Instruction Manual for SL8M

Miniature Electronic Calculator by Summit International Corporation

CONTENTS

INTRODUCTION

Congratulations! You now have a five function (+, −, x, ÷, %) calculator with fixed or floating decimal, a two key memory and a special mode for working with money.

To get the full use of your miniature calculator, please read through this manual to see how to take care of it, how to operate it and what you can expect it to do for you.

In the unlikely event that it should fail to operate properly, take the following steps:
   Install fresh batteries (make sure permanent type batteries are fully charged), or plug in adaptor.
   Check your procedures with the operating section of this manual.
Should you still have difficulty, read the warranty section for factory repair. We'll be glad to make it work for you.

By treating the SL8M with the respect due any fine instrument, you can expect years of accurate, dependable service. We hope you find it useful as a constant companion.

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FEATURES

1. The components used in your calculator have been especially designed to give unsurpassed reliability.

2. The high performance components provide for calculations of all types, from the basic four functions of arithmetic to successive division and multiplication, accumulating memory, mixed calculations, squaring, reciprocal, percent, constant operation in multiply, divide, and %, add-mode, and other calculations. All are possible with the calculator.

3. Your calculator makes calculations of up to 16 digits, and displays the 8 most significant digits. Even in overflow, the 8 most significant digits are displayed.

4. The calculator is provided with throwaway (non-chargeable) batteries which provide for cordless operation up to four hours.

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5. An adaptor is included with the calculator. (For use see Battery/AC Operation, page 11)

6. Optional — Permanent Batteries
Option is available at time of purchase or may be installed later at a nominal fee. To have permanent batteries installed after purchase, send calculator in to the nearest Summit Service Center (follow directions under Warranty, page 28) and explain that you want the permanent batteries installed.

DISPLAY INDICATORS

DISPLAY

Numerical Overload Indicator

Indicates an entry of more than 8 digits and calculations can continue. Indication cleared by [C], [CE] or turning calculator off and then on.

Overload Answer Indicator

Indicates a calculation result that contains more than 8 digits and calculations cannot continue. The eight most significant digits will be displayed. The correct answer (to 8 significant digits) is obtained by moving the decimal point 8 positions to the right. Indications cleared by [C] or turning calculator off and then on.

Display Blanking (For Power Saving)

Nothing has been changed in the calculator. Pushing the equal key, [=], executes the previous command and returns display. Pushing any other key returns the calculator to normal operation.

KEYBOARD FUNCTIONS

Numeric Keys

[0] – [8]

When depressed, these keys enter digits of a number. The figures will be displayed and stored by the calculator.

[9/$]

Normally enters digit (9) which is displayed and stored by the calculator. This key is also used for Add-mode. (See Add-mode, page 16)

Clear All Key

[C]

Clears all calculator functions except Memory and Fixed Decimal Point Setting. (See Fixed/Floating Decimal, Page 15 and Memory, Page 18)

Clear Entry Key

[CE]

Clears last keyboard entry.

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Decimal Point Key

[.]

Enters decimal point location when depressed during entry sequence. (See Fixed/Floating Decimal, Page 15)

Plus Key

[+]

Normally executes any previous command and stores an add command. (Also see Accumulating Memory, Page 21)

Minus Key

[−]

Normally executes any previous command and stores a subtract command. If depressed as the first key of an entry, the number entered will be negative. (Also see Accumulating Memory, Page 21)

Multiplication Key

[x]

Executes any previous command and enters a multiply command.

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|	
Division Key ÷	Executes any previous command and enters a divide command.
Percent Key %	Executes percent calculation and displays the result.
Memory Key MR	Normally recalls memory when depressed. (See Memory, Page 18)
Memory Equals Key M=	Executes any previous command and conditions memory for accumulation of display. (See Accumulating Memory, Page 21)
Equals Key =	Executes any previous command and displays the result.

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BATTERY OPERATION

A. Removeable Batteries
1. Type batteries:
   a. Non-chargeable throw-away. (Size N or ½ AA)
   b. Rechargeable. Not recommended since they must be charged outside of the calculator.

2. Changing Batteries:
   Remove battery compartment door by placing finger in recess on back of calculator case and pulling down and out. The batteries are placed in the calculator as shown in Fig. 1, and the cover is snapped back in place.

