# CAM▸X® Elara

**High Definition Intraoral Video Camera System**

*Part Number J2100*

# CAM▸X® Spectra

**Fluorescence Caries Detection Aid System**

*Part Number J2300*

# Software Installation and Configuration Guide

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## General

The instructions provided are limited to the integration of the intraoral CamX Elara video camera and CamX Spectra caries detection devices. All devices work using TWAIN via various third party software.

This document does not provide detailed installation or operation instructions for the third party imaging management software. Therefore, the user must refer to the individual software manufacturer user documentation for all information specific to installing the application and its subsequent detailed operation.

## Pre-Installation Check

Perform the following checks to verify that the computer system and associated monitor resolution meet or exceed the requirements needed to operate CamX Elara and CamX Spectra.

1. Refer to section 1 and make sure that the computer system being used has the requirements necessary to operate CamX Elara and CamX Spectra.
2. Check or set the monitor resolution using the procedure provided by section 2 for the Windows operating system in use.

## Device Setup

Perform the following to setup and configure CamX Elara or CamX Spectra to operate as a TWAIN device. Install the VistaEasy software by selecting it from the DBSWIN setup program menu. This allows full device functionality operation via the TWAIN interface and the third party imaging management application.

1. Refer to section 3 (procedure 3.1) for initial computer/device setup and install the VistaEasy application provided on the DBSWIN disk included with each device.

   **Note:** VistaEasy must be installed before running the Driver Setup program from the start button. See see section 3, VistaEasy installation.
2. Refer to section 3 (procedure 3.2) and run the Driver Setup (installed as part of VistaEasy) to setup all additional devices as necessary.
3. Refer to section 3 (procedure 3.3) and activate VistaEasy View (installed as part of VistaEasy). This program is required by various third party image applications to allow the acquisition of multiple images.
4. Refer to section 4 and perform the procedure for integration via the TWAIN interface with the authorized third party imaging management applications listed.

**Disclaimers:**

This document has been created and is provided by Air Techniques, Inc. and not the CamX Camera manufacturer, Duerr Dental. Duerr Dental makes no representation or warranty concerning the accuracy or completeness of the instructions, guides and other information contained herein. This document and the information contained herein should not be construed to be a part of the CamX Camera product.

The procedures provided in this document are limited to the specific revision or version of the third party imaging management software listed.

If problems occur due to changes of the application revision or version, then refer to the latest revision of this document located at www.airtechniques.com.

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| 2. | **Monitor Resolution Requirements** . . . . . .6<br>This section provides guidelines to set the resolution of the monitor when using various Windows operating systems with the CamX Elara and CamX Spectra devices. | |
| 3. | **Device Setup** . . . . . .10<br>The CamX Elara and CamX Spectra devices are USB video compliant and use the streaming video drivers that come with the Windows operating system. However, drivers provided on the DBSWIN disk included with each device must be installed to provide support for the TWAIN interface still image capture and for camera button freeze/save operation. | |
| | **Important:** The procedures provided in this document were successfully employed using the specific revision or version of the imaging management software as listed below. Refer to the latest version of this document located on our web site, www.airtechniques.com if revisions or versions change. | |
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## 1. Minimum System Requirements

The minimum system requirements necessary to operate CamX Elara and CamX Spectra are listed below.

### Hardware and software

The PC and its components (monitor, printer, etc.) must be set up according to IEC 60601-1 (EN60601-1) if they are operated within the vicinity of the patients (up to 1.5 m away from the patient examination area).

The safety requirements of the PC system may differ depending on the combination with other peripheral equipment (scanner, intraoral X-ray imaging system). Further information can be found in the user manuals or may be derived from regulations valid for the system installation location.

**IMPORTANT:** The following information merely states the requirements for the computer system. The function of Air Techniques hardware and software might still be impaired as a result of peculiarities of the customer's hardware and software landscape even if these system requirements are met. In these cases, Air Techniques assumes no liability for ensuring the trouble-free operation of the Air Techniques hardware/software. If additional systems are connected up to the PC, these system requirements may change. Take the system requirements of all connected systems into account.

### Minimum Computer System Requirements

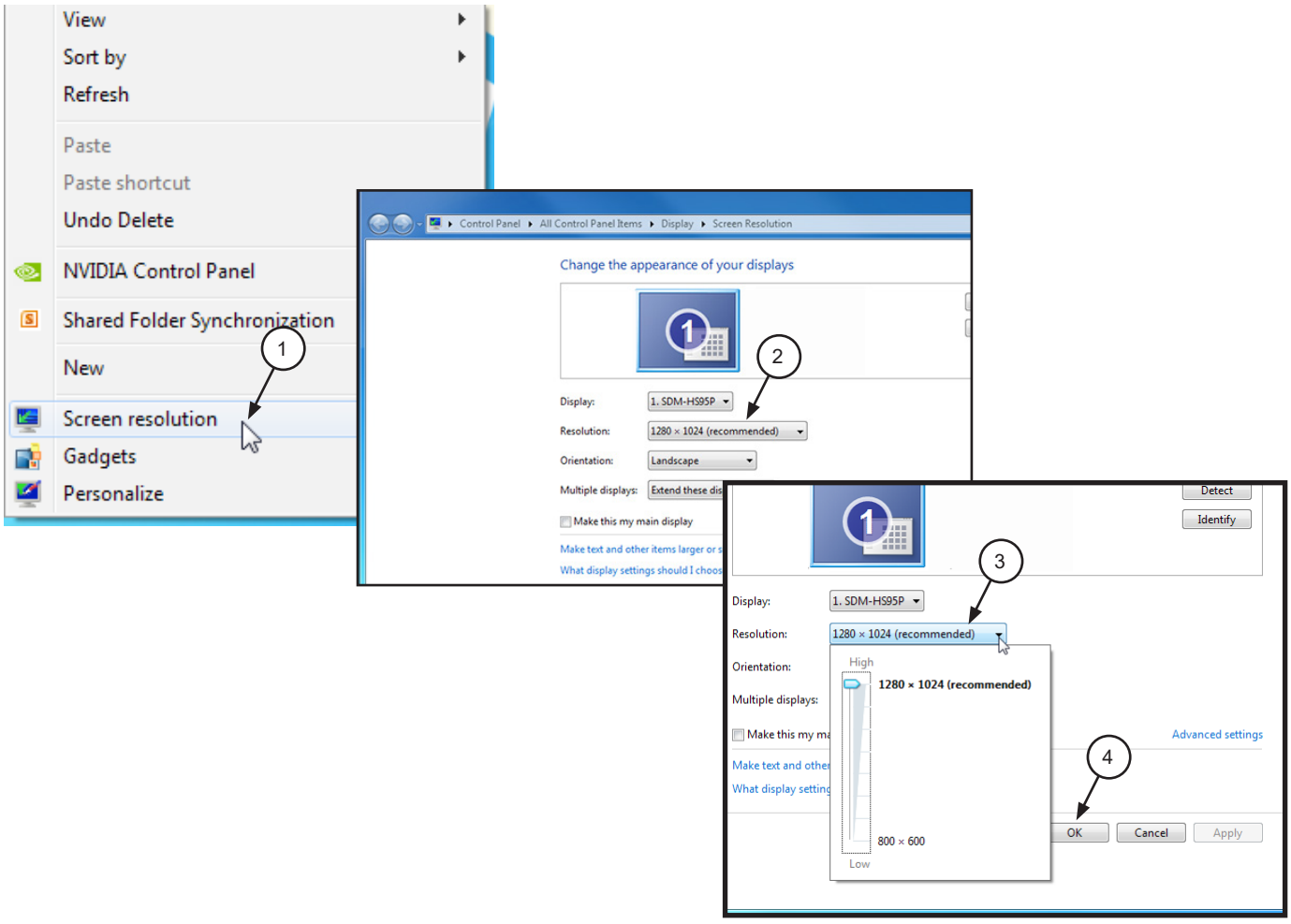
| | |
|---|---|
| CPU: | ≥ Intel Pentium IV compatible, 1.4 GHz |
| RAM: | ≥ 1 GB (2 GB recommended) |
| Operating system: | Microsoft Windows 7, 32-bit (from Home Premium)<br>Microsoft Windows 7, 64-bit (from Home Premium)<br>Microsoft Windows 8.1, 64-bit (not Windows RT)<br>Microsoft Windows 10, 64-bit |
| Hard disk: | Workstation (without database) ≥50 GB<br>Memory requirements of the database depend on the number of images taken at the office. (Approximately 1 MB per image.) |
| Drive: | DVD-ROM |
| Graphics board: | Resolution ≥ 1024 X 768<br>Depth of color 32-bit, 16.7 million colors |
| Diagnostic monitor: | In accordance with DIN V 6868-157, room class 5 or 6 (according to requirement)<br>We recommend the use of the following diagnostic monitors (fulfill DIN V 6868-157, room class 5 and 6):<br>- EIZO RX340<br>- BARCO Nio Color 2MP HE (MDNC-2221 HE) |

## 2. Monitor Resolution Settings:

The following section provides guidelines to set the resolution of the monitor to work with Windows operating systems and intraoral video cameras manufactured by Air Techniques. This allows the monitor to display the highest quality image produced by the device. Make sure that the monitor is correctly set to display at least 1024 X 768 in the corresponding Windows operating system by performing the procedure below for the specific operating system used. Refer to the Microsoft Windows documentation as necessary.

