

SKF Microlog Frequency Response Function (FRF) Module

How to import SKF Microlog Frequency Response Function ODS measurements into Vibrant Technology Inc.'s ME'scopeVES software

Introduction

ME'scopeVES (Visual Engineering Series) is a software package that makes it easier for you to observe, analyze and document noise and vibration problems in machinery and structures. ME'scopeVES is used to display and analyze multi-channel time or frequency domain data acquired during the operation of a machine or forced vibration of a structure.

Creating a new project in ME'scopeVES

Start by creating a new project in ME'scopeVES by selecting **File > Project > New**. Enter the project name in the **File name** field in the **New Project** window dialog box and click **Save**.

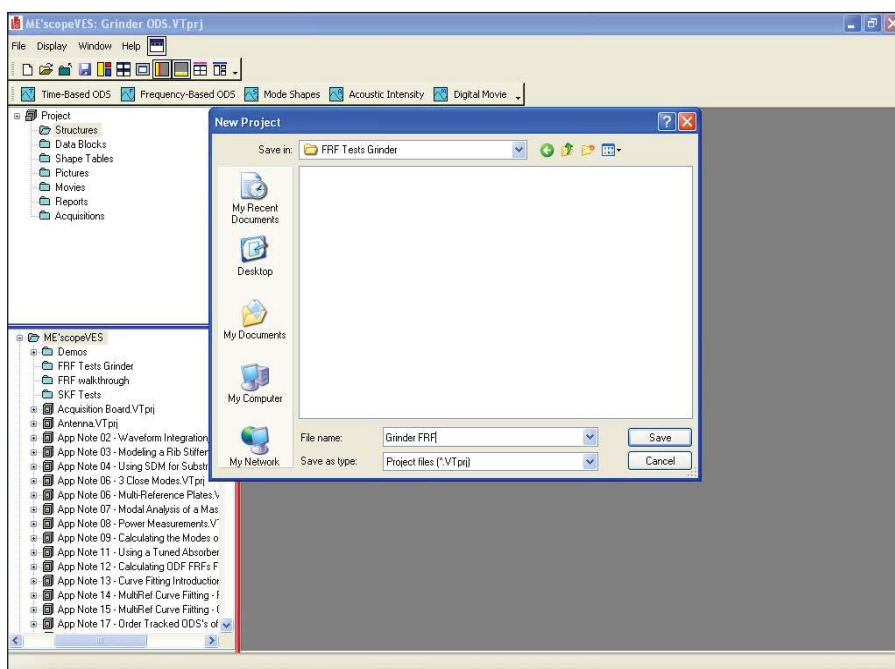


Figure 1. New Project window in ME'scopeVES.



Create a new structure file to draw the modal on by selecting **File > New > Structure**. This will open up a new blank structure window, as shown in **Figure 2**.

