

brother

INTERNATIONAL CORPORATION

Model 862/Portable Mini Calculator
OPERATING INSTRUCTIONS

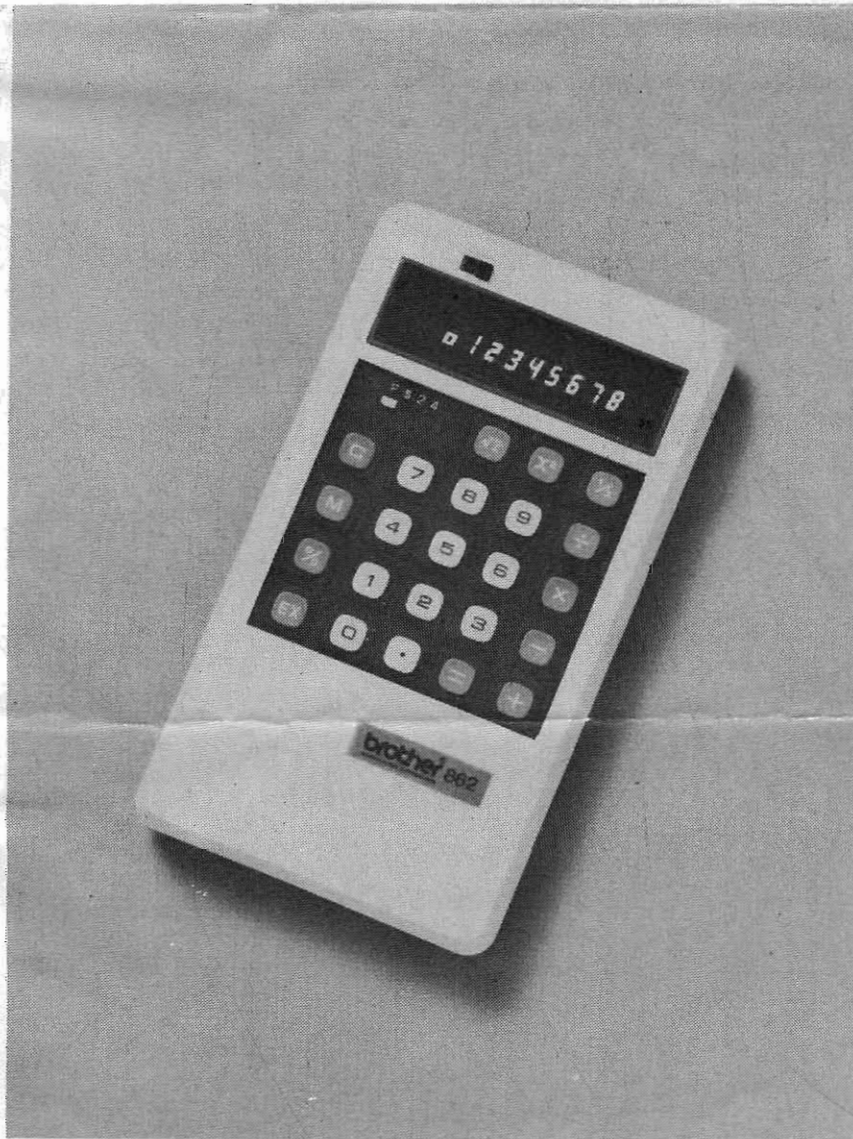


TABLE OF CONTENTS

	PAGE
Introduction	1
Explanation of Operation Keys	1
Explanation of Mode Switch	3
Arithmetic Operations	3
1. Add & Subtract	3
2. Multiply & Divide	4
3. Square Root Calculations	5
4. X Squared Calculations	5
5. Inverse X (1/X) Calculation	5
6. Percentage Calculations	6
7. Constant Calculations	6
8. Memory Calculation	7
9. Mixed Calculations	7
Commercial Applications	9
1. Mark-up/Discount and Tax Add-on	9
2. Percentage Figure as a Constant	9
3. Interest Calculation	9
4. Invoice Extension with Discount, Tax Add-on and Delivery Charge	10
5. Percentage Distribution against Total Amount	10
Special Indicators	11

INTRODUCTION

The BROTHER 862 Electronic Calculator is a full featured, pocketable unit designed to handle nearly all commercial and business calculations with speed and simplicity.

