

# LIVESTOCK ELECTRONICS MANUAL

## BANG APPLICATION

VERSION 1.1  
07-03-2017

The BANG application is an ongoing project, therefore it is wise to check for latest version of manual and application on the Livestock Electronics website now and then. For this manual "Livestock Electronics © 2017 BANG Version 1.1" should be indicated on the bottom right of your Bang application. See "Change Log" on bottom of this manual!!!

The application is available for WINDOWS and MAC, but the manual remains the same for both operating systems.

Note that libraries made with BETA version have to be opened and saved again with Version 1.0. Check the new features of this version in the "Change Log" at the bottom of this manual.

Have fun!

### **Installation:**

**WINDOWS:** Extract all files if asked. Depending on your operating system; drag either the "Bang.windows32" or the "Bang.windows64" folder to the location of your choice. You can change the name of this folder if you wish.

If you have any problems with running: check if you have the latest JAVA update.

**MAC:** Drag the "Bang.macosx" folder to the location of your choice. You can change the name of this folder if you wish.

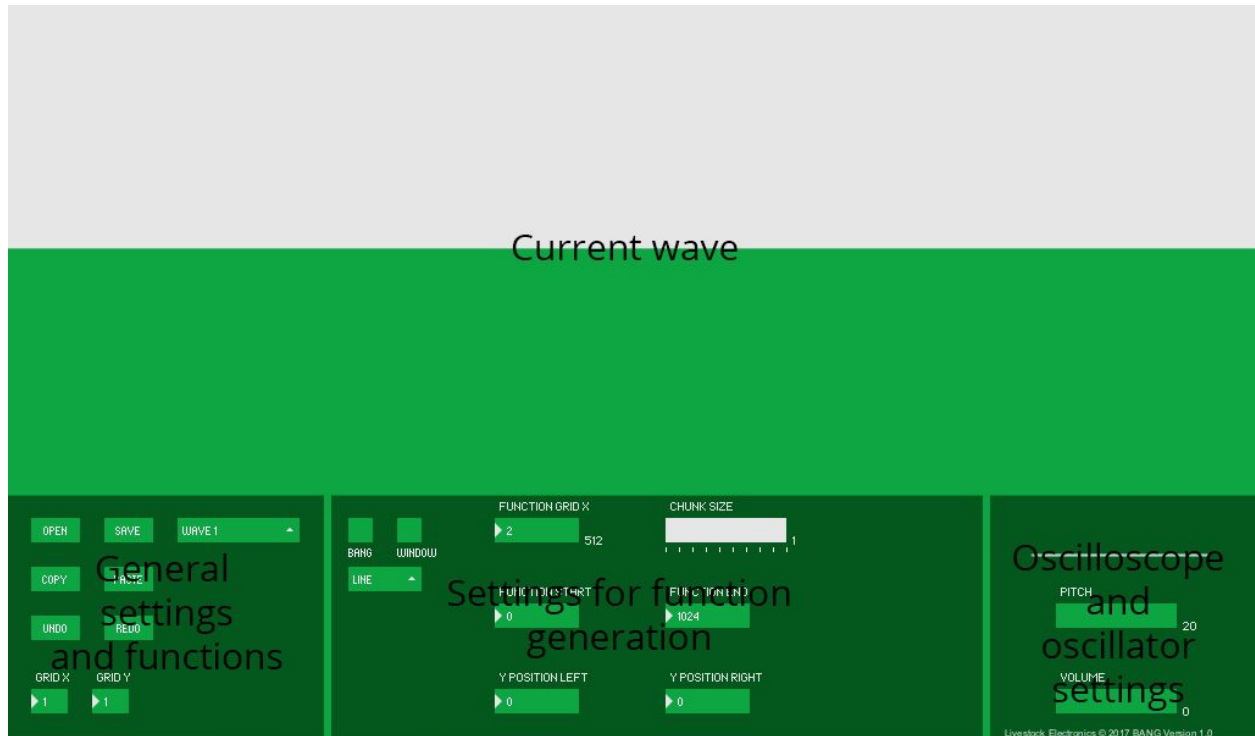
It is possible you are unable to launch the app. This is a known bug and will be fixed in a future version, to solve this: Go to System Preferences -> Security & Privacy and select Allow apps downloaded from anywhere.

The standard libraries are included, they can be opened in the Bang application. See "general settings and functions" in this manual.

### **Support:**

Keep discussion public; please refer to the Livestock Electronics forum for any bugs, ideas or questions concerning the Bang application: <https://www.livestockelectronics.com/forum/bang>

Main interface:



- The current wave is visualised in the top section, it is possible to either draw waves (with left-click on the current wave table) or use functions to create a wave.
- General settings and functions can be changed and selected in the left bottom section.
- Settings for function generation can be changed and selected in the center bottom section.
- Scope and settings for audio can be changed and selected in the right bottom section.

General settings and functions:



Open: Opens a window to select an exported .txt file containing a library.

Save: Opens a window to name your library, then opens a window to select saving location.

