CASIO

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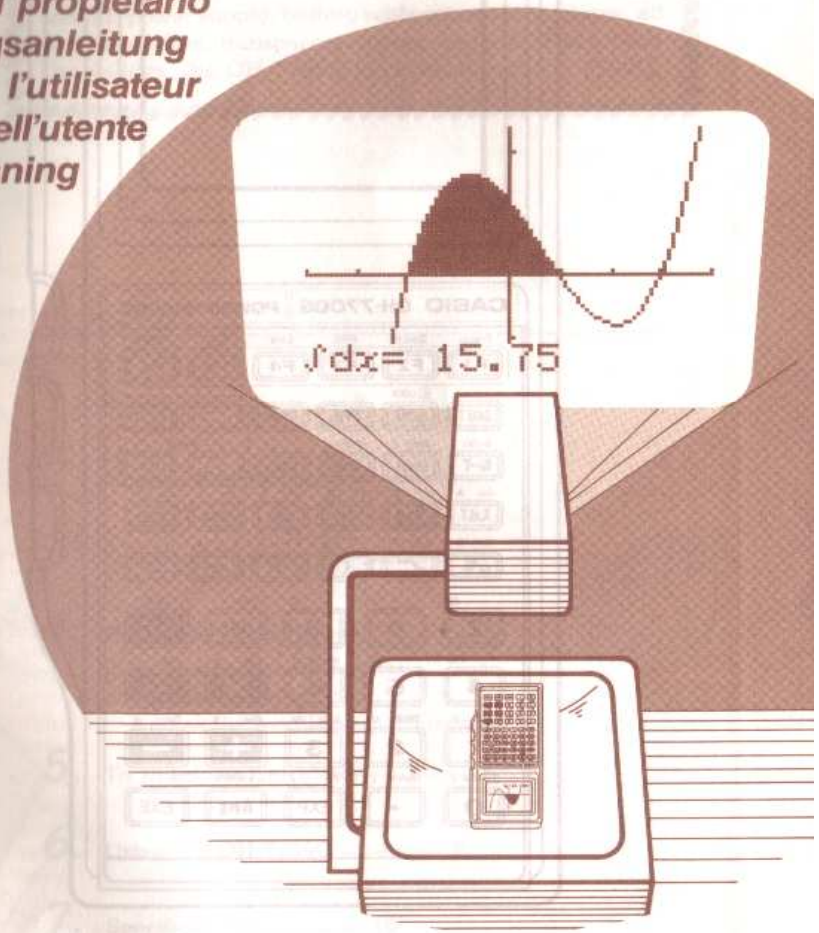
POWER GRAPHIC

OH-7700G

Owner's manual
Manual del propietario
Bedienungsanleitung
Manual de l'utilisateur
Manuale dell'utente
Bruksanvisning



CASIO

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All of the explanations in this manual assume that you have already read the fx-7700G owner's manual that also comes with this product. Note that except for dimensions, weight, power supply, battery replacement procedures, all reset procedure, transparent display, and overhead project capabilities, the OH-7700G is identical to the fx-7700G.

Contents

1 Introduction

Congratulations on your selection of the CASIO OH-7700G. This innovative graphic scientific calculator features a special transparent display, so you can place it onto an overhead projector and project the contents of the display onto a screen. Its compact, lightweight design means you can carry it along anywhere, making it the perfect presentation tool for the classroom, boardroom, or any other presentation environment.

- The information contained herein is subject to change without notice.
- Reproduction of this manul either in part or its entirety is forbidden.
- Note that the manufacturer assumes no responsibility for any injury or loss incurred while using this manual.

• Hard Case

The hard case supplied with the OH-7700G is designed to protect it against impact and dirt. We recommend that you keep the OH-7700G in its hard case whenever you are not using it with an overhead projector.

