

CASIO® DC-150

OPERATION MANUAL MANUAL DE OPERACION

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English

Thank you very much for your selection of the Casio DATA-CAL DC-150 calculator. In order to ensure proper operation of this marvel of electronics engineering, be sure to carefully read this manual and follow the instructions contained herein. Keep this manual on hand for later reference.

PRECAUTIONS

- This unit is constructed of precision electronic components and therefore should not be exposed to temperature extremes, sudden temperature changes, bending, twisting, or strong impacts.
- The battery should be removed from the unit if it becomes exhausted. Be sure to replace the battery every two years regardless of how much it is used to avoid the chance of malfunctions due to battery leakage. Never allow batteries to be incinerated.
- Note that the manufacturer assumes no responsibility for any loss or claims by third parties which may arise through use of this unit.
- Note that the manufacturer assumes no responsibility for any damages incurred as a result of data loss caused by malfunctions, repairs or battery replacements. Physical records of important data should be prepared to protect against such data losses.
- Always perform calculations by pressing the correct keys while monitoring results on the display.

BATTERY REPLACEMENT

- Note that either battery replacement or the reset operation will erase all data stored in the unit. Important data should be copied down on paper in advance of these operations.
- This unit is powered by one lithium battery (CR2016).
- The following procedure should be performed when the display of the unit becomes difficult to read:
 - Press the OFF key to turn the power of the unit OFF.
 - Remove the battery compartment lid on the back of the unit after loosening the screw holding it in place.
 - Remove the old battery.
 - Wipe the surfaces of new battery with a soft, dry cloth and load it into the compartment so that the positive pole (+) is facing upwards.
 - Slide the battery compartment lid into place and replace the screw while pressing down on the battery.
 - Press the ON key to turn the power of the unit ON and press the reset button. Note that this operation will erase all data stored in the unit.
 - If the operation in step 6 does not cause "0." to appear on the display, repeat the operation. If "0." still fails to appear, repeat steps 1 through 6.

IMPORTANT: Keep batteries out of the reach of small children. Contact a physician immediately if inadvertently swallowed.

AUTO POWER OFF FUNCTION

- The unit switches off automatically if approximately 6 minutes elapse after the last operation. Press the ON key to restore power switched off by this function.
- The data present in memory is retained unless the battery is exhausted or removed.

DATA STORAGE FUNCTION

The data storage function of this unit allows storage of up to 50 data items. Each data item is divided into two groups. The first group (character portion) consists of 8 characters and can contain either letters or numbers. The second group (numeric portion) consists of numbers up to 36 digits long (standard length = 12 digits). Besides the normal data storage function which allows data recall with a press of the RECALL key, a secret function is also provided which requires input of a preset password or code before data is displayed.

DATA INPUT

Example 1

- Press MODE to specify the set mode.

DATA ?
[SET MODE DISPLAY]

Each press of MODE switches between the set mode and the data display mode.

NO ENTRY

Data display without any data input

The illustration below shows the configuration of the character portion and numeric portion.

Character portion (8 characters)

Numeric portion (standard = 12 digits, maximum = 36 digits, display length = 12 digits)

- Only 12 digits of the numeric portion can be displayed at one time, and the remainder is scrolled using the SCROLL and RECALL keys.

- Alphabetic characters, numbers, and symbols (period, hyphen, space) may be entered in the Character Portion (top line). Each press of an input key enters the corresponding character or number at the current cursor position. Once the desired character or number is entered, the cursor can be shifted using the LEFT (or RIGHT) key.

<Input Keys> Example:

The character entered for this key changes with each press in the following sequence: G → H → I → J → K → L → M → N → O → P → Q → R → S → T → U → V → W → X → Y → Z → . → - → / → + → =

- Once the letter "C" is displayed, press the NEXT key to advance to the next position.

C

- To change the input position, move the cursor to the right using the NEXT key, and to the left using the PREV key.

- Follow the procedure outlined above until "CASIO." is shown on the display.

CASIO.

- Press the NEXT key three times to move the cursor to the numeric portion of the display.

CASIO 012-345

- Up to 8 characters (alphabetic, numeric, symbol) can be input for the character portion of the display.

- Actual numbers are input using the ten-key pad of the unit.

0123456789

- The SPACE or HYPHEN key can be used between numbers. SPACE enters a space, while HYPHEN enters a hyphen.

The 12th and subsequent entries in the numeric display (including SPACE and HYPHEN) causes the displayed number to shift to the left. Each entry causes the leftmost digit (in the upper line of the numeric display) to scroll off of the display. Note, however, that values which scroll off of the display are still retained in memory.

CASIO 012-345

CASIO 12-3456

- Press the STORE key to store the above data.

CASIO 012-3456

DATA ?

Pressing the MODE key switches to the set mode display for the input of the next data item.