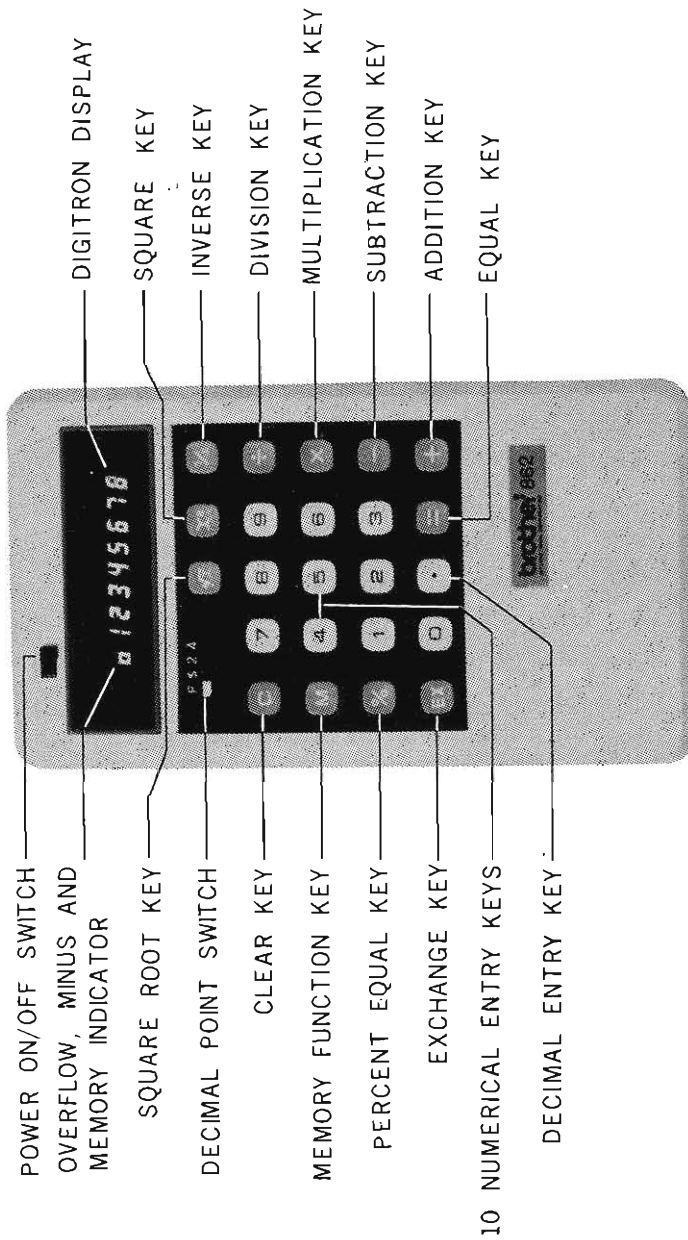
For its size it has tremendous calculating capability and has more features for calculating convenience than all of its contemporaries.

It performs not only addition, subtraction, multiplication and division but also square, square root, number inverse and percentage calculations.

Among the many modern features are included the independent memory storage register, floating/monetary mode input, fixed/floating decimal point output, exchange key, rounded-off/up on result (fixed point output), constant and sequential operations, automatic clearing with power turn-on and many others to make your calculating problems easy.

EXPLANATION OF OPERATION KEYS

- | | | |
|--------------------|-----|---|
| \boxed{C} | key | To correct numerical entries, reset error conditions or clear all registers including memory as well as resetting all modes. |
| $\boxed{+}$ | key | To command addition and constant calculation. |
| $\boxed{-}$ | key | To command subtraction. |
| $\boxed{\times}$ | key | To command multiplication. |
| $\boxed{\div}$ | key | To command division. |
| $\boxed{=}$ | key | To obtain result of multiplication and division. In the case of addition or subtraction, $\boxed{=}$ key will perform the appropriate function and terminate the chain. |
| $\boxed{\%}$ | key | To obtain result of percentage. |
| $\boxed{\sqrt{X}}$ | key | To command square root of X. The display rounds to the selected decimal setting.
The floating point value is retained in the register. |
| $\boxed{X^2}$ | key | To command X square. The register will retain the original number as a constant multiplier. |
| $\boxed{1/X}$ | key | To command inverse of X. The register will retain the original number as a constant divisor. |
| \boxed{EX} | key | To exchange entries (Reverse figures on the display). |
| \boxed{M} | key | To allow $\boxed{+}$ and $\boxed{-}$ keys to add or subtract directly memory. When the memory mode is set, the $\boxed{=}$ or $\boxed{\%}$ key will recall the contents of the memory to the display.
To clear the memory. |



