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	Title:	Rotograph Evo Touch - Quick Start Guide
	Note:	

PC -Rotograph EVO D Communication setup

The RotographEvo D is composed by different network elements wired via Ethernet: the touch-screen and the sensors. Each element can be setup via touch-screen taking care to the following convention:
sensor 1: is the Panoramic sensor. The default value is 192.168.005.099
sensor 2: is the Ceph sensor. The default value is 192.168.005.100

Depending on the system configuration, the touch-screen will try to retrieve the communication towards a single sensor or both:
Pan-only unit: the touch-screen will try to communicate with the sensor 1
Pan-Ceph unit with two sensors: the touch screen will try to communicate with both sensors 1 and 2
Pan-Ceph unit with a single sensor: the touch-screen will try co communicate with the sensor 2

Sensor setup

- Start the unit in service mode Configuration
- Select the option “Sensor X IP Address” for editing the current settings
- Setup the desired IP address using the relevant commands on the touch-screen
- Press the buttons T and 0 on the touch-screen for storing the new settings

Touch Screen Setup

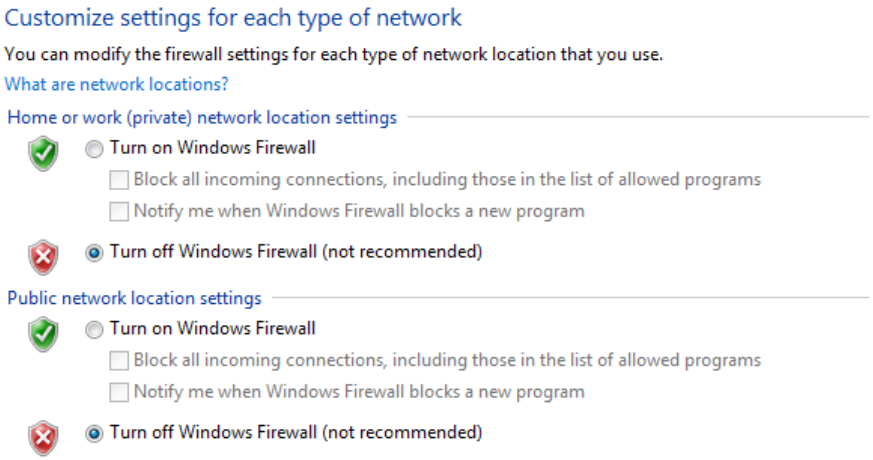
1. Start the unit in service mode Configuration
2. Select the option “TSEvo IP Address” for editing the current settings
3. Setup the desired IP address using the relevant commands on the touch-screen
4. Press the buttons T and 0 on the touch-screen for storing the new settings

Note: Is strictly recommended to take note of each change from the default settings. Possible lost data cannot be restored.

PC Configuration

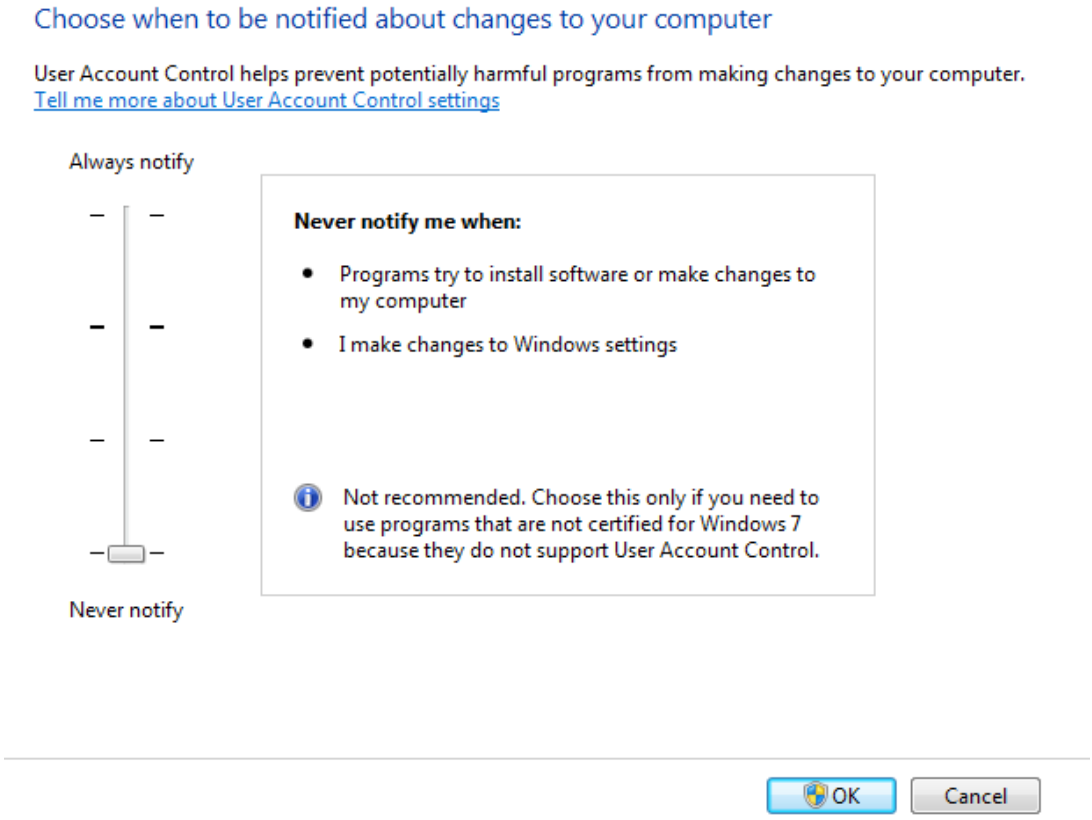
1. Turn-off the Windows Firewall Control:

Start / Control Panel / System and Security / Windows Firewall

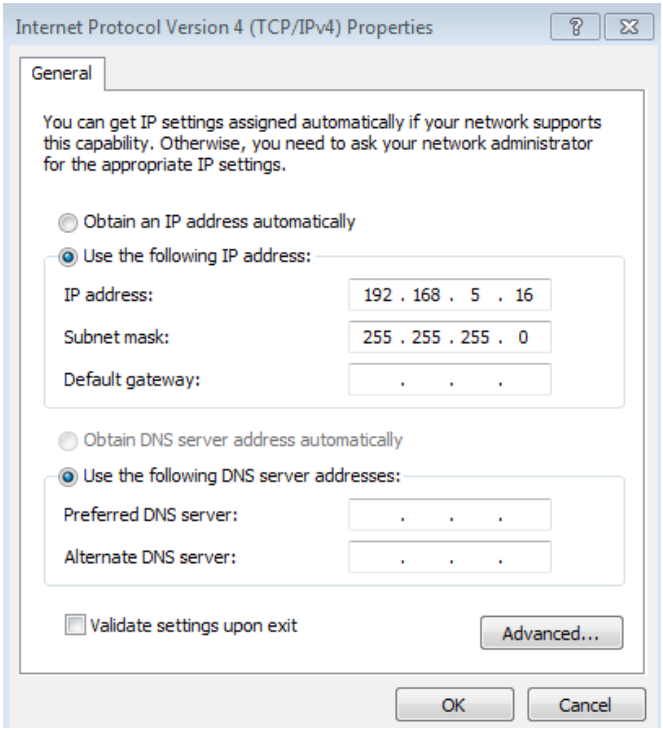


2. Disable the User Account Control (set the value as “Never notify”):

   Start / Control Panel / User Accounts and Family Safety / User Accounts / User Accounts Control Settings



3. From the Device Manager, disable the power management settings of the following devices:
   - display adapter
   - generic USB hub
4. Setup the IP address of the pc as 192.168.005.xxx where xxx can be any value in the range 001-254, excluding whatever host already reserved by the touch-screen or the sensors



Dental Studio Setup

Insert the CD-Rom of Dental Studio in the CD-Rom drive. The interface will launch automatically and will guide you through the different installation steps:

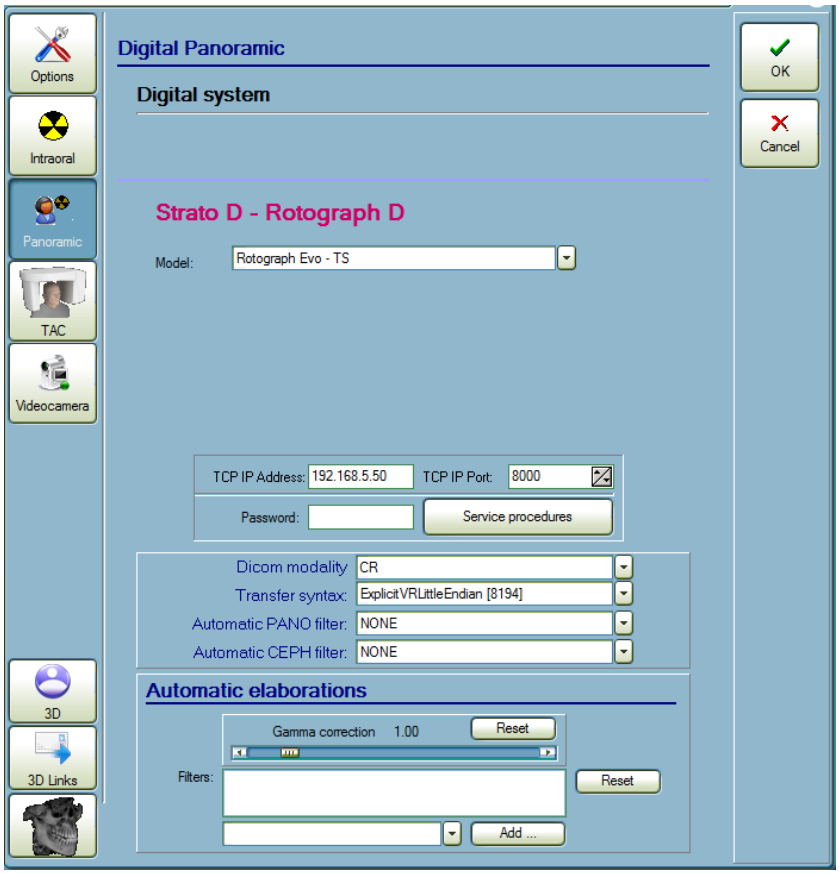
1. Program Installation: run the installation of the main software
2. USB Dongle Drivers Installation: run a new submenu including different choises
    - Videograph intraoral: not required for RotographEvo D
    - StratoD, RotographD: not required for RotographEvo D
    - RotographEVO: not required for RotographEvo D
    - EVO 3D: not required for RotographEvo D
    - EVO 3D DX: not required for RotographEvo D

3. Report Suite Installation: not required for RotographEvo D
4. 3D Sample Data: run the installation of some 3D demo cases

At the end of the installation, the software has to be configured for communicating with the touch-screen:

- from the main page of Dental Studio press the button “Patient” the select and open whatever patient
- press the button “Option” then “Panoramic”
- set the value of the field Model as “Rotograph Evo -TS”
- set the value of the field TCP IP Address as 192.168.005.050
- set the value of the field TCP IP Port as 8000

press the button “OK” for saving the new settings



Calibration file installation

Each unit is provided with a sensor installation CD-Rom of its own, containing teh sensors calibration data, therefore the CD-Rom has to be used only with the unit delivered.