FIG. 1

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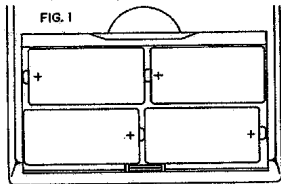
3. Operation:
Push slide switch to "ON" and begin operation. Batteries will supply about four hours operation time.

B. Permanent Batteries (Optional)

1. Type batteries; Rechargeable

2. Charging: Adaptor is used as charger. Insert DC plug into single pin socket at the top end of the calculator. Insert AC plug into socket. Charging now occurs irrespective of whether the power switch is on or off. The calculator may be used while charging. Two to four hours are required for a full charge. The unit should not be charged for more than four hours. Any excessive recharging will reduce overall life of the battery.

3. Operation:
Remove the adaptor cord and push the slide switch to "ON" position. A full battery charge can be expected to supply about four hours of operation time.

AC OPERATION

AC operation is possible in the two following conditions:
1. Removeable batteries installed. May be used in this condition indefinitely.
2. Permanent batteries installed (Optional). Use in this manner only when recharging batteries.

Plug the adaptor into the calculator and insert the AC plug into the electrical outlet. After the above connection, the power switch may be turned on and operation started.

ALGEBRAIC LOGIC OPERATION

Algebraic logic allows you the simplicity of entering a problem exactly the way you would write it.

Problem:

ADDITION	Enter	Display
6.51	6 . 5 1 +	6.51
12.28	1 2 . 2 8 +	18.79
4.93	4 . 9 3 +	23.72
.36	. 3 6	0.36
24.08	=	24.08

Problem:

SUBTRACTION		Enter	Display
Total Sales	32,000	3 2 0 0 0 -	32000.
Less Discounts	310	3 1 0 -	31690.
Less Returns	980	9 8 0	980.
	30,710	=	30710.

	Enter	Display
8	8	8.
- (-3)	- - 3	-3.
11	=	11.

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Problem:

MULTIPLICATION	Enter	Display
7 Cans of corn	7 ×	7.
X 39¢ per can	. 3 9	0.39
2.73 Total	=	2.73

	Enter	Display
-9	- 9 ×	-9.
X (-42)	- 4 2	-42.
378	=	378.

Problem:

DIVISION	Enter	Display
$6.95	6 . 9 5 ÷	6.95
÷ 5 pounds	5	5.
	=	1.39

	Enter	Display
24	2 4 ÷	24.
÷ (-8)	- 8	-8.
-3	=	-3.

	Enter	Display
-60	- 6 0 ÷	-60.
÷ (-6)	- 6	-6.
10	=	10.

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Problem:	Enter						Display
What is 5% of 200?	2	0	0	X			200.
		5					8.
		%					10.

Problem:	Enter						Display
What is the net cost of a $200.00 item with 5% tax?	2	0	0	X			200.
	5	%					10.
	+						210.

Problem:	Enter							Display
What is the net cost of a $25.20 less a 10% discount?	2	5	.	2	0	X		25.2
	1	0	%					2.52
	=							22.68

Problem:	Enter					Display
What is the net cost of a $320.00 item with a 10% discount and then 6% tax?	3	2	0	X		320.
	1	0	%	-		288.
	X	6	%			17.28
	+					305.28

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FIXED/FLOATING DECIMAL AND ADD-MODE

Floating Decimal:

When the calculator is switched on, it is automatically in the automatic floating decimal system. To return to the floating decimal after a fixed decimal or add-mode has been used:

1. Turn the Calculator OFF, then ON; or

2. Use the key sequence [·] [=] [C]

Fixed Decimal:

To set a fixed decimal for calculation results use the key sequence [·] [=] N

where N is any number between 0 and 7.

Decimal, [·] . must still be depressed during entry sequence as necessary.

Examples:

[·] [=] [4] shows 0.0000 on the display and sets a fixed point of 4.

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$\boxed{\cdot}$ $\boxed{=}$ $\boxed{1}$ shows 0.0 on the display and sets a fixed point of 1.

$\boxed{\cdot}$ $\boxed{=}$ $\boxed{C}$ shows 0. on the display and returns the calculator to the floating decimal system.

