SRM Quick Start Guide

Table of Contents

IMS graphic user interface for the SRM.

Introduction

This guide is written to help guide scientists and technicians in setting up for and measuring section measurements with IMS version 10.2. For more detailed information regarding the SRM – IMS software, please refer to the SRM-IMS User guide.

Initializing the Program

Open **IMS Main** from the Desktop shortcut or from the Windows Start Menu. Icon is shown in *Figure 1*.

Figure 1. IMS-10-SRM desktop shortcut.

The program will begin an initialization process to check communications with the M-drive motor, the degausser, and the SQUIDS. The software will load the most recent configuration files and will home the tray on the track.

Once the program launches, the user will see the main IMS-SRM window (*Figure 2*). The leftmost panel contains the controls for changing the setup and for starting the SRM measurements. The center panel allows the user to view the data as it is collected and monitor the measurement process. The right panel display indicates which measurement sequence is selected and which step is being executed, as well as other pertinent information.
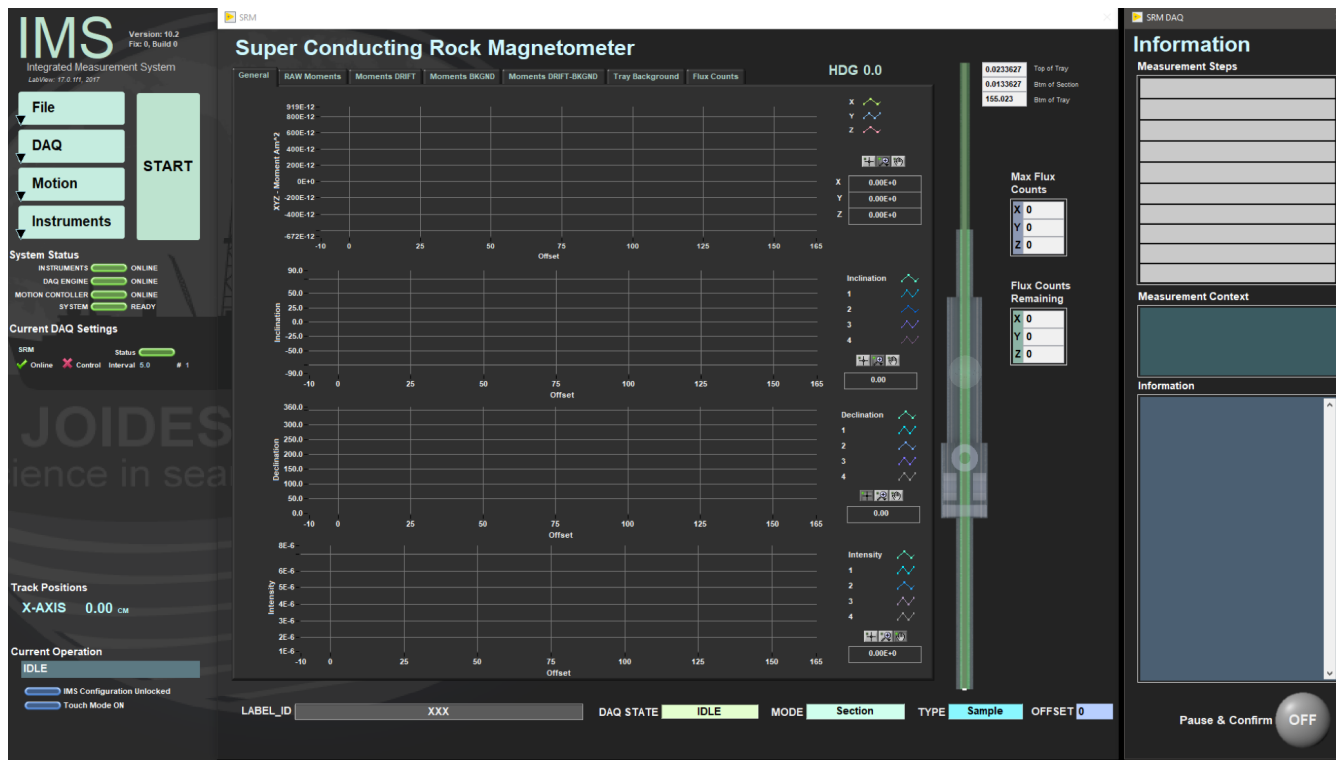
Setting Up for a Measurement

Prior to measuring section halves or discrete samples in the SRM the user must:

- Set the measurement interval
- Take a background measurement of the empty tray
- Create or select a measurement sequence
- Create or select a sample type preset

Set a measurement interval

1. Select **DAQ>Measurement Editor** from the drop-down menu. The Measurement Editor window will open (*Figure 3*).
2. Set the desired *sample interval*, number of points to *average*, *leader/trailer* length, and *measurement speed*.
3. If the sample interval has changed, you will likely receive a warning (**DAQ Valid?** indicator). When the DAQ Valid? indicator is red, the user must measure the tray background.
4. To exit the Measurement Editor window, click **Accept** or **Cancel**, depending on whether you want to save changes or not.