The calibration files have to be copied to the hard disk to the following path according to the Operating System in use:

Windows XP

C:\Documents and Settings\All Users\Application Data\Villa Sistemi Medicali\Rotograph\Calibration\

Windows 7

C:\Program Data\Villa Sistemi Medicali\Rotograph\Calibration\

Note: Application Data is an hidden folder, the option “Show hidden folders” has to be set in the Folder Option menu of Windows

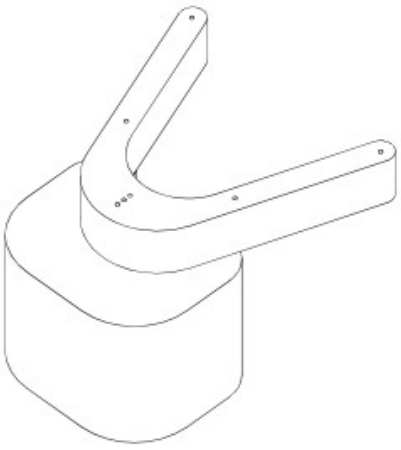
The calibration files are provided using the following naming convention:

- PXCE_3_10358654 = Ceph - Binning Mode 3 – sensor s/n 10358654
- PXCE_5_10358654 = Ceph - Binning Mode 5 – sensor s/n 10358654
- PXPA_3_10358654 = Panoramic - Binning Mode 3 – sensor s/n 10358654

Centering verification in PANORAMIC mode

X-RAY Beam Centering

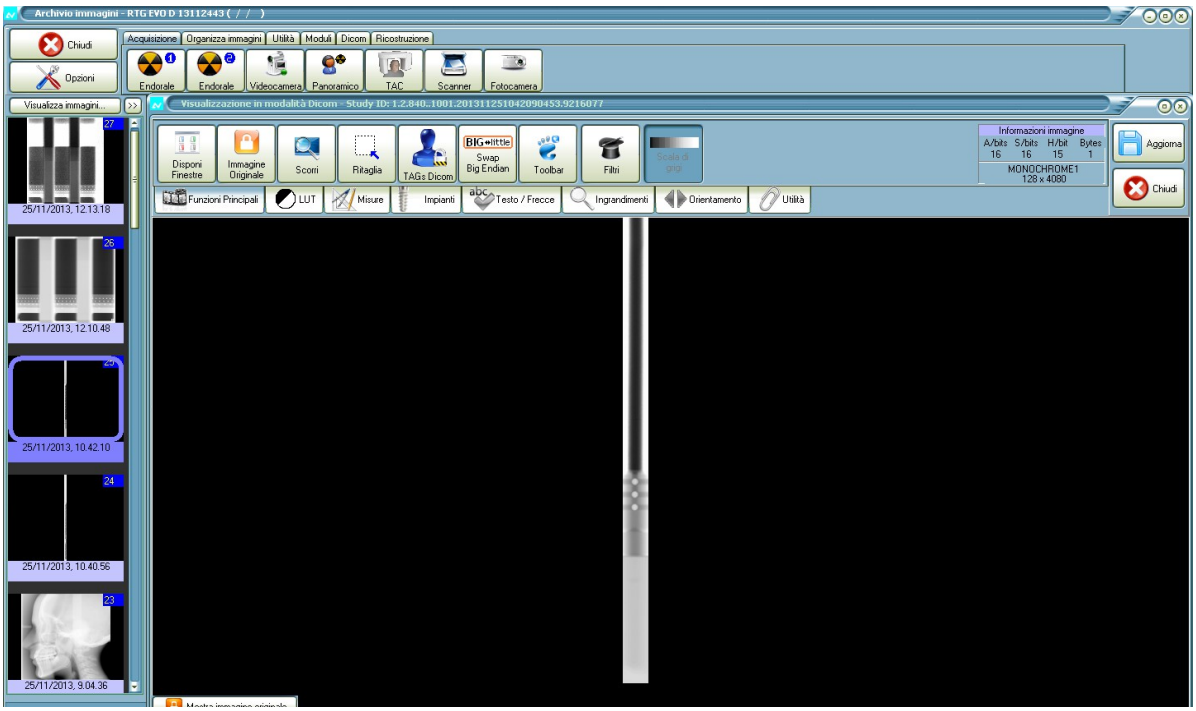
1. Switch-on the unit in service mode AXIS ALIGNMENT (password 118)
2. On the service menu select YAxis zero then press the button 0
3. Press again the button 0, the rotating arm will moves of 90° from the 0 position
4. Place the centering tool (P/N 6107900200) on the chin rest and the copper filter (P/N 5607900800) in front of the sensor fixing it with tape



Centering tool P/N 6107900200

Sensor Calibration tool P/N 5607900800

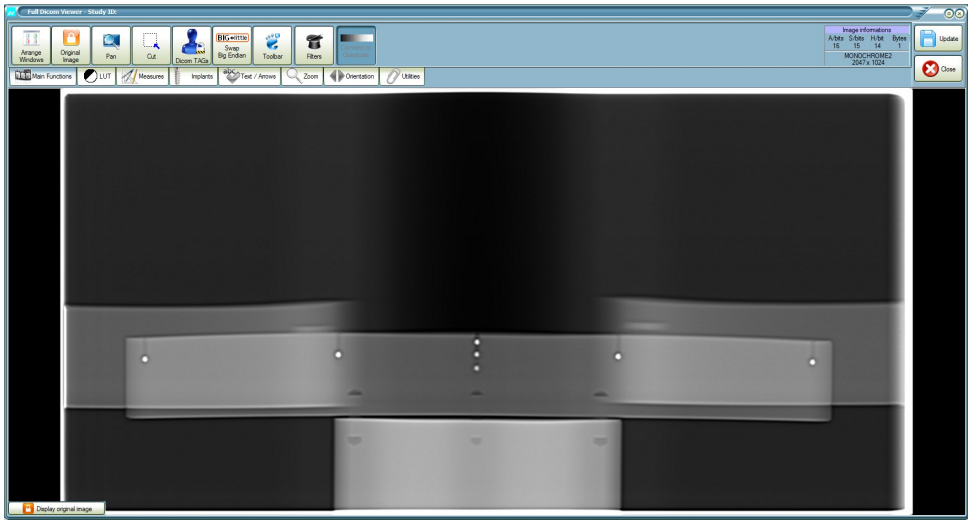
5. Open Dental Studio, select and open whatever patient then launch the virtual keyboard by pressing the button “Panoramic”
6. Make an exposure at 68 kV – 6mA using Dental Studio; the following image will be displayed



