



fx-9860GII SD

fx-9860GII

fx-9860GII s

fx-9860G AU PLUS

fx-9750GII

fx-7400GII

Hardware

User's Guide



CASIO Worldwide Education Website

<http://edu.casio.com>

Manuals are available in multi languages at

<http://world.casio.com/manual/calc>

CASIO®

GUIDELINES LAID DOWN BY FCC RULES FOR USE OF THE UNIT IN THE U.S.A. (not applicable to other areas).

NOTICE

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC WARNING

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Proper connectors must be used for connection to host computer and/or peripherals in order to meet FCC emission limits.

Connector SB-62 Power Graphic Unit to Power Graphic Unit
USB connector that comes with the fx-9860GII SD/fx-9860GII/fx-9860GII s/fx-9750GII
Power Graphic Unit to Windows® compatible PC

Declaration of Conformity

Model Number: fx-9860GII SD/fx-9860GII/fx-9860GII s/fx-9750GII
Trade Name: CASIO COMPUTER CO., LTD.
Responsible party: CASIO AMERICA, INC.
Address: 570 MT. PLEASANT AVENUE, DOVER, NEW JERSEY 07801
Telephone number: 973-361-5400

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

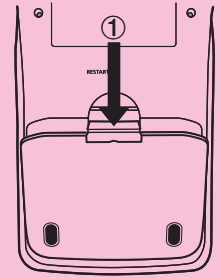
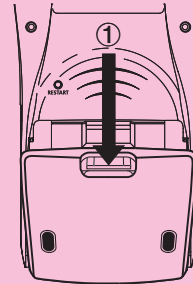
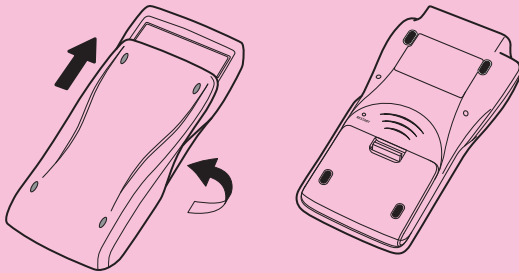
*Windows is a registered trademark of Microsoft Corporation.
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BEFORE USING THE CALCULATOR FOR THE FIRST TIME...

Batteries are not loaded in your calculator at the factory.

Be sure to follow the procedure below to load batteries and adjust the display contrast before trying to use the calculator for the first time.

1. Making sure that you do not accidentally press the **AC/ON** key, slide the case onto the calculator and then turn the calculator over. Remove the battery cover from the calculator by pulling with your finger at the point marked ①.

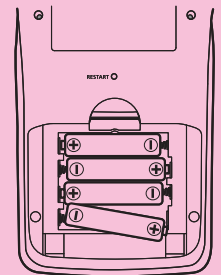
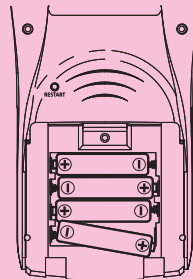


fx-9860GII SD
fx-9860GII
fx-9860GII s
fx-9860G AU PLUS

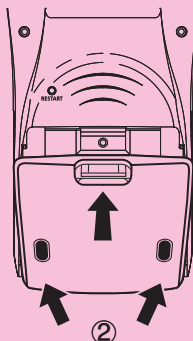
fx-9750GII
fx-7400GII

2. Load the four batteries that come with the calculator.

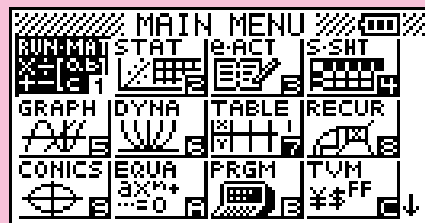
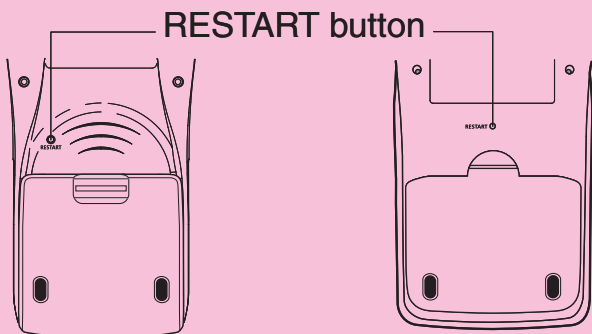
- Make sure that the positive (+) and negative (-) ends of the batteries are facing correctly.



