States	Channels 1 through 11	Canada	Channels 1 through 11	Europe	Channels 1 through 13	Spain	Channels 10 and 11	France	Channels 10 through 13	Japan	Channels 1 through 14
United States	Channels 1 through 11													
Canada	Channels 1 through 11													
Europe	Channels 1 through 13													
Spain	Channels 10 and 11													
France	Channels 10 through 13													
Japan	Channels 1 through 14													
F	Available Networks	Lists available wireless networks and information about them												
G	Refresh	Verifies the status of networks and devices												
H	Selected Network	The specific wireless network to which the Schick WiFi interface is currently connected ( <i>shown in bold</i> ). Previously configured network connections will also appear in bold letters.												
I	Connect	Establishes a connection to an available wireless network												
J	Status	Connection and IP address status												
K	Configured Network	Information about the wireless network connection between the Schick WiFi Interface and the PC workstation												
L	Discovery Method <sup>4</sup>	SSDP for security routers; otherwise, UDP												
M	Status Bar	Displays messages or other Schick WiFi system information												

<sup>3</sup> The network that will be “forgotten” is the one currently selected under Available Networks. If multiple networks were configured, the Schick WiFi Interface will “forget” the selected one and will attempt to connect to one of the others.

<sup>4</sup> Available in Schick WiFi software version 2.1 and higher.

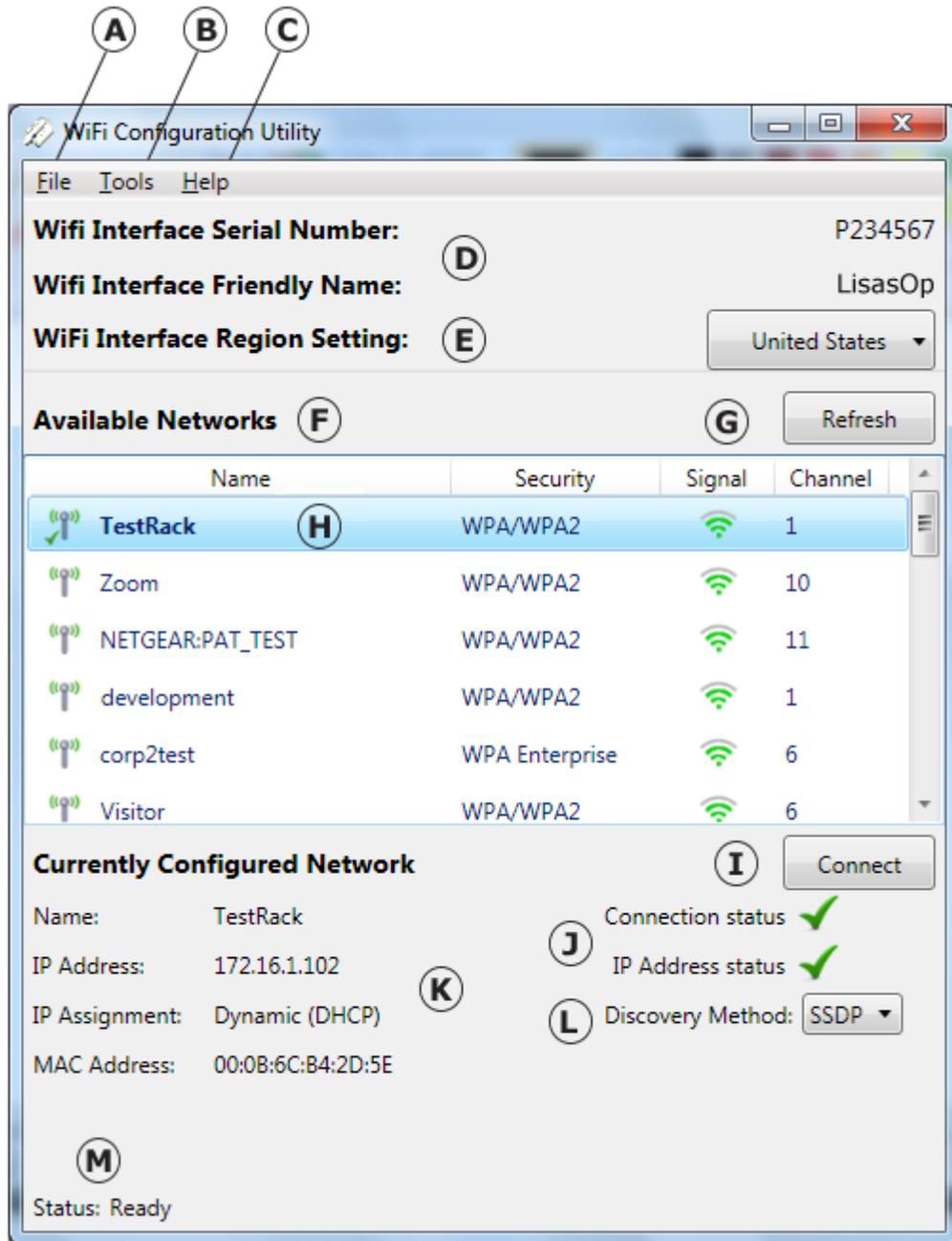


Figure 13. WiFi Configuration Utility

#### 4.1.2. New Network Connections (Open, WEP, WPA/WPA2)

Information about creating a new wireless network connection using WPA/WPA2 security can be found in Table 7 and in Figure 14 on page 48.

Table 7. New Network Connection (WPA/WPA2 Security)

ITEM	SECTION	DESCRIPTION
A	Name	Text box for the name of the new wireless network
B	Mode	Access Point or Ad-Hoc
C	Security	Open, WEP, WPA/WPA2
D	Password	Password for secured networks (the password assigned to the office router or access point)
E	Method	Dynamic, Static, Ad-Hoc
F	Connect	Establishes a connection to this wireless network

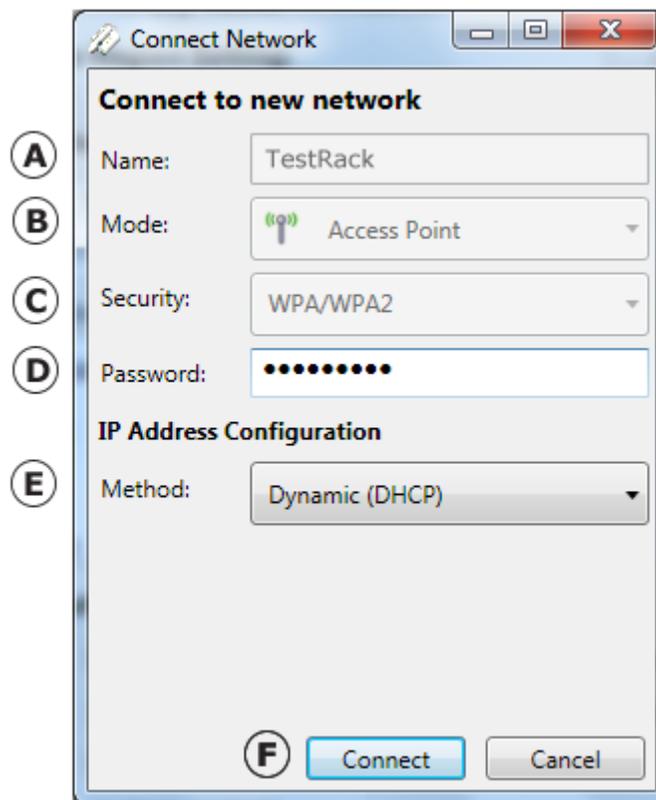


Figure 14. Connect to New Network (Open, WEP, WPA/WPA2)

### 4.1.3. New Network Connections (WPA Enterprise)

Information about creating a new wireless network connection using WPA/WPA2 security can be found in Table 7 and in Figure 14 on page 48.

Networks that require a greater degree of security than WPA/WPA2 can specify WPA Enterprise<sup>5</sup>. These networks may employ security certificates to verify each wireless device and user on the network. The certificates themselves are created by the local IT technician or manager, who also sets the specific requirements and the authentication options for implementation.

The Schick WiFi Configuration Utility provides support for Enterprise security and can import security certificates, if they are needed. Several options for authentication may be available on the server: some of these, such as Smart Card, require certificates; others, such as Protected EAP (PEAP), and Secured Password (EAP-MSCHAP v2), do not.

If you are following the authentication for “Smart Card or other certificate”, please perform the following steps:

- In the Schick WiFi Configuration Utility, double-click on the name of the network with WPA Enterprise security.
- The Connect Network page opens.
- Username can be blank in instances when this information is contained within the certificate
- Password can be blank in instances when this information is contained within the certificate
- Import and then select the certificate file (for example, cert.pfx)
- Private Key required
- Private Key Secret required

---

<sup>5</sup> Available in Schick WiFi software version 2.1 and higher.

If you are following the authentication for “Protected EAP (PEAP) or “Secured Password (EAP-MSCHAP v2), please perform the following steps:

- In the Schick WiFi Configuration Utility, double-click on the name of the network with WPA Enterprise security.
- The Connect Network page opens.
- Username required and may be a user name or domain name such as User or User@softwaretest.local (where softwaretest is the name of the domain).
- Password required
- No certificate should be selected

Table 8. New Network Connection (WPA Enterprise Security)

ITEM	SECTION	DESCRIPTION
A	Name	Text box for the name of the new wireless network
B	Mode	Access Point
C	Security	WPA Enterprise
D	User Authentication	Although they are shown here, user name and password may be contained within the security certificate and so may be blank in this case
E	Certificates	Private key and private key secret are required.
F	Manage Certificates	Imports security certificate
G	IP Address Configuration	Dynamic (DHCP)
H	Connect	Establishes a connection to this wireless network

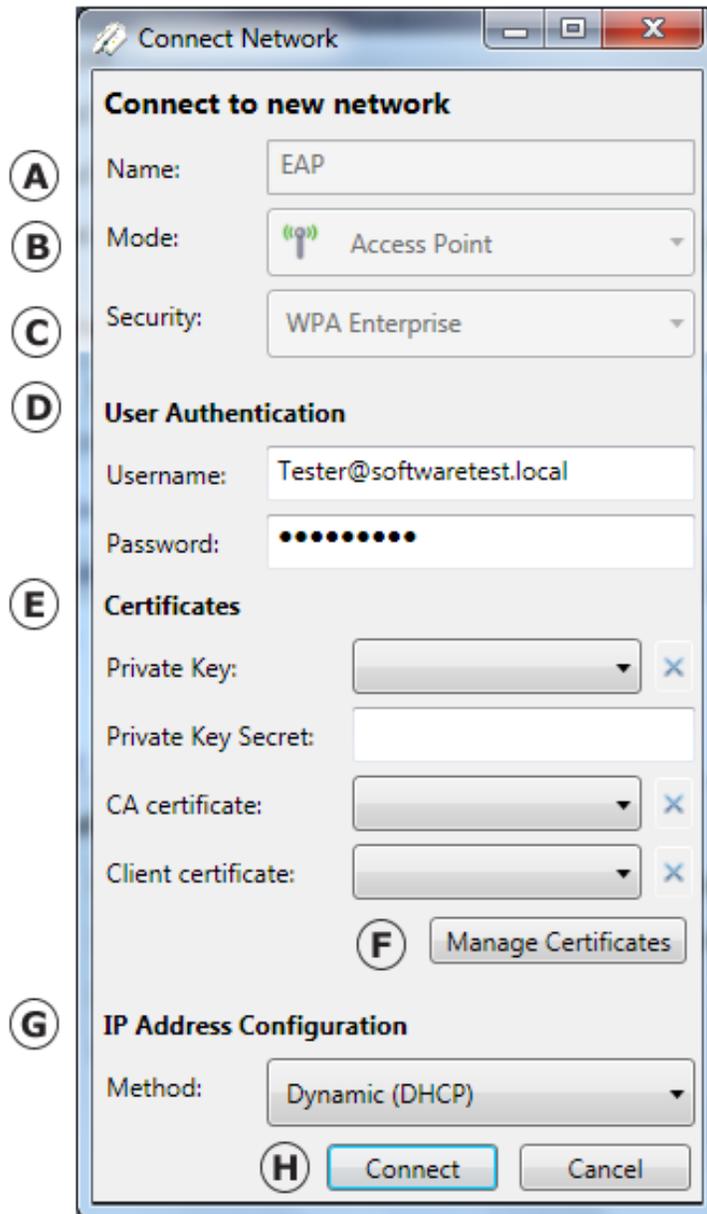


Figure 15. Connect to New Network (WPA Enterprise)

#### 4.1.4. Diagnostic Tests

Diagnostic tests are available under the Tools menu in the event communication issues occur. Prior to starting these tests, please place the Schick WiFi Interface into the Docking Station.

- WiFi Charger Connection – Checks the USB connection to the Docking Station.
- WiFi Interface Serial Number – Reads the Schick WiFi Interface serial number.
- WiFi Network Connection – Checks whether a connection to a wireless network can be established.
- Validate IP Address – Checks for an IP address from a wireless network.
- WiFi Interface Network Ping – Checks whether the workstation and the Schick WiFi interface are on the same network
- WiFi Monitor Network Discovery – Checks whether you can see the Schick WiFi interface in the Interface Management window.
- WiFi Interface Pairing – Checks whether the workstation can connect to the Schick WiFi interface over a wireless network.

Table 9. Configuration Utility Diagnostic Tests

DIAGNOSTIC TEST	ERROR MESSAGE	USER ACTION
WiFi Charger Connection	<i>Unable to communicate with charger</i>	Confirm that Schick WiFi Interface is in Docking Station and run test again
WiFi Interface Serial Number	(No message)	Confirm that Schick WiFi Interface is in Docking Station and run test again
WiFi Network Connection	<i>WiFi Interface is not currently connected to a WiFi network</i>	Make sure that your wireless network is listed as available on the Configuration Utility
Validate IP Address	<i>WiFi Interface does not currently have a valid IP address</i>	Make sure that you have the correct IP assignment for the currently configured network
	<i>WiFi interface is susceptible to dropped broadcast packets</i>	Turn off the Schick WiFi Interface, then turn it back on to restore normal operation. If the problem occurs repeatedly, it may be related to the access point
WiFi Interface Network Ping	<i>Unable to ping remote WiFi Interface</i>	Make sure that Schick WiFi Interface and computer workstation are on the same network
WiFi Monitor Network Discovery	<i>Unable to discover WiFi Interface messages</i>	Make sure that either UPnP ports (UDP 1900 and 7900) are not blocked OR that UDP port 55005 is not blocked by firewalls or routers on your network
WiFi Interface Pairing	<i>Unable to connect to WiFi Interface</i>	Make sure that TCP ports 55000 and 55001 are not blocked by firewalls or routers on your network

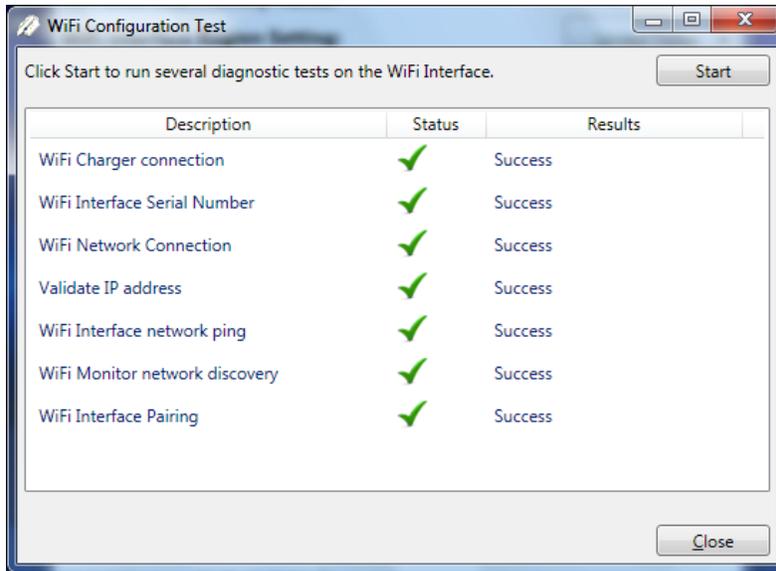


Figure 16. Diagnostic Tests

## 4.2. Pairing

**PLEASE NOTE: To retain pairing with a specific workstation and to charge the battery, we recommend storing the Schick WiFi Interface in the Docking Station when not in use.**

To acquire an image on any PC workstation, a specific Schick WiFi Interface must be “paired” with that workstation. A workstation will only receive images from its paired Schick WiFi Interface, and the Schick WiFi Interface will only transmit to the computer to which it is paired. Only one Schick WiFi Interface may be paired with a workstation at a time. If there is no paired Schick WiFi Interface when the imaging application starts, you will be prompted to select a Schick WiFi Interface for pairing.

Once a Schick WiFi Interface is paired with a workstation, it will remain paired unless: (a) the Interface is powered down by user interaction or by reaching the time out value indicated on the Settings tab of the Web Server and Upgrade Utility, (b) the workstation shuts down, or (c) the Interface is paired with another workstation via an RFID reader.

(Pairing is described in Section 2.5 on page 30.)

## 4.3. Pairing Recovery and Auto Pairing

**PLEASE NOTE: To retain pairing with a specific workstation and to charge the battery, we recommend storing the Schick WiFi Interface in the Docking Station when not in use.**

If pairing is lost during a network error, system error, or computer reboot, Schick WiFi software will automatically re-pair the Schick WiFi interface and workstation. This feature is called “Pairing Recovery”.

A specific Schick WiFi Interface can pair exclusively with a specific workstation by enabling the “Auto Pairing” setting. In offices where a Schick WiFi Interface is used always with the same workstation, Auto Pairing eliminates having to choose this pairing manually.

