



MS57 Training guide: X-RayVisiX system (RMCA)

2. IMAGE CAPTURE & SAVE

2.1 PREPARATION FOR WORK



Even if the system is ready as soon as it is switched on, it is always better to have around 20 minutes of pre-heating for the flat panels in order to get the best images.

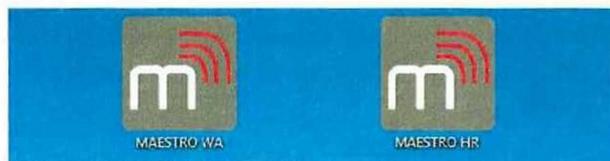
To prepare **visiX** for work:

- Power the system (with the main button on the front panel)
- Switch on computer
- Enter the " Operator session"

- Run appropriate software

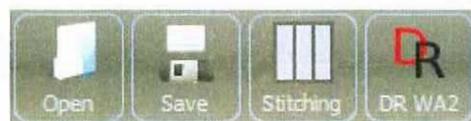
MAESTRO WA *or 1/4 10 v*

MAESTRO HR *6_9*

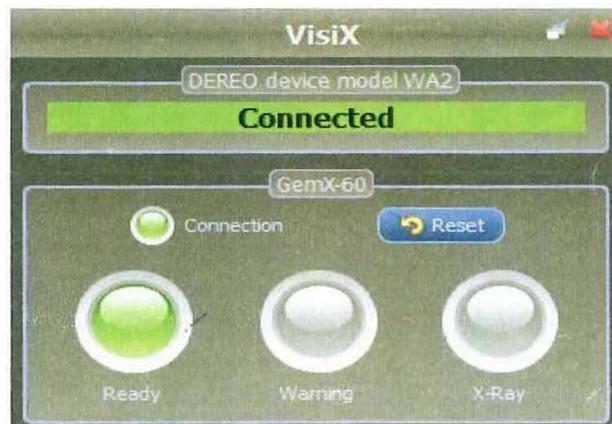


- The system will ask for the password again

- Click on the DR icon



- In the Visix window, check that :
flat panel is connected
generator is connected



Handwritten note:

IP Address: 192.168.2.1

IP Address: 192.168.2.10

PRO-10000

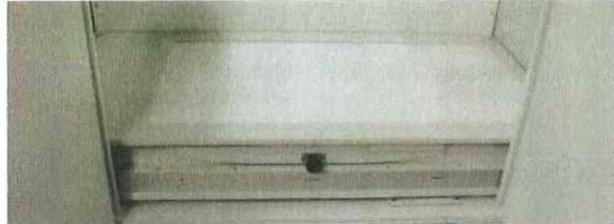
2.2 SPECIMEN POSITIONNING



Take care that the actuator has a **duty cycle of 1:20**.

That means that if you use this 1 minute, it should rest during 20 minutes without working. In practice, organise your work so that you set this in its working position for several shoots and change position only after some work.

- Remove any object and check table is clean
- To clean, use diluted alcohol and a soft tissue



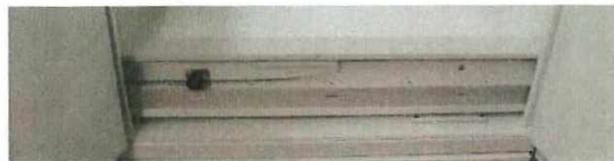
- Remove / replace the shielded plate that cover the flat panel.



Store this outside the cabinet and take care to keep this clean. It is in direct contact with the digital panel.

- Position the FP at the right place :

center for WA
right for HR (it will then be centered)
left / center / right for stitching



Left



Center



Right

- Position the actuator at the right place :

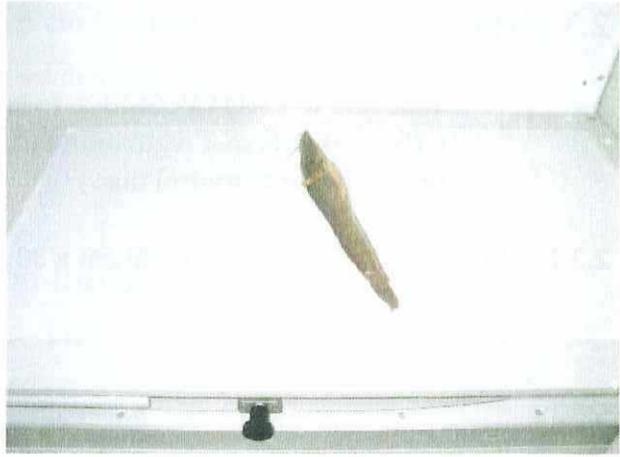
110 or 160 cm for WA
69, 110 or 160 cm for HR
160 cm for stitching

We advice you to reduce the distance when kV are low.

o sets sdd at 160 cm
 oo sets sdd at 110 cm
 ooo sets sdd at 69 cm



- Position the specimen at the right place :



- Close the doors of the cabinet.