3. Replace the battery cover, making sure that its tabs enter the holes marked ② and turn the calculator front side up. The calculator will turn on automatically and the MAIN MENU will appear on the display.



- If the Main Menu shown to the right is not on the display, press the RESTART button on the back of the calculator.



The above screen shows the fx-9860GII SD. The appearance of the screens of other models may be slightly different.

4. Use the cursor keys (▲, ▼, ◀, ▶) to select the **SYSTEM** icon and press [EXE], then press [F1] (◀▶) to display the contrast adjustment screen.



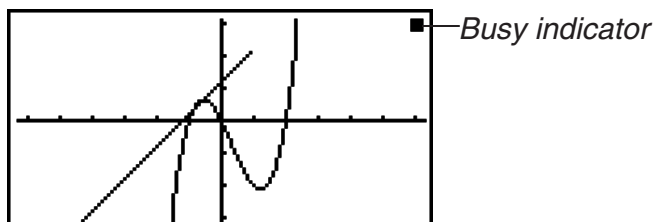
5. Adjust the contrast.
 - The ▶ cursor key makes display contrast darker.
 - The ◀ cursor key makes display contrast lighter.
 - [F1] (INIT) returns display contrast to its initial default.
6. To exit display contrast adjustment, press [MENU].

Precautions when Using this Product

A progress bar and/or a busy indicator appear on the display whenever the calculator is performing a calculation, writing to memory, or reading from memory.



Progress bar



Never press the RESTART button or remove the batteries from the calculator when the progress bar or busy indicator is on the display. Doing so can cause memory contents to be lost and can cause malfunction of the calculator.

fx-7400GII, fx-9750GII users...

You can transfer data to a computer using the Program-Link software (FA-124). The Program-Link software can be used to backup data to a computer.

fx-9860GII SD, fx-9860GII, fx-9860GII s, fx-9860G AU PLUS users...

The calculator is equipped with flash memory for data storage. It is recommended that you always backup your data to flash memory. For details about the backup procedure, see "Using the Memory Manager" (page 11-1) in the separate Software User's Guide.

You can also transfer data to a computer using the Program-Link software (FA-124). The Program-Link software can also be used to backup data to a computer.

fx-9860GII SD only

If the message "No Card" appears even though an SD card is loaded in the SD card slot, it means that the calculator is not recognizing the card for some reason. Try removing the card and then loading it again. If this does not work, contact the developer of the SD card. Note that some SD cards may not be compatible with this calculator.

Handling Precautions

- Your calculator is made up of precision components. Never try to take it apart.
- Avoid dropping your calculator and subjecting it to strong impact.
- Do not store the calculator or leave it in areas exposed to high temperatures or humidity, or large amounts of dust. When exposed to low temperatures, the calculator may require more time to display results and may even fail to operate. Correct operation will resume once the calculator is brought back to normal temperature.
- The display will go blank and keys will not operate during calculations. When you are operating the keyboard, be sure to watch the display to make sure that all your key operations are being performed correctly.
- Replace the main batteries once every one year regardless of how much the calculator is used during that period. Never leave dead batteries in the battery compartment. They can leak and damage the unit.
- Do not use an oxyride battery* or any other type of nickel-based primary battery with this product. Incompatibility between such batteries and product specifications can result in shorter battery life and product malfunction.
- Keep batteries out of the reach of small children. If swallowed, consult a physician immediately.
- Avoid using volatile liquids such as thinner or benzine to clean the unit. Wipe it with a soft, dry cloth, or with a cloth that has been moistened with a solution of water and a neutral detergent and wrung out.
- Always be gentle when wiping dust off the display to avoid scratching it.
- In no event will the manufacturer and its suppliers be liable to you or any other person for any damages, expenses, lost profits, lost savings or any other damages arising out of loss of data and/or formulas arising out of malfunction, repairs, or battery replacement. It is up to you to prepare physical records of data to protect against such data loss.
- Never dispose of batteries, the liquid crystal panel, or other components by burning them.
- Be sure that the power switch is set to OFF when replacing batteries.
- If the calculator is exposed to a strong electrostatic charge, its memory contents may be damaged or the keys may stop working. In such a case, perform the Reset operation to clear the memory and restore normal key operation.
- If the calculator stops operating correctly for some reason, use a thin, pointed object to press the RESTART button on the back of the calculator. Note, however, that this clears all the data in calculator memory.
- Note that strong vibration or impact during program execution can cause execution to stop or can damage the calculator's memory contents.
- Using the calculator near a television or radio can cause interference with TV or radio reception.
- Before assuming malfunction of the unit, be sure to carefully reread this User's Guide and ensure that the problem is not due to insufficient battery power, programming or operational errors.

