fx-9750G PLUS CFX-9850G PLUS CFX-9850GB PLUS CFX-9950GB PLUS User's Guide





fx-9750G PLUS owners...

This manual covers the operations of various different calculator models. Note the meaning of the following symbols when using this manual.









CASIO ELECTRONICS CO., LTD. Unit 6, 1000 North Circular Road, London NW2 7JD, U.K.

Important! Please keep your manual and all information handy for future reference.

BEFORE USING THE CALCULATOR FOR THE FIRST TIME...

Be sure to perform the following procedure to load batteries, reset the calculator, and adjust the contrast before trying to use the calculator for the first time.

1. Making sure that you do not accidently press the key, attach the case to the calculator and then turn the calculator over. Remove the back cover from the calculator by pulling with your finger at the point marked ①.







- 2. Load the four batteries that come with calculator.
- Make sure that the positive (+) and negative (-) ends of the batteries are facing correctly.

3. Remove the insulating sheet at the location marked "BACK UP" by pulling in the direction indicated by the arrow.



4. Replace the back cover, making sure that its tabs enter the holes marked ② and turn the calculator front side up. The calculator should automatically turn on power and perform the memory reset operation.



****	**
*	*
* MEMORY CLEA	ж репі ж
* HENOKY CLEH	KED: *
*	*
PRESS [MENU]	****** KEV
E FRESS LHENUL	NEY

5. Press MENU.



* The above shows the CFX-9850 (9950)G(B) PLUS screen.



* The above shows the fx-9750G PLUS screen.

 If the Main Menu shown above is not on the display, press the P button on the back of the calculator to perform memory reset.



Use the cursor keys (▲, ♥, ●, ●) to select the CONT icon and press
for simply press (to display the contrast adjustment screen.



CFX-9850G PLUS



fx-9750G PLUS

7. Adjust the contrast.

To adjust the contrast

- Use (and () to move the pointer to CONTRAST.
 - Press to make the figures on the display darker, and to make them lighter.



•To adjust the tint

- 1. Use () and () to move the pointer to the color you want to adjust (ORANGE, BLUE, or GREEN).
- 2. Press () to add more green to the color, and () to add more orange.
- 8. To exit display contrast adjustment, press (MENU).



ABOUT THE COLOR DISPLAY

G-CON G-PL

ORM DEL, ROW,

The display uses three colors: orange, blue, and green, to make data easier to understand.



=0.51050111159 Y=0.13508811919



Statistical Regression Graph Example



 When you draw a graph or run a program, any comment text normally appears on the display in blue. You can, however, change the color of comment text to orange or green.

Example: To draw a sine curve

1. Enter the GRAPH Mode and input the following.

F 3	(TYPE)	F1	(Y=)
------------	--------	-----------	------

(Specifies rectangular coordinates.)



(Stores the expression.)

2. **F4** (COLR)

Graph Func : Y= Y1=sin X Y2: Y4: Y5: Y5: ISEL DELP I<u>W2</u>: COLR MIN (DRAW) F4

Blue Orns Grn	
F2	

 Press the function key that corresponds to the color you want to use for the graph:

F1 for blue,	F2 for orange,	F3 for green
--------------	----------------	--------------

3. **F2** (Orng)

(Specifies the graph color.)



4. **F6** (DRAW) (Draws the graph)





You can also draw multiple graphs of different color on the same screen, making each one distinct and easy to view.

KEYS



Alpha Lock

Normally, once you press \mathbb{APHA} and then a key to input an alphabetic character, the keyboard reverts to its primary functions immediately. If you press \mathbb{SHP} and then \mathbb{APHA} , the keyboard locks in alpha input until you press \mathbb{APHA} again.

KEY TABLE



Turning Power On And Off

Using Modes

Basic Calculations

Replay Features

Fraction Calculations

Exponents

Graph Functions

Dual Graph

Box Zoom

Dynamic Graph

Table Function



Welcome to the world of graphing calculators.

Quick-Start is not a complete tutorial, but it takes you through many of the most common functions, from turning the power on, to specifying colors, and on to graphing complex equations. When you're done, you'll have mastered the basic operation of this calculator and will be ready to proceed with the rest of this user's guide to learn the entire spectrum of functions available.

