

Basic Parts
(MOVE, STARTLOOP, ENDLOOP, STOP)

Contents

1. How to set Part conditions	1
1.1 Setting MOVE Part conditions	1
1.2 Setting STARTLOOP Part conditions	4
1.3 Setting ENDLOOP Part conditions	5
1.4 Setting STOP Part conditions	6
2. How to use the Basic Parts	7
2.1 Executing a reflectivity measurement at an arbitrary point on a sample using the XY attachment .	7
2.2 Executing an XY mapping of the reflectivity using the XY attachment	9
2.3 Stopping the macro measurement in the middle.....	13

1. How to set Part conditions

In this chapter, how to set the Basic Parts (MOVE, STARTLOOP, ENDLOOP, STOP) conditions is described.

1.1 Setting MOVE Part conditions

Use the **MOVE** Part to move an axis in a macro measurement.



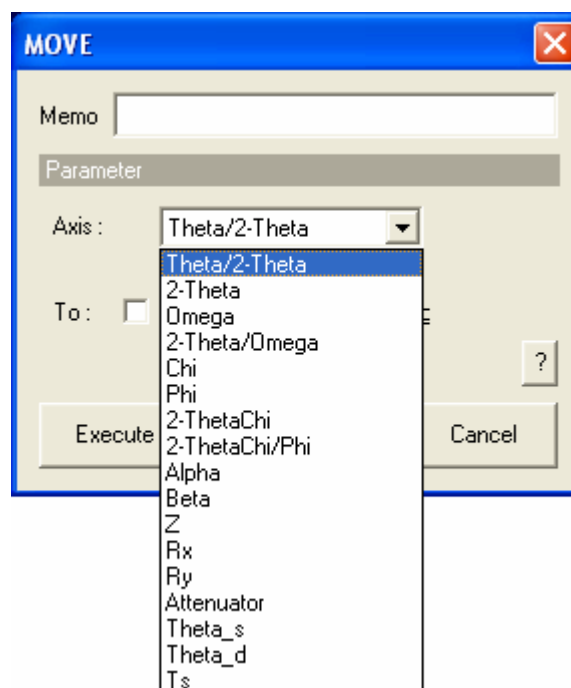
Fig. 1.1.1 MOVE dialog box

Memo

Enter the memo (optional). The memo entered here will be displayed in the History window when this Part is running. The entered memo will also be displayed as a tool tip of the flow bar button.

Axis

Select the axis to move.

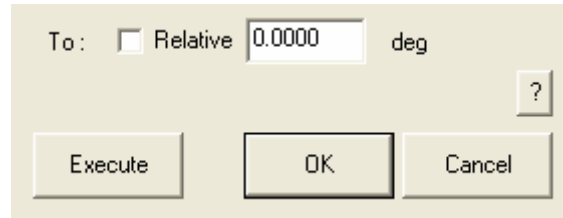


To

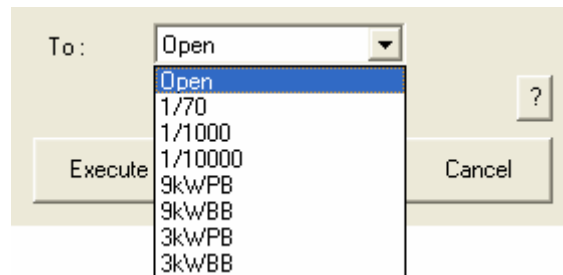
Check the **Relative** box to drive the selected axis to the position (current position + entered value).

Uncheck the **Relative** box to drive the selected axis to the entered position.

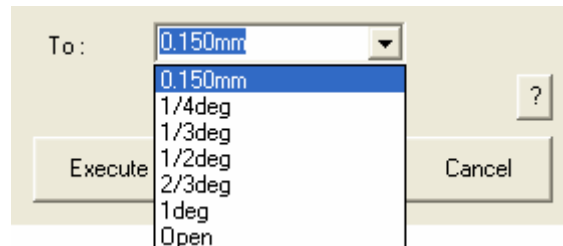
The specification method depends on the axis selected in the **Axis** box.



Select the position if the selected axis is **Attenuator**.



