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fx-Manager PLUS Subscription
for fx-9860GIII
fx-9750GIII
GRAPH35+ E II

User's Guide

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CASIO Worldwide Education Website

<https://edu.casio.com>

Manuals are available in multi languages at

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

Getting Started

■ Software Covered by This Manual

- This manual covers the following software.

fx-9860GIII Manager PLUS

fx-9750GIII Manager PLUS

GRAPH35+ E II Manager PLUS

- Emulator Graphic

The following shows the emulator graphics displayed by each type of software.

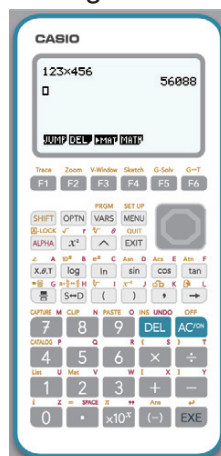
fx-9860GIII
Manager PLUS



fx-9750GIII
Manager PLUS



GRAPH35+ E II
Manager PLUS



- Though the calculator operations you perform with the emulator graphic are different for each type of software, operation of the software itself is the same in all cases.
- The operations in this manual are based on the fx-9860GIII Manager PLUS software. You can perform the same operations for other software.

■ About fx-Manager PLUS Subscription for fx-9860GIIIseries

- fx-Manager PLUS Subscription for fx-9860GIIIseries is an emulator that lets you perform fx-9860GIII operations on your computer.
- You can record key operations you perform on the emulator as “Key-Log records”, and edit Key-Log records as required.
- The keys on the Key-Log editor screen as well as the emulator LCD screen contents can be pasted into other applications. This means that emulator data can be used to create assignments, tests, and other materials.
- A presentation feature lets you play back saved Key-Log records.

■ Using This Manual

- For details about operation of the fx-9860GIII Graphic Scientific Calculator, see the user documentation that comes with the calculator.
- The procedures in this manual assume that you are already familiar with the following standard computer operations.
 - Menu operations using the mouse, including: clicking, double-clicking, dragging, etc.
 - Text input using the keyboard
 - Icon operations, general window operations, etc.
 - If you are not familiar with these types of operations, refer to the user documentation for your computer.
- The screen shots shown in this manual are all from the English version of Windows® 10.
- Note that the actual appearance of the screen that appears when using this software depends on your computer system setup and on the operating system you are using.
- Screen shots shown in this User’s Guide are intended for illustrative purposes only. The actual text and values that appear on display may differ from the examples shown in this User’s Guide.

■ System Requirements

Operating Systems:	Windows 8.1, Windows 10 Your hardware configuration needs higher than functionalities that operating system recommends.
Computer:	Computer with one of the Windows operating systems pre-installed (Excluding computers with an upgraded operating system and self-built computers.)
Disk Space:	400MB for installation and uninstall
Note:	Actual requirements and product functionality may vary based on your system configuration and operating system.
Other:	Video adapter and display must support resolution of XGA (1024×768) or higher, 16 bit or higher system color. Internet Explorer® 7 or later. Adobe® Reader® 8.0 or later. Microsoft® Excel® 2013, Microsoft Excel 2016 or Microsoft Excel 2019

Note

- For the latest information about system requirements, visit the website at the URL below:
https://world.casio.com/support/os_support/
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- Note that trademark [™] and registered trademark [®] are not used within the text of this user's guide.

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1. Installing and Uninstalling the Software

To install the software

1. On your computer, double-click the fx-Manager PLUS Subscription for fx-9860GIIIseries application EXE file.
2. Perform operations as instructed by the text that appears on the screen.

To uninstall the software

Use Windows Control Panel to uninstall the software.