1. To remove the OH-7700G from the hard case

2. To put the OH-7700G into the hard case

2 General Precautions

- The OH-7700G is designed for use with transmission (bottom projector) type overhead projectors. It cannot be used with reflection type overhead projectors. Also note that certain types of transmission (bottom projector) type overhead projectors produce better results. High luminance projectors (rated at 700 W) may cause blotches to appear on the display of the OH-7700G, especially during presentations that take long periods of time. In such cases, use an overhead projector with a wattage rating that is less than 700 W.

  Check the rated wattage of overhead projector that will be available for your presentation before planning to use the OH-7700G.

Transmission Type OHP (Example)

Reflection Type OHP (Example)

- Note that the surface of the OH-7700G can become very hot after long use with an overhead projector. The bottom surface of the unit can become especially hot. Handle the unit carefully after use with a projector to avoid burns.

- To avoid heat-related problems, remove the OH-7700G from the overhead projector whenever possible (when projection of the OH-7700G image is not necessary) to avoid problems caused by overexposure to heat. It is also a good idea to switch off the power or the lamp of your overhead projector when it is not being used for projection.

- The special heat-resistant display of the OH-7700G protects it against damage from heat generated by the overhead projector lamp. Note, however, that the OH-7700G should not be used in environment in which room temperature exceeds 30°C (86°F).
- Low room temperature can cause the liquid crystal display of the OH-7700G to become dim and difficult to read. Use the unit at room temperatures above 10°C (50°F).

- The silver foil on the back of the OH-7700G is put there to reflect heat. Do not cover this foil, write on it, or otherwise cause it to become soiled. Doing so can hinder the unit's ability to resist heat damage.
- Never place the OH-7700G face down on the projector.
- The special heat resistant display used for the OH-7700G makes images appear to have a more reddish tinge than the images on standard calculators. It also makes the display a bit dimmer than standard calculators. This is no cause for alarm, however, and the image shows up clearly when the unit is used in combination with an overhead projector.
- To allow clear projection of the displayed image, no layer of glass is used to protect the surface of the liquid crystal display. Be careful when handling the unit, and never touch the unit with hard, pointed objects, such as pens, pencils, etc.
- When using the OH-7700G with a projector, place it's display in the center of the stage of the projector.

YES NO

- Place the OH-7700G into its hard case whenever you are not using the unit with an overhead projector.
- Should the display of the OH-7700G becomes soiled, wipe it off as soon as possible with a soft cloth. Never use thinner, benzine, or other volatile chemical to clean the display.
- Be sure to read the manual for the overhead projector you are using for other precautions regarding its use.
- Casio assumes no responsibility or liability for any problems or damage caused by use of the OH-7700G.
- You cannot change the size of the projected image unless the overhead projector you are using is equipped with a function that lets you vary the image size. To enlarge the projected image, use an overhead projector with an enlargement function. Note, however, that projectors that enlarge images by raising and lowering the stage tend to generate high temperatures on the stage. Therefore, we recommend that you avoid using such projectors.

3 Overhead Projector Precautions

- The overhead projector is a precision optical instrument. Carefully read the manual for the particular model you are using for information on such procedures as focusing, enlargement, reduction, etc.
- Some overhead projectors include controls that let you enlarge or reduce the projected image. If your projector does not have such controls, you might be able to adjust the size of the image by moving the projector closer to or farther from the screen. Note that doing so, however, may make the projected image appear to be out of focus or dim.

4 About the Power Supply

The unit is powered by four R03 (UM-4) / LR03 (AM4) dry batteries. In addition, it uses a single CR2032 lithium battery as a back up power supply for the memory.

■When to Replace Batteries

When battery power decrease, the whole display darkens. If the following message appears on the display, immediately stop using the calculator and replace batteries.

If you try to continue using the calculator, it will automatically interrupt calculation and program execution and display the message again. Power will also switch off automatically, in order to protect memory contents.

```
Low battery
Step   41
```

Actual value will be different

- Batteries that are left in the battery compartment for more than one year can leak, causing damage to the unit. Replace batteries at least once every year, regardless of how much you use the unit during that time.