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Be sure to keep physical records of all important data!

The large memory capacity of the unit makes it possible to store large amounts of data.

You should note, however, that low battery power or incorrect replacement of the batteries that power the unit can cause the data stored in memory to be corrupted or even lost entirely. Stored data can also be affected by strong electrostatic charge or strong impact. It is up to you to keep back up copies of data to protect against its loss.

Since this calculator employs unused memory as a work area when performing its internal calculations, an error may occur when there is not enough memory available to perform calculations. To avoid such problems, it is a good idea to leave 1 or 2 kbytes of memory free (unused) at all times.

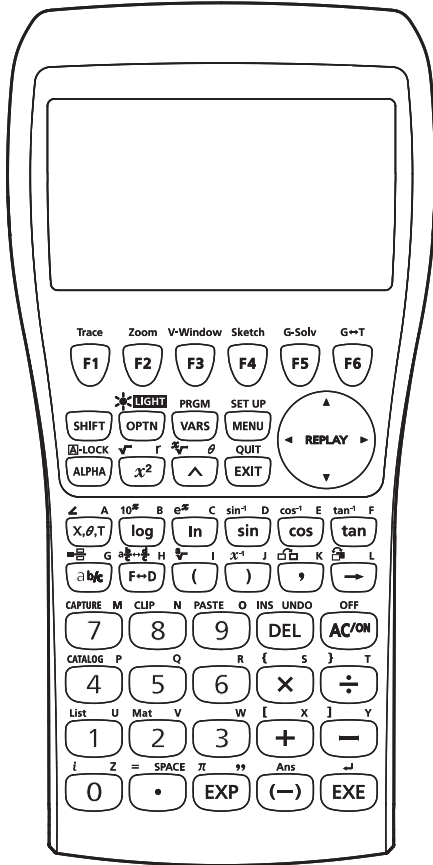
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- The contents of this User's Guide are subject to change without notice.
- No part of this User's Guide may be reproduced in any form without the express written consent of the manufacturer.
- Be sure to keep all user documentation handy for future reference.

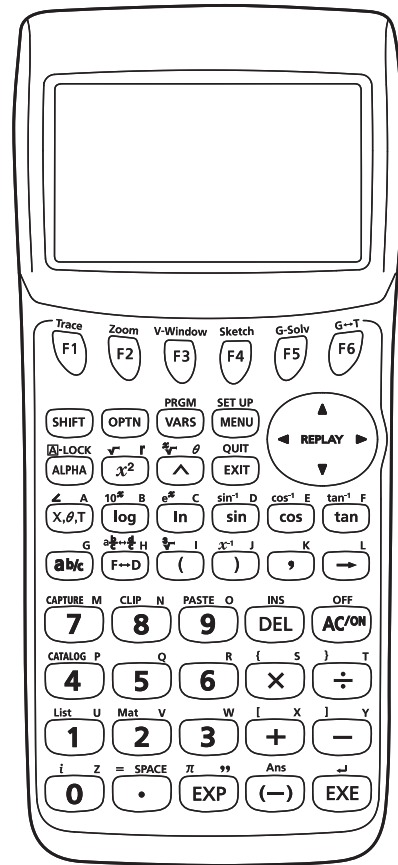
Contents

1. Key Layout
2. Using the Backlight
3. Specifications
4. Restart and Reset
5. Power Supply

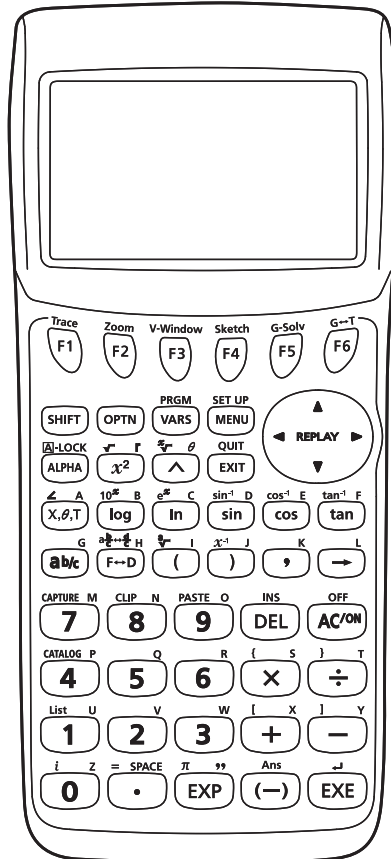
1. Key Layout



fx-9860GII SD/fx-9860GII/
fx-9860GII s/fx-9860G AU PLUS



fx-9750GII



fx-7400GII

2. Using the Backlight

(fx-9860GII SD/fx-9860GII/fx-9860GII s/fx-9860G AU PLUS only)

