EMpower
Editor CrossPower

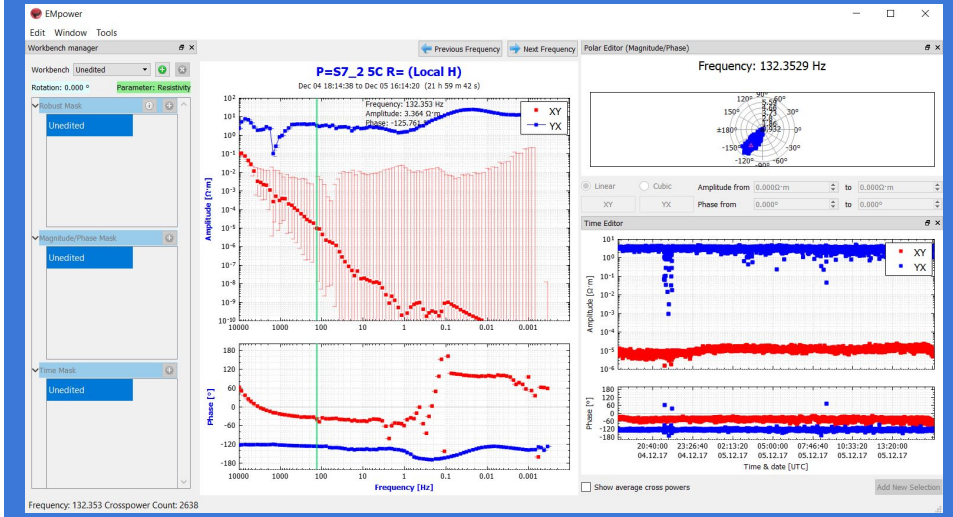
GEOPHYSICS

- CrossPower Editor
- New Workbench
- Robust mask
- Polar Editor
- Copying Ranges
  - Magnitude / Polar
  - Time Editor
- Rotating a Site
- Workflow