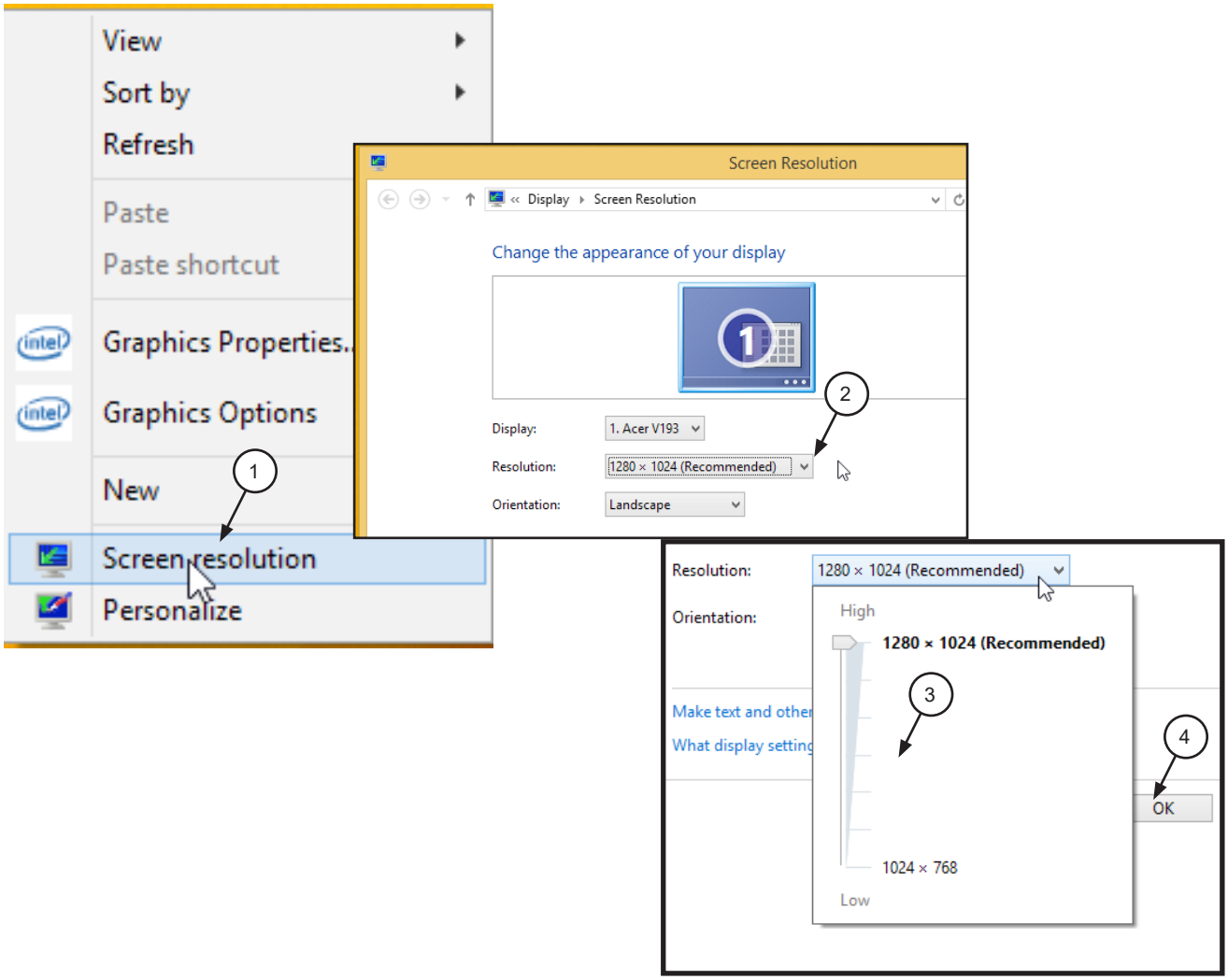
**2.1.** Perform the following to check or set the monitor resolution in computers using Windows 7.

1. Right click the desktop and click the **Screen resolution** option.
2. Select the ***Resolution*** drop down field from the ***Screen Resolution*** window.
3. Using the slider control, set to display at least 1024 X 768. The maximum setting is recommended.
4. Click the **OK** tab to complete the selection.



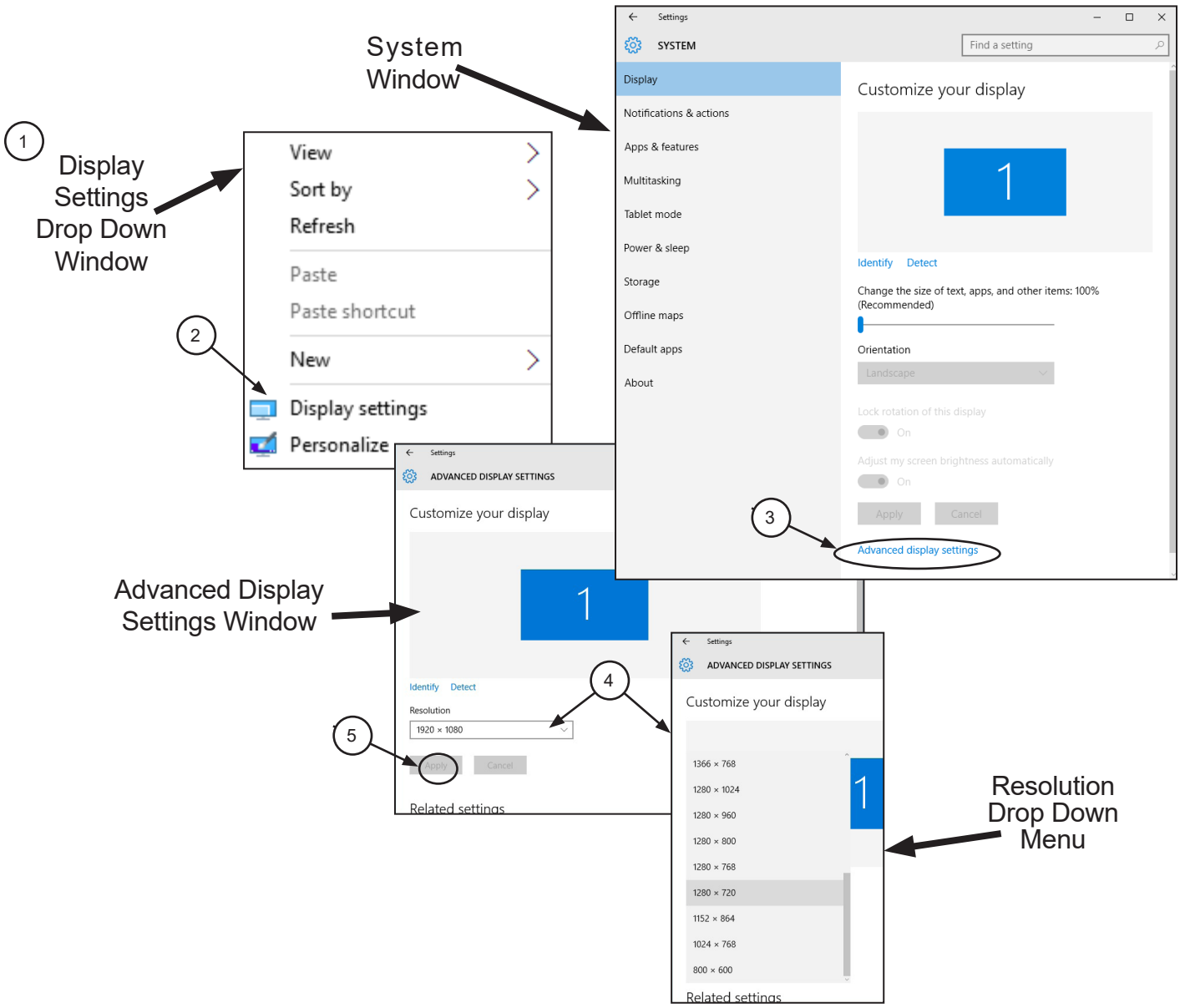
**2.2.** Perform the following to check or set the monitor resolution in computers using Windows 8.1.

1. Right click the desktop and click the **Screen resolution** option.
2. Select the ***Resolution*** drop down field from the ***Screen Resolution*** window.
3. Using the slider control, set to display at least 1024 X 768. The maximum setting is recommended.
4. Click the **OK** tab to complete the selection.



**2.3.** Perform the following to check or set the monitor resolution in computers using Windows 10 Professional or Enterprise.

1. Right click the Desktop and observe that the **Settings** pop up window opens.
2. Select ***Display settings*** to open the **System** window.
3. Select the ***Advanced display settings*** located at the bottom of the window to open the **Advanced Display Settings** window.
4. Using the resolution drop down menu, set to display at least 1024 X 768. The maximum setting is recommended.
5. Click ***APPLY*** to accept setting and return to the Desktop window.



**3. VistaEasy Installation.** The CamX Elara and CamX Spectra must be identified and setup on the facility computer before the device will operate properly. This is accomplished by installing the VistaEasy program provided with the device on the DBSWIN disk. In addition to providing support for the TWAIN interface still image capture feature, VistaEasy also installs the Driver Setup program which provides the necessary device drivers for camera button freeze/save operation.

VistaEasy is installed the first time from the supplied disk. The program allows the setup of multiple devices. When CamX Elara and CamX Spectra are purchased together, they can be setup on the computer together. Once installed, the Driver Setup program is run from the Windows Start button whenever additional devices are installed.

**Important:** Do not twist or turn the Handpiece Cable connector. The connector is keyed and mates straight on with Handpiece connectors.

It is recommended to connect the device handpiece prior to setup. This is done by aligning the connector key of the quick disconnect collar end of the handpiece cable with the keyway of the handpiece connector. Insert straight into handpiece connector until it securely snaps into place.

**Note:** The DBSWIN disks supplied with the CamX Elara and CamX Spectra are identical and one can be used to set up both devices.

A message may appear upon initial connection of the CamX Elara or CamX Spectra stating: “Device driver software was not successfully installed.” Ignore this message and continue with the VistaEasy installation.

**3.1 VistaEasy Installation from Disk.** Make sure the device or devices being setup are connected and install VistaEasy from the DBSWIN disk. Normally, this program runs automatically when the disk is inserted into the drive for the first time. If not, run the setup program located in the root directory of the disk (typically **D:\CD_Start.exe**). Once running, observe that the Setup window displays and perform the following steps.

**Note:** Only installation of VistaEasy is necessary to set up both the CamX Elara and CamX Spectra.

a. Select the Driver Tab and observe that installation software options appear.