Any of the following symptoms can indicate that battery power is too low, and batteries should be replaced as soon as possible.

- Dimming of display during operation
- No display when power is switched on
- Dim display even when contrast is adjusted
- Clearing of display during operation
- Display of low battery power message

Warning!

If you remove both the main power supply and the memory back up batteries at the same time, all memory contents will be erased. Be sure to read the following section before doing anything.

■Replacing Batteries

- Be sure that you have back up copies of all your memory contents before replacing batteries.
- Never remove the main power supply and the memory back up batteries at the same time. Doing so will erase the contents of the memory.
- Be sure that the calculator is switched off whenever you replace batteries. If the calculator is on, data stored in memory will be erased.
- Never switch the calculator on while batteries are not loaded or while a battery holder is not in place. Doing so will erase the contents of the memory.

PRECAUTIONS:

Incorrectly using batteries can cause them to burst or leak, possibly damaging the interior of the unit. Note the following precautions:

- Be sure that the positive (+) and negative (−) poles of each battery are facing in the proper direction.
- Never mix batteries of different types.
- Never mix old batteries and new ones.
- Never leave dead batteries in the battery compartment.
- Remove the batteries if you do not plan to use the unit for long periods.
- Replace the batteries at least once every year, no matter how much the unit is used during that period.
- Never try to recharge the batteries supplied with the unit.
- Do not expose batteries to direct heat, let them become shorted, or try to take them apart.

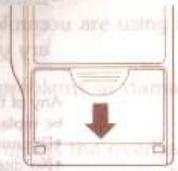
(Should a battery leak, clean out the battery compartment of the unit immediately, taking care to avoid letting the battery fluid come into direct contact with your skin.)

(Keep batteries out of the reach of small children. If swallowed, consult with a physician immediately.)

• To replace the main power supply batteries

① Switch the power of the calculator off.

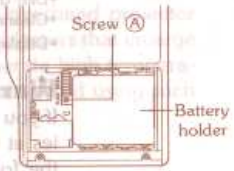
② Slide the battery compartment cover on the back of the unit in the direction indicated by the arrow.



③ Slide up the switch on the battery holder to the OPEN side and remove screw Ⓐ.

Screw Ⓐ

④ Remove all four of the old batteries by pressing towards the negative (−) side of each battery and lifting up.



6 Using the OH-7700G

Important

⑤ Load four new batteries, ensuring that their plus (+) and minus (−) ends are facing in the correct directions. Be sure to replace all four batteries with four new ones.

⑥ Replace the battery holder and fasten it in place with screw Ⓐ. Slide the switch back down (LOCK side).

⑦ Replace the battery compartment cover, sliding in the direction opposite that indicated by the arrow.

⑧ Switch the power of the calculator on and check for proper operation.

Important

- Do not remove the main power supply and the memory back up batteries from the unit at the same time.
- If you should remove the main power supply and the memory back up batteries, you must then perform the all reset operation after you reload batteries.
- Do not leave the unit for long periods with the main power supply batteries removed. This puts too much of a drain on the memory back up battery.
- Be sure that the plus (+) and minus (−) ends of the batteries are facing in the proper directions when you load batteries. Reversing the batteries can seriously damage your calculator.

• To replace the memory back up battery

① Switch the power of the calculator off.

② Slide the battery compartment cover on the back of the unit in the direction indicated by the arrow.

③ Remove screw Ⓑ from the battery holder.

④ Remove the old battery.

⑤ Wipe off the surfaces of a new battery with a soft, dry cloth. Load it into the calculator so that its positive (+) side is facing up.

⑥ Replace the battery holder and fasten it in place with screw Ⓑ.

⑦ Replace the battery compartment cover, sliding in the direction opposite that indicated by the arrow.

