



Calibration of Images in Metron



Click F11 on your keyboard for full screen display!

Dependent on your screen size, the menu buttons on the Database Browser screen may appear in one or two rows.



Calibration of Images in Metron

This online training session will provide you with the details of how to use "Calibration of Images in Metron".



Click F11 on your keyboard for full screen display!

Dependent on your screen size, the menu buttons on the Database Browser screen may appear in one or two rows.



Calibration of Images in Metron

This online training session will provide you with the details of how to use "Calibration of Images in Metron".

The Training Session Objectives:

Provide information on:

1. What calibration means
2. How to calibrate images imported into Metron
3. Why image calibration is important

(Video Length: 8 minutes)



Click F11 on your keyboard for full screen display!

Dependent on your screen size, the menu buttons on the Database Browser screen may appear in one or two rows.



Calibration of Images in Metron

This online training session will provide you with the details of how to use "Calibration of Images in Metron".

The Training Session Objectives:

Provide information on:

1. What calibration means
2. How to calibrate images imported into Metron
3. Why image calibration is important

(Video Length: 8 minutes)



Click F11 on your keyboard for full screen display!

Dependent on your screen size, the menu buttons on the Database Browser screen may appear in one or two rows.



Calibration of Images in Metron

This online training session will provide you with the details of how to use "Calibration of Images in Metron".

The Training Session Objectives:

Provide information on:

1. What calibration means
2. How to calibrate images imported into Metron
3. Why image calibration is important

(Video Length: 8 minutes)



Click F11 on your keyboard for full screen display!

Dependent on your screen size, the menu buttons on the Database Browser screen may appear in one or two rows.

1

Calibration of Images in Metron



Article [Talk](#)

Calibration

From Wikipedia, the free encyclopedia

Calibration is a comparison between measurements – one of known measurement magnitude or correctness made or set with one device or object and then another measurement made using the first measurement as the relative reference.

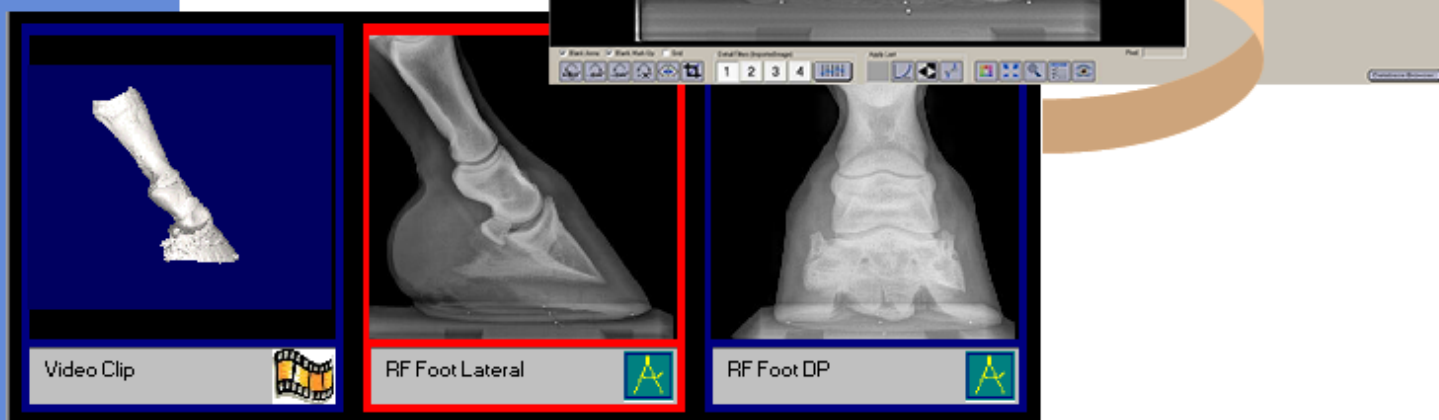
The result is an accurate measurement of an image object that is otherwise itself not measurable.

METRON
SUPPORT SERVICES

2

Calibration of Images in Metron

Select an image from the Metron database screen by double-clicking the image to get to the single image viewer screen where calibration can be selected.

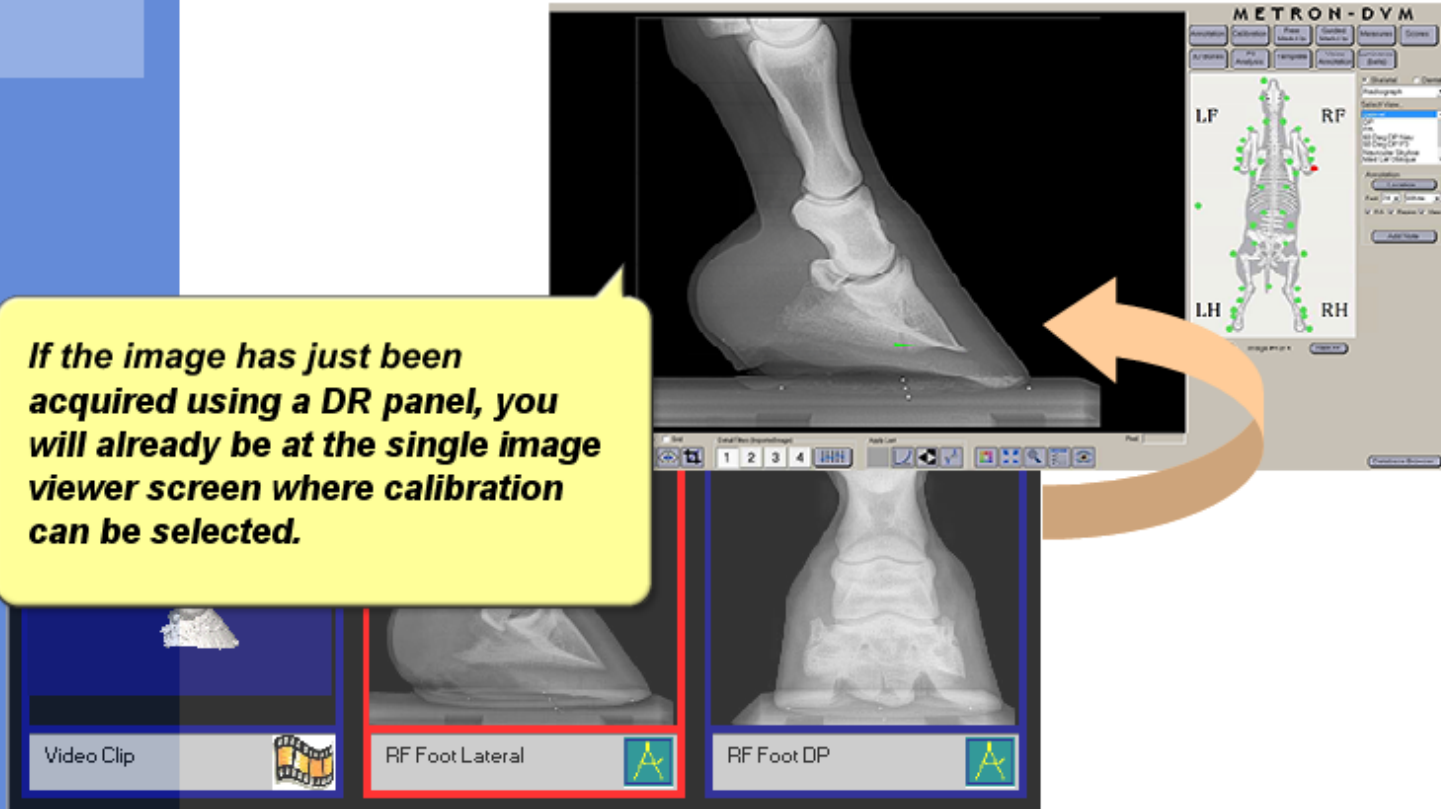


METRON
SUPPORT SERVICES

3

Calibration of Images in Metron

If the image has just been acquired using a DR panel, you will already be at the single image viewer screen where calibration can be selected.