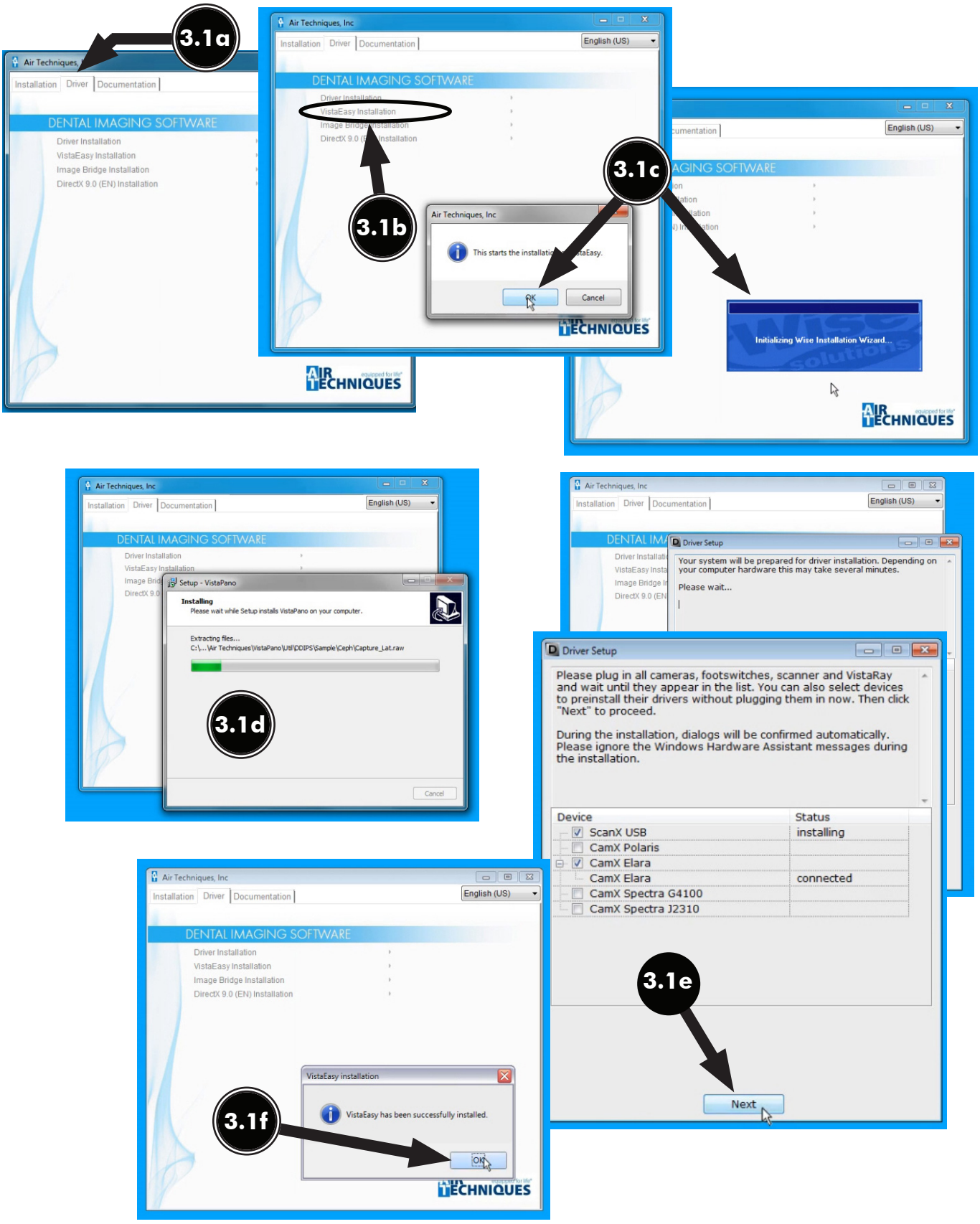
b. Select the VistaEasy installation option from the menu and observe that the VistaEasy installation pop up window opens.

c. Click **OK.** Notice that the installation wizard message appears and observe that additional windows appear questioning device setup options. Accept the defaults and click **Next** and then **Install** to advance the installation.

d. Observe that the installation runs automatically showing various completion status windows such as the one shown. Please wait as the installation progresses.

e. At this point, the Driver Setup windows opens. This is where the drivers for each connected device are installed making it able to operate properly. Click **Next** when the setup is completed for all connected devices.

f. Observe that a pop up window opens stating a successful installation. Click **OK.**


3.1a
Air Techniques, Inc
Installation
Driver
Documentation
English (US)
DENTAL IMAGING SOFTWARE
Driver Installation
VistaEasy Installation
Image Bridge Installation
DirectX 9.0 (EN) Installation
3.1b
3.1c
Air Techniques, Inc
This starts the installation of VistaEasy.
OK
Cancel
Initializing Wise Installation Wizard...
3.1d
Setup - VistaPano
Installing
Please wait while Setup installs VistaPano on your computer.
Extracting files...
Driver Setup
Your system will be prepared for driver installation. Depending on your computer hardware this may take several minutes.
Please wait...
Please plug in all cameras, footswitches, scanner and VistaRay and wait until they appear in the list. You can also select devices to preinstall their drivers without plugging them in now. Then click "Next" to proceed.
During the installation, dialogs will be confirmed automatically. Please ignore the Windows Hardware Assistant messages during the installation.
Device
Status
ScanX USB
installing
CamX Polaris
CamX Elara
CamX Elara
connected
CamX Spectra G4100
CamX Spectra J2310
3.1e
Next
3.1f
VistaEasy installation
VistaEasy has been successfully installed.
OK

**Note:** VistaEasy must be installed before running the Driver Setup program from the start button. See see section 3, VistaEasy installation.

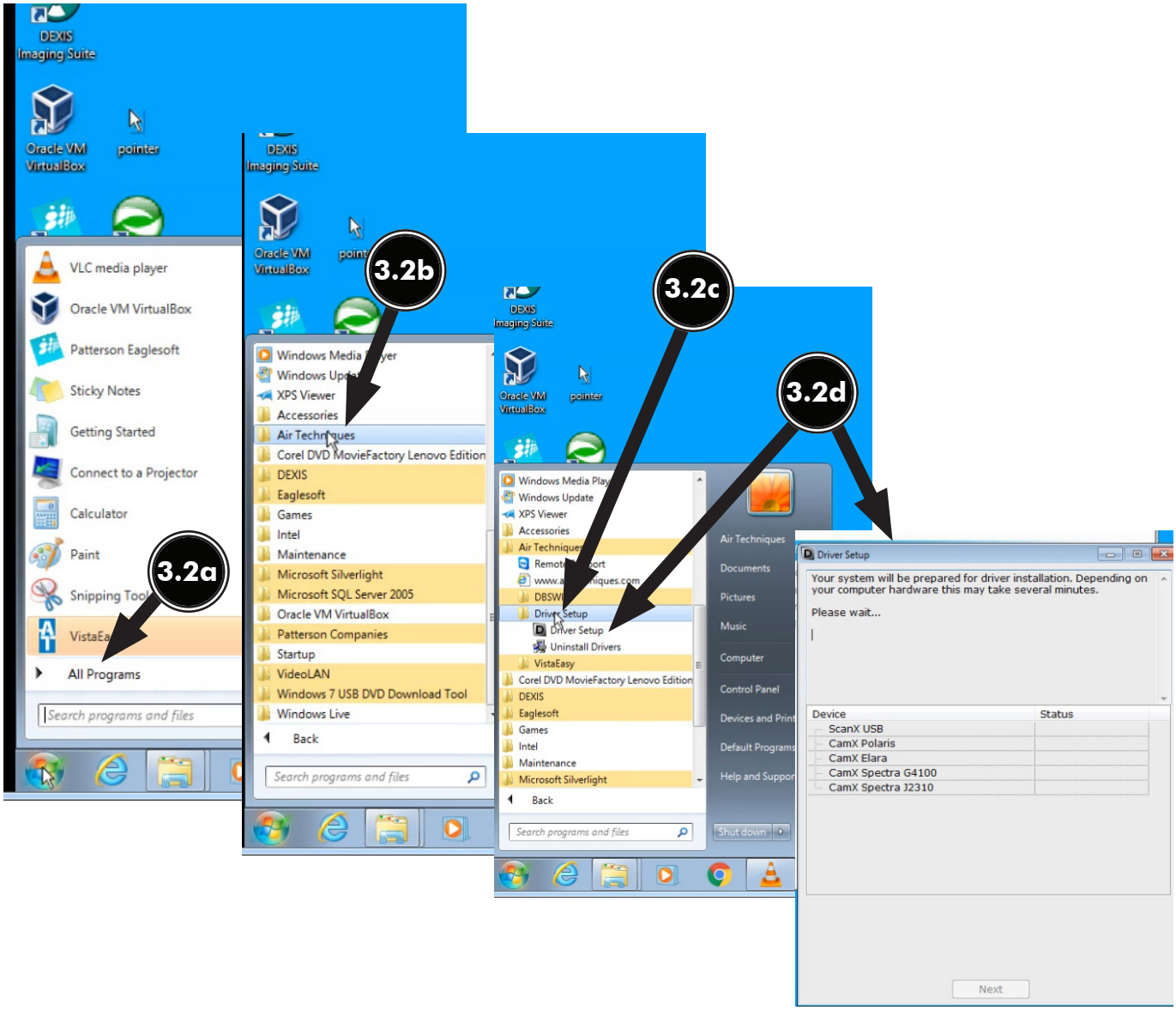
**3.2 Running the Driver Setup program from the Windows Start button.** This section only applies to additional devices that need to be set up because they were not set up during the VistaEasy install process from the DBSWIN disk. Run Driver Setup from the Start button by performing the following steps.

a. Click the Windows Start button and select All Programs from the menu.

b. Select the Air Techniques listing and observe that the Driver Setup option appears.

c. Click Driver Setup to expand the option. Notice that the Driver Setup and Uninstall Driver options appear.