Select or enter the position if the selected axis is **Incident slit**, **Receiving slit # 1**, or **Receiving slit # 2**. If you enter the position, be sure to attach the unit (mm or deg) to the value. Values can be entered in fractional number.



Execute

Drives the selected axis to the specified position.

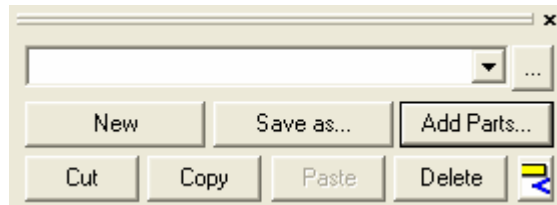


CAUTION: Clicking the **Cancel** button after moving the axis does not cancel the specified conditions.

OK Sets the conditions and closes the dialog box.



CAUTION: When switching the task to the **Package Measurement** task or **Manual Control** task, the specified conditions will be cancelled. To save the specified conditions in a file, click the **Save as** button on the flow bar and save the conditions as a macro measurement conditions file.



Cancel Does not set the conditions and closes the dialog box.

? Opens the online help of this Part.

1.2 Setting STARTLOOP Part conditions


Use the **STARTLOOP** Part to set the start of a loop in a macro measurement. Repeats the execution of the Parts between the **STARTLOOP** and **ENDLOOP** Parts.




Fig. 1.2.1 STARTLOOP dialog box

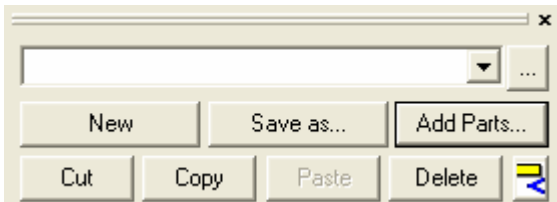
Memo Enter the memo (optional). The memo entered here will be displayed in the History window when this Part is running. The entered memo will also be displayed as a tool tip of the flow bar button.

Cycles Enter the number of cycles to repeat. The acceptable input range is “0 to 10000”.

 Tip: If “0” is entered, the Parts between the **STARTLOOP** and **ENDLOOP** Parts will be skipped.

OK Sets the conditions and closes the dialog box.

 **CAUTION:** When switching the task to the **Package Measurement** task or **Manual Control** task, the specified conditions will be cancelled. To save the specified conditions in a file, click the **Save as** button on the flow bar and save the conditions as a macro measurement conditions file.



Cancel Does not set the conditions and closes the dialog box.

? Opens the online help of this Part.

1.3 Setting ENDLOOP Part conditions

Use the **ENDLOOP** Part to set the end of a loop in a macro measurement. Repeats the execution of the Parts between the **STARTLOOP** and **ENDLOOP** Parts.

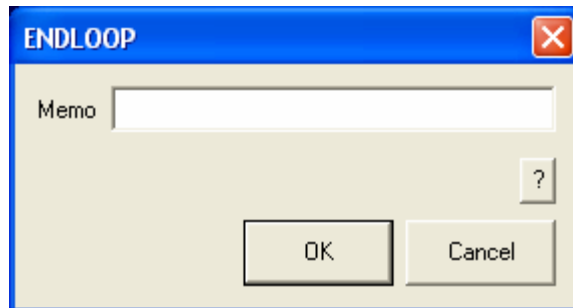


Fig. 1.3.1 ENDLOOP dialog box

Memo

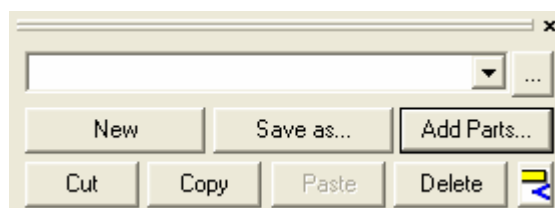
Enter the memo (optional). The memo entered here will be displayed in the History window when this Part is running. The entered memo will also be displayed as a tool tip of the flow bar button.

OK

Sets the conditions and closes the dialog box.



