ELECTRONIC CALCULATOR

CASIO MEMORY-8S

INSTRUCTION MANUAL

(H-811)

INTRODUCTION

Dear customer,

Congratulations on your purchase of this pocketable, personal electronic calculator with one memory.

Although extremely compact, it carries all the capabilities you could require for daily calculation needs . . . . . 8 digit calculating capacity, automatic accumulation of results in four functions, full floating decimal system with underflow, constants for x/÷, true credit balance, a convenient % key for mark-up/discounts, and a √ key for automatic square roots.

To utilize the full features of this calculator, no special training is required but we suggest you take a few minutes with this instruction manual to become familiar with its many abilities.

1/ KEYBOARD

POWER SWITCH:
Move the switch forward to start a calculation.

READ-OUT 0. :
Shows each entry and result through an 8-digit Digitron tube panel. Suppresses unnecessary 0's (zeroes).

NUMERAL/DECIMAL POINT KEY 0~9, ·:
Enters numerals. For decimal places use the · key in its logical sequence.

FUNCTION COMMAND KEYS +, −, × & ÷:
Press the numeral and function command keys in the same logical sequence as the formula.
A full floating decimal and underflow system work in all calculations to protect significant digits.

EQUAL & AUTOMATIC ACCUMULATION KEY =:
Obtains answer and automatically accumulates it into the memory positively.

MEMORY RECALL KEY MR:
Recalls contents of the memory without clearing the same.

PERCENT KEY %:
Performs percentage calculations including mark-up/discounts.

SQUARE ROOT KEY √:
Extracts the square root of the displayed number.

CLEAR KEY C:
Clears display for correction. When depressed after function command, it clears the entire machine except the memory.
To correct the function commands, depress the appropriate function key (+, −, × or ÷) successively.

ALL CLEAR KEY AC:
Clears the entire machine including memory, and releases an overflow check. There is no need to depress the AC or C key prior to starting each new calculation.

2/ DISPOSABLE DRY BATTERY OR AC OPERATION

The calculator operates on either dry batteries or AC with the use of the AC ADAPTOR.

DRY BATTERY OPERATION
With two AA size manganese dry batteries (SUM-3) it operates for approximately 13 hours continuously.
Even when battery power decreases, the display will merely darken but cause no miscalculation. When you have finished your calculation, be sure to switch off the power switch to save battery power. To change batteries, put the power switch off first. Slide open the battery cover and replace batteries.

AC OPERATION
If you are in a 117V area, for instance, use a 117V AC ADAPTOR.
When you use an AC ADAPTOR of a different voltage, it may cause damage to both the AC ADAPTOR and calculator.
Plug the applicable AC ADAPTOR (100, 117, 220 or 240V) into the AC outlet and the cord into the calculator. When plugged in, battery power supply stops automatically, so battery power is not wasted.
To prevent the damage to the calculator, USE ONLY THE AC ADAPTOR recommended by your dealer.

3/ BASIC OPERATIONAL EXAMPLES

EXAMPLE	OPERATION	READ-OUT
741 − 258 + 963 = 1446	741 − 258 + 963 =	1446.
12 × 3.4 × 56 = 2284.8	12 × 3 · 4 × 56 =	2284.8
963 ÷ 25 = 38.52	963 ÷ 25 =	38.52
(123 + 65.4 − 789) × 2.5 ÷ 5 = −300.3	123 + 65 · 4 − 789 × 2 · 5 ÷ 5 =	−600.6 −300.3

* A negative figure is displayed with minus (−) sign up to 7 digits.

Note: To perform a problem commencing with a negative figure, operate C − ENTRY in sequence.

− 10 − 20 + 45 = 15	C − 10 − 20 + 45 =	15.

4/ CALCULATION WITH A CONSTANT

ENTRY × × (+ −) ENTRY = . . . Obtains product (quotient)
ENTRY = . . . Obtains product (quotient)
→ Number entered is set as a constant multiplier (divisor)

* The constant is released when a normal calculation is performed.

EXAMPLE	OPERATION	READ-OUT
(K)		
3.14 × 123 = 386.22	3 · 14 × ×	3.14
3.14 × 456 = 1431.84	123 =	386.22
	456 =	1431.84
(K)		
3652 ÷ 275 = 13.28	275 ÷ ÷	275.
7854 ÷ 275 = 28.56	3652 =	13.28
	7854 =	28.56

5/ SQUARE/POWER & RECIPROCALS

EXAMPLE	OPERATION	READ-OUT
2.5^2 = 6.25	2 · 5 × × =	6.25
2.5^3 = 15.625	=	15.625
2.5^4 = 39.0625	=	39.0625
$\frac{1}{(2+3)\times 4.5}$ = 0.0444444···	2 + 3 × 4 · 5 ÷ ÷ 1 =	22.5 0.0444444
$\frac{9876}{123+456}$ = 17.056994···	123 + 456 ÷ ÷ 9876 =	579. 17.056994

6/ MEMORY CALCULATION

a) Automatic accumulation

AC ENTRY × (+, −, =) ENTRY = . . . Obtains answer and automatically accumulates it into the memory positively.

MR . . . Recalls the accumulated total in the memory.

Clears contents of the memory.

* Be sure to depress the AC key prior to starting a memory calculation.

EXAMPLE	OPERATION	READ-OUT
53 × 2 = 106	AC 53 × 2 =	106.
+) 26 × 3.4 = 88.4	26 × 3 · 4 =	88.4
194.4	MR	194.4
1256 + 32.5 = 1288.5	AC 1256 + 32 · 5 =	1288.5
+) 147 − 25 = 122	147 − 25 =	122.
1410.5	MR	1410.5

Note: To accumulate a number into the memory negatively, operate as follows.