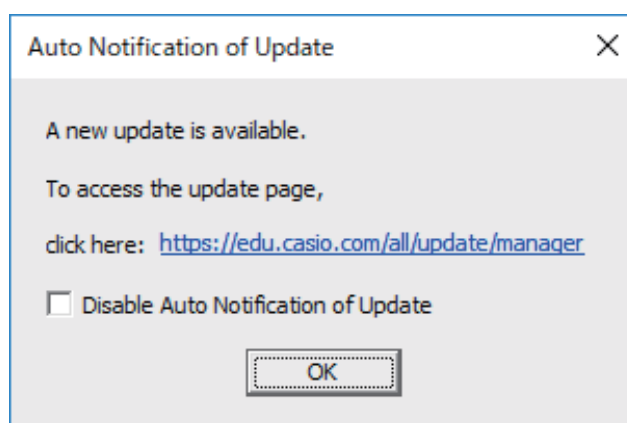
To start up the software

1. On your computer's desktop, click the "fx-Manager PLUS Subscription for fx-9860GIIIseries" icon.
 - Starting up this application for the first time will display a dialog box for selecting a calculator model. Select a calculator model and then click [OK]. The calculator selection dialog box appears for the first startup only if there are multiple calculators supported by the application.



Auto Notification of Update

If your computer is connected to the Internet, the application will connect to the CASIO server whenever you start it up. When there is an update file for this application on the CASIO server, a dialog box will appear to let you know.



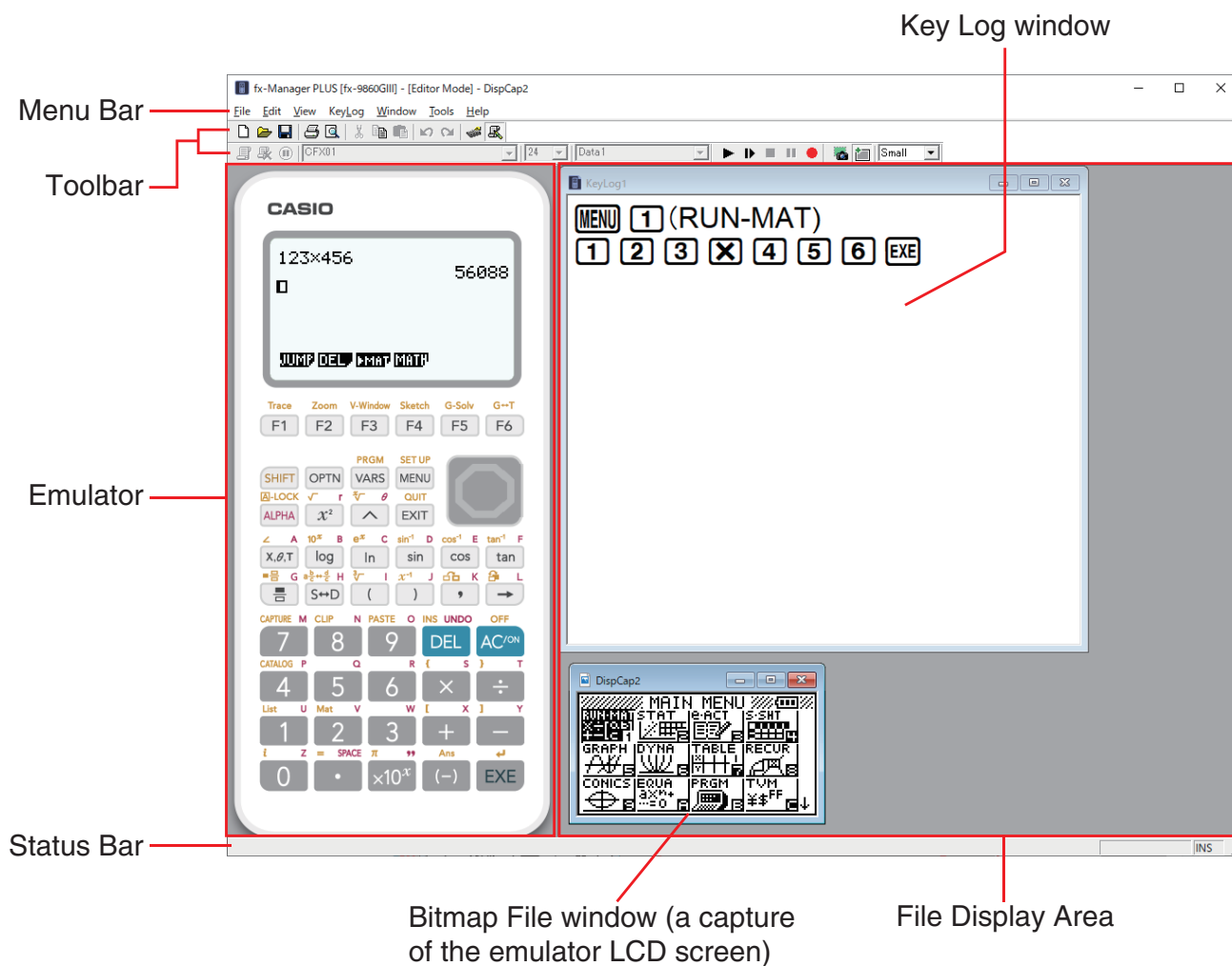
<https://edu.casio.com/all/update/manager/>: Clicking this link will start up your browser and go to the CASIO website.

