



# **TWAIN TRIUM 2D OPERATOR'S MANUAL**



# ENGLISH

## MANUFACTURER

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# MAIN DESCRIPTION

## 1.1 OBJECTIVE

Acquire TRIUM PANORAMIC & CEPHALOMETRIC images through TWAIN Source provided by Acteon.  
The configuration of TRIUM managed are:

- PANORAMIC
- PANORAMIC/CEPHALOMETRIC

# COMMERCIAL DESIGNATION

## 2.1 TRIUM 2D EXAMS AND GROUPS

X-MIND TRIUM exams concerned:

**X-MIND TRIUM 2D Panoramic type exams including:**

- PANORAMIC group
  - ▶ PAN standard
  - ▶ PAN standard child
- Sectorial PANO group
  - ▶ PAN standard right
  - ▶ PAN standard left
  - ▶ PAN orthogonal
  - ▶ PAN orthogonal right
  - ▶ PAN orthogonal left
  - ▶ PAN frontal
- BITEWING group
  - ▶ Bitewing
- TMJ group
  - ▶ TMJ frontal
  - ▶ TMJ frontal right
  - ▶ TMJ frontal left
  - ▶ TMJ lateral
  - ▶ TMJ lateral right
  - ▶ TMJ lateral left
  - ▶ TMJ standard
- SINUS group
  - ▶ SINUS frontal
  - ▶ SINUS lateral right
  - ▶ SINUS lateral left

**X-MIND TRIUM 2D Cephalometric type exams including:**

- CEPH LATERAL (LL)
  - ▶ CEPH LL standard
  - ▶ CEPH LL child (reduced height and width)
- CEPH FRONTAL (AP/PA)
  - ▶ CEPH AP
  - ▶ CEPH AP child
  - ▶ CEPH PA
  - ▶ CEPH PA child
- CARPUS group
  - ▶ CARPUS

**NO other modalities, except the above mentioned, are included into this module.**

## 2.2 LIST OF FEATURES INTO TWAIN 2D DRIVER

The list of features into TWAIN 2D driver are the following:

- show the configuration of language, log parameters, exit behavior of TRIUM (PAN only - PAN/CEPH)
- show the communication state with the panel
- selection of type of exam
- exam acquisition
- preview of the image acquired
- configuration of pre-filter to use as default
- configuration of 4 filter for each group of exam
- post filtering of the image acquired

## 2.3 TECHNICAL SPECIFICATIONS AND PERFORMANCES

The compatible operating systems are Windows 7 and 10 for 32-bit and 64-bit architectures

# DRIVER MANAGER

This application XMDmanager.exe allows to start XMdriver automatically after the login of windows (7 or 10) and maintains the process active, restart XMdriver in case of crash of it. It's possible to stop, start and restart the XMdriver.

## 3.1 CONFIGURATION

The application is normally present into folder "C:\Windows\twain\_32\TRIUM", where Trium TWAIN driver is installed. The registration into "Start Menu Program" is done during the installation of Trium TWAIN driver. After the windows restart the application XMDmanager start automatically. XMdriver is launched automatically when XMDmanager starts. The registration is valid only for the windows user that is logged into Windows (follows the same philosophy of AIS)

## 3.2 USER INTERFACE


### 3.2.1 General


When XMDmanager is running shows an icon into the tray icon bar as shown in the following image.



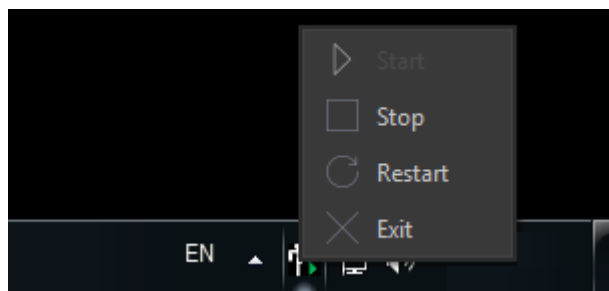
### 3.2.2 XMDmanager State details

The icon indicates the state of XMdriver process and not the state of XMIND-trium (that will be implemented next development step).

The icon  means that the XMdriver is running.

The icon  means that the XMdriver is not running.

### 3.2.3 Command

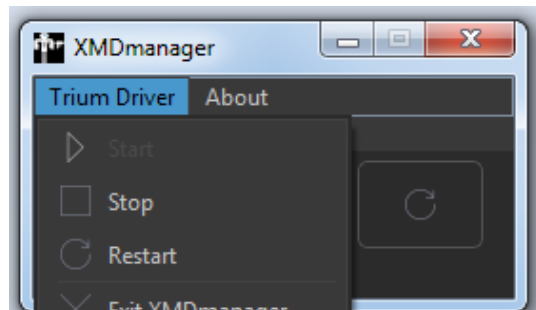


- The "stop" command kills the XMdriver
- The "restart command" kills the Xmdriver and starts it again
- The "start" command (enabled only if XMdriver is off) starts the XMdriver
- The "Exit" command terminates the XMdriver and stops the XMDmanager