Figure 3. Measurement Editor Window.

Measure the Background

To take a background measurement, which originates from the magnetization of the tray, dirt in the tray, the cable that pulls the tray, and random noise, select **Instruments > SRM**: **Section Background** or **Instruments > SRM**: **Discrete Background** (depending on the tray type used). The windows in *Figure 4 and 5* will appear.
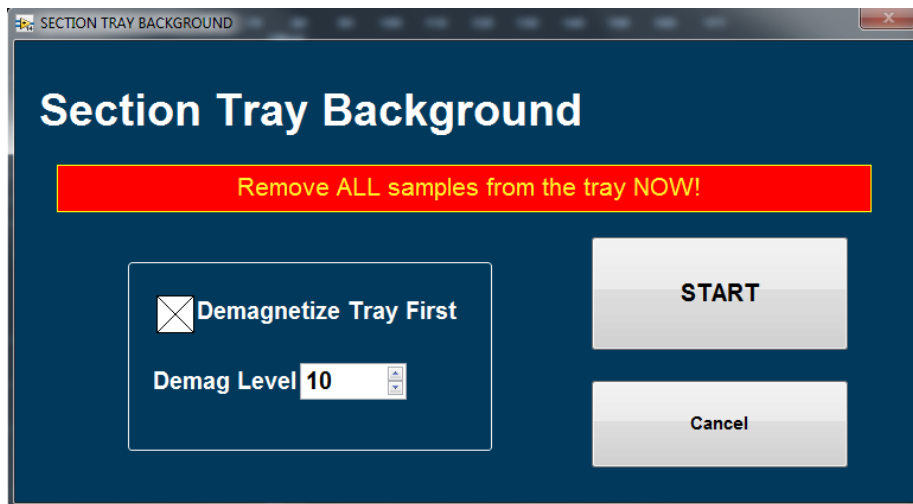
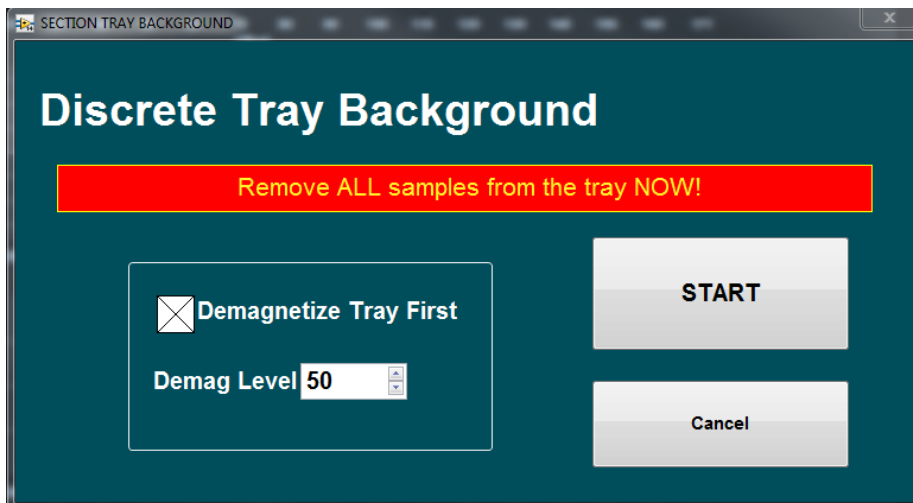*Figure 4. Section Tray Background window.*

Figure 5. Discrete Tray Background window.

1. Set the desire demagnetization level.
   The default action for the tray background measurement is to demagnetize the tray and then to measure the empty tray. The user may adjust the demagnetization level (maximum of 80 mT) or chose to measure without demagnetizing the tray.
2. Select **START** to begin the background measurement.
3. When the measurement has finished the user will be asked if they wish to **SAVE** the new tray data.

Create A Sample Preset Shape

The user must define the shape and orientation of the samples to be measured. In most cases this will be Section Half–Archive, but alternative shapes and orientations are available.