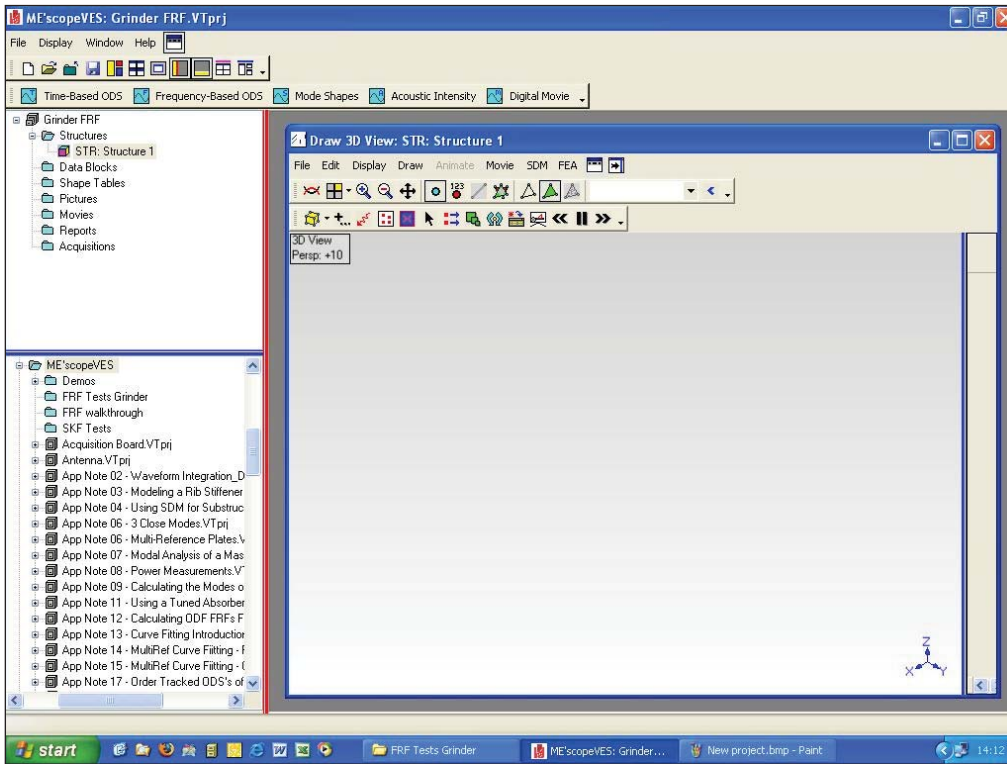


Figure 2. Creating a new structure file.

Add objects to help recreate the structure by selecting **Edit > Add Object** in the structure window. This will display the **SubStructure** tab.

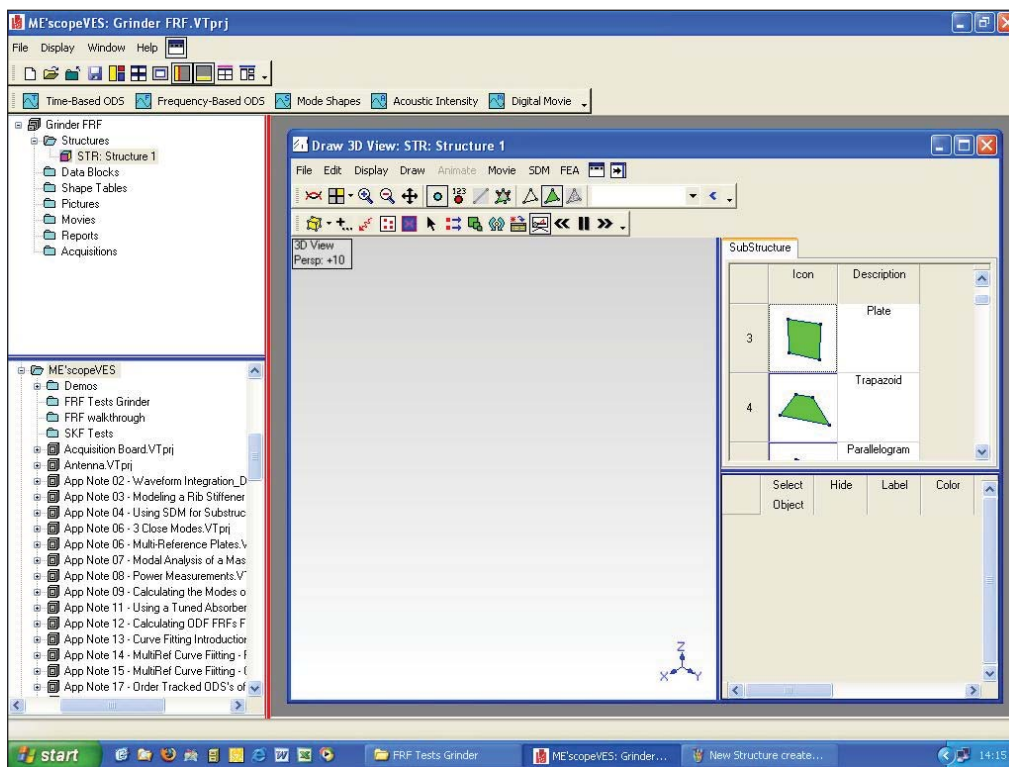


Figure 3. Adding objects with the SubStructure tab.

