

**Thank You and Congratulations** on your purchase of the Spectra Fluorescence Caries Detection Aid System, P/N D4000, the latest product from Air Techniques for aiding in the detection of caries. The Spectra Fluorescence Caries Detection Aid System is hereafter referred to as the Spectra System in this manual.

This document provides brief information to help you get started using your Spectra System for the first time.

**Caution:** Federal law restricts this device to sale by or on the order of a dentist or licensed practitioner. This device should be used only under the continued supervision of a dentist or licensed practitioner.

**Important:** Refer to the Operator's Manual PDF file included on the Drivers and Utilities Disk for detailed information. Review and follow the guidelines included in the Operator's Manual to ensure your Spectra System gives the highest level of service.

**On-line Registration.** Quickly and easily register your new Spectra System on-line. Just have the product model and serial numbers available. Then go to the Air Techniques web site, [www.airtechniques.com](http://www.airtechniques.com), click the Warranty Registration link and complete the registration form. This on-line registration ensures a record for the warranty period and helps us keep you informed of product updates and other valuable information.



### USB Spectra System Key Parts Identification

# SYSTEM SETUP

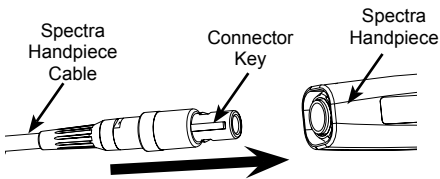
Set up the Spectra System by performing the following steps as shown below..

- Connect the Spectra Handpiece Cable between a PC and the Spectra Handpiece.
- Install Handpiece Holder with Chairside Adapter to convenient location.
- Install WDM drivers from disk

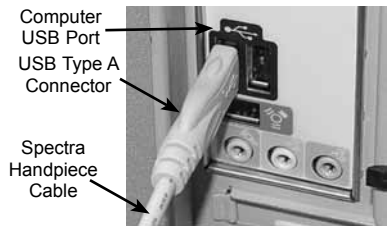


DO NOT twist or turn the cable connectors. The Spectra Handpiece Cable connector is keyed and mates straight on with the Handpiece connector.

## Spectra Handpiece Cable Connection -



**Important:** Use a High Power (500 mA) USB 2.0 Port Only

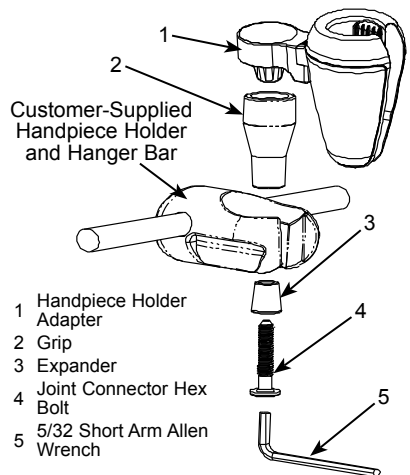


## Spectra Handpiece Connection

## USB Interface Connection

## Spectra Handpiece Holder with Chairside Adapter Installation-

1. Insert Handpiece Holder Adapter (1) into the wide end of Grip (2).
2. Press Grip (2) into the top of the chosen Handpiece Holder.
3. Insert Expander (3) into the bottom of Grip (2)
4. Insert and push the Joint Connector Hex Bolt (4) into Expander (3) engaging the thread of Handpiece Holder Adapter (1) by turning the Joint Connector Hex Bolt (4) clockwise.
5. Using the supplied Short Arm Allen Wrench (5), tighten Joint Connector Hex Bolt (4) until the Chairside Adapter is secure in the Handpiece Holder.



## Handpiece Holder Chairside Adapter Assembly

**Notes:** Imaging Software, such as VISIX, supplied with the Spectra system or other Air Techniques authorized third-party software, must be installed on the computer in order to operate the Spectra System.

A Microsoft® **Driver Not Signed** statement may appear. If it does, click **Continue** to proceed with installation.

**USB Device Driver Installation** - Before connecting the Spectra System to your computer or attempting to use it for the first time, run the Setup program on the Spectra System Drivers and Utilities Disk included with the Spectra System. The supplied CD provides the device drivers needed to communicate between the Spectra System and the associated USB imaging software application installed on the PC computer system. Normally, this program runs automatically when the CD is inserted into the drive for the first time. If not, run the setup program located in the root directory of the CD (typically **D:\Spectra.exe**).