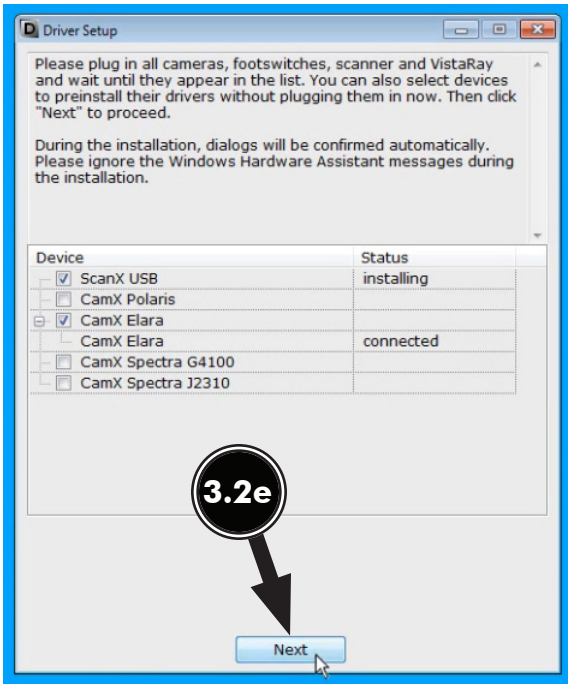
d. Click Driver Setup option. Observe that the Driver Setup window opens and the program automatically searches for the attached devices.

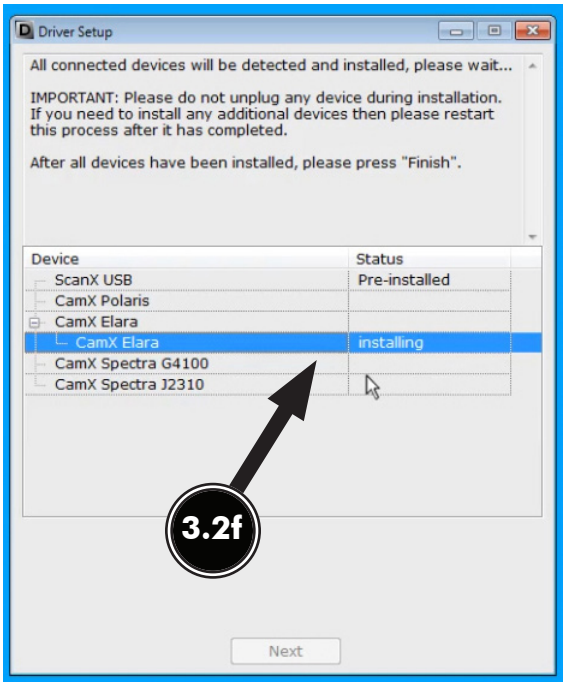


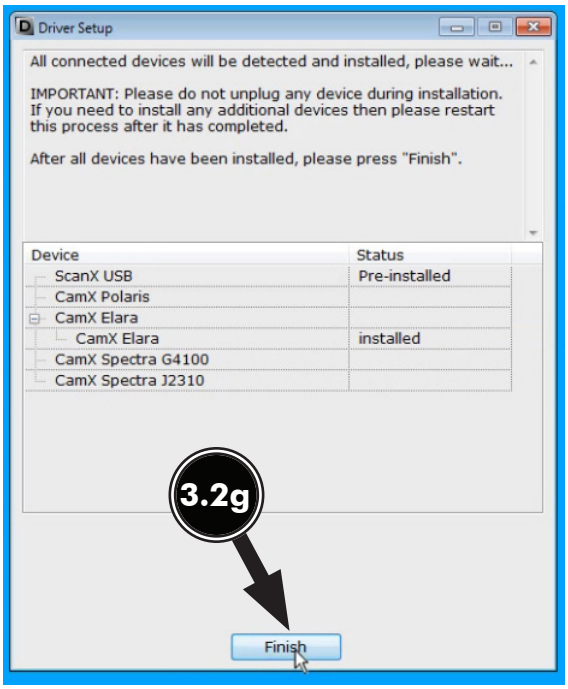
e. At this point, the Driver Setup window changes to show identified device listing. Click **Next** to advance the installation.

f. Observe that the Driver Setup window changes to show the device installing. Wait as the installation progresses.

g. Finally, the Driver Setup window changes again to show that the device was successfully installed. Click **Finish.**



**Note:** VistaEasy must be installed before activating VistaEasy View program from the start button. See see section 3, VistaEasy installation.

**3.3 Activating VistaEasy View program from the Windows Start button.** VistaEasy View is required by various third party image applications listed below to allow the acquisition of multiple images. Activate VistaEasy View from the Start button by performing the following steps.

a. Click the Windows Start button and select All Programs from the menu.

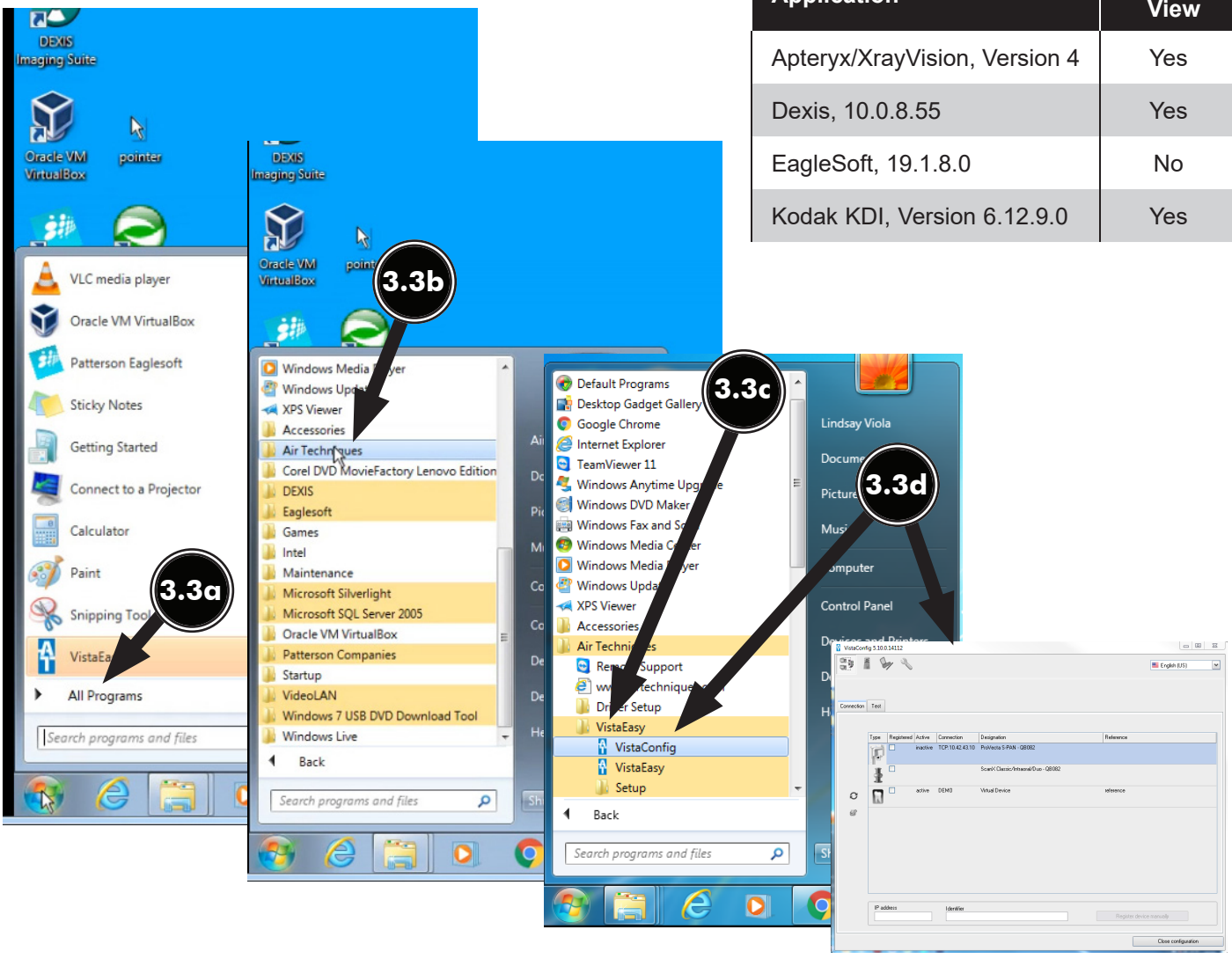
b. Select the Air Techniques listing and observe that the VistaEasy option appears.

c. Click VistaEasy to expand the option. Notice that the VistaEasy and VistaConfig options appear.

d. Click the VistaConfig option and observe that the VistaConfig window opens.