Add-Mode:

The calculator is also equipped with a fixed input mode (add-mode).
This mode is used when working strictly with money, or any other product which uses exactly two decimal places.

This mode is entered by the key sequence
$\boxed{\cdot}$ $\boxed{=}$ $\boxed{9/\$}$

0.00 appears on the display.

In this mode 4 is interpreted as .04. 40 is interpreted as .40, etc.
The entry of 4.00 can be accomplished by either 4. or 400.
To return to floating point operation use the sequence $\boxed{\cdot}$ $\boxed{=}$ $\boxed{C}$ **or**

Turn calculator OFF then ON.

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Example Problem:

The following is a grocery bill to be added:

Enter					Display
	$\boxed{\cdot}$ $\boxed{=}$ $\boxed{9/\$}$				0.00
.12	$\boxed{1}$ $\boxed{2}$ $\boxed{+}$				0.12
.37	$\boxed{3}$ $\boxed{7}$ $\boxed{+}$				0.49
1.19	$\boxed{1}$ $\boxed{1}$ $\boxed{9}$ $\boxed{+}$				1.68
.54	$\boxed{5}$ $\boxed{4}$ $\boxed{+}$				2.22
1.05	$\boxed{1}$ $\boxed{0}$ $\boxed{5}$ $\boxed{+}$				3.27
4.00	$\boxed{4}$ $\boxed{\cdot}$ $\boxed{+}$				7.27
1.87	$\boxed{1}$ $\boxed{8}$ $\boxed{7}$ $\boxed{=}$				9.14
9.14					

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MEMORY

Clearing Memory:

The memory may be cleared by any of the following three methods:

1. Turn calculator OFF, then ON.
2. By the key sequence [0] [=] [MR]
   (Refer to operation of the scratchpad memory below).
3. By the key sequence [C] [M=]

Scratchpad Memory:

For those desiring this feature, a scratchpad memory is contained in the calculator. A number can be stored in memory and then be recalled and used at some later point in the calculation.

To store a number into memory:
   Enter the number into the display
   (This can be the result of an earlier calculation)

   Press the [=] key
   Press the [MR] key
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Calculations can continue and the memory will not be modified until the above sequence is duplicated or the [M=] key is pressed (see section on accumulating memory for operation of the [M=] key). The [C] Key does not clear memory.

To recall a number from memory, simply press the [MR] key at any time other than immediately following an [=] key.

Example:
Store 56 in memory, then recall it.

Enter		Display
[5]	[6]	56
[=]	[MR]	56.
[C]		0.
[MR]		56.

Typical Scratchpad Memory Problem

A man purchases 4 tires at a price of $54.13 each. Given 90 days to pay for them with

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30 day installment payments, how much would each payment be?

Problem can be written as:

$$\frac{4 \times \$54.13}{(90 \div 30)} = 72.173333....$$

Enter	Display
C 9 0 ⊞	90.
3 0 ⊟	3.
MR	3.
C 4 ⊠	4.
5 4 · 1 3	54.13
⊞	216.52
MR	3.
⊟	72.173333

or approximately $72.17 per payment.

CAUTION: The memory will be modified rather than recalled if the MR key is pressed directly after an = key. If an = key has been pressed and you desire to recall the memory, use the key sequence C MR .

Accumulating Memory:

Care should be taken to clear the memory before using the accumulation feature.

Accumulation to memory (plus or minus) occurs when the M= key is pressed followed by either a ⊞ key or a ⊟ key. Intermediate calculations do not affect memory.

Example:

Entry	Display	
C M=	0.	Clear Memory
2 5 M= +	25.	
3 8 M= +	38.	
1 0 M= +	48.	
7 M= −	41.	Subtract from Memory
2 0 0 X 1 0 X +	220.	Not Accumulated
2 X 6 =	10.	Not Accumulated Note =
5 M= +	46.	Accumulated again

The **M=** key gives intermediate results and prepares the memory for accumulation.

Entry	Display After M=	Final Display
C M=	0.	0.
2 X 3 M= +	6.	6.
4 X 5 M= +	20.	26.
6 X 6 M= +	36.	62.
2 X 2 M= −	4.	58.

