

# COMPET

OPERATION MANUAL

SHARP CORPORATION

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(TINSEA093EHVT)

## OPERATIONAL NOTES

Thank you for your purchase of the SHARP electronic calculator, model QS-2130.

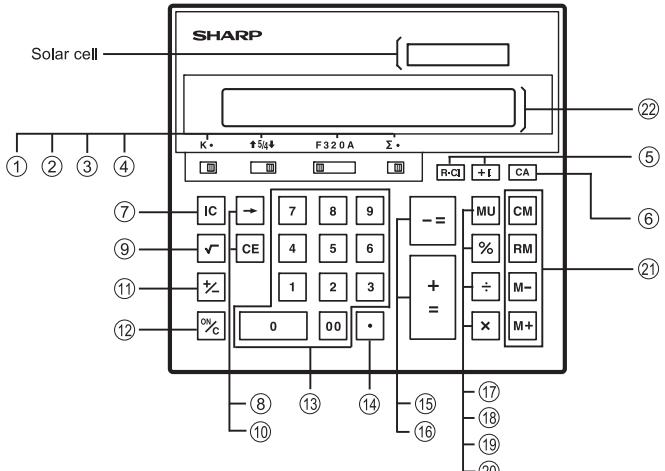
- To insure trouble-free operation of your SHARP calculator, we recommend the following:
1. The calculator should be kept in areas free from extreme temperature changes, moisture, and dust.
  2. A soft, dry cloth should be used to clean the calculator. Do not use solvents or a wet cloth.
  3. The solar cell is delicate. It should not be pressed or tampered with.
  4. If service should be required on this equipment, use only a SHARP servicing dealer, a SHARP approved service facility or SHARP repair service where available.



This calculator has a folding support so it can be positioned easily on the desk for a good operating angle.  
(See diagram)

Please press the  $\text{ON/C}$  key whenever you see no indication, or meaningless display figures or signs in the display or the keys do not function despite sufficient light.

## THE KEYBOARD



## OPERATING CONTROLS

①  CONSTANT MODE SELECTOR:

- "K" position: The following constant functions will be performed.  
Multiplication: The calculator will automatically remember the first number entered (the multiplicand) and the  $\times$  instruction.  
Division: The calculator will automatically remember the second number entered (the divisor) and the  $\div$  instruction.  
"•" position: Neutral

②  ROUNDING SELECTOR:

- "↑" position: In multiplication and division, an answer is rounded up.  
"5/4" position: In multiplication and division, an answer is rounded off.  
"↓" position: An answer is rounded down.  
Note: In addition and subtraction or floating decimal mode, an answer is rounded down.

③  DECIMAL/ADD MODE SELECTOR:

1. Decimal position (F, 3, 2, 0)  
Presets the number of decimal places in the answer.  
In the "F" position, the answer is displayed in the floating decimal system.
2. Add mode position (A):  
The decimal point in addition and subtraction entries is automatically positioned to the 2nd digit from the lowest digit of an entry number. Use of the add mode permits addition and subtraction of numbers without an entry of the decimal point. Use of the  $.$ ,  $\times$  and  $\div$  keys will automatically override the Add Mode and decimal correct answers will be displayed.

Example: Set decimal/add mode selector at A, 5/4

A. Enter	$12 \text{ } \boxed{.} 3 \text{ } \pm$	Read	12.30
B. Enter	$\text{ON/C} 123 \text{ } \times$	Read	123.
	$1 \text{ } \boxed{0} \text{ } \pm$		12'300.00

④  ACCUMULATION SELECTOR:

- "Σ" position: This selector will accumulate the following:  
1. Numbers entered or answers obtained with the  $\pm$  and  $\%$  keys will be accumulated in the 1st memory register.  
2. Numbers entered or answers obtained with the  $-$  key will be subtracted from the 1st memory register.

## "•" position: Neutral

⑤  R-CI 2ND MEMORY KEYS:

MEMORY PLUS  $\boxed{+}$ : Adds an entry or an answer to the 2nd memory. This key also serves as the  $\pm$  key when accumulating product and/or quotients in the 2nd memory.

RECALL-CLEAR MEMORY  $\boxed{\text{R-CI}}$ : Pressed once, recalls the contents of the 2nd memory to the display. Pressed twice, recalls and clears the contents of the 2nd memory.