Applications Requiring VistaEasy View

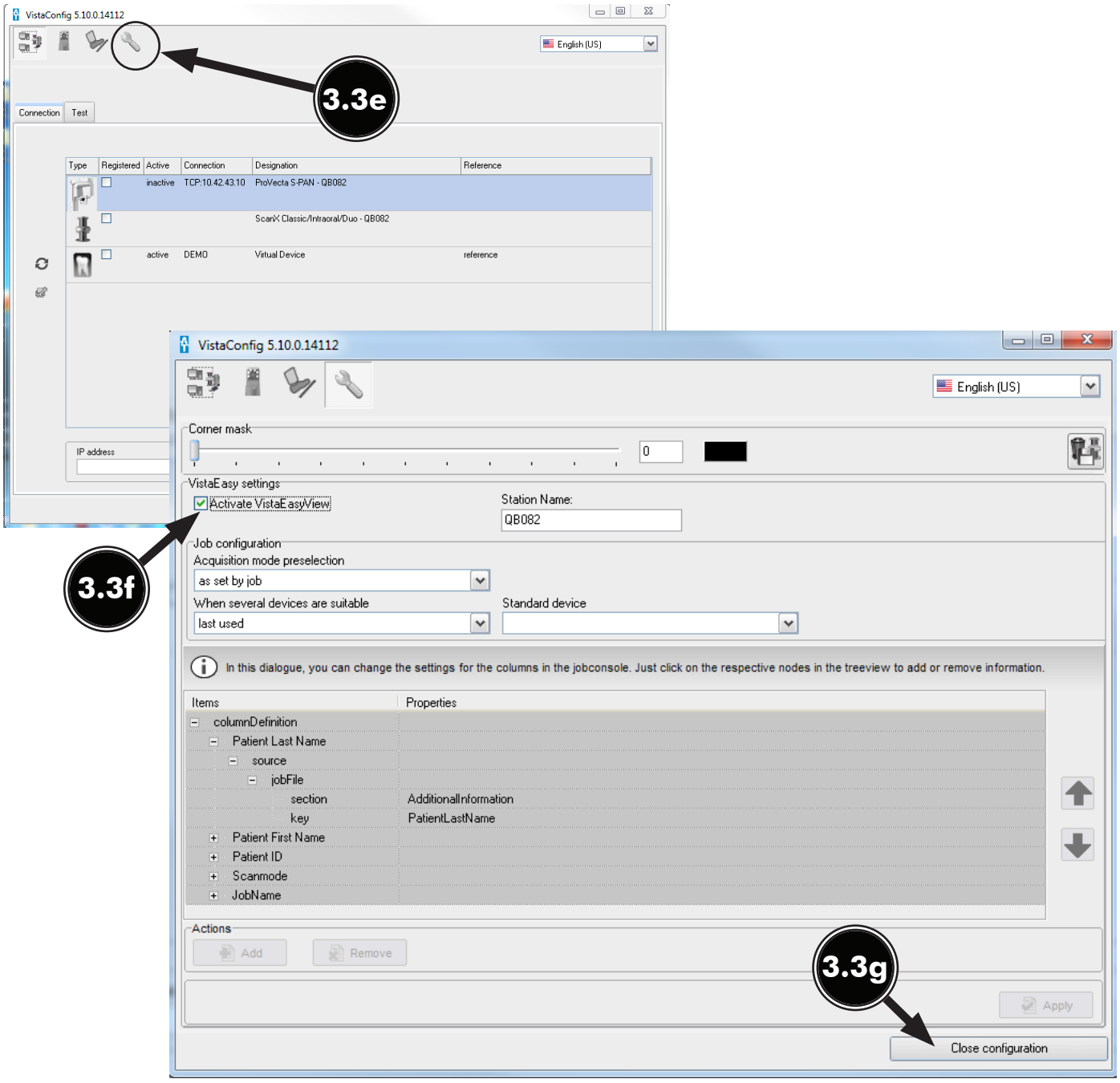
| Application | VistaEasy View |
|---|---|
| Apteryx/XrayVision, Version 4 | Yes |
| Dexis, 10.0.8.55 | Yes |
| EagleSoft, 19.1.8.0 | No |
| Kodak KDI, Version 6.12.9.0 | Yes |



e. Click the Wrench Icon button and observe that the VistaEasy changes showing VistaEasy setting options.

f. Select Activate VistaEasy View option and make sure that a check appears in the check box.

g. Click Close configuration to return to the desktop.



**4.1. Apteryx Setup for Intraoral Cameras.**
The following provides setup instructions for Apteryx imaging software, XrayVision Version 4, allows CamX Elara and CamX Spectra to acquire images via the TWAIN interface.

**4.1a.** Make sure that the device drivers have been installed. Refer to the Device Setup, section 3, as necessary.

**Note:** Apteryx requires VistaEasy View to acquire multiple images.

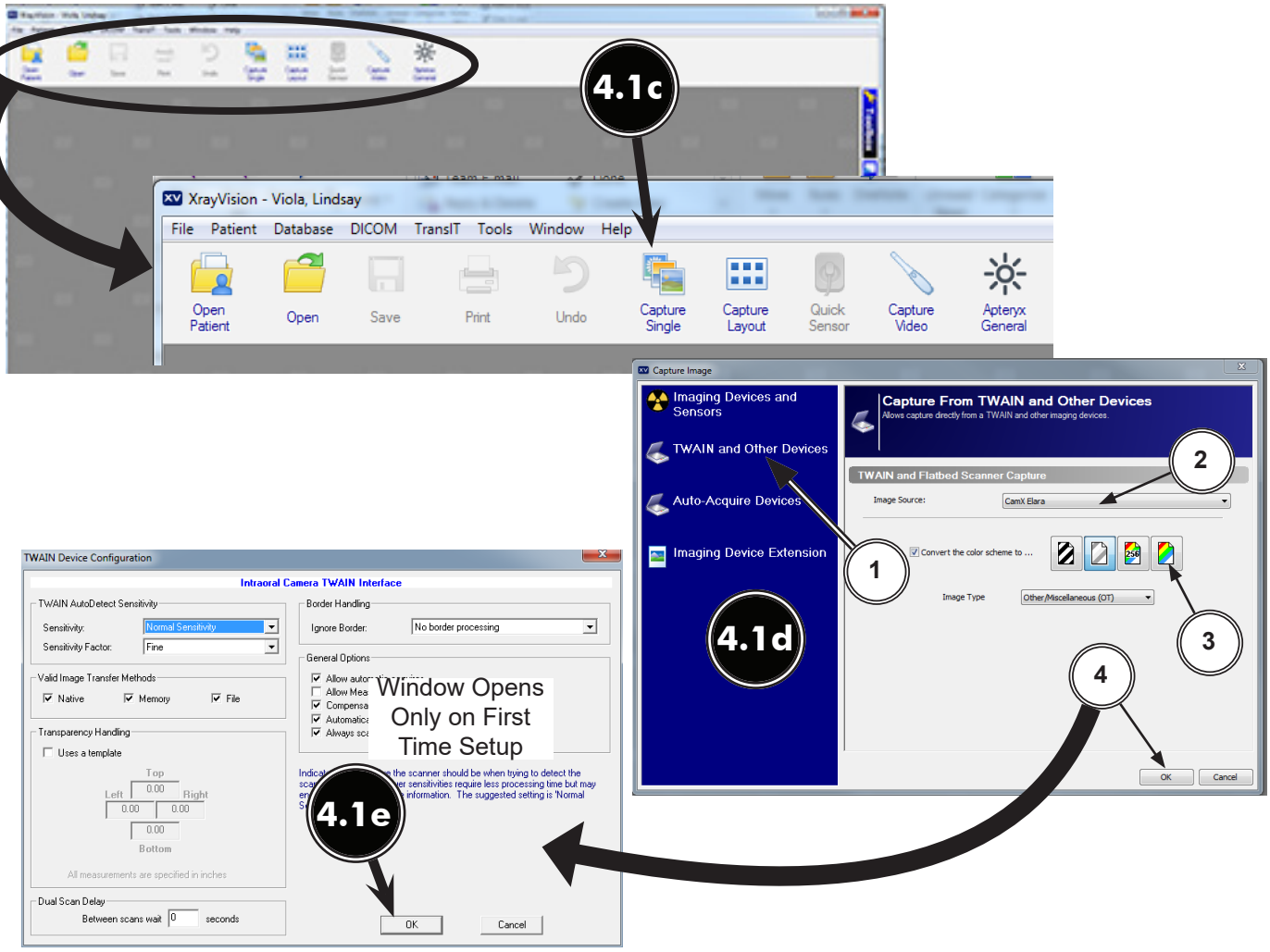
**4.1b.** Activate VistaEasy View by performing procedure 3.3 located in section 3.

**4.1c.** Select the ***Capture Single Image*** icon located on the top tool bar and observe that the **Capture Image** window opens**.**

**4.1d.** Perform the following for TWAIN acquisition for either CamX Elara and CamX Spectra.

1. Choose the ***TWAIN and Other Devices*** tab.
2. Select the **CamX Elara (or CamX Spectra)** from the drop down menu.
3. Select full color image tab.
4. Choose **OK** tab.

**4.1e.** Observe that the **TWAIN Device Configuration** window may open the first time TWAIN is being setup. Choose **OK** tab.



**4.2. Dexis 10 Setup for Intraoral Cameras.** This software allows CamX Elara and CamX Spectra to acquire images via the TWAIN interface.

**4.2a.** Make sure that the device drivers have been installed. Refer to the Device Setup, section 3, as necessary.

**Note:** Dexis 10 requires VistaEasy View to acquire multiple images.

**4.2b.** Activate VistaEasy View by performing procedure 3.3 located in section 3.

**4.2c.** From the **DEXIS Administration** window, select the ***Tool Icon*** from the main tool bar and observe that the **Preferences** window opens.

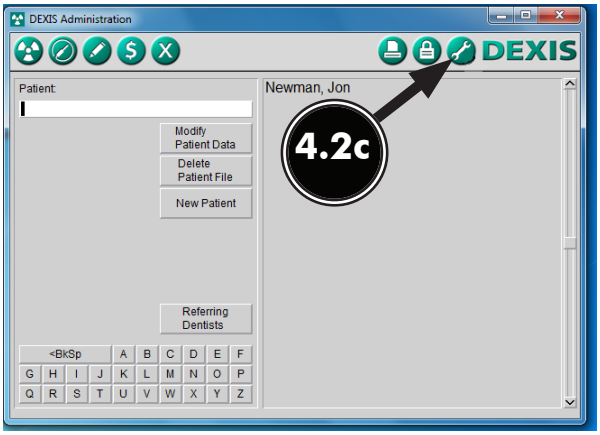
**4.2d.** Perform the following for TWAIN acquisition for either CamX Elara and CamX Spectra.

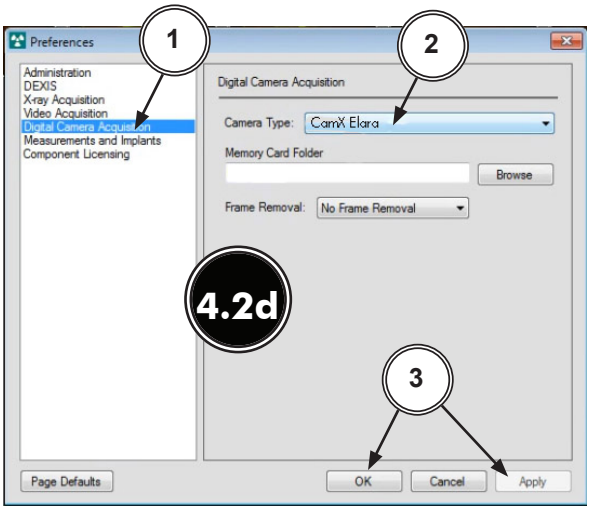
1. Select ***Digital Camera Acquisition*** option from the list on the left.
2. Select **CamX Elara (or CamX Spectra)** from the drop down menu on the right.
3. Click the **Apply** and **OK** tabs to return to the **DEXIS Administration** window.

