

# Sound Phidget

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## Getting Started

Welcome to the SND1000 user guide! In order to get started, make sure you have the following hardware on hand:

- SND1000 - Sound Phidget
- VINT Hub
- Phidget cable
- USB cable and computer

Next, you will need to connect the pieces:



1. Connect the SND1000 to your VINT Hub using the Phidget cable.
2. Connect the VINT Hub to your computer using the USB cable.

Now that you have everything together, let's start using the SND1000!

## Using the SND1000

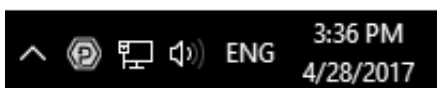
### Phidget Control Panel

In order to demonstrate the functionality of the SND1000, the Phidget Control Panel running on a Windows machine will be used.


The Phidget Control Panel is available for use on both macOS and Windows machines.

### Windows

To open the Phidget Control Panel on Windows, find the  icon in the taskbar. If it is not there, open up the start menu and search for Phidget Control Panel



# macOS

To open the Phidget Control Panel on macOS, open Finder and navigate to the Phidget Control Panel in the Applications list. Double click on the  icon to bring up the Phidget Control Panel.

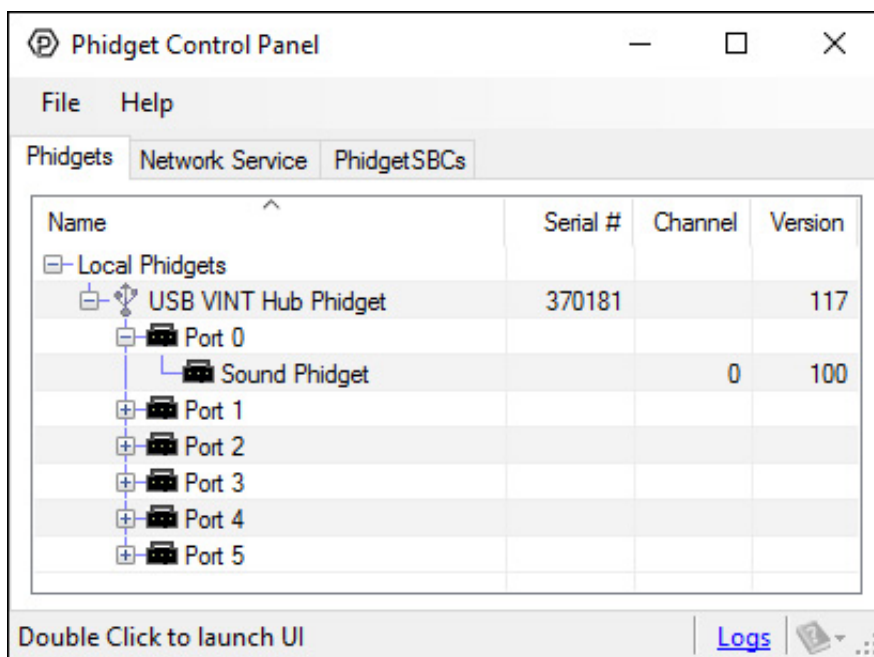
For more information, take a look at the getting started guide for your operating system:

- Getting started with Windows
- Getting started with macOS

Linux users can follow the getting started with Linux guide and continue reading here for more information about the SND1000.

## First Look

After plugging the SND1000 into your computer and opening the Phidget Control Panel, you will see something like this:



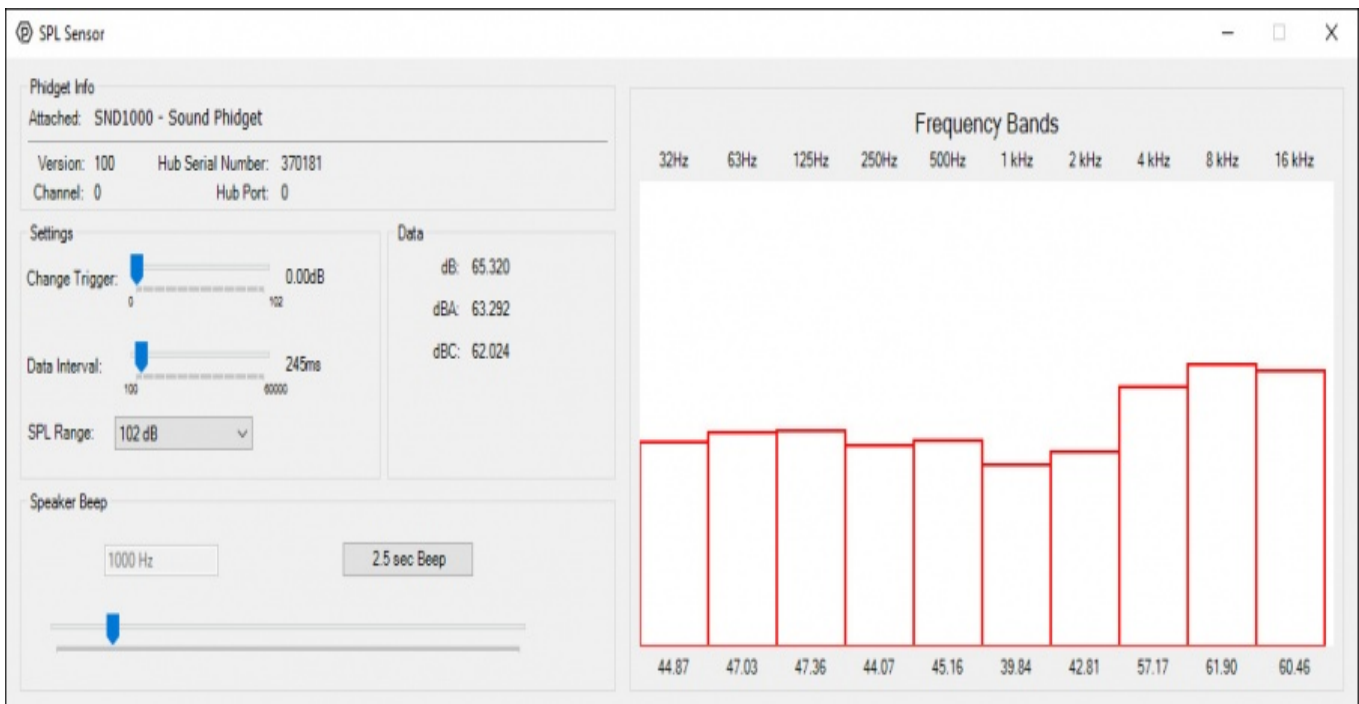
The Phidget Control Panel will list all connected Phidgets and associated objects, as well as the following information:

- **Serial number:** allows you to differentiate between similar Phidgets.
- **Channel:** allows you to differentiate between similar objects on a Phidget.
- **Version number:** corresponds to the firmware version your Phidget is running. If your Phidget is listed in red, your firmware is out of date. Update the firmware by double-clicking the entry.

The Phidget Control Panel can also be used to test your device. Double-clicking on an object will open an example.

## Sound Sensor

Double-click on the Sound Sensor object, labelled Sound Phidget, in order to run the example:

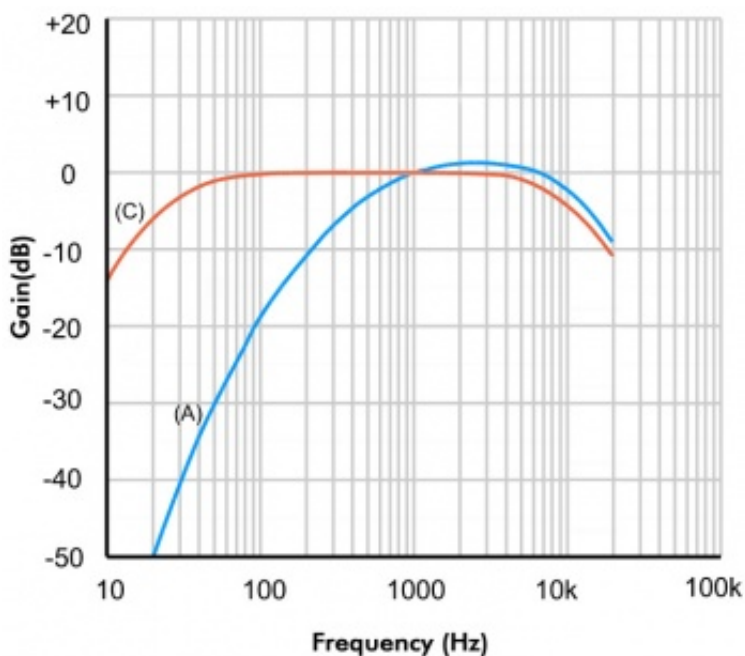


General information about the selected object will be displayed at the top of the window. You can also experiment with the following functionality:

- Modify the change trigger and/or data interval value by dragging the sliders. For more information on these settings, see the data interval/change trigger page.
- Use the SPL Range drop-down menu to select the lowest possible range that the level of sound you're measuring will fall within (smaller ranges have higher resolution).
- Use the Speaker Beep tool to emit a 2.5 second beep of the specified frequency. View the frequency bands and see how they respond.

## Technical Details

### Acoustic Weightings

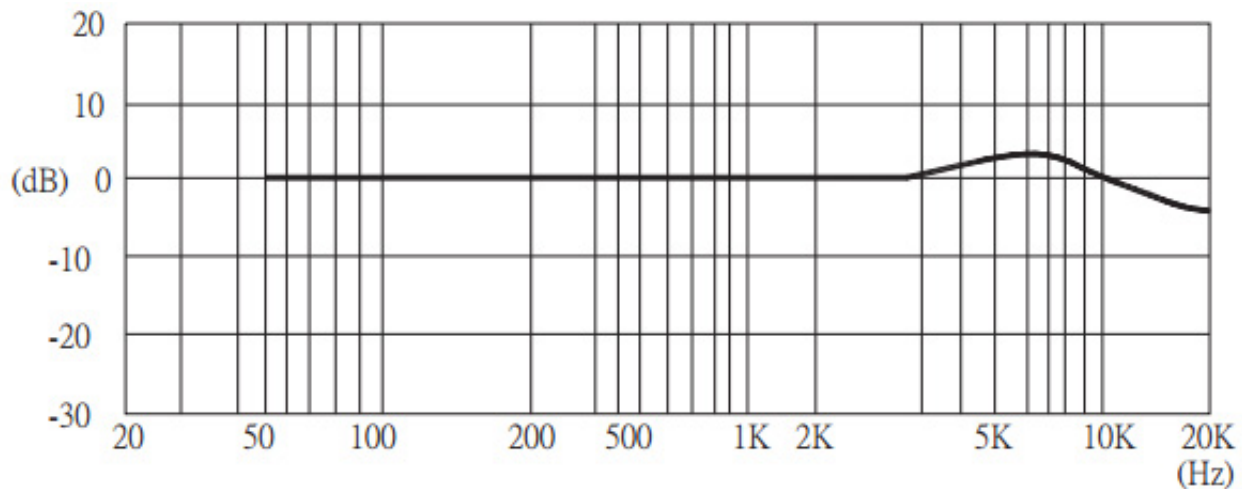


The A-weighting is shown in blue and the C-weighting in red. The unweighted response would be a flat line at 0 gain.

Depending on your application, you may be interested in acoustic data with weightings applied. The SND1000 returns a SPL value with the A-weighting applied, C-weighting applied, and with no acoustic weighting applied.

# Sensitivity

The microphone on the SND1000 is slightly more responsive to some frequencies than others. The following graph illustrates this difference:



## What to do Next

- [Software Overview](#) - Find your preferred programming language here to learn how to write your own code with Phidgets!
- [General Phidget Programming](#) - Read this general guide to the various aspects of programming with Phidgets. Learn how to log data into a spreadsheet, use Phidgets over the network, and much more.
- [Phidget22 API](#) - The API is a universal library of all functions and definitions for programming with Phidgets. Just select your language and device and it'll give you a complete list of all properties, methods, events, and enumerations that are at your disposal.