⑥  CA CLEAR ALL KEY:

Before starting calculation, press this key. This causes the numerical values and calculation commands including memory contents to be cleared.

⑦  IC ITEM COUNT KEY:

The counter will count the number of times that the  $\pm$  key has been depressed in the addition.

Note: Each time the  $-$  key is used in the subtraction, 1 will be subtracted from the count.

When the  $\boxed{\text{IC}}$  key is pressed once, the number stored is displayed and may be used for further calculation. To clear the counter, press the  $\boxed{\text{IC}}$  key twice. The counter has the capacity of a maximum of 3 digits (up to 999). If the count exceeds 999, the counter recounts from 0 (Zero).

⑧  → RIGHT SHIFT KEY:

Operation of this key in entering numbers or calculated result shifts the number one digit to the right together with a decimal point. Used for one digit correction.

⑨  ✓ SQUARE ROOT KEY:

Depressed after a number or calculation, calculates the square root of that entry and/or displayed numbers.

An answer is displayed in the floating decimal system.

Example:  $5 \sqrt{\phantom{x}} \rightarrow 2.23606797749$

⑩  CE CLEAR ENTRY KEY:

Clears a number which has been entered into the machine prior to use of a function key.

Example: Set decimal at 0

$12 \pm \text{A3 } \boxed{\text{CE}} \text{ 34 } \pm \rightarrow 46.$   
↑  
(12 + 34 =)

Mis-entry

⑪  ± CHANGE SIGN KEY:

Changes the sign of a number from a positive to a negative or a negative to a positive.

Positive      Negative

Example:  $5 \pm \rightarrow -5.$

⑫  ON/C POWER ON/CLEAR KEY:

Clears the contents of the calculator, excluding the memory register.

- Press the  $\text{ON/C}$  key whenever there are no display indicators, meaningless display figures or signs appear or the keys do not function despite sufficient light.

⑬  0 00 to 9 NUMERAL KEYS:

Used to enter numbers.

⑭  . DECIMAL POINT KEY:

Inputs the decimal place when depressed before or after a numeric entry.

Example:  $\boxed{.} 7 \rightarrow 0.7$

⑮  - MINUS EQUALS KEY:

Subtracts the number from the contents of the calculation register. This key is also used to obtain the product/quotient in negative multiplication and division.

⑯  ± PLUS EQUALS KEY:

Adds the number to the contents of the calculation register. This key is also used to obtain the results in multiplication and division.

⑰  MU MULTIPLE USE KEY:

Used to perform mark-up, percent change and automatic add-on/discount.

⑱  % PERCENT KEY:

Permits entry of actual percentages rather than their decimal equivalents for percent calculations.

Example: Set decimal at 2

$150 \times 25 \% \rightarrow 37.50$

⑲  ÷ DIVISION KEY:

Orders division.

⑳  × MULTIPLICATION KEY:

Orders multiplication.

㉑  M+ M- RM CM 1ST MEMORY KEYS:

These keys have access to the 1st memory register to store, calculate and recall numbers for further use.

MEMORY PLUS  $\boxed{M+}$ : When depressed after a numeric key or a calculation this key adds the numbers or the result to the 1st memory register.

MEMORY MINUS  $\boxed{M-}$ : When depressed after a numeric key or a calculation this key subtracts the numbers or the result from the 1st memory register.

RECALLMEMORY  $\boxed{RM}$ : Displays the contents stored (the answer) in the 1st memory register on the display. It does not clear the contents, but recalls the answer to the display.

CLEAR MEMORY  $\boxed{CM}$ : Clears the entire contents of the 1st memory register only.

㉒  DISPLAY

1234567890 12. E M1

M: 1st memory symbol

Appears when a number is in the 1st memory.

—: Minus symbol

Appears when a number is a negative.

E: Error symbol

Appears when an overflow or an error is detected.

I: 2nd memory symbol

Appears when a number is in the 2nd memory.

## BATTERY REPLACEMENT

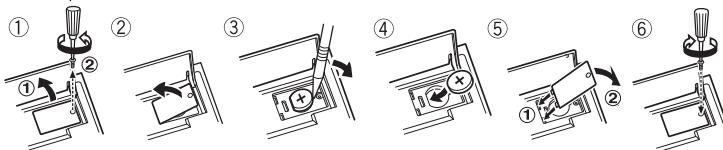
The backup battery can support the solar cell for approximately seven years at room temperature (20°C/68°F).