Copy: Copies the current wave into a buffer.

Paste: Paste the copied wave from bufer into the current wave.

Undo: Undo change.

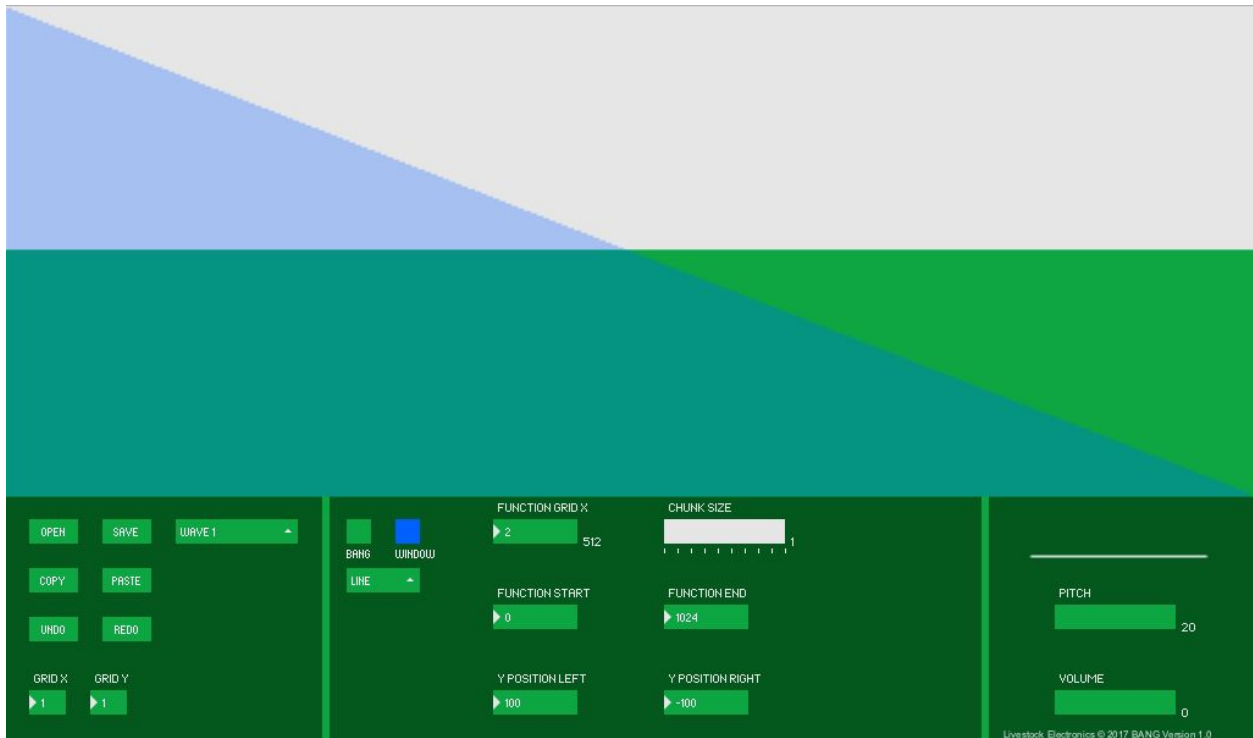
Redo: Redo change.

Wave 1: Wave currently selected. Select Wave 1 to Wave 12 here.

Grid Lines X: Add a number of reference lines on X-axis.

Grid Lines Y: Add a number of reference lines on Y-axis.

Settings for function generation:



It is possible to view the function before generating by pressing the “WINDOW” button. The generated function is in blue and actual wave is in green. Press the “BANG” button to perform function.

### LINE



Bang: Generates the function.

Line: Function currently selected.

Function Grid X: Sets the grid for “Function Start” and “Function End”

Chunk Size: Divides the table into parts of a certain size to be used for either drawing or functions.

Function Start: Position on X-axis to start the function.

Function End: Position on X-axis to end the function.

Y Position Left: Position on Y-axis to start the function.

Y Position Right: Position on Y-axis to end the function.

## SINE



Bang: Generates the function.

Sine: Function currently selected.

Function Grid X: Sets the grid for "Function Start" and "Function End"

Chunk Size: Divides the table into parts of a certain size to be used for either drawing or functions.

Function Start: Position on X-axis to start the function.

Function End: Position on X-axis to end the function.

Under 180\* Max: Maximum Y position and phase for first 180 degrees.

