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