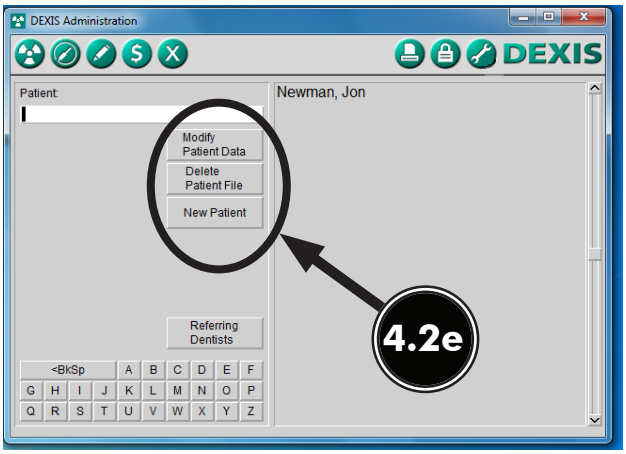
**4.2e.** Select a patient, an existing one or newly created, as necessary and observe that the **Main Imaging** window opens.

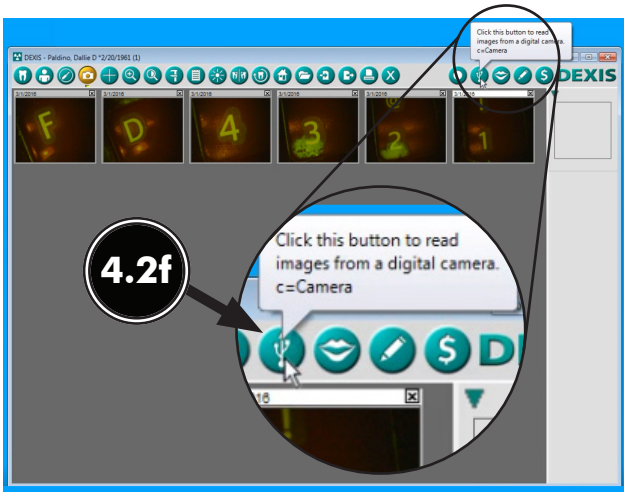
**4.2f.** Choose the **TWAIN** acquisition mode icon.

Operate **Dexis 10** normally to acquire an image via the device (CamX Elara or CamX Spectra). Refer to the corresponding Operator's Manual as necessary.



**Note:** Eaglesoft does not require VistaEasy View to squire multiple images.

**4.3. Eaglesoft19 Setup for Intraoral Cameras.** This software allows CamX Elara and CamX Spectra to acquire images via the TWAIN interface.

Perform steps 4.3b, 4.3c and 4.3d to setup the camera to operate in the TWAIN acquisition mode. Steps 4.3e through 4.3g shows the typical TWAIN procedure to acquire an image via the device (CamX Elara and CamX Spectra). Refer to the Installation and Operating Instructions manual as necessary.

**4.3a.** Make sure that the device drivers have been installed. Refer to the Device Setup, section 3, as necessary.

**4.3b.** From the main program menu, select ***File*** to open a drop down list of operational functions.

**4.3c.** Select ***Preferences*** from the list, which opens a new window as shown. Select the following.

1. Select **X-ray** tab
2. Check ***"use scanner default interface"*** check box.
3. Press **Scanner** button

**4.3d.** Observe that the **Select Source** pop up window opens and perform the following.

1. Highlight **CamX Elara (or CamX Spectra)** from the source list.
2. Click the ***Select*** button to select the TWAIN option as the source module and return to the **Preferences** window.
3. Select **OK** in the upper right hand corner to return to the main program window. The application is now set to acquire images via TWAIN using either the CamX Elara or CamX Spectra devices.

**4.3e.** From the **Clinical** window, open the **Imaging** window by selecting the X-ray picture shown on the **Clinical** window.

**4.3f.** Acquire an image via CamX Elara or CamX Spectra in the TWAIN acquisition mode as follows.

1. From the main program menu, select ***File*** (A), **New** (B) and **Scanned Images** (C).
2. Observe the raw video image is shown in a pop up window screen
3. Observe the captured CamX Spectra image via TWAIN on screen.

**4.4. KODAK Dental Imaging (KDI ) Software Setup for Intraoral Cameras** This software uses TWAIN for CamX Elara and CamX Spectra operation**.** The following steps sets up KDI for multiple image acquisitions:

**4.4a.** Make sure that the device drivers have been installed. Refer to the Device Setup, section 3, as necessary.

**Note:** Kodak requires VistaEasy View to acquire multiple images.

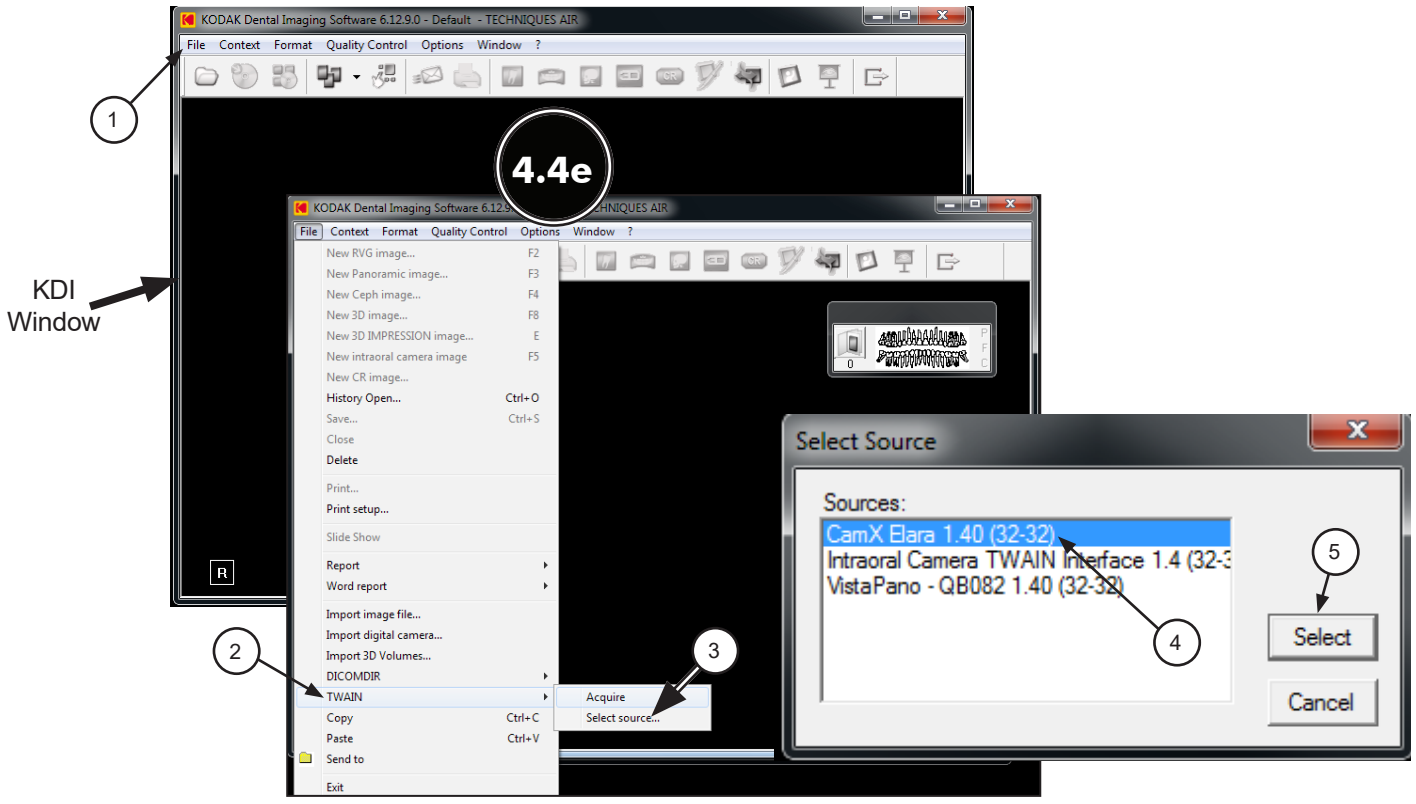
**4.4b.** Activate VistaEasy View by performing procedure 3.3 located in section 3.

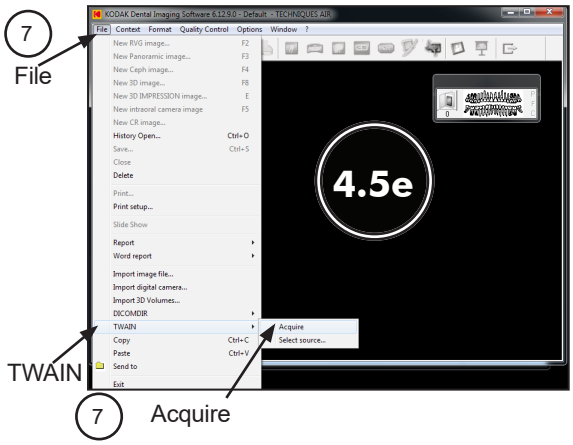
**4.4c.** Start the application and observe that the ***KDI*** window displays.

**4.4d.** Perform the steps of paragraph 4.4e when running ***KDI*** for the first time. Otherwise, proceed to paragraph 4.4f to acquire images via the installed intraoral camera.

**4.4e.** Setup cameras to work with ***KDI*** for the first time by performing the following.

1. Select ***File*** to open a drop down list of operational functions.
2. Select ***Twain*** from the menu list
3. Choose ***Select source...*** and observe that the ***Select Source*** window opens.
4. Highlight ***CamX Elara TWAIN Interface 1.4 (32-32)*** from the source list.
5. Click the ***Select*** button to set it as the source for the capture device.
6. Return to the ***KDI*** window.
7. Select ***File/Twain/Acquire*** to display the ***CamX Elara TWAIN Interface*** window.