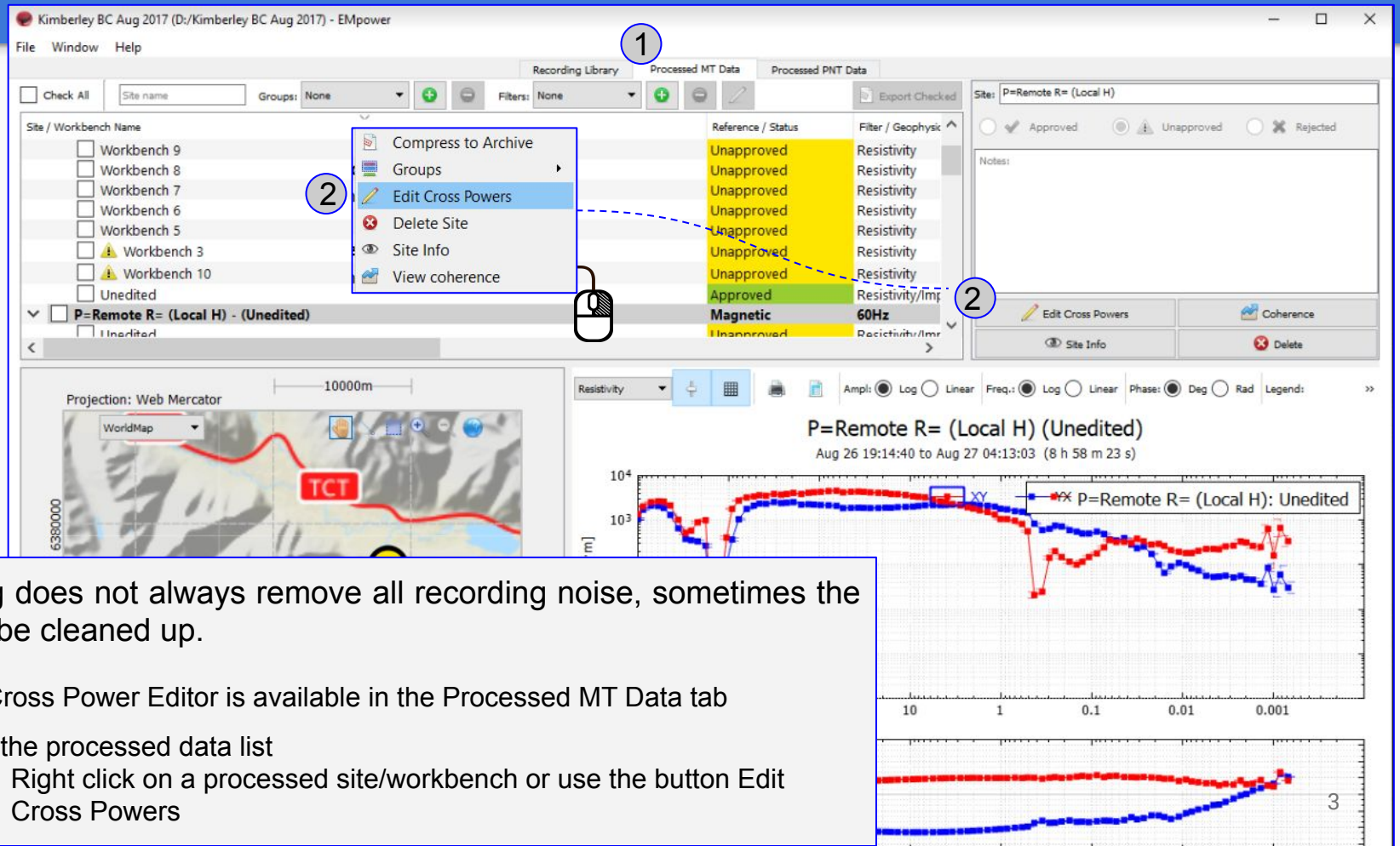
Cross Power Editor

Cross Power Editor is designed to improve the processed data.

This tool can be used to clean up a processed site's curve before exporting.



Processed Sites



Processing does not always remove all recording noise, sometimes the data must be cleaned up.

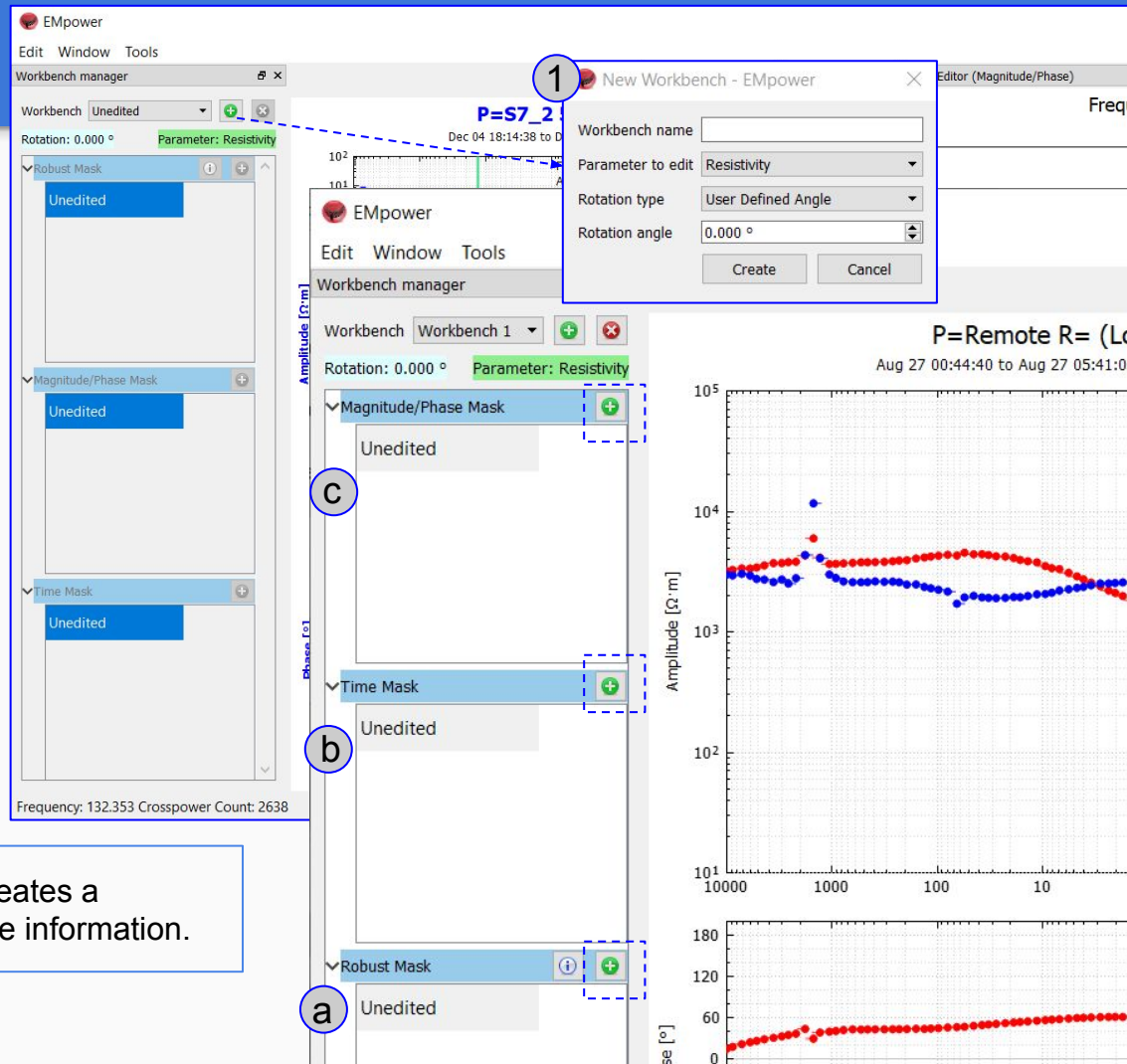
1. The Cross Power Editor is available in the Processed MT Data tab
2. From the processed data list
   - Right click on a processed site/workbench or use the button Edit Cross Powers