Example 2

Here the full 36-digit capacity of the numeric portion of the display will be used to store the schedule of trains from New York station. The schedule will be for trains leaving between 10:00 and 11:00, as noted below.

10:05, 10:12, 10:22, 10:28, 10:33
10:38, 10:41, 10:46, 10:48, 10:55

- Enter NEW YORK in the character portion of the display.

Press the NEXT key to advance to the numeric portion of the display after entering the last letter of the station name.

NEW YORK.

- Enter 10 in the upper line of the numeric portion of the display to represent 10:00.

NEW YORK 10.

- Now enter the minute portions of the schedule for the lower line of the display.

NEW YORK 10 41

6 48 55

- Press the STORE key to store the data.

NEW YORK 10 05 12 22

* mark indicates numeric portion is longer than 12 digits.

- Press the MODE or NEXT key when data input is complete.

The display as shown below appears on the display if the memory capacity is full. This indicates that there is no more memory available. At this time, delete any data items which are no longer required.

FULL 50-50

Memory capacity

The number of data items which can be simultaneously stored in memory differs according to the length of each item. The following table shows how to calculate the memory capacity according to the data length.

NUMERIC PORTION LENGTH	MEMORY USED
12 digits or less	1 item
13 - 24 digits	1.5 items
25 - 36 digits	2 items

* Spaces and hyphens contained within data items are also counted as digits.

Capacity display

Pressing the CAPACITY key while in the data display or set display shows the amount of memory currently used for storage of data (including secret area).

CAPACITY 10-50

(10 items stored)

- stored, or when 5 items 25 to 36 digits long are stored.

Fractions (see above) are rounded up to integers in the capacity display, but the actual amount of memory used for storage is counted as a fractional value. This means that the following capacity display would be shown when a single data item 13 to 24 digits long is stored in memory.

CAPACITY 02-50

Stored data are automatically sorted according to the character portion of eight characters in the order of: space, period, numbers (0-9), letters (A through Z), hyphen.

DATA RECALL

Two types of data recall

- Sequential search

Initial search

- Sequential search

- Press the RECALL key, and the first data item is displayed.
- Next, each press of the RECALL (or NEXT) key recalls data items in their sorted sequence, and each press of the NEXT key recalls data items in reverse sequence.

Example: Recall of the timetable entered in a previous example.

NEW YORK 10 05 12 22

List-Group">

- * mark indicates that the data item length exceeds the display capacity.

List-Group">

- The NEXT key is used to scroll data on the display from left to right, and the PREV key scrolls data from right to left.

List-Group">

- Holding either key down scrolls data continuously at high speed.

Initial search

List-Group">

- Press the RECALL key to recall first data item.
- Input the first letter of the data item you wish to recall.
- Press the NEXT key to display the first data item which begins with the letter you input. Press repeatedly NEXT to display all of the data items which begin with the same letter. Data items appear in their sorted sequence.

List-Group">

- The message "NO ENTRY" indicates that there are no data items which begin with the specified letter.

CORRECTING EXISTING DATA ITEMS

- Prior to pressing the NEXT key

List-Group">

- Use the NEXT and PREV keys to move the cursor to the position to be corrected, and press the key which produces the appropriate letter or number.
- After confirming that the data item is correct, be sure to press the NEXT key.

- After pressing the NEXT key

List-Group">

- Press the NEXT key for the set mode display. Then recall the data item to be corrected by pressing the RECALL key.
- Press either the NEXT key to locate the cursor at the beginning of the data item, or the PREV key to locate the cursor at the end of the display.
- Continue as outlined in 1.

- Press the NEXT key when new data is required after an existing data correction. (Shows the set mode display.)

DELETING EXISTING DATA ITEMS

After performing the procedure outlined in "CORRECTING EXISTING DATA ITEMS" (2, a), pressing DELETE deletes the displayed data item and advances to the display of the next data item.

SECRET FUNCTION

Assigning a password (up to 8 characters long) allows storage of data in a secret area only accessible to those who know the password.

PASSWORD REGISTRATION AND DATA INPUT

- Press MODE and SECRET , and the password registration display appears.

SECRET

- Input your password, following the same procedure as that for data input.

Example: Registering "ABC" as password

REC-----

- Press the NEXT key, and "ABC" is registered as password.

SECRET AREA INDICATOR DATA ?

List-Group">

- If the password input differs from the registered password, the secret area is not accessed. Reinput the right password.

Once a password is registered, it can only be altered or canceled by pressing the reset button on the back of the unit. (This operation causes all stored data to be erased.) If a registered password is forgotten, the only way to access the secret area is to reset the unit, erasing all data, registering a new password, and then reinputting data.

- Input a data item and press SECRET key.

Press the NEXT key to continue data input to the secret area.

