

# *iPan Beta Update 2009* (iPan)

## **IMPORTANT!**

Your iPan interface must look like the picture below. If not, do not perform these instructions.



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## **PURPOSE**

The following information will assist you with installing iPan Beta Update 2009, which includes upgrading iPan firmware, updating video processor settings, and selecting image enhancement options.

## **REQUIREMENTS**

Before beginning this procedure, please verify the following:

- Your iPan, PanX, or PanX-C system is operating properly (meaning you are able to acquire images successfully)
- You have the iPan Update 2009 CD
- You have CDR DICOM 3.5 SP1 software or higher (or EagleSoft 14 or higher or Patterson Imaging 14 or higher) installed.

## **STEP A. INSTALL IPAN 2009 UPDATE**

1. Exit CDR DICOM (or EagleSoft or Patterson Imaging).
2. Insert the iPan Update 2009 CD into your CD or DVD drive. If the setup wizard doesn't start automatically, browse to the iPan HS Interface Driver setup.exe file and double-click on it.
3. Click Next at the Welcome Screen.
4. Click Install at the Ready to Install Program Screen.
5. Click Finish at the end of the installation and close the installation start page.

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## Step B. Verify Firmware (Pano)

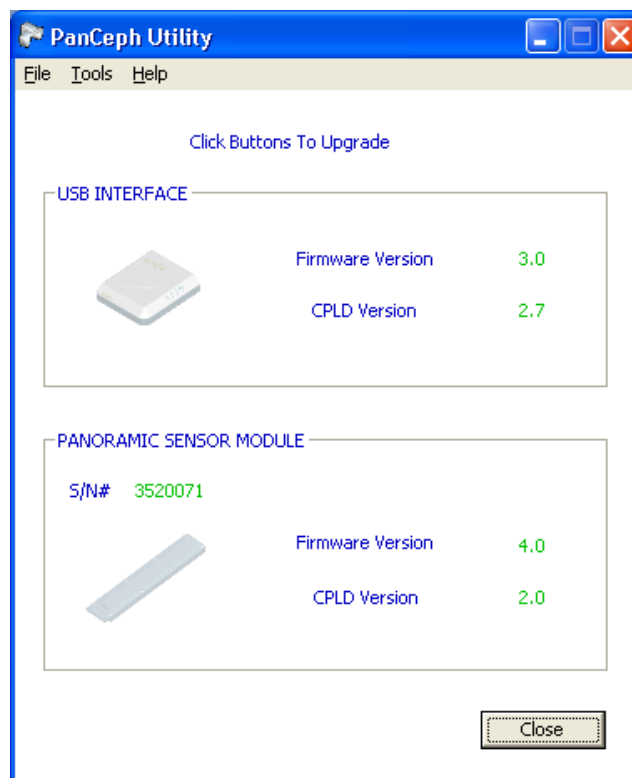
### STEP B. VERIFY FIRMWARE (PANO)

1. Make sure that the iPan USB Interface and the Sensor are connected. If your system is a PanX-C, make sure that it is set to panoramic mode, with the X-ray head rotated towards the panoramic Sensor (Digital Image Sensor System) and the collimator slider inserted completely with no icons visible.
2. Click Windows Start > All Programs > CDR DICOM for Windows > PanCeph Utility.
3. The **Panoramic Sensor Module Firmware** version may be displayed in GREEN or in RED. *Even if the version number is GREEN*, perform the following:
  - Click Tools > Upgrade from File > Sensor Module Firmware.
  - Click Yes when prompted to install the latest firmware.
  - Browse to the Upgrade from File folder on the CD and select *panusb.txt*.
  - Click Open. The updated version number is displayed in GREEN when the upgrade is completed successfully.
4. All versions should be GREEN (*Figure 1*). If not, contact us for more information.

### SCREENSHOT: FIRMWARE VERSIONS AFTER UPGRADE

FIGURE 1. Firmware Versions after Upgrade (Panoramic)

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**STEP C. UPDATE VIDEO  
PROCESSOR SETTINGS  
(PANO)**

1. Verify that all cables to the iPan USB Interface, the imaging system, and the PC workstation or laptop, are connected.
2. For PanX-C customers, verify that the system is set for panoramic imaging.
3. Start the PanCeph Utility (Windows Start > All Programs > CDR DICOM for Windows > PanCeph Utility).
4. Press and hold down the SHIFT key and click Tools > Video Processor Settings.
5. Perform the following actions to change the panoramic video processor settings:
  - Click inside the Green Gain text box (*Figure 2*).
  - Highlight the value, delete it, and type in the new value 10.
  - Click inside the Red Gain text box.
  - Highlight the value, delete it, and type in the new value 10.
  - Click Write.
  - Click Close.
  - Click Yes at the message, "Are you finished setting the Video processor?"
6. **Important!** Disconnect the USB cable from the iPan Interface and re-connect it.