New Workbench

The Workbench contains multiple masks. All edits are done on a specific mask, and the plot will update as cross powers are added or removed from the selected masks.

1. These parameters can edit in the different type of Mask click the green button ⊕ to create a Mask
   - **a.** Robust Mask
   - **b.** Magnitude / Phase Mask
   - **c.** Time Mask

   **More details in the following pages*



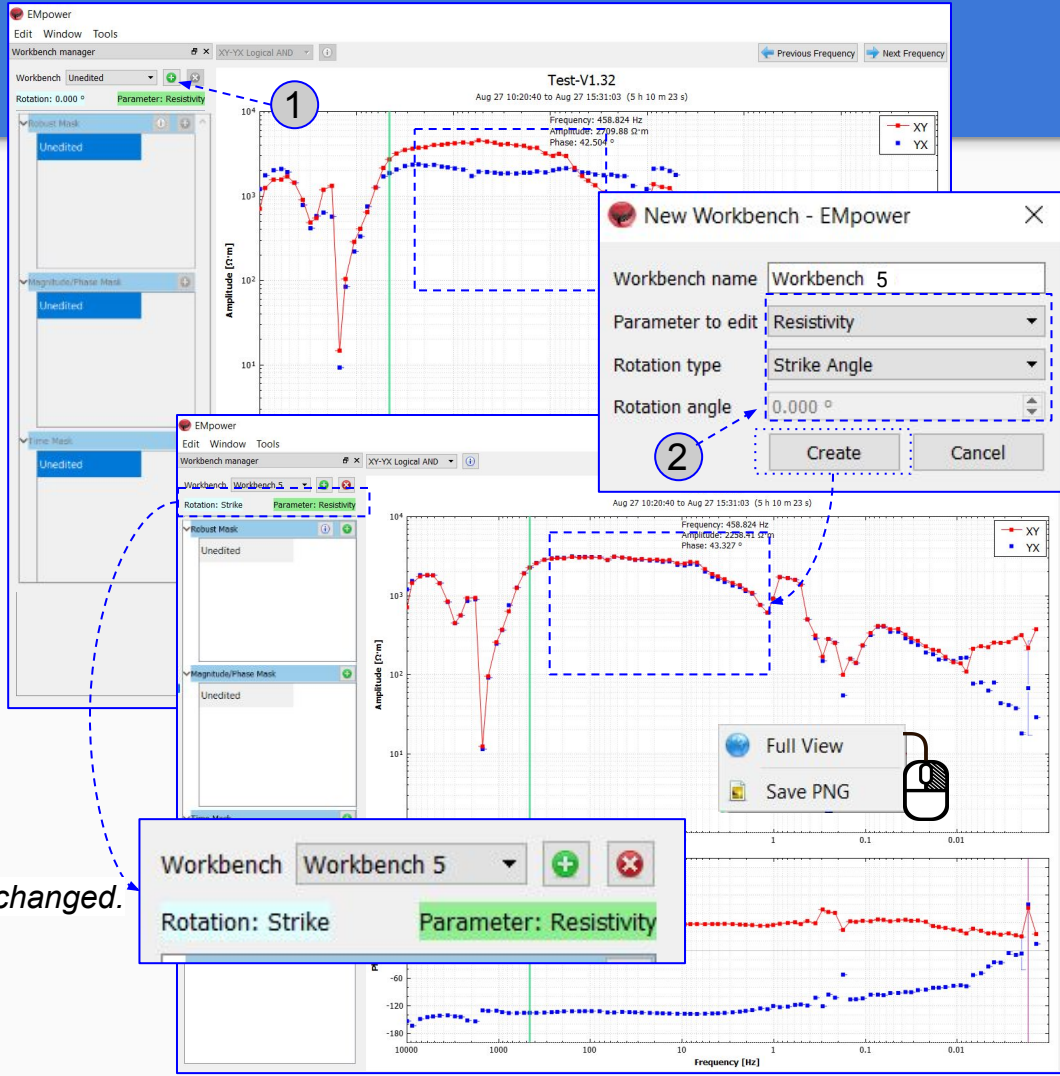
To understand which parameters to use when creates a workbench click on the ⓘ icon, which will provide information.