7. Take the coordinates of the 3 reference balls in the exposed area hold pressing the left button of the mouse toegheter with CTRL:
    - the 3 reference balls have to be aligned vertically. In case of misalignment, it will be required to adjust the sensor position
    - the position of the balls has to be in the middle of the exposed area. In case of asymmetry it will be required to adjust the sensor position
    - the black area has to be in the middle of the exposed area. In case of asymmetry it will be required to adjust the tube position

Y AXYS And Simmetry Verifications

1. Switch on the machine in normal mode
2. Select the Standard Panoramic Adult HD program
3. Open Dental Studio, select and open whatever patient then launch the virtual keyboard by pressing the button “Panoramic”
4. Make an exposure in Adult mode at 68 kV – 6mA with copper filter (60 kV – 6 mA without copper filter) using Dental Studio.



5. from the toolbar of Dental Studio select Measure then Single and take the distance between the two external balls. The reference value has to be: 188mm +/- 2mm
6. In case of measure out of range, adjust the Y Axis offset value (accordingly and repeat the step 1-5.
7. Take the size of the right and left half of the image in order to check the simmetry. The difference has to be at most 1mm. In case of measures out of range, adjust the rotation offset value.

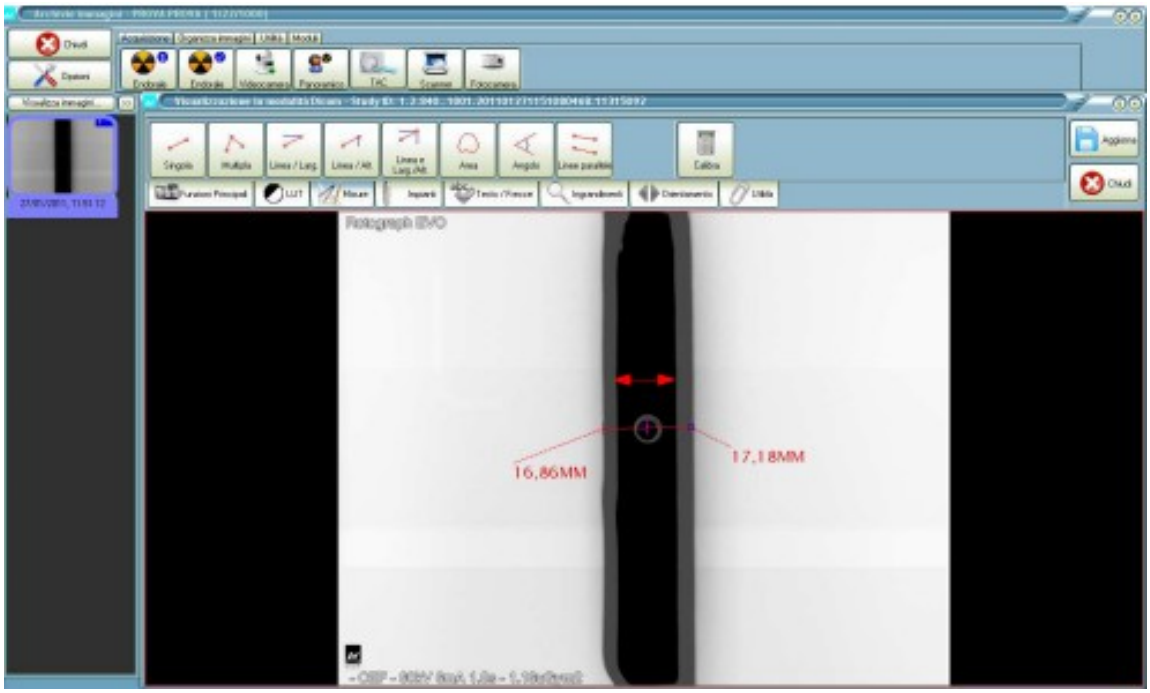
Note: The Y Axis Evo offset value is fixed and hasn't to be modified