METRON
SUPPORT SERVICES

4

Calibration of Images in Metron



METRON
SUPPORT SERVICES

5

Calibration of Images in Metron

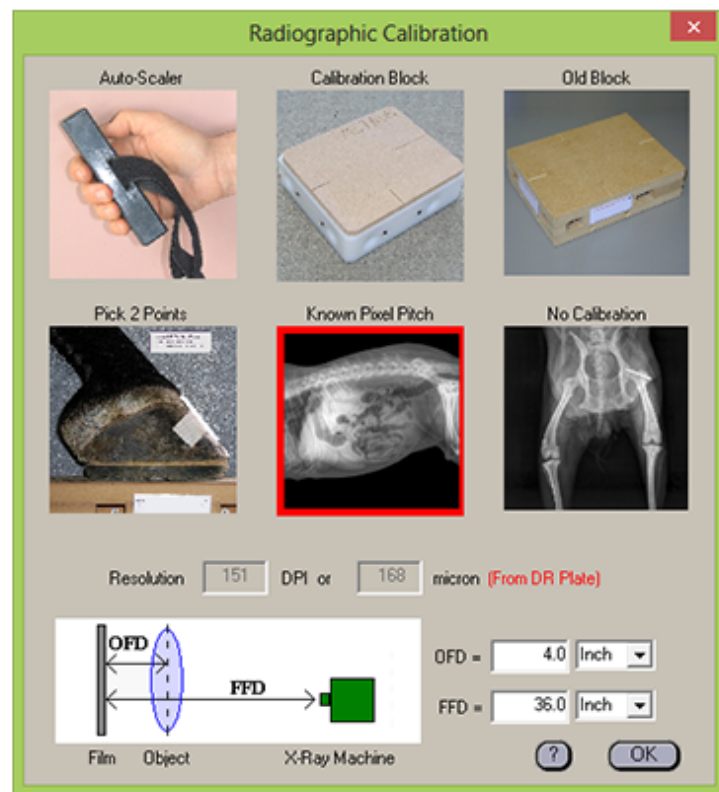


METRON
SUPPORT SERVICES

6

Calibration of Images in Metron

This is the Calibration panel for Radiographs. Each of the six thumbnails allows a different calibration scheme to be used.



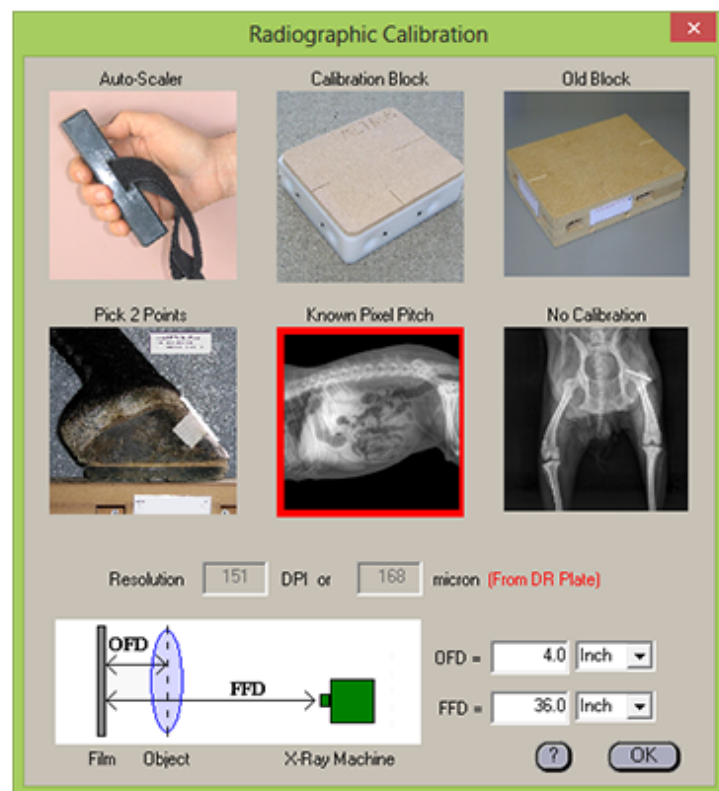
METRON
SUPPORT SERVICES

7

Calibration of Images in Metron

A first task with any new image imported into Metron is to give some information to set the scale of the image. We use scaling to make accurate length measurements based on points you pick in the image.

Metron can also be used on images which do not include scales, but to get the most data out of the image, it's best to use a scale.



METRON
SUPPORT SERVICES

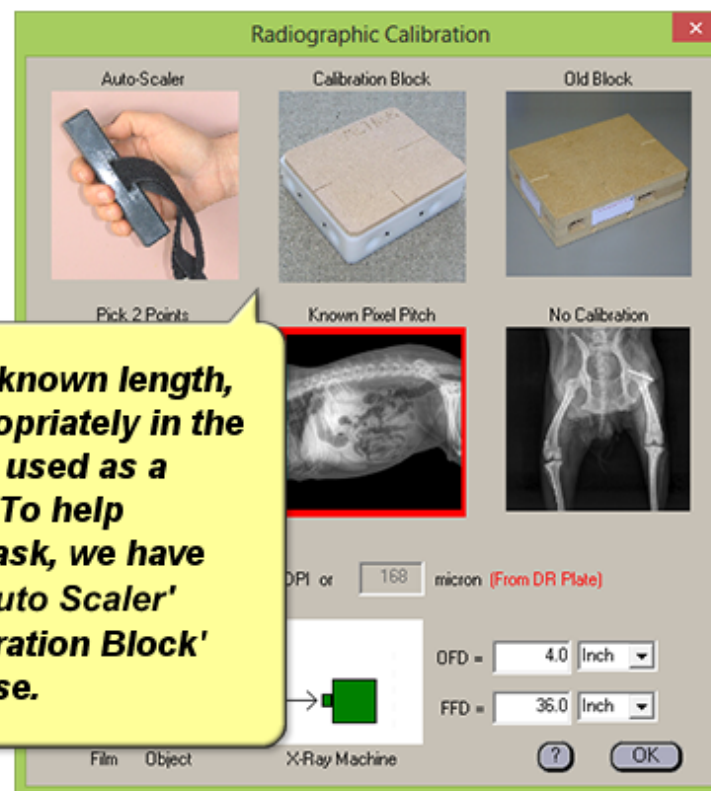
8

Calibration of Images in Metron

A first task with any new image imported into Metron is to give some information to set the scale of the image. We use scaling to make accurate length measurements based on points you pick in the image.

Metron can also be used on images which do not include scales, but to get the most data out of the image, it's best to use a scale.

Any object of known length, if placed appropriately in the image, can be used as a scale marker. To help simplify this task, we have created the 'Auto Scaler' and the 'Calibration Block' for this purpose.



METRON
SUPPORT SERVICES

9

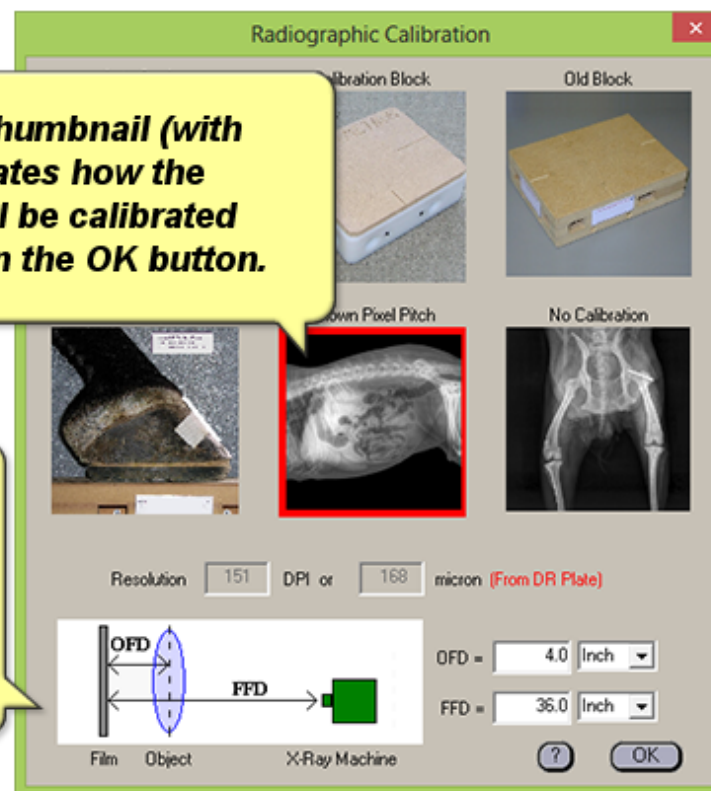
Calibration of Images in Metron

A first task with any new image imported into Metron is to give some information to the software. We use accurate length information on points you provide.