Clicking [OK] will close the dialog box.

You can disable further auto-notification of updates by selecting the check box next to "Disable Auto Notification of Update" before clicking [OK]. To re-enable auto-notification of updates, select "Auto Notification of Update" on the Help menu.

2. Screen Configuration

The following shows the fx-Manager PLUS Subscription for fx-9860GIII series screen.









- When you have both the emulator window and Key-Log (or bitmap file) window open on the display, the emulator window always will be displayed on top.






Menu Bar

If a menu command can also be executed by clicking a toolbar button, the applicable toolbar button is also provided.

■ File Menu

Menu	Toolbar Button	Description
New		Creates a new Key-Log file.
Open...		Opens an existing file.
Close		Closes the currently open file.
Capture Screen		Captures the emulator screen.
Save		Saves the current work file, overwriting the previous (unedited) version.
Save As...		Saves the current work file under a new name.
Print...		Prints the currently displayed bitmap file.
Print Preview		Displays a preview of the print image.
Print Setup...		Displays the print setup dialog box.
(File History)		Shows up to four of the last files you worked on.
Change Calculator Model and Exit...		Displays a dialog box for selecting a calculator model to be emulated. Clicking [Save and Exit] will exit this application. The next time you start up this application, the emulator that was selected when you clicked [Save and Exit] will appear on the display.
Exit		Exits this application.

■ Edit Menu











Menu	Toolbar Button	Description
Undo		Undoes the last operation.
Redo		Redoes the last undone operation.
Cut		Moves the selected data to the clipboard.
Copy		Copies selected data to the clipboard.
Paste		Pastes the clipboard contents.
Clear		Deletes the selected data.
Select All		Selects all Key-Log records.

- The Edit menu is disabled during emulator operation.

■ View Menu

Menu	Submenu	Description
Calc Key	Small	Selects small-size calculator keys.
	Normal	Selects normal-size calculator keys.
	Large 1	Selects large 1-size calculator keys.
	Large 2	Selects large 2-size calculator keys.
	Large 3	Selects large 3-size calculator keys.
Calc Screen	Small	Selects small-size display.
	Normal	Selects normal-size display.
	Large 1	Selects large 1-size display.
	Large 2	Selects large 2-size display.
	Large 3	Selects large 3-size display.
Toolbar	Standard	Toggles display of the standard toolbar on and off.
	Log	Toggles display of the log toolbar on and off.
	Edit	Toggles display of the edit toolbar on and off.
	Bitmap	Toggles display of the bitmap toolbar on and off.

■ Key-Log Menu

Menu	Toolbar Button	Description
Add		Adds a new Key-Log record (Key-Log editor mode only).
Delete		Deletes the currently displayed Key-Log record (Key-Log editor mode only).
Emulator		Enters the emulator mode.
Editor		Enters the Key-Log editor mode.
Auto Play		Starts Key-Log auto playback.
Step Play		Starts Key-Log manual playback.
Stop		Stops Key-Log playback or recording.
Pause		Pauses Key-Log playback.
Record		Starts Key-Log recording.
Insert Pause		During Key-Log editing, inserts a pause character into Key-Log playback (Key-Log editor mode only).