While primarily a benefit for smaller offices, enabling the Auto Pair setting is not appropriate in dental practices that routinely pair Schick WiFi Interfaces to different workstations.

(Auto Pairing is described in Section 5.4.5 on page 108).

#### 4.4. Pairing (RFID Option)

With RFID pairing (also called RFID “tagging”), simply touch the Schick WiFi Interface to the RFID reader and the computer workstation automatically detects the Schick WiFi Interface and pairs to it. If the workstation is paired to a different Schick WiFi Interface, **it unpairs automatically from that one and pairs to the new one.** RFID tagging is described in Section 2.6 on page 33.

There is one exception, however.

If you have decided to pair a particular Schick WiFi Interface with a particular workstation exclusively (“Auto Pairing”), RFID tagging will not override this choice.

The RFID reader can be connected to any USB port on the computer workstation, including those on monitor displays, keyboards, and external hubs. When connecting the RFID reader to a USB port, choose a location easily accessible to you. Also consider that a brief message will appear on the computer display to confirm pairing, so you will want to be able to view the screen when using RFID pairing.

RFID readers for the Schick WiFi system are available from Sirona Dental.

## 4.5. Unpairing

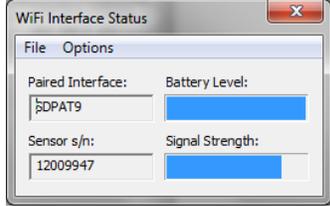
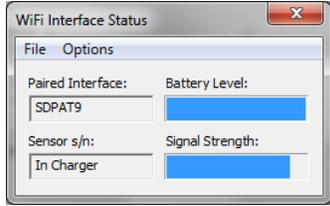
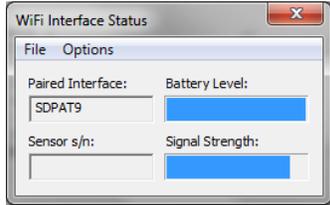
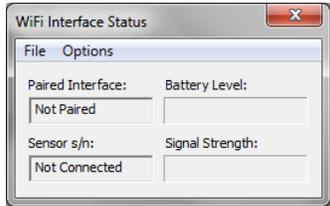
Unpairing a Schick WiFi Interface can be done only from the WiFi Interface Management window on the workstation where it is currently paired, or by using the RFID reader to “tag” a new PC workstation for pairing, which automatically unpairs the Schick WiFi Interface from the workstation it was previously paired to.

If a Schick WiFi Interface is turned off, it will become unpaired automatically. (Schick WiFi Interfaces turn off automatically after 15 minutes, but this duration can be changed by the Power Timeout setting in the Web Server and Upgrade Utility). We recommend keeping the Schick WiFi Interface in the Docking Station when not in use, which retains pairing and charges the Schick WiFi Interface battery.

When a Schick WiFi Interface is unpaired, it will be available for pairing with any workstation, if it is still detected by the wireless network.

**PLEASE NOTE: If the imaging application is closed, the Schick WiFi Interface will not unpair automatically.**

Table 10. Schick WiFi Interface Status Showing Paired / Unpaired Conditions

SCHICK WiFi INTERFACE		SENSOR	EXAMPLE
Paired	Not in Docking Station	Connected	
Paired	In Docking Station	Not Connected	
Paired	Not in Docking Station	Not Connected	
Unpaired	In Docking Station or Not in Docking Station	Connected or Not Connected	

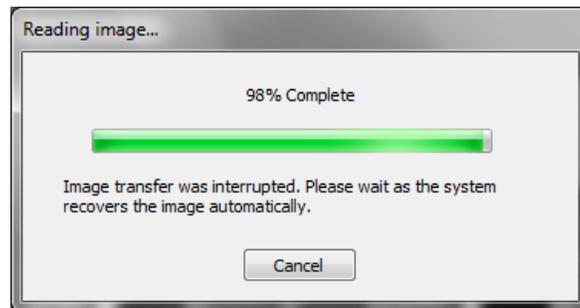
## 4.6. Auto Resend

On rare occasions, an X-ray image may fail to transfer properly to your imaging software. In this situation, you may have seen a white image, instead of one with diagnostic detail, in the exam viewbox.

There may be several reasons why this might happen, including wireless interference or other external factors. Auto Resend, which is new to Schick WiFi software, will try to recover the image automatically, even if the normal transfer of the image was interrupted.

Auto Resend is always enabled, so there is nothing you need to do to have this feature available as you are taking X-ray images.

If an image fails to transfer properly, you will be notified that the software has detected this problem and is trying to recover the image from the Schick WiFi device itself. An example of the message is shown below.



Recovering the image and displaying it in your software should take a relatively short amount of time, depending on your wireless network. We suggest that you allow enough time for image recovery, which could take up to a minute. A much longer period may indicate that the image could not be recovered automatically. In this case, click on the Cancel button in the message dialog and try to resend the image manually, as described on the next page.

## 4.7. Resend Last Image Manually

The Resend option is appropriate when a corrupted image, caused by improper data transfer, is displayed on a system that otherwise appears to be operating normally. In this instance, it may be possible to retrieve an uncorrupted version of the image directly from the Sensor without having to expose the patient to additional X-rays.

Image Resend has been improved to be more robust as well. Even if you disconnect or change Sensors, an image that failed to transfer properly may be recovered using this feature.

*NOTE: In a previous software release, Image Resend was located in the WiFi Interface Management and Status windows under the Options menu. This has changed, and Image Resend is located in the Xray/Image menu of CDR DICOM. (Image Resend is available in CDR DICOM version 5.4 and higher, but it is not available at the time of this document's release in EagleSoft or Patterson Imaging.)*

In the patient exam, select on an empty viewbox and choose “Resend Image” from CDR DICOM’s Xray/Image menu or from the context menu by clicking the right mouse button. The resent image will display in the viewbox.

Image resend is supported in AutoTake and non-AutoTake (manual) modes. Only the last acquired image can be retransmitted, although it can be retransmitted multiple times, if necessary.

If a Schick WiFi Interface is turned off (manually or automatically), the last acquired image can no longer be retransmitted.

## 4.8. Image Enhancement (*Schick Elite*)

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. <sup>6</sup>

For sample X-rays that illustrate the effects of these enhancements, please refer to Figure 17, Figure 18, and Figure 19. 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.

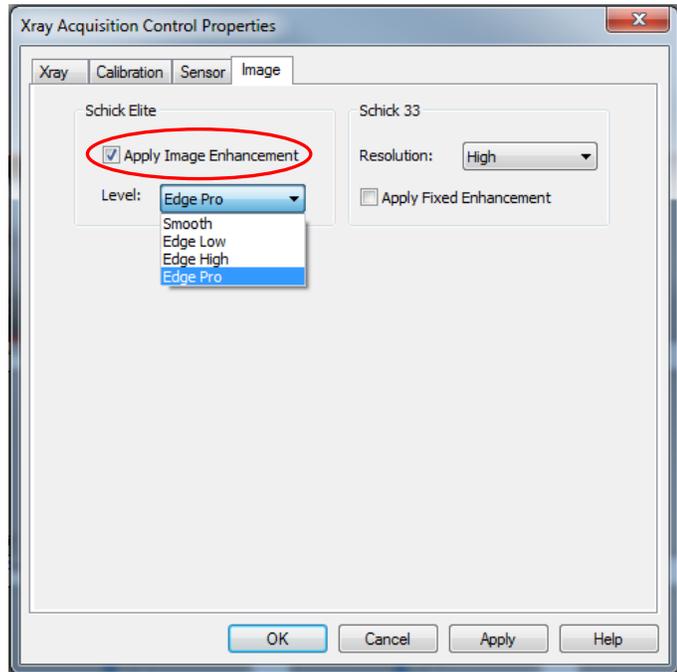
Please note that the image enhancements, when applied, cannot be undone or changed, nor will they affect images you have acquired already.

---

<sup>6</sup> 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.

### 4.8.1. 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).

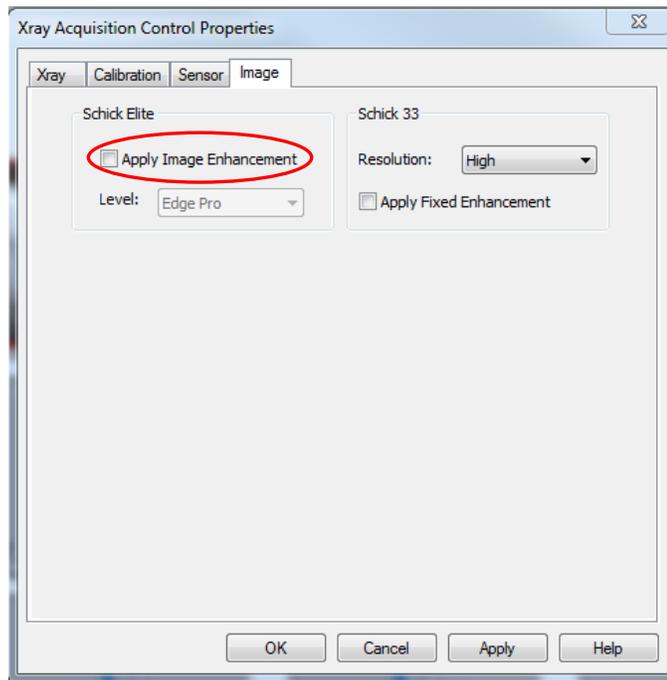


All enhancements are available from the drop-down menu. After selecting one of the enhancements, click Apply, and click OK to close the X-ray acquisition options page.

## 4.8.2. 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 for Schick Elite sensors are unavailable.



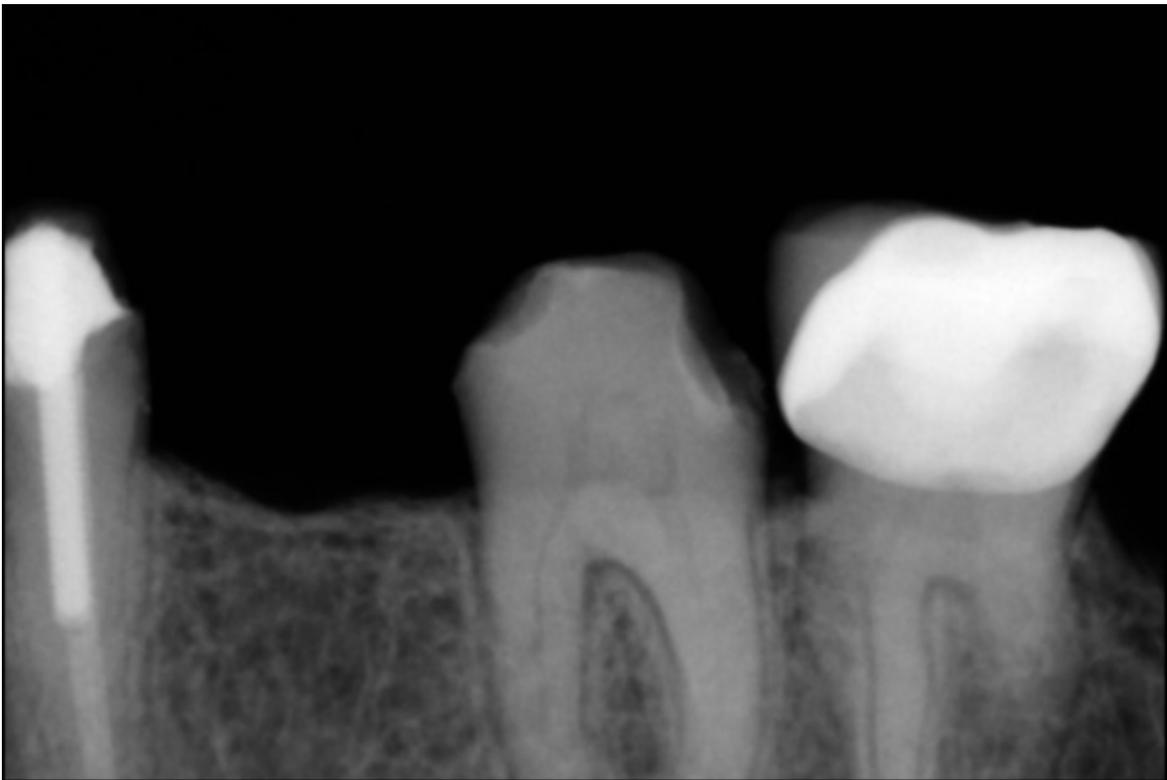


Figure 17. Enhancements: Edge Pro (top) and Smooth (bottom)

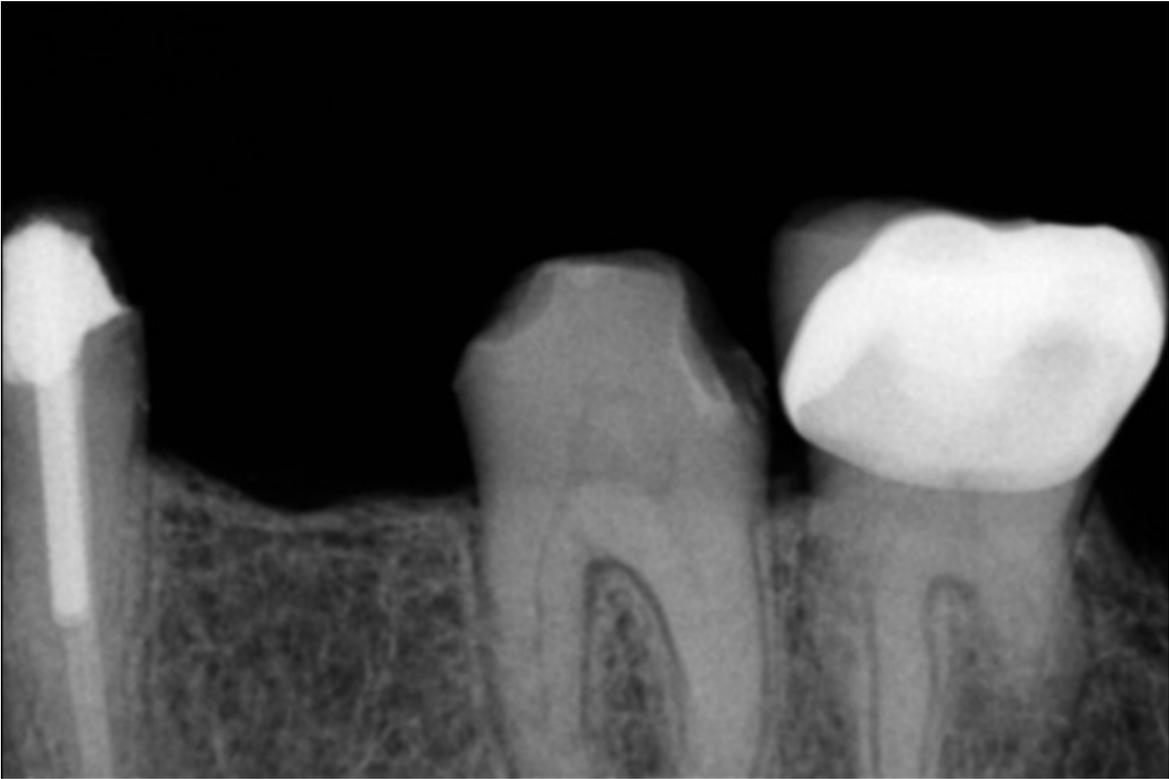


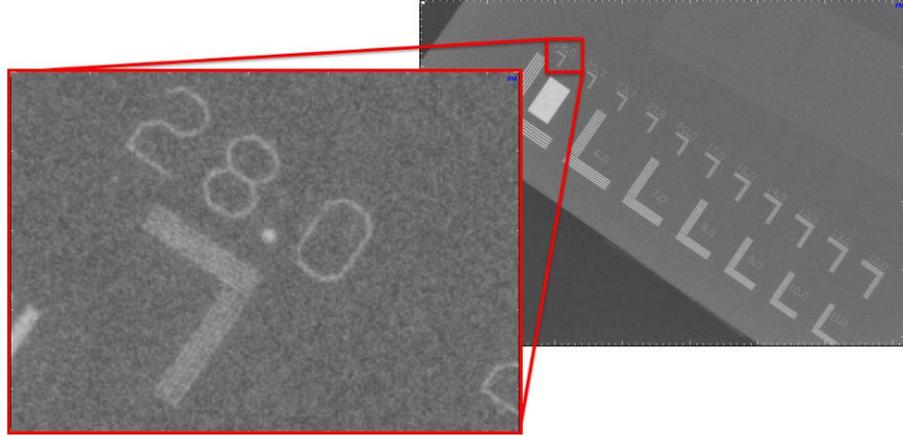
Figure 18. Enhancements: Edge High (top) and Edge Low (bottom)



Figure 19. Enhancements: None Applied

## 4.9. High Resolution Image Acquisition (Schick 33)

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 normal mode. High-resolution mode, which is unique to Schick 33 Sensors, captures a level of detail measured at 28 lp/mm.