Your calculator is equipped with a backlight for easy reading, even in the dark. You can conserve battery power by limiting backlight operation to only when you need it.

• To turn the backlight on or off

Press **SHIFT** **OPTN** (LIGHT) to toggle the backlight on and off.

• Changing the Backlight On/Off Key

You can configure the calculator so the backlight turns on when any key is pressed, instead of requiring the **SHIFT** **OPTN** (LIGHT) to toggle the backlight on and off. For details, see “To specify the backlight key” (page 12-2) in the separate Software User’s Guide.

• Backlight duration

The backlight turns off automatically if you do not perform any key operation for a preset amount of time (30 seconds or 10 seconds).

- If you perform a key operation, the backlight duration will be extended for the applicable preset amount of time (30 seconds or 10 seconds).
- See “To specify the backlight duration” (page 12-2) in the Software User’s Guide for information about how to specify 30 seconds or 10 seconds as the backlight duration time.

• Backlight and Battery Life

- Frequent use of the backlight will shorten battery life.
- The following are guidelines that show how battery life is affected by backlight use. It is based on a new set of alkaline batteries at a temperature of 25°C.

Backlight Use	Approximate Battery Life
<u>5 minutes calculation</u> ^{*1} , 55 minutes display per hour; no backlight use	200 hours (<u>80 hours</u> ^{*2})
<u>5 minutes calculation</u> ^{*1} , 55 minutes display, 3 minutes backlight operation per hour	190 hours (<u>75 hours</u> ^{*2})
<u>5 minutes calculation</u> ^{*1} , 55 minutes display, 15 minutes backlight operation per hour	150 hours (<u>70 hours</u> ^{*2})
<u>5 minutes calculation</u> ^{*1} , 55 minutes display per hour; continuous backlight use	80 hours (<u>50 hours</u> ^{*2})

*1 fx-9860GII SD: 5 minutes SD card access

*2 fx-9860GII SD only

3. Specifications

Variables: 28

Calculation range:

$\pm 1 \times 10^{-99}$ to $\pm 9.999999999 \times 10^{99}$ and 0. Internal operations use 15-digit mantissa.

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

Program capacity: fx-9860GII SD/fx-9860GII/fx-9860GII s/fx-9860G AU PLUS/fx-9750GII
62,000 bytes (max.)
fx-7400GII
20,000 bytes (max.)

Storage memory capacity: fx-9860GII SD/fx-9860GII/fx-9860GII s/fx-9860G AU PLUS:
1.5MB (max.)
fx-9750GII/fx-7400GII: None

Power supply: Four AAA-size batteries (LR03 (AM4))

Power consumption: fx-9860GII SD/fx-9860GII/fx-9860GII s/fx-9860G AU PLUS: 0.7 W
fx-9750GII/fx-7400GII: 0.35 W

Approximate battery life

fx-9860GII SD/fx-9860GII/fx-9860GII s/fx-9860G AU PLUS:

280 hours (continuous display of main menu)

200 hours* continuous operation (5 minutes calculation, 55 minutes display)

* fx-9860GII SD: 80 hours when an SD card is used

190 hours* continuous operation (5 minutes calculation, 55 minutes display,
3 minutes backlight operation per hour)

* fx-9860GII SD: 75 hours when an SD card is used

1 year (unused with power off)

fx-9750GII/fx-7400GII:

300 hours (continuous display of main menu)

230 hours continuous operation (5 minutes calculation, 55 minutes display)

1 year (unused with power off)

- Any of the following can shorten battery life.
 - Certain SD card types or frequent SD card access
 - Frequent use of the backlight
 - Sequential program calculation execution
 - Certain battery types

Auto power off:

Power is automatically turned off approximately 10 minutes or approximately 60 minutes after last operation.

