

soniccontrol Help Page

Welcome to the simple and short manual for soniccontrol, a lightweight Graphic User Interface for controlling the soniccatch or sonicwipe.

Installation

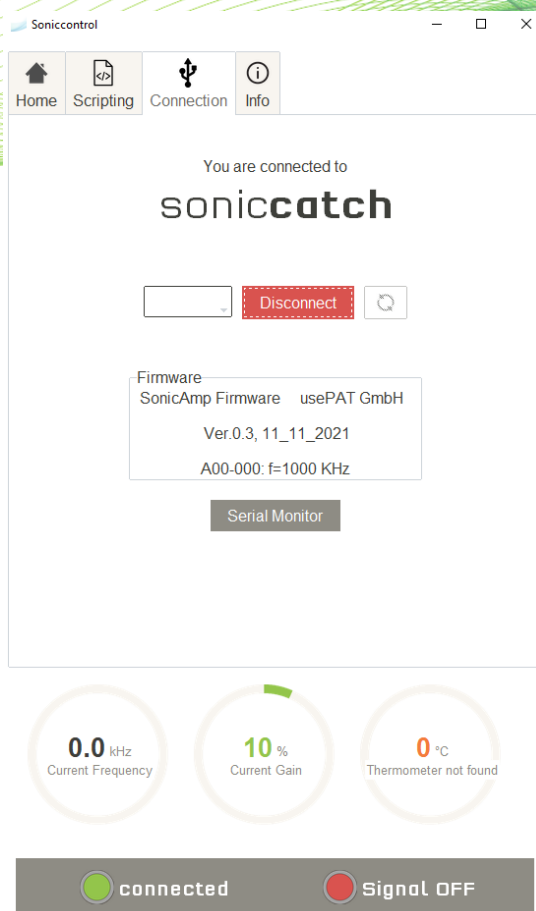
Windows

The software is currently being provided via a pre-compiled executable in a zipped folder with further resources for the application. The current way of installing is to simply extract the zip file and put it somewhere in your filesystem (preferably into your home folder). After that, you can right-click the *SonicControl.exe* file and make a shortcut on your desktop.

Usage

Before starting the application, make sure that the device you want to control is switched to Serial Mode. After you launched soniccontrol, you will be greeted with the connection tab. Here you can choose the device you want to connect to. The device will be shown as a COM with a succeeding number after that.

After you chose the corresponding device and clicked the *Connect* button, the application will change its appearance, indicating that the connection was successful. At this point you will be able to use all other tabs.



Screenshot 1: Connection Tab

Do not be surprised if the connection was automatically established. The application has a built-in algorithm, that searches for a potential connection and automatically connects to the device. This case, however, is only being activated if there is only one usePAT device connected to the computer.

Connection Tab

Here you can see the concrete device you are connected to. Other than that, there is a *Serial Monitor* Button that opens a command line interface. This feature is used for internal applications and development, so it is better to just ignore the button.

Scripting Tab

The scripting tab is one of the most useful features in the soniccontrol. It enables you to use to control the state of your soniccatch or sonicwipe with very simple commands and loop this behavior. For the most part, Usepat will provide you with a script, that is customized to

your use-case. If you still are interested in writing your own scripts, here is a simple guide for that:

Commands:

Command	Description	Argument Description	Example
on	Turns the ultrasound signal output on	None	on
off	Turns the ultrasound signal output off	None	off
frequency	Changes the frequency of the ultrasound output	Integer value between 50000 and 6000000 Hz	frequency 1200000
gain	In the case of a soniccatch, changes the current gain to a Value passed as an argument	Integer between 0 and 150%	gain 75
hold	Holds the current state of the device for several second(s)	Integer between 1 and 10000 seconds	hold 5
ramp	Creates a frequency ramp, for the ultrasound signal	See ramp description	ramp 1000000,1200000,1000,100
startloop	Tells the program, that a loop block starts	Integer between 1 and 10000 times or <i>inf</i> for endless loops	startloop 3
endloop	Tells the program, that a loop block has ended	None	endloop

Due to the fact, that the ramp and startloop commands are more complicated than others, follows a further detailed description about them.

Ramp:

The ramp command directs the application to set the frequency of the ultrasound signal output from a start frequency and ramp it up to an end frequency with a corresponding resolution and time delay. So, in case of a command ramp 1000000,1200000,1000,100, soniccontrol sets the ultrasound frequency to 1MHz and increases it with 1kHz every 100ms until 1.2MHz was set up. Please be aware of the strict format the command should be used with. The argument should have 4 numbers delimited with a comma and no white-spaces in-between.