Metron can also use a scale which do not include the most data out of the image, it's best to use a scale.

The highlighted thumbnail (with red border) indicates how the current image will be calibrated when you click on the OK button.

Depending on your choice of calibration method, some of the details at the bottom of the panel will change.

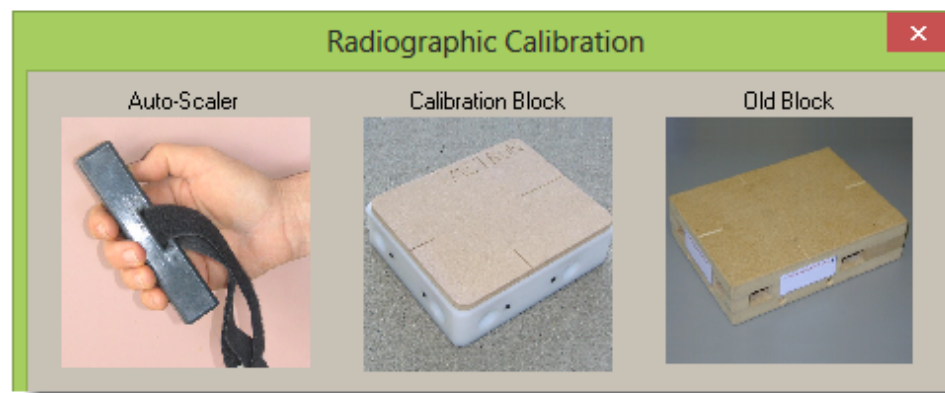


METRON
SUPPORT SERVICES

10

Calibration of Images in Metron

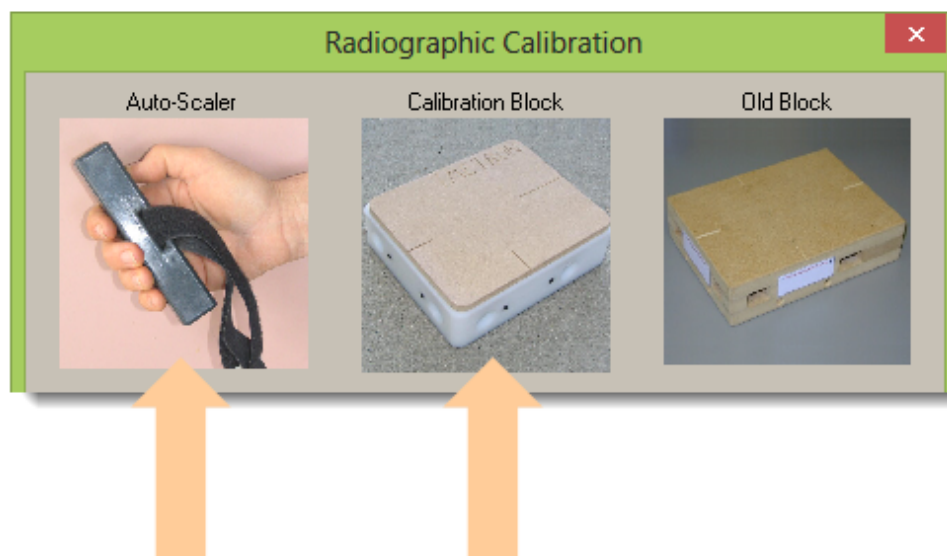
If you used the Auto Scaler, Calibration Block, or Old Block when the image was captured, you should select that method from the top row.



11

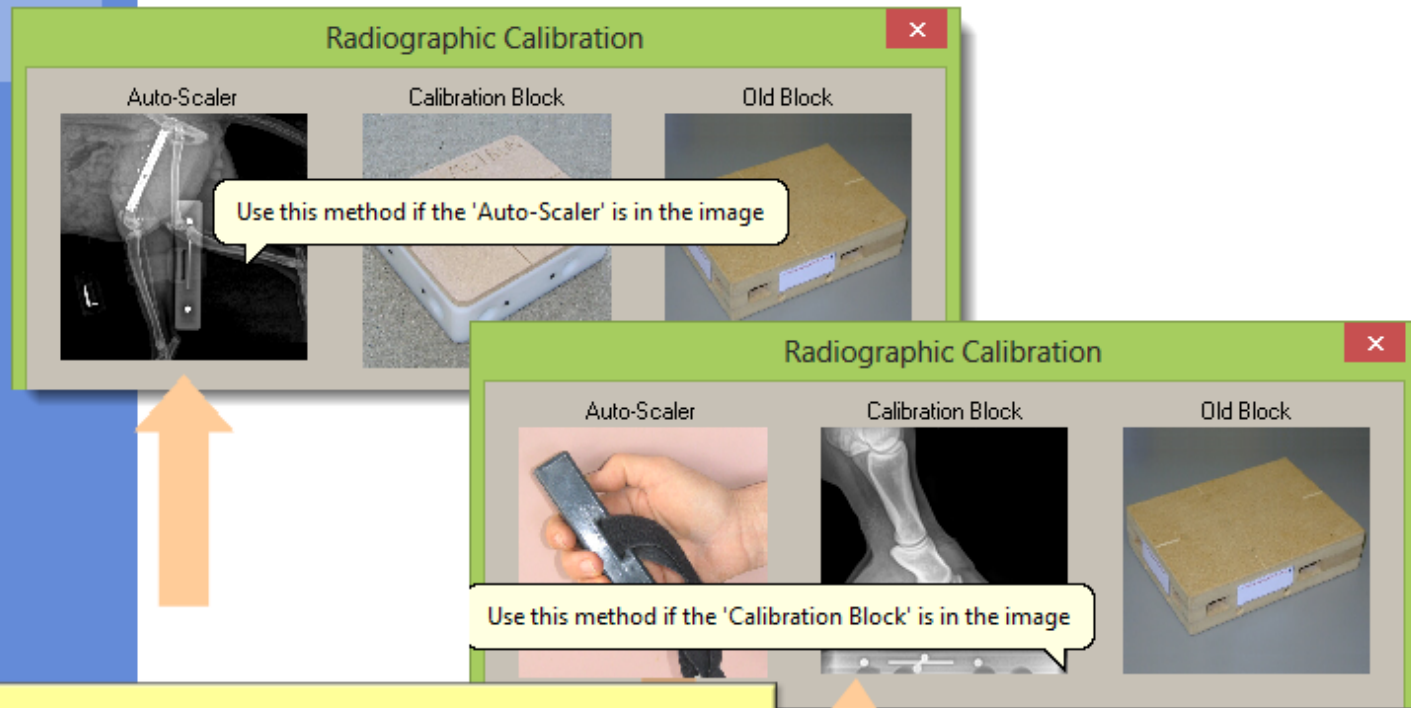
Calibration of Images in Metron

If the Auto Scaler or the Calibration Block was used, Metron may have already located it when you opened the Calibration panel.



12

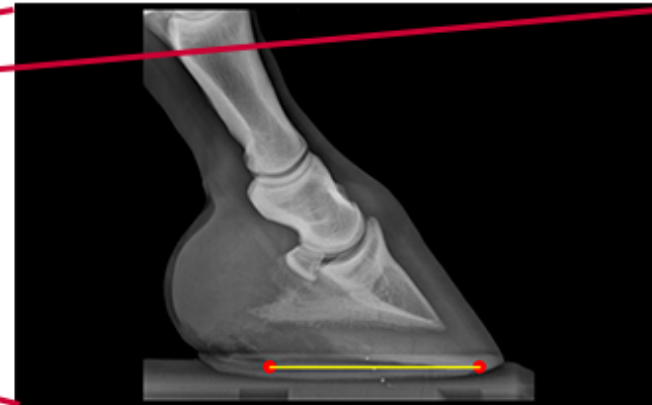
Calibration of Images in Metron



As you move the mouse over the thumbnail, you are shown an example of what a radiograph with this scale would look like.