CAUTION: When switching the task to the **Package Measurement** task or **Manual Control** task, the specified conditions will be cancelled. To save the specified conditions in a file, click the **Save as** button on the flow bar and save the conditions as a macro measurement conditions file.



Cancel

Does not set the conditions and closes the dialog box.

?

Opens the online help of this Part.

1.4 Setting STOP Part conditions

Use the **STOP** Part to stop a measurement in a macro measurement.

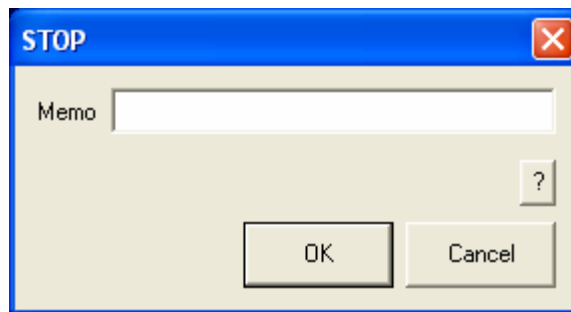




Fig. 1.4.1 STOP dialog box

 **Tip:** Click the next Part button to the **STOP** button, and click the **Run** button on the flow bar, then you can restart the macro measurement. When the following message appears, click the **Yes** button.

Memo Enter the memo (optional). The memo entered here will be displayed in the History window when this Part is running. The entered memo will also be displayed as a tool tip of the flow bar button.

OK Sets the conditions and closes the dialog box.

 **CAUTION:** When switching the task to the **Package Measurement** task or **Manual Control** task, the specified conditions will be cancelled. To save the specified conditions in a file, click the **Save as** button on the flow bar and save the conditions as a macro measurement conditions file.

Cancel Does not set the conditions and closes the dialog box.

? Opens the online help of this Part.

2. How to use the Basic Parts

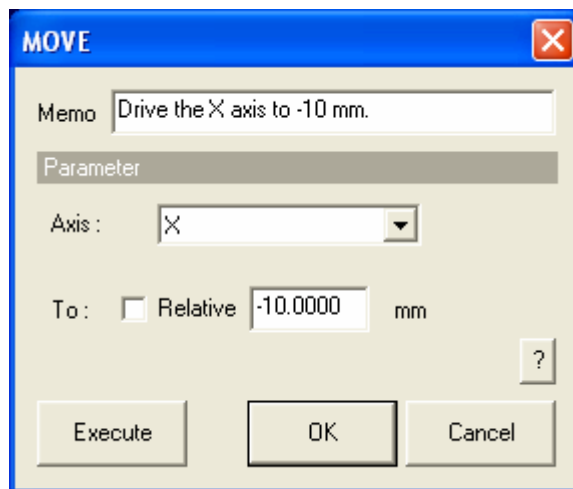
Basic Parts may be used in combination with other alignment and measurement Parts to create a macro. Examples are shown below in Sections 2.1 and 2.2.



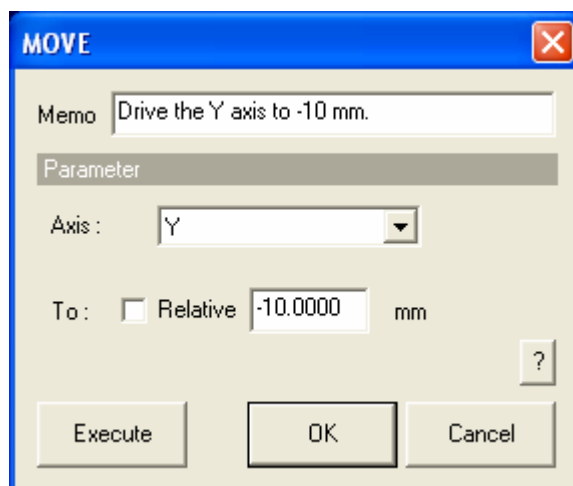
Tip: For more information on macro measurements, refer to Chapter 22 of the *SmartLab Guidance Reference Manual (ME13365A)*.

2.1 Executing a reflectivity measurement at an arbitrary point on a sample using the XY attachment

- (1) Add two **MOVE** Parts.
- (2) Set the position of the X axis in the first **MOVE** Part.