Rotating a Workbench

The **Site Rotation** repositions the signal direction post-processing to get a new perspective of the information.

1. When a new **Workbench** is created, it is possible to edit some parameters

2. Use different parameters to find the best perspective



**Strike Angle* uses default parameters, and cannot be changed.*

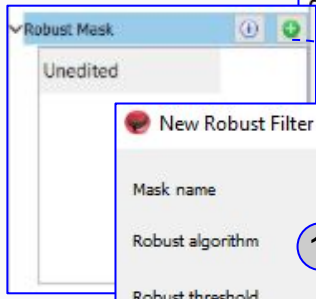
Robust Mask

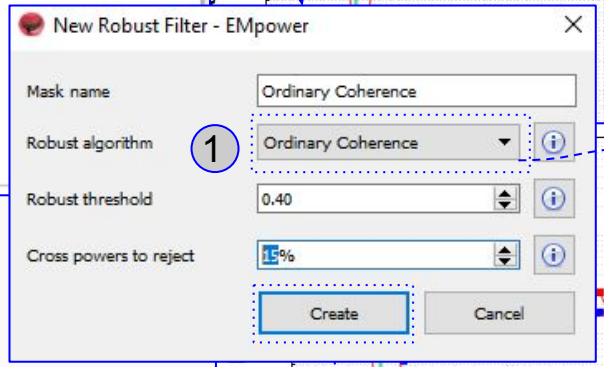
When the processed site contains noise, create a **Robust Mask** to improve it.

1. Select the parameters needed
   - Robust algorithm
   - Robust threshold
   - Cross powers to reject

In case the results are not good enough, try a new Robust Mask with new parameters.