Each step of the examples in Quick-Start is shown graphically to help you follow along quickly and easily. When you need to enter the number 57, for example, we've indicated it as follows:



Whenever necessary, we've included samples of what your screen should look like. If you find that your screen doesn't match the sample, you can restart from the beginning by pressing the "All Clear" button $\boxed{AC/ON}$.

TURNING POWER ON AND OFF

To turn power on, press AC/ON

To turn power off, press SHIFT

OFF

Note that the calculator automatically turns power off if you do not perform any operation for about six minutes (about 60 minutes when a calculation is stopped by an output command (\checkmark)).

USING MODES

This calculator makes it easy to perform a wide range of calculations by simply selecting the appropriate mode. Before getting into actual calculations and operation examples, let's take a look at how to navigate around the modes.

To select the RUN Mode

1. Press **MENU** to display the Main Menu.



The above shows the CFX-9850 (9950)G(B) PLUS screen.

106

Quick-Start

This is the initial screen of the RUN mode, where you can perform manual calculations, and run programs.

2. Press 1 5 X 3 + 6 1 EXE.

BASIC CALCULATIONS

With manual calculations, you input formulas from left to right, just as they are written on paper. With formulas that include mixed arithmetic operators and parentheses, the calculator automatically applies true algebraic logic to calculate the result.

1. Press AC/ON to clear the calculator.

Example: 15 × 3 + 61



1. Press 1 5 🗙 (3 + 6 1) EXE

960

Built-In Functions

Example: 15 × (3 + 61)

This calculator includes a number of built-in scientific functions, including trigonometric and logarithmic functions.

Example: 25 × sin 45°

Important!

Be sure that you specify Deg (degrees) as the angle unit before you try this example.



15×3+61



- 1. Press AC/ON
- 2. Press SHIFT MENU

(MENU) to switch the set up display.

Mode	Comp
Func Type	:Y=
Draw Type	:Connect
Derivative	∶Qff
Angle	Rad
Coord	∶On ∶Off
Grid ComP[Dec]Hex	
[comr]Dec [Hex	IBIN JULT



Mode Func Type Draw Type Derivative	:Comp :Y= :Connect :Off
Angle	:Des
Coord	:On
<u>Grid</u>	:Öff
Deg Raa Gra	

- 4. Press **EXIT** to clear the menu.
- 5. Press $AC^{(0)}$ to clear the unit.
- 6. Press 2 5 🗙 sin 4 5 EXE

25×sin 45	17.67766953

REPLAY FEATURES

With the replay feature, simply press \bigcirc or \bigcirc to recall the last calculation that was performed. This recalls the calculation so you can make changes or re-execute it as it is.



Quick-Stai

FRACTION CALCULATIONS

You can use the ab key to input fractions into calculations. The symbol " " is used to separate the various parts of a fraction.



Converting a Mixed Fraction to an Improper Fraction

While a mixed fraction is shown on the display, press SHIFT improper fraction.

ab to convert it to an

Press SHIFT

again to convert back to a mixed fraction.



Converting a Fraction to Its Decimal Equivalent

While a fraction is shown on the display, press **F-D** to convert it to its decimal equivalent.

Press $[F \leftrightarrow D]$ again to convert back to a fraction.

1,15,	16+31	7.9 6.04	86111	11

EXPONENTS

Example: 1250 × 2.06⁵

1. Press AC/ON.

2. Press 1 2 5 0 X 2 • 0 6.

- 3. Press \Lambda and the ^ indicator appears on the display.
- 4. Press **5**. The **^5** on the display indicates that 5 is an exponent.
- 5. Press EXE

1250×2.06^5 46370.96297

GRAPH FUNCTIONS

The graphing capabilities of this calculator makes it possible to draw complex graphs using either rectangular coordinates (horizontal axis: x; vertical axis: y) or polar coordinates (angle: θ ; distance from origin: r).

Example 1: To graph Y = X(X + 1)(X - 2)

- 1. Press MENU.
- 2. Use (,), (, and (to highlight **GRAPH**, and then press **EXE**.



3. Input the formula.

Χ, <i>θ</i> ,Τ]
(Χ , <i>θ</i> , T	— 2) EXE	



4. Press **F6** (DRAW) or **EXE** to draw the graph.



Example 2: To determine the roots of Y = X(X + 1)(X - 2)

1. Press SHIFT **F5** (G-Solv).







Example 3: Determine the area bounded by the origin and the X = -1 root obtained for Y = X(X + 1)(X - 2)



DUAL GRAPH

With this function you can split the display between two areas and display two graphs on the same screen.