**STEP D. UPDATE VIDEO  
PROCESSOR SETTINGS  
(CEPH)**

1. Verify that all cables to the iPan USB Interface, the imaging system, and the PC workstation or laptop, are connected.
2. For PanX-C customers, verify that the system is set for ceph imaging.
3. Restart the PanCeph Utility.
4. Press and hold down the SHIFT key and click Tools > Video Processor Settings.
5. Perform the following actions to change the ceph video processor settings:
  - Click inside the PGA Gain text box (*Figure 3*).
  - Highlight the value, delete it, and type in the new value 70.
  - Click Write.
  - Click Close.
  - Click Yes at the message, "Are you finished setting the Video processor?"
6. Click Close to exit the PanCeph Utility.
7. **Important!** Disconnect the USB cable from the iPan Interface and re-connect it.

**SCREENSHOTS: VIDEO  
PROCESSOR SETTINGS  
AFTER UPDATE**

**FIGURE 2. Panoramic Video Processor Settings**

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Video Processor Settings

Settings

	WRITE	READ
Configuration	0x 2	0x 2
Green Offset	0x c0	0x c0
Green Gain	0x 10	0x 10
Red Offset	0x c0	0x c0
Red Gain	0x 10	0x 10

Write Default Close

**FIGURE 3. Ceph Video Processor Settings**

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Ceph Video Processor Settings

CCD Settings

	WRITE	READ
Configuration	0x 0	0x 0
PGA Gain	0x 70	0x 70
Clamp Level	0x 0	0x 0

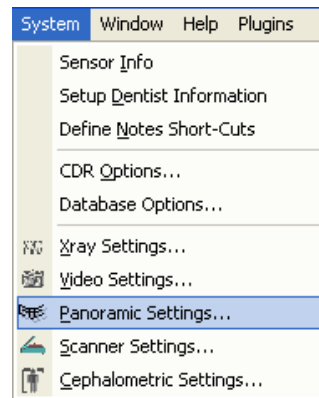
Write Default Close

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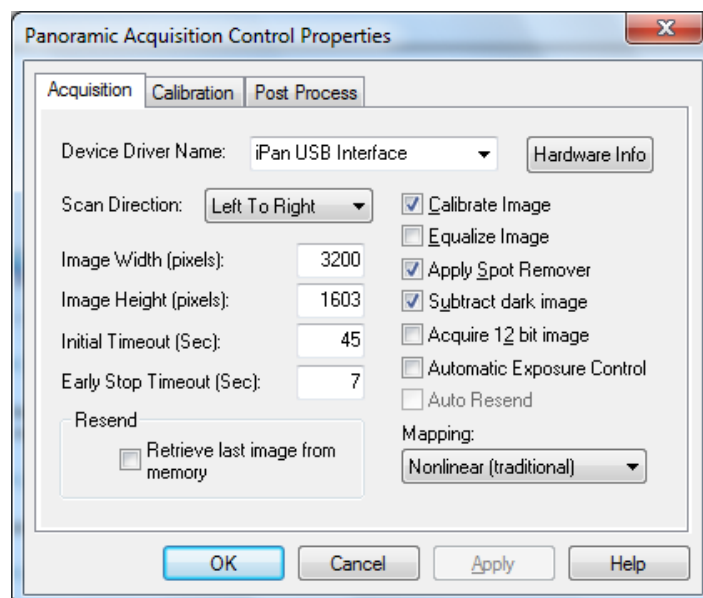
## Step E. Select Image Enhancement Option (Pan)

### STEP E. SELECT IMAGE ENHANCEMENT OPTION (PAN)

1. Start the CDR DICOM program and click System > Panoramic Settings.



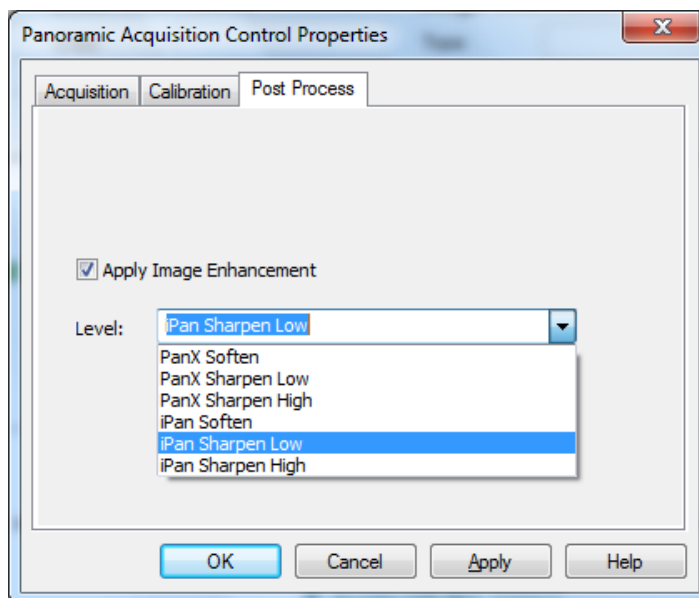
2. Make sure that the iPan USB Interface is selected. Also verify that Calibrate Image, Apply Spot Remover, and Subtract Dark Image options are checkmarked and that Nonlinear (traditional) mapping is selected.