13

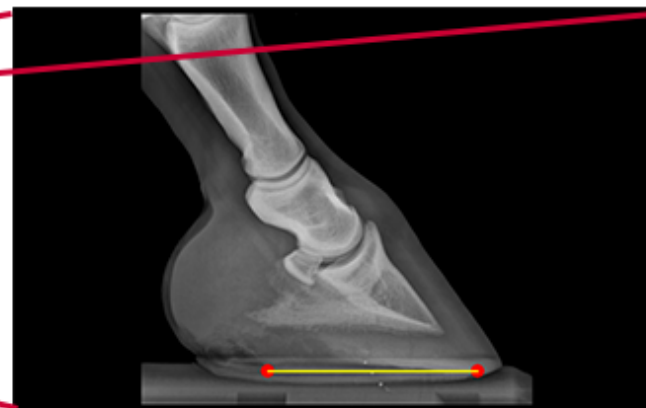
Calibration of Images in Metron



Metron tries to locate the Auto Scaler or Calibration Block automatically and if it can, draws the graphic with two red balls and a yellow line.

14

Calibration of Images in Metron



Metron tries to locate the Auto Scaler or Calibration Block automatically and if it can, draws and a yellow line.

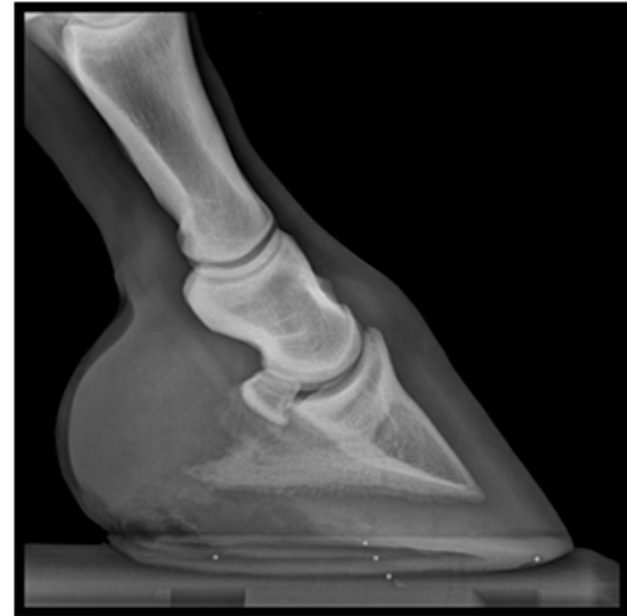
In this case, all you have to do is click OK and the calibration is complete.

METRON
SUPPORT SERVICES

15

Calibration of Images in Metron

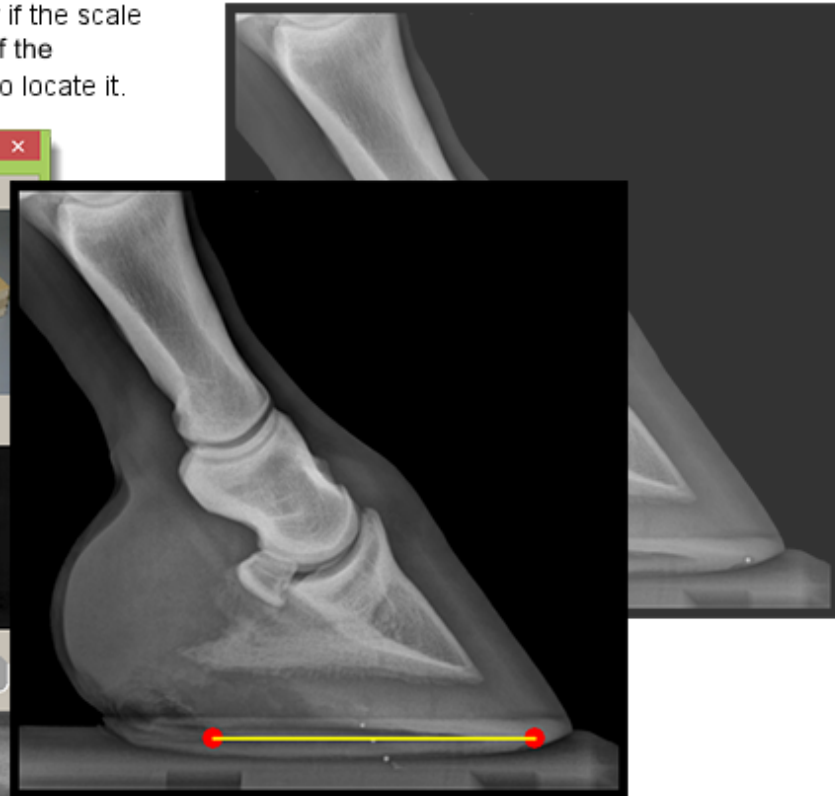
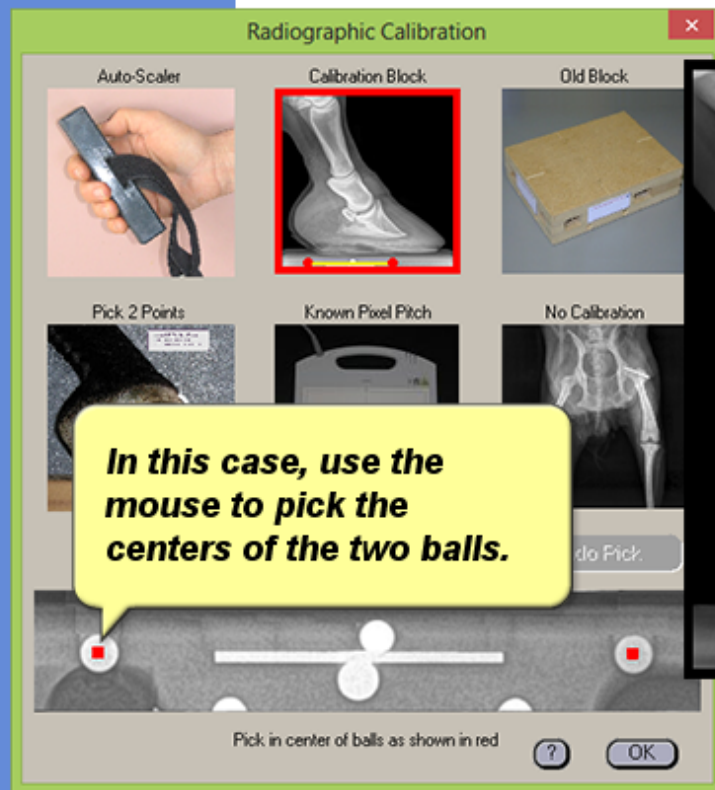
If the image is poorly exposed or if the scale marker is too close to the edge of the image, Metron may not be able to locate it.



16

Calibration of Images in Metron

If the image is poorly exposed or if the scale marker is too close to the edge of the image, Metron may not be able to locate it.

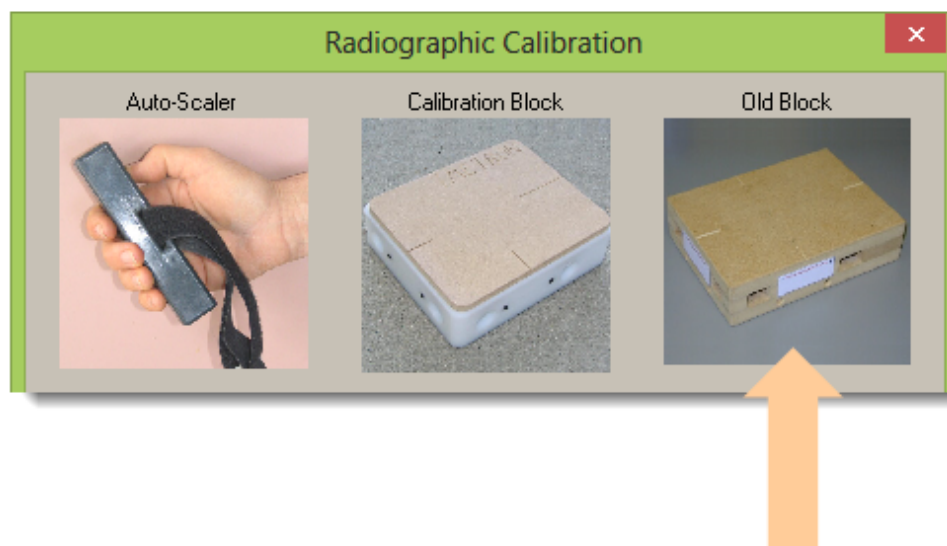


METRON
SUPPORT SERVICES

17

Calibration of Images in Metron

If Old Block is used, it is an older version, and is not auto-recognized.



