

# Bifrost Calculator - User Manual

## Introduction

Alright, so you've got your hands on the **Bifrost Calculator**! This thing lets you punch in math expressions on your PC, sends them over to a microcontroller, and then gets the results back. Pretty cool, right?

This guide will show you **how to use it** without overcomplicating things.

## Setting Up the Connection

Before you start crunching numbers, you need to set up the **serial connection**:

- **Port Name Field** → Type in the **COM port** where your microcontroller is connected.
- **Baud Rate Field** → Enter the **speed** of the connection.



## Entering a Mathematical Expression

- Use the **Expression Input Field** to type your math expression. You can either **type manually** or use the **on-screen calculator buttons**.
- The calculator follows **standard math rules**.



### Example Expressions:

```
5 + 3 * 2
sin(1.57) + cos(0)
(ANS + 10) / 2
```

(Note: The calculator works in **radians**, not degrees.)

## Viewing and Using the Operations History

- Every calculation you do gets saved in the History List.



- Click on any past result to insert it back into the input field. No need to retype numbers—just reuse them!



### Using the ANS Button

- The ANS button automatically recalls the last computed result.
- Click ANS, and it will be inserted into your new equation.



## Calculator Keyboard

- The on-screen calculator keyboard is there for quick input.
- It has:
  - Numbers (0-9)
  - Operators (+, -, , /, ^)
  - Functions (sin, cos, tan, log, sqrt, etc.)
  - Parentheses ( ( ) )
- You can also type everything manually with your keyboard.



## Angle Mode: Radians

- The calculator always works in **radians**.
- You can't change this setting, so keep that in mind!