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#### Step E. Select Image Enhancement Option (Pan)

3. Click on the Post Process tab.
4. Make sure that the Apply Image Enhancement box is checked.
5. Select the desired enhancement level, as described below.
  - Soften - appropriate for reducing noise and undesirable image artifacts
  - Sharpen Low - appropriate when a moderate amount of image sharpening and contrasting is desired
  - Sharpen High - appropriate when a high amount of edge detail and contrast differentiation is desired
6. Click Apply.
7. Click OK to save your changes and close the dialog box.



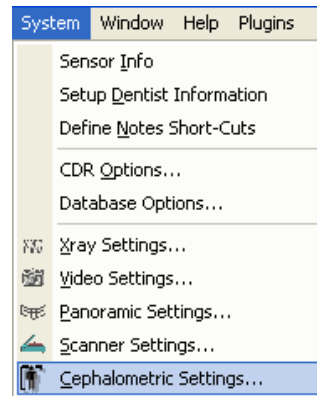
8. Start your imaging program, take one or more sample exposures, and verify image response. An acceptable image should be evenly dark, except where objects in the X-ray field of view (bite block or ear rings) have been exposed, and show no unusual digital patterns (sawtooth, etc.).

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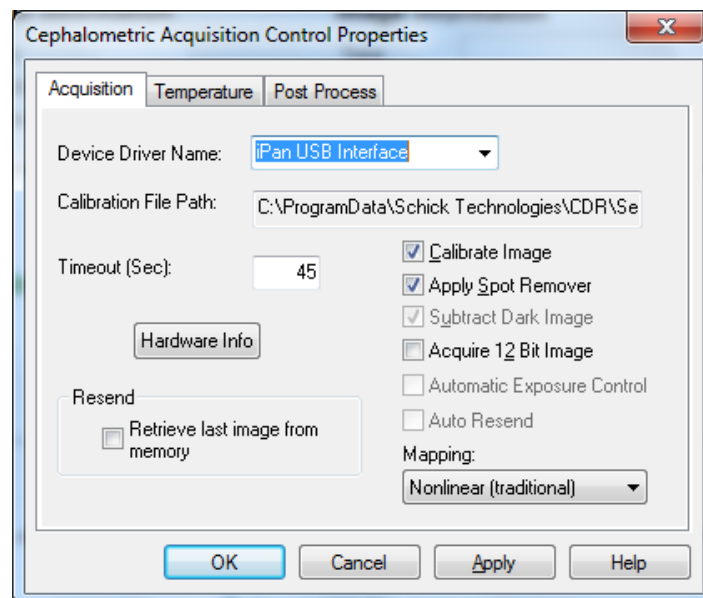
## Step F. Select Image Enhancement Option (Ceph)

### STEP F. SELECT IMAGE ENHANCEMENT OPTION (CEPH)

1. Start the CDR DICOM program and click System > Cephalometric Settings.



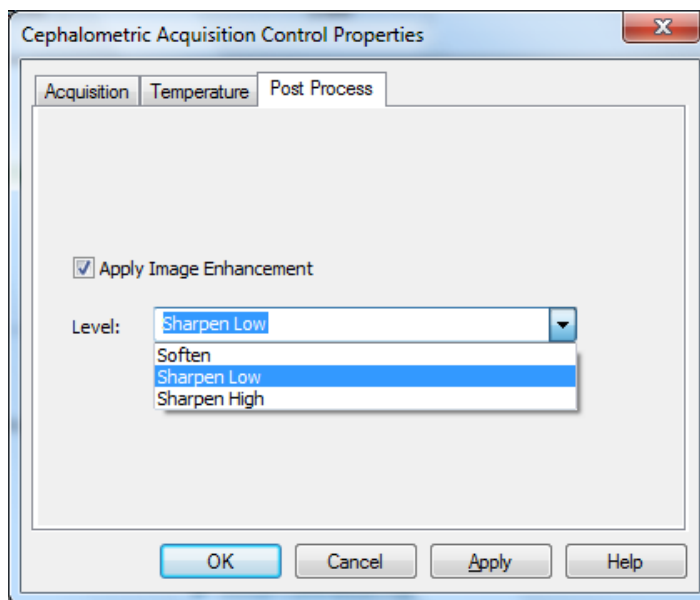
2. Make sure that the iPan USB Interface is selected. Also verify that Calibrate Image and Apply Spot Remover options are checkmarked and that Nonlinear (traditional) mapping is selected.



