

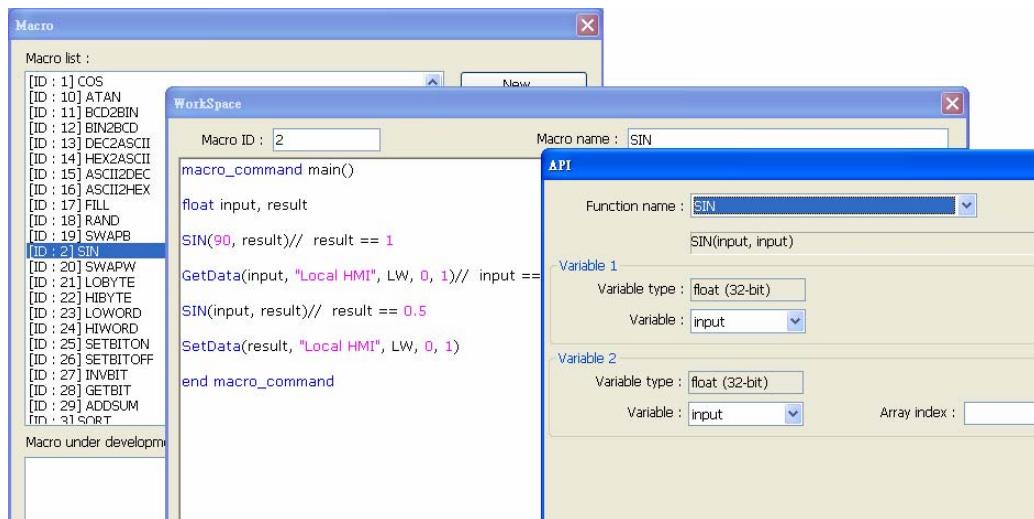
# Macro Math Function

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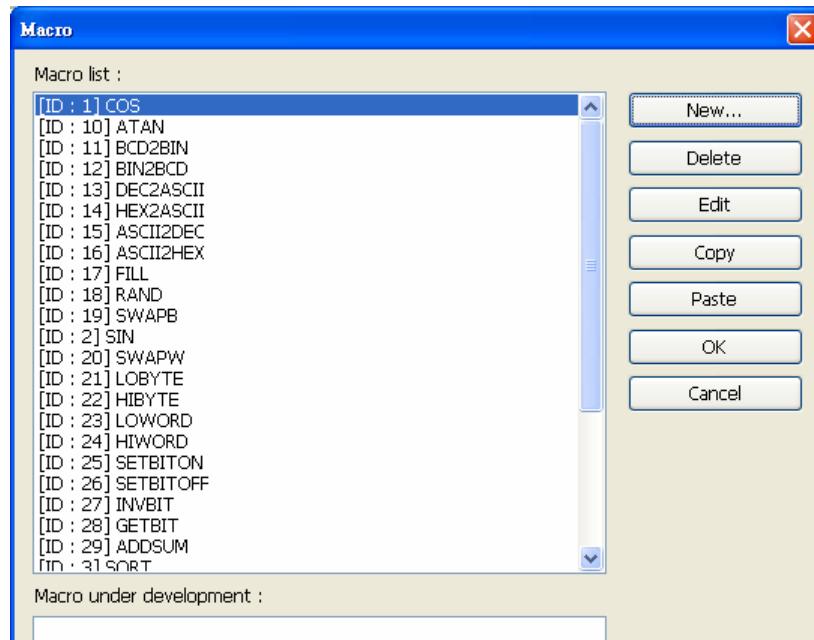
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## 1. Overview and Operation

EB8000 provides macro function for Math operation. User can use macro syntax building the particular function to transfer the register value in Math operation application.

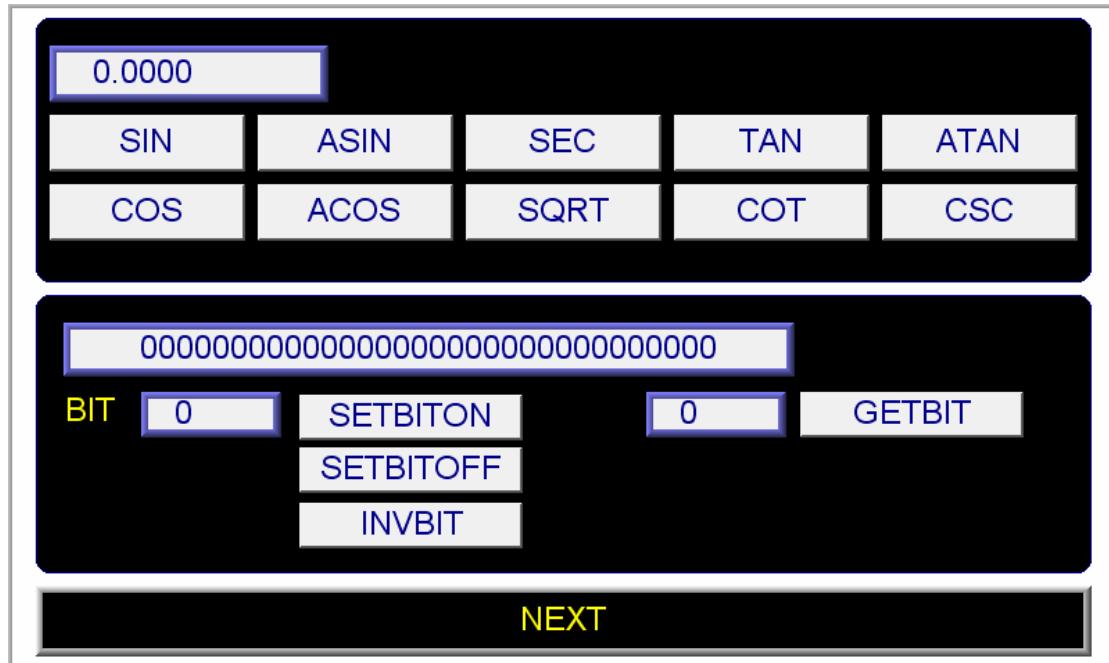


Create Numeric Input objects for input or display of the operation value. Set up some buttons to trigger different macro function. For more detail about macro syntax, please refer to the macro list.