■ Window Menu

Menu	Description
Tiled	Displays all windows in a tiled configuration.
Horizontal	Displays all windows in a horizontal line.

- The Window menu also shows the names of files that you have open. When you have multiple files open, the file name at the top of the list is the one you are currently working with the active file.

■ Tools Menu

Menu	Toolbar Button	Description
Options...		Displays a dialog box for configuring optional settings.

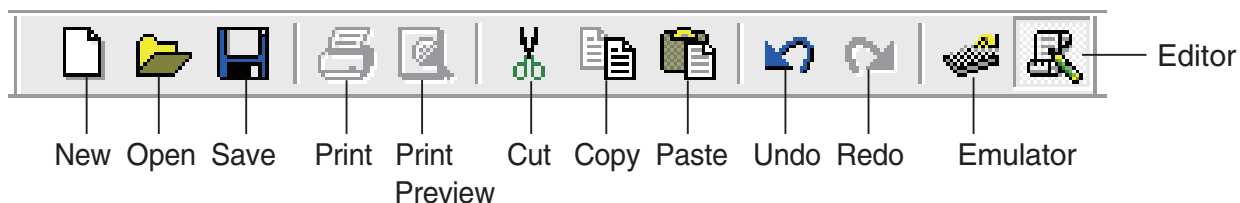
■ Help Menu

Menu	Submenu	Description
Manual	Calculator	Links to https://world.casio.com/manual/calc/ . Download the Calculator User's Guide there.
	Manager PLUS	Displays the fx-Manager PLUS User's Guide.
	Activation	Displays the Activation User's Guide.
Auto Notification of Update		Toggles Auto Notification of Update between enabled and disabled. Auto Notification of Update is enabled when this menu item has a check box next to it.
License		Displays the end user license agreement.
About...		Displays version information.
Activation...		Displays the activation screen. For details, see the Activation User's Guide.

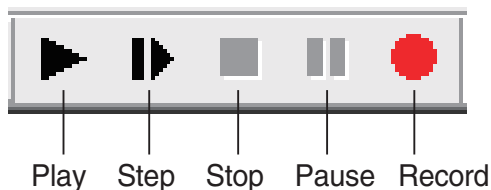
Toolbar

The toolbar buttons correspond to menu bar commands. See the section of this manual that explains the menu bar for details about each button's function.

■ Standard Toolbar



■ Log Toolbar

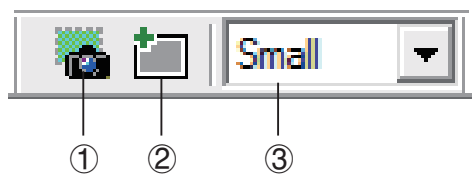


■ Edit Toolbar



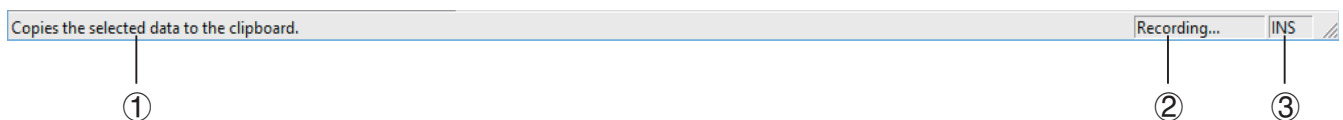
- ① Add
- ② Delete
- ③ Insert Pause
- ④ Font ... Specifies the font of input text.
- ⑤ Font Size ... Specifies the font size of input text.
- ⑥ Key-Log Record ... Selects the Key-Log record to be played back or edited.

■ Bitmap Toolbar



- ① Capture Screen
- ② Outer Frame
Specifies an outer frame for screen captures.
- ③ Bitmap Size
Specifies the bitmap size. Supported sizes are Small, Normal and x3.

Status Bar





- ① Help text is displayed here.
- ② Displays the process currently being performed.
- ③ Toggles between the insert and overwrite modes.

3. Emulator Mode and Key-Log Editor Mode

This application has two modes.

You can use either of the following to operations to select the mode you want.

- On the [KeyLog] menu, select either [Emulator] or [Editor].
- On the standard toolbar, click  or .