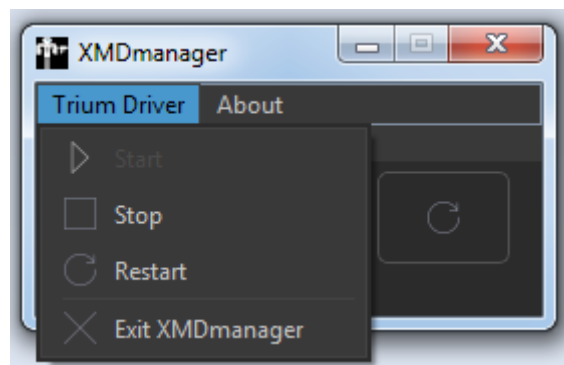


## 3.3 WINDOWS DIALOG

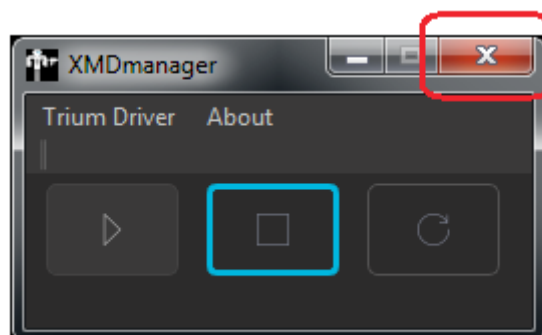
The following window dialog contains the same command. It is shown by double click on left mouse button on the tray icon bar.



And



The button "X" highlighted only hide the window dialog interface and doesn't exit from XMDmanager. The XMDmanager remain in running state.

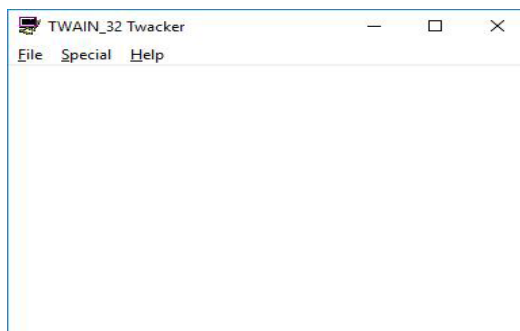


# ACQUISITION PROCEDURE

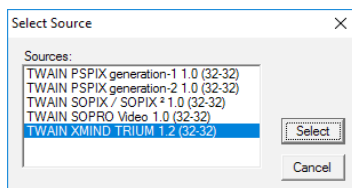
## 4.1 START TWAIN TRIUM

To test the TWAIN TRIUM driver this is the workflow:

1. Start TWAIN\_32 Twacker

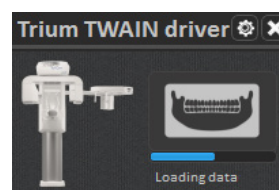
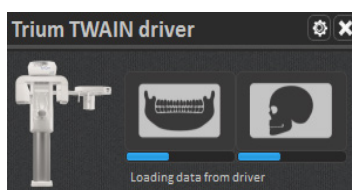


2. Click on "File" and then "select source"



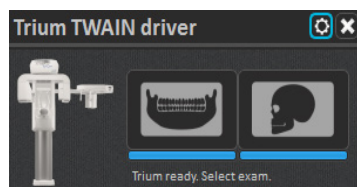
3. Click on "File" and then "Acquire...".

Start Trium TWAIN driver and wait for the connection with X-MIND Trium (for TRIUM PAN only appears the second interface )



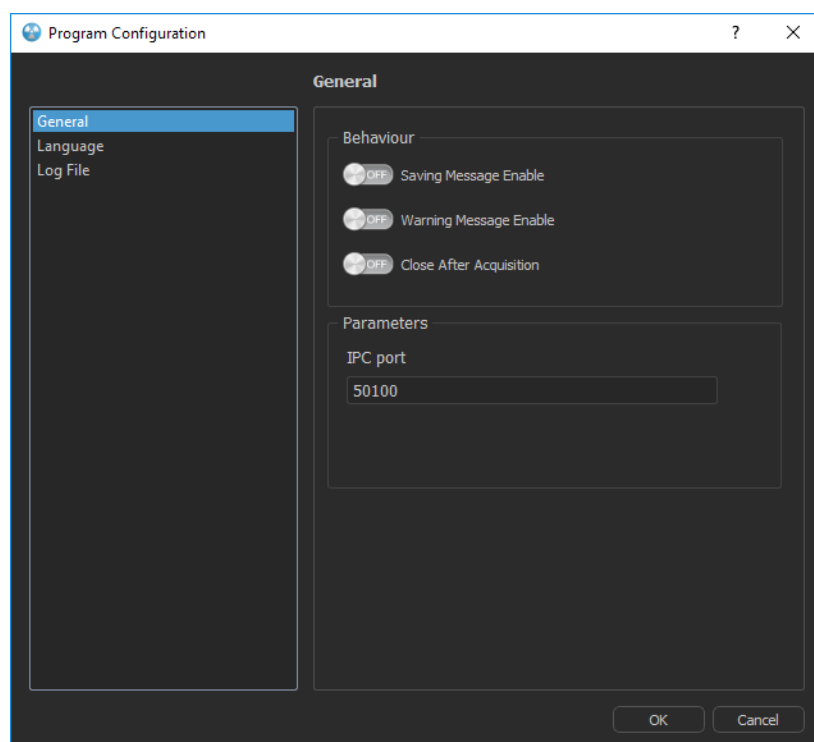
## 4.2 CONFIGURATION

Click on “gear” button or click on right mouse button and then “Configuration” if you want to open configuration of driver