EXPLANATION OF MODE SWITCH

Decimal Switch

- "F" position The final results will be left in full floating format.
- "\$" position The decimal point is automatically set to position 2 for inputs so that the "." key need not be entered.
Final results will be processed as though this switch were in position "2"
- "2" & "4" position These will cause floating point results to be limited to 2 or 4 decimal place with 5/4 rounding performed if possible.

ARITHMETIC OPERATIONS

1. Add & Subtract

Example 1 : $3456 + 7890 = 11346$

Depress the $\boxed{3}\boxed{4}\boxed{5}\boxed{6}$ keys. As the numbers are depressed they will appear in the display. Next, depress the $\boxed{+}$ key.

Now depress the $\boxed{7}\boxed{8}\boxed{9}\boxed{0}$ and $\boxed{=}$ key.

Then the final result (11346) will appear in the display.

Example 2 : $479 + 586 + 184 = 1249$

DEPRESS KEY	DISPLAY SHOWS
$\boxed{4}\boxed{7}\boxed{9}$	479.
$\boxed{+}$	479.
$\boxed{5}\boxed{8}\boxed{6}$	586.
$\boxed{+}$	1065.
$\boxed{1}\boxed{8}\boxed{4}$	184.
$\boxed{=}$	1249. (Answer)

Example 3 : $235 - 179 - 3 = 53$

DEPRESS KEY	DISPLAY SHOWS
$\boxed{2}\boxed{3}\boxed{5}$	235.
$\boxed{-}$	235.
$\boxed{1}\boxed{7}\boxed{9}$	179.
$\boxed{-}$	56.
$\boxed{3}$	3.
$\boxed{=}$	53. (Answer)

Example 4 : $423 - 382 - 57 = -16$

DEPRESS KEY	DISPLAY SHOWS
$\boxed{4}\boxed{2}\boxed{3}$	423.
$\boxed{-}$	423.
$\boxed{3}\boxed{8}\boxed{2}$	382.
$\boxed{-}$	41.
$\boxed{5}\boxed{7}$	57.
$\boxed{=}$	-16. (Answer)

2. Multiply & Divide

Example 1 : $19 \times 23 = 437$

Setting : Decimal switch at "F"

DEPRESS KEY	DISPLAY SHOWS
$\boxed{1} \boxed{9}$	19.
$\boxed{\times}$	19.
$\boxed{2} \boxed{3}$	23.
$\boxed{=}$	437. (Answer)

Example 2 : $4.27 \times 11.98 = 51.15$

Setting : Decimal switch at "2"

DEPRESS KEY	DISPLAY SHOWS
$\boxed{4} \boxed{.} \boxed{2} \boxed{7}$	4.27
$\boxed{\times}$	4.27
$\boxed{1} \boxed{1} \boxed{.} \boxed{9} \boxed{8}$	11.98
$\boxed{=}$	51.15 (Answer)

Example 3 : $2.4 \times 7.89 \times 0.59 = 11.17$

Setting : Decimal switch at "2"

DEPRESS KEY	DISPLAY SHOWS
$\boxed{2} \boxed{.} \boxed{4}$	2.4
$\boxed{\times}$	2.4
$\boxed{7} \boxed{.} \boxed{8} \boxed{9}$	7.89
$\boxed{\times}$	18.936 (Intermediate result)
$\boxed{.} \boxed{5} \boxed{9}$	0.59
$\boxed{=}$	11.17 (Answer)

Example 4 : $22 \div 7 = 3.1428571$

Setting : Decimal switch at "F"

DEPRESS KEY	DISPLAY SHOWS
$\boxed{2} \boxed{2}$	22.
$\boxed{\div}$	22.
$\boxed{7}$	7.
$\boxed{=}$	3.1428571 (Answer)

NOTE: If you would set the decimal switch at "2" position, the answer will be 3.14 but at "4" position the answer will be 3.1429.