18

Calibration of Images in Metron

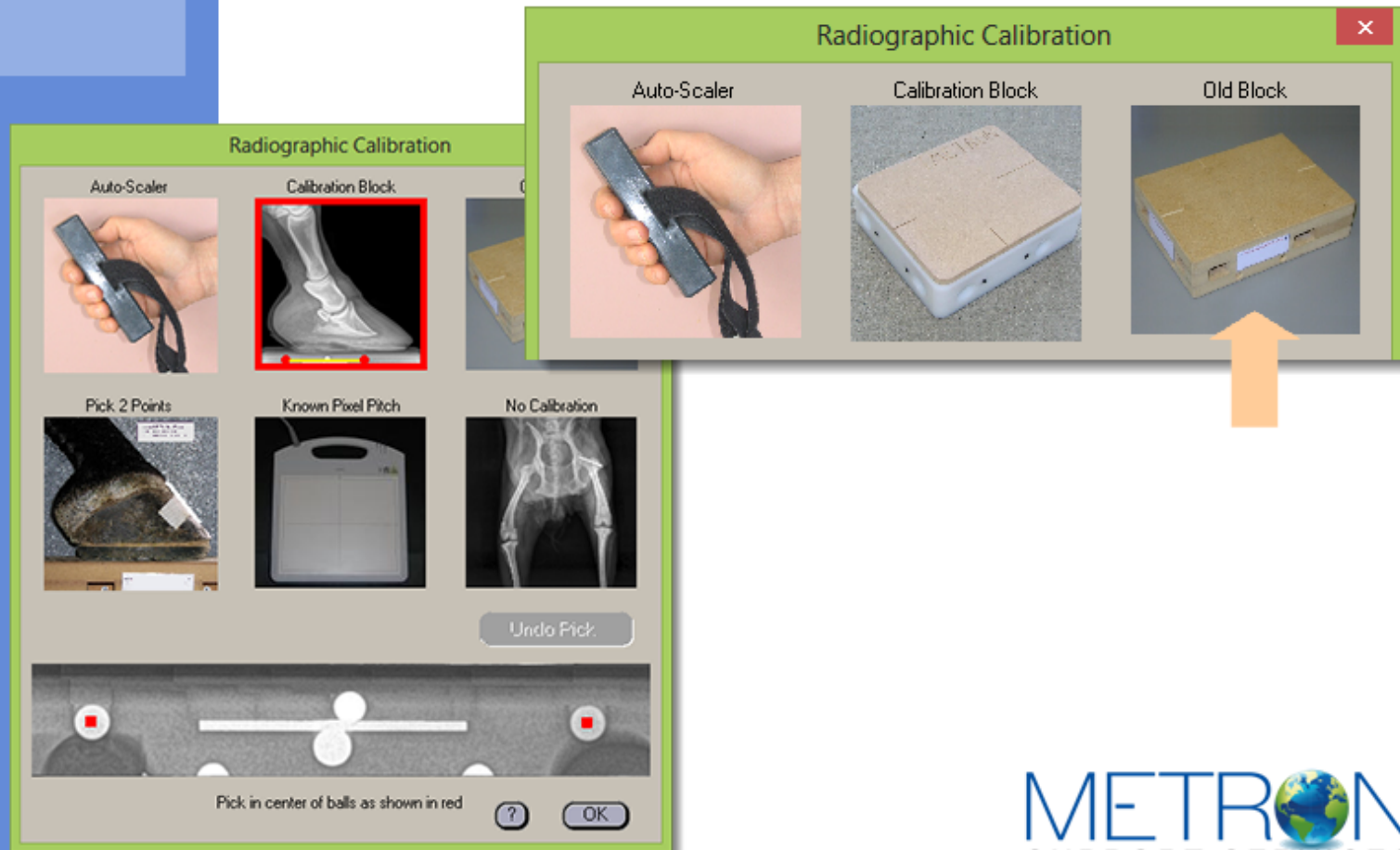
The screenshot shows the 'Radiographic Calibration' window. It contains three tabs: 'Auto-Scaler', 'Calibration Block', and 'Old Block'. The 'Calibration Block' tab is active, showing a radiograph of a horse's hoof. A red box highlights a specific area on the radiograph. A yellow line is drawn across the bottom of the radiograph, with red dots at each end. A yellow callout box points to this line, stating: 'You must pick two points on the image surface corresponding to the built-in metal markers. Using 'far markers' gives you more accurate results. The yellow line will fill in if both markers are accurately selected.'

Below the radiograph, there is a section with three circular markers. A red dot is placed in the center of the leftmost marker. A yellow callout box points to this dot, stating: 'Once completed click OK and the calibration is complete.'

At the bottom of the window, there is a text label 'Pick in center of balls as shown in red' and an 'OK' button.

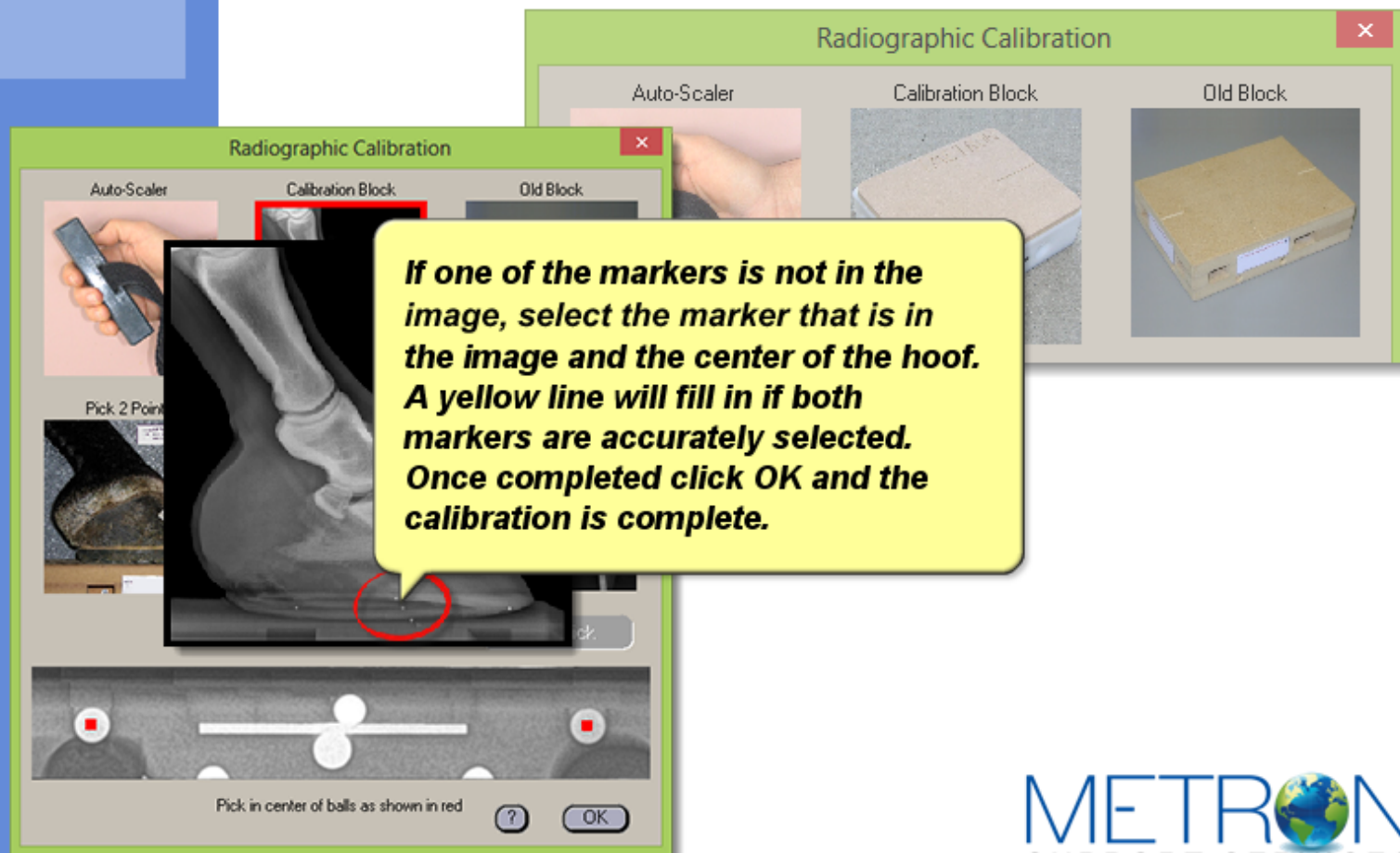
19

Calibration of Images in Metron



METRON
SUPPORT SERVICES

Calibration of Images in Metron



21

Calibration of Images in Metron

When using the **'Pick 2 Points'** you must indicate to Metron whether the scale marker is or is not "In the plane of interest". Also indicate the length of the object.



