

Cat. No. 65-423  
**OWNER'S MANUAL**

Please read before using this equipment.

**EC-293**

**2-Line  
Pocket Calculator**



**RadioShack®**

# FEATURES

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Your RadioShack EC-293 2-Line Pocket Calculator has two power sources, so you can use it almost anywhere. Its built-in solar panel provides power when you expose the calculator to light. When the surrounding light is not bright enough, the supplied internal battery provides the power.

The calculator's features include:

**Two-Line Display** — lets you easily see the memory value on the upper line, and the total calculation and the number you just entered on the lower line.

**Four-Function Memory** — saves important subtotals, and lets you add to and subtract from them.

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**+/- Key** — changes the sign of the displayed number.

**Percentage Key** — simplifies discount, percentage change, and tax calculations.

**SHIFT Key** — lets you view and total a memory value with a new entry on the same display.

**Automatic Power-Off** — conserves battery power by turning off the calculator if you do not press a key for about 8 minutes.

**Auto-Comma** — the calculator automatically adds commas to numbers over three digits, making it easy to read large numbers.

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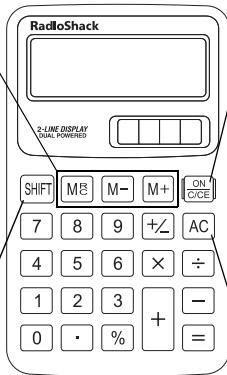
# A QUICK LOOK AT THE EC-293

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Memory Keys.

**ON/C.CE** —  
press to turn on  
calculator and  
clear entries.



**SHIFT** —  
press to view  
second line.

**AC** — clears all  
calculations.

# OPERATION

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Press **ON** (C.CE) or **AC** to turn on your calculator.

If you do not press a key for about 8 minutes, your calculator automatically turns off.

Your EC-293 lets you calculate normal and memory values separately and total them together. When you store or calculate a value in memory, the memory value displays on the upper-line. You can see the total calculation and the number you just entered on the lower line. To total both values, press **SHIFT** (see “Using Shift” on Page 19).

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## CORRECTING ENTRY ERRORS

If you enter an incorrect value, press **C.CE (ON)** once, then enter the correct value and continue your calculation.

To clear the display for a new calculation, press **AC** so **0 .** appears, then begin the new calculation.

**Note:** Pressing **AC** also clears any calculations stored in memory.

If you enter an incorrect function key (**+**, **-**, **×**, **÷**), simply press the correct key and continue your calculation.

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## CALCULATION ERRORS

**E** (error) appears in the lower left corner when:

- A calculation result exceeds eight digits to the left of the decimal point. This is an overflow error (see “Estimating Calculation Results” on Page 9).
- A memory calculation result exceeds eight digits to the left of the decimal point. Memory contents remain unchanged.
- You try to divide by 0.

If **E** appears, press **C.CE** once to clear the error, or press **AC** to clear the display.



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## Estimating Calculation Results

If you perform an operation that results in an overflow error, you can estimate the correct result (to eight significant digits) by following these steps.

1. Count the number of digits displayed to the left of the decimal point.
2. Remove the decimal point.
3. Add as many zeros to the *right* of the number as there were digits to the *left* of the decimal point.

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For example, if **E 1.0142064** appears, the approximate answer is 101,420,640. If **E 319.70347** appears, the approximate answer is 31,970,347,000.

## USING THE +/- KEY

Press +/- to change the displayed value from positive to negative or from negative to positive.

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# CALCULATION EXAMPLES

## Mixed Calculations

You Press	You See
24 +	24.
36 -	60.
75 ×	- 15.
9 =	- 135.

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## Percentage, Add-On, and Discount Calculations

Calculation: 20% of 720

You Press	You See
$720 \times 20 \%$	144.

Calculation: 30% added to 540

You Press	You See
$540 + 30 \%$	702.

Calculation: 20% reduction of 800

You Press	You See
$800 - 20 \%$	640.

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## Constant Calculations

For multiplication, the first value you enter is the constant. For addition, subtraction, and division, the second value you enter is the constant.

You Press	You See
$5 \times 7 =$	35.
$9 =$	45.
$10 =$	50.
$100 \div 5 =$	20.
$200 =$	40.
$300 =$	60.