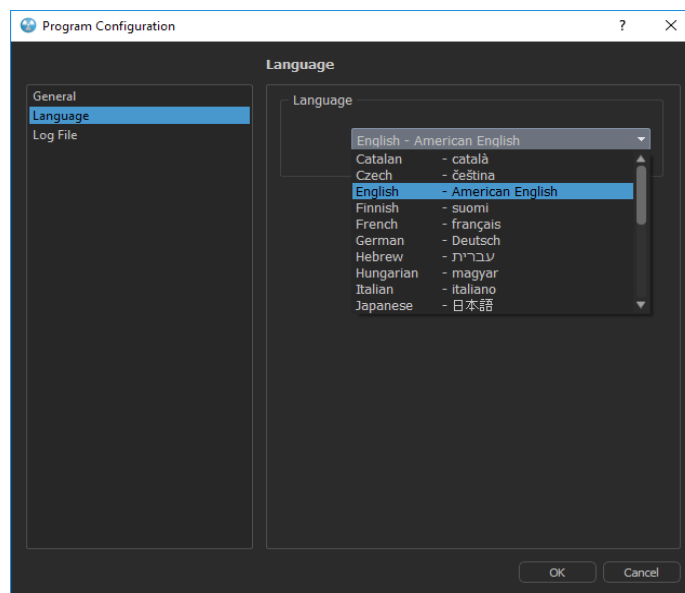
1. Select “General” to configure the following parameters

- . enable or disable the saving message. If disabled the image manually filtered is saved automatically.
- . enable or disable the phase of warning during the preparation of exam.
- . close or not the TWAIN Trium after each acquisition (by default the driver is not closed)
- . inter processing communication port used internally.

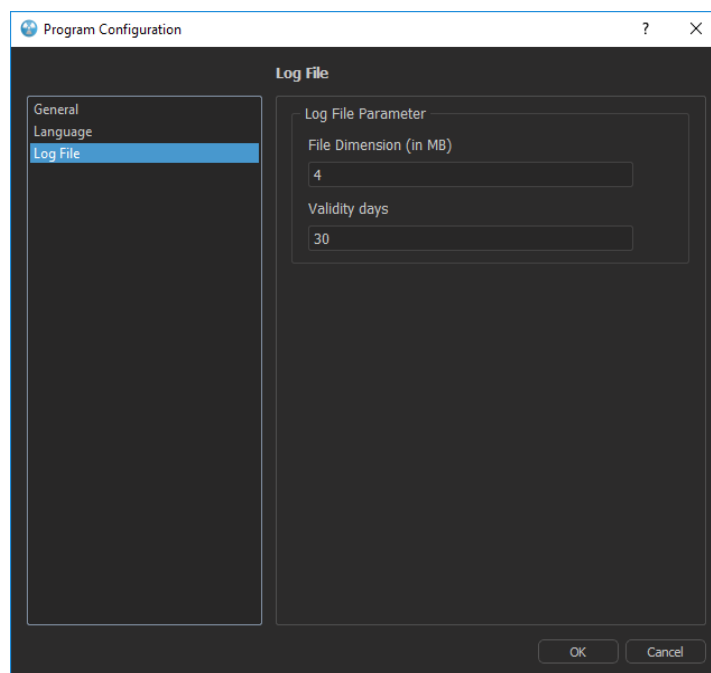


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2. Select “Language” to choose one of suggested the language to use. This is apply after a restart of TWAIN TRIUM driver.

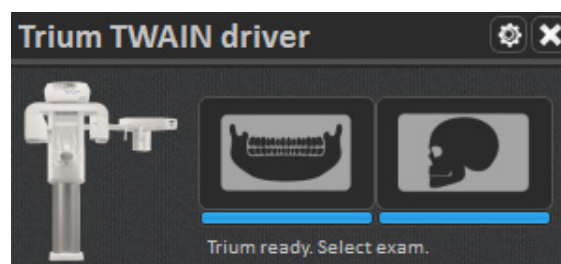


3. Select “Log File” to choose the dimension of file log used by driver. These file are deleted after “Validity days” value.



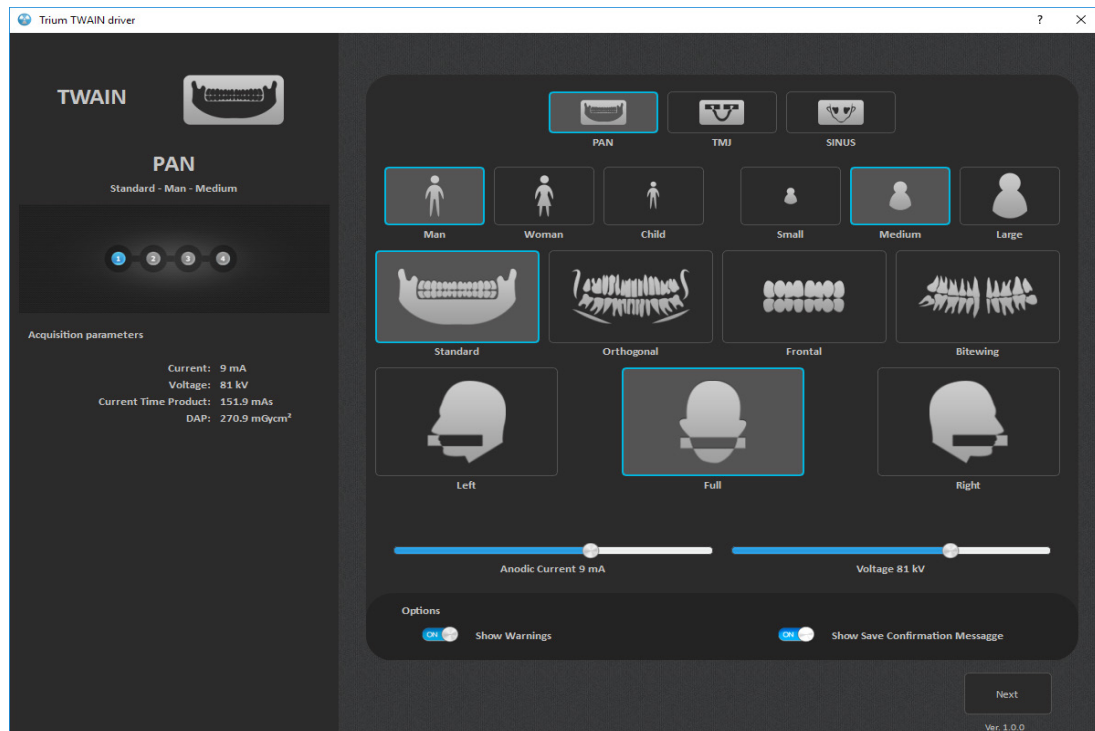
## 4.3 ACQUISITION

Select the acquisition type:

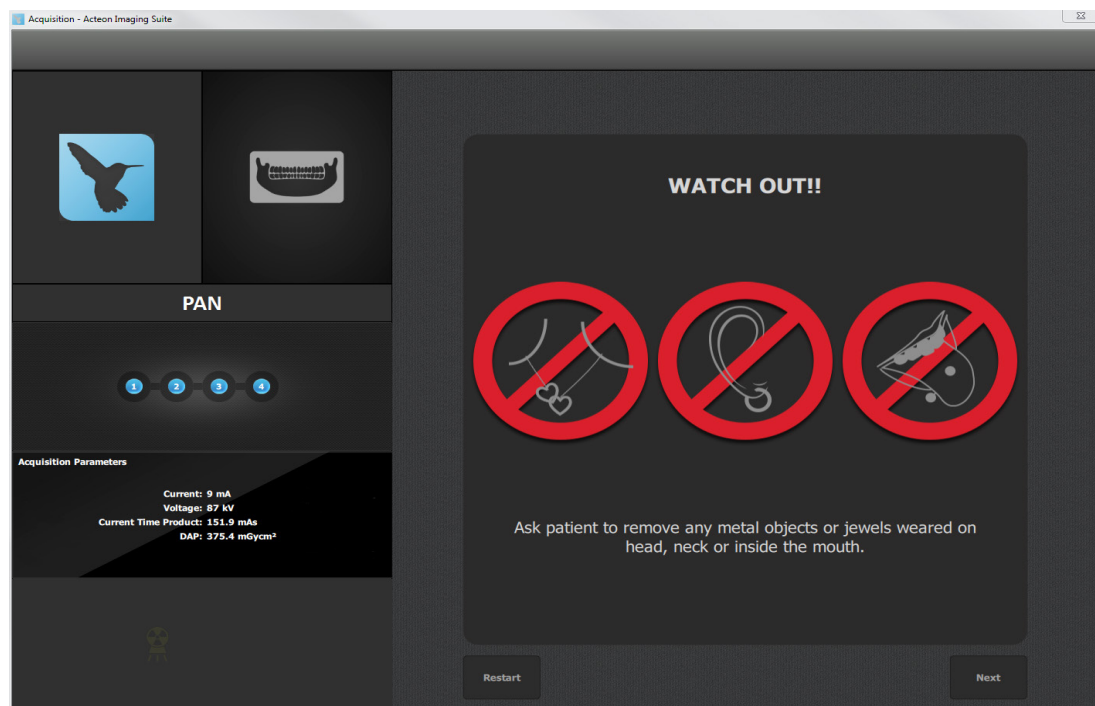


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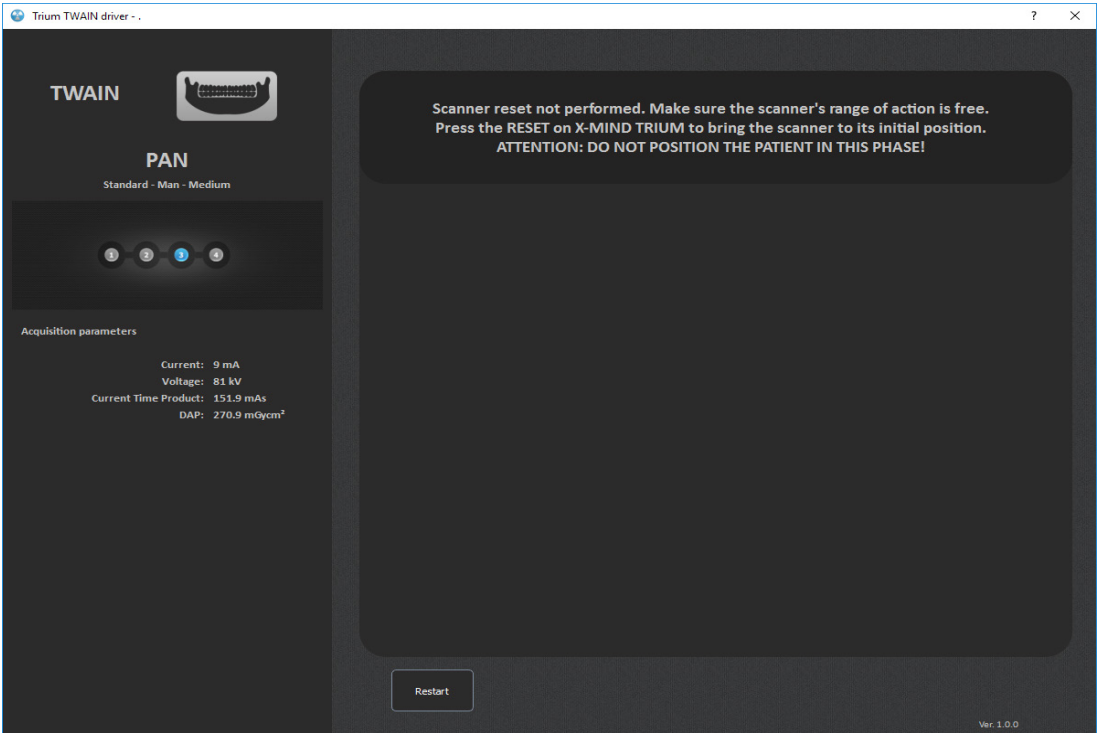
Select acquisition parameters