METRON
SUPPORT SERVICES

Calibration of Images in Metron

For example, a 2.5" nail placed in the center of the dorsal hoof wall would be 'In the plane of interest' but the same metal marker placed on the film cassette would not be.



Calibration of Images in Metron

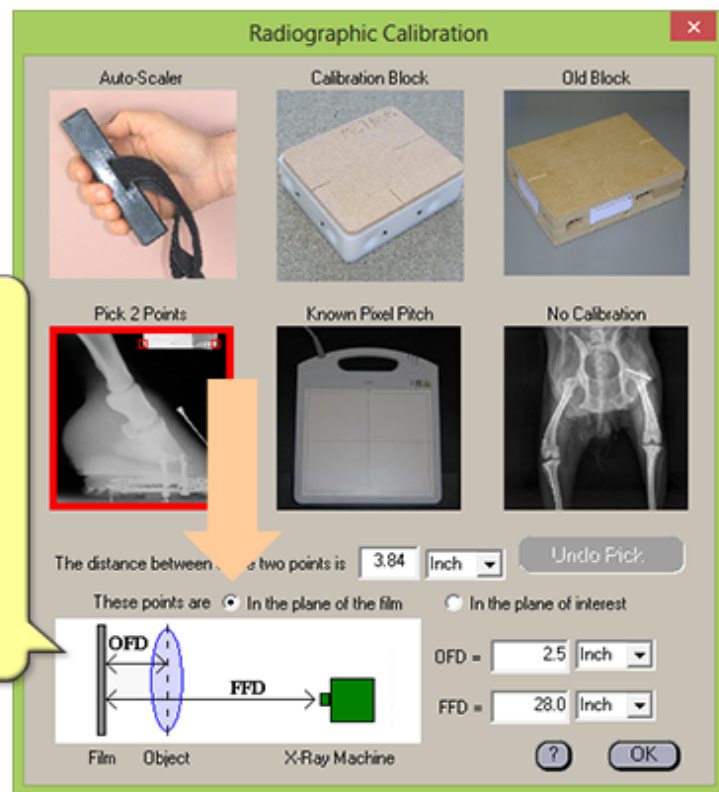


METRON
SUPPORT SERVICES

24

Calibration of Images in Metron

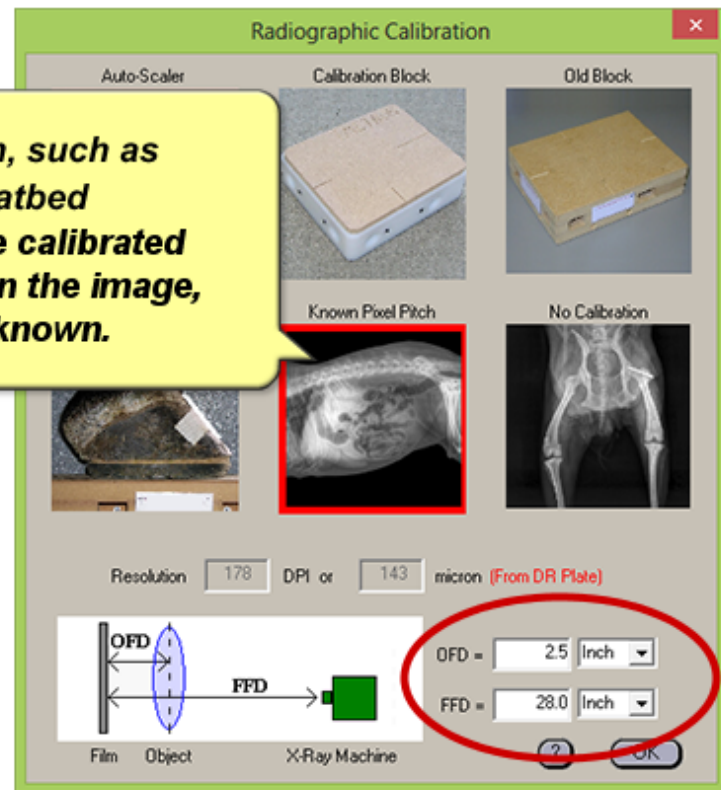
If the marker is not 'In the plane of interest', then the lower portion of the panel changes. For best accuracy, you must enter the the Focal-Film Distance (FFD) and Object-Film Distance (OFD) of your setup.



METRON
SUPPORT SERVICES

Calibration of Images in Metron

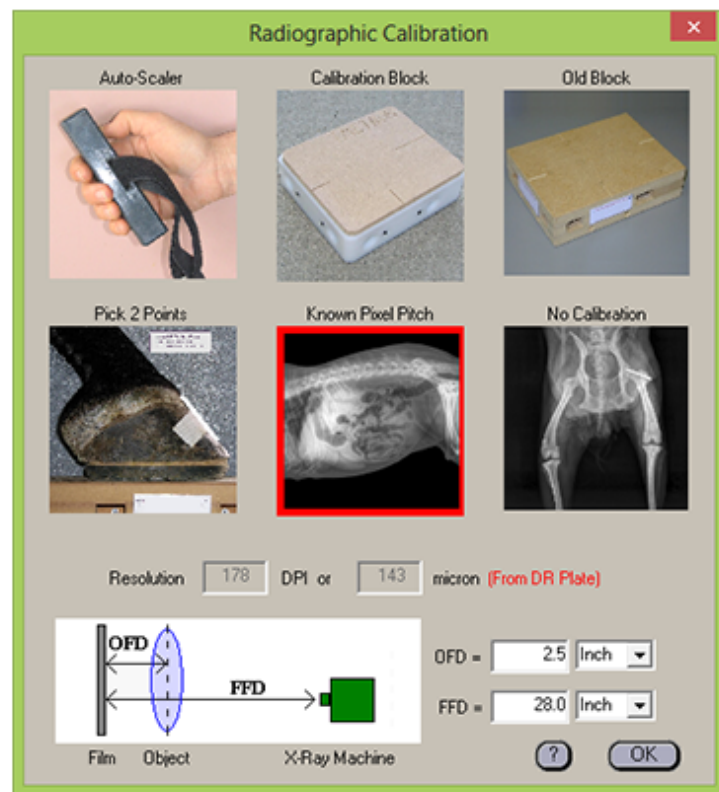
When the 'Pixel Pitch' is known, such as from a CR or DR system or a flatbed scanner, then the image can be calibrated without the need for a marker in the image, but the FFD and OFD must be known.



26

Calibration of Images in Metron

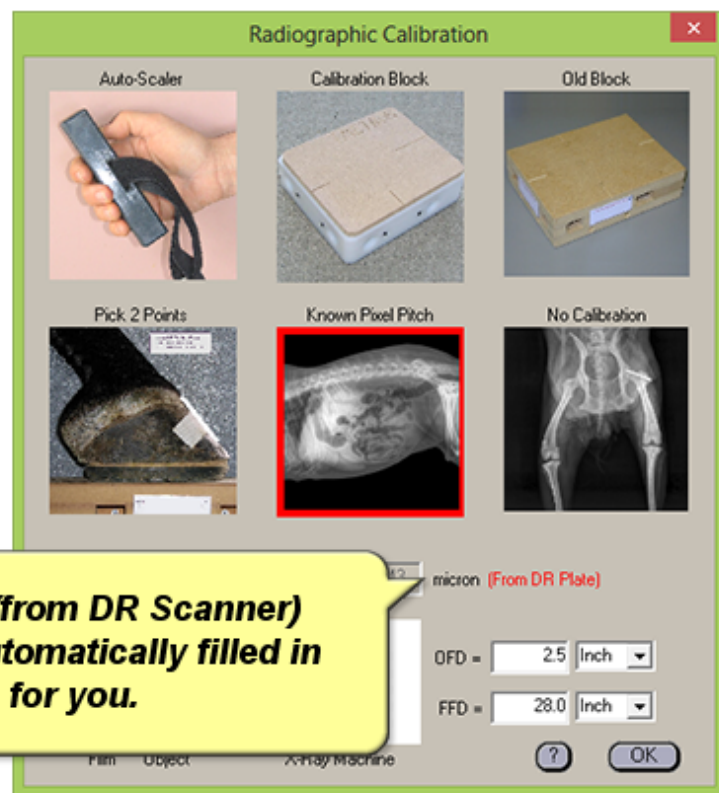
In the case of DR, Metron knows the scale settings used with fixed distance X-Ray generators.