⑧ Switch the power of the calculator on and check for proper operation.

Important

- Do not remove the main power supply and the memory back up batteries from the unit at the same time.
- If you should remove the main power supply and the memory back up batteries, you must then perform the all reset operation after you reload batteries.
- Replace the memory back up battery at least once every year, regardless of how much you use the calculator during that time.

■About the Auto Power Off Function

The calculator switches power off automatically if you do not perform any key operation for about 6 minutes. To restore power, press [AC] ON.

5 To Reset the Calculator

Warning!

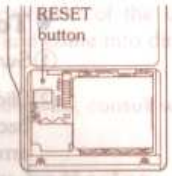
The procedure described here clears all memory contents. Never perform this operation unless you want to totally clear the memory of the calculator.

Strong electrostatic charge can corrupt the operating system of the calculator, which interferes with correct operation. When this happens (or if you want to totally clear the memory for any other reason), you have to reset the calculator.

• To reset the calculator

① Press the RESET button, which is located inside of the battery compartment, with a thin, pointed object.

② A message appears on the display to confirm whether or not you really want a reset.



YES RESET ALL NO

Press [F1] (YES) to reset or [F6] (NO) to abort the operation without resetting or clearing anything.

Resetting the calculator initializes the modes to the following settings.

Item	Initial Setting
Mode Menu	COMP
Unit of Angular Measurement	Deg
Norm	Norm1
BASE-N	DEC
Value Memory	Clear
Function Memory	Clear
Calculation Memory	Clear
Program Memory	Clear
Matrix A/B	2×2

6 Using the OH-7700G

After using the procedures described in the fx-7700G Owner's Manual to produce a graph, formula, or other data on the display of the OH-7700G, place the OH-7700G onto the stage of an overhead projector and focus the projected image.

The OH-7700G is designed to that the bottom surface of its display does not come into direct contact with the glass of the projector's stage. This means that you probably have to adjust the focus of the projector each time you switch between display of an OH-7700G image and an image on an OHP slide.

• To project an OH-7700G display

1. Set up an overhead projector.
2. Use the procedures described in the fx-7700G Owner's Manual to display a graph, formula or other data on the OH-7700G.
3. After the desired data is displayed, place the OH-7700G onto the stage of the projector.
4. Adjust the focus and brightness of the projector, and the contrast setting of the OH-7700G ([MODE]⇨ / [MODE]⇦) until the desired image is obtained.

- Be sure to check the owner's manual for the overhead projector unit being used for full details on methods to use for image enlargement, focusing, etc.
- The OH-7700G unit weights 245 g (8.7 oz). If the overhead projector you are using has enlargement function that involves raising and lowering of its stage, be sure to confirm that the stage is capable of supporting the weight of the OH-7700G.

- Avoid using the tip of a pen, pencil, pointer or other sharp object to point directly on the display of the OH-7700G. Doing so can damage its display.
- If the OH-7700G is left on the stage of the projector, the image on its display may gradually become difficult to see. This is caused by changes in the temperature of the liquid crystal and no cause for alarm. Simply adjust the contrast of the OH-7700G ([MODE]⇨ / [MODE]⇦) until the desired image is obtained. The color of the liquid crystal is very sensitive to temperature, and a contrast setting under some particular conditions does not guarantee the same results under similar conditions. This means that you should watch the image quality during your presentation and make adjustments as required.

