AESO Noiseplot

Noiseplot is AESO's program for generating plots and data files for aircraft flyover and static events. Noiseplot provides a graphical user interface (GUI) for NMAP utilities, Omega10 and Omega11. Omega10 and Omega11 require the user to write complex input files, and return output data in a cumbersome, non-tabulated format. Noiseplot writes the input files, runs the utilities, reads their output, and saves the results as a plot or CSV data file. The plots and data files may be used in support of environmental compliance and industrial hygiene processes.

Input parameters:

- **Operation type** – Specify whether the operation being modeled is a flyover or static ground operation.
- **Select aircraft –** Choose an aircraft from the drop-down menu, or type the desired aircraft in the entry field.
- **Power settings –** Type the desired power settings into the entry field. Alternatively, choose a fixed power setting from the drop-down if variable interpolation is not available for this aircraft. The user may enter one or two power settings for flyover operations. Plotting two flyover power settings will result in a plot with a shaded range between the two power settings.
- **Units –** Choose power setting units from the drop-down menu (e.g. % NC, RPM, Q-BPA etc).
- **Power description –** A verbal description of the power setting (e.g. Takeoff, Approach, Afterburner, Idle, etc)
- **Aircraft speed –** Velocity in knots of the aircraft. Not applicable to static operations.
- **Air temperature –** Ambient air temperature in degrees Fahrenheit. Please note that Omega10 and Omega11 exhibit strange behaviors at extremely high temperatures (>200 degrees).
- **Barometric pressure –** Ambient air pressure in inches Hg. Not applicable to flyover operations.
- **Relative humidity –** Relative humidity in %
- **Extent –** Radius in feet to be plotted for static operations. Not applicable to flyover operations.
- **Contour levels –** Comma-separated list of sound levels at which to plot noise contours. For example "55, 65, 75 85". Not applicable to flyover operations.
- **Number of grids –** Number of radial grids to add to the contour plot. The program will divide the Extent parameter by the Number of grids to produce evenly spaced radial grids on the plot. Noiseplot always adds a grid at 200ft, as that is the closest distance to the aircraft that can be modeled. Not applicable to flyover operations.

Controls

- **Preview plot –** Make a plot based on the input parameters, and show it in the GUI window
- **Save plot –** Make a plot based on the input parameters, and save it as a .png file.
- **Delete plot –** Remove the plot preview.
- **Write to CSV –** Write the raw data output to a .csv data file.