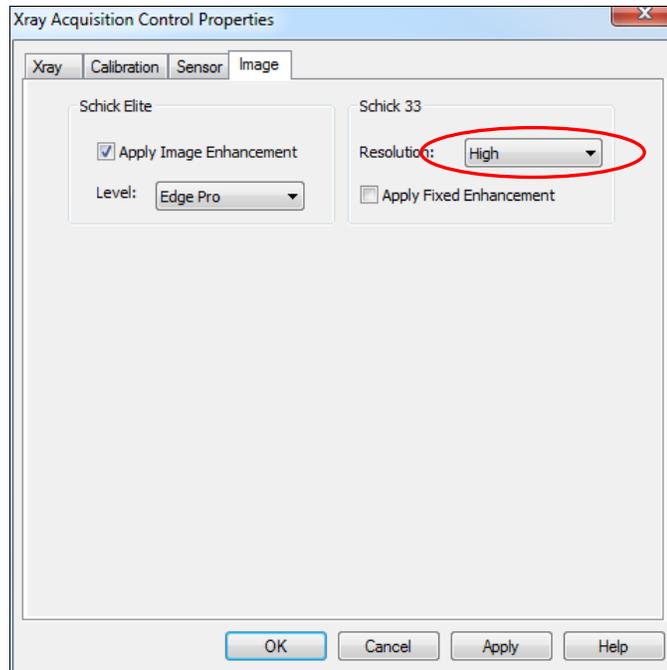


The above image shows a line pair measurement phantom captured with a size 2 Schick 33 Sensor. The phantom measures up to 28 lp/mm, which the Schick Sensor is able to demonstrate in the enlarged section highlighted in red.

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.

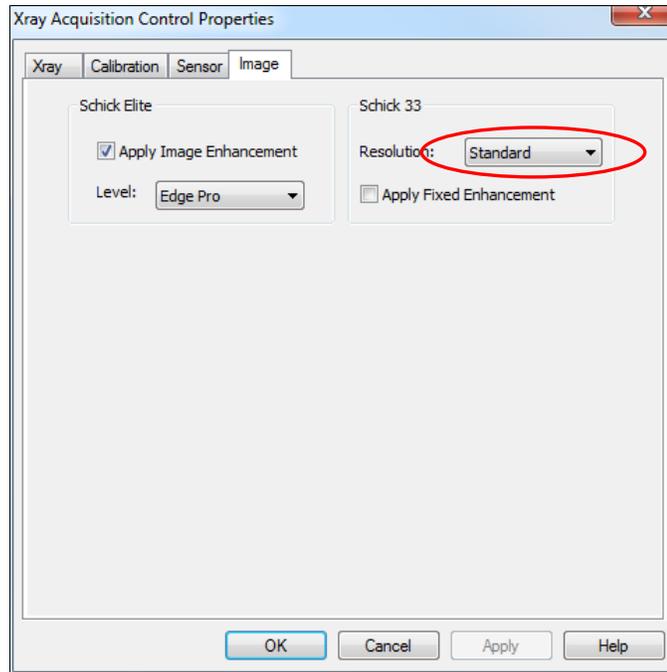
### 4.9.1. Selecting High Resolution Acquisition

Taking high-resolution images with Schick 33 Sensors is enabled by default (High Resolution Acquisition option selected). If this option has been turned off and you wish to re-enable it, open the X-ray acquisition options page and click on the High Resolution Acquisition checkbox. *(In CDR DICOM, browse to the System menu, select X-ray Settings, click on the Sensor tab, and select High from the Resolution drop-down menu item. Click Apply, and click OK to close the X-ray acquisition options page.)*



#### 4.9.2. 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.



## 4.10. 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.

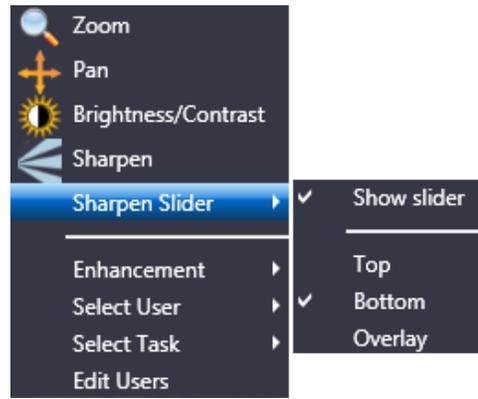


Figure 20. Sharpen Slider Menu Selections

### 4.10.1. 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).

### 4.10.2. 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).

### 4.10.3. 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 21. Sharpen Slider (Top Position)



Figure 22. Sharpen Slider (Bottom Position)



Figure 23. Sharpen Slider (Overlay Position)

#### 4.10.4. 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 4.11 on page 74 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.

#### 4.10.5. 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.

#### 4.10.6. 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.)*

## 4.11. 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 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 25 and Figure 26 on pages 77 and 78, respectively, provide several sample images.

Table 11. 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.

#### 4.11.1. 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.

#### 4.11.2. 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.

#### 4.11.3. 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.

#### 4.11.4. 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.

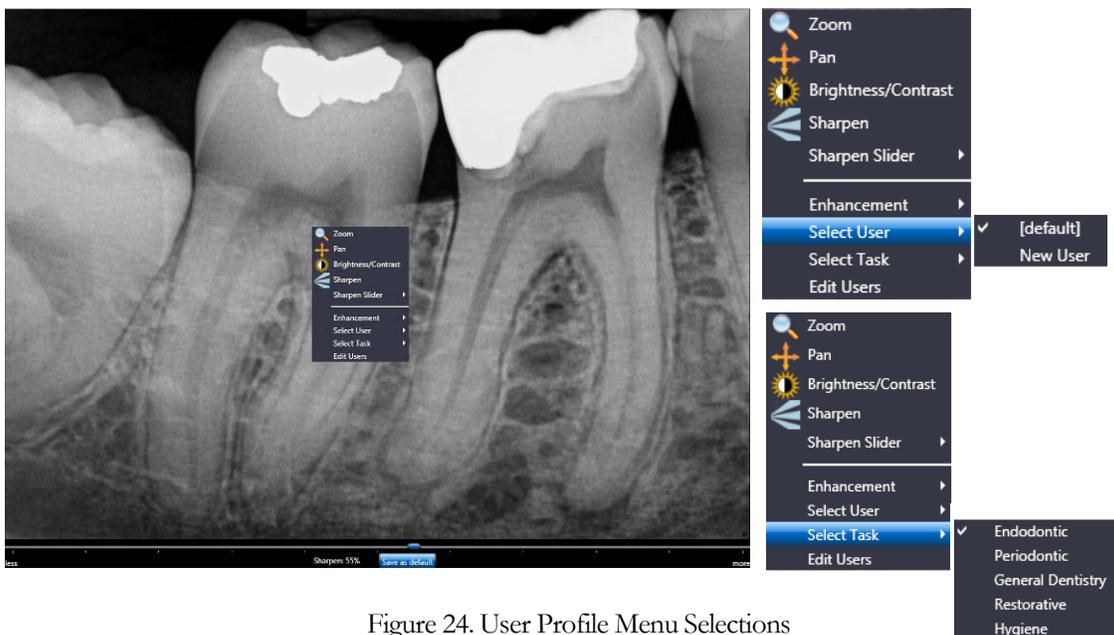


Figure 24. User Profile Menu Selections

*(Shown expanded at right)*



Figure 25. Diagnostic Tasks: General Dentistry (top) and Endodontic (bottom)



Figure 26. Diagnostic Tasks: Periodontic (top) and Restorative (bottom)



Figure 27. Diagnostic Task: Hygiene

## 4.12. 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, EagleSoft, 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.

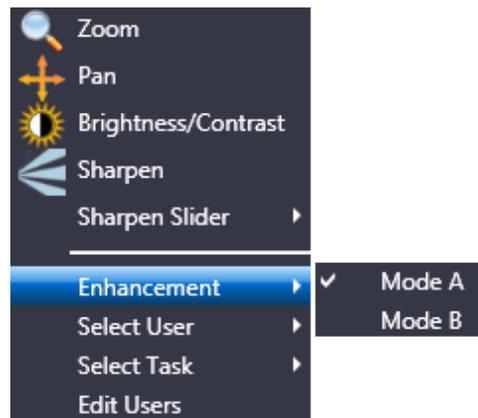


Figure 28. Enhancement Mode Selections

## 4.13. 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, EagleSoft 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, Eaglesoft, 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.

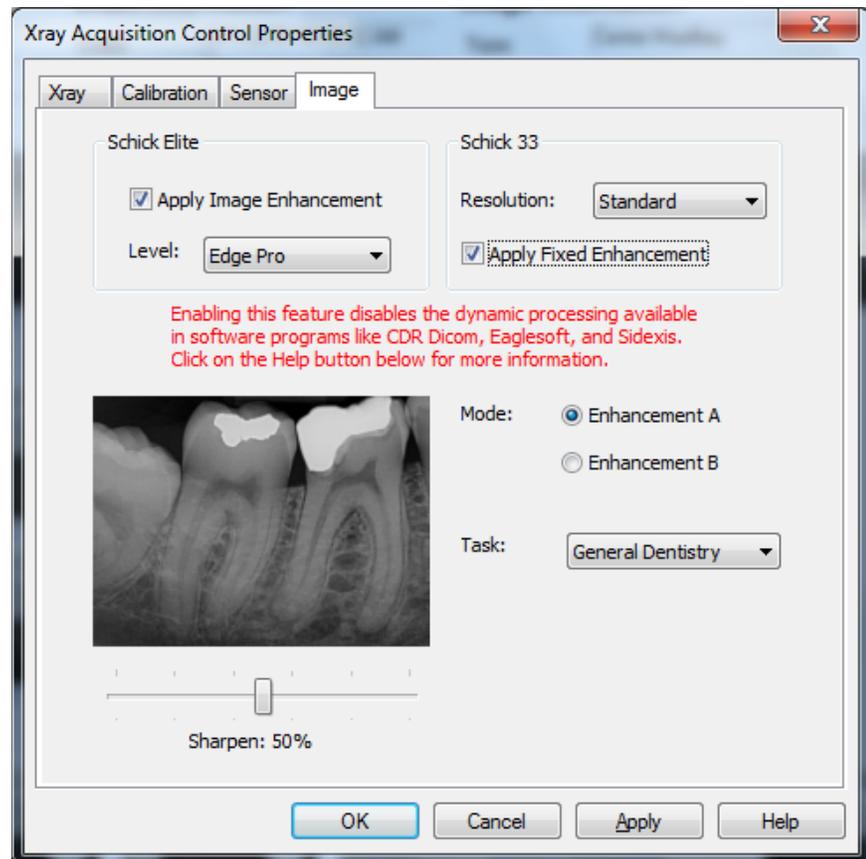


Figure 29. Selecting Fixed Enhancement in CDR Dicom

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

Table 12. Selecting Fixed or Dynamic Enhancement

*(See Figure 29 for reference)*

APPLY FIXED ENHANCEMENT	RESULTS
<input type="checkbox"/> Not Selected	<p>Applies dynamic processing in CDR Dicom, EagleSoft, 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, EagleSoft, 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.*

### 4.13.1. Dynamic Enhancement

A description of dynamic enhancement may be found in Section 4.13 on page 81..

### 4.13.2. Fixed Enhancement

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

Table 13. Fixed Enhancement in CDR Dicom

*(See Figure 29 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.*

## 4.14. CDR AutoDetect

The CDR AutoDetect feature instantly recognizes when Schick intraoral devices are connected. Like CDR USB high-speed (HS) remotes and Schick Elite USB remotes, **paired** Schick WiFi Interfaces in the Schick WiFi system are supported by this feature, skipping the additional step of manually selecting a different Schick device before using it.

CDR AutoDetect is enabled by default. If, however, it was 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 the CDR AutoDetect box is not checked, mark the checkbox (Figure 30) to enable this option. You might also notice that the Hardware Type drop-down box becomes unavailable, as detection of Schick USB devices and Sensors will now be performed automatically

It is also possible to interact with the CDR AutoDetect feature. You can do this by clicking on the notification window when it appears, or by double-clicking on the CDR AutoDetect icon that is present in the Windows system tray when CDR AutoDetect is enabled. Performing this action will display a window (Figure 31) that lists all the “known” Schick USB 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 monitor with all known currently connected devices. If several are listed, the one that is highlighted signifies the currently active device. To use a different device, select it, and then click the Select Device button.

**PLEASE NOTE: Schick WiFi Interfaces must be paired to the workstation to be listed by the CDR AutoDetect Monitor.**

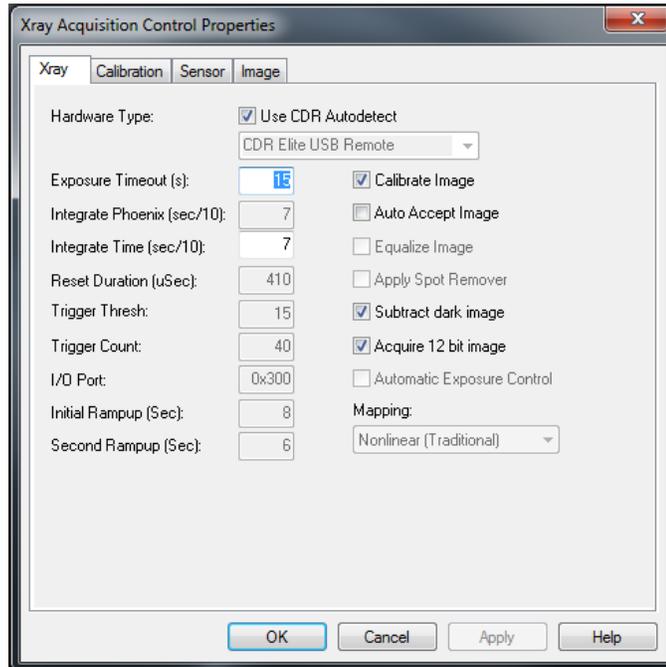


Figure 30. X-ray Properties Page with CDR Autodetect Option Selected

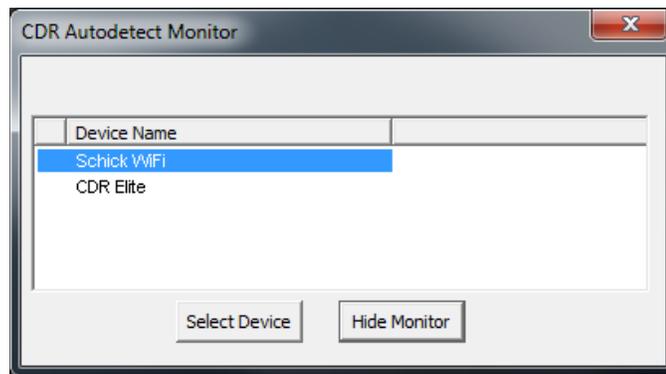


Figure 31. CDR Autodetect Monitor

## 5. Web Server and Upgrade Utility

The Schick WiFi Web Server and Upgrade Utility can be used to accomplish the following:

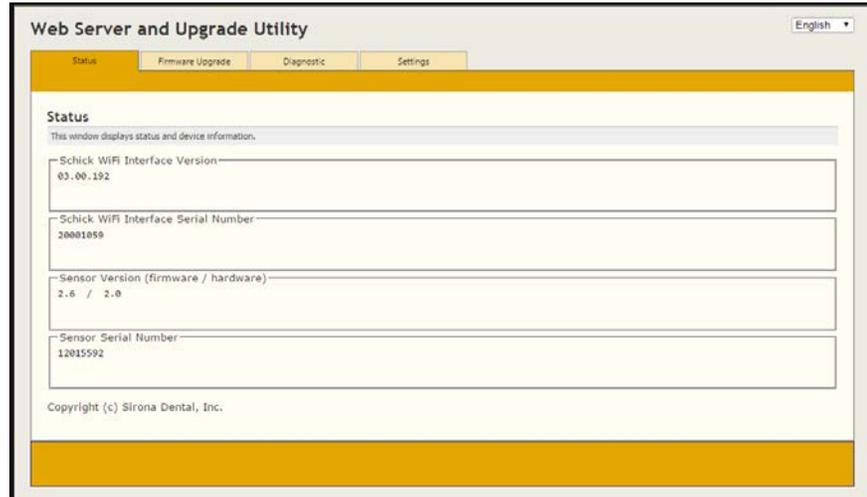
- Display Schick WiFi Interface status
- Perform firmware upgrades
- Perform diagnostic tests
- Display user-configurable settings.

Although we recommend that the Schick WiFi Interface be placed in the Docking Station for Flash and FPGA upgrades, these upgrades can be performed with the device outside the Docking Station.

In this case, the battery charge must be 50% or higher to ensure there is no interruption to power during the upgrade process. A loss of power, which could occur if battery power fell to empty during the upgrade process, would result in an incomplete upgrade and could prevent the device from operating.

## 5.1. Status Tab

The Status tab (shown below) includes software version and date information, the Schick WiFi Interface serial number, and Sensor information (if the Sensor is connected to the Schick WiFi Interface).