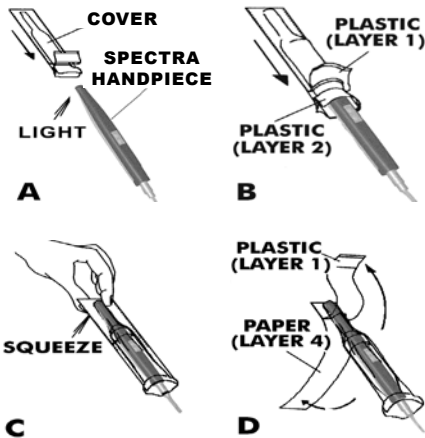
The Setup program guides the user through updating the computer library files, which must be completed before the Spectra System will operate properly. More information can be found in the Installation Instructions and Notes file on the Spectra Drivers and Utilities Disk included with the system.

**PRE-OPERATION**

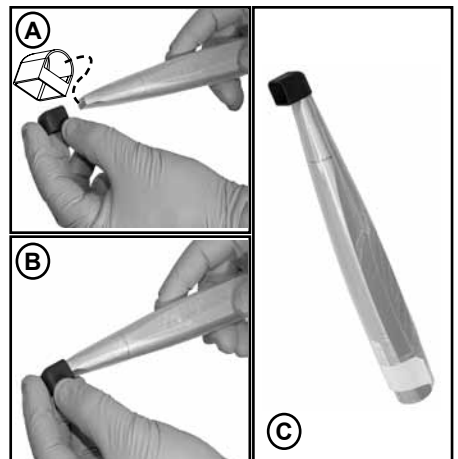
**IMPORTANT:** Make sure that a camera cover is properly installed on the handpiece before installing the 10mm distance spacer.

**Note:** Steam sterilize the 10mm distance spacer in a gravity steam sterilizer at 121°C for 30 minutes and dry time of 20 minutes before use and handle using gloves. Use a new replacement distance spacer as needed.

**Handpiece Preparation** - Install a new camera cover and sterilized 10mm distance spacer on the Spectra Handpiece for each patient as follows:



**Camera Cover Installation**



**Distance Spacer Installation**

# SYSTEM OPERATION

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Verify that the software is running and correctly configured. Refer to System Check information section of the Operator's Manual manual as necessary.

**Operating Procedure** – After preparing for the intended examination as described above, perform the following steps to operate the Spectra system:

1. Start the imaging software



**Eye Safety-** Do not look directly into the blue-violet light from the Spectra Handpiece. Do not view the blue-violet light directly or through magnifying glasses or any other enlargement device.

**Important:** DO NOT rapidly remove and replace the handpiece from/into it's holder. Rapid removal and replacement from the holder causes Windows to lock out the Spectra for 30 to 60 seconds and inhibit operation.

2. Remove the handpiece from its holder and verify that the blue-violet LED lamps turn on.
3. Place the handpiece lens window over the area of interest. Allow the distance spacer to rest on the occlusal surface of the tooth. Observe the image on the computer monitor screen.
4. Momentarily press and release the top button on the handpiece to freeze the image.
5. Press and hold the bottom button on the handpiece for at least 3 seconds to switch to the desired detection or analysis mode of operation.
6. Perform one of the following steps as necessary.
  - a. Momentarily press and release the bottom button on the handpiece to save the processed image and return back to a live display.
  - b. Press and release the top button momentarily again to return to a live display without saving the image.
7. Repeat steps 3 through 6 as necessary.
8. Return the Spectra handpiece to its holder when done. Verify that the LED lamps on the handpiece turn off.

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## Markings.

The following terms or symbols are used on the equipment or in this manual to denote information of special importance:



Alerts users to important Operating and Maintenance instructions. Read included documents.



Indicates type BF equipment in accordance with UL/IEC 60601-1



Alerts users that the camera cover must be used for only one patient and disposed of properly in accordance with local code.



**Medical Electrical Equipment**  
with respect to electrical shock, fire, mechanical and other specified hazards only in accordance with UL-60601-1, CAN/CSA C22.2 No.601.1 66CA



Identifies the name of the manufacturer.



Indicates date of manufacture



Indicates that the Spectra complies with the Medical Device Directive 93/42/EEC.



Medical Device Safety Service  
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### Manufacturer:

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