1. To set up a sample preset shape, select **DAQ>Sample Preset Editor** (*Figure 6*).
2. For an archive section piston core select **Section Half–Piston** on the left side of the screen and chose **Archive Half** at the bottom of the screen.
3. Click in the white square checkbox on the right side of the screen and then click on one of the sample preset buttons. A window will open allowing the user to name the button (*Figure 7*). Chose **Update Button** once you have named the preset.
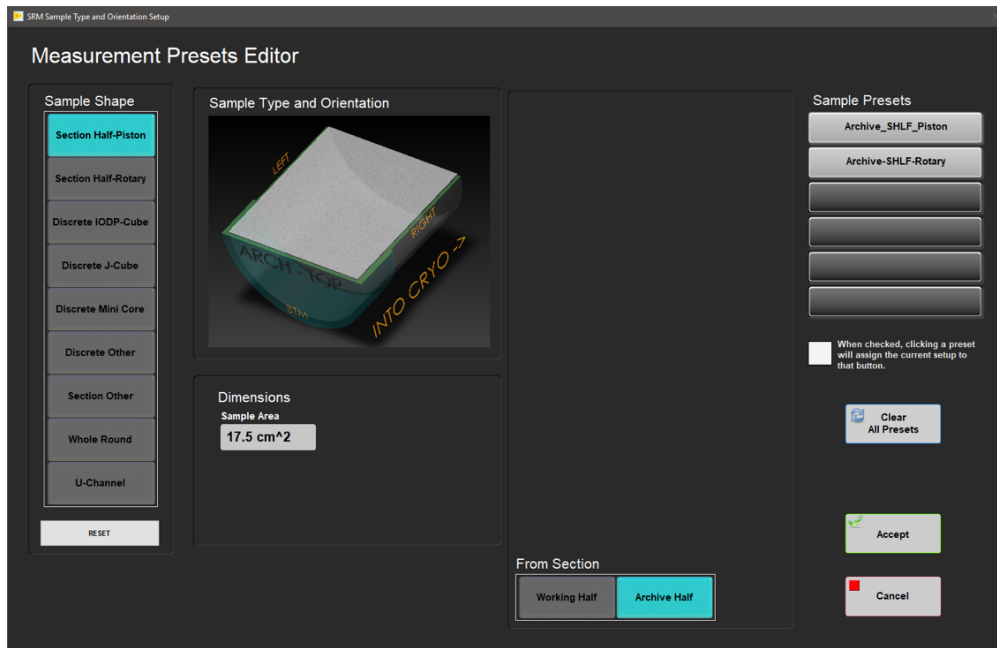4. Select **Accept** to exit the Preset Editor.
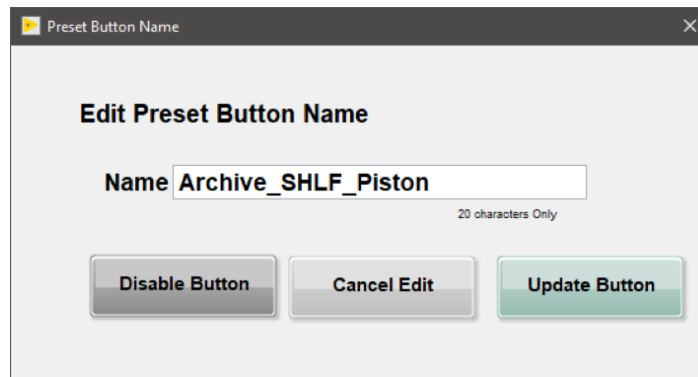
Figure 6. Sample Preset Editor Window.

Figure 7. Edit Preset Button Name

Create a Measurement Sequence

The user must create a measurement sequence or select an existing sequence they wish to use. If a new sequence is necessary, the user may create a new sequence prior to starting a measurement. If the desired sequence has already been created, the sequence editor window will not be necessary. **Using sequence editor is only necessary if the desired sequence does not already exist.**