7 Specifications

Model: OH-7700G

Graph functions

Built-in function graphs (Rectangular and Polar coordinates):
(40 types) sin, cos, tan, $\sin^{-1}$, $\cos^{-1}$, $\tan^{-1}$, sinh, cosh, tanh, $\sinh^{-1}$, $\cosh^{-1}$, $\tanh^{-1}$, log, ln, 10^x, e^x, x^2, $\sqrt{\ }$, $\sqrt[3]{\ }$, x^{-1}

Types of graphs: User generated function graphs
Rectangular coordinates
Polar coordinates
Parametrics
Inequalities (Y>, Y<, Y≧, Y≦)
Integrations
Single-variable statistics: bar graphs, line graphs, normal distribution curves, probability distributions (P, Q, R)
Paired-variable statistics: regression lines

Graph functions: Range specification, Overdraw, Trace, Zoom (×f, ×1/f, box zoom, factor, original (resume)), Plot, Line, Scroll

Calculations

Basic calculation functions:
Negative numbers, exponents, parenthetical addition/subtraction/multiplication/division (with priority sequence judgement function — true algebraic logic).

Built-in scientific functions:
Trigonometric/inverse trigonometric functions (units of angular measurement: degrees, radians, grads), hyperbolic/inverse hyperbolic functions, logarithmic/exponential functions, reciprocal, factorials, square roots, cube roots, powers, roots, squares, decimal-sexagesimal conversions, binary/octal/hexadecimal calculations, permutations/combinations, π, random numbers, absolute values, internal rounding, fraction functions, engineering, engineering symbol calculations (11 types)

Matrix operations:
Addition/subtraction/multiplication, scalar product, transposed matrix, determinant, inverse matrix, matrix A/matrix B exchange, matrix C transfer, matrix editing.

Integrations: Using Simpson's rule.

Statistics:
Single-variable statistics — number of data, sum, sum of squares, mean, standard deviation (two types), data storage calculation, edit function, probability distribution (P, Q, R, t)
Paired-variable statistics — number of data, sum of x, sum of y, sum of squares of x, sum of squares of y, mean of x, mean of y, standard deviation of x (two types), standard deviation of y (two types), constant term, regression coefficient, correlation coefficient, estimated value of x, estimated value of y, data storage calculation, edit function

Formula memory:
Capabilities: Formula storage, formula recall, formula execution, list display
Maximum number of steps per formula: 127 steps
Number of formulas storable: 6 maximum.

Special functions:
Insert, delete, replay functions, substitution (=), multistatement (: and ◢).

Memories: 28 standard (maximum 548), Ans memory

Calculation range:
$1 \times 10^{99} \sim 9.999999999 \times 10^{99}$ and 0. Internal operation uses 13-digit mantissa.

Rounding:
Performed according to the specified number of significant digits or the number of specified decimal places.

Exponential display: Norm 1 — $10^{-2} > |x|, |x| \geqq 10^{10}$
Norm 2 — $10^{-9} > |x|, |x| \geqq 10^{10}$

Program function

Number of steps: 4,164 maximum (4 steps with 548 memories)

Jump functions: Unconditional jump (Goto), 10 maximum
Conditional jump (=, ≠, >, <, ≧, ≦)
Count jumps (Isz, Dsz)

Subroutines: 10 levels

Number of stored programs: 38 maximum (P0 ~ P9, PA ~ PZ, Pr, Pθ)

Check functions: Program checking, debugging, deletion, addition, insertion, etc.

7 Specifications

General

Display system: Liquid crystal display, 10-digit mantissa plus 2-digit exponent.
16 characters by 8 lines (96 by 64 dots).

Power supply: Main — 4 AAA size manganese dry batteries (R03 (UM-4) / LR03 (AM4))
Memory protection — 1 lithium battery (CR2032)

Power consumption: 0.16 W

Battery life:
Main — Approximately 100 hours on battery type R03 (UM-4)
Approximately 110 hours on battery type LR03 (AM4)
Memory protection — Approximately 1 year

Auto power off: Power is automatically switched off approximately 6 minutes after last operation.

Ambient temperature range: 10°C ~ 30°C (50°F ~ 86°F)

Dimensions: 25.3mmH × 90.2mmW × 189.6mmD
(1"H × 3 1/2"W × 7 1/2"D)

Weight: 245g (8.7 oz) including batteries

Accessories: Hard Case