Example: To draw the following two graphs and determine the points of intersection

Y1 = X(X + 1)(X - 2)Y2 = X + 1.2

1. Press SHIFT SETUP (F1 (Grph) to specify "Graph" for the Dual Screen setting.

Draw Type	:Connect
Graph Func	:On
Dual Screen	:Ungsh
Simul Graph	:Off
Derivative	:Off
Background	:None

Grph GtoT Off

F1

- Graph Func :Y= Y10X(X+1)(X-2) Y20X+1.2 Y4: Y4: Y5: Y6:
- 2. Press **EXIT** , and then input the two functions.



3. Press **F6** (DRAW) or **EXE** to draw the graphs.



BOX ZOOM

Use the Box Zoom function to specify areas of a graph for enlargement.

- 1. Press SHIFT F2 (Zoom) F1 (BOX).
- 2. Use (,), (, and to move the pointer to one corner of the area you want to specify and then press **EXE**.



3. Use (,),), (), and () to move the pointeragain. As you do, a box appears on the display. Move the pointer so the box encloses the area you want to enlarge.



4. Press **[EXE]**, and the enlarged area appears in the inactive (right side) screen.



DYNAMIC GRAPH

Dynamic Graph lets you see how the shape of a graph is affected as the value assigned to one of the coefficients of its function changes.

Example: To draw graphs as the value of coefficient A in the following function changes from 1 to 3

3. Input the formula.



Dynamic Func∶Y= Y1∎AX2
Y2:
Y3:
14: 10:
ΰZ:
SEL DEL TYPE VAR BIN ROL
 [F4]

SEL DEL TWPE WAR BAIN IRCL

Y6:

2. U

4. Press **F4** (VAR) **1 EXE** to assign an initial value of 1 to coefficient A.





Dynamic Ranse A Start:1 End :3 Pilone

- 6. Press **EXIT**.
- 7. Press **F6** (DYNA) to start Dynamic Graph drawing. The graphs are drawn 10 times.









TABLE FUNCTION

The Table Function makes it possible to generate a table of solutions as different values are assigned to the variables of a function.

Example: To create a number table for the following function

Y = X (X+1) (X-2)1. Press MENU Table Func :Y= 2. Use (,),), (), (), and () to highlight TABLE,and then press **EXE** 3. Input the formula. [X.θ.T] IX.*0*.T 2 Х.*Ө*.Т 4. Press **F6** (TABL) or **EXE** to generate the number table. П 12 40 G-CON G-P FORM DEL, ROW

To learn all about the many powerful features of this calculator, read on and explore!

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 2 years 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.
- Keep batteries out of the reach of small children. If swallowed, consult with 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 dipped in 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. The user should 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.
- When the "Low battery!" message appears on the display, replace the main power supply batteries as soon as possible.
- 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 P 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.

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.

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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Contents

-	quainted — Read This First!	
-	ecting Icons and Entering Modes	
	play	
4. Co	ntrast Adjustment	11
5. Wh	en you keep having problems	12
Chapter 1	Basic Operation	
1-1	Before Starting Calculations	
1-2	Memory	
1-3	Option (OPTN) Menu	
1-4	Variable Data (VARS) Menu	
1-5	Program (PRGM) Menu	
Chapter 2	Manual Calculations	
2-1	Basic Calculations	
2-2	Special Functions	
2-3	Function Calculations	43
Chapter 3	Numerical Calculations	53
3-1	Before Performing a Calculation	54
3-2	Differential Calculations	
3-3	Quadratic Differential Calculations	
3-4	Integration Calculations	
3-5	Maximum/Minimum Value Calculations	
3-6	Summation (Σ) Calculations	65
Chapter 4	Complex Numbers	67
4-1	Before Beginning a Complex Number Calculation	68
4-2	Performing Complex Number Calculations	69
Chapter 5	Binary, Octal, Decimal, and Hexadecimal Calculations	
5-1	Before Beginning a Binary, Octal, Decimal, or Hexadecimal	
	Calculation with Integers	
5-2	Selecting a Number System	
5-3	Arithmetic Operations	
5-4	Negative Values and Bitwise Operations	78
Chapter 6	Matrix Calculations	
6-1	Before Performing Matrix Calculations	
6-2	Matrix Cell Operations	
6-3	Modifying Matrices Using Matrix Commands	88
6-4	Matrix Calculations	