Scroll down the substructure menu to select the various objects and then double-click to add the selected object. Once the object is added to your structure, use the dimensions/positions tabs to edit the various sizes and settings for your structure. Add points to the structure where measurements have been taken by selecting **Draw > Number points**. This will display the numbering points message box.

When the **Number Points** window appears, click on all the points on the structure where measurements have been taken to add a point number to each one.

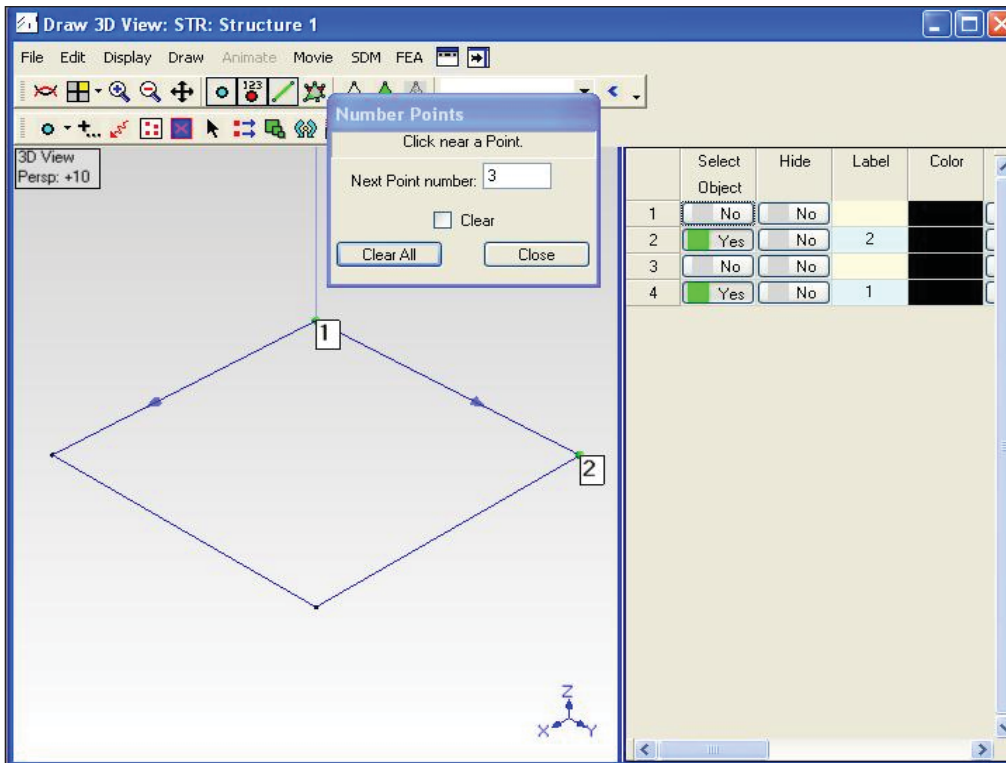


Figure 4. Number Points window.

Collect Frequency Response Function (FRF) data

Create a folder on the desktop of your host PC called **FRF Data**. Connect the SKF Microlog to your PC using the supplied USB cable and start an ActiveSync session.

Select **Explore** from the ActiveSync window and browse to the **\Internal Disk\FRF** directory where your data will be stored. Highlight all the data readings and select **Copy**. Paste the data into the FRF data folder you created on your desktop.