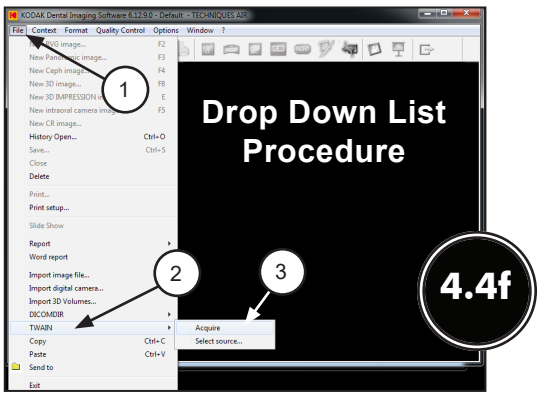

**4.4f .** Refer to the corresponding Operator's Manual as necessary. ***KDI*** acquires images by using either the drop down list procedure to bring up the acquisition screen or using the **Acquisition Icon.**

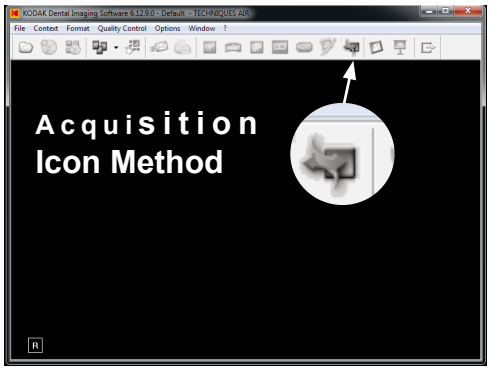
**Drop Down List Procedure**

1. Select ***File*** to open a drop down list of operational functions.
2. Select ***Twain*** from the menu list
3. Choose ***Acquire*** and observe that images appear on the acquisition screen once the connected device (CamX Elara and CamX Spectra) is turned on.

**Acquisition Icon method**

Click the **Acquisition Icon** located on the top tab and observe that images appear on the acquisition screen once the connected device (CamX Elara and CamX Spectra) is turned on.





**4.5. TigerView Pro Setup for Intraoral Cameras.** This software uses the TWAIN acquisition option allowing the CamX Elara and CamX Spectra to acquire images.

**4.5a.** Make sure that the device drivers have been installed. Refer to the Device Setup, section 3, as necessary.

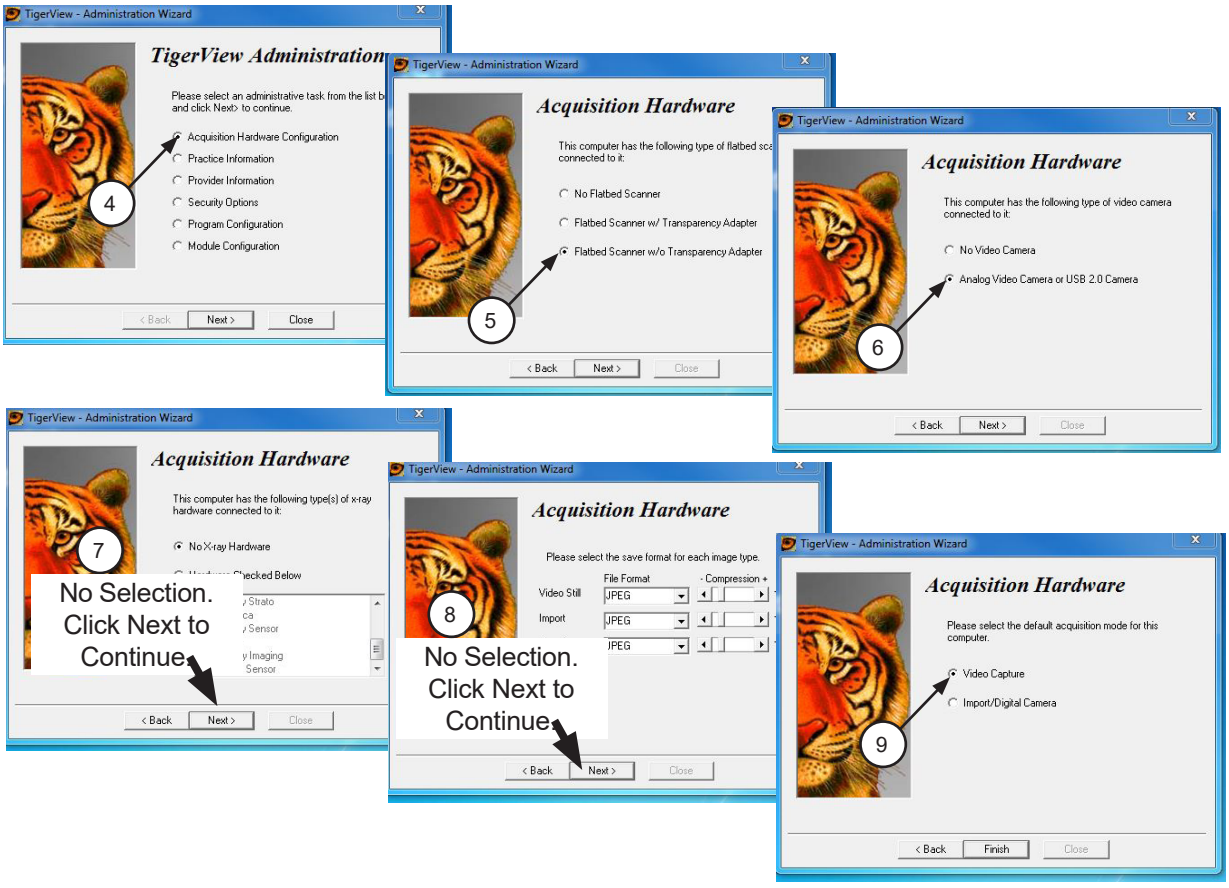
**Note: TigerView Pro** requires VistaEasy View to acquire multiple images.

**4.5b.** Activate VistaEasy View by performing procedure 3.3 located in section 3.

**4.5c.** Perform the steps of paragraph 4.6d when running **TigerView Pro** for the first time. Otherwise, proceed to paragraph 4.6e to acquire images via the installed intraoral camera.

**4.5d.** Setup cameras to work with **TigerView Pro** for the first time by performing the following.

1. Click the Windows Start button and select All Programs from the menu.
2. Select the **TigerView** listing and observe that the **TigerView Administration** option appears.
3. Click **TigerView Administration**, which opens the **TigerView Administration** window.
4. Choose ***Acquisition Hardware Configuration*** and click Next.
5. Select ***Flatbed Scanner w/o Transparency Adapter*** and click Next
6. Select ***Analog Video Camera or USB 2.0 Camera*** and click Next.
7. Observe that a new window opens. Make no selections and click Next to continue.
8. No selections are needed in the new window that opens. Just click Next to continue.
9. Select ***Video Capture*** and click Finish to complete the setup.
10. Proceed to paragraph 4.6e to acquire images via the installed intraoral camera.



**4.5e.** Start the application and observe that the **TigerView *Pro Patient*** window displays.

**4.5f.** With a patient selected, click the ***Acquire*** tab and observe that the Acquisition window opens.

**4.5g.** Make sure that ***CamX Spectra J2310*** or ***CamX Elara*** is selected for TWAIN Devices and ***Color*** is selected for Type. Switch to the TWAIN acquisition window by clicking the **Start** button.

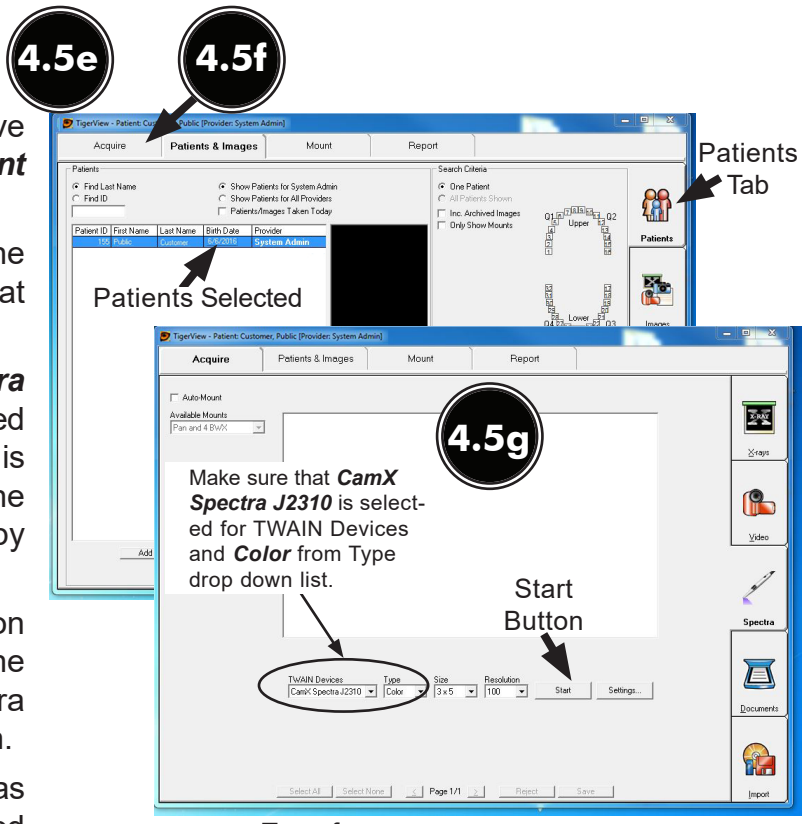
**4.5h.** Observe that images appear on the acquisition screen once the connected device (CamX Elara or CamX Spectra) is turned on.