Verification of the CEPH function

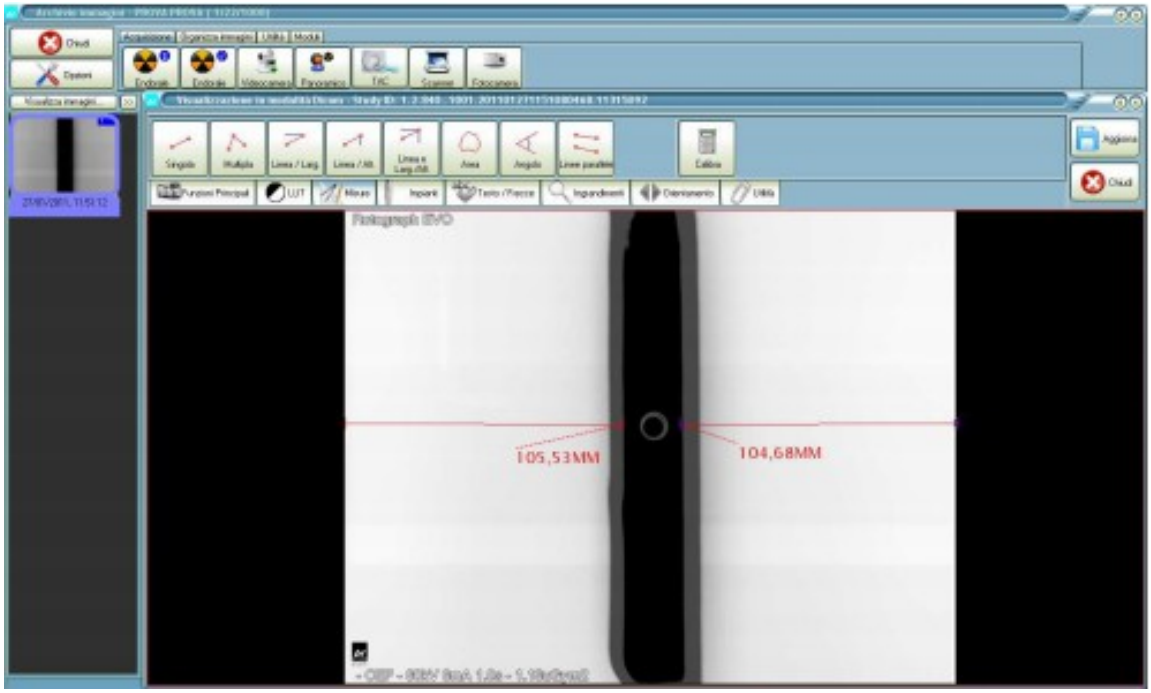
In case of CEPH arm, the alignment of the x-ray beam with ear rins and digital sensor has to be checked.

1. Switch-on the unit in service mode CEPH SETTINGS (password 124)
2. On the service menu select Rotation offset then press the button O
3. Position the ear rings, completely opened, in Latero Lateral mode than set the following exposure parameters: 66 kV, 6 mA.
4. Open Dental Studio, select and open a test patient then launch the virtual keyboard by pressing the button "Panoramic"
5. On the touch-screen press once on the "exam family selection" area, the ceph sensor will move in start position with the secondary collimator out of field of view.
6. Take the exposure, hold pressing the x-ray button.
7. Press the button "Accept Image" then "Yes".
8. Press the button LUT on the toolbar then press the button "Central LUT" 
9. Check the position of the rings in the exposed area:

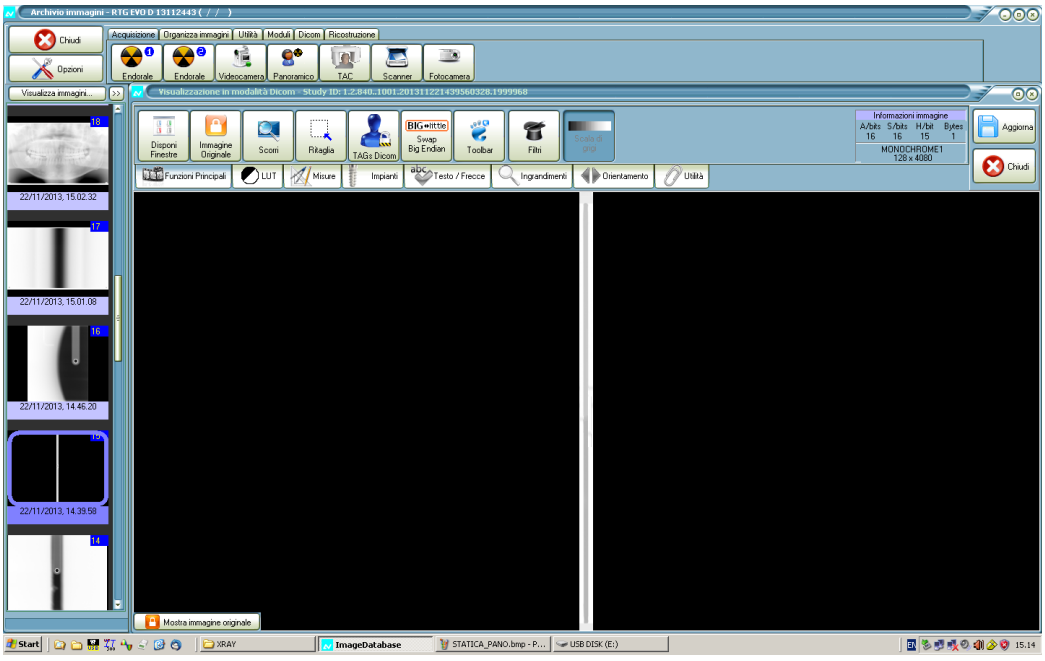
    - In case of misalignment, a mechanical adjustment of the ring position is needed



- In case of asymmetry it will be required to adjust the sensor position (see paragraph xxx)