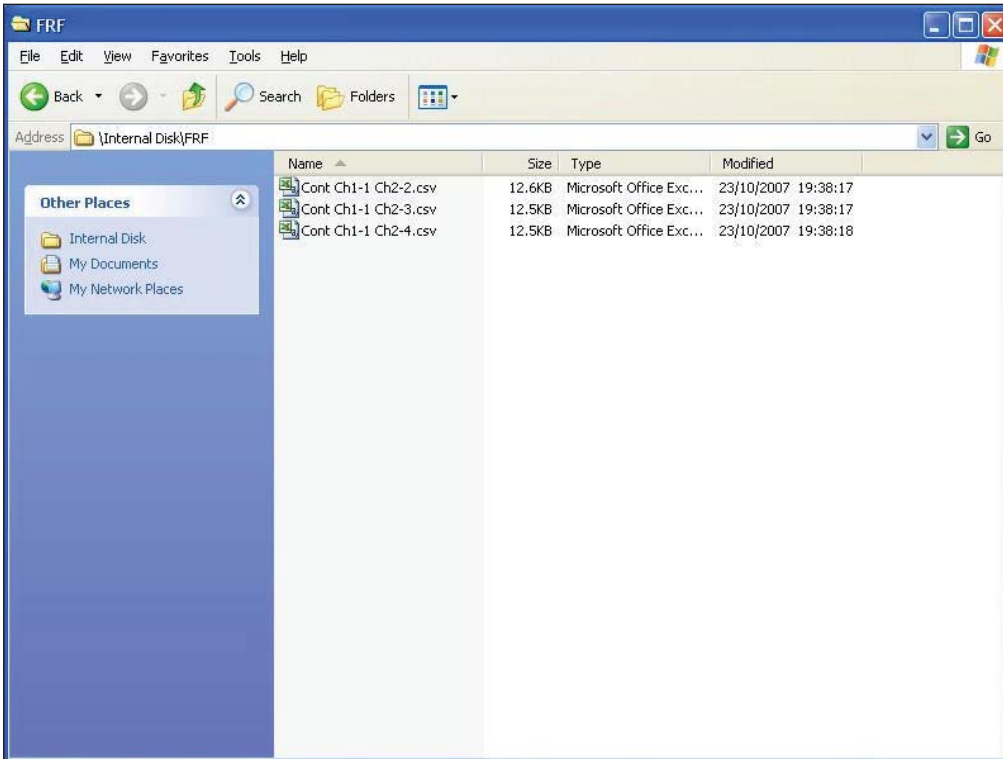


Figure 5. FRF directory.

Import the FRF data into MEscopeVES by selecting **File > Import > Data Block**. Use the browser to search for the folder **Desktop\FRF data** containing your data.

From the **Files of Type** dropdown menu, select **SKF Microlog FRF's (*.csv)** and select all the .csv files that have been saved. This will import them all at the same time. If you want to just evaluate a specific collection point, then only select that collection point.

When the **Translate Files** window appears, click **OK** without highlighting **Select** for any of the traces. In the data block screen, go to **Tools > Assign M#'s**. In the **Assignment Methods** window, select **Graphical Assignment** and click **OK**.

For each M# that is an FRF measurement type, select its number in the assignment box and then click on its point location, then the direction of the measurement (X, Y or Z axis) on the structure. A red arrow will appear for each one, indicating your selection. When all the FRF measurements have been assigned, click **Close** on the **Graphical M# Assignment** window.

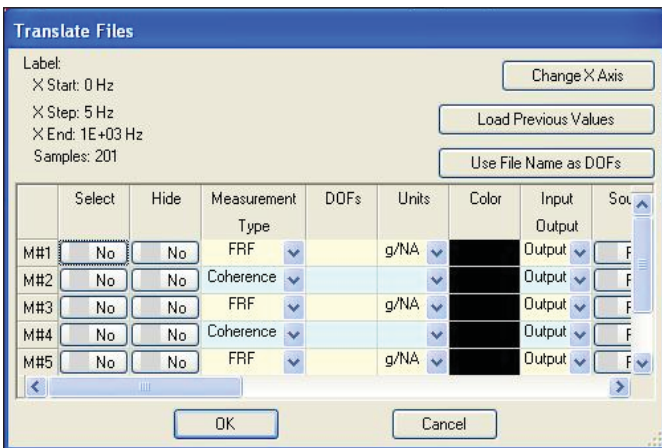


Figure 6. Translate Files window.