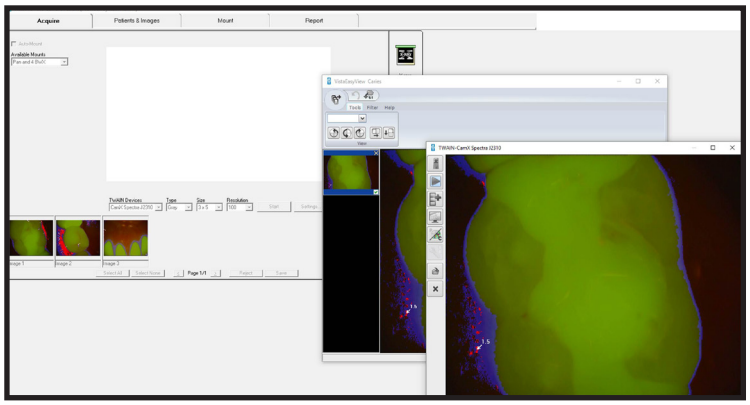
Refer to the camera manual as necessary and use the connected device to acquire images.

**4.5j.** Observe that the new capture screen opens showing the acquire images. Continue acquiring and capturing images as necessary.

**4.5k.** Transfer acquired images to **TigerView Pro** by clicking the transfer button.

**4.5l.** Select and save images to **TigerView Pro**.



Typical Captured Images via CamX Spectra

Typical Captured Images via CamX Elara

**4.6. VISIX Pro Setup for Intraoral Cameras.** This software uses the TWAIN acquisition option allowing the CamX Elara and CamX Spectra to acquire images.

**4.6a.** Make sure that the device drivers have been installed. Refer to the Device Setup, section 3, as necessary.

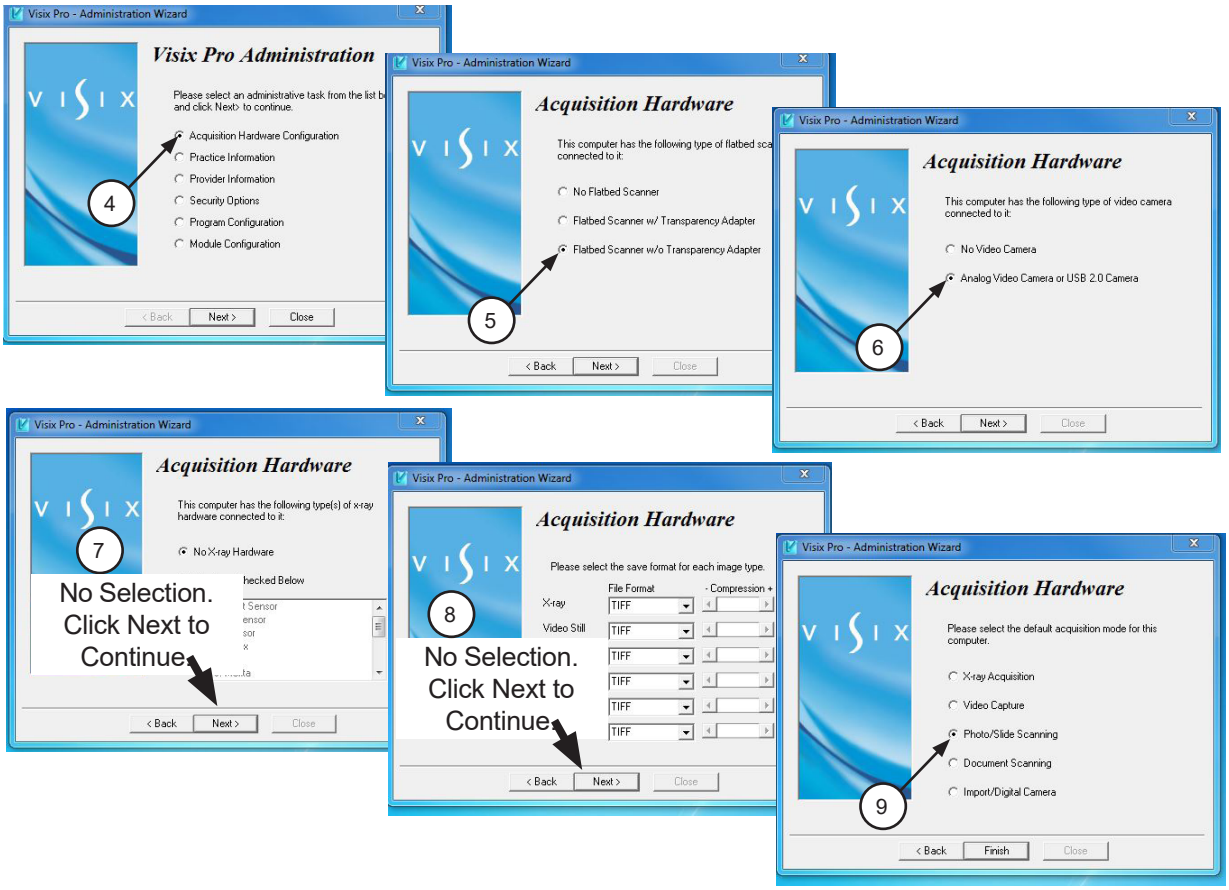
**Note: VISIX Pro** requires VistaEasy View to acquire multiple images.

**4.6b.** Activate VistaEasy View by performing procedure 3.3 located in section 3.

**4.6c.** Perform the steps of paragraph 4.6d when running **VISIX Pro** for the first time. Otherwise, proceed to paragraph 4.6e to acquire images via the installed intraoral camera.

**4.6d.** Setup cameras to work with **VISIX Pro** for the first time by performing the following.

1. Click the Windows Start button and select All Programs from the menu.
2. Select the **Visix** listing and observe that the **Visix Administration** option appears.
3. Click **Visix Administration**, which opens the **Visix Pro Administration** window.
4. Choose ***Acquisition Hardware Configuration*** and click Next.
5. Select ***Flatbed Scanner w/o Transparency Adapter*** and click Next
6. Select ***Analog Video Camera or USB 2.0 Camera*** and click Next.
7. Observe that a new window opens. Make no selections and click Next to continue.
8. No selections are needed in the new window that opens. Just click Next to continue.
9. Select ***Photo/Slide Scanning*** and click Finish to complete the setup.
10. Proceed to paragraph 4.6e to acquire images via the installed intraoral camera.



**4.6e.** Start the application and observe that the ***VISIX Pro Patient*** window displays.

**4.6f.** With a patient selected, click the ***Acquire*** tab and observe that the Acquisition window opens.

**4.6g.** Make sure that ***CamX Spectra J2310*** or ***CamX Elara*** is selected for TWAIN Devices and ***Color*** is selected for Type. Switch to the TWAIN acquisition window by clicking the **Start** button.

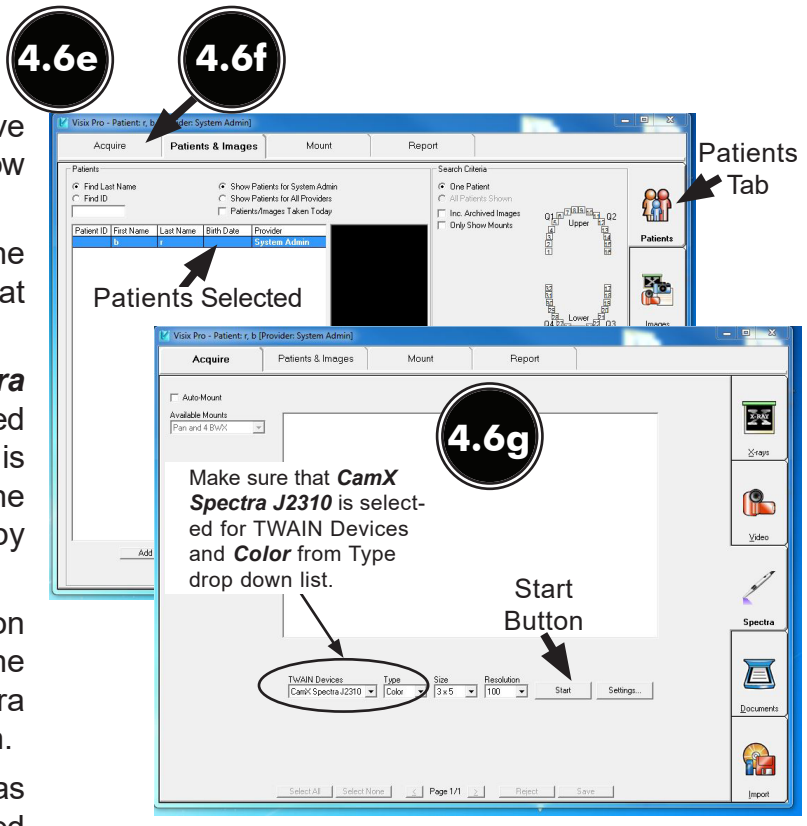
**4.6h.** Observe that images appear on the acquisition screen once the connected device (CamX Elara or CamX Spectra) is turned on.

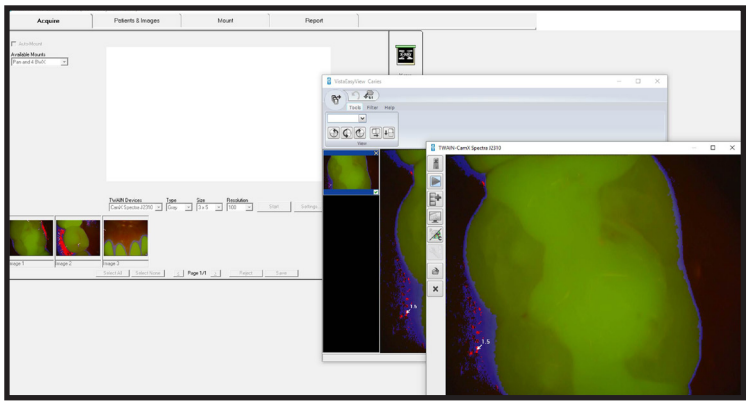
Refer to the camera manual as necessary and use the connected device to acquire images.

**4.6j.** Observe that the new capture screen opens showing the acquire images. Continue acquiring and capturing images as necessary.

**4.6k.** Click the transfer button to transfer acquired images to **VISIX Pro**.

**4.6l.** Select and save images to **VISIX Pro**.



Typical Captured Images via CamX Spectra

Typical Captured Images via CamX Elara

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