Startloop:

The startloop command tells the program, that the following commands between the startloop and endloop commands should be treated as a loop-block. The commands that are in that block would be executed several times, provided by the argument passed to the command. Here follows an example:

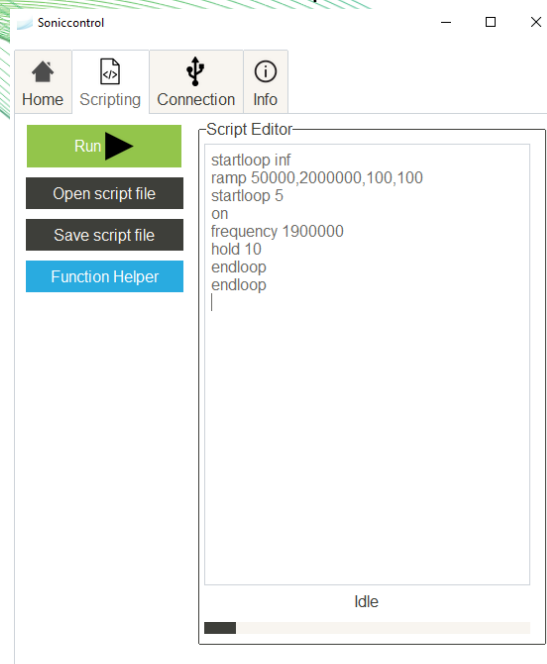


Figure 2: Scripting Tab

```
startloop 3
frequency 2400200
gain 120
hold 5
endloop
```

The preceding example would be executed three times. Here is another example with nested and endless loops:

```
startloop inf
ramp 50000,2000000,100,100
startloop 5
on
frequency 1900000
hold 10
endloop
endloop
```

The first startloop has the argument inf, that lets the loop run endlessly until the user manually stops the script. The nested loop startloop 5, lets the block run 5 times every cycle of the initial loop startloop inf.

Data

Every time the user runs a script, soniccontrol generates a log file specifically for the scripting window. The name of the log file starts with data about the current time and ends with *sequence.log*.

Home tab

This tab is probably the most important for you. Here you can easily set up every available parameter for your device. The tooltips and buttons are self-explanatory except for sonicmeasure.

sonicmeasure

This feature enables the user to ramp up from a start to end frequency in a certain resolution (in the same nature as the ramp command from the scripting tab) with the addition to collect voltage, amperage and phase data. This data is then plotted respectively.

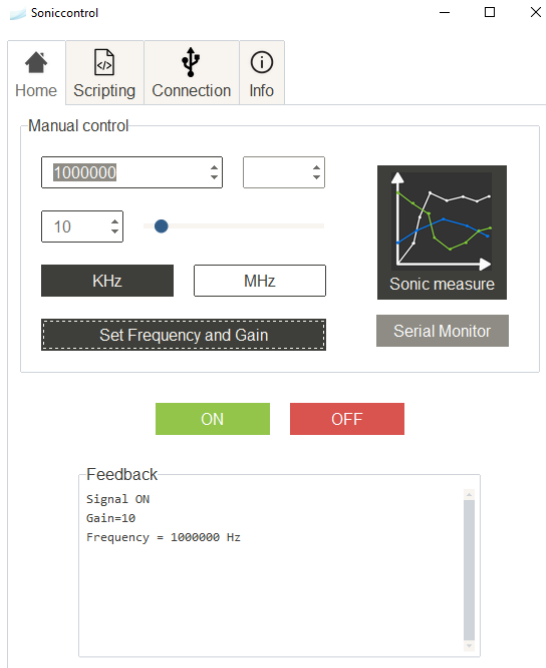
The data is automatically stored in the *\SonicControl\Spectra* folder in a csv format.

Info Tab

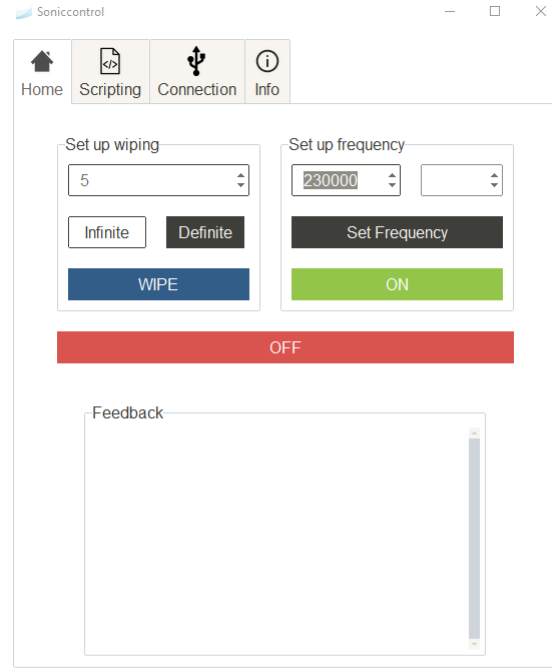
The info tab currently does not provide any necessary functions other than a help button, that opens this file. Do not hesitate to open the help page, if you are lost in the process of using a sonicwipe or soniccatch.



Screenshot 3: SonicMeasure



Screenshot 5: Home Tab for soniccatch



Screenshot 4: Home Tab for sonicwipe