1. To create a new measurement sequence, select **DAQ>Sequence Editor** (*Figure 8*).
2. Select a sequence action from the sequence action list. An NRM measurement is equivalent to a **Measure Only**. When adding an in-line AF demag step you will be given the option to set the field. Maximum field is 80 mT, but we do not usually go above 30 mT.
3. Use the **Add to list** button to add the step to the sequence list. A step may be removed using the **Remove From List** button
4. Once user has created the finalized sequence, select **Accept** and the user will be prompted to name the sequence and then returned to the main screen (*Figure 2*).
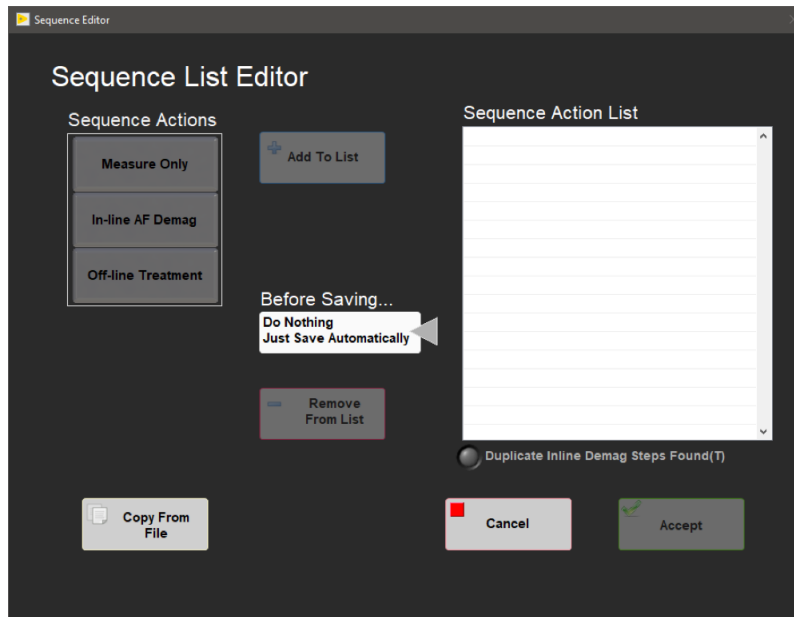
Figure 8. Sequence Editor window.

Start a Measurement

Once the user has a measurement sequence, a selected measurement interval, and a background measurement completed, a measurement sequence can be started. To display SRM plots during a measurement, select **Instruments > SRM: Display Plots** on the main SRM-IMS window or open MagSpy from the desktop (*Figure 9*).

Figure 9. MagSpy Data Visualization window.

1. To start a measurement select the **START** button on the left hand side of the main SRM-IMS screen (*Figure 2*). The Sample Information window will open (*Figure 10*).
2. Check that the *Current Sequence* listed at the bottom is the sequence you wish to use. If it is not the right sequence, use the **Measurement Sequence** tab to select the proper sequence.
3. Ensure the correct sample type and orientation is selected on the left side of the screen.