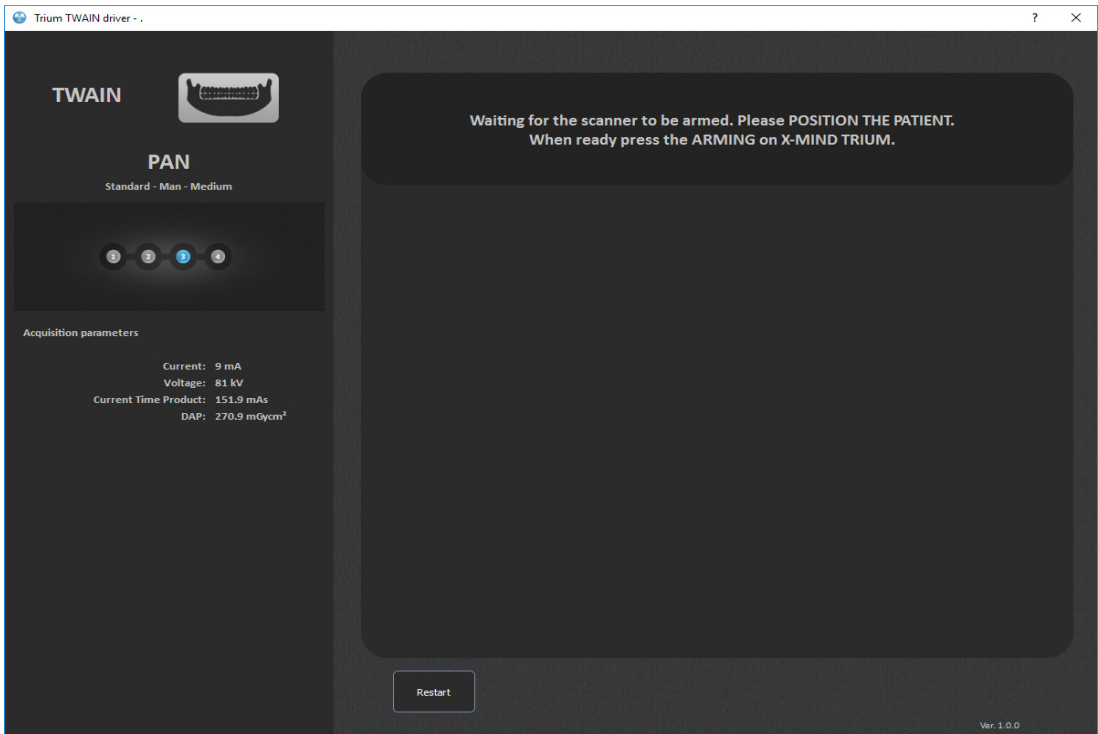
This message appears



## Request to RESET

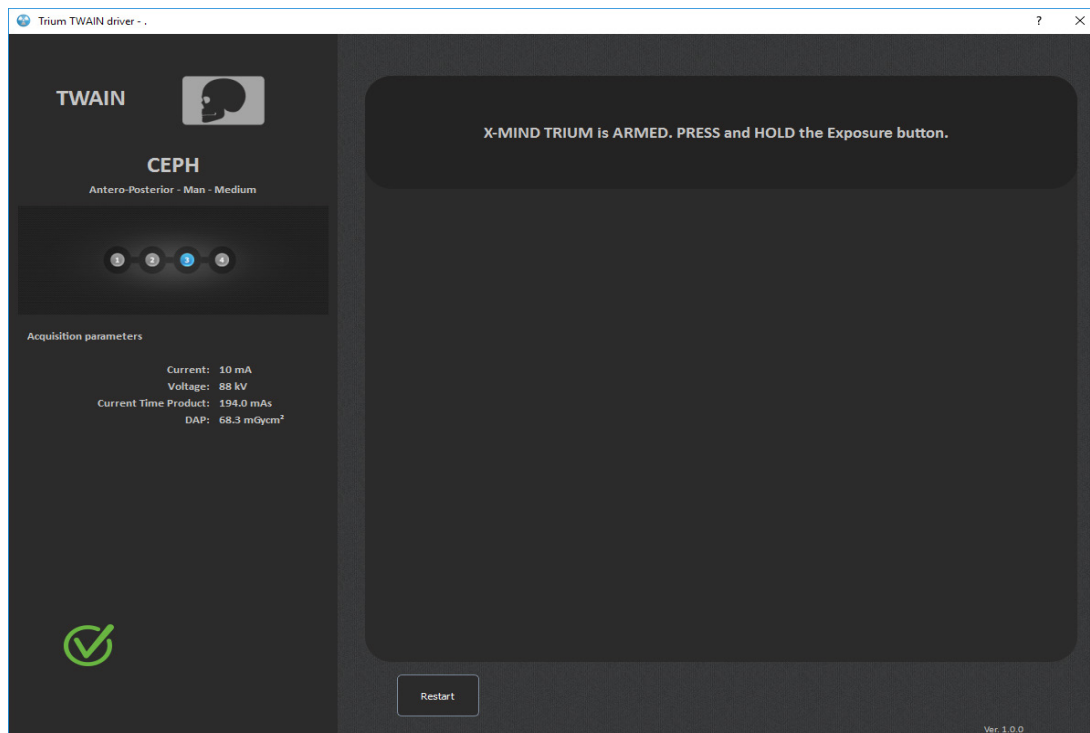


## Request to ARMING

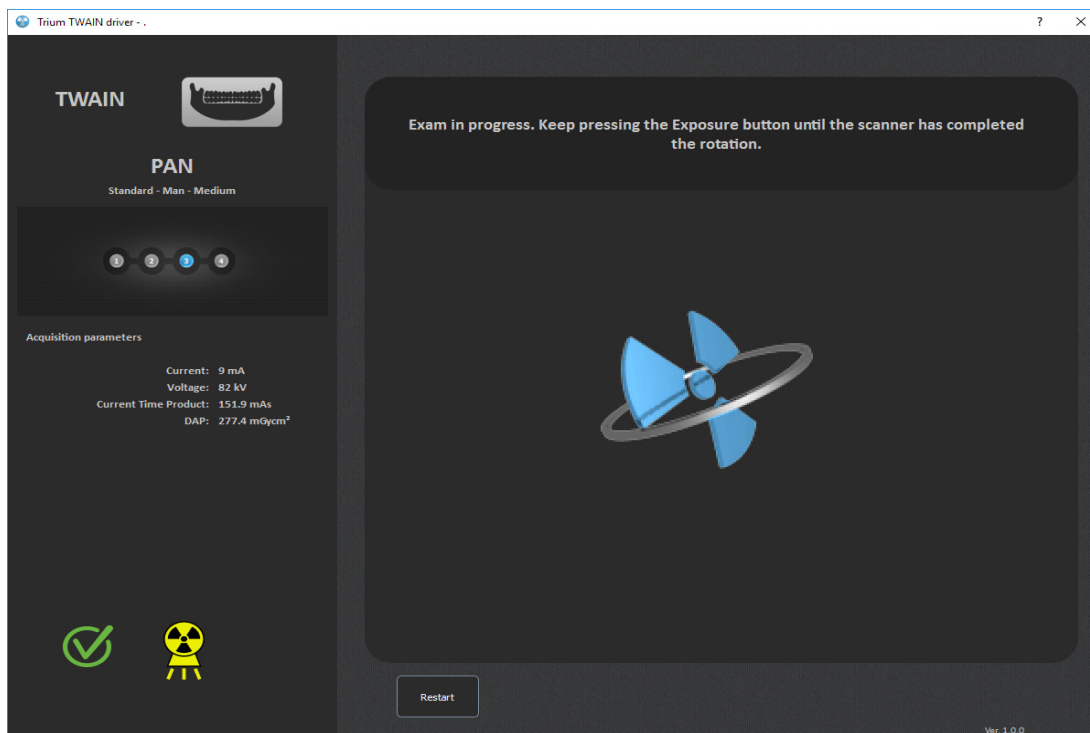


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Request to push the “Exposure button”