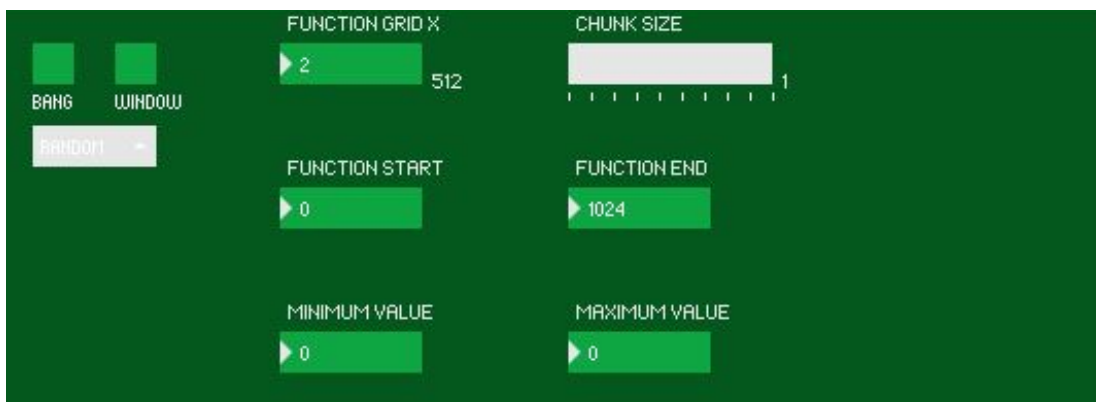
Over 180\* Max: Maximum Y position and phase for last 180 degrees.

DC Offset: Adds or subtracts to the functions Y position.

Phase Offset: Select a different phase start position for the function.

Cycles: Multiply or divide the cycle of function a number of times.

## RANDOM



Bang: Generates the function.

Random: Function currently selected.

Function Grid X: Sets the grid for "Function Start" and "Function End"

Chunk Size: Divides the table into parts of a certain size to be used for either drawing or functions.

Function Start: Position on X-axis to start the function.

Function End: Position on X-axis to end the function.

Minimum Value: Minimum Y position.

Maximum Value: Maximum Y position.

## AUDIO



Bang: Generates the function.

Audio: Function currently selected.

Function Grid X: Sets the grid for "Function Start" and "Function End"

Import: Opens a window to select an audio file. (.wav and .mp3 are supported)

Chunk Size: Divides the table into parts of a certain size to be used for either drawing or functions.

Function Start: Position on X-axis to start the function.

Function End: Position on X-axis to end the function.

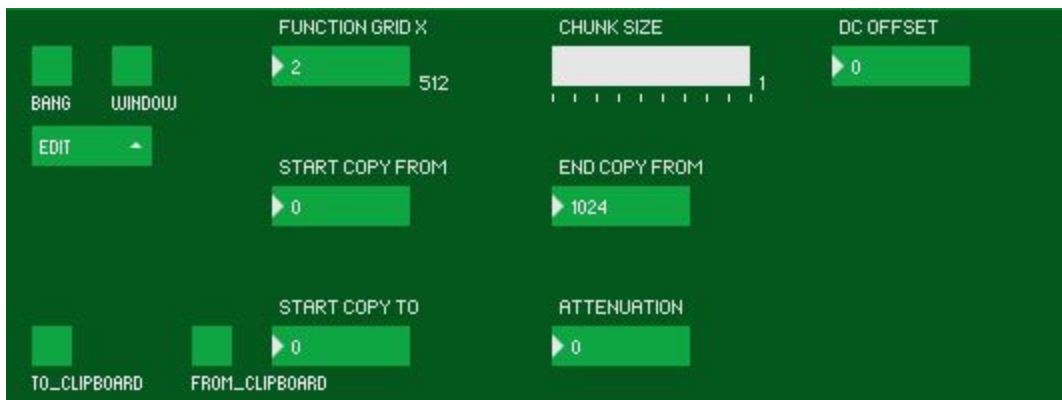
Start Position Sample: Start position of the audio file to import from.

Gain: Gain and phase of audio file.

DC Offset: Adds or subtracts to the functions Y position.

Pitch: Repitch the imported audio file, note that value 100 is the normal pitch.

## EDIT



Bang: Generates the function.

Edit: Function currently selected.

Function Grid X: Sets the grid for "Start copy from" and "End copy from"

Chunk Size: Divides the table into parts of a certain size to be used for either drawing or functions.

Start copy to: Sets the start position of the copy of "Start copy from" and "End copy from"

Attenuation: Gains the samples on Y-axis.

DC Offset: Adds or subtracts to the functions Y position.

To Clipboard: saves current selection and settings.

From Clipboard: places saved selection and settings in current wave.

Scope and oscillator settings:



Oscilloscope: Shows current audio output.

Pitch: Change oscillator pitch.

Volume: Change audio output volume.

Info: Info about the application.

## Change Log:

### Version 1.0

- Output format changed for BANG module. (Libraries made with Bang App BETA 0.1 need to be opened in Bang App 1.0 and saved again)
- Audio Function: added pitch for imported audio files.
- Audio Function: added change amount chunks of imported audio file.
- Fixed crash on end lower than start.
- Increased amount of cycles for Sine function.
- Replaced some sliders with number boxes for better accuracy.
- Values can be typed in Number Boxes.
- Added Edit selection mode.
- Added function preview screen.

### Version 1.1

- Edit function now has "from and to clipboard" to copy between waves.
- Pressing ENTER while saving does not remove typed name, instead it opens save location.
- .txt is automatically added when saving library.

### To do:

- Remove Launch bug in Mac Version.