Chapter 7	Equation Calculations	. 99
7-1	Before Beginning an Equation Calculation	100
7-2	Linear Equations with Two to Six Unknowns	101
7-3	Quadratic and Cubic Equations	104
7-4	Solve Calculations	107
7-5	What to Do When an Error Occurs	110
Chapter 8	Graphing	
8-1	Before Trying to Draw a Graph	
8-2	View Window (V-Window) Settings	
8-3	Graph Function Operations	
8-4	Graph Memory	
8-5	Drawing Graphs Manually	
8-6	Other Graphing Functions	
8-7	Picture Memory	
8-8	Graph Background	140
Chapter 9	Graph Solve	
9-1	Before Using Graph Solve	
9-2	Analyzing a Function Graph	145
Chapter 10	Sketch Function	
10-1	Before Using the Sketch Function	154
10-2	Graphing with the Sketch Function	155
Chapter 11	Dual Graph	167
11-1	Before Using Dual Graph	168
11-2	Specifying the Left and Right View Window Parameters	169
11-3	Drawing a Graph in the Active Screen	170
11-4	Displaying a Graph in the Inactive Screen	171
Chapter 12	Graph-to-Table	175
12-1	Before Using Graph-to-Table	176
12-2	Using Graph-to-Table	177
Chapter 13	Dynamic Graph	181
13-1	Before Using Dynamic Graph	182
13-2	Storing, Editing, and Selecting Dynamic Graph Functions	183
13-3	Drawing a Dynamic Graph	184
13-4	Using Dynamic Graph Memory	
13-5	Dynamic Graph Application Examples	191
Chapter 14	Conic Section Graphs	193
14-1	Before Graphing a Conic Section	
14-2	Graphing a Conic Section	195
14-3	Conic Section Graph Analysis	199
		xxiii

Contents

Chapter 15	Table & Graph	205
15-1	Before Using Table & Graph	. 206
15-2	Storing a Function and Generating a Numeric Table	. 207
15-3	Editing and Deleting Functions	. 210
15-4	Editing Tables and Drawing Graphs	. 211
15-5	Copying a Table Column to a List	. 216
Chapter 16	Recursion Table and Graph	217
16-1	Before Using the Recursion Table and Graph Function	. 218
16-2	Inputting a Recursion Formula and Generating a Table	. 219
16-3	Editing Tables and Drawing Graphs	. 223
Chapter 17	List Function	229
List Da	ata Linking	. 230
17-1	List Operations	
17-2	Editing and Rearranging Lists	. 233
17-3	Manipulating List Data	. 237
17-4	Arithmetic Calculations Using Lists	
17-5	Switching Between List Files	. 248
Chapter 18	Statistical Graphs and Calculations	249
18-1	Before Performing Statistical Calculations	. 250
18-2	Paired-Variable Statistical Calculation Examples	. 251
18-3	Calculating and Graphing Single-Variable Statistical Data	. 257
18-4	Calculating and Graphing Paired-Variable Statistical Data	. 261
18-5	Performing Statistical Calculations	. 270
18-6	Tests	. 276
18-7	Confidence Interval	. 294
18-8	Distribution	. 304
Chapter 19	Financial Calculations	321
19-1	Before Performing Financial Calculations	. 322
19-2	Simple Interest Calculations	. 324
19-3	Compound Interest Calculations	. 326
19-4	Investment Appraisal	. 337
19-5	Amortization of a Loan	. 341
19-6	Conversion between Percentage Interest Rate and Effective	o / =
10 -	Interest Rate	
19-7	Cost, Selling Price, Margin Calculations	
19-8	Day/Date Calculations	
Chapter 20	Programming	351
20-1	Before Programming	
20-2	Programming Examples	. 353