If a weak battery is left in the calculator, the memory contents may be lost.

When to replace:

- At least once every seven years, even if the calculator is functioning properly.
- The memory contents become null.
- The display dims in dark places.
- The display will not appear in insufficient lighting by pressing the  $\text{ON/C}$  key after the power is automatically turned off.

How to replace:



**"MEMORY SAFE GUARD" function** — The contents of the memory are retained even when the calculator is turned off. A value stored in memory will thus remain until it is changed or until the backup battery runs out.

### Automatic Power-Off function (A.P.O.):

This calculator is automatically turned off approximately 7 minutes after the last key operation to save the battery.

## CALCULATION EXAMPLES

NOTE: ■ Depress the  $\text{CA}$  key prior to beginning any calculation.

If nothing appears on the display during calculation do not continue making entries.

CALCULATION	EXAMPLE	K+	$\text{↑54↓}$	F320A	$\Sigma$	OPERATION	DISPLAY
Addition & subtraction	$125 + 350 + 25 =$	•			0	• $125 \boxed{+} 350 \boxed{+}$	500.
Addition and subtraction with add mode	$2.50 + 4.50 - 3.00 =$	•		A	• $250 \boxed{+} 450 \boxed{-}$	4.00	
Repeat addition and subtraction	$12 + 12 + 12 + 45 - 10 - 10 =$	K		0	• $12 \boxed{+} 12 \boxed{+} 12 \boxed{-} 45 \boxed{-} 10 \boxed{-}$	61.	
Multiplication and division	$12 \times 45 \times 78 =$	•		0	• $12 \boxed{\times} 45 \boxed{\times}$	42'120.	
	$840 \div 4 \div 15 =$	•		F	• $840 \boxed{\div} 4 \boxed{\div}$	14.	
Square and power calculations	$2 \times 2 = 2^2 =$	•		0	• $2 \boxed{\times} \boxed{\pm}$	4.	
	$2 \times 2 \times 2 = 2^3 =$	K		0	• $2 \boxed{\times} \boxed{\pm} \boxed{\pm}$	8.	
Reciprocal calculation	$\frac{1}{7} =$	•	↓	F	• $7 \boxed{\div} \boxed{\pm}$	0.14285714285	
Square root calculation	$\sqrt{7} =$	•	↓	F	• $7 \boxed{\sqrt{}}$	2.64575131106	
Constant calculations	$\frac{295}{295} \times 8 =$ $\frac{295}{295} \times 6 =$ $18 \div 2 =$ $12 \div 2 =$	K		0	• $295 \boxed{\times} 8 \boxed{\pm}$	2'360.	
		K		0	• $295 \boxed{\times} 6 \boxed{\pm}$	1'770.	
Percent calculations	$650 \times 15\% =$ $123 \div 1368 = (%)$	•		2	• $650 \boxed{\times} 15 \boxed{\%}$	97.50	
		•	5/4, ↓	2	• $123 \boxed{\div} 1368 \boxed{\%}$	8.99	
Memory calculations	• Before beginning, depress the $\text{CM}$ key to clear the contents of the memory register.  $135 \times \$4.00 = ?(1)$ $150 \times 7.75 = ?(2)$ $450 \times 3.45 = ?(3)$ $?(4)$	•		2	• $\text{CM} \quad 135 \boxed{\times} 4 \boxed{\pm} \quad 540.00 \text{M}(1)$ • $150 \boxed{\times} 7.75 \boxed{\pm} \quad 1'162.50 \text{M}(2)$ • $450 \boxed{\times} 3.45 \boxed{\pm} \quad 1'552.50 \text{M}(3)$ • $\text{RM} \quad 3'255.00 \text{M}(4)$	1'162.50 M(2) 1'552.50 M(3) 3'255.00 M(4)	
Add-on/discount calculation	$650 + (650 \times 25\%) =$ $650 - (650 \times 25\%) =$	•		2	• $650 \boxed{\times} 25 \boxed{\%}$	162.50 812.50	
		•		2	• $650 \boxed{\times} 25 \boxed{\%}$	162.50 487.50	

### PERCENT MARK-UP BASED ON COST ( $\text{MU}$ )

Calculate the selling price and the gross profit from the cost of \$8,160 on the basis of a 15% profit on the selling price.

