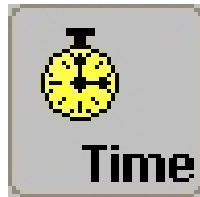


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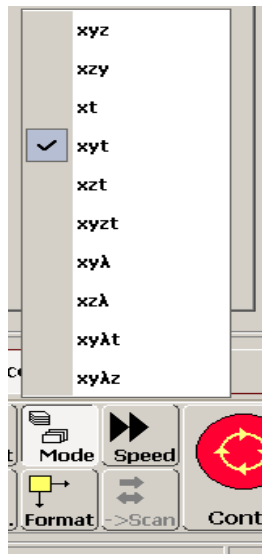
Time Configuration Tool




Function

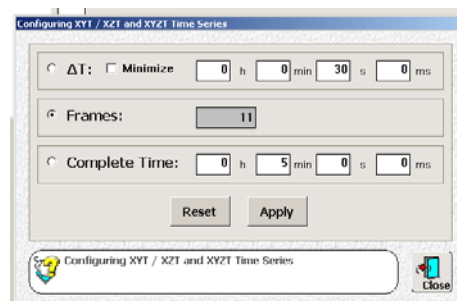
The Time Configuration tool is used for setting up time series recordings. This function can be used alone or with other LCS functions such as the Advanced Time Lapse Tool.

To use the Time Configuration tool you must first select a scan mode with a time dimension:



Once a scan mode with a time dimension is selected, the Time Configuration button will become active. The Time Configuration button will be inoperable until one of the time dimension scan modes has been selected.

Click the Time button  to open the Time Configuration dialog window.



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The settings that can be changed in the dialog window depend on the scan mode selected. You can record a line scan (xt), a horizontal section (xyt), a vertical section (xzt), or a stack of horizontal sections (xyzt), interrupted by a specific time interval, multiple times in a row. For any scan mode selected, the user has the ability to change any two of the parameters. The software will calculate the other parameter.

Horizontal (xyt) or Vertical Scan (xzt)

Use the following parameters in the dialog window to configure a time series using the xyt or xzt scan mode.

ΔT	Amount of time between recordings
Minimize	The smallest possible interval (ΔT) is used.
Frames	Number of recordings of the xy-section or xz-section
Complete	Total recording time, i.e. the product of ΔT and number of recordings

Line Scan (xt)

Use the following parameters in the dialog window to configure a time series using the xt scan mode.

ΔT	The recording time for a line (<i>can not be modified by the user</i>)
Lines	Number of line recordings
Lines per	Number of lines per stored page
Pages	Number of stored pages (<i>calculated automatically</i>)
Maximize	Recording of the maximum possible number of lines per stored page
Complete	Total recording time, i.e. the product of ΔT and number of recordings

Vertical Stack Scan (xyzt)

Use the following parameters in the dialog window to configure a time series using the xyzt scan mode:

ΔT	Recording time for a stack of xy-sections plus pause interval
Minimize	The smallest possible interval (ΔT) is used.
Stacks	Number of recordings of the image stack
Complete	Total recording time, i.e. the product of ΔT and number of recordings

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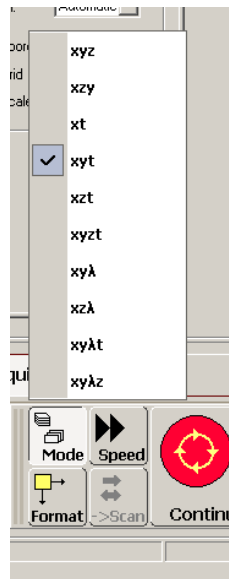
Time Configuration using xyt mode.

Purpose:

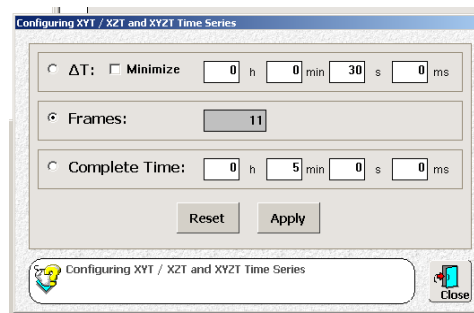
In this example we are going to image a cell/tissue every 30 seconds for 5 minutes. This example could be applied to monitoring cell movement, effect of toxicant exposure to cells over time, watching recovery of cell to a photobleaching event, or monitoring protein trafficking.

Protocol:

1. Set up and optimize image to be scanned. Make all necessary adjustments to scan speed, scan format, line or frame averaging, or other parameters.
2. Change scan mode to xyt



3. Once the correct scan mode is selected, the Time Configuration button can be activated and the dialog window will open.

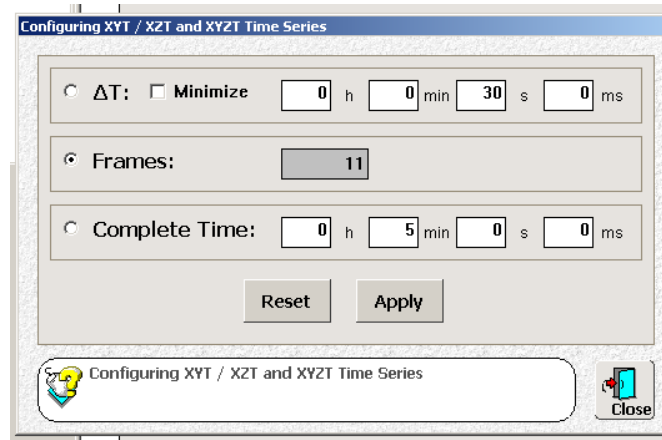


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4. In the dialog box, click on the button to the left of frames. The software will grey out the settings in the frames line. A user can only change two of the three parameters in the Time Configuration dialog box. The one selected is greyed out and will be calculated by the software.
5. For our example set ΔT for 30 seconds and complete time for 5 minutes. You can also make any other adjustments (line or frame averaging). Then click apply.



This sets the software to scan an image every 30 seconds for 5 minutes.

Caution: If you make any adjustments to the image parameters or settings you must click the apply button again.

6. Once set, click on the Series Scan button to begin image acquisition. Scanning will automatically stop when the 5 minutes is completed.