If this is not properly done, the message "interlock opened" will appear on the Visix window in the software.



BEFORE ACQUIRING AN IMAGE WITH SOFTWARE, DOUBLE CHECK THAT :

- 1/ THE SHIELDED PLATE OF THE DIGITAL DETECTOR IS REMOVED**
- 2/ THE TABLE IS AT THE RIGHT POSITION (LEFT / CENTER / RIGHT)**
- 3/ THE SDD IS CORRECT (69 CM / 110 CM / 160 CM)**

IF YOU FORGOT ONE OF THESE POINTS, THE IMAGE ACQUISITION PHASE MAY MISS AND YOU MAY NOT GET THE IMAGE. THIS IS NOT HARMFUL BUT THIS MAY MAKE YOU WONDER WHAT HAPPENS AND WHY THE SYSTEM DOES NOT WORK.

2.3 IMAGE ACQUISITION



Take care it is NOT POSSIBLE to launch WA and HR softwares simultaneously.
(The reason is that regulation forbids that 1 Xray generator has more than 1 console or 1 software to control this.)

2.3.1 DereO WA2 (Wide Area) - 40 cm x 30 cm - 127 μm

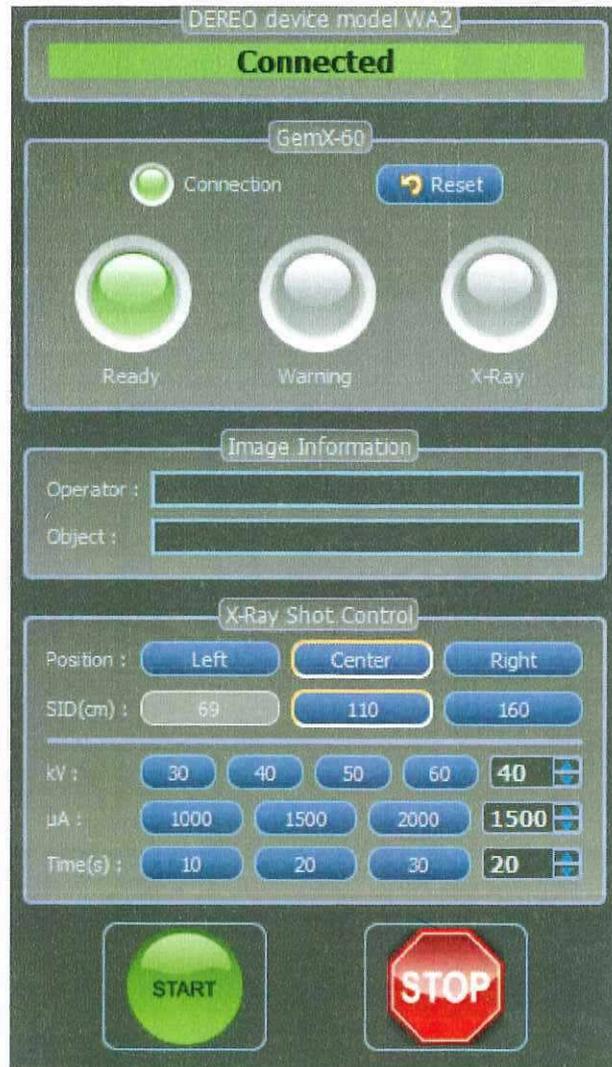
- Check that
DeReO is connected
Green lamp of connection is blinking
(if not, click on Reset)

- Introduce :
Operator name
Object name
!! It is not possible to do this later

- Select :
Position
SDD (Source - Detector Distance)

- Select or introduce :
kV - μA - exposure time
The selected values are displayed in the boxes
on the right (here : 40 kV - 1500 μA - 20 s)

- Push **START** to start the capture
(You can always **STOP** everything)



During the capture, warning messages will be displayed :

- * prepare acquisition
- * ready to start acquisition
- * acquisition running

The warning lamps will be in phase with the ones of the **VisiX**



2.3.2 Dereco HR1 (High Resolution) - 10 cm x 5 cm - 48 μm

The process is exactly the same as for the other digital detector.

Anyway, have in mind that both softwares cannot run simultaneously and that you have to close the former to open the second one.