**Running the Robust will take longer depending on the duration of the processed site and the values supplied*



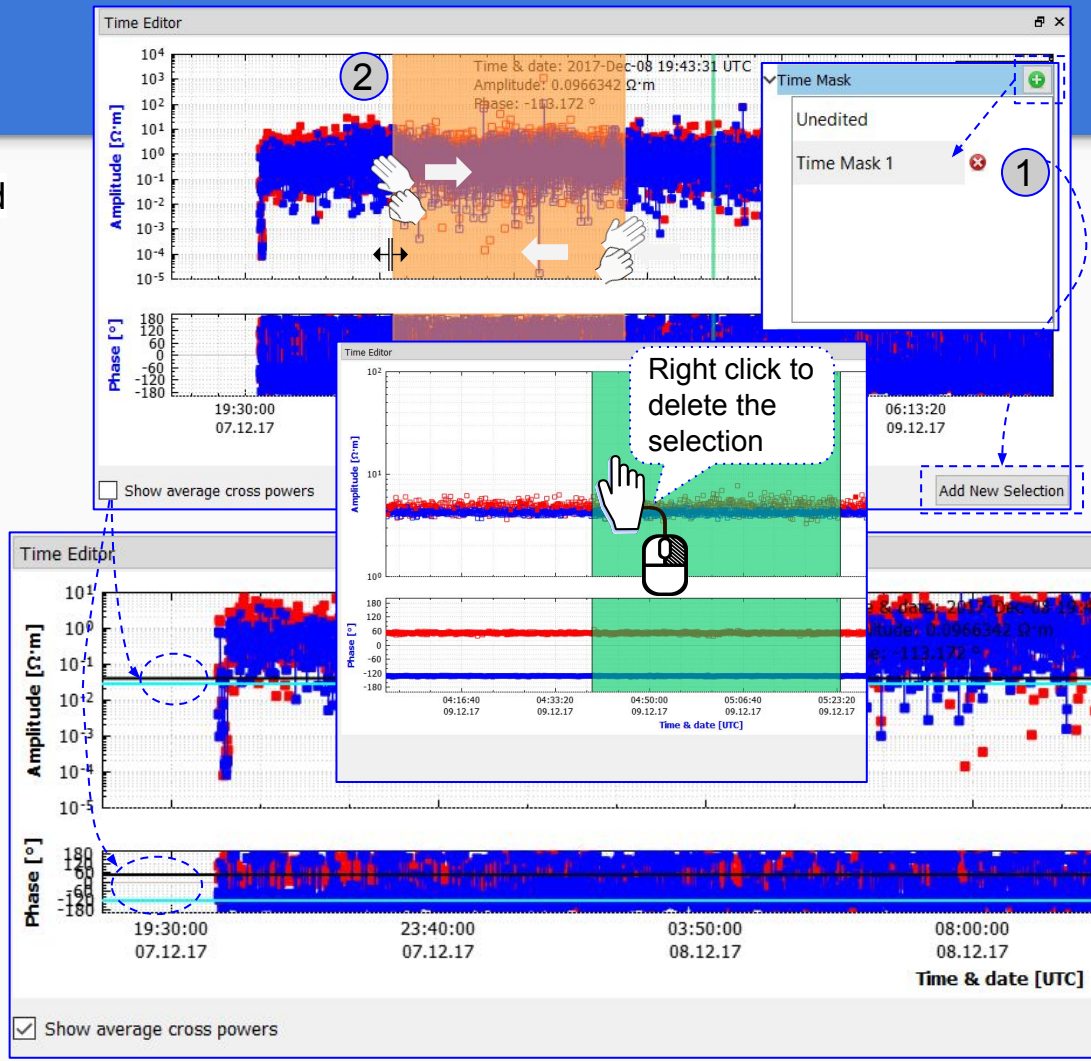


To understand which parameters to use when creating a workbench, click on the (i) icon, which will provide information.

Time Editor

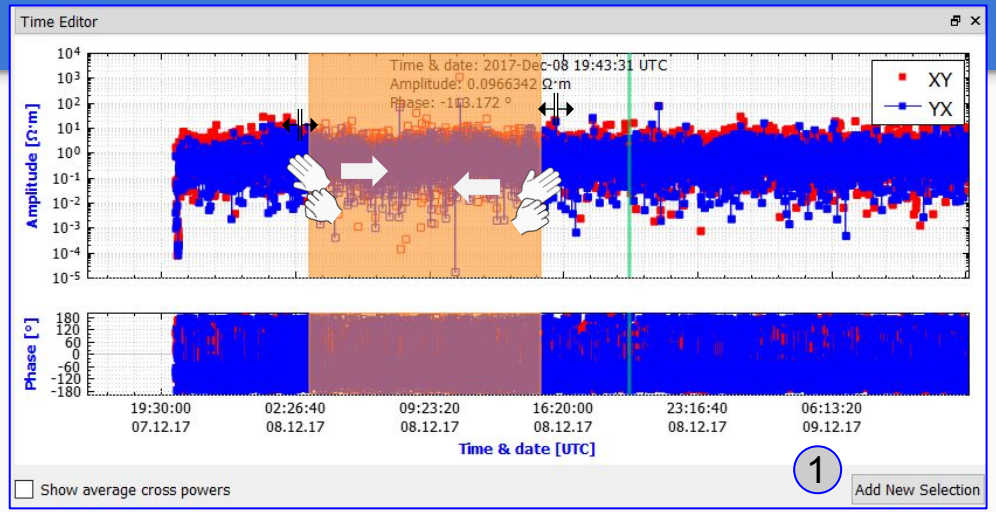
The **Time Editor** plot displays the data acquired over time.

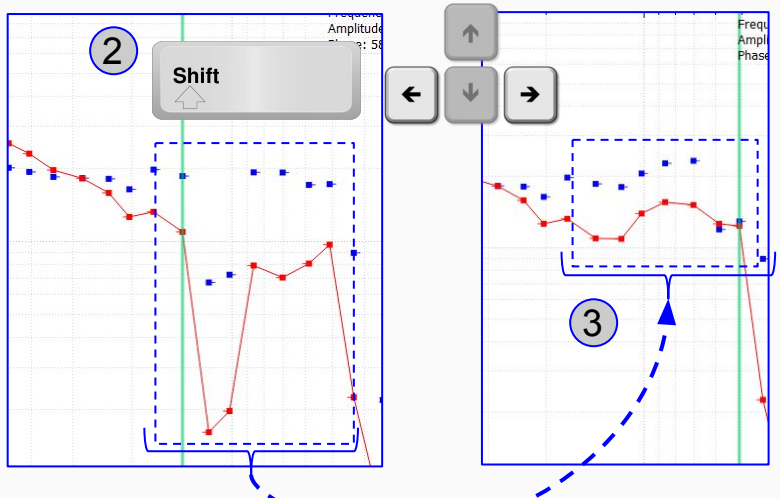
1. When a Time Mask is created the Add New Selection button is available
2. Click+Drag on the Time Editor plot to create a new selection, and change the size by dragging the edges. All cross powers in that selected area will be excluded from the calculation
3. The **Show average cross powers** checkbox will show or hide the average **XY** and **YX** amplitude value



Copying Ranges (Time Editor)