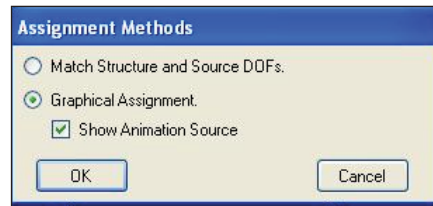


Figure 7. Assignment Methods window.

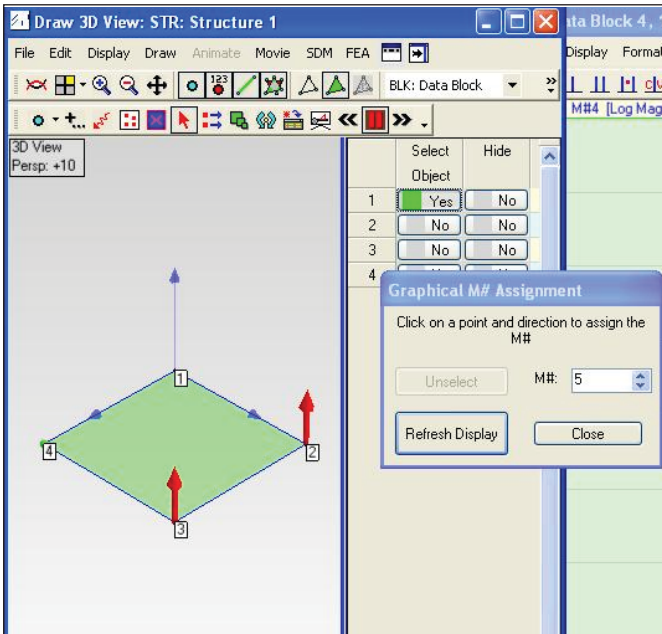


Figure 8. Graphical M# Assignment window.

Finally, to animate the structure, click on the **Animate** button in the structure window.

Note: For information on how to use the IMx with ME'scopeVES, please contact Paul Edwards.

To save the project, select **File > Project > Save** from the main file menu. This will save all the elements of the project.

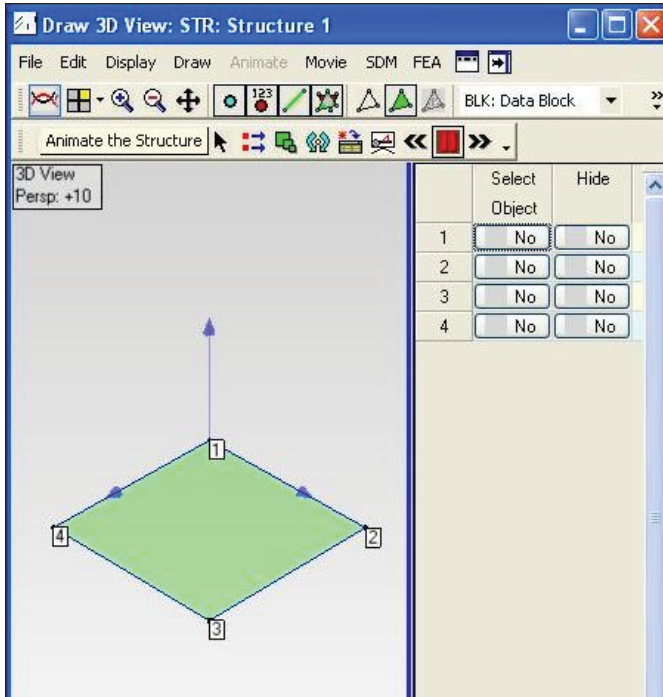


Figure 9. Graphical M# Assignment window.

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