Parameters are also different :

WA	position : center	sdd : 110 - 160 cm	
HR	position : right	sdd : 69 - 110 - 160 cm	(69 cm at low kV)
Stitching	position : all 3	sdd : 160 cm	

2.3.3 Stitching

The principle of stitching is simple. You just have to position your specimen and to take 2 or 3 pictures after moving the panel under the table. Just take care that :

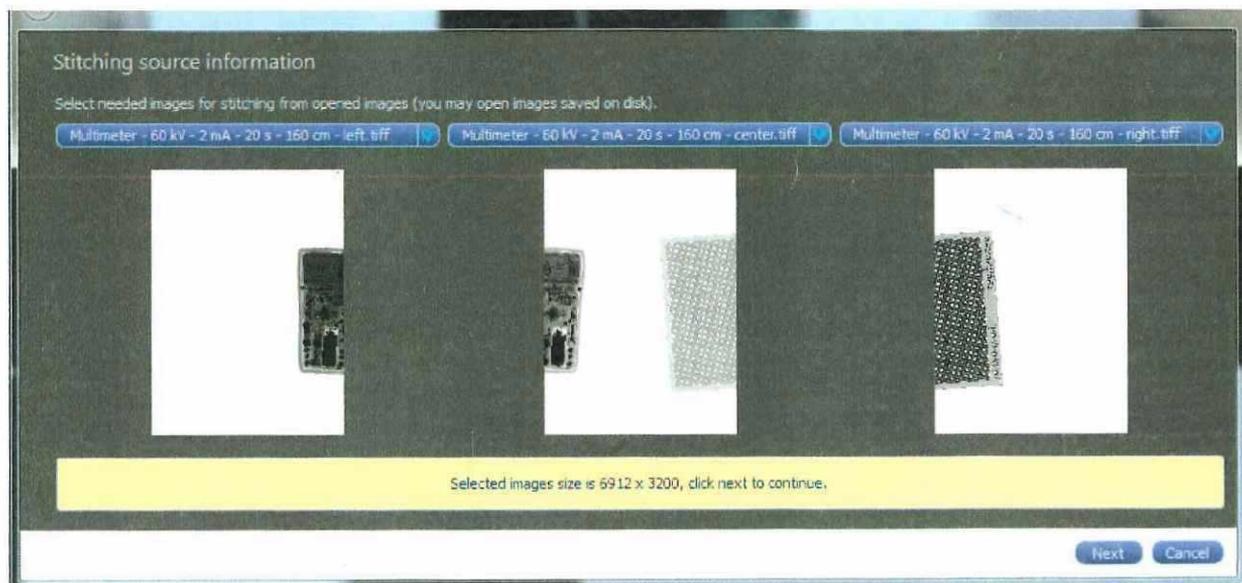
- this can only be performed with Dereco WA and SDD must be set to 160 cm ;
- you need to select the right position (left, center or right) each time you take a picture.

Note that stitching can be performed with 2 pictures (left and center ; center and right) or with 3 pictures (left, center and right).

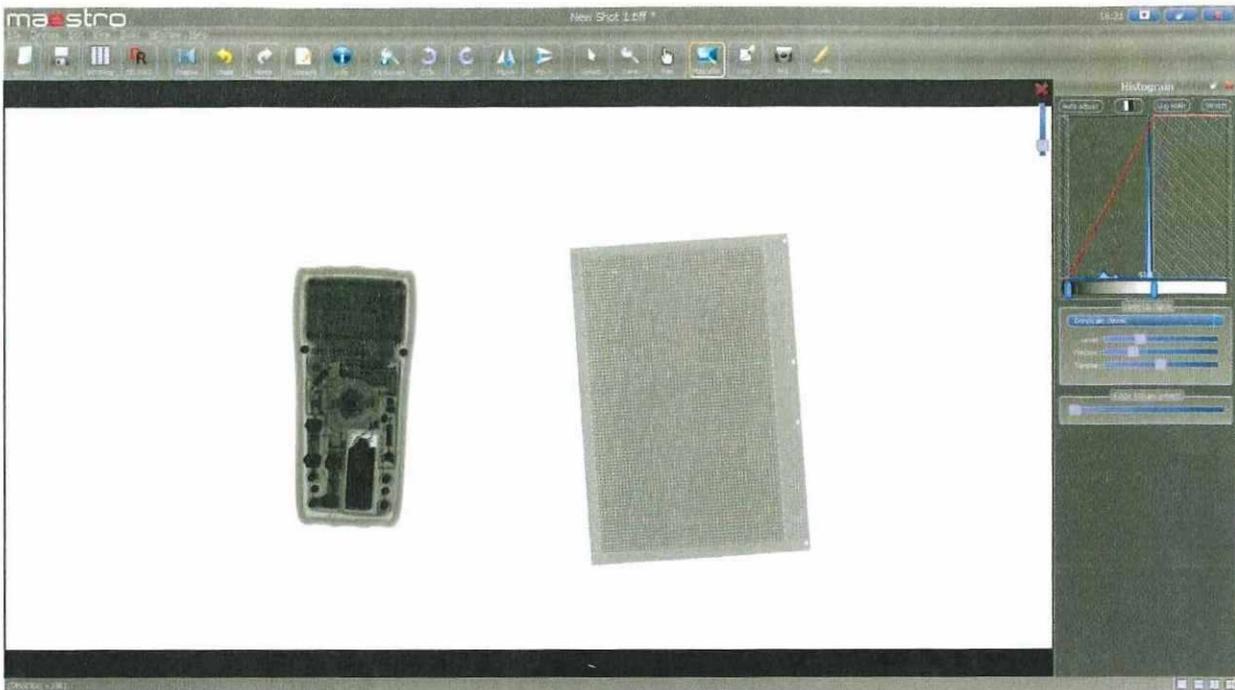
Once the 2 or 3 images have been captured, just click on the stitching icon.