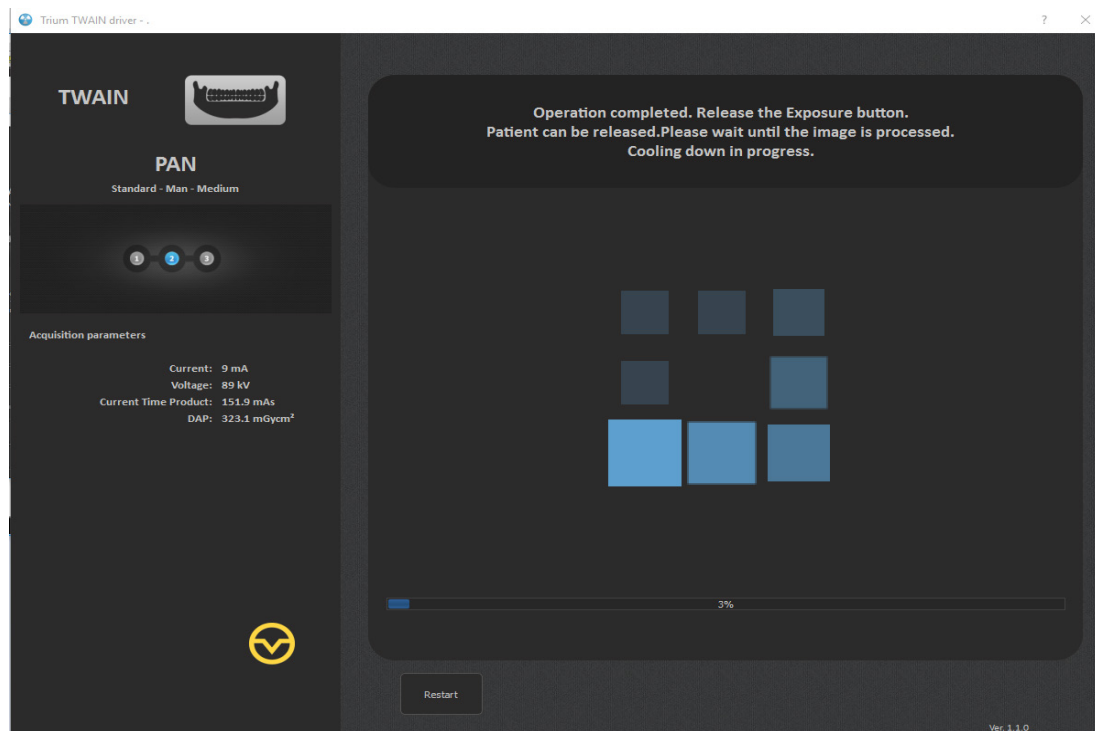


Exam in progress

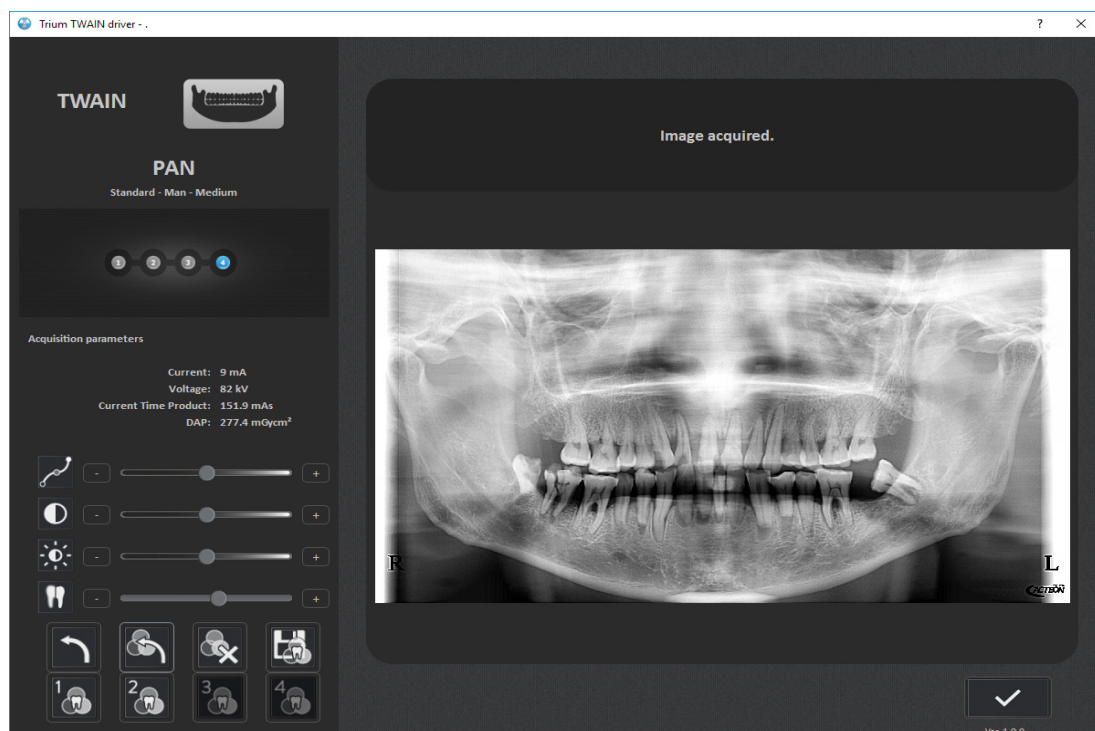


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Wait until the image is processed.



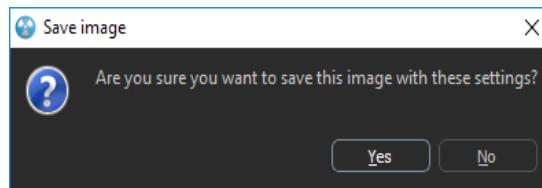