	20-3	Debugging a Program	358
	20-4	Calculating the Number of Bytes Used by a Program	359
	20-5	Secret Function	360
	20-6	Searching for a File	362
	20-7	Searching for Data Inside a Program	364
	20-8	Editing File Names and Program Contents	365
	20-9	Deleting a Program	368
	20-10	Useful Program Commands	369
	20-11	Command Reference	371
	20-12	Text Display	388
	20-13	Using Calculator Functions in Programs	389
Chan	ter 21	Data Communications	399
onup	21-1	Connecting Two Units	
	21-2	Connecting the Unit with a Personal Computer	
	21-3	Connecting the Unit with a CASIO Label Printer	
	21-4	Before Performing a Data Communication Operation	
	21-5	Performing a Data Transfer Operation	
	21-6	Screen Send Function	
	21-7	Data Communications Precautions	409
Chan			
Chap	ter 22	Program Library	411
Chap	ter 22 1. Prir	Program Library me Factor Analysis	411 412
Chap	t er 22 1. Prir 2. Gre	Program Library me Factor Analysis eatest Common Measure	411 412 414
Chap	t er 22 1. Prir 2. Gre 3. <i>t</i> -Te	Program Library me Factor Analysis eatest Common Measure est Value	411 412 414 416
Chap	ter 22 1. Prir 2. Gre 3. <i>t</i> -Te 4. Circ	Program Library me Factor Analysis eatest Common Measure est Value cle and Tangents	411 412 414 416 418
	ter 22 1. Prir 2. Gre 3. <i>t</i> -Te 4. Circ 5. Rot	Program Library me Factor Analysis eatest Common Measure est Value cle and Tangents tating a Figure	411 412 414 416 418 425
	ter 22 1. Prir 2. Gre 3. <i>t</i> -Te 4. Circ 5. Rot	Program Library me Factor Analysis eatest Common Measure est Value cle and Tangents tating a Figure	411 412 414 416 418 425 429
	ter 22 1. Prir 2. Gre 3. <i>t</i> -Te 4. Circ 5. Rot mdix Appen	Program Library me Factor Analysis eatest Common Measure est Value cle and Tangents tating a Figure ndix A Resetting the Calculator	411 412 414 416 418 425 429
	ter 22 1. Prir 2. Gre 3. <i>t</i> -Te 4. Circ 5. Rot mdix Appen Appen	Program Library me Factor Analysis eatest Common Measure est Value cle and Tangents tating a Figure ndix A Resetting the Calculator ndix B Power Supply	411 412 414 416 418 425 425 429 430 432
	ter 22 1. Prir 2. Gre 3. <i>r</i> -Te 4. Circ 5. Rot mdix Appen Appen Appen	Program Library me Factor Analysis eatest Common Measure est Value cle and Tangents tating a Figure ndix A Resetting the Calculator ndix B Power Supply ndix C Error Message Table	411 412 414 416 418 425 429 430 432 436
	ter 22 1. Prir 2. Gre 3. <i>r</i> -Te 4. Circ 5. Rot mdix Appen Appen Appen Appen	Program Library me Factor Analysis	411 412 414 416 418 425 429 430 432 436 438
	ter 22 1. Prir 2. Gre 3. <i>t</i> -Te 4. Circ 5. Rot mdix Appen Appen Appen Appen Appen	Program Library me Factor Analysis beatest Common Measure best Value cle and Tangents tating a Figure mdix A Resetting the Calculator ndix B Power Supply ndix C Error Message Table ndix D Input Ranges ndix E Specifications	411 412 414 416 418 425 429 430 430 438 438 441
	ter 22 1. Prir 2. Gre 3. <i>r</i> -Te 4. Circ 5. Rot mdix Appen Appen Appen Index	Program Library me Factor Analysis beatest Common Measure best Value cle and Tangents tating a Figure mdix A Resetting the Calculator ndix B Power Supply ndix C Error Message Table ndix D Input Ranges ndix E Specifications	411 412 414 416 418 425 429 430 432 436 438 441 443
	ter 22 1. Prir 2. Gre 3. <i>t</i> -Te 4. Circ 5. Rot mdix Appen Appen Appen Index Comm	Program Library	411 412 414 416 418 425 429 430 432 436 438 441 443 449
	ter 22 1. Prir 2. Gre 3. <i>t</i> -Te 4. Circ 5. Rot mdix Appen Appen Appen Index Comm Key In	Program Library me Factor Analysis beatest Common Measure best Value cle and Tangents tating a Figure mdix A Resetting the Calculator ndix B Power Supply ndix C Error Message Table ndix D Input Ranges ndix E Specifications	411 412 414 416 418 425 429 430 432 436 438 441 443 449 450