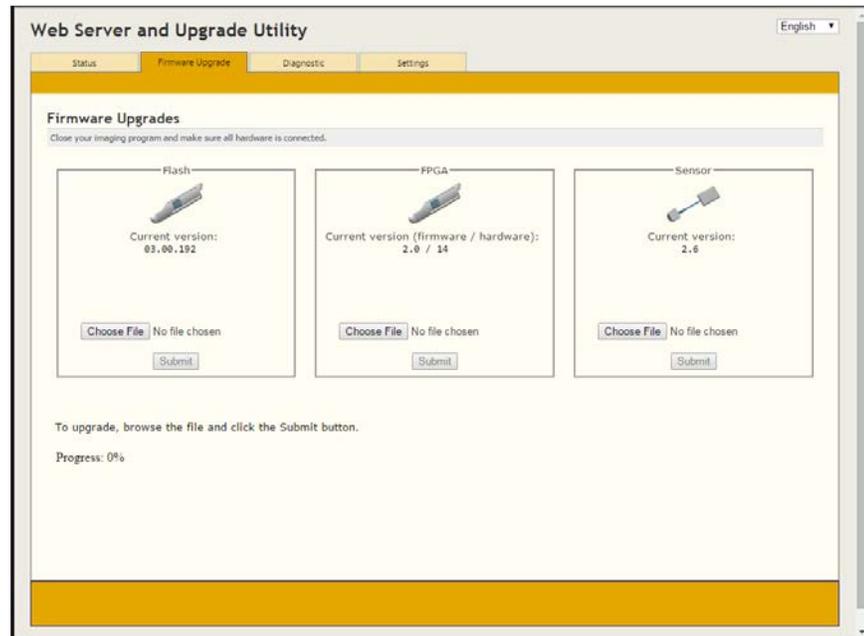


The Status tab includes the following information:

- Schick WiFi Interface Version – This is the current version of Flash firmware programmed into the Schick WiFi Interface.
- Schick WiFi Interface Serial Number – This is the product serial number located on the bottom outer surface of the Schick WiFi Interface
- Sensor Version (firmware / hardware) – This is the current version of the firmware and hardware programmed into the Sensor
- Sensor Serial Number – This is the product serial number located on the back outer surface of the Sensor

## 5.2. Firmware Upgrade Tab

The Firmware Upgrade tab (shown below) includes features to install the latest firmware improvements to your product and we strongly recommend that you install them when directed. These upgrades are simple to perform so you can update the product yourself by following a few simple steps.



The Firmware Upgrade tab includes the following information:

- Schick WiFi Interface Flash upgrades (on page 87)
- Schick WiFi Interface FPGA upgrades (on page 93)
- Sensor firmware upgrades (on page 98).

## 5.2.1. Flash Upgrade

**PLEASE NOTE:** For this procedure, we recommend that the Schick WiFi Interface be in the Docking Station

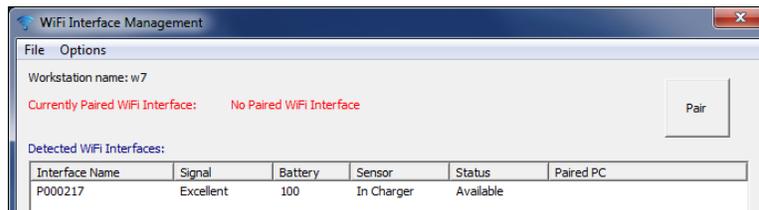
### STEP 1

Open the Wireless Monitor on a PC workstation. To do this, click on the Wireless Monitor icon located in the System Tray and select Schick WiFi Interface Management.



### STEP 2

- A. Check the list of Schick WiFi Interfaces and identify the one you wish to upgrade.
- B. Make sure that it is **unpaired**.



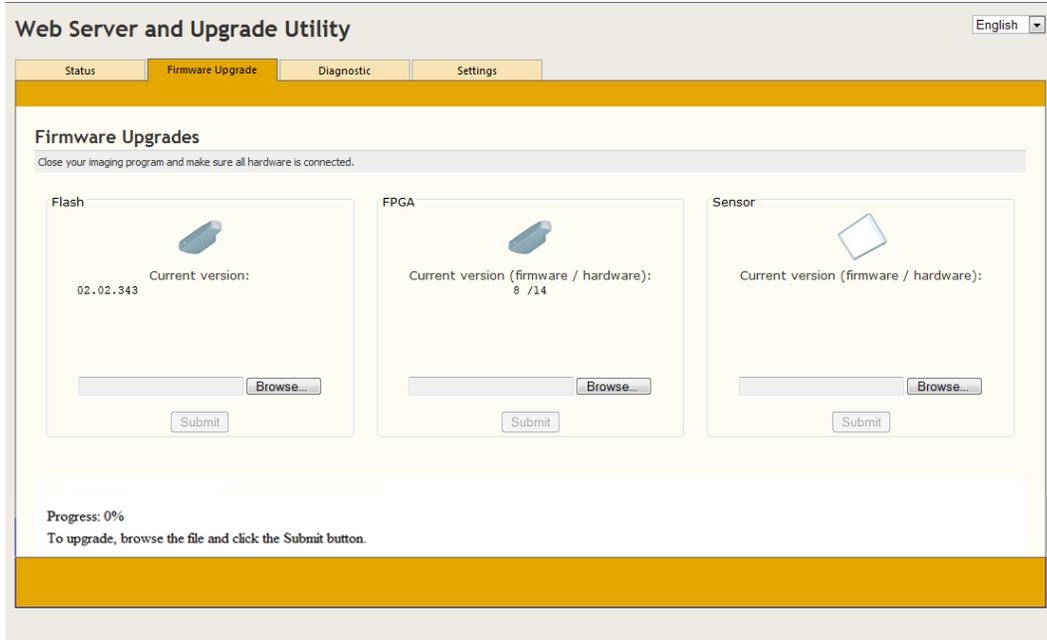
### STEP 3

Right-click on the device to be upgraded and select "Open Device Web Interface." The Web Server and Upgrade Utility page is displayed.



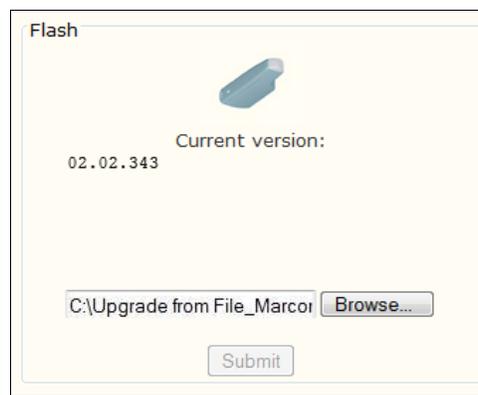
## STEP 4

Click on the Firmware Upgrade tab.



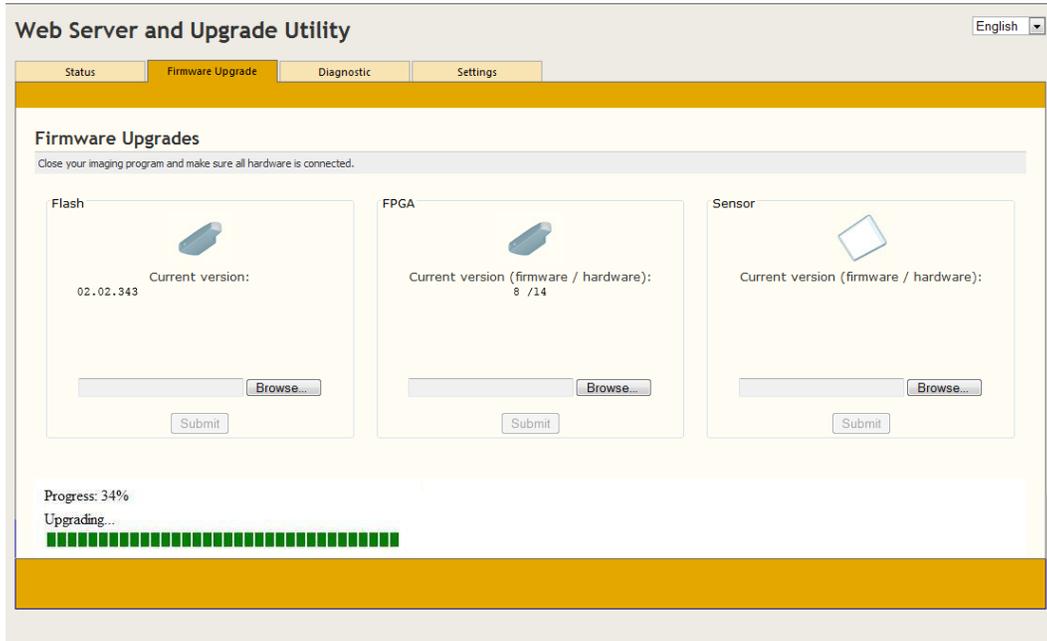
## STEP 5

- Under the “Flash” group, click the Browse button.
- Browse for the “uImage” file (may be available on disk or by web download) and click Open.
- Click the Submit button (*only once*).



## STEP 6

Notice the status bar at the bottom of the Web Server and Upgrade Utility page. As the new firmware is installed, its status is indicated by the progress bar.



## STEP 7

- When the firmware upgrade is complete, the Schick WiFi Interface will reboot automatically.
- After the Schick WiFi Interface reboots, wait approximately for 10 seconds for the LED to start flashing.
- In the web browser, press the F5 key to refresh the window.
- Verify the updated version of the firmware, which is 03.00.192 in this example.

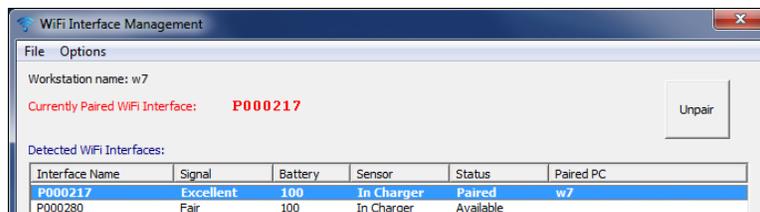


(verify new firmware version)

## STEP 7 (CONTINUED)

---

- E. Return to the WiFi Interface Management window and confirm that the upgraded Schick WiFi Interface continues to appear in the list of detected devices.
- F. Pair the upgraded Schick WiFi Interface with a PC workstation to verify this function.
- G. Take several sample exposures to verify image quality.



(check Schick WiFi Interface Management)

## 5.2.2. Flash Upgrade (Alternate)

**PLEASE NOTE:** This is an **alternate** method for upgrading Flash firmware in the Schick WiFi Interface if the recommended procedure has failed or if the Schick WiFi Interface is not booting up properly.

For an alternate method to upgrade Flash firmware, perform the following steps:

1. Make sure that the Schick WiFi Interface to be upgraded is placed in the Docking Station (if it is not there already). Also make sure that the USB cable is connected from the PC to the Docking Station.
2. Open the WiFi Configuration Utility on a PC workstation. To do this, click Start > Sirona Dental > Schick WiFi > WiFi Configuration Utility.
3. At the WiFi Configuration Utility, click Tools > Upgrade from File.
4. At the Schick WiFi Upgrade or Recovery window, browse for the “uImage” file (may be available on disk or by web download) and click Open.
5. Click Install. The Flash upgrade occurs in two parts: the first part displays the message, "Loading file . . ." and the second part is "Installing firmware . . ."

**IMPORTANT:** Do not remove the Schick WiFi Interface from the Docking Station during a firmware upgrade. When the message, "Schick WiFi upgrade or recovery was successful" is displayed, the Schick WiFi Interface may be removed and is ready for normal use.

6. When the firmware upgrade is complete, the Schick WiFi Interface will reboot automatically. After the Schick WiFi Interface reboots, wait approximately for 10 seconds for the LED to start flashing.
7. Return to the WiFi Interface Management window and confirm that the upgraded Schick WiFi Interface continues to appear in the list of detected devices. Select the upgraded device and click File > Open Selected Device Web Interface.
8. When the Web Server and Upgrade Utility window is displayed, select the Firmware Upgrade tab. Check the Flash group and verify the updated version of the firmware, which is 02.02.343 at the time of this document's release.
9. Pair the upgraded Schick WiFi Interface with a PC workstation to verify this function.
10. Take several sample exposures to verify image quality.

### 5.2.3. FPGA Upgrade

**PLEASE NOTE:** For this procedure, we recommend that the Schick WiFi Interface be in the Docking Station.

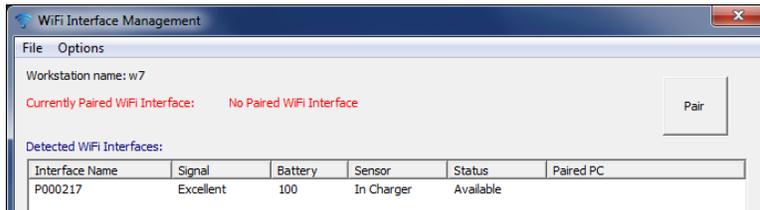
#### STEP 1

Open the WiFi Interface Management window (if not open already). To do this, click on the Wireless Monitor icon located in the System Tray and select Schick WiFi Interface Management.



#### STEP 2

- A. Check the list of Schick WiFi Interfaces and identify the one you wish to upgrade.
- B. Make sure that it is **unpaired**.



#### STEP 3

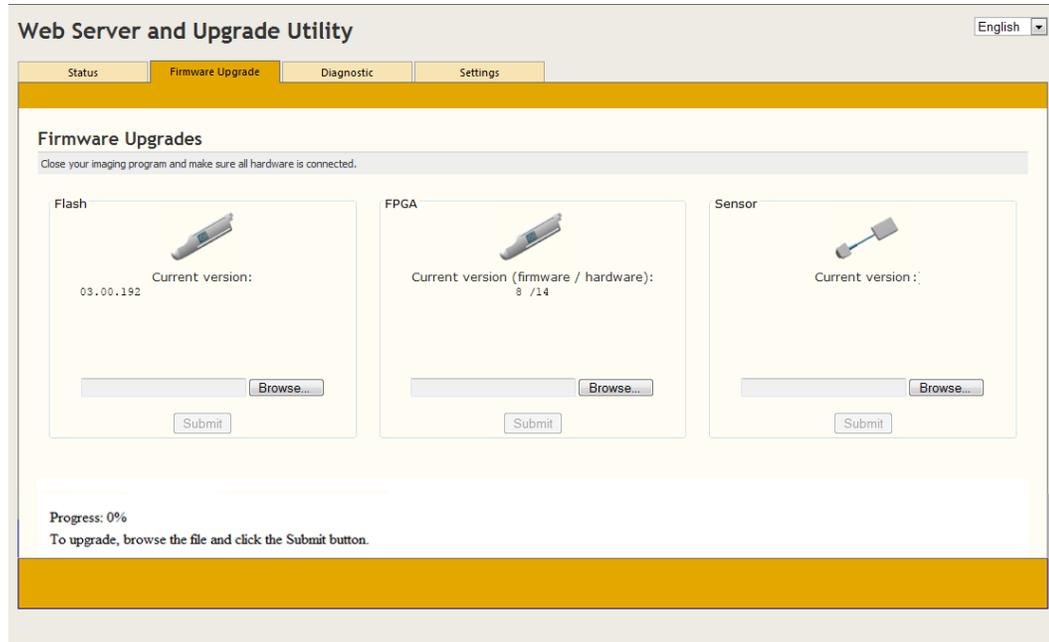
Right-click on the device to be upgraded and select “Open Device Web Interface.” The Web Server and Upgrade Utility page is displayed.



## STEP 4

---

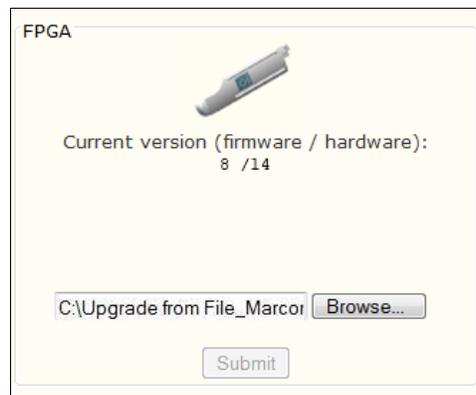
Click on the Firmware Upgrade tab.



## STEP 5

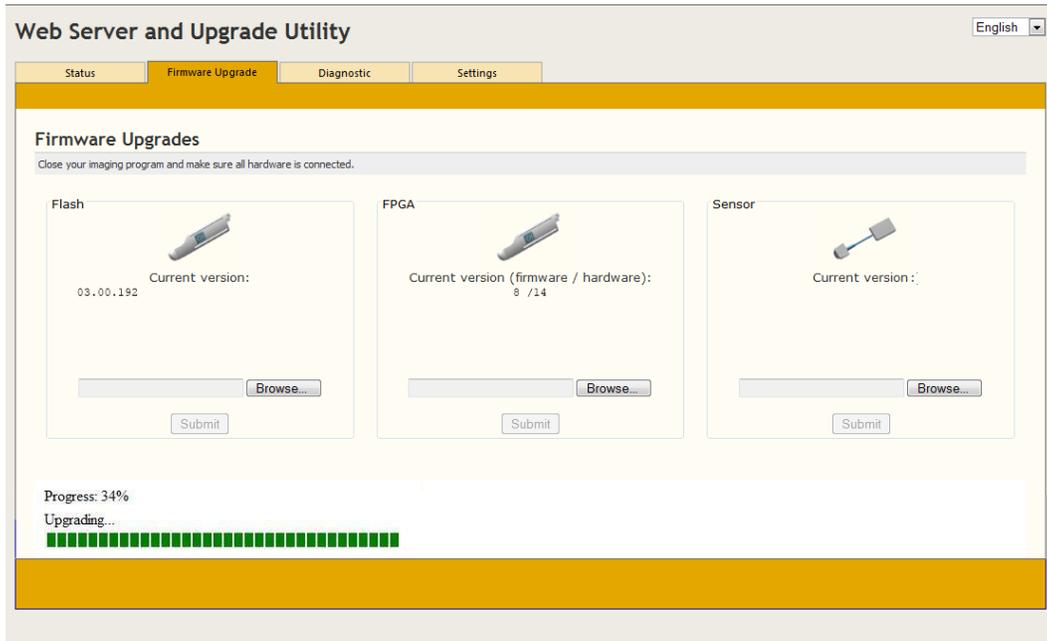
---

- A. Under the “FPGA” group, click the Browse button.
- B. Browse for the “.dat” file (may be available on disk or by web download) and click Open.
- C. Click the Submit button (*only once*).