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

Dimensions: fx-9860GII SD/fx-9860GII/fx-9860GII s/fx-9860G AU PLUS:

21.2 mm (H) × 91.5 mm (W) × 184.0 mm (D)

$\frac{7}{8}$ " (H) × $3\frac{5}{8}$ " (W) × $7\frac{1}{4}$ " (D)

fx-9750GII/fx-7400GII:

21.3 mm (H) × 87.5 mm (W) × 180.5 mm (D)

$\frac{7}{8}$ " (H) × $3\frac{1}{2}$ " (W) × $7\frac{1}{8}$ " (D)

Approximate weight: fx-9860GII SD: 225 g (7.9 oz) (including batteries)

fx-9860GII/fx-9860GII s/fx-9860G AU PLUS: 220 g (7.8 oz)
(including batteries)

fx-9750GII/fx-7400GII: 205 g (7.2 oz) (including batteries)

Data Communications

3-pin serial port

Method: Start-stop (asynchronous), half-duplex

Transmission speed (BPS):

115200 bits/second (normal)

9600 bits/second (When connected to CFX-9850G series or fx-7400G series calculator;
Send/Receive commands)

38400 bits/second (Send38k/Receive38k commands)

<115200 bits/second>

Parity: EVEN

Bit length: 8 bits

Stop bit:

Send: 1 bit

Receive: 1 bit

Includes parity (None) 1-bit

X ON/X OFF Control: None

<9600, 38400 bits/second>

Parity: None

Bit length: 8 bits

Stop bit:

Send: 3 bits

Receive: 2 bits

Includes parity (None) 1-bit

X ON/X OFF Control: None

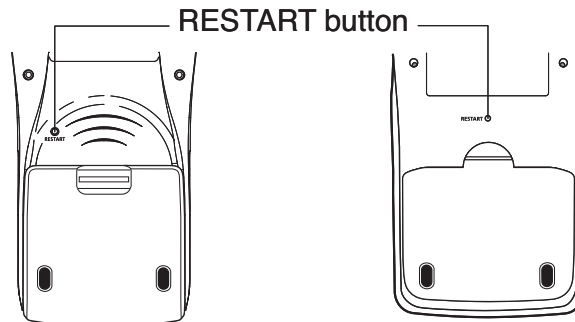
USB port (All models except fx-7400GII)

In accordance with USB 1.1 standards

4. Restart and Reset

• Restart

Should the calculator start to act abnormally, you can restart it by pressing the RESTART button. Note, however, that you should only use the RESTART button only as a last resort. Normally, pressing the RESTART button reboots the calculator's operating system, so programs, graph functions and other data in calculator memory is retained.



fx-9860GII SD
fx-9860GII
fx-9860GII s
fx-9860G AU PLUS

fx-9750GII
fx-7400GII

Important!

The calculator backs up user data (main memory) when you turn power off and loads the backed up data when you turn power back on.

When you press the RESTART button, the calculator restarts and loads backed up data. This means that if you press the RESTART button after you edit a program, graph function, or other data, any data that has not been backed up will be lost.

• Reset

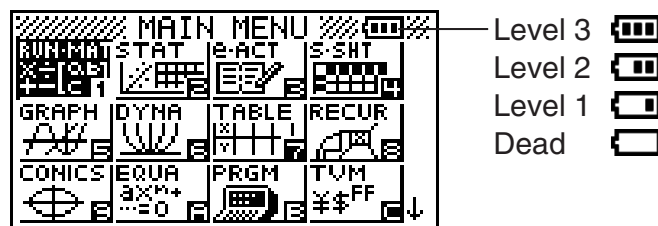
Use reset when you want to delete all data currently in calculator memory and return all mode settings to their initial defaults.

Before performing the reset operation, first make a written copy of all important data. For details, see "Reset" (page 12-3) in the separate Software User's Guide.

5. Power Supply

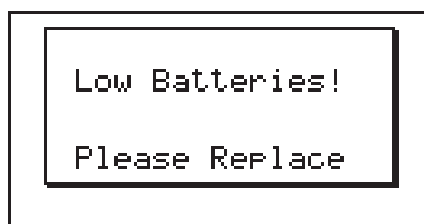
This calculator is powered by four AAA-size (LR03 (AM4)) batteries.

An icon in the upper right corner of the Main Menu screen indicates the current battery level.



Replace batteries as soon as possible whenever  (Level 1) is indicated.