Example 5 : $235 \div 6 \div 3.14 = 12.4735$

Setting : Decimal switch at "4"

DEPRESS KEY	DISPLAY SHOWS
$\boxed{2} \boxed{3} \boxed{5}$	235.
$\boxed{\div}$	235.
$\boxed{6}$	6.
$\boxed{\div}$	39.666666 (Intermediate result)
$\boxed{3} \boxed{.} \boxed{1} \boxed{4}$	3.14
$\boxed{=}$	12.4735 (Answer)

3. Square Root Calculations

Example 1 : $\sqrt{5} = 2.24$

Setting : Decimal switch at "2"

DEPRESS KEY	DISPLAY SHOWS
$\boxed{5}$	5.
$\boxed{\sqrt{x}}$	2.24 (Answer)

Example 2 : $\sqrt{3.28} = 1.81$

Setting : Decimal switch at "2"

DEPRESS KEY	DISPLAY SHOWS
$\boxed{3} \cdot \boxed{2} \boxed{8}$	3.28
$\boxed{\sqrt{x}}$	1.81 (Answer)

If you want to confirm floating point value, depress the $\boxed{\text{EX}}$ key, and then the answer (1.811077) will come out on the display.

4. X Squared Calculations

Example 1 : $7.2^2 = 51.84$ (A), $4.9^2 = 24.01$ (B)

Setting : Decimal switch at "2"

DEPRESS KEY	DISPLAY SHOWS
$\boxed{7} \cdot \boxed{2}$	7.2
$\boxed{x^2}$	51.84 Answer to (A)
$\boxed{4} \cdot \boxed{9}$	4.9
$\boxed{x^2}$	24.01 Answer to (B)

Example 2 : $9^2 \times 3 = 243$

Setting : Decimal switch at "2"

DEPRESS KEY	DISPLAY SHOWS
$\boxed{9}$	9.
$\boxed{x^2}$	81.
$\boxed{\times}$	81.
$\boxed{3}$	3.
$\boxed{=}$	243. (Answer)

5. Inverse X ($1/x$) Calculation

Example : $\frac{1}{4} \times 5 = 1.25$

Setting : Decimal switch at "2"

DEPRESS KEY	DISPLAY SHOWS
$\boxed{4}$	4.
$\boxed{1/x}$	0.25
$\boxed{\times}$	0.25
$\boxed{5}$	5.
$\boxed{=}$	1.25 (Answer)

6. Percentage Calculations

Example 1 : $125 \times 60\% = 75$

Setting : Decimal switch at "2"

DEPRESS KEY	DISPLAY SHOWS
1 2 5	125.
\times	125.
6 0	60.
%	75. (Answer)

Example 2 : $5/25 \times 100 = 20\%$

Setting : Decimal switch at "2"

DEPRESS KEY	DISPLAY SHOWS
5	5.
\div	5.
2 5	25.
%	20. (Answer)

7. Constant Calculations

Example 1 : $12 \times 10 = 120$ (A), $12 \times 36 = 432$ (B)
 $12 \times 52 = 624$ (C)

Setting : Decimal switch at "F"

DEPRESS KEY	DISPLAY SHOWS
1 2	12.
\times	12.
1 0	10.
=	120. Answer to (A)
3 6	36.
=	432. Answer to (B)
5 2	52.
=	624. Answer to (C)

Example 2 : $16 \div 8 = 2$ (A), $96 \div 8 = 12$ (B), $108 \div 8 = 13.5$ (C)

Setting : Decimal switch at "2"

DEPRESS KEY	DISPLAY SHOWS
1 6	16.
\div	16.
8	8.
=	2. Answer to (A)
9 6	96.
=	12. Answer to (B)
1 0 8	108.
=	13.5 Answer to (C)

Example 3 : $2^5 = 32$

Setting : Decimal switch at "F"

DEPRESS KEY	DISPLAY SHOWS
2	2.
x^y	4.
=	8.
=	16.
=	32. (Answer)

Example 4 : $\sqrt{\sqrt{\sqrt{27}}}=1.51$

Setting : Decimal switch at "2"

