

# Creating Tactile Graphs with the ViewPlus Audio Graphing Calculator

by John Gardner, john.gardner@viewplus.com

The Audio Graphing Calculator (AGC) was ViewPlus' first commercial product. It is an "old technology" Windows application but that still runs on the latest versions of Windows. In some sense it is pretty much outdated, and ViewPlus has announced several times that it intends to discontinue this app. However howls of protest from long-time users always convinces us to keep it on the market. So it is still available.

For this short article, I discuss only one AGC feature - using it as a convenient and highly accessible way to create xy tactile graphs. The user manual included in AGC will be useful for those who want to use AGC for other uses such as plotting data sets or creating SVG files that can be read in the ViewPlus IVVEO audio-tactile application.

AGC uses "calculator notation" to create single-valued functions of a single variable. That graph can be displayed visually on-screen and played as an audio tone graph. It can also be printed on any Windows-compatible printer, including ViewPlus embossers.

To create a graph, open AGC and go to the Data1 tab. Tab once to the input field and type in a function, using calculator notation. Most standard functions of algebra, trig, and calculus are available.

A nice test function is:

$$x*\sin(x)$$

Type in whatever function you wish and then press Enter.

You may display the graph visually with F3, and as an audio tone graph with F5.

F6 also gives an audio tone graph with clicks every time the cursor passes a vertical tick mark. You may adjust the audio parameters in the 'Wave' tab. These include the time span over which the audio is played, the number of vertical tick marks, the volume of the graph and tick marks...

Set the plot parameters in the 'Plot' screen. Make sure the source is Data1. Also, select in the Calculus item whether to plot the function, the first derivative of the function, or the integral. You may set the number of points, max and min x for the function and separately for the graph in case you want to plot something different from the full graph.

The "mode" setting is needed for times you are plotting an imported data set and not a function specified in a data tab. For function plots you should use the 'line' mode. Error bar printing is irrelevant for functions since they have no error bars. You can also differentiate between different colors in a plot. This capability is used for plotting imported data, not functions.

Once all PlotScreen parameters are set, print by clicking "print" in the file menu or by typing "CTRL+p". If you have changed a plot parameter, you should refresh the function by going to the definition in Data1Screen and pressing Enter before printing. The print routine has the usual choices - printer name, orientation, paper size, etc. It also has other parameters including a field for inputting a title. It is good practice to include a title. For example "Function x sin x" or "First derivative of x sin x".

If you have selected the plot parameters wisely, you should end up with an excellent tactile graph of your function with braille labels for the title and for x and y axis. I know of no better,

faster way to create accessible copies of xy functions. You can also import data sets and create tactile copies equivalent to those you can make with Excel.