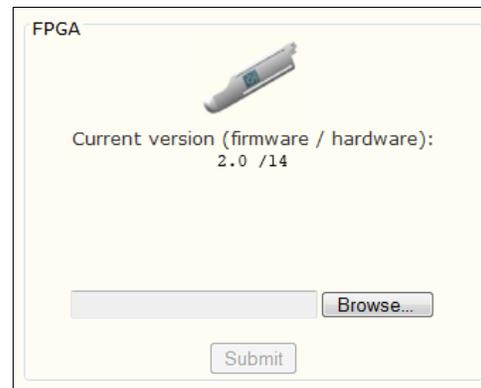
## STEP 6

Notice the status bar at the bottom of the Web Server and Upgrade Utility page. As the new firmware is installed, its status is indicated by the progress bar.



## STEP 7

- After the Schick WiFi Interface reboots, wait approximately for 10 seconds for the LED to start flashing.
- In the web browser where the successful upgrade message is displayed, click the Back button.
- Press the F5 key to refresh the window.
- Verify the updated version of the firmware, which is 2.0/1.4 in this example.



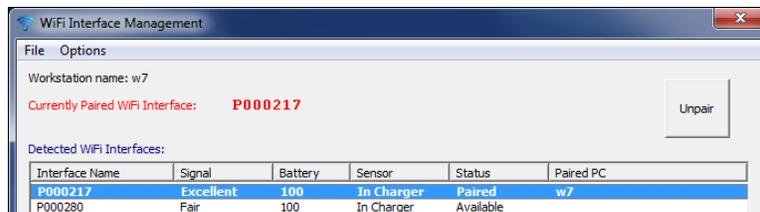
(verify new firmware version)

*NOTE: Your particular Sensor may present a different hardware version than the one shown ("14").*

## STEP 7 (CONTINUED)

---

- E. Return to the WiFi Interface Management window and confirm that the upgraded Schick WiFi Interface continues to appear in the list of detected devices.
- F. Pair the upgraded Schick WiFi Interface with a PC workstation to verify this function.
- G. Take several sample exposures to verify image quality.



(check Schick WiFi Interface Management)

## 5.2.4. Sensor Upgrade

**PLEASE NOTE:** For this procedure, make sure that the Schick WiFi Interface is not in the Docking Station. Also, be sure that the Sensor to be upgraded is connected to the Schick WiFi Interface. Turn on the Schick WiFi Interface, if it is not on already, and wait about 10 seconds for the LED to start flashing.

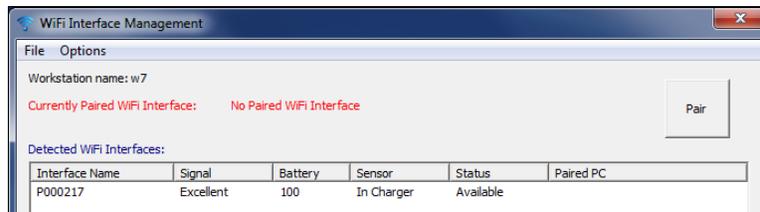
### STEP 1

Open the WiFi Interface Management window (if not open already). To do this, click on the Wireless Monitor icon located in the System Tray and select Schick WiFi Interface Management.



### STEP 2

- A. Check the list of Schick WiFi Interfaces and identify the one you wish to upgrade.
- B. Make sure that it is **unpaired**.



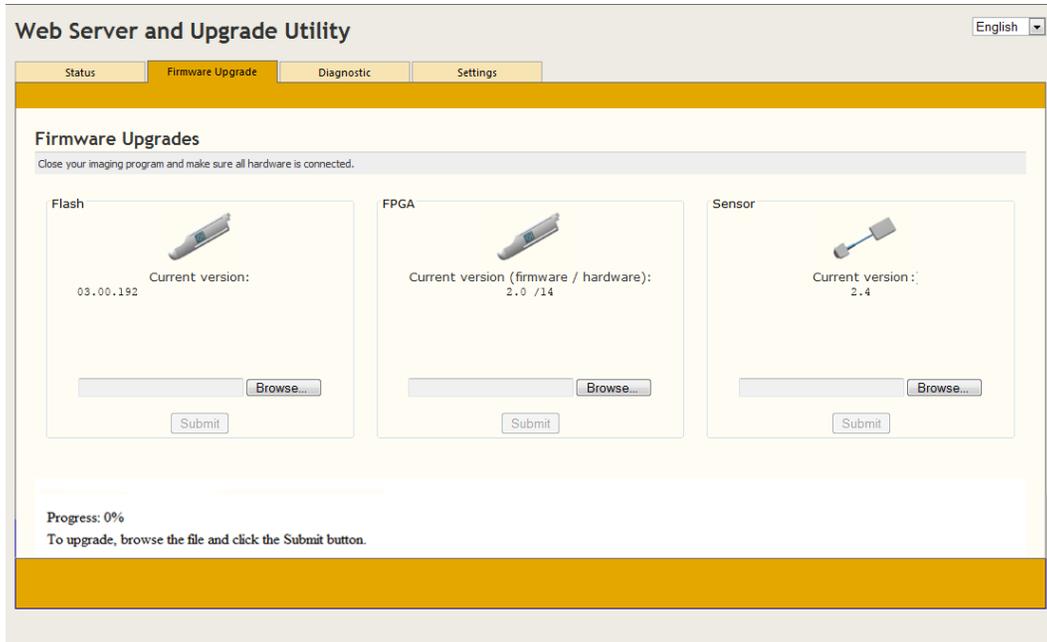
### STEP 3

Right-click on the device to be upgraded and select “Open Device Web Interface.” The Web Server and Upgrade Utility page is displayed.



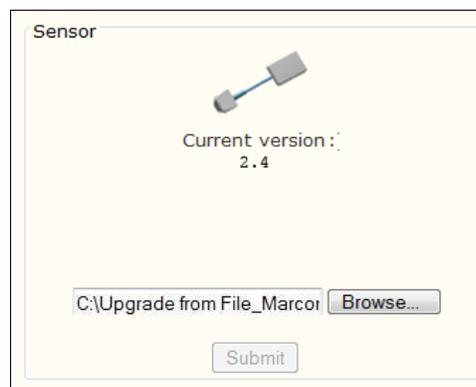
## STEP 4

Click on the Firmware Upgrade tab.



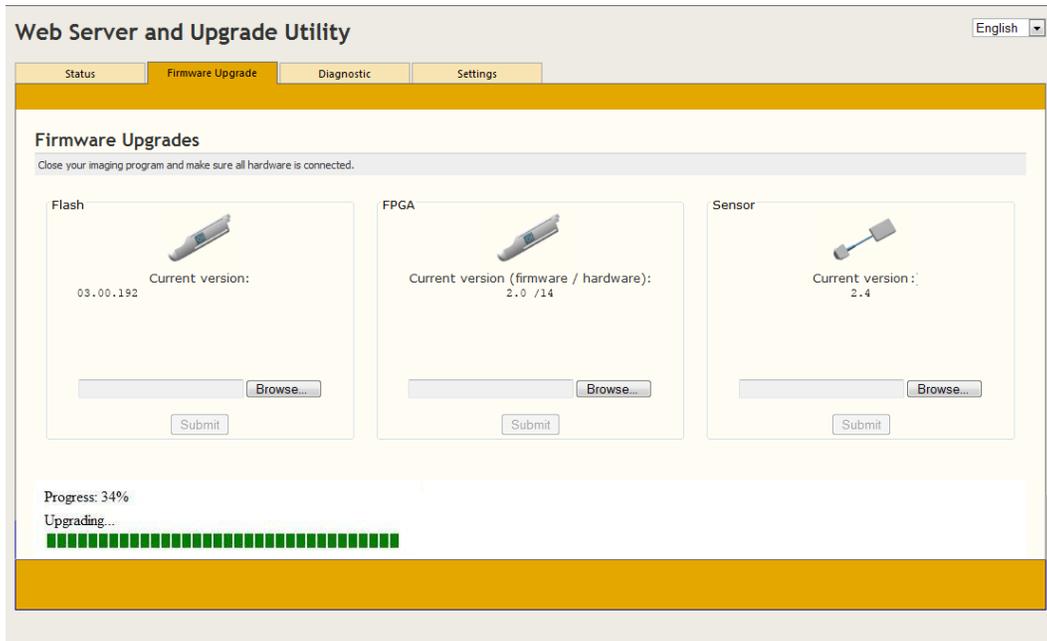
## STEP 5

- A. Under the “Sensor” group, click the Browse button.
- B. Browse for the “.hex” file (may be available on disk or by web download) and click Open.
- C. Click the Submit button (*only once*).



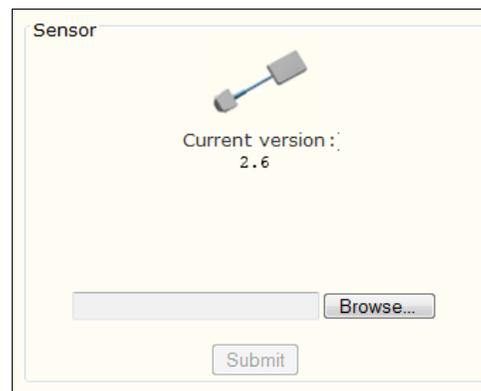
## STEP 6

Notice the status bar at the bottom of the Web Server and Upgrade Utility page. As the new firmware is installed, its status is indicated by the progress bar.



## STEP 7

- After the Schick WiFi Interface reboots, wait approximately 10 seconds for the LED to start flashing.
- In the web browser where the successful upgrade message is displayed, click the Back button.
- Press the F5 key to refresh the window.
- Verify the updated version of the firmware, which is 2.6 in this example.

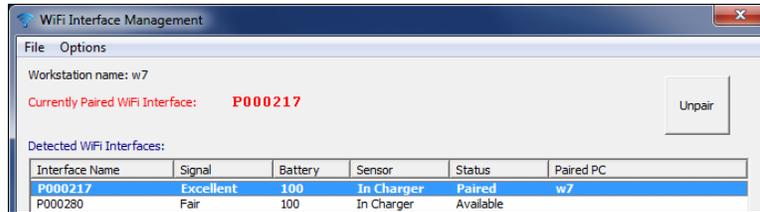


(verify new firmware version)

## STEP 7 (CONTINUED)

---

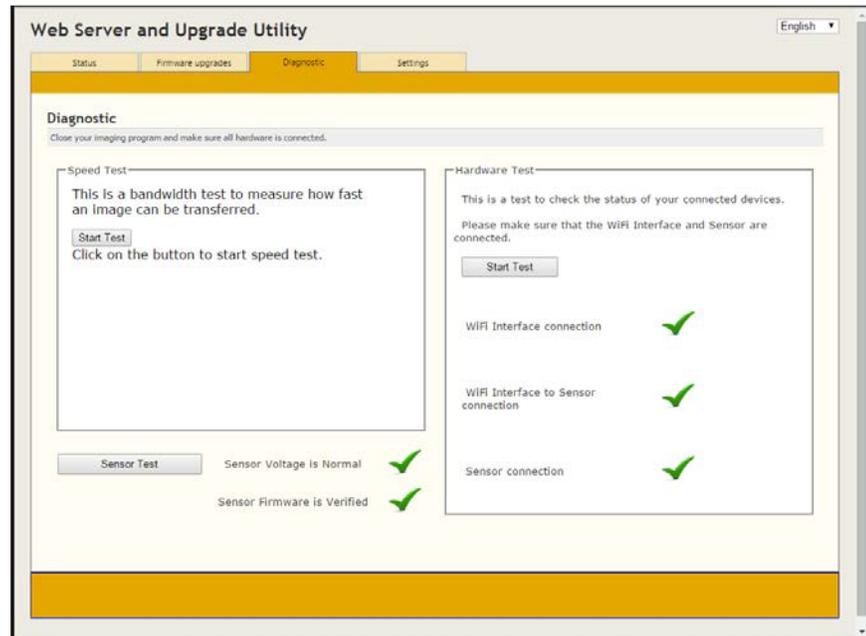
- E. Return to the WiFi Interface Management window and confirm that the upgraded Schick WiFi Interface continues to appear in the list of detected devices.
- F. Pair the upgraded Schick WiFi Interface with a PC workstation to verify this function.
- G. Take several sample exposures to verify image quality.



(check Schick WiFi Interface Management)

## 5.3. Diagnostic Tab

The Diagnostic tab (shown below) includes a bandwidth test, which measures how fast an image can be transferred wirelessly from the Schick WiFi Interface to the PC workstation for display; a set of hardware tests that evaluate the wireless and functional connections of the Schick WiFi system, and voltage and firmware tests of the Sensor.



### 5.3.1. Speed Test

The Speed test determines how quickly a binned image (a Schick Elite or Standard Resolution image) or unbinned image (a Schick 33 or High Resolution image) can be transferred wirelessly to the host computer for display. The test is available by clicking the Start Test button in the Speed Test section.

To produce the speed results, the test uses the current WiFi connection to transfer data that corresponds to a typical binned and unbinned image. Image data from an actual patient exposure is not used in this test.

Binned images may take approximately up to 6 seconds to transfer and display, and unbinned images up to 10 seconds. If the results exceed these general averages, some optimization of the WiFi environment may be indicated. In this case, installing an access point dedicated to transferring Schick WiFi images, rather than sharing the bandwidth with other resources such as Internet usage, may improve image transfer times.

### 5.3.2. Hardware Tests

The following Hardware tests, which provide a quick summary of the overall wireless and hardware status of the Schick WiFi system, are available by clicking the Start Test button in the Hardware Test section:

- WiFi Interface Connection - Test passes when pattern data sent from the Schick WiFi Interface to the host computer is verified successfully
- WiFi Interface to Sensor Connection - Test passes when data sent from the Sensor to the Schick WiFi Interface, and from the Schick WiFi Interface to the host computer, is verified successfully
- Sensor Connection - Test passes when pixel data, without an X-ray exposure, is read successfully by the Sensor, sent to the Schick WiFi Interface, and from the Schick WiFi Interface to the host computer, and is verified successfully

Table 14 on page 104 describes the possible outcomes of the tests and the corrective actions associated with them.

### 5.3.3. Sensor Tests

The Sensor Test consists of two parts, Sensor voltage and Sensor firmware verification, as described below.

- Sensor Voltage - Test determines if a low voltage condition exists in the Sensor, which may prevent the system from operating normally. In the event you receive an indication of low voltage after running the test, you will be prompted with a message suggesting several possible actions to resolve the issue.
- Sensor Firmware - Test determines if the Sensor firmware is valid, meaning that it can be used by the Sensor and is not corrupted. The test cannot determine, however, if the correct firmware “version” has been installed for your Sensor. If you have a question about the firmware used in the Schick WiFi system, please contact Product Support for more information.

### 5.3.4. Additional Troubleshooting

If an error condition occurs in the Schick WiFi system, several actions can be taken immediately that may help identify the issue and possibly resolve it.

- Turn off the Schick WiFi Interface and turn it back on again. Repeat the Hardware Tests.
- Upgrade the Flash firmware. This is particularly important if you have recently updated the Schick WiFi system with new software and drivers. Repeat the Hardware Tests.
- Try using a different Sensor, if one is available, and repeat the Hardware Tests.
- Verify that the router or access point is operating properly.

If none of these steps prove effective, refer to the following table, and Product Support, as needed, for additional information.

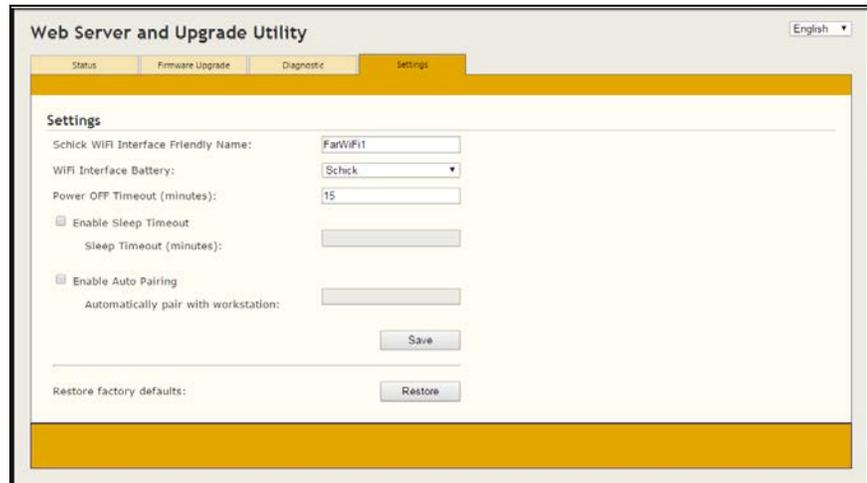
Table 14. Web Server Diagnostic Tests

WiFi INTERFACE CONNECTION	WiFi INTERFACE TO SENSOR CONNECTION	SENSOR CONNECTION	CORRECTIVE ACTION
Pass	Fail	Fail	Replace Sensor cable. Replace Sensor if problem persists.
Pass	Pass	Fail	Connect alternate Sensor if available. Replace Sensor if problem persists.
Fail	Fail	Fail	Perform Flash upgrade (under Firmware Upgrade tab). Contact Product Support if problem persists.
Pass	Pass	Pass	None

## 5.4. Settings Tab

**PLEASE NOTE:** When customizing settings, make sure that the particular Schick WiFi Interface whose settings you wish to change is listed as “Available” in the WiFi Interface Management window.

The Settings tab (shown below) includes custom options that are user-configurable.