- (3) Set the position of the Y axis in the second **MOVE** Part.



- (4) Add a **Reflectivity Measurement** Part.



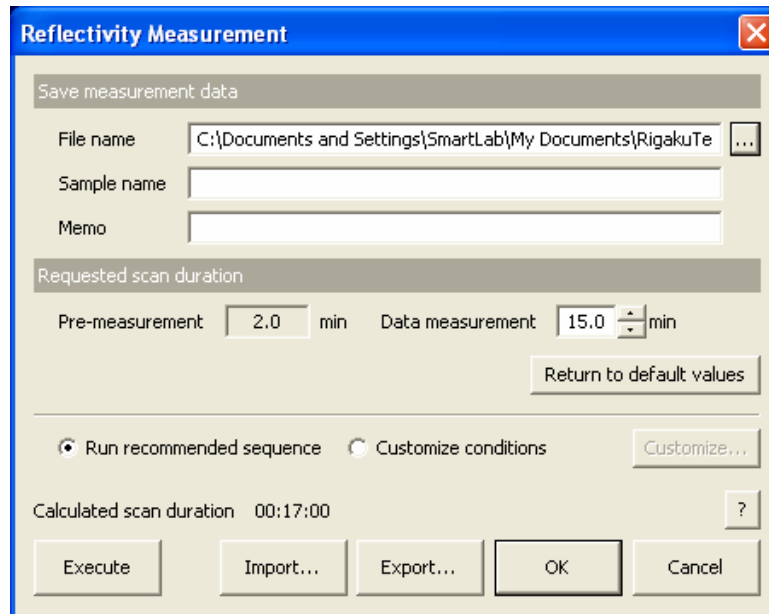
Tip: The **Reflectivity Measurement** Part can be selected from the **Reflectivity (medium resolution PB)** Package measurement in the **Thickness Analysis** Group.

2. How to use the Basic Parts

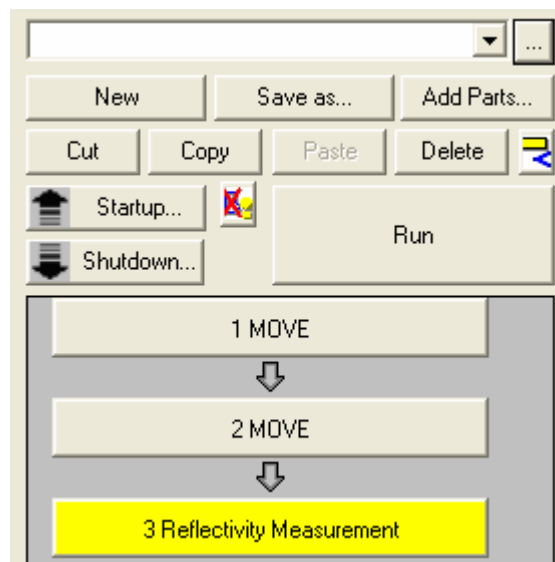
- (5) Set the conditions of the **Reflectivity Measurement Part**.



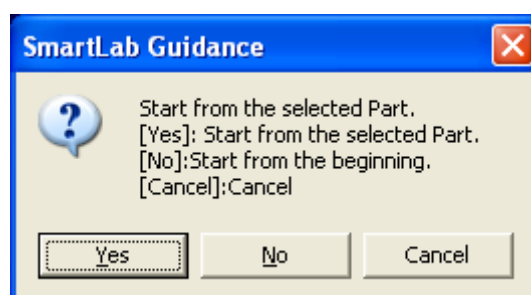
Tip: To set the conditions of the **Reflectivity Measurement Part**, refer to “Reflectivity Measurement Part” Help Topic of the online help section of the SmartLab Guidance software.



- (6) Click the **Run** button on the **Macro Measurement** flow bar.



- (7) When the following message appears, click the **No** button. The X and Y axes will move, and the reflectivity measurement will be executed.