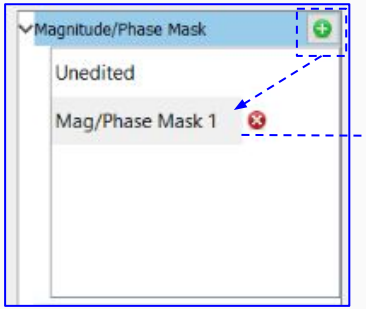
1. Create a **Time Mask**
   - **Add New Selection**
   - Select the range on the plot Right to Left or Left to Right
2. Hold **Shift** and use **Right or Left Arrow** key to move. The range selected will be copied to the next frequency
   - *Sometimes the point on the plot may disappear. This happens when all cross powers have been removed for that frequency (Review the range)*
3. This tool will improve some minimal ranges, but use it sparingly

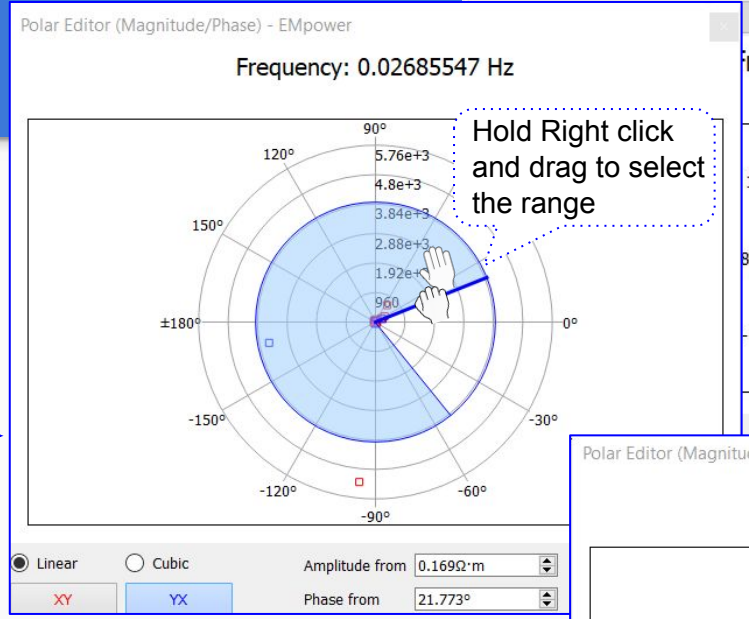


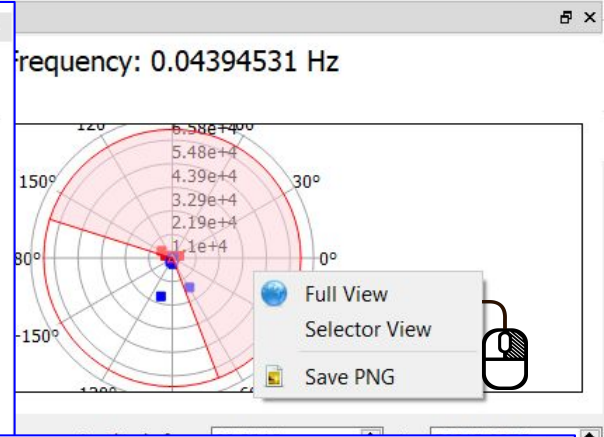


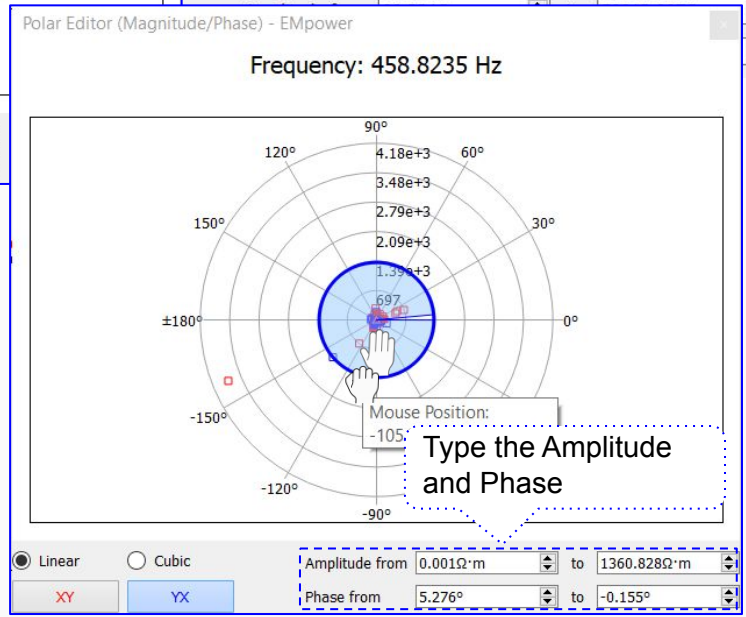
Use this tool only after the Robust mask is applied.