The screenshot shows the 'Web Server and Upgrade Utility' interface with the 'Settings' tab selected. The settings are as follows:

Setting	Value
Schick WiFi Interface Friendly Name:	FarWiFi1
WiFi Interface Battery:	Schick
Power OFF Timeout (minutes):	15
Enable Sleep Timeout:	<input type="checkbox"/>
Sleep Timeout (minutes):	
Enable Auto Pairing:	<input type="checkbox"/>
Automatically pair with workstation:	

Buttons: Save, Restore

Although changing these settings is optional, they are included here to enhance your use of the Schick WiFi system. While other enhancements may be implemented in future software versions, the following items are currently available.

- Use “friendly names” to identify Schick WiFi Interfaces.
- Select the appropriate battery (based on the battery label) when performing Schick WiFi Interface battery replacement.<sup>7</sup>
- Change the time before the start of the “power timeout.”
- Enable “Sleep Timeout” to extend the battery life of the Schick WiFi Interface.
- Enable “Auto Pairing” to pair a particular Schick WiFi Interface with a particular workstation, exclusively.

<sup>7</sup> Available in Schick WiFi software version 2.1 and higher.

### 5.4.1. Friendly Names

The use of friendly names to identify the Schick WiFi Interfaces in your office helps personalize these devices. Once they are given friendly names, Schick WiFi Interfaces display this information in WiFi Interface Management so you know instantly which ones are “paired” or “available” or “charging.” Friendly names can be any combination of letters and numbers, but not symbols or spaces, which are currently unsupported. Click Save to retain the changes.

### 5.4.2. WiFi Interface Battery

This setting<sup>8</sup> is used after replacing the original “Schick” battery in the Schick WiFi Interface with the more recent “Sirona” battery (batteries can be distinguished by the logos on their respective labels). Choosing the correct setting helps to ensure that the battery level of your new Sirona battery is reported accurately by the Wireless Monitor and in the WiFi Interface Management screen. Click Save to retain the changes.



Figure 32. Schick Battery



Figure 33. Sirona Battery

### 5.4.3. Power Timeout

Managing power for the Schick WiFi Interface is important to ensure the device is ready for imaging when you need it. The default setting for power timeout is 15 minutes, meaning that after 15 minutes in an idle state, when the device is not in use and is not being charged in the Docking Station, the Schick WiFi Interface will power down automatically. This setting is customizable.

To change the “friendly name” and / or “power timeout,” double-click inside the text box to highlight the current value, and then type in the new value. Be sure to click Save to retain the changes.

<sup>8</sup> Available in Schick WiFi software version 2.1 and higher.

#### 5.4.4. Sleep Timeout

The primary reason for implementing this new feature is to extend the battery life of your Schick WiFi Interface. Sleep Mode does this by introducing a power-savings option when the Schick WiFi Interface is not charging in the Docking Station.

If you already follow our guidelines by charging the Schick WiFi Interface in the Docking Station when not in use, you should continue to follow that practice. Sleep Mode has more to do with the Schick WiFi Interface when it is outside the Docking Station and not in use.

When the Schick WiFi Interface enters Sleep mode, the power supplied by the battery is reduced and the intensity of the LED is likewise diminished.

To "wake up" the Schick WiFi Interface in preparation for use, press the Power button once. Other user actions such as connecting or disconnecting the Sensor will also cancel Sleep Mode and prepare the Schick WiFi Interface and the Sensor for imaging. You will not need to re-pair the Schick WiFi Interface.

Sleep Mode is a customizable option that can be enabled or disabled in the Settings tab of the Web Server and Upgrade Utility. By default, this setting is enabled with a 5-minute timeout, meaning that after being idle for an interval of 5 minutes, outside the Docking Station, the Schick WiFi Interface will enter Sleep Mode to preserve battery power. During Sleep Mode, the Schick WiFi Interface remains paired, but AutoTake will flash red.

Click Save to retain the changes.

### 5.4.5. Auto Pairing

It is possible to exclusively "Auto Pair" a Schick WiFi Interface and PC workstation. You may wish to do this if you always use one specific Schick WiFi Interface with one particular workstation. If this setting is enabled, it will eliminate having to choose the pairing manually.

PLEASE NOTE: While primarily a benefit for smaller offices, enabling the Auto Pairing setting in the Web Server and Upgrade Utility is not appropriate in dental practices that routinely pair Schick WiFi Interfaces to different workstations

If you have decided to pair a particular Schick WiFi Interface exclusively with a particular workstation, RFID Tagging will not override this choice if Auto Pairing has been enabled.

To enable Auto Pairing between one specific Schick WiFi Interface and one specific workstation, perform the following steps:

1. Open the WiFi Interface Management window (right-click on the Wireless Monitor icon in the System Tray and select it.)
2. At the upper left side of the window is the "Workstation name" and the computer name following it. You will need this name in Step 6 (if this is the workstation being auto-paired), so please make a note of it.
3. Select the Schick WiFi Interface you wish to pair, then right-click and select "Open Device Web Interface."
4. Select the Web Server Settings tab and locate the "Enable Auto Pairing" checkbox and the text box.
5. Click on the checkbox to mark it.
6. Inside the "Automatically pair with workstation" text box, type in the computer name you noted in Step 2.
7. Click Save.

Schick WiFi Interfaces that are set with Auto Pairing enabled can be identified on the Interface Management window in the following way. Under the "Paired PC" column, the description "-Only" will be added after the workstation name.

A Schick WiFi Interface that is auto-paired cannot be paired to any other workstation, either at the Interface Management window or by RFID reader, until the "Enable Auto Pairing" checkbox is cleared.

#### 5.4.6. Restore Factory Defaults

This option resets all the customized settings on the Settings tab to their original (factory) values.

The reset is restricted to the settings on this tab and in this way differs from the "Reset to factory defaults" option in the WiFi Configuration Utility, which resets the Schick WiFi Interface to its factory defaults.

## 6. Protective Measures

### 6.1. Introduction

**IMPORTANT!** Be sure to turn off the Schick WiFi Interface and to disconnect it from the Sensor 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.

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.

For the Schick WiFi system, new holder sets have been designed, which can be used for all Schick Sensors. More information about these holders, including their usage and care, is available from our website at [www.schickbysirona.com](http://www.schickbysirona.com).

## 6.2. *Sensor 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 the Sensor from the Schick WiFi 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 wipe the Sensor and cable with the disinfecting product recommended in Section 6.5 on page 112. Do not expose the Sensor cable connectors to any amount of liquid.
- 8 . Repeat step 7. When the Sensor has been sprayed or wiped two times, continue with the following steps.
- 9 . Remove potential chemical build-up from the Sensor by wiping it with a sterile lap sponge saturated with de-ionized water.
- 10 . Use a sterile dry lap sponge to dry the Sensor or cable, as needed.
- 11 . Place the Sensor in a clean environment, ready for use.
- 12 . Reconnect the Sensor.
- 13 . Remove and discard gloves.

### 6.3. Schick WiFi Interface Cleaning

**IMPORTANT!** Be sure to remove the Schick WiFi Interface from the Docking Station before performing any cleaning procedures.

To clean the Schick WiFi Interface, apply a small amount of water or isopropyl alcohol (70%), to a non-abrasive, lint-free cloth. Wipe the unit, exercising care when cleaning around the connectors and contacts and ensure they remain completely dry. After cleaning, inspect the Schick WiFi Interface to ensure that its surfaces are clean and free of unwanted particles.

### 6.4. Schick WiFi Docking Station Cleaning

**IMPORTANT!** Be sure to disconnect the USB cable and wall-outlet power connector from the Schick WiFi Docking Station before performing any cleaning procedures.

To clean the Docking Station, apply a small amount of water or isopropyl alcohol (70%), to a non-abrasive, lint-free cloth. Wipe the unit, exercising care when cleaning around the connectors and contacts and ensure they remain completely dry. After cleaning, inspect the Docking Station to ensure that its surfaces are clean and free of unwanted particles.

### 6.5. Schick WiFi Mount and Clip Cleaning

To clean the mounts for the Schick WiFi system, including the Sensor holster, Docking Station wall mount, Schick WiFi Interface Delivery System mount, and Schick WiFi Interface Radiation Shield clip, apply a small amount of water or isopropyl alcohol (70%), to a non-abrasive, lint-free cloth. **These items are not autoclavable.**

### 6.6. Recommended Disinfectant

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

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

## 6.7. Protective Holsters, Mounts, and Clips



Sensor holsters are available as a convenient way to keep your Sensors easily accessible and safe from accidental damage and misuse. They can be installed on most surfaces, using the materials supplied with the holster.

Installation steps can be found in Section 2.8.1 on page 37.



Wall mounts for the Docking Station also provide accessibility and protection, and, like the Sensor holsters, they can be applied to most surfaces. The wall mount itself is molded to the Docking Station, supplying a stable and secure fit for the device.

Installation steps can be found in Section 2.8.2 on page 38.



Delivery system mounts for the Schick WiFi Interface offer quick access and temporary placement while working chair-side. Designed to fit most instrument panels, the mount is used to store the Schick WiFi Interface temporarily during patient exams.

When not in use, we recommend placing the Schick WiFi Interface in the Docking Station so it can be charged and ready for the next exam.

Installation steps can be found in Section 2.8.3 on page 39.



Designed for the lead aprons used during X-ray exams, the radiation shield clips for the Schick WiFi Interface also offer quick access and temporary placement while working chair-side.

Installation steps can be found in Section 2.8.4 on page 40.

# 7. Maintenance

There are no user-serviceable parts in the Schick WiFi Docking Station. Service of the Schick WiFi Interface is limited to battery replacement and service of Schick sensors is limited to cable replacement. However, before operating the system, customers shall check the Schick WiFi system for any signs of physical damage or defect. If detected, other system units can be substituted if they are available. Contact your local distributor of Sirona Dental products for further instructions.

## 7.1. Damaged Sensor

In the event of 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.

## 7.2. Part Numbers

The following table provides customer-orderable part number information for Schick WiFi Sensors, kits, and related hardware.

Table 15. Schick WiFi Replacement Kit Part Numbers

ITEM	PART NUMBER
Schick WiFi Interface Kit	B2410050
Replacement Schick WiFi PAT Battery Kit	B2410140
Schick WiFi Docking Station Kit	B2420050

Table 16. Schick WiFi Room and Upgrade Kit Part Numbers

ITEM	PART NUMBER
Schick WiFi Room Kit	B2400010
Schick WiFi Room Kit (without Sensor cables)	B2400001
Schick WiFi Room Kit (International)	B2400014
Schick WiFi Upgrade System Shipping Kit	B2400000
Schick WiFi Upgrade System Shipping Kit (International)	B2400004

Table 17. Schick WiFi Accessories

ITEM	PART NUMBER
Schick WiFi RFID Reader	B2440100
Schick WiFi RFID Reader Extension Cable	W1125400
Schick WiFi Docking Station Wall Mount	B2420135
Schick WiFi Interface Radiation Shield Clip	B2400250
Schick WiFi Interface Delivery Unit Mount	B2400260
Schick WiFi Spare Interface Battery	B2410140
Schick WiFi Docking Station USB Cable - 2m	B2250151

Table 18. Schick WiFi with Schick Elite Sensor Orderable Item Part Numbers

ITEM	SENSOR CABLE LENGTH	DESCRIPTION	PART NUMBER
Size 0 Sensor Kit	6 ft (1.8 m)	Schick WiFi S0 Sensor Ship Kit 6 ft	B2403101
Size 0 Sensor Kit	9 ft (2.7 m)	Schick WiFi S0 Sensor Ship Kit 9 ft	B2403102
Size 0 Sensor Kit	3 ft (0.9 m)	Schick WiFi S0 Sensor Ship Kit 3 ft	B2403103
Size 0 Sensor Kit	18 in (0.5 m)	Schick WiFi S0 Sensor Ship Kit 18 in	B2403100
Size 0 Sensor System Ship Kit (US)	18 in (0.5 m)	Schick WiFi S0 Sensor System Ship Kit 18 in (US Power Supply)	B2403000
Size 0 Sensor System Ship Kit (International)	18 in (0.5 m)	Schick WiFi S0 Sensor System Ship Kit 18 in (International Power Supply)	B2403004
Size 1 Sensor Kit	6 ft (1.8 m)	Schick WiFi S1 Sensor Ship Kit 6 ft	B2401101
Size 1 Sensor Kit	9 ft (2.7 m)	Schick WiFi S1 Sensor Ship Kit 9 ft	B2401102
Size 1 Sensor Kit	3 ft (0.9 m)	Schick WiFi S1 Sensor Ship Kit 3 ft	B2401103
Size 1 Sensor Kit	18 in (0.5 m)	Schick WiFi S1 Sensor Ship Kit 18 in	B2401100
Size 1 Sensor System Ship Kit (US)	18 in (0.5 m)	Schick WiFi S1 Sensor System Ship Kit 18 in (US Power Supply)	B2401000
Size 1 Sensor System Ship Kit (International)	18 in (0.5 m)	Schick WiFi S1 Sensor System Ship Kit 18 in (International Power Supply)	B2401004
Size 2 Sensor Kit	6 ft (1.8 m)	Schick WiFi S2 Sensor Ship Kit 6 ft	B2402101
Size 2 Sensor Kit	9 ft (2.7 m)	Schick WiFi S2 Sensor Ship Kit 9 ft	B2402102
Size 2 Sensor Kit	3 ft (0.9 m)	Schick WiFi S2 Sensor Ship Kit 3 ft	B2402103
Size 2 Sensor Kit	18 in (0.5 m)	Schick WiFi S2 Sensor Ship Kit 18 in	B2402100
Size 2 Sensor System Ship Kit (US)	18 in (0.5 m)	Schick WiFi S2 Sensor System Ship Kit 18 in (US Power Supply)	B2402000
Size 2 Sensor System Ship Kit (International)	18 in (0.5 m)	Schick WiFi S2 Sensor System Ship Kit 18 in (International Power Supply)	B2402004
Schick WiFi USB Interface Assembly	—	Schick WiFi USB Interface Assembly	B2410100
Schick WiFi Docking Station Assembly	—	Schick WiFi Docking Station Assembly	B2420100
Schick WiFi Docking Station Power Supply Kit (US)	—	Schick WiFi Docking Station Power Supply Kit (US)	B2420110
Schick WiFi Docking Station Power Supply Kit (International)	—	Schick WiFi Docking Station Power Supply Kit (International)	B2420111
Schick WiFi Universal Sensor Cables	6 ft (1.8 m)	Schick WiFi Universal Sensor Cables 6 ft	B2400168

ITEM	SENSOR CABLE LENGTH	DESCRIPTION	PART NUMBER
Schick WiFi Universal Sensor Cables	9 ft (2.7 m)	Schick WiFi Universal Sensor Cables 9ft	B2400166
Schick WiFi Universal Sensor Cables	3 ft (1.8 m)	Schick WiFi Universal Sensor Cables 3 ft	B2400167
Schick WiFi Universal Sensor Cables	18 in (0.5 m)	Schick WiFi Universal Sensor Cables 18 in	B2400165
Schick WiFi Cable Kit	6 ft (1.8 m)	Schick WiFi Cable Kit 6 ft	B2400121
Schick WiFi Cable Kit	9 ft (2.7 m)	Schick WiFi Cable Kit 9 ft	B2400122
Schick WiFi Cable Kit	3 ft (0.9 m)	Schick WiFi Cable Kit 3 ft	B2400123
Schick WiFi Cable Kit	18 in (0.5 m)	Schick WiFi Cable Kit 18 in	B2400120
USB Cable Kit	16.5 ft (5 m)	USB A/B 5M Cable with Ferrite	B2250150
USB Cable Kit	6.5 ft (2 m)	USB A/B 2M Cable with Ferrite	B2250151
USB Cable Kit	1.6 ft (0.5 m)	USB A/B 0.5M Cable with Ferrite	B2250152

Table 19. Schick WiFi with Schick 33 Sensor Orderable Item Part Numbers

ITEM	SENSOR CABLE LENGTH	DESCRIPTION	PART NUMBER
Size 0 Sensor Kit	6 ft (1.8 m)	Schick WiFi S0 Sensor Ship Kit 6 ft	B2433101
Size 0 Sensor Kit	9 ft (2.7 m)	Schick WiFi S0 Sensor Ship Kit 9 ft	B2433102
Size 0 Sensor Kit	3 ft (0.9 m)	Schick WiFi S0 Sensor Ship Kit 3 ft	B2433103
Size 0 Sensor Kit	18 in (0.5 m)	Schick WiFi S0 Sensor Ship Kit 18 in	B2433100
Size 0 Sensor System Ship Kit (US)	18 in (0.5 m)	Schick WiFi S0 Sensor System Ship Kit 18 in (US Power Supply)	B2433000
Size 0 Sensor System Ship Kit (International)	18 in (0.5 m)	Schick WiFi S0 Sensor System Ship Kit 18 in (International Power Supply)	B2433004
Size 1 Sensor Kit	6 ft (1.8 m)	Schick WiFi S1 Sensor Ship Kit 6 ft	B2431101
Size 1 Sensor Kit	9 ft (2.7 m)	Schick WiFi S1 Sensor Ship Kit 9 ft	B2431102
Size 1 Sensor Kit	3 ft (0.9 m)	Schick WiFi S1 Sensor Ship Kit 3 ft	B2431103
Size 1 Sensor Kit	18 in (0.5 m)	Schick WiFi S1 Sensor Ship Kit 18 in	B2431100
Size 1 Sensor System Ship Kit (US)	18 in (0.5 m)	Schick WiFi S1 Sensor System Ship Kit 18 in (US Power Supply)	B2431000
Size 1 Sensor System Ship Kit (International)	18 in (0.5 m)	Schick WiFi S1 Sensor System Ship Kit 18 in (International Power Supply)	B2431004
Size 2 Sensor Kit	6 ft (1.8 m)	Schick WiFi S2 Sensor Ship Kit 6 ft	B2432101
Size 2 Sensor Kit	9 ft (2.7 m)	Schick WiFi S2 Sensor Ship Kit 9 ft	B2432102
Size 2 Sensor Kit	3 ft (1.8 m)	Schick WiFi S2 Sensor Ship Kit 3 ft	B2432103
Size 2 Sensor Kit	18 in (0.5 m)	Schick WiFi S2 Sensor Ship Kit 18 in	B2432100
Size 2 Sensor System Ship Kit (US)	18 in (0.5 m)	Schick WiFi S2 Sensor System Ship Kit 18 in (US Power Supply)	B2432000
Size 2 Sensor System Ship Kit (International)	18 in (0.5 m)	Schick WiFi S2 Sensor System Ship Kit 18 in (International Power Supply)	B2432004
Schick WiFi USB Interface Assembly	—	Schick WiFi USB Interface Assembly	B2410100
Schick WiFi Docking Station Assembly	—	Schick WiFi Docking Station Assembly	B2420100
Schick WiFi Docking Station Power Supply Kit (US)	—	Schick WiFi Docking Station Power Supply Kit (US)	B2420110
Schick WiFi Docking Station Power Supply Kit	—	Schick WiFi Docking Station Power Supply Kit	B2420111