Calculation method:

$$\text{Selling price} = \frac{8160}{1 - \frac{15}{100}} = \text{①}$$

K •  $\text{↑54↓}$  F320A  $\Sigma$  •

ENTER	DEPRESS	DISPLAY
8160	$\boxed{\div}$	8'160.
15	$\boxed{\text{MU}}$	9'600.00 ①

### PERCENT MARK-UP BASED ON SELLING PRICE ( $\text{MU}$ )

Calculate the cost and the gross profit from the selling price of \$9,780 on the basis of 20% profit of the cost.

Calculation method:

$$\text{Cost} = \frac{9780}{1 + \frac{20}{100}} = \text{①}$$

K •  $\text{↑54↓}$  F320A  $\Sigma$  •

ENTER	DEPRESS	DISPLAY
9780	$\boxed{\div}$	9'780.
20	$\boxed{\text{MU}}$	8'150.00 ①

## AVERAGING

Calculate the average of a series of values.

EXAMPLE:

Day	Sales
Monday	\$123.15
Tuesday	118.00
Wednesday	131.58
Thursday	125.02
Friday	158.25

Total Sale \$656.00 for 5 days

Average Sales = \$131.20 ..... ③

Note: If you are working in dollars and cents, use the "Add Mode." If not, set the decimal as desired.

K • $\text{↑54↓}$ F320A $\Sigma$ •		
OPERATION	DISPLAY	NOTE
$\text{IC}$ $\text{IC}$ $\text{ON/C}$	0.	
12315 $\boxed{\pm}$	123.15	
118 $\boxed{0}$ $\boxed{\pm}$	241.15	
13158 $\boxed{\pm}$	372.73	
12502 $\boxed{\pm}$	497.75	
15825 $\boxed{\pm}$	656.00	①
$\boxed{\div}$ $\text{IC}$	5.	②
$\boxed{\pm}$	131.20	③

## USING THE 2ND MEMORY

EXAMPLE:  $\frac{(874 - 557) \times (7 + 8)}{(1746 + 876) + (12 + 23)}$

K • $\text{↑54↓}$ F320A $\Sigma$ •		
Operation	Display	
$\text{R-CI}$ $\text{R-CI}$ $\text{CM}$ $\%$	0.	
12 $\boxed{M+}$ 23 $\boxed{M+}$	23. M	
$\%$	0. M	
1746 $\boxed{+}$ 876 $\boxed{+}$	2'622. M	
$\div$ $\text{RM}$	35. M	
$\text{CM}$ $\boxed{M+}$	75. M	
$\%$	0. M	
874 $\boxed{+1}$	874. M1	
557 $\boxed{+1}$ *	557. M1	
$\%$	0. M1	
7 $\boxed{\pm}$ 8 $\boxed{\pm}$	15. M1	
$\times$ $\text{R-CI}$	317. M1	
$\div$ $\text{RM}$	4'755. M1	
$\boxed{\pm}$	75. M1	
	63. M1	

\* To store a negative number, use the  $\boxed{\pm}$  before the  $\boxed{+1}$ .

## ERRORS

There are several situations which will cause an overflow or an error condition.

When this occurs, an error symbol "E" will be displayed.

The  $\text{ON/C}$ ,  $\text{CE}$  or  $\boxed{\pm}$  key must be pushed to restart the calculation.

The contents of the memory at the time of the error are retained.

1. Entry of more than 12 digits.

(The first 12 digits of an entry number and an error symbol "E" are displayed. In this case depress the  $\text{CE}$  or  $\boxed{\pm}$  key.)

2. When the integer portion of an answer exceeds 12 digits and does not exceed 24 digits

### OVER FLOW CALCULATION

Ex. Set the decimal at "F"