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## Reciprocal Calculation

To find the reciprocal of a number, simply enter the number then press ( $\div$ ) followed by =

Calculation:  $1/8 = 0.125$

You Press	You See
8 $\div$ =	0.125

## Exponential Calculation

Calculation:  $7^6 = 117,649$

You Press	You See
7 $\times$ = = = =	117'649.

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## Memory Calculations

To store a value in memory, first press **MRC** (memory recall/clear) twice to clear the memory, then press **C.CE**. Or, press only **AC** to clear all calculations.

To add a value to memory, enter the number or calculation you want to add, then press **M+**. The calculator totals the current memory calculation (if one is pending) and adds that value to memory.

### Notes:



- **M** appears in the upper left corner to show that a value is stored in memory.
- All memory calculations display on the upper-line.



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To subtract a value from memory, enter the number or calculation you want to subtract. Then press **M-**. The calculator totals the current memory calculation (if one is pending) and subtracts that value from memory.



To recall the value from memory, press **MRC** once.



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To clear the contents in memory, press **MRC** twice so **M** disappears.

**Example:**

$$\frac{2392 + 576}{786 - 432} - 73 = -64.61582$$

You Press	You See
<b>MRC MRC</b> <b>C.CE</b>	<input type="text"/> 0.
<b>786 M+</b>	<b>M</b> <input type="text"/> 786. 786.
<b>432 M-</b>	<b>M</b> <input type="text"/> 354. 432.
<b>2392 +</b>	<b>M</b> <input type="text"/> 354. 2' 392.
<b>576 ÷</b>	<b>M</b> <input type="text"/> 354. 2' 968.

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You Press	You See
MRC	<b>M</b> <input type="text" value="354."/> 354.
-	<b>M</b> <input type="text" value="354."/> 8.3841807
73 =	<b>M</b> <input type="text" value="354."/> -64.61582

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## USING SHIFT

To total both memory and normal values and see them displayed at the same time, press the function key (+, -, x, or ÷), press **SHIFT** to shift the memory value from the upper line to the lower line, then press = to get the total value.

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Example:  $6 + 8 + 3 + 14 = 31$

You Press	You See
6 M+	<b>M</b> <input type="text" value="6."/> 6.
8 M+	<b>M</b> <input type="text" value="14."/> 8.
SHIFT	<b>M</b> <input type="text" value="14."/> 14.
+ 3 =	<b>M</b> <input type="text" value="14."/> 17.
+ SHIFT =	<b>M</b> <input type="text" value="14."/> 31.

# CARE

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To enjoy your RadioShack 2-Line Pocket Calculator for a long time:

- Keep the calculator dry. If it gets wet, wipe it dry immediately.
- Handle the calculator gently and carefully. Don't drop it.
- Use and store the calculator only in normal temperature environments.
- Keep the calculator away from dust and dirt.
- Wipe the calculator with a damp cloth occasionally to keep it looking new.

Modifying or tampering with the calculator's internal components can cause a malfunction and might invalidate the calculator's

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warranty. If your calculator is not operating as it should, take it to your local RadioShack store for assistance.

## RESETTING THE CALCULATOR

If your calculator stops working properly, use a straightened paper clip to press **RESET** on the back of the calculator. All characters display briefly, then **0 .** appears.



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## REPLACING THE BATTERY

Although your calculator uses solar power most of the time, the supplied backup battery will eventually become weak and need replacing. If the display speed slows down in a dimly-lit room, replace the battery with a 389A-type button-cell battery, available at your local RadioShack store.

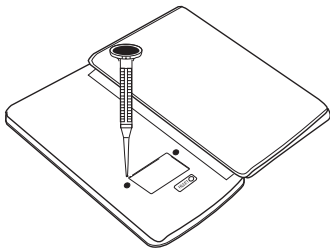
**Caution:** Use only a fresh battery of the required size and recommended type.

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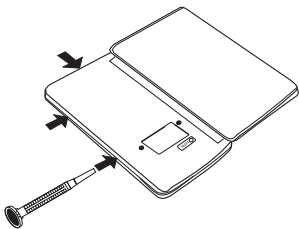
Follow these steps to replace the battery.