Magnitude / Polar Editor









The Polar Editor can view information in two ways: Linear (default) and Cubic.

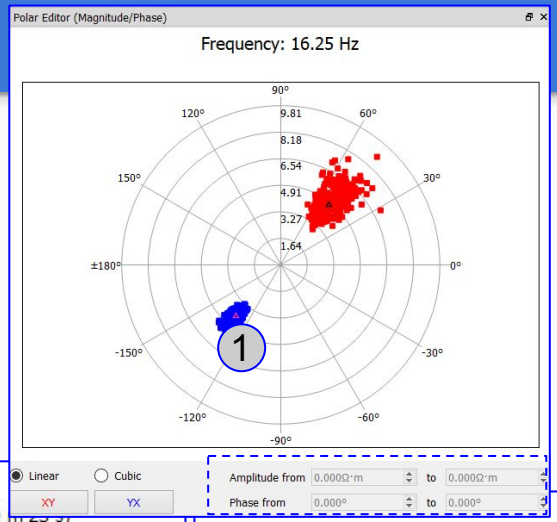
The Cubic changes the scale logarithmically, which can make it easier to see data trends.

This tool will improve some minimal ranges, but use it sparingly.

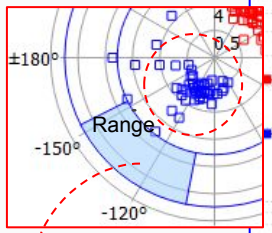
Copying Ranges (Magnitude / Polar)

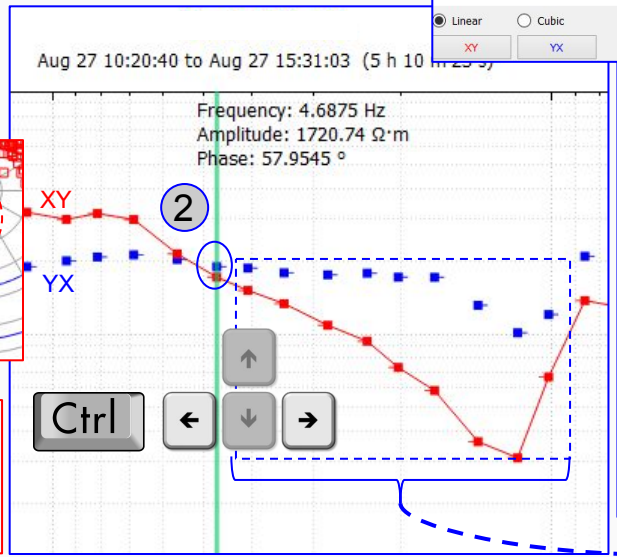
1. Create a Magnitude/Polar Mask, and select the range on the polar plot, or type the range into the Amplitude and Phase fields.
2. Hold **Ctrl** and use **Right or Left Arrow** keys. The **XY** and **YX** ranges will be copied to the next frequency.

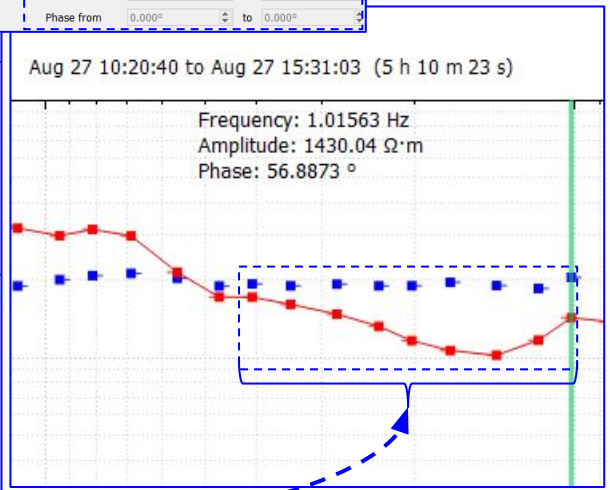
This tool help to improve some minimal ranges, but use it sparingly.



Use this tool only after the Robust mask is applied.