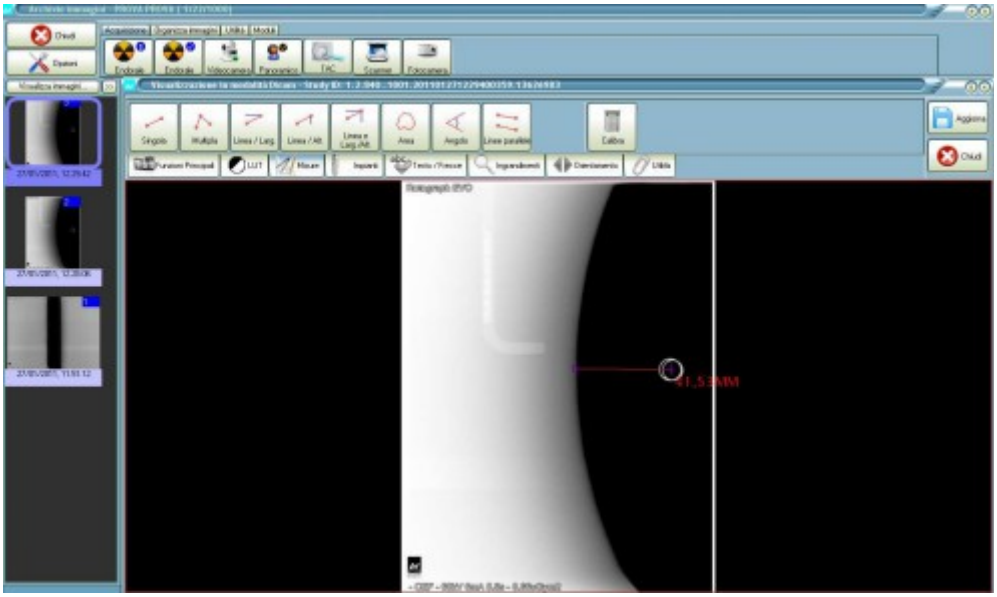


10. Press “T” on the touch-screen in order to quit the Rotation Offset menu and select Ceph.S.Coll.Zero then press the button O
11. Press again the button O, the secondary collimator will move in the middle of the field of view
12. Place the centering tool P/N 5209900900 on the secondary collimator
13. Set the following exposure parameters: 66 kV, 6 mA, 2 sec.
14. Launch the virtual keyboard on Dental Studio by pressing the button “Panoramic”
15. Take an exposure
16. Press the button “Accept Image” then “Yes”
17. In the obtained narrow image the projection of the slit of the centering tool has to be vertical and in the middle of the exposed area, which is defined by the arc shown in the picture



In case of misalignment adjust the value of the offset and repeat the steps 10-16

18. Press “T” on the touch-screen in order to quit the Ceph.S.Coll.Zero menu and select STF Zero then press the button O
19. On the touch-screen press once on the “exam family selection” area, the sensor will move in the start position with the STF in field
20. Set the following parameters: 66 kV, 6 mA
21. Launch the virtual keyboard on Dental Studio by pressing the button “Panoramic”
22. Take an exposure
23. Press the button “Accept Image” then “Yes”
24. Take the size of the distance betweeen the center of the ear rings and the edge of the soft tissue filter.

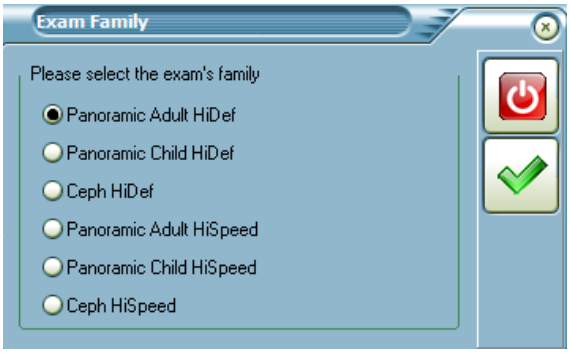


The value has to be around 50mm. In case of value out of range, adjust the offset accordingly and repeat again the steps 18-24