DEPRESS KEY	DISPLAY SHOWS
2 7	27.
\sqrt{x}	5.20
\sqrt{x}	2.28
\sqrt{x}	1.51 (Answer)

8. Memory Calculation

Example : $8 \times 4 + 25 \div 5 - 6 \times 9 \div 3 = 19$

Setting : Decimal switch at "F"

DEPRESS KEY	DISPLAY SHOWS
8	8.
\times	8.
4	4.
$=$	32.
M	32.
+	32. (Memory indicator light on)
2 5	25.
\div	25.
5	5.
$=$	5.
M	5.
+	5.
6	6.
\times	6.
9	9.
\div	54.
3	3.
$=$	18.
M	18.
$=$	18.
M	18.
$=$	19. (Answer)

NOTE : If you will make another calculation, you have to depress the keys as following sequence 'M c'.

9. Mixed Calculations

Example 1 : $\frac{(5+7)^2}{6} = 24$

Setting : Decimal switch at "2"

DEPRESS KE	DISPLAY SHOWS
5	5.
+	5.
7	7.
$=$	12.
\times	12.
\div	144.
6	6.
$=$	24. (Answer)

Example 2 : $\frac{7-4}{4} = 0.75$

Setting : Decimal switch at "2"

DEPRESS KEY	DISPLAY SHOWS
7	7.
-	7.
4	4.
÷	3.
=	0.75 (Answer)

Example 3 : $(56+56-89) \times 23 \div 9 = 58.7778$

Setting : Decimal switch at "4"

DEPRESS KEY	DISPLAY SHOWS
5 6	56.
+	56.
5 6	56.
-	112.
8 9	89.
-	23.
×	23.
2 3	23.
÷	529.
9	9.
=	58.7778 (Answer)

Example 4 : $\sqrt{5^2 + 8^2} = 9.43$

Setting : Decimal switch at "2"

DEPRESS KEY	DISPLAY SHOWS
5	5.
X ²	25.
M	25.
+	25. (Memory indicator light on)
8	8.
X ²	64.
M	64.
+	64.
M	64.
-	89.
√X	9.43 (Answer)

COMMERCIAL APPLICATIONS

1. Discount and Tax Add-on

Example : An item sells for \$93.50 with a discount of 10% and sales tax of 5% on the reduced sum.
 What is the discount? What is the sales tax?
 What is the total selling price?

Setting : Decimal switch at "2"

DEPRESS KEY	DISPLAY SHOWS
9 3 . 5	93.5
-	93.5
1 0	10.
%	9.35 (Discount)
=	84.15 (Sales price)
+	84.15
5	5.
%	4.21 (Sales tax)
=	88.36 (Total selling price)

2. Percentage Figure as a Constant

Example : How much is $17\frac{1}{4}\%$ of \$120, \$279.11 and \$56.90?

Setting : Decimal switch at "2"

DEPRESS KEY	DISPLAY SHOWS
1 7 . 2 5	17.25 ($17\frac{1}{4}\%$)
×	17.25
1 2 0	120.
%	20.7 (First answer)
2 7 9 . 1 1	279.11
%	48.15 (Second answer)
5 6 . 9	56.9
%	9.82 (Third answer)

3. Interest Calculation

Example : Find interest charged on a loan for \$1,250 for one year at 8% interest.
 What is the total amount to be paid back?
 What are the monthly payments for 12 months?

Setting : Decimal switch at "2"

DEPRESS KEY	DISPLAY SHOWS
1 2 5 0	1250.
+	1250.
8	8.
%	100. (Interest)
=	1350. (Principle and Interest)
÷	1350.
1 2	12.
=	112.5 (Monthly payment)

4. Invoice Extension with Discount, Tax Add-on and Delivery Charge

Example : 7 items @ \$3.68, 11 items @ \$3.65 and 1 item @ \$15.79. Less 8% discount + 5% tax + \$0.97 delivery charge.