Preview of exam + post processing filtering. Click on "V" (save button) to publish the image to TWAIN destination.



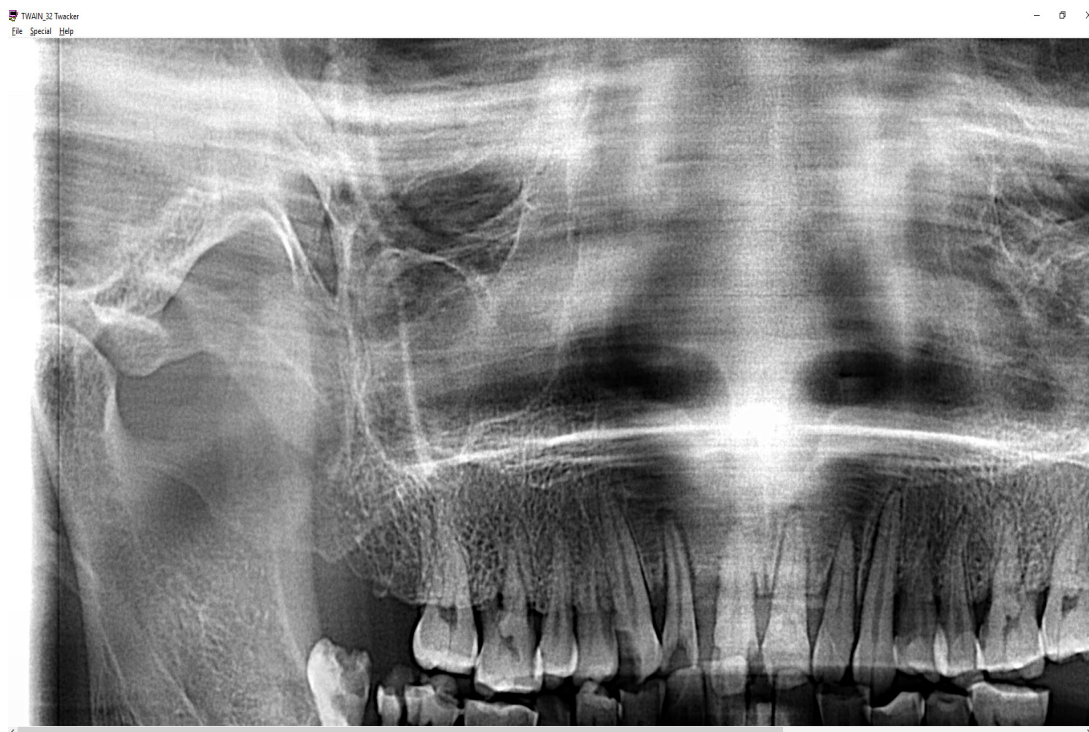


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The confirmation message appears only if the option is enabled. You can play with filter before.