Emulator Mode

Use this mode when you want to perform mainly emulator operations.

Key-Log Editor Mode

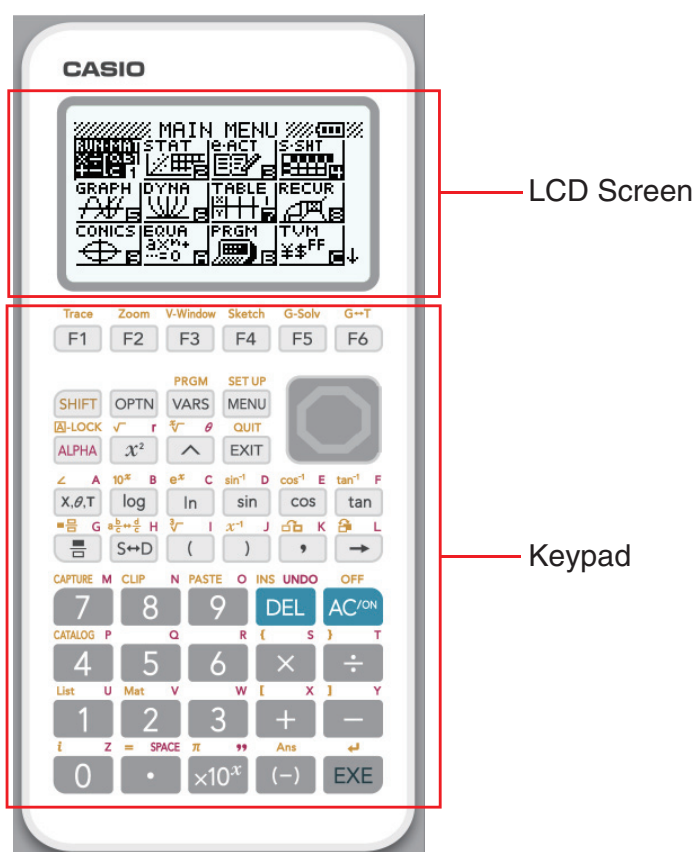
Use this mode when you want to perform mainly Key-Log data operations.

4. Emulating fx-9860GIII Calculator Operation

- The emulator makes it possible to mimic fx-9860GIII calculator operation using your computers mouse and keyboard.
- For details about emulator operations, see the fx-9860GIII User's Guide.
- Note that some emulator functions are different from the functions of the fx-9860GIII calculator. For details, see "9. Differences between fx-9860GIII Calculator and fx-Manager PLUS Subscription for fx-9860GIIIseries Functions" (page EN-27).

■ Using the Emulator

- Key operations are identical to those you perform on the calculator.
- Operation results appear on the LCD screen.















In the Emulator Mode, you use your computer keyboard to operate the emulator. The following explains the keyboard keys you should use to perform each emulator key operation.

(1) Computer keyboard keys that have the same key markings as the emulator keys

0—**9**, **.**, **+**, **-**, **(**, **)**, **,**, **^**, **F1**—**F6**, **▲**, **▼**, **◀**, **▶**

(2) Computer keyboard keys that have different key markings as the emulator keys

Computer Key	Emulator Key
[Tab]	
[Insert]	
[Home]	
[Page Up]	
[Page Down]	
[End]	
[Esc]	
[Delete]	
[Back Space]	
[Enter]	
[*]	
[/]	

■ Changing the Size of the Emulator

The emulator's keypad and LCD screen each can be toggled between five sizes: small, normal, large 1, large 2, and large 3.

