LeqV2 Reference Sheet

Overview of LeqV2

LeqV2 is a program for calculating predicted traffic noise levels for simple project scenarios. The program evaluates noise at one receptor from up to 8 straight roadway lanes. LeqV2 is a FORTRAN program for use in PC DOS. To run LeqV2 a data input file is created. LeqV2 calculates results from the data input file and creates an output file containing the results. A "front-end" is used to facilitate the preparation of the input file. The input data file is automatically created from input data that is entered into text and numeric fields of the front end.

Starting LeqV2

You can start LeqV2 from the DOS command prompt by executing LEQV2.EXE (i.e. type S32) or from Windows using File Manager or My Computer to execute the LEQV2.EXE file. When LEQV2.EXe is executed the program opens up in the LeqV2 "front end". The front end facilitates entry of input data. Data is entered by selecting menu items from the Menu Bar. Menu items can be selected by using the **Arrow** keys or by hitting the first letter of the menu item.

FILES (Main Menu Bar)

Read - Use this to open or read LeqV2 files that you have already created. The DOS directory and filename convention is used to identify the location and name of the file you want to read.

Save - Use this to save the file that you are currently working on. The DOS directory and filename convention is used to identify where the file is to be saved and the name of the file. It is suggested that you use a consistent file name extension such as LEQ for all of your LeqV2 files (e.g. FILENAME.LEQ)

New - Use this to start a new LeqV2 setup and the clear the active data set in the memory. You will be prompted to ensure that you really want to erase the current active data.

View - Use this to view any ASCII file. This includes LeqV2 input and output files. The DOS directory and filename convention is used to identify the location and name of the file you want to view.

Print - Use this to print any ASCII file. This includes LeqV2 input and output files. The DOS directory and filename convention is used to identify the location and name of the file you want to view.

DOS - Use this to go to the DOS command prompt. Type exit to go from the DOS command prompt back to LeqV2.

SCREEN (Main Menu Bar)

1st - This opens a window with a series of text and numeric fields to be completed to describe the project and analysis conditions. Step through these fields by using TAB, arrow keys or RETURN. The following is a description of each field:

Title - Enter the title of the analysis scenario you are currently evaluating such as "Route 98 - Existing Conditions."

Number of Elements - Select the number of elements to be evaluated. An element is a set of conditions describing traffic conditions on a roadway and the geometric relationship between the receiver, the roadway, a barrier, and a shoulder or cut.

Units - Select English or metric units for your analysis.

Emission Levels - Select Calveno or National emission rates.

Multiple Barrier Increment - Enter the increment for barrier perturbations to be evaluated and the maximum barrier height to be evaluated. If you define a barrier as being 10 feet high and select a one foot increment with a maximum barrier height of 13 feet, the program will evaluate 10, 11, 12, and 13 foot high barriers.

When you are finished with the screen hit ESC and you will return to SCREEN menu.

2nd - This opens a window with a series of text and numeric fields to be completed to describe the analysis conditions. If you selected one element from the 1st screen, data fields for one element will open. If you selected more than one elements, a data field for each element will open. Step through these fields by using TAB, arrow keys or RETURN. The following is a description of each field:

Auto Volume - enter the hourly volume of automobiles traveling on the roadway element.

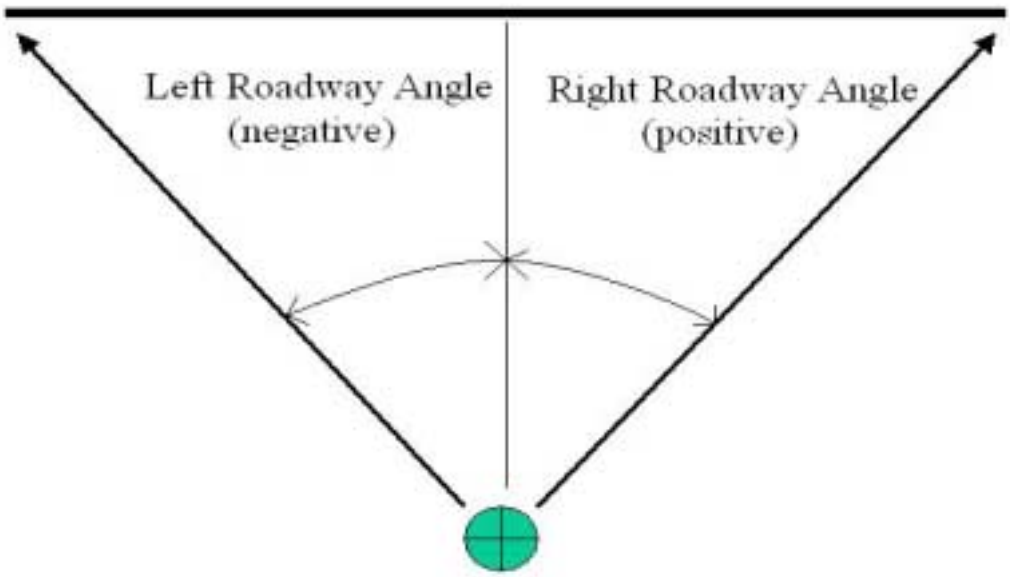
Medium Truck Volume - enter the hourly volume of medium trucks traveling on the roadway element.