Setting : Decimal switch at "2"

DEPRESS KEY	DISPLAY SHOWS
<input type="text" value="7"/>	7.
<input type="text" value="x"/>	7.
<input type="text" value="3"/> <input type="text" value="."/> <input type="text" value="6"/> <input type="text" value="8"/>	3.68
<input type="text" value="="/>	25.76 (First extension)
<input type="text" value="M"/>	25.76
<input type="text" value="+"/>	25.76 (Memory indicator light on)
<input type="text" value="1"/> <input type="text" value="1"/>	11.
<input type="text" value="x"/>	11.
<input type="text" value="3"/> <input type="text" value="."/> <input type="text" value="6"/> <input type="text" value="5"/>	3.65
<input type="text" value="="/>	40.15 (Second extension)
<input type="text" value="M"/>	40.15
<input type="text" value="+"/>	40.15
<input type="text" value="1"/>	1.
<input type="text" value="x"/>	1.
<input type="text" value="1"/> <input type="text" value="5"/> <input type="text" value="."/> <input type="text" value="7"/> <input type="text" value="9"/>	15.79
<input type="text" value="="/>	15.79 (Third extension)
<input type="text" value="M"/>	15.79
<input type="text" value="+"/>	15.79
<input type="text" value="M"/>	15.79
<input type="text" value="="/>	81.70 (Amount of invoice)
<input type="text" value="-"/>	81.70
<input type="text" value="8"/>	8.
<input type="text" value="%"/>	6.54 (Amount of discount)
<input type="text" value="="/>	75.16 (Net invoice)
<input type="text" value="+"/>	75.16
<input type="text" value="5"/>	5.
<input type="text" value="%"/>	3.76 (for 5% tax)
<input type="text" value="="/>	78.92 (Total invoice)
<input type="text" value="+"/>	78.92
<input type="text" value="."/> <input type="text" value="9"/> <input type="text" value="7"/>	0.97 (Delivery charge)
<input type="text" value="="/>	79.89 (Grand total of invoice)

5. Percentage Distribution against Total Amount

Example : Department A sales \$3,456.00
 Department B sales \$7,891.00
 Department C sales \$1,230.00
 Find gross total sales, percentage for each department and prove the total percentage is 100%.

Setting : Decimal switch at "2"

DEPRESS KEY	DISPLAY SHOWS
<input type="text" value="3"/> <input type="text" value="4"/> <input type="text" value="5"/> <input type="text" value="6"/>	3456.
<input type="text" value="+"/>	3456.

7 8 9 1	7891.
+	11347.
1 2 3 0	1230.
=	12577. (Total gross sales)
÷	12577.
3 4 5 6	3456.
EX	12577.
%	27.48 (First percentage)
M	27.48
+	27.48 (Memory indicator light on)
7 8 9 1	7891.
%	62.74 (Second percentage)
M	62.74
+	62.74
1 2 3 0	1230.
%	9.78 (Third percentage)
M	9.78
+	9.78
M	9.78
=	100.00 (Proof of 100%)

In using the memory for such problems and at any other time, don't forget to depress in order **M****C** keys to clear previous content of the memory. Clearing the memory will not affect the figures on the display.

SPECIAL INDICATORS

This machine is equipped with indicators for overflow, memory sign and negative answers.

1. Overflow

When calculating large numbers where the answer will exceed 8 digits, the calculator will alert you by giving you the first 8 digits of the answer and displaying "□" (In spite of the positive or negative answer) to the extreme left of the display window.

2. Memory Sign

If you have done memory calculations with this machine, a point light will come on the extreme left of the display window.

3. Negative Answer

When an answer is negative the calculator will alert you by displaying a "-" (minus) sign to the extreme left of the display window.

brother

INTERNATIONAL CORPORATION

Electronic Calculator
ONE YEAR REPLACEMENT
Guarantee Certificate

Your new Brother Portable Calculator is guaranteed to be of the finest precision construction. Manufactured under rigid quality control in the world's most modern factory. Brother calculators are guaranteed for 1 full year from date of purchase.

The guarantee does not cover damage from mis-use, neglect or accident. The guarantee extends only to the original owner. Your portion of the guarantee and/or purchase receipt must be presented with the defective calculator.

Important: This guarantee must be registered by mailing the attached card within fifteen (15) days of the date of purchase. Please keep this certificate portion of your guarantee for your records.

Thank you

MAIL THE GUARANTEE REGISTRATION
CARD ATTACHED TO YOUR NEAREST
BROTHER OFFICE.

U. S. A.
Brother International Corporation
680 Fifth Avenue
New York, New York 10019