The image are ready on the TWAIN\_32 Twacker.



## 4.4 PLAY WITH FILTERS BEFORE PUBLISH

### 4.4.1 Image Adjustment

The image adjustment settings included in the package must be:

- Luminosity
- Contrast
- Gamma
- Sharpness
- The 4 Filters present into the AIS 2D App 2.0 (according to the 2D image type, PAN or CEPH)



Add button to remove all the filters to get the raw image



Add button to make the pre-filter configuration as default



Add button to reset the pre-filter configuration as manufacturer




Add button to "undo" the last filter modification





To apply different filter from default to the image the user can:

1. move the slider to change and apply one filter.

2. adjust the filter using the button '-' or '+'.  


3. click on the filter symbol. The symbol became blue and is activated

Press and keep pressed the left button of the mouse on the image and move the mouse up  or down . The value of the filter change and the filter is applied to the image.

The value and the percentage of the applied filter is shown in the tooltip that appear on the filter symbol

## 4.4.2 Filter settings saving default option

The operator has the possibility to customize the parameters of the image by using the relevant tool bars and store the desired settings by means of the specific icon:



Once saved, the settings will be retained acquisition to acquisition, unless modified and then saved again (by clicking on the same icon above), with the new parameters selected by the operator.

Each exam group have a filter default factory combination (see §"Trium 2D exams and group").

## 4.4.3 Filter settings customization

This functionality will allow the user:

- To associate to a "custom filter icon" the sequence of filters applied on the selected image.
- There will be 4 "custom filter icons" always available for all 2D images: 1, 2, 3 and 4
- It will be possible to have or not a "factory pre-set" for each custom filter: 1, 2, 3 and 4 for each group
- When 1, 2, 3 and 4 icons not associated to any filters sequence:



- ▶ The icon is transparent, as follow:
- ▶ Tooltip not associated
- ▶ RIGHT CLICK with mouse show description of associated filters (none)
- ▶ LEFT CLICK with mouse: a dialog box will appear that allow to insert the filter name and the request of confirmation. "Save on this icon the filters of the selected image?"

- ▶ the button become enabled



- When 1, 2, 3 or 4 are associated to a specific filters sequence (pre-set or not):



- ▶ The associated icon is enabled as follow:
- ▶ The "custom filter icon" shall be visible only for the images of the same group of the selected image when the association was done (see §"Trium 2D exams and group").
- ▶ Tooltip show the filter name
- ▶ RIGHT CLICK with mouse show description of associated filters (F1, F2, ... )
- ▶ LEFT CLICK with mouse: the filter sequence shall be applied to the selected image, removing any previously applied filter, and the icon become blue highlighted:



If other filters are applied after this icon, they shall be additionally applied to the sequence

When the icon is clicked again (disabled) the image is back with the filters that were applied previously of its selection

Doing "UNDO" has the same effect of clicking the icon to disable it (see above)



- ▶ Clicking on the "save icon" when one icon (1, 2, 3 or 4) is ON. Will save on this icon the filters of the selected exam type. A dialog box will appear that allow to modify the filter name and the request of confirmation.

- To delete a "custom filter" follow this steps:



- ▶ Click on "Remove filters" to clean the list of treatments



- ▶ Click on "Save icon" that become activated
- ▶ Click on the custom icon already saved.
- ▶ Confirm to delete the filter.
- ▶ The custom icon selected become transparent.

## CAUTION

*No combinations of customized parameters can be recalled (i.e.: no possibility to store a combination inside the local Hard Disk of the PC and call it back again)*

*PAN standard (adult and child) have 2 customizable filter already set with PAN\_adapt1 and PAN\_adapt2*

*CEPH AP group and CEPH LL group have 2 customizable filter already set with CEPH\_adapt1 and CEPH\_adapt2*

*Other exam groups have the possibility to have 4 customized filter different from one group to another.*

*For PAN\_adapt1, PAN\_adapt2, CEPH\_adapt1 and CEPH\_adapt2 the "delete filter" sequence allow to return to factory custom filter.*

*The operator will always have the possibility (only and exclusively before the publishing, see next section) to modify the filtration settings*

*The filters configuration settings are linked to the Windows user (as well as the enabling of the pages "Warning Message"). Meaning that if for example an operator (windowsUser1) modifies the filters or the options, they will be valid only for the user (windowsUser1). If a different operator executes the login (i.e., windowsUser2), the changes implemented by the (windowsUser1) user will not be present.*

*It's not possible to delete the 2 customizable filter for PAN standard (adult and child), for CEPH AP group and CEPH LL group.*

## 4.5 PUBLISHED IMAGE

The 2D image is exported and made available to the calling software (external software using the Acteon TWAIN module) once the operator has edited (or removed) the filters and confirmed the end of the acquisition (bottom right button).

The available acquired image can't be modified or processed anymore using the filters within the TWAIN driver interface after the operator confirmation.

This is also valid if the images are not processed at all (i.e. native RAW): if the processing of the TWAIN module is not activated or the operator restore all the filters and confirms the publishing, the image is then transferred and not anymore available to be subjected to processing.

## NOTE

*NO WAY to come back on processing again the acquired image after the publishing confirmation*

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