Heavy Truck Volume - enter the hourly volume of heavy trucks traveling on the roadway element.

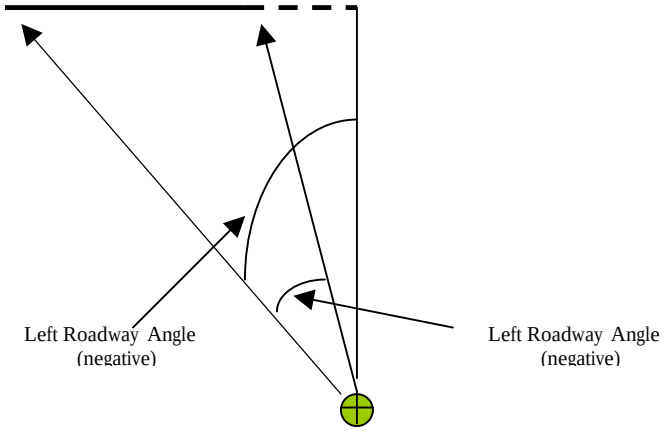
Vehicle Speed - Enter the speed of all vehicles. Only one speed for all vehicles can be entered.

Dist. to CRT. Near Lane - Enter the distance to the center of the nearest lane.

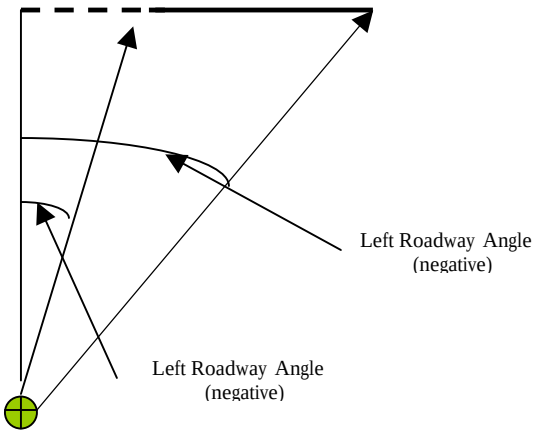
Roadway Angles



Roadway Angle, Left - Enter the left roadway angle in degrees. Determine the left roadway angle as follows. On a sketch showing the roadway lane and the receiver, draw a line perpendicularly from the lane to the receiver and another line from the left end of the lane to the receiver. Measure or calculate the angle defined by the two lines. This is the left roadway angle. If the left end of the lane is to the left of the perpendicular line the angle is negative. Otherwise the angle is positive. If you want to want evaluate an infinitely long roadway, the left roadway angle would be -90 degrees.



Roadway Angle, Right - Enter the right roadway angle in degrees. Determine the right roadway angle as follows. On a sketch showing the roadway lane and the receiver, draw a line perpendicularly from the lane to the receiver and another line from the right end of the lane to the receiver. Measure or calculate the angle defined by the two lines. This is the right roadway angle. If the right end of the lane is to the right of the perpendicular line the angle is positive. Otherwise the angle is negative. If you want to want evaluate an infinitely long roadway, the right roadway angle would be 90 degrees.



Drop-Off Rate - Enter the drop-off rate typically 3 dB for acoustically hard sites and 4.5 dB for acoustically soft sites.

Number of Lanes - Enter the number of lanes in the roadway element.

Grade Correction - Specify the grade correction to be applied by entering the index shown at the bottom of the screen corresponding to the grade you would like to enter.

Dist. to Shoulder/Cut - If there is a shoulder or a cut that provides shielding between the roadway element and the receiver, enter the distance from the receiver to the shoulder or cut. If there is none, then enter 0.

Height of Shoulder/Cut - Enter the height of the shoulder or cut above the roadway surface. Leave this field blank if there is no shoulder or cut.

Distance to Barrier - If there is a barrier that provides shielding between the roadway element and the receiver, enter the distance from the receiver to the barrier. If there none, then enter 0.

Barrier Type - If there is a barrier specify the type of barrier by entering 0 for a wall (thin screen) barrier or 1 for a berm barrier.

Height of Barrier - Enter the height of the barrier above the roadway surface.

Barrier Angle, Left - Enter the left barrier angle. Use the same angle convention specified above for lanes.

Barrier Angle, Right - Enter the right barrier angle. Use the same angle convention specified above for lanes.

Height of Observer - If you have entered a shoulder/cut or a barrier, enter the height of the receiver above the roadway surface here. Do no enter a value here if there is no shoulder/cut or barrier specified. If you do, you will get an error message.

CALC (Main Menu Bar)

This causes the program to calculate results. If there are errors in the input file an error message will appear. Otherwise, the program will calculate and display the calculated sound level at the receiver. An output file in ASCII format called LEQV2.OUT is also created at this time.

SETTINGS (Main Menu Bar)

Sound - This toggles tones that play when you step through the menu choices

Overwrite - This toggles the display of a warning message that is displayed when the SAVE command is about to overwrite existing data in a file.

Clock - This toggles the display of the time and data that appears in the upper right hand corner of the LeqV2 window.

Display - This toggles the display between color and monochrome.

About - This displays the release number and authors of the program.