ITEM	SENSOR CABLE LENGTH	DESCRIPTION	PART NUMBER
(International)		(International)	
Schick WiFi Universal Sensor Cables	6 ft (1.8 m)	Schick WiFi Universal Sensor Cables 6 ft	B2400168
Schick WiFi Universal Sensor Cables	9 ft (2.7 m)	Schick WiFi Universal Sensor Cables 9ft	B2400166
Schick WiFi Universal Sensor Cables	3 ft (1.8 m)	Schick WiFi Universal Sensor Cables 3 ft	B2400167
Schick WiFi Universal Sensor Cables	18 in (0.5 m)	Schick WiFi Universal Sensor Cables 18 in	B2400165
Schick WiFi Cable Kit	6 ft (1.8 m)	Schick WiFi Cable Kit 6 ft	B2400121
Schick WiFi Cable Kit	9 ft (2.7 m)	Schick WiFi Cable Kit 9 ft	B2400122
Schick WiFi Cable Kit	3 ft (0.9 m)	Schick WiFi Cable Kit 3 ft	B2400123
Schick WiFi Cable Kit	18 in (0.5 m)	Schick WiFi Cable Kit 18 in	B2400120
USB Cable Kit	16.5 ft (5 m)	USB A/B 5M Cable with Ferrite	B2250150
USB Cable Kit	6.5 ft (2 m)	USB A/B 2M Cable with Ferrite	B2250151
USB Cable Kit	1.6 ft (0.5 m)	USB A/B 0.5M Cable with Ferrite	B2250152

### *7.3. Battery Disposal*

Lithium-ion batteries are subject to disposal and recycling regulations that vary by country and region.

For safe disposal of the WiFi system's rechargeable battery, please use your local battery recycling facility, return the battery to your local distributor, or mail directly to:

Sirona Dental, Inc.  
30-30 47th Avenue  
Long Island City  
NY 11101  
USA

### *7.4. Battery Conditions*

Indications that a battery is low on power or approaching depletion will appear in the following ways:

- Schick WiFi Interface LED  
(Figure 10. Schick WiFi Interface LED Color Range during Operation, on page 43 )
- Schick WiFi Interface Status battery level  
(Section 1.9.1, Wireless Monitor, on page 13).

If the battery is low on power, it may be possible to complete the current dental exam, but we strongly recommend recharging the battery by placing it in the Docking Station before the Schick WiFi Interface is used again.

If battery power is approaching depletion, meaning that the device cannot hold a charge for more than a few X-rays, the battery must be replaced, as the device will be unable to send images wirelessly.

### *7.5. Upgrades and Diagnostics*

If needed, new firmware for the Schick Sensor and Schick WiFi Interface may be installed using the Web Server and Upgrade Utility, as described in Section 5 on page 86.

## 7.6. Quality Procedure

### 7.6.1. 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.

### 7.6.2. 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.

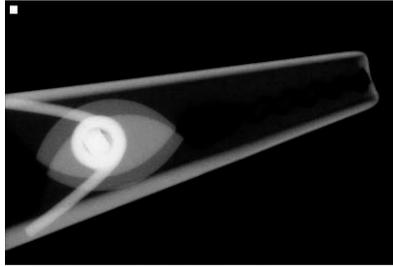
### 7.6.3. Procedure

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, EagleSoft, Patterson Imaging software), 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.

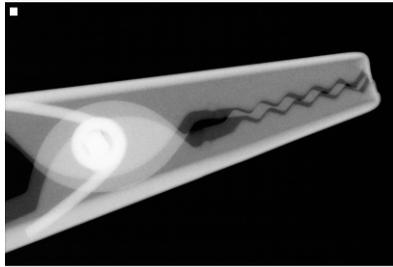
5. When the image is displayed, compare it with the samples shown in Figure 34 on page 120. An ideal image is one with sharp edges, clearly in focus, and having a distinct contrast between the object and the area around it. If necessary, adjust the technique factors and retake the image.
6. Record the 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



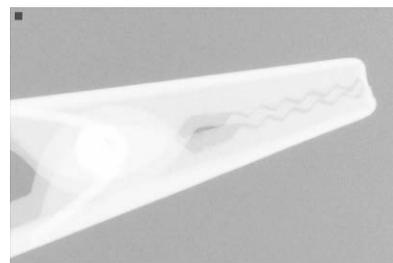
65 kVp 4mA 0.71s

ACCEPTABLE



65 kVp 4mA 0.32s

UNDEREXPOSED



65 kVp 4mA 0.07s

Figure 34. Comparing Quality Procedure Images

## 8. Schick Elite Cable Replacement

*NOTE: If you intend to replace the cable for the Schick 33 Sensor, please skip ahead to the next chapter and follow those instructions.*

**IMPORTANT!** Always disconnect the Schick Elite Sensor from the Schick WiFi Interface during cable replacement to avoid potential damage to Sensor components. Close CDR DICOM or any other imaging application (EagleSoft or Patterson Imaging) 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 Sirona Dental.

**IMPORTANT!** Like other electronic devices, your Schick Elite 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 Schick Elite Sensor 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.

### STEP 1

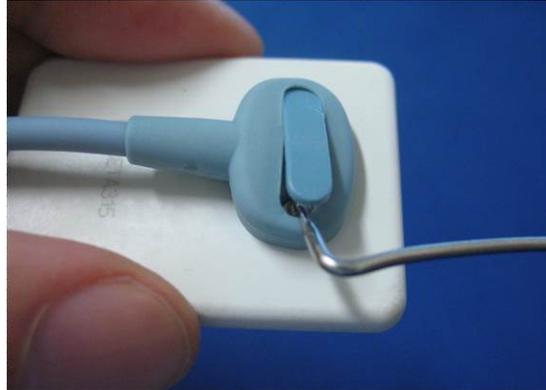
- A. Check the Sensor. Schick Elite Sensors have artwork similar to the graphic shown here and use accessories that are BLUE in color.
- B. If your Sensor is different, stop here and follow the steps for Schick 33 cable replacement.



## STEP 2

---

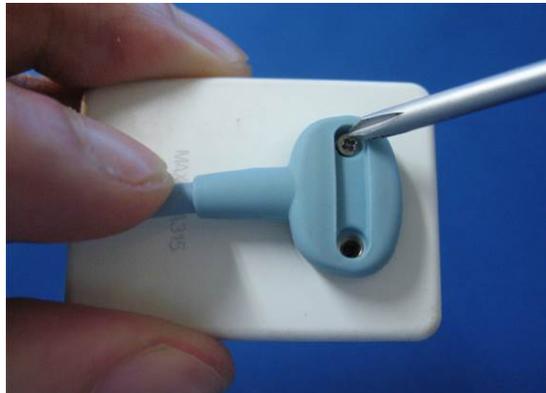
- A. Using a dental instrument, carefully lift and remove the tab cover from the back of the Sensor cable.
- B. Dispose of the tab cover as a new one will be used when the new cable is attached.



## STEP 3

---

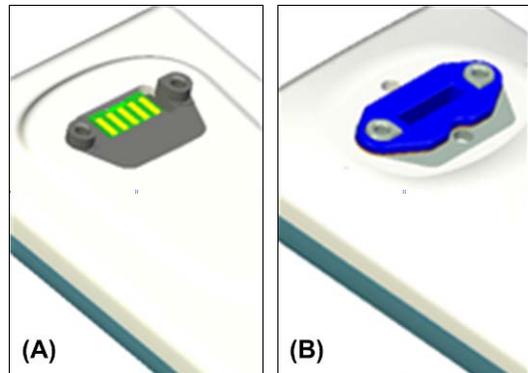
- A. Using the screwdriver provided, loosen and remove the 2 screws that secure the cable to the Sensor.
- B. Dispose of the screws as new ones are supplied. Remove the cable from the Sensor.



## STEP 4

---

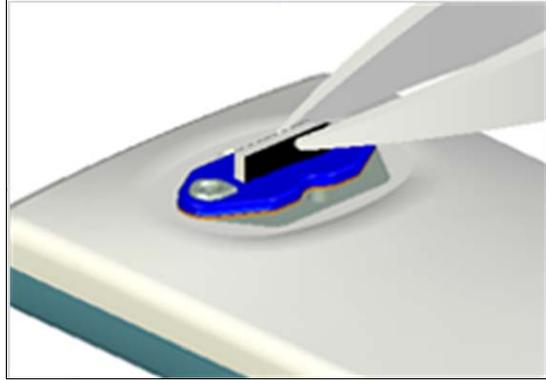
- A. After removing the cable, the area above the contacts should be completely clear. Remove the white elastomeric if it dislodged accidentally from previous cable.
- B. If the Sensor does not have a blue frame, remove one from the Schick Elite spare parts kit and place it into position. When positioned correctly, the flat side of the frame will be facing up. (Schick Elite parts are blue.)



## STEP 5

---

Using tweezers, take a new (blue) strip from the Schick Elite spare parts kit and insert the strip into its slot in the Sensor. Strip shown darker in this image for clarity.



## STEP 6

---

After inserting the strip, apply a small amount of finger pressure to ensure the elastomer is seated squarely in the slot.

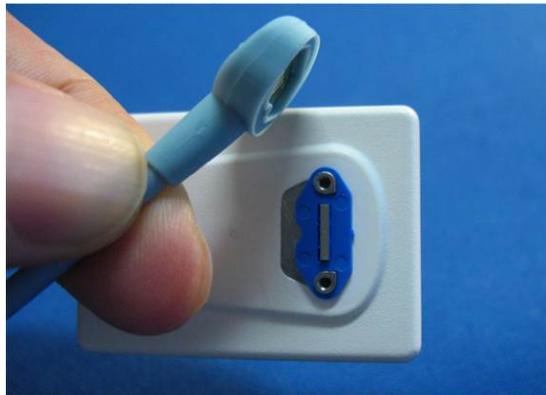
**IMPORTANT!** The elastomeric strip must be seated squarely in the slot for the Sensor to function.



## STEP 7

---

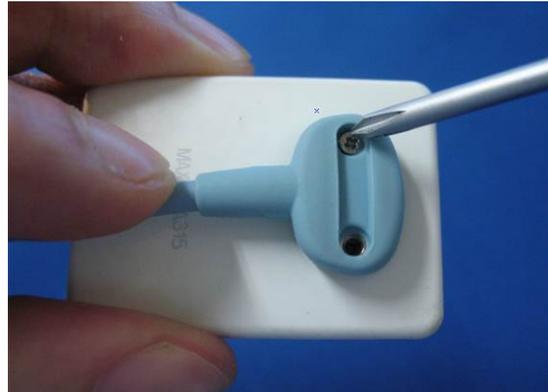
- A. Remove cable from kit.
- B. Align the cable to the Sensor so the Sensor keying feature connects to the corresponding key in the cable. When properly aligned, the cable fits the back of the Sensor evenly and the metal area is completely covered.



## STEP 8

---

- A. Using the screwdriver, tighten the first screw just until you feel some resistance.
- B. Repeat this action for the second screw.
- C. Fully tighten both screws and make sure that they are securely tightened.



## STEP 9

---

- A. Place a 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.



## 9. Schick 33 Cable Replacement

*NOTE: If you intend to replace the cable for the Schick Elite Sensor, please go back to the previous chapter and follow those instructions.*

**IMPORTANT!** Always disconnect the Schick 33 Sensor from the Schick WiFi Interface during cable replacement to avoid potential damage to Sensor components. Close CDR DICOM or any other imaging application (EagleSoft or Patterson Imaging) 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 Sirona Dental.

**IMPORTANT!** 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 Schick 33 Sensor 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.

### STEP 1

- A. Check the Sensor. Schick 33 Sensors have artwork similar to the graphic shown here and use accessories that are RED in color.
- B. If your Sensor is different, stop here and follow the steps for Schick Elite cable replacement.



## STEP 2

---

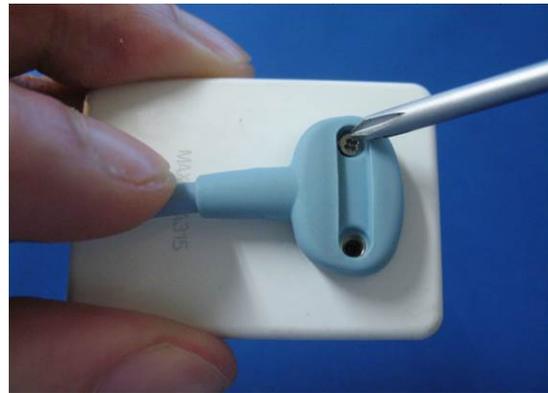
- A. Using a dental instrument, carefully lift and remove the tab cover from the back of the Sensor cable.
- B. Dispose of the tab cover as a new one will be used when the new cable is attached.



## STEP 3

---

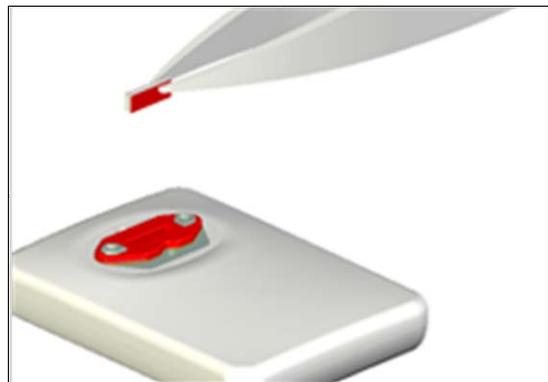
- A. Using the screwdriver provided, loosen and remove the 2 screws that secure the cable to the Sensor.
- B. Dispose of the screws as new ones are supplied. Remove the cable from the Sensor.



## STEP 4

---

- A. Using tweezers, remove the small elastomeric strip from the Sensor. Dispose of this strip, as it will be replaced.
- B. Take a new (red) strip from the Schick 33 spare parts kit, holding it in the tweezers as shown. (Schick 33 parts are red.)



## STEP 5

---

Insert the strip into its slot in the Sensor. *Strip shown darker in this image for clarity.*



## STEP 6

---

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 7

---

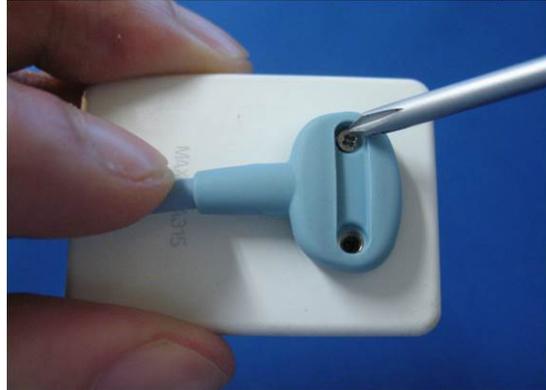
- A. Remove cable from kit.
- B. Align the cable to the Sensor so the Sensor keying feature connects to the corresponding key in the cable. When properly aligned, the cable fits the back of the Sensor evenly and the metal area is completely covered.



## STEP 8

---

- A. Using the screwdriver, tighten the first screw just until you feel some resistance.
- B. Repeat this action for the second screw.
- C. Fully tighten both screws and make sure that they are securely tightened.



## STEP 9

---

- A. Place a 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.