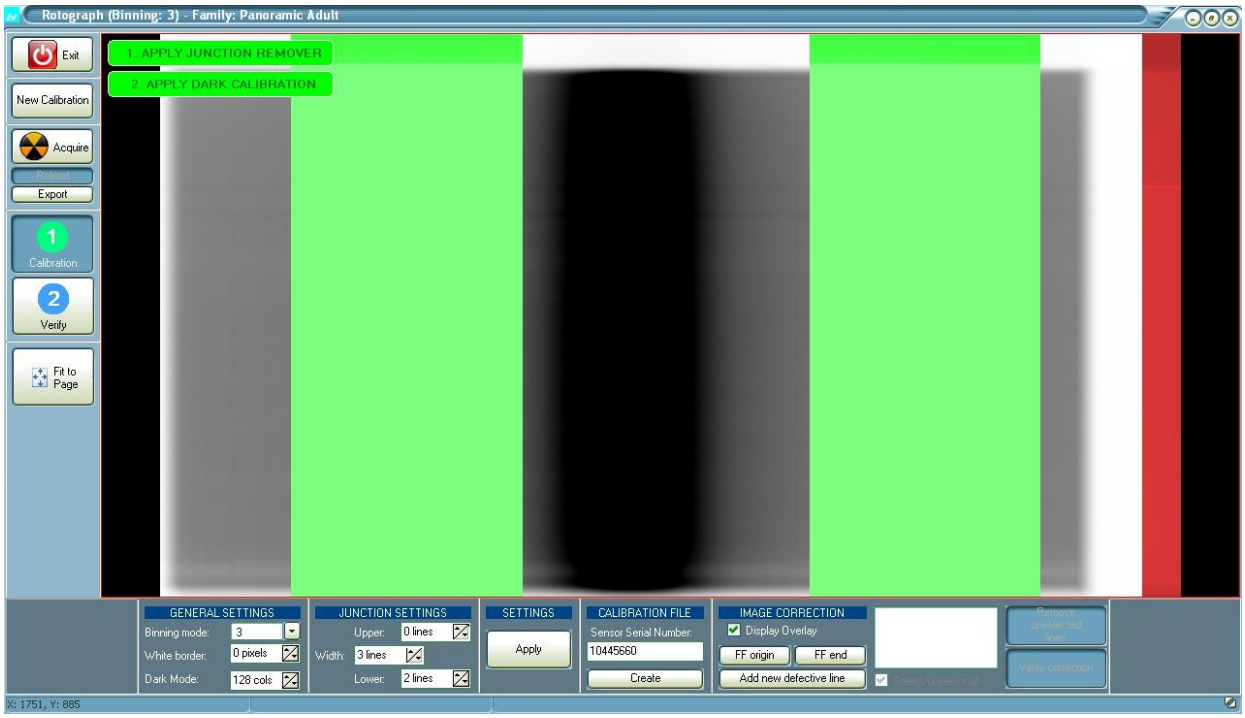
Detector Calibration

Panoramic mode

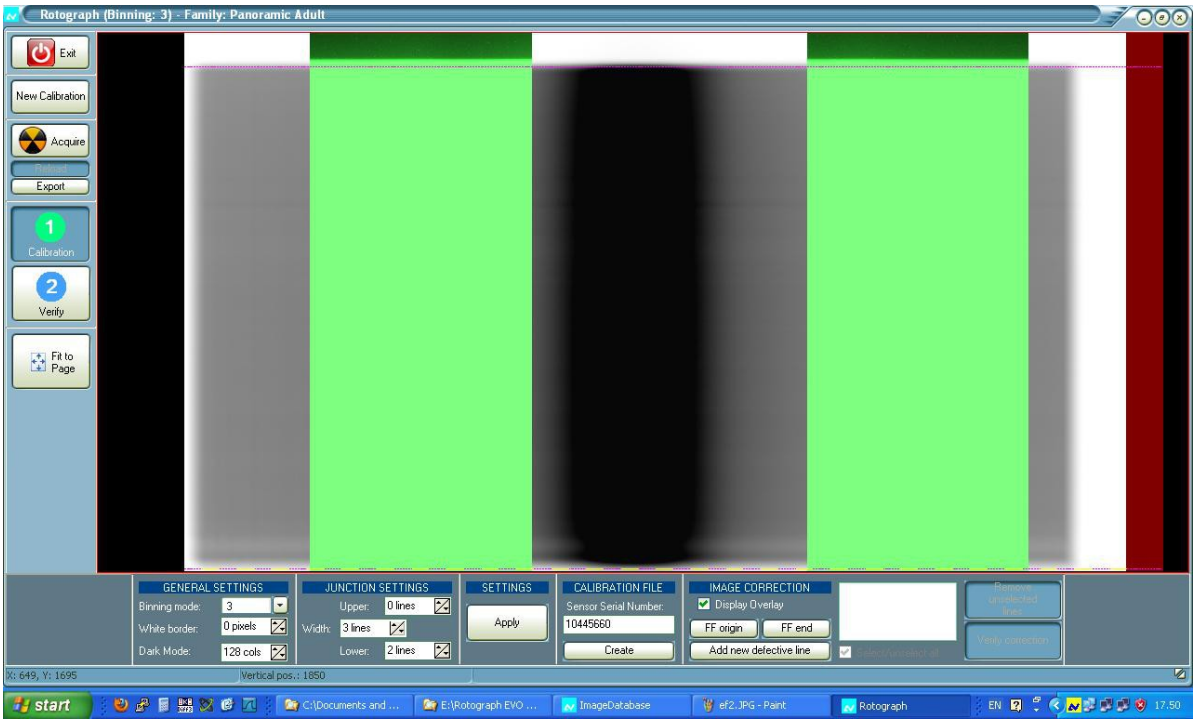
1. Switch-on the unit in normal mode
2. Select the Evo Panoramic Adult HD program (is suggested to use 3mm of Aluminum filter)
3. Open Dental Studio then select and open a test patient
4. Press the button Options then Panoramic
5. Insert in the field “Password” the value 1771 then press the button Service Procedure for opening the calibration program
6. In the Exam Family menu select Panoramic Adult HiDef then press the button “Confirm”



7. Press the button Acquire
8. Set the following exposure parameters: 70kV, 6mA and take an exposure



9. Press the buttons “Apply Junction Remover” and “Apply Dark Calibration” respectively
10. Hold pressing the button CTRL left click on the image on the upper limit of the exposed area, a dashed line will be added indicating the current selection.Press the button “FF origin” for saving the current selection. Hold pressing the button CTRL left click on the image on the lower limit of the exposed area, a dashed line will be added indicating the current selection.Press the button “FF end” for saving the selected value.



11. Zoom the image using the scroll wheel of the mouse then, hold pressing the left button, drag the image for finding possible defective lines.
12. Press the button Create and Save for creating (or replacing if already existent) the calibration files

Ceph HD mode

1. Switch-on the unit in normal mode
2. Select the mode Ceph PA (24x22) HD
3. Position the ear rings, completely opened, in Postero Anterior mode
4. Open Dental Studio then select and open a test patient
5. Press the button Options then Panoramic
6. Insert in the field “Password” the value 1771 then press the button Service Procedure for opening the calibration program
7. In the Exam Family menu select Ceph HiDef then press the button “Confirm”
8. Press the button Acquire
9. Set the following exposure parameters: 78kV, 12mA and take an exposure (no filter required)
10. Press the buttons “Apply Junction Remover” and “Apply Dark Calibration” respectively
11. Hold pressing the button CTRL left click on the image on the superior limit of the exposed area, a dashed line will be added indicating the current selection.Press the button “FF origin” for saving the current selection. Hold pressing the button CTRL left click on the image on the inferior limit of the exposed area, a dashed line will be added indicating the current selection.Press the button “FF end” for saving the selected value.
12. Zoom the image using the scroll wheel of the mouse then, hold pressing the left button, drag the image for finding possible defective lines.
13. Press the button Create and Save for creating (or replacing if already existent) the calibration file