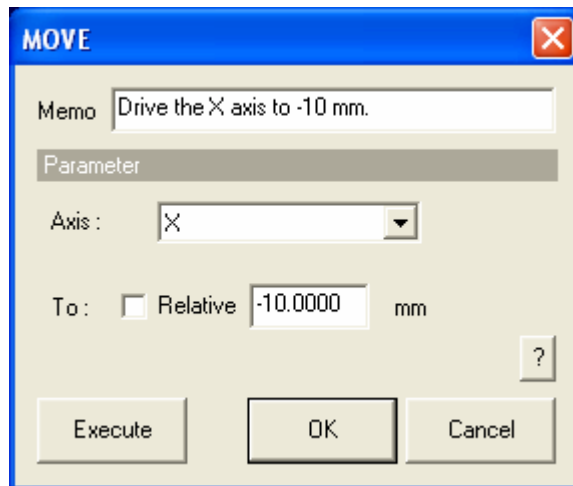


2.2 Executing an XY mapping of the reflectivity using the XY attachment

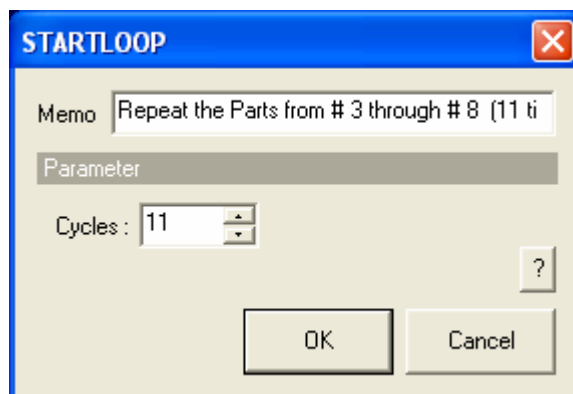


Tip: To make an XY mapping measurement for practical purposes, it is recommended to use the XY Mapping Parts. To use the XY Mapping Parts, refer to “XY Mapping Parts” Help Topic of the online help section of the SmartLab Guidance software.

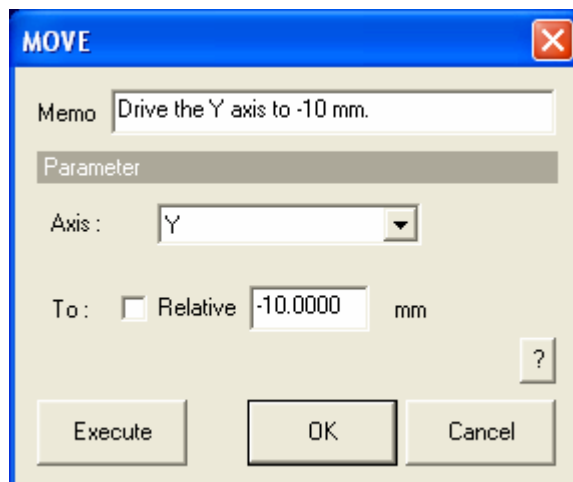
- (1) Add a **MOVE** Part and set the initial position of the X axis.



- (2) Add a **STARTLOOP** Part and set the number of cycles for the measurement along the X axis direction.

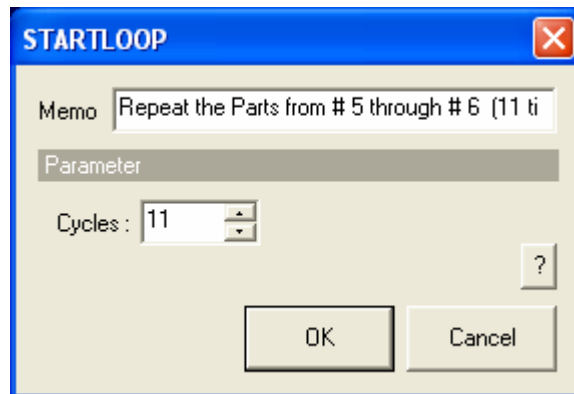


- (3) Add a **MOVE** Part and set the initial position of the Y axis.



2. How to use the Basic Parts

- (4) Add a **STARTLOOP** Part and set the number of cycles for the measurement along the *Y* axis direction.