List-Group">

- Be sure to press either NEXT or PREV to cancel the secret area and return to the normal area.
- Attempting to register a password longer than 8 characters will result in a password made up of the first 8 characters input only.
- Only one password can be registered at a time.

RECALLING DATA FROM THE SECRET AREA

List-Group">

- Press the SECRET key, and the password registering display appears.
- Input the password ("ABC" in the password registration example) and press the NEXT key.

This operation accesses the secret area and displays the first data item contained in that area. (see "DATA RECALL")

List-Group">

- If the password input differs from the registered password, the password registering display appears again and the secret area is not accessed. Reinput the right password.

ADDING SECRET AREA DATA

List-Group">

- Access the secret area.
- Press SECRET for the set mode display.
- Input the data to be added.

Data in the secret area can also be edited or deleted. (see "CORRECTING EXISTING DATA ITEMS", or "DELETING EXISTING DATA ITEMS")

CALCULATIONS

List-Group">

- Pressing the CLEAR (clear) key cancels the latest numeric entry only.
- Incorrect entry of an operator ($+$, $-$, $\times$, $\div$) can be corrected by pressing the key corresponding to the correct operator.
- Pressing the ALL CLEAR (all clear) key cancels an entire entry.
- Pressing the MEMORY CLEAR (memory clear) key clears memory contents.
- Double entry of an operator ($+$, $-$, $\times$, $\div$) makes the numeric value followed by the double entry a constant.
- Residual symbols for each operator, the following indicators also appear on the display:
 - M: Numeric value in independent memory
 - K: Constant calculation being performed
 - E: Error condition
- The error condition is released by pressing the ALL CLEAR or MEMORY CLEAR key.
- Calculations should be performed after first pressing the ALL CLEAR key.

53 + 123 = 63	53 $\times$ 123 = 63	0.
963 $\div$ (23 - 56) =	23 $\div$ 56 = 963	113.
(56 $\times$ 3 - 89) $\div$ 5.2 = 63	56 $\times$ 3 = 89	78.192307
	5.2 $\times$ 63 =	915.86080
123456 $\times$ 741852 =	123456 $\times$ 741852 =	

$\sqrt{3} \times 5 =$	3 $\times$ 5 =	0
$12 \div 23 =$	23 $\div$ 12 =	8.660254
$45 \div 23 =$	45 $\div$ 23 =	35.
$78 \div 23 =$	78 $\div$ 23 =	68
$7 - 5.6 =$	5.6 $\div$ 7 =	101.
$2 - 3.6 =$	2 $\times$ -3.6 =	1.4
$2.3 \times 12 =$	12 $\times$ 2.3 =	-3.6
$4.5 \times 12 =$	4.5 $\times$ 12 =	27.6
$45 \div 4.6 =$	9.6 $\times$ 4.5 =	54.
$78 \div 9.6 =$	78 $\div$ 9.6 =	4.6875
12% of 1500	1500 $\times$ 12% =	8.125
Percentage of 660 against 880	660 $\div$ 880 =	180.
15% add-on of 2500	2500 $\times$ 15% =	75.
25% discount of 3500	3500 $\times$ 25% =	2875.
What will the selling price and profit be when the purchase price of an item is \$480 and the profit rate to the selling price is 25%?	480 $\times$ 25% =	2625.
If you made \$80 last week and \$100 this week, what is the percent increase?	100 $\div$ 80 =	640.
	80 $\div$ 9 = 720	160.
$-150 \times 6 = 300$	80 $\div$ 9 =	25.
$20 \times 3 = 60$	50 $\div$ 6 =	720
	20 $\div$ 3 =	300
	480	60.
		480

SPECIFICATIONS

DATA STORAGE

Functions: Data storage/recall (50 items maximum), secret function, number of stored data item display, input data editing
Input capacity: 8 alphabetic characters or numbers + 12 numbers (36 numbers maximum) per item

CALCULATION

Functions: Addition, subtraction, multiplication, division, constants for $+/-$, $1/x$, memory calculations, square root, percentage calculations including add-ons/discounts and mark-ups, 16-digit approximate calculations and various other practical calculations
Capacity: 8 digits

Decimal point: Full-floating with underflow

Overflow check: Indicated by "E" sign, locking of calculator

GENERAL

Display: Liquid crystal display

Main component: LSI

Power consumption: 0.002W

Power supply: One lithium battery (CR2016)

Approx. 330 hours on CR2016

Auto power off: Approximately 6 minutes after last key operation

Ambient temperature range: 0°C - 40°C (32°F - 104°F)

Dimensions: 71(H) $\times$ 68(W) $\times$ 109(D) mm

(1/4" (H) $\times$ 2 5/8" (W) $\times$ 4 1/4" (D))

Weight: 46g (1.6oz) including battery