The value obtained after pressing the **M=** key can be repetitively added (subtracted) by successive depressions of the **+** (**−**) key.   22

Entry	Display
C M=	0.
2 X 2 5 M= + +	150.
5 X 2 M= − −	138.

Typical Accumulating Memory Problem

Problem:	Enter	
	C M=	0.
	. 0 2	0.00
2 Pair slacks @ 7.99	2 X 7 . 9 9 M= +	15.98
3 shirts @ 4.99	3 X 4 . 9 9 M= +	30.95
2 Ties @ 2.50	2 X 2 . 5 0 M= +	35.95
1 Pair Shoes @ 25.99	2 X 5 . 9 9 M= +	61.94
Less 10% Discount	1 0 % M= −	55.75
Plus 6% Tax	6 % M= +	59.10

Memory can be recalled by the sequence

C   MR

CAUTION: Memory will be destroyed by pushing **MR** immediately after **=**   23

AUTOMATIC CONSTANT OPERATION

Your calculator has an automatic constant capability in multiplication and division that requires no external switch or other operation. The first factor in multiplication and the second factor in division is automatically stored for possible constant use.

Enter	Display	
2 × 3 =	6.	
4 =	8.	2 is retained as a constant.
1 2 =	24.	
1 0 =	20.	
1 2 ÷ 3 =	4.	
9 =	3.	3 is retained as a constant
3 6 =	12.	
3 =	1.	

Different percentages of a constant value can be found with the automatic constant capability as shown.

Problem	Enter	Display
What is 10% of 200?	2 0 0 × 1 0 %	20.
What is 5% of 200?	5 %	10.
What is 2% of 200?	2 %	4.
What is 13.7% of 200?	1 3 . 7 %	27.4

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A constant percentage of different values can also be found.

Problem	Enter	Display
What is 5% of 100?	5 × 1 0 0 %	5.
What is 5% of 300?	3 0 0 %	15.
What is 5% of 430?	4 3 0 %	21.5
What is 5% of 293.7?	2 9 3 . 7 %	14.685

Accumulation to memory of products, quotients, or percentage results with a constant factor is also accomplished by your calculator.

Enter	Display	
C M=	0.	
3 × 2 M= +	6.	
× 3 M= +	15.	3 is retained as a constant
× 4 M= +	27.	
1 2 ÷ 2 M= −	21.	
÷ 1 0 M= −	20.	2 is retained as a constant
÷ 8 M= −	22.	
1 0 0 × 1 0 % M= +	32.	
× 3 % M= +	35.	100 is retained as a constant
× 1 6 % M= −	19.	

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ADDITIONAL FEATURES

Squaring a number is easily accomplished by entering the number into the display (can be the result of a calculation) and using the key sequence ⊠ ⊟ .

Example:	Enter	Display
What is 8^2?	8 ⊠ ⊟	64.
What is $(3+2)^2$?	3 ⊞ 2 ⊟ ⊠ ⊟	25.
OR	3 ⊞ 2 ⊠ ⊟	25.

This method can also be chained to find higher powers.

Example:	Enter	Display
What is 3^4?	3 ⊠ ⊟ ⊠ ⊟	81.

Reciprocals can be found by entering the number into the display (can be the result of a calculation) and using the key sequence ⊞ ⊟ .

Example:	Enter	Display
What is the reciprocal of 4?	4 ⊞ ⊟	0.25
What is $\frac{1}{(3+2)}$?	3 ⊞ 2 ⊟ ⊞ ⊟	0.2
OR	3 ⊞ 2 ⊞ ⊟	0.2

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Constant Add/Subtract Mode

A simplified method is provided for addition and subtraction of a series of numbers.

Example	Enter	Display
1	1 ⊞	1.
+2	2 ⊟	3.
+3	3 ⊟	6.
+4	4 ⊟	10.
+5	5 ⊟	15.
−6	⊟ 6 ⊟	9.
−7	7 ⊟	2.
+8	⊞ 8 ⊟	10.

NOTE:

As long as all of the keys are being added (subtracted) no function key (⊞ or ⊟) need be pressed. A function key need be depressed only when changing from addition to subtraction (subtraction to addition).

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AVAILABLE ACCESSORIES

Charger/Adapter $5.95
Carrying Pouch $2.00
Instruction Manual .... $ .50

Send order with check or money order to:

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