78.5 × 14.7 = 1153.95	AC 78 · 5 × 14 · 7 =	1153.95
−) 45 × 2.5 = 112.5	C − 45 × 2 · 5 =	−112.5
1041.45	MR	1041.45

b) Direct access to the memory

Any number on display is directly accumulated into the memory as many times as the = key is depressed.

8 + 8 + (6 ÷ 5) + (6 + 5)	AC 8 = =	8.
−3 − 3 = 12.4	6 + 5 = =	1.2
	C − 3 = =	−3.
	MR	12.4

7/ PERCENTAGE CALCULATION

The % key works with both multiplication and division. Depressing the + or − key after finishing percentage multiplication gives mark-up or discount.

EXAMPLE	OPERATION	READ-OUT
20% of 1450 290	1450 × 20 %	290.
Percentage of 580 against 1450 . . . . 40%	580 ÷ 1450 %	40.

* A constant is also utilized in percentage calculation.

20% mark up of 1450 1740	1450 × 20 % +	1740.
20% discount of 1450 1160	1450 × 20 % −	1160.

8/ SQUARE ROOT CALCULATION

The √ key extracts the square root of the number displayed up to 7 digits.
The minus (−) sign appears when a negative figure is extracted.

EXAMPLE	OPERATION	READ-OUT
$\sqrt{2}$ = 1.414213 . . .	2 √	1.414213
$\sqrt{7+2\sqrt{5}}$ ≒ 3.387053	5 √	2.236067
	× 2 + 7 =	11.472134
	√	3.387053

9/ OVERFLOW

Overflow takes place when an answer, whether intermediate or final, exceeds 8 digit integers (or 7 digits, when the figure is negative.) in all calculations and is indicated by the "E." sign, stopping further calculation. To release the locked registers caused by the overflow check, depress the AC key.

EXAMPLE	OPERATION	READ-OUT
123456.78 × 9876	123456 · 78 ×	123456.78
= 1219259159.28	9876 =	E.
	(To start a new calculation.) AC	0.

10/ PRACTICAL EXAMPLES

10-1 PRO-RATING

Division	Sales amount	%
A	$ 3,375	25
B	4,320	32
C	1,890	14
D	3,915	29
Total	$13,500	100

OPERATION	READ-OUT
AC 3375 +	3375.
4320 +	7695.
1890 +	9585.
3915 ×	13500.
· 01 +	135.
+	135.
3375 =	25.
4320 =	32.
1890 =	14.
3915 =	29.
MR	100.

10-2 INVOICING

Article	Q'ty	Unit price	Discount	Amount
A	100	$18.95	5%	$1,800.25
B	200	9.95	3%	1,930.30
C	300	13.95	10%	3,766.50
Total				$7,497.05
6% sales tax				449.823
Grand total				$7,946.873

OPERATION	READ-OUT
AC 100 × 18 · 95 × · 95 =	1800.25
200 × 9 · 95 × · 97 =	1930.3
300 × 13 · 95 × · 9 =	3766.5
MR	7497.05
× 6 %	449.823
+	7946.873

11/ SPECIFICATIONS

OPERATIONS:
Four basic functions, chain and mixed operation, constants for x/÷, automatic accumulation in four functions, direct access to the memory, percentage calculation including mark-up/discounts, square roots, square/powers, reciprocals, true credit balance and calculation involving decimal places.

CAPACITY:
Entry/display . . . . . 8 digits (7 digits for negatives)
Addition/subtraction . . . . . 8 digits (7 digits for negatives)
Multiplication/division . . . . . 8 digits (7 digits for negatives)
Accumulation into the memory . . . . . 8 digits (7 digits for negatives)

OPERATING SYSTEM: By 3 working registers.
DECIMAL POINT: Full floating decimal point system with foolproof underflow.
NEGATIVE NUMBER: Indicated by minus (−) sign on the left of the figure.
OVERFLOW CHECK: Indicated by the "E." sign, locking the calculator.
READ-OUT: Zero suppression, Multi-Digitron tube panel.
MAIN COMPONENT: One chip LSI
POWER CONSUMPTION: 0.2 W
POWER SOURCE:
AC: 100, 117, 220 or 240V (± 10V), 50/60Hz, with applicable AC Adaptor.
DC: Two AA size manganese dry batteries (SUM-3) operate about 13 hours continuously.
Two AA size alkaline dry batteries (AM-3) operate about 26 hours continuously.
USABLE TEMPERATURE: 32°F ~ 104°F (0°C ~ 40°C)
DIMENSIONS: 23.5mm H x 74.5mm W x 125mm D (1" H x 3" W x 5" D)
WEIGHT: 146g (5oz) including batteries.

CARE OF YOUR NEW ELECTRONIC CALCULATOR

The calculator is a durable, precision-made instrument which will provide you with years of trouble-free service.
To help ensure this we recommend that the inside of the calculator not be touched. It is also inadvisable to subject the calculator to hard knocks, drops, and unduly strong key pressing.
Extreme cold (below 32°F or 0°C), heat (above 104°F or 40°C) and humidity may also effect the function of the calculator. When you do not use the calculator for a long period, take out the batteries to prevent damage if the batteries leak. Special care should be taken not to leave the dead batteries inside the calculator. Please make sure you switch off the power when you finish your calculations or intend to open the cover to change batteries.
Should the calculator need service, take the unit to the store where purchased or to a nearby dealer.

CASIO®

® Printed in Japan