$$908770000000 \boxed{\div} .0326 \boxed{x}$$

$$\text{CE} \rightarrow 27.8763803680\text{E}$$

$$874 \boxed{\pm} \rightarrow 24'363.9564416$$

$$(24,363.9564416 \times 1,000,000,000,000 = 24,363,956 441,600,000)$$

3. When the integer portion of the quotient in percentage calculation is 25 digits.

$$(Ex. 1000000000000 \boxed{\div} 0.000000000001 \boxed{\%})$$

4. When any number is divided by zero (Ex. 5  $\boxed{\div} 0 \boxed{\pm}$ ).

5. When the contents of the memory exceed 12 integers.

$$(Ex. \text{CM} 999999999999 \boxed{M+} 1 \boxed{M+})$$

6. When the square root of a negative number is calculated. (Ex. 5  $\boxed{\sqrt{}}$ )

## SPECIFICATIONS

Type:	Electronic calculator
Operating capacity:	12 digits
Decimal point:	Read in: Floating up to 11 decimal places Result: Decimal-Set (F, 3, 2, 0) with add mode
Calculations:	Four arithmetic calculations, Constant calculation, Add mode in addition and subtraction, Square calculation, Chain calculation, Power calculation, Percent calculation, Reciprocal calculation, Add-on calculation, Discount calculation, Memory calculation, Square root calculation, Mark-up calculation, etc.
Power supply:	Built-in solar cell and lithium battery (3V ... (DC) CR2032 X1)
Automatic Power-off:	Approx. 7 min.
Operating temperature:	0°C ~ 40°C (32°F to 104°F)
Dimensions:	185(W) × 175(D) × 18(H) mm 7-9/32"(W) × 6-7/8"(D) × 23/32"(H)
Weight:	Approx. 260 g (0.57 lb.) (with battery, without a soft case)
Accessories:	Lithium battery (installed), Soft case, Operation manual

For USA only:

This product contains a CR Coin Lithium Battery which contains Perchlorate Material – special handling may apply, California residents, See [www.dtsc.ca.gov/hazardouswaste/perchlorate/](http://www.dtsc.ca.gov/hazardouswaste/perchlorate/)

SHARP will not be liable nor responsible for any incidental or consequential economic or property damage caused by misuse and/or malfunctions of this product and its peripherals, unless such liability is acknowledged by law.

### In U.S.A.:

#### LIMITED WARRANTY

VICTOR TECHNOLOGY LLC warrants to the first consumer purchaser that this Sharp brand product (the "Product"), when shipped in its original container, will be free from defective workmanship and materials, and agrees that it will, at its option, either repair the defect or replace the defective Product or part thereof with a new or remanufactured equivalent at no charge to the purchaser for parts or labor for the period(s) set forth below.

This warranty does not apply to any appearance items of the Product nor to the additional excluded item(s) set forth below nor to any Product the exterior of which has been damaged or defaced, which has been subjected to improper voltage or other misuse, abnormal service or handling, or which has been altered or modified in design or construction.

In order to enforce the rights under this limited warranty, the purchaser should follow the steps set forth below and provide proof of purchase to the seller.

The limited warranty period is as set forth below, commencing with respect to the Product, and thereafter for the remaining period of the warranty coverage period(s) from the date of purchase, unless otherwise provided in the following table.

Normal wear and tear and consumable items are not covered by this warranty.

The warranties described herein shall be the sole and exclusive remedy available to the purchaser. Correction of defects, in the manner and for the period of time described herein, shall constitute complete fulfillment of all liabilities and responsibilities of Victor to the purchaser with respect to the Product, and shall preclude all other claims.

Victor shall not be liable for any incidental or consequential damages. In no event shall Victor be liable for any damages or expenses arising from the use of any Product which was repaired or attempted repairs performed by anyone other than an authorized service center. Nor shall Victor be liable or in any way responsible for any damages or expenses arising from the use of any Product which was repaired or attempted repairs performed by anyone other than an authorized service center. Some states do not allow the exclusion of incidental or consequential damages, so the above exclusion may not apply to you.

THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS. YOU MAY ALSO HAVE OTHER RIGHTS WHICH VARY FROM STATE TO STATE.

Your Product : Electronic Calculator

Warranty Period for this Product : Six (6) months parts and labor from date of purchase.

Additional Items Excluded from Warranty Coverage : Any consumable items such as paper, maintenance cartridge, ink cartridges supplied with the Product or to any equipment or any hardware, software, firmware, fluorescent lamp, power cords, covers, rubber parts, or peripherals other than the Product.

Call Victor Technology LLC toll free at 1-844-578-1637 or email [SharpService@victortech.com](mailto:SharpService@victortech.com).

You may be asked to ship your Product to Victor Technology LLC for repair. Be sure to have proof of purchase available.

If you ship or mail the Product, be sure it is packaged carefully.

TO OBTAIN SUPPLY, ACCESSORY OR PRODUCT INFORMATION, CALL 1-844-578-1637.

Sharp Calculator Service by Victor Technology LLC

[www.SharpCalculators.com](http://www.SharpCalculators.com)

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