METRON
SUPPORT SERVICES

Calibration of Images in Metron

In the case of DR, Metron knows the scale settings used with fixed distance X-Ray generators.

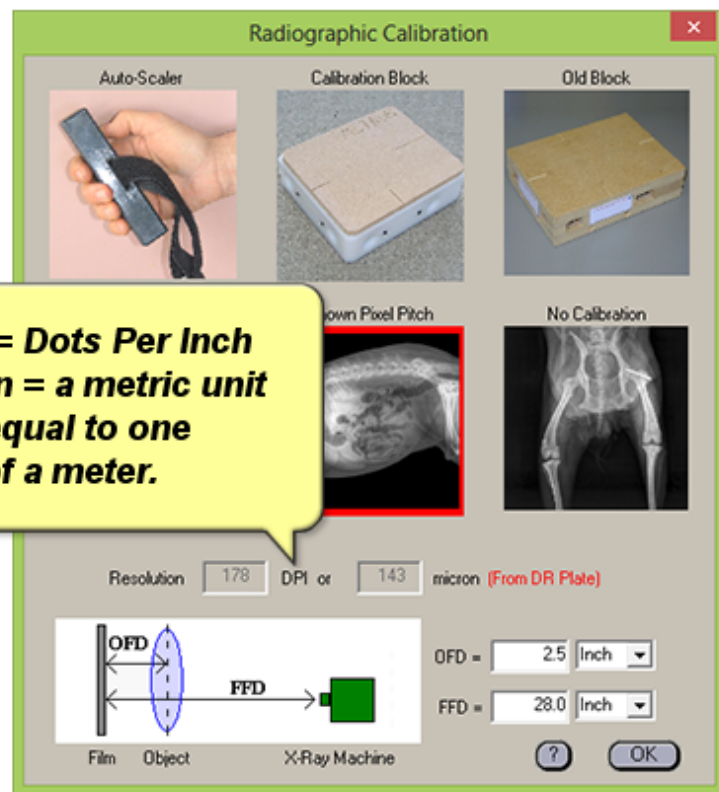


In this example, the red font (from DR Scanner) alerts you that Metron has automatically filled in the resolution (or pixel-pitch) for you.

Calibration of Images in Metron

In the case of DR, Metron knows the scale settings used with fixed distance X-Ray generators.

**Note: DPI = Dots Per Inch
and micron = a metric unit
of length equal to one
millionth of a meter.**



METRON
SUPPORT SERVICES

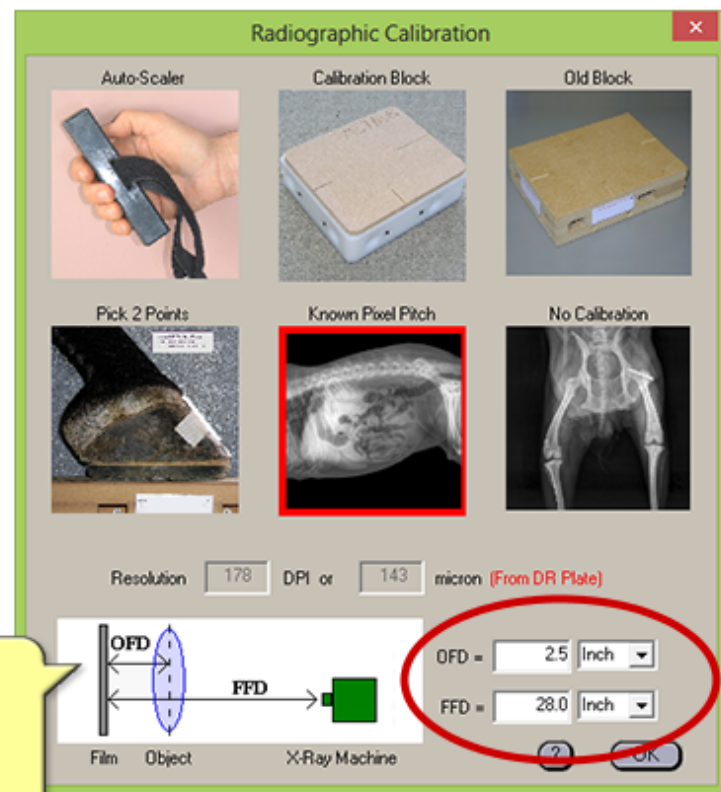
Calibration of Images in Metron



In the case of a small animal table system, you can enter the height of the X-Ray source above the imaging plate for FFD, and the distance from the imaging plate to the mid-line of the animal for OFD.

30

Calibration of Images in Metron



Once entered, Metron "remembers" the values entered for FFD and OFD from session to session.

METRON
SUPPORT SERVICES

31

Calibration of Images in Metron

This icon can be selected if image calibration is not needed.

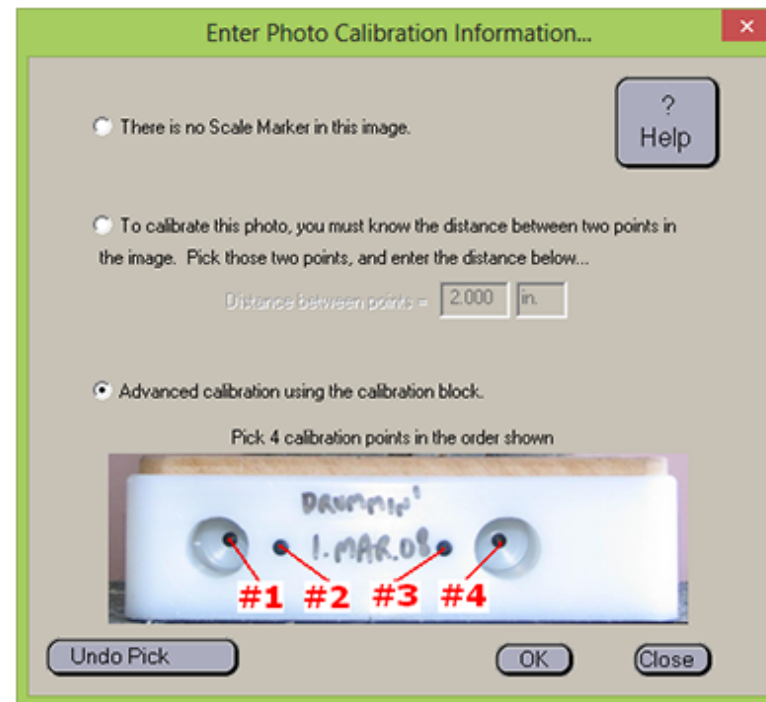


METRON
SUPPORT SERVICES

Calibration of Images in Metron

If you import a photograph into Metron, this is the calibration panel you use to calibrate the image.

Metron has three choices for photo calibration.

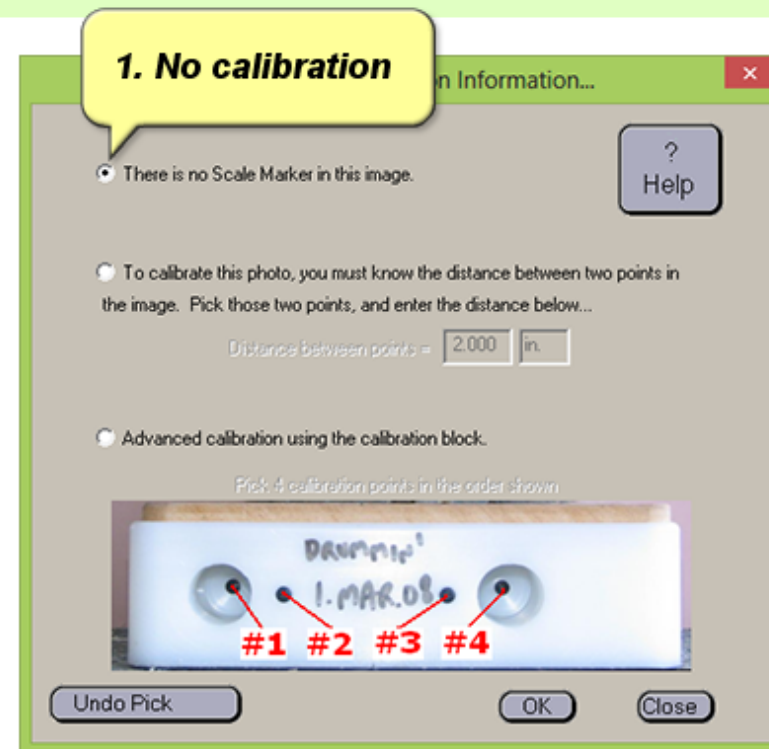


33

Calibration of Images in Metron

If you import a photograph into Metron, this is the calibration panel you use to calibrate the image.