If the following message appears on the display, immediately turn off the calculator and replace the batteries as instructed.



If you try to continue using the calculator, it will automatically turn off in order to protect memory contents. You will not be able to turn power back on until you replace batteries.

Be sure to replace the batteries at least once every one year, no matter how much you use the calculator during that time.

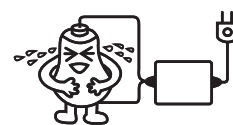
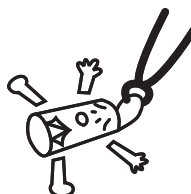
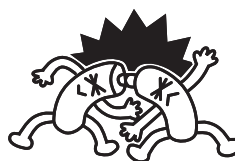
The batteries that come with this calculator discharge slightly during shipment and storage. Because of this, they may require replacement sooner than the normal expected battery life.

■ Replacing Batteries

Precautions:

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

- Be sure that the positive (+) and negative (–) poles of each battery are facing in the proper directions.
- 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 calculator for long periods.
- Never try to recharge the batteries supplied with the calculator.
- 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 calculator 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 batteries

- Never turn on the calculator while the batteries are removed or not loaded correctly. Doing so can cause memory data to be deleted and malfunction of the calculator. If mishandling of batteries causes such problems, correctly load batteries and then perform the restart operation to resume normal operation.
- Be sure to replace all four batteries with new ones.

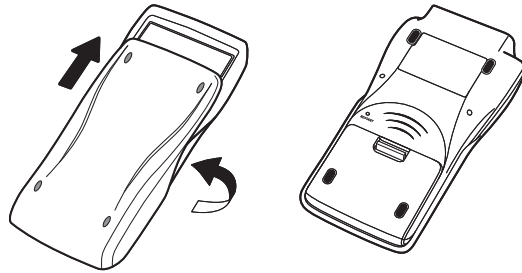
Turning off the calculator while editing an eActivity and then changing batteries can cause the data you are editing to be deleted. Be sure to save the eActivity data before turning off the calculator and changing batteries.

1. Press **SHIFT** **AC/ON** (OFF) to turn off the calculator.

Warning!

- Be sure to turn the calculator off before replacing batteries. Replacing batteries with power on will cause data in memory to be deleted.

2. Making sure that you do not accidentally press the **AC/ON** key, slide the case onto the calculator and then turn it over.



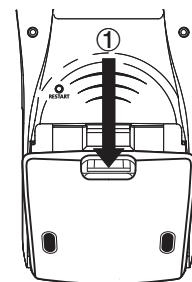
3. Remove the battery cover from the calculator by pulling with your finger at the point marked ①.

4. Remove the four old batteries.

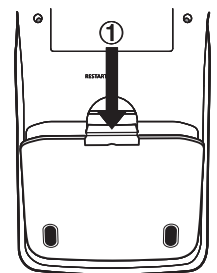
5. Load a new set of four batteries, making sure that their positive (+) and negative (-) ends are facing in the proper directions.

6. Replace the battery cover.

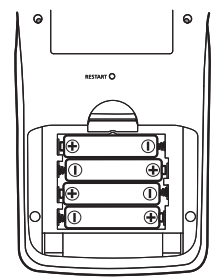
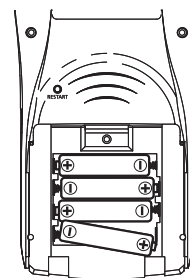
7. Turn the calculator front side up and slide off its case. Next, press **AC/ON** to turn on power.



fx-9860GII SD
fx-9860GII
fx-9860GII s
fx-9860G AU PLUS



fx-9750GII
fx-7400GII



- If the figures on the display appear too light and hard to see after you turn on power, adjust the contrast.

■ About the Auto Power Off Function

Calculator power turns off automatically if you do not perform any operation within the Auto Power Off trigger time you specify. You can specify either approximately 10 minutes or approximately 60 minutes as the trigger time (see “Power Properties Settings” on page 12-1). To restore power, press **AC/ON**.

EAC

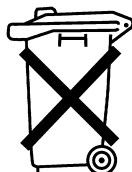
Canadian Regulatory Information Information concernant la Réglementation Canadienne

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.



**Batterij niet weggooien,
maar inleveren als
KCA**



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CASIO®

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6-2, Hon-machi 1-chome
Shibuya-ku, Tokyo 151-8543, Japan

One or more of the following patents may be used in the product.
U.S.Pats. 7,927,221 8,214,413