1. Using a Phillips screwdriver, remove the screws on the back of the calculator.

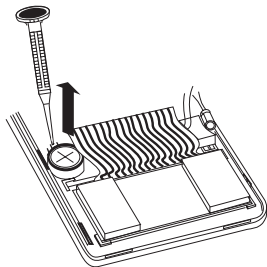




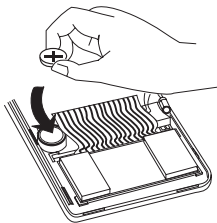
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2. Insert a flat-blade screwdriver between the case halves at all locations indicated by the arrows, twisting the screwdriver slightly at each location to separate the case.



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3. Use a screwdriver to gently pry out the old battery.



4. Position the new battery so the positive (+) side is up, then insert it into the battery compartment.



5. Snap the front and back case halves back together, then replace the screws.

**Warnings:**

- Dispose of the old battery promptly and properly. Do not bury or burn it.
- Keep button-cell batteries away from children. Swallowing a button-cell battery can be fatal.

# **SPECIFICATIONS**

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Display ..... 8-Digit, Liquid Crystal

Solar Cell

Minimum Illumination ..... 220 LUX

Battery ..... One 389A Button-Cell

Battery Life ..... On: 6.9 Months  
Off: 50.8 Months

Operating

Temperature ..... 32° to 104°F  
(0° to 40°C)

Dimensions

(HWD) .....  $4\frac{3}{4} \times 2\frac{13}{16} \times \frac{5}{16}$  in  
(121 × 72 × 8 mm)

Weight

(Including Battery) ..... 2.82 oz  
(80 g)

Specifications are typical; individual units might vary. Specifications are subject to change and improvement without notice.



# NOTES

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## Limited One-Year Warranty

This product is warranted by RadioShack against manufacturing defects in material and workmanship under normal use for one (1) year from the date of purchase from RadioShack company-owned stores and authorized RadioShack franchisees and dealers. EXCEPT AS PROVIDED HEREIN, RadioShack MAKES NO EXPRESS WARRANTIES AND ANY IMPLIED WARRANTIES, INCLUDING THOSE OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE LIMITED IN DURATION TO THE DURATION OF THE WRITTEN LIMITED WARRANTIES CONTAINED HEREIN. EXCEPT AS PROVIDED HEREIN, RadioShack SHALL HAVE NO LIABILITY OR RESPONSIBILITY TO CUSTOMER OR ANY OTHER PERSON OR ENTITY WITH RESPECT TO ANY LIABILITY, LOSS OR DAMAGE CAUSED DIRECTLY OR INDIRECTLY BY USE OR PERFORMANCE OF THE PRODUCT OR ARISING OUT OF ANY BREACH OF THIS WARRANTY, INCLUDING, BUT NOT LIMITED TO, ANY DAMAGES RESULTING FROM INCONVENIENCE, LOSS OF TIME, DATA, PROPERTY, REVENUE, OR PROFIT OR ANY INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, EVEN IF RadioShack HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

Some states do not allow the limitations on how long an implied warranty lasts or the exclusion of incidental or consequential damages, so the above limitations or exclusions may not apply to you.

In the event of a product defect during the warranty period, take the product and the RadioShack sales receipt as proof of purchase date to any RadioShack store. RadioShack will, at its option, unless otherwise provided by law: (a) correct the defect by product repair without charge for parts and labor; (b) replace the product with one of the same or similar design; or (c) refund the purchase price. All replaced parts and products, and products on which a refund is made, become the property of RadioShack. New or reconditioned parts and products may be used in the performance of warranty service. Repaired or replaced parts and products are warranted for the remainder of the original warranty period. You will be charged for repair or replacement of the product made after the expiration of the warranty period.

This warranty does not cover: (a) damage or failure caused by or attributable to acts of God, abuse, accident, misuse, improper or abnormal usage, failure to follow instructions, improper installation or maintenance, alteration, lightning or other



incidence of excess voltage or current; *(Continued)*  
*(Continued)* (b) any repairs other than those provided by a RadioShack Authorized Service Facility; (c) consumables such as fuses or batteries; (d) cosmetic damage; (e) transportation, shipping or insurance costs; or (f) costs of product removal, installation, set-up service adjustment or reinstallation.

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.



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