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#### Step F. Select Image Enhancement Option (Ceph)

3. Click on the Post Process tab.
4. Make sure that the Apply Image Enhancement box is checked.
5. Select the desired enhancement level, as described below.
  - Soften - appropriate for reducing noise and undesirable image artifacts
  - Sharpen Low - appropriate when a moderate amount of image sharpening and contrasting is desired
  - Sharpen High - appropriate when a high amount of edge detail and contrast differentiation is desired
6. Click Apply.
7. Click OK to save your changes and close the dialog box



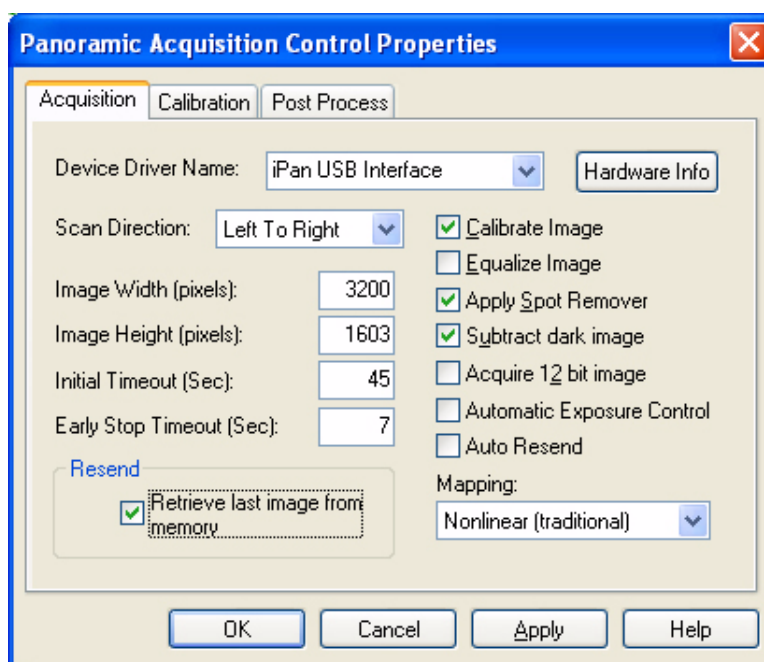
8. Start your imaging program, take one or more sample exposures, and verify image response. An acceptable image should be evenly dark, except where objects in the X-ray field of view (bite block or ear rings) have been exposed, and show no unusual digital patterns (sawtooth, etc.).



## USING RESEND TO EVALUATE PANO IMAGE ENHANCEMENTS

Customers interested in evaluating different panoramic image enhancements on the same image, without taking additional exposures, can use the manual Resend option for this purpose.

1. Acquire an X-ray image using any post-processing filter.
2. Click System > Panoramic Settings in CDR Dicom.
3. Click the Acquisition tab.
4. Click the Resend - Retrieve last image from memory checkbox. (Do not check the Auto Resend box.)
5. Click the Post Process tab.
6. Select a different image enhancement from the menu.
7. Click OK.
8. Click an empty Panoramic viewbox in the CDR Exam window.
9. Click Yes to the message, "Do you want to resend the last acquired image?" This will retrieve and re-display the last acquired image, applying the new enhancement. The Resend checkbox is cleared automatically after this function is used.



## USING RESEND TO EVALUATE CEPH IMAGE ENHANCEMENTS

Customers interested in evaluating different ceph image enhancements on the same image, without taking additional exposures, can use the manual Resend option for this purpose.

1. Acquire an X-ray image using any post-processing filter.
2. Click System > Cephalometric Settings in CDR Dicom.
3. Click the Acquisition tab.
4. Click the Resend - Retrieve last image from memory checkbox. (Do not check the Auto Resend box.)
5. Click the Post Process tab.
6. Select a different image enhancement from the menu.
7. Click OK.
8. Click an empty Ceph viewbox in the CDR Exam window.
9. Click Yes to the message, "Do you want to resend the last acquired image?" This will retrieve and re-display the last acquired image, applying the new enhancement. The Resend checkbox is cleared automatically after this function is used.