To specify the size of the keypad

1. On the [View] menu, select [Calc Key].
2. From the submenu that appears, select the keypad size you want.

To specify the size of the LCD screen

1. On the [View] menu, select [Calc Screen].
2. From the submenu that appears, select the LCD screen size you want.

Note

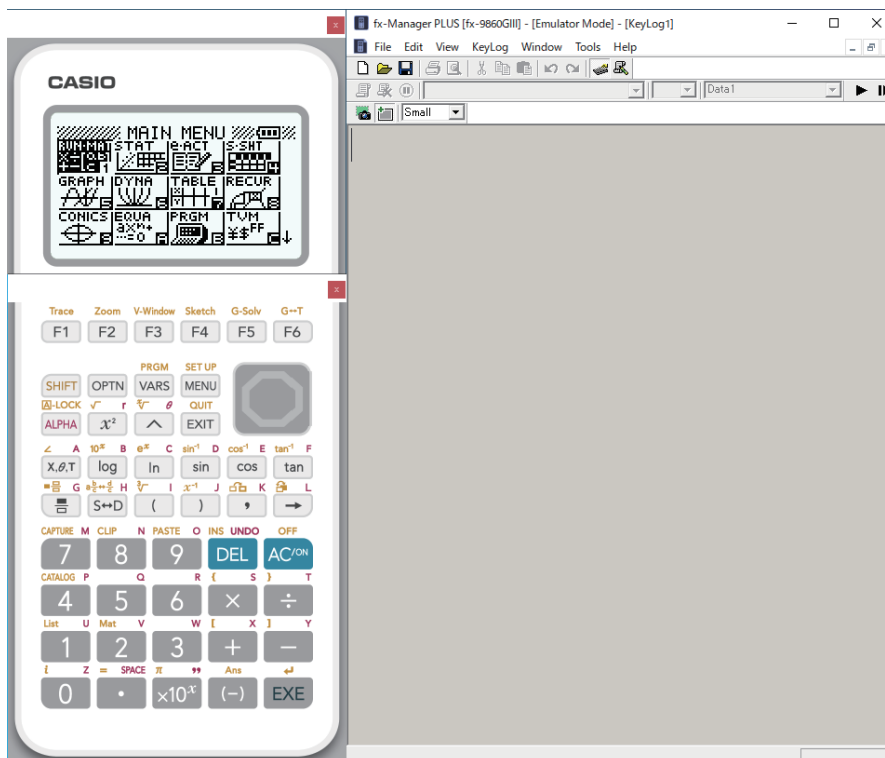
- If the LCD screen or keypad is displayed as a floating window (page EN-15), you also can resize the window by dragging the one side of the window frame upwards, downwards, left, or right. Resizing by dragging the window frame lets you make the floating window larger than the normal size selectable on the submenu above.

■ Using the Floating Emulator Feature

- You can drag the LCD screen and the keypad to any location you want on your computer screen.
- You can display the emulator LCD screen and its keypad in their own windows that are separate from the main window.

To make the LCD screen and/or keypad a floating window

1. Double-click the LCD screen and/or keypad.
2. Drag the LCD screen and/or keypad to the left so it is outside of the main window, and drop it there.



■ Moving the LCD Screen and Keypad Back into the Main Window

Perform the following steps to move the LCD screen and/or keypad back into the main window from independent floating windows.

- Double-click the floating LCD screen and/or keypad.
- Drag the LCD screen and/or keypad back to the left side of the main window.



Important!

- You can return an independent floating window to the main window by dragging the floating window to the left side of the main window only. Dragging top, bottom, or right side of the main window will not work.

■ Capturing the Emulator LCD Screen Image

You can use the following procedure to capture an image of the emulator LCD screen.

To capture the emulator LCD screen image



1. On the [File] menu, select [Capture Screen] to display a capture of the emulator LCD screen (page EN-6).
 - You could also click  on the bitmap toolbar.
 - You can also add a frame to the captured image or change the image zoom factor, if you want. For details, see “Bitmap Toolbar” (page EN-11) and “LCD Screen Capture Settings” (page EN-21).
 - If either a window containing of a captured image or the Key-Log screen is currently maximized (using the Windows maximize command) on your computer display, any window produced by the capture operation will also be maximized. This is true regardless of the size setting specified for screen capture on the Options dialog box (page EN-21).
2. Select the captured screen image window and then click  to save it to a file.
 - You can save a screen capture as either of the formats below.
 - Monochrome bitmap format
 - JPEG format

This application uses libraries by the Independent JPEG Group.

■ Opening a Saved LCD Screen Image

- You can open a saved LCD screen image and display it on your computer. You can have multiple screen images open at the same time.
- LCD screen images can be copied and pasted into other applications in order to create operation example handouts, assignments, etc.

