# Database Dialog Boxes

The database dialog boxes are used to configure or map the system and the materials that will be used in the deposition process. Some of the system mapping items are set at the factory and should not be set by the user. These include: Power Supply Max Power, Dac Max, and HCS # on the Source Info dialog. Other items are changed by the user to customize the system to fit the needs of the individual process. These include Material characteristics, and crystal to source mapping.

There are some general guidelines that apply to the database dialog boxes. When first opened, the database item is in read-only mode. This allows for a quick and simple view of the data being displayed. To make changes to the data the EDIT button must be pressed to activate Edit mode. When editing is complete, pressing the SAVE button will save the changed data to the database. Press the CANCEL button to discard the changes and restore the original data. Pressing either the SAVE or CANCEL buttons transitions the dialog back to read-only mode. Pressing the DONE button closes the dialog box.

## Source Info

The Source Info dialog is used to build a description of the relationship between the Material, QCM, and Power Supply. The following functions can be accomplished in Edit mode:

1. The Source Name can be changed.
2. The Tooling (%) value can be set for this source. The tooling value is approximately the ratio of the height difference between the crystal head and the substrate from the actual source. The tooling can be set to above or below 100%. A tooling value of greater that 100% implies that the crystal is farther away from from the source than the substrate.
3. The Active Material can be selected. Please note that a material may only be used in one source. If a material is used in multiple sources, a new material should be defined for each source and each material should be give a slight different name.
4. The QCM channel being used for feedback may also be selected.
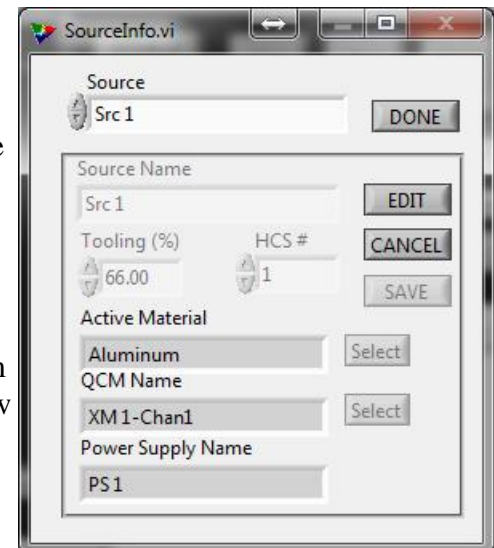
## QCM Info

The Quartz Crystal Micro-balance (QCM) dialog is used to define the default Filter Length used for display of filtered data. This number is the number of samples that are used in a simple moving average algorithm. This value can be overridden in the Power Supply Control dialog. The following functions can be accomplished in Edit mode:
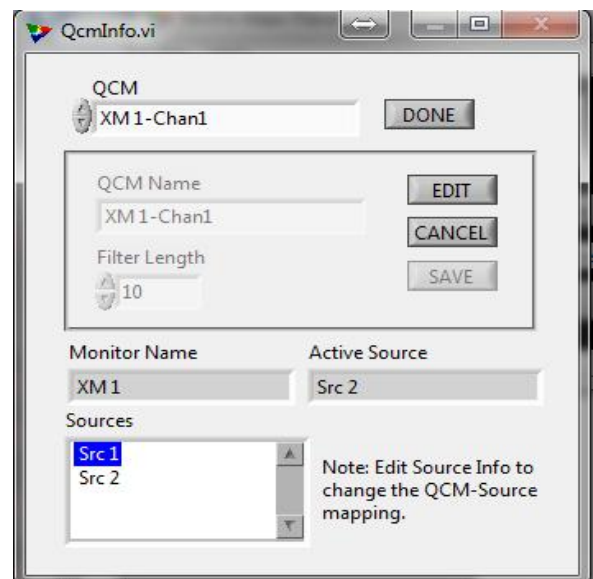
1. The QCM Name can be set. There is no limit to the length of the name, but a practical display limit is approximately 24 characters.
2. The Filter Length is the number of samples that are averaged together in a moving average to generate a stable rate value for use with the power supply controller. The Filter Length can also be changed from the Power Supply Controller. The sample time/rate is set on the Crystal Monitor controller window. The sample time/rate multiplied by the length gives the actual filter time constant. For example, if the crystal monitor is updating every 1000 mSec and the Filter Length is 10, the filter constant is 10,000 mSec or 10 seconds.

## Material Info

The Material Info dialog is used to set the parameters for calculating the material thickness during deposition. In Edit mode, the Material Name, Density, ZFactor, and Power Limit can be set. The Power Limit is the Max Current in Amps that should be used by the Power Supply Controller for this material. This value can be overridden at process time in the power supply control program.
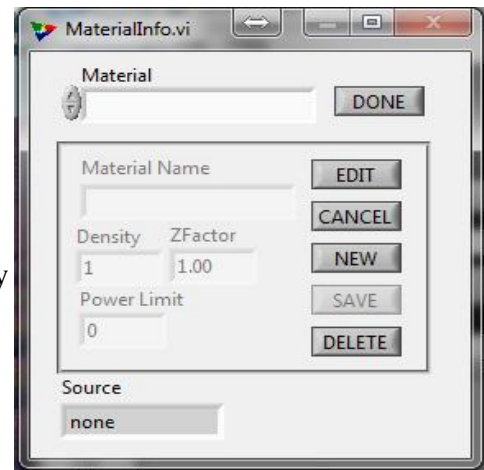
## PwrSupInfo (Power Supply Info)

This dialog is used to set the parameters for a particular Power Supply. This information is set at the factory. Several indicators in the system are color coded. Those include: the source LEDs on the Fixture Display window, the plotter lines and rate indicators on the QCM Plotter windows, and the name, power indicator, and rate indicator on the Power Supply window. Those color can be customized with this dialog.
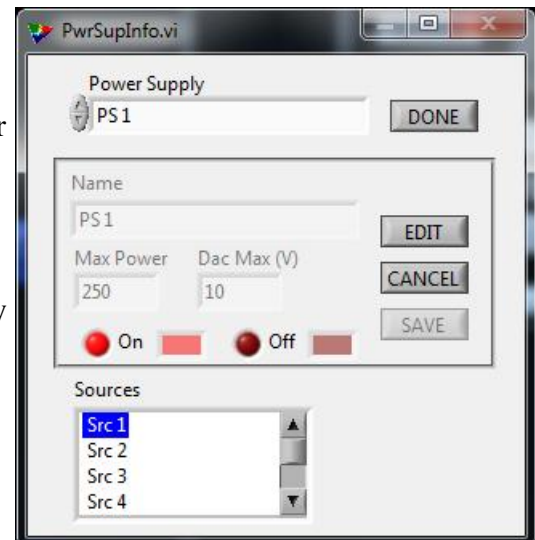
## XtalMonInfo (Crystal Monitor Info)

This dialog is used to set the Comm Port and the default Update Rate for the Crystal Monitor. The Comm Port should be left set to the factory default. The Update Rate is the time in milliseconds between samples of the crystal. This can also be changed on the Crystal Monitor control panel.