# 10. Reference

## 10.1. System Summary

Table 20. Schick WiFi System Summary

HARDWARE	DESCRIPTION	
<b>Schick WiFi Interface</b>		
Description	2.4 GHz FM digital data transmission, IEEE 802.11b/g, WiFi-enabled. Effective Radiated Power of <2 mW. Battery pack and On / Off switch. Multi-color LED	
Dimensions	122 x 31 x 24 mm (L x W x H)	
Weight	50 g (approx.)	
<b>Schick WiFi Docking Station</b>		
Description	Recessed configuration cradle with docking connector. Separate LEDs for Schick WiFi Interface connection, USB cable, and AC power adapter and cord	
Input	+6.5 V DC	
Dimensions	103 x 76 x 37 mm (L x W x H)	
Weight	50 g (approx.)	
Power Adapter	100-240 V, 50/60 Hz, 500 mA (input) 6.5 V, 1.5 A (output)	
<b>Schick 33 Sensor</b>		
Technology	CMOS-APS (Active Pixel Sensor)	
Pixel Size	15 $\mu$ m, image acquisition in 15 $\mu$ 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)	
<b>Schick Elite Sensor</b>		
Technology	CMOS-APS (Active Pixel Sensor)	
Pixel Size	15 $\mu$ m (native); 30 $\mu$ m (effective) pixel resolution	
Line Pairs	16.7 lp at 30 $\mu$ m	
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)	

Table 21. Wireless Interface Characteristics

PARAMETER	DESCRIPTION
Technology	IEEE 802.11b/g, WiFi Compliant
Frequency	2.4GHz: Channels 1-13 (2412-2472 MHz) US, Canada, Europe, Japan 2.4GHz: Channel 14 (2484 MHz) Japan only
Modulation Technology	DSSS, CCK, OFDM
Modulation Type	DBPSK, DQPSK, CCK, BPSK, QPSK, 16QAM, 64QAM
Network Access Modes	Ad-Hoc and Infrastructure
Wireless Data Rates	802.11b - 11,5.5,2,1 Mbs; 802.11g - 54,48,36,24,18,12,9,6 Mbs
Security Protocols	Disabled, WEP 64 and 128 bit, WPA (TKIP), WPA (AES), WPA2 (AES), WPA Enterprise

Table 22. Compliance Specifications

SPECIFICATION	DESCRIPTION
CAN/CSA C22.2 No.601.1-M90	Medical Electrical Equipment Part 1: General Requirements for Safety
ETSI-EN 301 489-3	Electromagnetic Compatibility and Radio Spectrum Matters (ERM); Electromagnetic Compatibility (EMC) Standard for Radio Equipment and Services; Part 1: Common Technical Requirements
IEC60601-1	Medical Electrical Equipment Part 1: General Requirements for Safety
IEC60601-1-2	Medical Electrical Equipment Part 1: General Requirements for Safety 2.Collateral Standard: Electromagnetic Compatibility – Requirements and Tests
UL60601-1	Medical Electrical Equipment: General Requirements for Safety

Table 23. Environmental Specifications

CATEGORY	DESCRIPTION
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.
Transport and Storage Conditions	Ambient temperature range: -40° F -40° C) to 158° F (-70° C) Relative humidity range: less than 20 - 85% 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 20 - 85%
Operating Altitude	≤ 2000 m

Table 24. Guidance and Manufacturer's Declaration - Electromagnetic Emissions

*PLEASE NOTE: Schick WiFi systems are intended for use in the electromagnetic environment specified below. Users of these systems must ensure they are used in such an environment.*

EMISSIONS TEST	COMPLIANCE	GUIDANCE
RF emissions CISPR 11	Group 1	Schick WiFi systems use RF energy only for their 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	Class B	Schick WiFi systems are 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.
Harmonic emissions IEC 61000-3-2	Class A	
Voltage fluctuations/ flicker emissions IEC 61000-3-3	Complies	

Table 25. Guidance and Manufacturer's Declaration - Electromagnetic Immunity

PLEASE NOTE: *Schick WiFi systems are intended for use in the electromagnetic environment specified below. Users of these systems must ensure they are used in such an environment.*

IMMUNITY TEST	IEC 60601 TEST LEVEL	COMPLIANCE LEVEL	GUIDANCE
Electrostatic discharge (ESD) IEC 61000-4-2	±6 kV contact  ±8 kV air	±6 kV contact ±4 kV contact <sup>a</sup>  ±8 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	< 5% U <sub>T</sub> (>95% dip in U <sub>T</sub> ) for 0.5 cycle  < 40% U <sub>T</sub> (>60% dip in U <sub>T</sub> ) for 5 cycles  < 70% U <sub>T</sub> (>30% dip in U <sub>T</sub> ) for 25 cycles  < 5% U <sub>T</sub> (>95% dip in U <sub>T</sub> ) for 5 SEC	< 5% U <sub>T</sub> (>95% dip in U <sub>T</sub> ) for 0.5 cycle  < 40% U <sub>T</sub> (>60% dip in U <sub>T</sub> ) for 5 cycles  < 70% U <sub>T</sub> (>30% dip in U <sub>T</sub> ) for 25 cycles  < 5% U <sub>T</sub> (>95% dip in U <sub>T</sub> ) for 5 SEC	Mains power quality should be that of a typical commercial or hospital environment. If the user of the system requires continued operation during mains interruptions, it is recommended that the system be powered from an uninterruptible power supply or battery.  NOTE: U <sub>T</sub> is the AC mains voltage prior to application of the test level.
Power frequency (50/60 Hz) magnetic field IEC 61000-4-8	3A/m	3A/m	
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 system, including its cables, than the recommended separation distance calculated from the equation applicable to the frequency of the transmitter.

IMMUNITY TEST	IEC 60601 TEST LEVEL	COMPLIANCE LEVEL	GUIDANCE
			Recommended separation distance: $d=(3.5/3)\times\sqrt{P}$
Radiated RF IEC 61000-4-3	3 V/m 80 MHz to 2.5 GHz	3 V/m	$d=(3.5/3)\times\sqrt{P}$ for 80 MHz to 800MHz $d=(7/3)\times\sqrt{P}$ for 800 MHz to 2.5Ghz  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, <sup>b</sup> should be less than the compliance level in each frequency range. <sup>c</sup>  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

<sup>a</sup> To avoid damage to electronic components inside, users should not touch the exposed contacts on the Wireless Sensor and the USB Interface before discharging to an earthed object.

<sup>b</sup> 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 system is used exceeds the applicable RF compliance above, the system should be observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary, such as reorienting or relocating the system.

<sup>c</sup> Over the frequency range 150 kHz to 80 MHz, field strengths should be less than 3 V/m.

Table 26. Recommended Separation Distance between Portable and Mobile RF Communications Equipment and the System

*PLEASE NOTE: Schick WiFi systems are intended for use in the electromagnetic environment specified below. Users of these systems should ensure they are used in such an environment.*

RATED MAXIMUM OUTPUT POWER OF THE TRANSMITTER (W)	SEPARATION DISTANCE ACCORDING TO THE FREQUENCY OF THE TRANSMITTER (M)	
	150 kHz to 800 MHz $d=1.17x\sqrt{P}$	800 MHz to 2.5 GHz $d=3.3x\sqrt{P}$
0.01	0.17	0.33
0.1	0.37	1.04
1	1.17	3.30
10	3.69	10.44
100	11.7	33.00

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 A. Battery Safety Information and Replacement

You must read these safety instructions and warnings before using or charging the battery inside the Schick WiFi Interface.

Lithium ion batteries are volatile. Failure to read and follow these instructions may result in fire, personal injury, and damage to property, if charged or used improperly.

## *A-1. General Guidelines and Warnings*

Batteries are not fully charged when received. They contain approximately 50% of a full charge.

Use only the Docking Station supplied with the Schick WiFi system to charge the Schick WiFi Interface. Do not use any other charging device, particularly NiCd or NiMh chargers, as they may cause the battery to overheat and cause a fire, which may result in personal injury and property damage.

If at any time a battery begins to swell or deform, discontinue use of that battery immediately and contact your local distributor of Sirona Dental products for further information.

## *A-2. Docking Process*

For proper battery charging, the operating temperature should be between 32° F or 0° C (min) and 113° F or 45° C (max).

When the battery is charging, make sure that no flammable materials are nearby. If warm to the touch, allow the battery cool down to ambient temperature before charging.

## *A-3. Storage and Transportation*

Store batteries at a room temperature between 40° F (4° C) and 70° F (21° C). For best results, do not expose battery packs to direct sunlight (heat) for extended periods. Never store a battery where the temperature can exceed 120° F (49° C).

Storing batteries at temperatures higher than 170 degrees F (66° C) for extended periods of time (more than 2 hours) may damage them and cause a fire.

If transporting or storing the battery temporarily, temperatures should be higher than 20° F (-7° C), but less than 150° F (66° C). Do not handle batteries when temperatures exceed 160° F (66° C).

#### *A-4. Battery Life*

Batteries that lose 20% of their capacity must be removed from service and disposed of properly. If the battery is unable to sustain the operation of the Schick WiFi Interface except by frequent re-charging, please contact your local distributor of Sirona Dental products for further information.

The battery product warranty does not cover collateral damage, misuse, abuse, incorrect charging, or other inappropriate use of this product.

#### *A-5. Battery Replacement*

**IMPORTANT!** Be sure to follow the steps for proper battery replacement. Do not short-circuit, disassemble, or modify the battery. Do not place it near high-temperature locations. Do not place in fire or apply heat to it. Do not subject the battery to strong impacts or shocks. Do not expose the battery to water or allow it to get wet.

## STEP 1

---

- A. Turn off the Schick WiFi Interface if it is currently on.
- B. Locate the screw that secures the battery cover. This screw is at one end of the Schick WiFi Interface, farthest from the LED.
- C. Using the screwdriver supplied, untighten and remove the screw that secures the battery cover.
- D. Retain the battery cover screw.



## STEP 2

---

- A. Lift the battery cover to remove it.
- B. Retain the battery cover.



## STEP 3

---

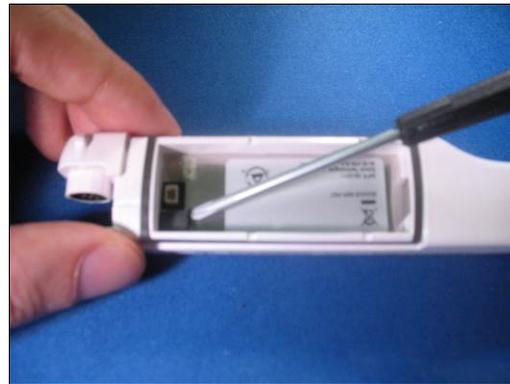
- A. Locate the connector that attaches the battery to the Schick WiFi Interface.
- B. Disconnect the connector from its socket and remove the battery.



## STEP 4

---

- A. When the battery is removed, you should see two small rubber pads in the compartment: one on each side of the connector socket.
- B. Using the screwdriver supplied, pry both pads from the base of the battery compartment. The pads are secured by light adhesive only, so unseating them should require little effort.
- C. Dispose of the pads as they are no longer needed.



## STEP 5

---

- A. Insert the new battery (*it should say Sirona on the label*), carefully connecting the connector to the socket. Both items key to each other and attach easily when inserted correctly.
- B. Insert the battery cover removed previously, sliding the prong on the cover (circled, shown in image on next page) into the opening at the end of the compartment.
- C. Snap the cover into place to close the compartment.





## STEP 6

---

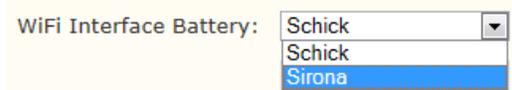
Insert the battery cover screw removed previously. Using the screwdriver, tighten the screw until you feel some resistance. Continue tightening until the screw is fully seated.



## STEP 7

---

- A. To ensure that the battery level of your new Sirona battery is reported accurately, please perform the following steps:
- Click on the Wireless Monitor in the System Tray and select WiFi Interface Management.
  - Select the Schick WiFi Interface and make sure it is unpaired.
  - Click File > Open Selected Device Web Interface.
  - Click on the Settings tab and select “Sirona” from the WiFi Interface Battery menu.
  - Click Save.
- B. Dispose of the replaced battery properly, according to local regulations. If no suitable disposal facility is available, please return the battery to Sirona.



## *A-6. List of Materials*

The following is a list of materials supplied with the battery replacement kit.

PART NUMBER	DESCRIPTION	QUANTITY
B2410220	Replacement, WiFi Interface Battery Pack	1
B1207041	Screwdriver, PH0	1

## *A-7. For More Information . . .*

In the United States, customers can contact the Patterson Technology Center at 877-498-6505. Outside the United States, please contact the authorized dealer for Sirona Dental products in your country or region.

If you are returning the battery to us, please use the following address:

Sirona Dental, Inc.  
30-30 47<sup>th</sup> Avenue  
Long Island City  
NY 11101  
USA

# Index

## A

Accessories, 6  
Auto Pairing, 54, 108  
Auto Resend, 58

## B

Battery  
  Conditions, 118  
  Disposal, 118  
  Docking Process, 135  
  Guidelines and Warnings, 135  
  Handling, Storage, and Disposal Guidelines, iv  
  Life, 136  
  Replacement, 136  
  Safety, 135  
  Storage and Transportation, 135

## C

Cable Replacement, 121, 125  
CDR AutoDetect and Schick WiFi Interfaces,  
  84  
Controls and Indicators, 41

## D

Damaged Sensor, 114  
Dentists or Authorized Designees Only Are  
  Permitted to Operate the System, vi  
Diagnostic Tasks, 74  
Diagnostics, 118  
  Configuration Utility, 53  
  Web Server Utility, 102  
Disinfectant, 112

## E

Ensure Schick WiFi System Operates  
  Optimally, vi  
ESD and Protecting Sensors from it, vii

## F

FCC  
  Compliance Statement, iv  
Firmware Upgrade, 88  
Firmware Upgrades, 118  
Friendly Names, 106

## H

High Resolution Image Acquisition, 66  
How to Install the System, 19  
How to Operate the System, 45

How to Pair the Schick WiFi Interface, 30  
How to Perform Flash Upgrades, 89  
How to Perform FPGA Upgrades, 94  
How to Perform Sensor Firmware Upgrades,  
  98  
How to Replace the Cable, 121, 125  
How to Unpair the Schick WiFi Interface, 56

## I

Image Enhancement, 60  
  Schick 33, 81  
Installation, 19  
  Configuring Schick WiFi Interfaces, 25  
  Connecting Schick WiFi Docking Station, 24  
  Connecting Sensor to Schick WiFi Interface, 35  
  Installing WiFi Configuration Utility, 19  
  Installing Wireless Software, 22  
  Pairing Schick WiFi Interface with PC, 30

## L

Label  
  Lithium Battery, xiii  
  RFID, xiii  
  Schick WiFi Docking Station, xii  
  Schick WiFi Docking Station Power Adapter, xii  
  Schick WiFi Interface, xii  
  Schick WiFi Interface Battery, xii  
  Shipping, xiii

## M

Maintenance, 114

## O

Operate Schick WiFi System as Directed, vii  
Operation, 45

## P

Paired and Unpaired Conditions, 57  
Pairing  
  Introduction to, 54  
  Procedure for, 30  
  with RFID, 33, 55  
Pairing Recovery, 54  
PC Workstation, 11  
Power Timeout, 106  
Product Names Used in this Document, xiv  
Proper Sensor Removal from Protective  
  Sheath, 9, 10  
Proper System and PC Installation and  
  Operation, vi

Protective Holsters and Mounts, 113  
Protective Measures, 110

## Q

Quality Procedure, 119

## R

Radio Frequency

Interference Considerations, v

Reference, 129

Resend Last Image, 59

## S

Safety Issues

Always Use Sheaths with Schick Sensors, viii

Ensure Schick WiFi System Operates

Optimally, vi

Only Dentists or Authorized Designees Are

Permitted to Operate the System, vi

Operate the Schick WiFi System as Directed,  
vii

Proper System and PC Workstation Installation  
and Operation, vi

Protect Sensor from Potential ESD Damage, vii

Schick 33

Cable Replacement, 125

High Resolution Image Acquisition, 66

Image Enhancement, 81

Schick Elite

Cable Replacement, 121

Image Enhancement, 60

Schick WiFi Docking Station

Cleaning, 112

Controls and Indicators, 41

Wall Mount Installation, 38

Schick WiFi Interface

Auto Pairing, 54

Cleaning, 112

Configuring, 45

Controls and Indicators, 42

Delivery System Mount Installation, 39

LED Indications, 44, 46, 48, 50

Pairing, 54

Pairing Recovery, 54

Pairing with RFID, 55

Radiation Shield Clip, 40

Status, 57, 104

Unpairing, 56

Schick WiFi System

Accessories, 6

Cleaning Mounts and Clips for, 112

Controls and Indicators, 41

Description, 1

Electromagnetic Emissions, 131

Electromagnetic Immunity, 132

Environmental Specifications, 130

Indications for Use, 1

Installation, 19

Maintenance, 114

Operation, 45

Overview, 1

Product Names Used in Document, xiv

Protective Measures, 110

Purpose, 1

Recommended Separation Distance Between  
Portable and Mobile RF Communications

Equipment, 134

RF Frequencies, 130

RFID Reader, 5

Specifications, 130

Summary, 129

Wireless Interface, 5

Sensor

Always Use Sheaths with, viii

Cleaning and Disinfecting, 111

Holders, v

Holster Installation, 37

Proper Handling and Placement, vii

Sensor and WiFi Interface

Check before using, v

Sensor Positioning, 7

Settings, 105

Sharpen

High Resolution Images, 69

Sheaths

Disposal, 118

Using with Schick WiFi Sensors, 6

Sheaths and Holders

Recommendations for, vii

Sleep Timeout, 107

Status, 87

Symbols

Explanation of, ix

## T

Tests

Configuration Utility, 53

Web Server and Upgrade Utility, 104

Timeout

Power, 106

Sleep, 107

## U

Unpairing, 56

Unpairing with RFID, 55

User Profiles, 74

Utility

Web Server and Upgrade, 16

WiFi Configuration, 15

## W

Waste Electrical and Electronic Equipment  
(WEEE), x

Web Server and Upgrade Utility, 16, 86

Diagnostic, 102

Firmware Upgrade, 88

Introduction, 86

Settings, 105

Status, 87

WiFi Configuration Utility, 15

Configuring Schick WiFi Interface, 25, 45

Installing, 19

WiFi Interface Battery, 106

Wireless Monitor, 13

Wireless System

Environmental Specifications, 130

Labels for, xii

# 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 7.6, Quality Procedure, on page 119.

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 Sirona Dental products in your country or region. In the United States, customers can contact the Patterson Technology Center at 877-498-6505.