SFX-Calc User Guide

# Introduction

SFX-Calc is a calculator app designed for academic, scientific and engineering purpose. The calculator features:

1. Basic arithmetic calculation: Plus, Minus, Multiply, Divide
2. Calculation with one operand fixed as constant
3. Calculation with an non-volatile memory storage
4. Calculation with 10 volatile memory storages
5. Fraction and percentage calculation
6. Binary / Octal / Decimal / Hexadecimal calculation
7. Various functions like Trigonometric, Hyperbolic, Logarithm, Exponential, Power, Root, ... etc.

# Usage

### Display

The calculator can display up to 10 main digits + 2 exponential digits. Various numeric formats can be displayed in different states of operation:

|  |  |
| --- | --- |
| Numeric format | The display will show ... |
| Integral |  |
| Decimal |  |
| Exponential |  |
| Fractional |  |
| Hexadecimal |  |
| Error |  |

The display has a top bar to indicate the current state of operation:

|  |  |
| --- | --- |
| When ... | The display will show ... |
| A non-zero value is stored in the non-volatile memory |  |
| The calculation has one operand fixed as constant |  |
| Performing Binary / Octal / Decimal / Hexadecimal calculation |  |
| Performing Trigonometric calculation with different angle unit (DEG / RAD / GRA) |  |

### Key

1. **All Cancel**

* Clear the current operation
* Clear the fixed constant operand
* Clear the display result
* Release the error state

1. **Alternative Function**

* Enable alternative function from other function keys

1. **Mode Set**

* : Normal computation mode
* : Base-n mode for Binary / Octal / Decimal / Hexadecimal calculation
* : Trigonometric calculation will be conducted with Degree unit
* : Trigonometric calculation will be conducted with Radian unit
* : Trigonometric calculation will be conducted with Gradian unit

1. **to and Digits and dot**

* Input numerals for integral and decimal value

1. **Exponent entry**

* Input exponent of base 10
* The value will be displayed in exponential format

1. **Plus**

* Perform addition of the 1st (X) and 2nd (Y) operand:
* Tapping  twice will store the 1st (X) operand as constant (C) for subsequent addition:

1. **Minus**

* Perform subtraction of the 1st (X) and 2nd (Y) operand:
* Tapping  twice will store the 1st (X) operand as constant (C) for subsequent subtraction:

1. **Multiply**

* Perform multiplication of the 1st (X) and 2nd (Y) operand:
* Tapping  twice will store the 1st (X) operand as constant (C) for subsequent multiplication:
* Alternative function is to raise the 1st (X) operand to the power of 2nd (Y) operand:

1. **Divide**

* Perform division of the 1st (X) and 2nd (Y) operand:
* Tapping  twice will store the 1st (X) operand as constant (C) for subsequent multiplication:
* Alternative function is to take 2nd (Y) operant root of 1st (X) operand:

1. **Equal**

* Conduct the 2 operands calculation and display the result
* Alternative function is to conduct percentage, premium, discount calculation

1. **Pi**

* Recall the constant value pi (3.14…)

1. **Open bracket**

* Open a new bracket to start prioritized calculation. Nesting of up to 99 pairs of brackets are allowed

1. **Close bracket**

* Close the nearest bracket to finish prioritized calculation

1. **Store volatile memory**

* Store the currently displayed value into one of the 10 volatile memory spaces
* The volatile memory space can be selected from  to 

1. **Recall volatile memory**

* Recall the value from one of the 10 volatile memory spaces
* The volatile memory space can be selected from to 

1. **Display value in engineering exponential format (forward direction)**

* Display value with decimal point shifted and in the form of
* Tapping  subsequently will display the value in the form of so on
* Alternative function is to conduct permutation of 1st (X) and 2nd (Y) operand:
* When the calculation mode is base-n, tapping  can switch to Decimal and (Alternative function) Binary calculation

1. **Display value in engineering exponential format (reverse direction)**

* Display value with decimal point shifted and in the form of
* Tapping  subsequently will display the value in the form of so on
* Alternative function is to conduct combination of 1st (X) and 2nd (Y) operand:
* When the calculation mode is base-n, tapping  can switch to Hexadecimal and (Alternative function) Octal calculation

### Limitation

The calculator has