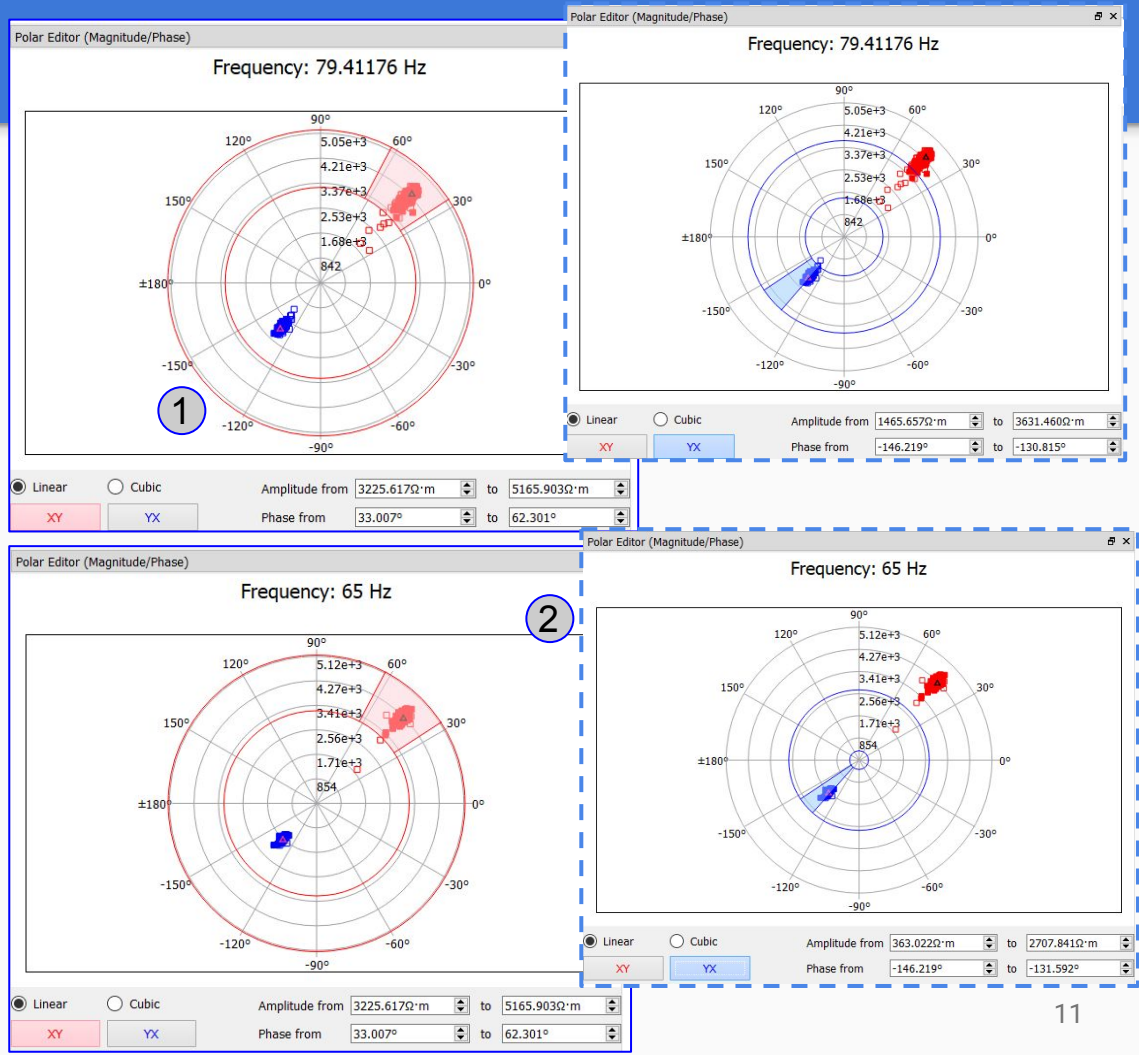
When the range copied is higher or lower than the frequency, the frequency points will disappear on the plot.

Exclusive Range Copying (Magnitude/Phase)

The Exclusive Range option on the Tools menu allows for editing one curve at a time.

1. Select Polar Editor option to enable Exclusive Range copying
   - Select XY (or YX) button on a selected Magnitude/Polar Mask *(see slide 3)*
   - Copy the selected frequency *(see page 6)*
2. See that the range XY (or YX) has been copied, but the range YX has not.

**This applies to both XY and YX*



Workflow <Best Editing Practices>

Processed Sites

Processing Site could be fixed some problems, not always remove all ambient noise from the recording, and the data may need to be adjusted.

(See the Data Manage Manual for more information)

Cross Power Editor

The Cross Power Editor helps to improve the data, using different tools for filtering out the noise. Always run a 'Robust Mask' first, this algorithm fixes the most common problems.

Mask Editor

Besides the Robust mask, EMpower has additional masks as Time Editor or Magnitude/ Phase Mask.

Although this tool has many options for fine-tuning, it is recommended to use them modestly because they may also introduce invalid results.

Shortcuts

Shortcuts	Description
CTRL+C	Copy frequency masks
CTRL+V	Paste frequency masks
CTRL+Right arrow/button	Copy the current ranges in Polar plot to next frequency
CTRL+Right arrow/button	Copy the current ranges in Times plot to next frequency
CTRL+Shift+Right arrow/button	Copy the current ranges in Polar and Times plot to next frequency