Metron has three choices for photo calibration.



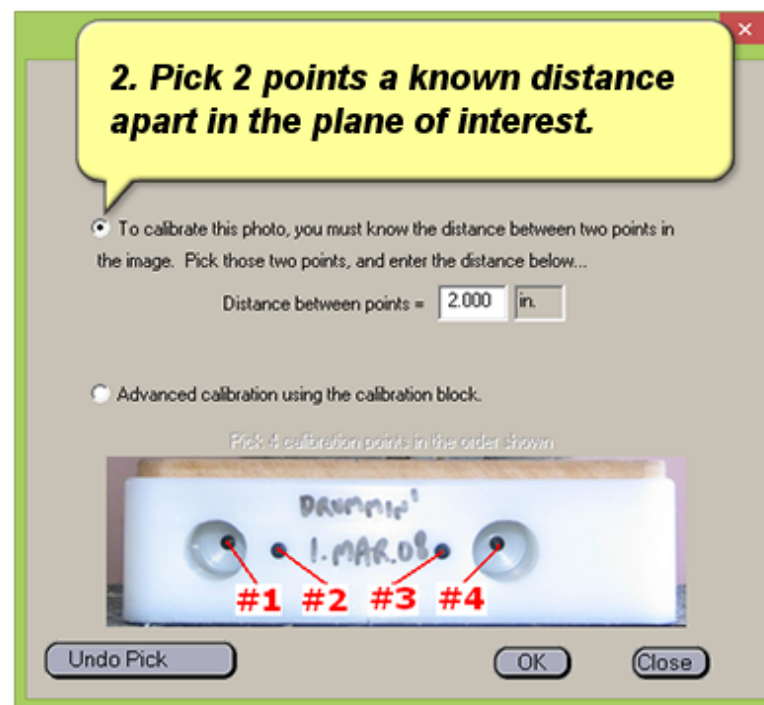
METRON
SUPPORT SERVICES

34

Calibration of Images in Metron

If you import a photograph into Metron, this is the calibration panel you use to calibrate the image.

Metron has three choices for photo calibration.

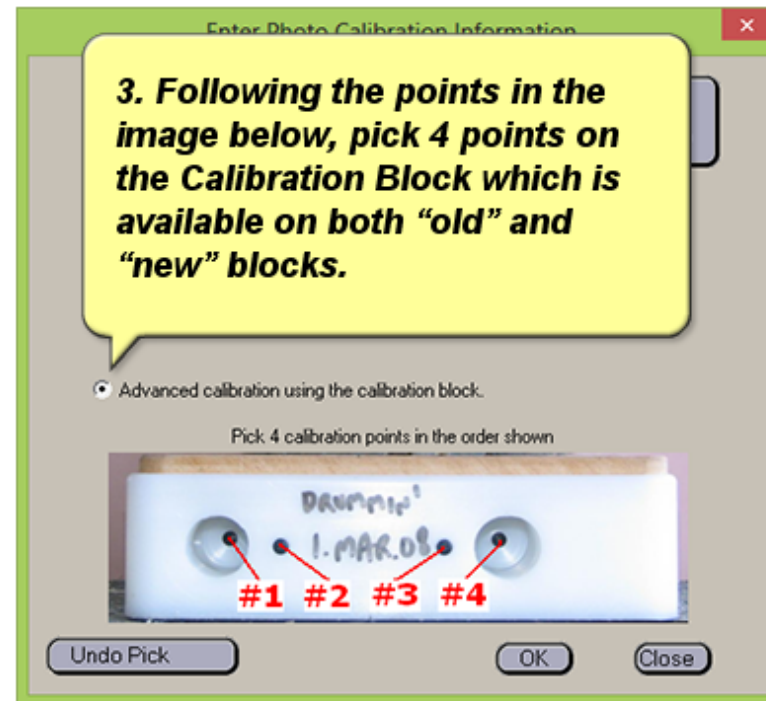


METRON
SUPPORT SERVICES

Calibration of Images in Metron

If you import a photograph into Metron, this is the calibration panel you use to calibrate the image.

Metron has three choices for photo calibration.



Calibration of Images in Metron

In the following five slides, you will be presented questions
to evaluate your knowledge of
"Calibration of Images in Metron".

Let's get started! 



METRON
SUPPORT SERVICES 

Calibration of Images in Metron

When a new image is imported into Metron, it is necessary to give information to set the scale of the image. Scaling is used to

- ☐ determine the size of the animal.
- ☒ make accurate length measurements based on points picked in the image.
- ☐ make accurate measurements based on the most recent information Metron pre-loaded in the database.

Submit

Congratulations, your answer is correct!

Sorry, your answer is incorrect. Please try again.

38

Calibration of Images in Metron

To calibrate an image, select an image from the Metron Database screen by double clicking the image to get the

- ☒ Single Image Viewer screen where calibration can be selected.
- ☐ browser where calibration can be selected.
- ☐ Metron home page where calibration can be selected.

Submit

Congratulations, your answer is correct!

Sorry, your answer is incorrect. Please try again.

METRON
SUPPORT SERVICES

39

Calibration of Images in Metron

Calibration should be performed on images to allow mark-up for measurements and scoring as well as

- ☐ allow images to be stored in Metron.
- ☐ overall ease of use when viewing images.
- ☒ overall quality for viewing and reports.

Submit

Congratulations, your answer is correct!

Sorry, your answer is incorrect. Please try again.

METRON
SUPPORT SERVICES

40

Calibration of Images in Metron

On the Radiographic Calibration panel the “Auto Scaler” and the “Calibration Block” can use any object of a known length as

- ☒ a scale marker.
- ☐ a measurement.
- ☐ an image point.

Submit

Congratulations, your answer is correct!

Sorry, your answer is incorrect. Please try again.

METRON
SUPPORT SERVICES

41

Calibration of Images in Metron

As you move the mouse over the optional calibration thumbnails in the Radiographic Calibration panel, an example is shown of

- ☐ what a radiograph from your last study looked like.
- ☒ what a radiograph with the identified scale would look like.
- ☐ what a radiograph from the database would look like.

Submit

Congratulations, your answer is correct!

Sorry, your answer is incorrect. Please try again.

METRON
SUPPORT SERVICES

Calibration of Images in Metron

If an image is poorly exposed or if the scale marker is too close to the edge of the image, Metron may not be able to locate it. Use the mouse to pick the center of the two balls. Pick two points on the image surface corresponding to the built-in metal markers.

- ☒ A yellow line fills in if both markers are accurate. Click "OK". The calibration is complete.
- ☐ A blue line fills in if the markers are not accurate. Click "OK" and try again.
- ☐ A note pops up to make the user aware the markers are not accurate.

Submit

Congratulations, your answer is correct!

Sorry, your answer is incorrect. Please try again.

43

Calibration of Images in Metron

When the pixel pitch is known, the image can be calibrated without the need for a marker in the image, but the

- ☐ plane of interest must be identified.
- ☐ calibration must be done with the “Old Block” icon.
- ☒ Focal-Film Distance (FFD) and the Object-Film Distance (OFD) must be known.

Submit

Congratulations, your answer is correct!

Sorry, your answer is incorrect. Please try again.

METRON
SUPPORT SERVICES

44

Calibration of Images in Metron

Metron remembers the values entered for FFD and OFD from

- ☒ session to session.
- ☐ the beginning of the session only to the end of the session.
- ☐ the time it is entered until Metron is closed.

Submit

Congratulations, your answer is correct!

Sorry, your answer is incorrect. Please try again.

METRON
SUPPORT SERVICES



Calibration of Images in Metron

This completes the "Calibration of Images in Metron" online training. Please feel free to view it again or select another online training session to review.



Click F11 on your keyboard to minimize the browser screen and click the window closed to exit this training session.