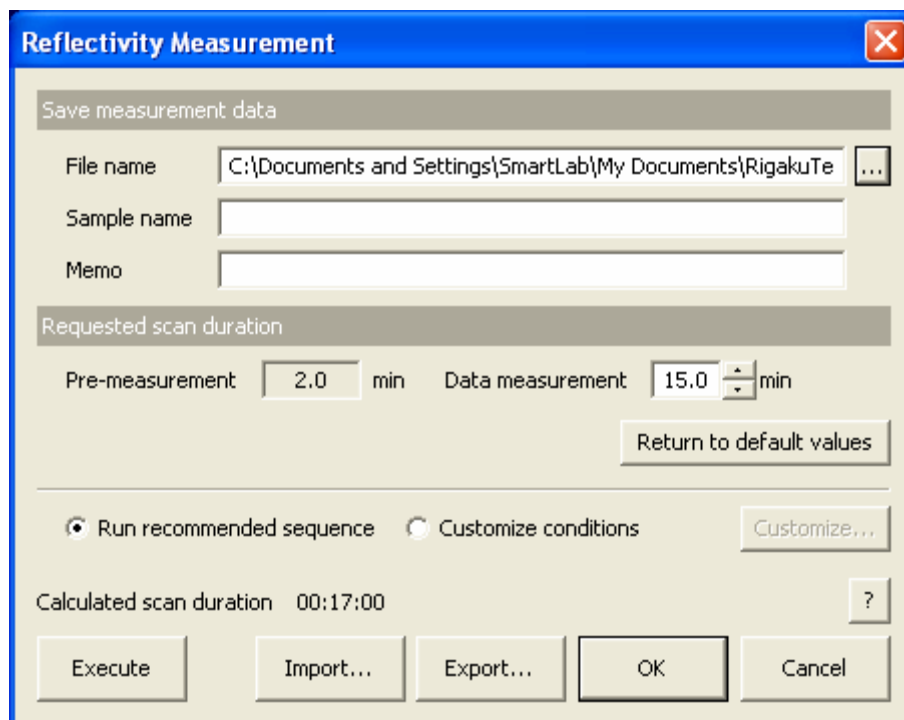


- (5) Add a **Reflectivity Measurement** Part and set the measurement conditions.

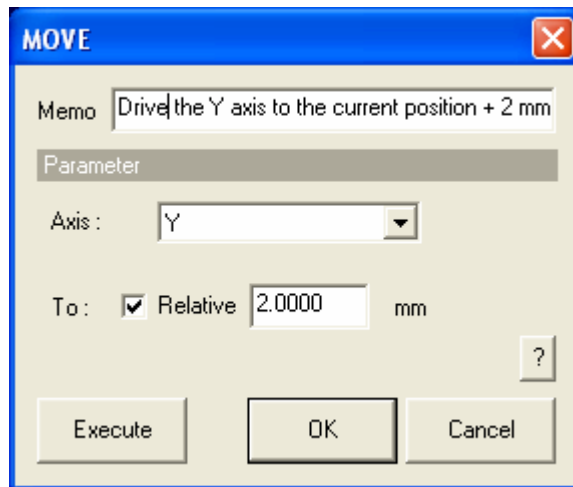


Tip: The **Reflectivity Measurement** Part can be selected from the **Reflectivity (medium resolution PB)** Package measurement in the **Thickness Analysis** Group.

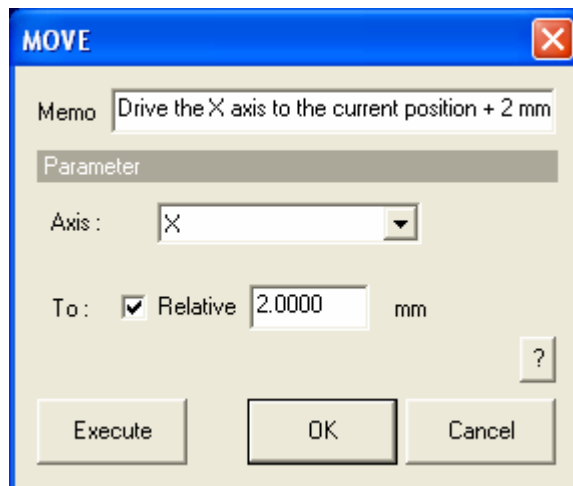
To set the conditions of the **Reflectivity Measurement** Part, refer to "Reflectivity Measurement Part" in the *SmartLab Guidance Parts Manual* (ME13406A).