## 2. Setting Up the Screen

### 1. Mathematical Functions



The screenshot shows a software interface for setting up macro functions. At the top, there is a numeric display showing "0.0000". Below it is a grid of mathematical functions:

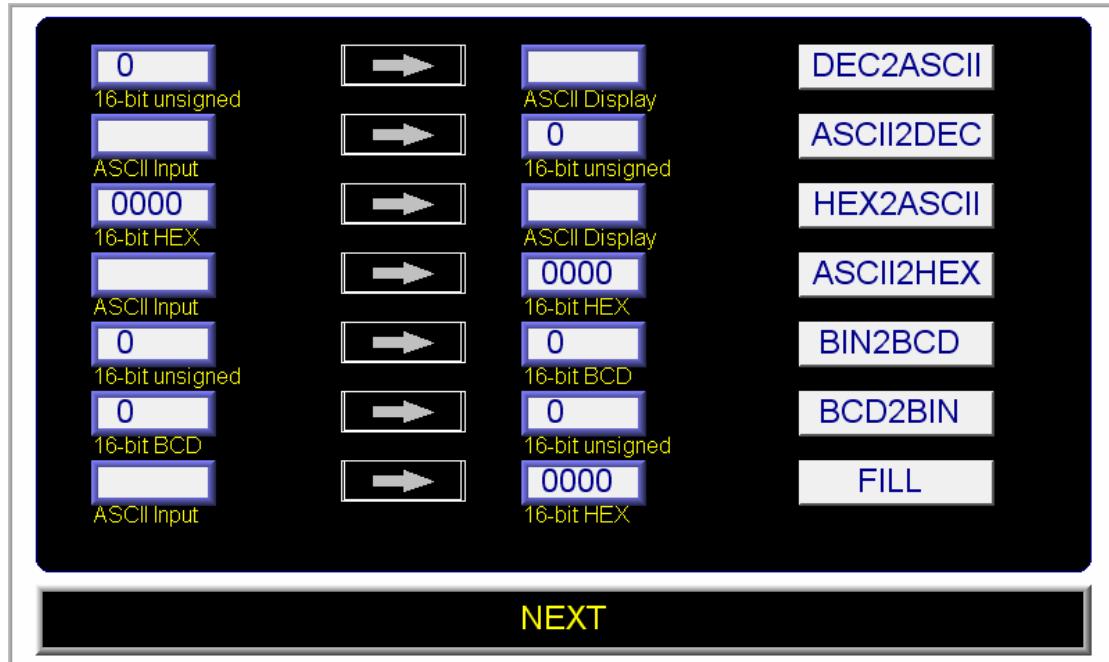
SIN	ASIN	SEC	TAN	ATAN
COS	ACOS	SQRT	COT	CSC

Below the function grid, there is a section for bit manipulation with the following options:

BIT	0	SETBITON	0	GETBIT
		SETBITOFF		
		INVBIT		

At the bottom of the screen is a large "NEXT" button.

### 2. Numeric format translation.



The screenshot shows a software interface for setting up numeric format translation. It displays various conversion pairs and their corresponding functions:

0 16-bit unsigned	→	ASCII Display 0 16-bit unsigned	DEC2ASCII ASCII2DEC
ASCII Input	→	ASCII Display 0 16-bit unsigned	HEX2ASCII ASCII2HEX
0000 16-bit HEX	→	0000 16-bit HEX	ASCII2HEX BIN2BCD
ASCII Input	→	0 16-bit BCD	BCD2BIN FILL
0 16-bit unsigned	→	0 16-bit BCD	
0 16-bit BCD	→	0000 16-bit HEX	
ASCII Input	→	0000 16-bit HEX	

At the bottom of the screen is a large "NEXT" button.

## 3. Data manipulation &amp; logarithm operation.

0	ADDSUM	0000	LOBYTE
0	RAND		HIBYTE
0000	SWAPB	00000000	LOWORD
00000000	SWAPW		HIWORD

**Calculate the natural logarithm of a number**

**LOG**    0.00    ==>    0.0000

**Calculate the base-10 logarithm of a number**

**LOG10**    0.00    ==>    0.0000

**POW10**    0.00    ==>    0.0000

**NEXT**

## 3. Object

The objects used in this demo project are listed below.

Macro	ID	Window Page
COS	1	Window 10
SIN	2	Window 10
SQRT	3	Window 10
TAN	4	Window 10
COT	5	Window 10
SEC	6	Window 10
CSC	7	Window 10
ASIN	8	Window 10
ACOS	9	Window 10
ATAN	10	Window 10
BCD2BIN	11	Window 11
BIN2BCD	12	Window 11
DEC2ASCII	13	Window 11
HEX2ASCII	14	Window 11
ASCII2DEC	15	Window 11
ASCII2HEX	16	Window 11
FILL	17	Window 11
RAND	18	Window 12
SWAPB	19	Window 12

SWAPW	20	Window 12
LOBYTE	21	Window 12
HIBYTE	22	Window 12
LOWORD	23	Window 12
HIWORD	24	Window 12
SETBITON	25	Window 10
SETBITOFF	26	Window 10
INVBIT	27	Window 10
GETBIT	28	Window 10
ADDSUM	29	Window 12
LOG	30	Window 12
LOG10	31	Window 12
POW	32	Window 12