Ceph HS mode

1. Switch-on the unit in normal mode
2. Select the mode Ceph PA (24x22) HS

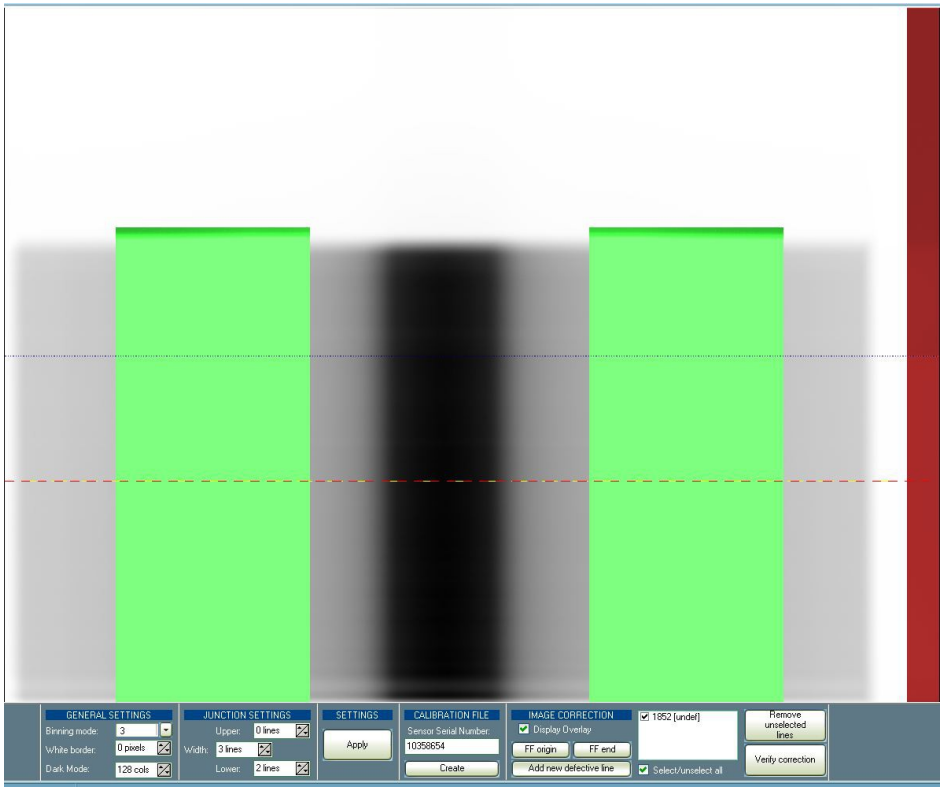
3. Position the ear rings, completely opened, in Postero Anterior mode
4. Open Dental Studio then select and open a test patient
5. Press the button Options then Panoramic
6. Insert in the field “Password” the value 1771 then press the button Service Procedure for opening the calibration program
7. In the Exam Family menu select Ceph HiDef then press the button “Confirm”
8. Press the button Acquire
9. Set the following exposure parameters: 78kV, 12mA and take an exposure (no filter required)
10. Press the buttons “Apply Junction Remover” and “Apply Dark Calibration” respectively
11. Hold pressing the button CTRL left click on the image on the superior limit of the exposed area, a dashed line will be added indicating the current selection.Press the button “FF origin” for saving the current selection. Hold pressing the button CTRL left click on the image on the inferior limit of the exposed area, a dashed line will be added indicating the current selection.Press the button “FF end” for saving the selected value.
12. Zoom the image using the scroll wheel of the mouse then, hold pressing the left button, drag the image for finding possible defective lines.ì
13. Press the button Create and Save for creating (or replacing if already existent) the calibration file.

Defective Lines Correction

Note: the sensor junction is automatically marked as defective (blue dashed line on the image) and corrected by the software

Any defective line found on the image can be corrected in the following way:

1. Hold pressing the button CTRL left click on the image on the defective line; a red dashed line will be added indicating the current selection
2. Press the button “Add new defective line” for adding the current selection to the list of defective lines



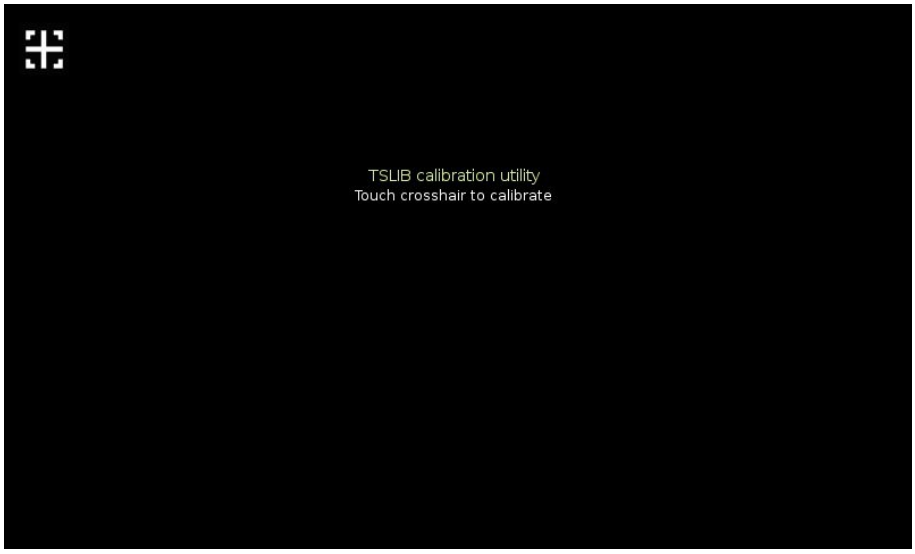
3. The following operations can be done on the defective lines added to the list:
   - select/unselect
   - select/unselect all
   - remove unselected lines
4. Repeat the same operations for any defective line then press the button Create and Save for

creating (or replacing if already existent) the calibration files

Touch-Screen Calibration

Whenever the touch-screen seems to not respond correctly to the user input, is suggested to do the calibration, as below described:

1. create an empty file named calib (without extension) and put it in a USB key
2. switch-off the unit
3. put the USB key containing the file just created in the USB port of the control panel
4. switch-on the unit: the touch-screen will start automatically in calibration mode



5. touch the crosshair shown alternatively in different positions of the screen to calibrate. At the end of the calibration, the unit will start in normal mode
6. before to remove the USB key, press the relevant button  and wait until the correspondent led will be off