The software will automatically recognize the pictures. Here is an example :



Click Next and the stitched result will be displayed :



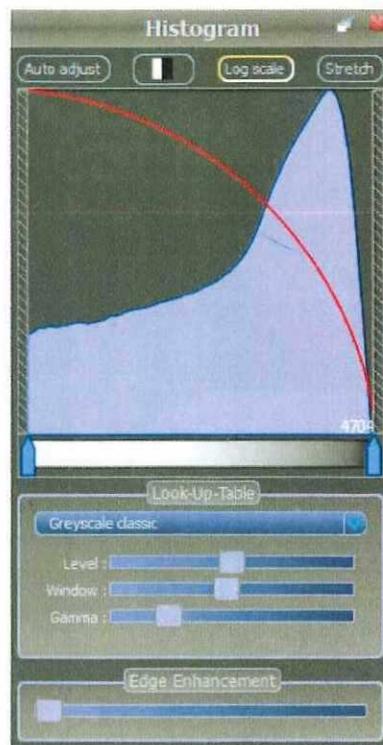
3 images were stitching together

2.4 IMAGE TREATMENT

Image treatment is explained in details in the *Maestro* user manual. Anyway, philosophy of image treatment is easy to summarize. The required operations are usually performed in the following order :

- crop : select in the picture the area of interest
- click auto-adjust to fix the Look-Up Table parameters in the area of interest at best
- if you are not satisfied by the result, click "log scale" to set parameters manually or use the "magnifier" (see the main bar of icons). This should have set *level* and *window* values properly
- change *gamma*
- use *edge enhancement* option

Image should be optimized.

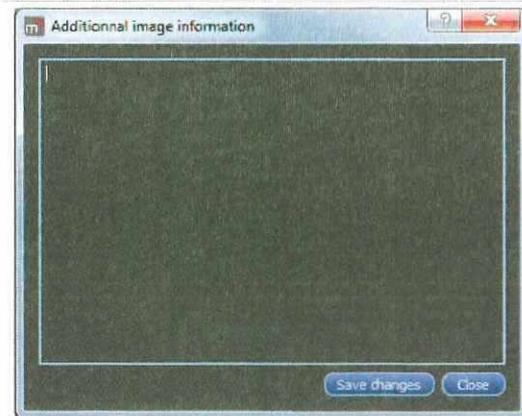


2.4.1 Adding comments to the image



It is possible to add comments to the image. They will be saved with it.

Just click on the icon "Comment". A window appears into which you can write the comments. You can also modify them.



The complete list of the information that are attached to the image can be displayed in clicking on the icon "Info" and select the image. A window appears with the complete list of information attached to the image.

It is possible to export all these information in a *.text file through the export button.

2.5 IMAGE SAVING

To save the image, go to the menu > *file* and select > *save* or > *save all*.

You will be redirected to the folder VISIX_DATA in which we suggest you to save all the pictures. We also suggest that you create folders following the same structure as the one that is currently in place, ie with the YearMonthDay following by a some words reminded the content of the folder. Eg : 20110708 - Reception tests.

Images can be open in using the same process as for all software.

2.6 SPECIMEN REMOVING AND TABLE CLEANING

After removing the specimen, clean the table in using soft tissue eventually with some diluted alcohol.

2.7 SWITCH OFF

At the end of the day, it is better to swith off *VisiX* :

- Position the actuator at a SDD of 69 cm (down position)
- Position the FP at the center position
- Switch the computer off
- Switch the VisiX off at the front control panel.