- (6) Add a **MOVE** Part and set the step size of the *Y* axis. Check the **Relative** box and enter the step size in the **To** box.

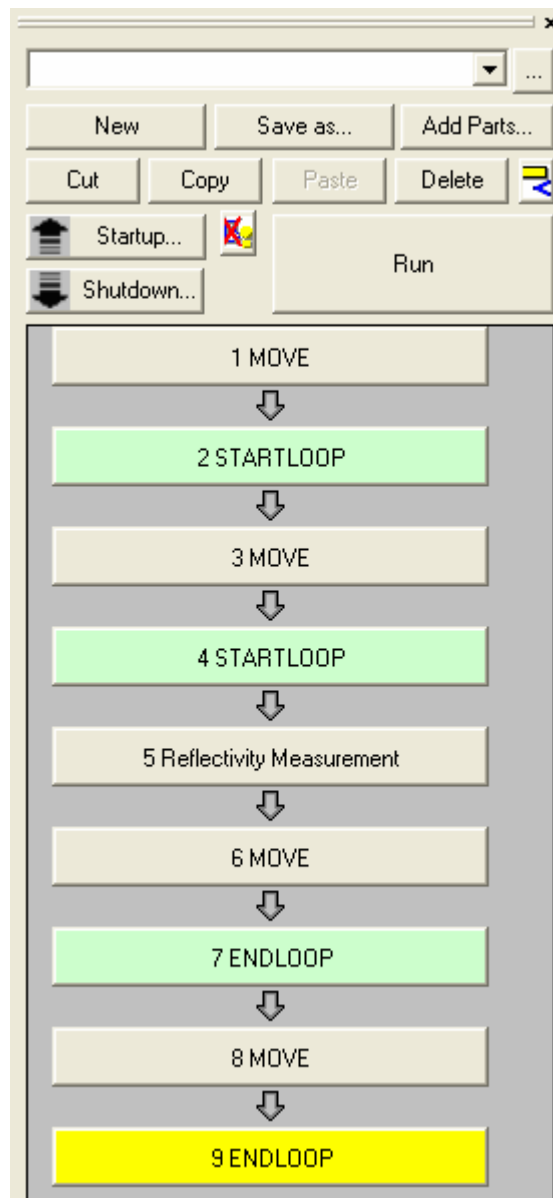


- (7) Add an **ENDLOOP** Part.
- (8) Add a **MOVE** Part and set the step size of the *X* axis. Check the **Relative** box and enter the step size in the **To** box.

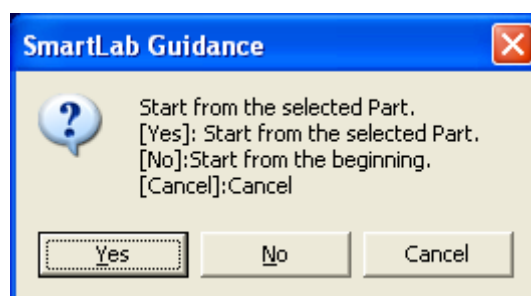


- (9) Add an **ENDLOOP** Part.

(10) Click the **Run** button on the **Macro Measurement** flow bar.



(11) When the following message appears, click the **No** button. The Parts on the flow bar will be executed in sequence from the beginning. In total, 121 reflectivity measurements will be made as the X and Y axes move through the ranges of -10 mm to 10 mm (2 mm at a time).



2.3 Stopping the macro measurement in the middle

Add a **STOP** Part where you wish to stop the macro measurement.

The following macro measurement is the XY mapping measurement described in Section 2.2 into which a **STOP** Part is inserted.

If the conditions are set according to the procedure in Section 2.2, the measurement will stop after 11 reflectivity measurements are executed as the Y axis moves through the range of -10 to +10 mm (2 mm at a time) at X = -10 mm.