4. Place the cursor in the **SCAN** window.
5. Scan the Archive End cap label using the barcode scanner. The barcode scanner is the easiest method of sample information entry. The user may use the **LIMS** tab, which allows the user to look in the LIMS database for a core section, or they may manually enter the Sample ID and Text ID. These methods are only recommended if the barcode scanner is not working.
6. Verify the *LIMS Length* matches the section length and verify the *Sample ID* is correct. If the LIMS Length does not match the actual section length after the bar code is scanned, select the Manual tab (*Figure 11*). Adjust the USER length to match the actual core length and select Use ID and Length values.
7. Click **Measure** to begin measurement. A window similar to *Figure 2* will open and display the measured data in real time.
8. When the sequence is complete the Core Information window will reopen.
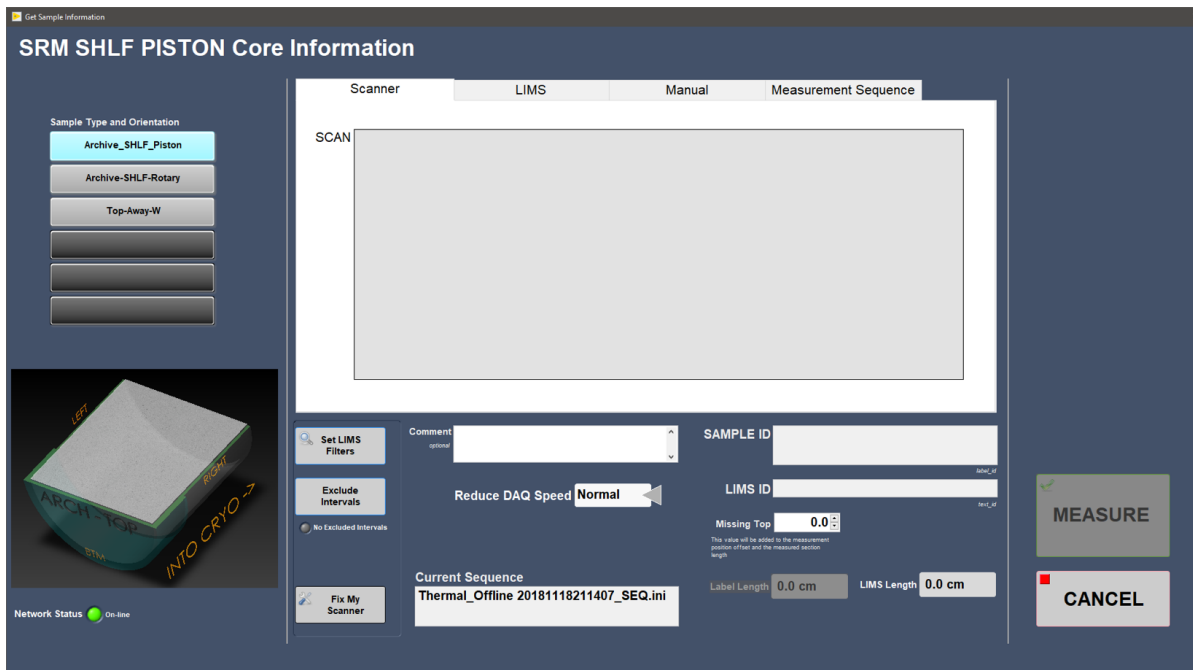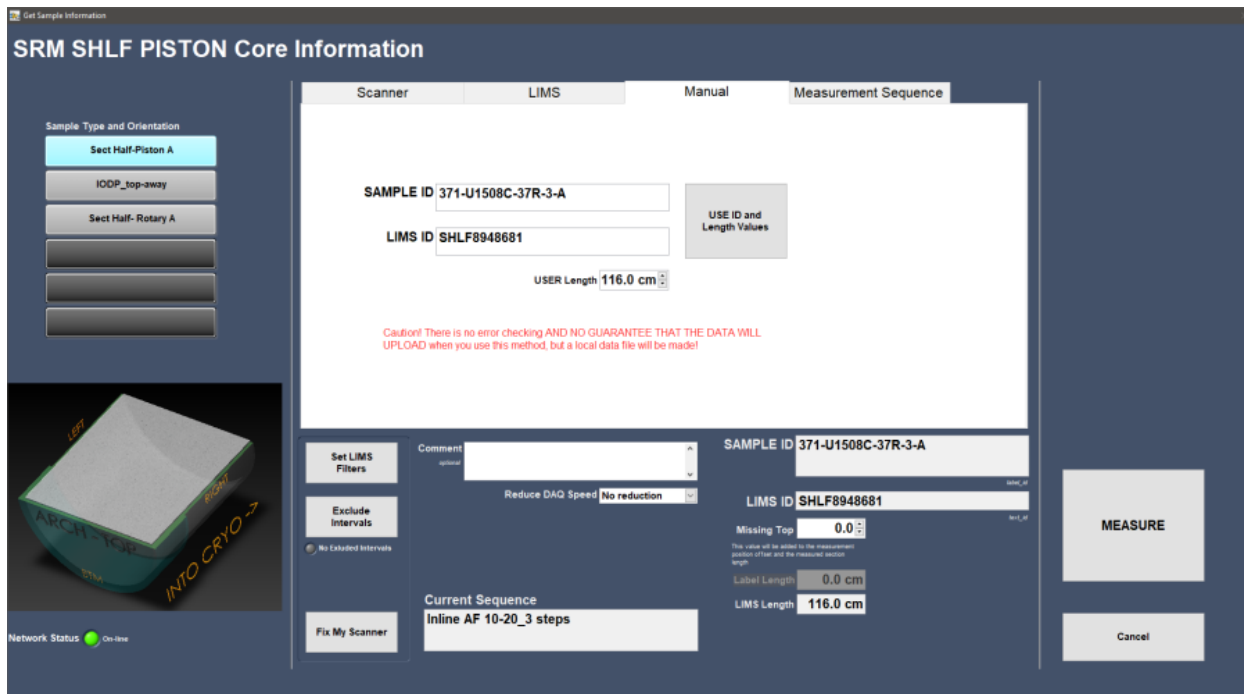9. Repeat steps 4–7 for further sections.

Figure 10. Sample Information window.

Figure 11. Manual Entry Sample Information window.

Credits

This document originated from Word document IMS_SRM_QSG v.371(IMS9.2).docx (see Archived Versions below for a pdf copy) that was written Technical and Analytical staff. Credits for subsequent changes to this document are given in the page history.

Archived Versions

- IMS_SRM_QSG v.371(IMS9.2).pdf: A PDF version of the SRM Quick Start Guide that was created on Expedition 371 and is superseded by this wiki page.
- SRM QSG exp378