To copy an LCD screen image and paste it into another application

1. Click  and then open the file that contains the LCD screen image you want to copy.
 - Only bitmap files can be opened using this procedure. Opening of JPEG files is not supported.
2. Select the LCD screen image window and then click  to copy it to the clipboard.
3. Open the other application and then paste the contents of the clipboard.

5. Using the Emulator Key-Log

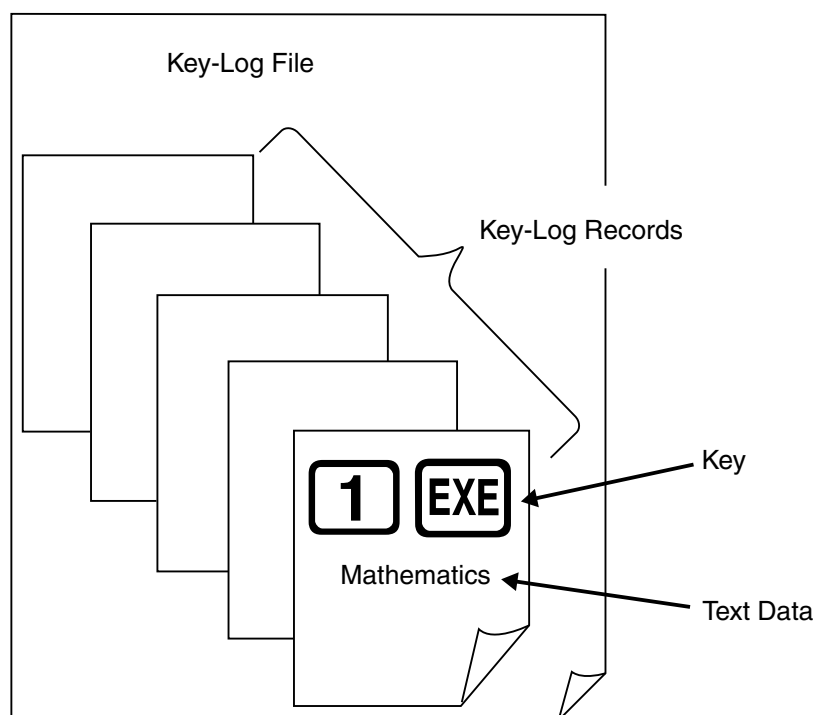
This section explains how to use the Key-Log, which is a log of the emulator's key operations. It also covers playback of recorded key operations and editing of Key-Log records. All of the operations in this section are performed using toolbar buttons.

■ Key-Log File Structure

A Key-Log file can contain multiple Key-Log records.

Key-Log records contain recorded key operations and text.

The following shows the Key-Log file structure.




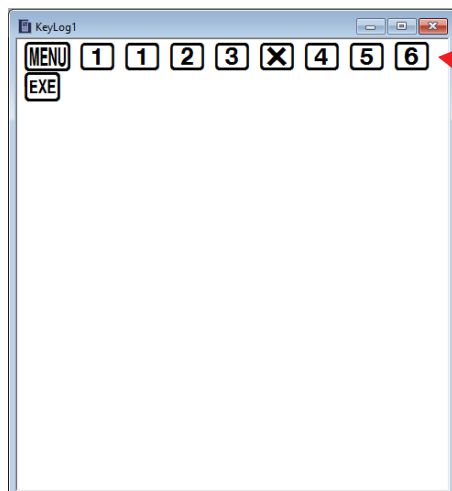
- You can assign names (up to 20 single-byte characters) to Key-Log records.

Important!



- Key-Log data processing can take a long time when there is a lot of data. This is normal and does not indicate malfunction.
- Only key operation procedures are stored in a Key-Log file. Because of this, replaying Key-Log contents starting from an initial screen that is different from the one that was displayed when the data was originally stored may produce different results.
- A key operation may not be stored to a Key-Log if you click it while an emulator calculation operation is in progress.

To record emulator key operations using Key-Log



1. Click  to start Key-Log recording.
2. Perform operations on the emulator.



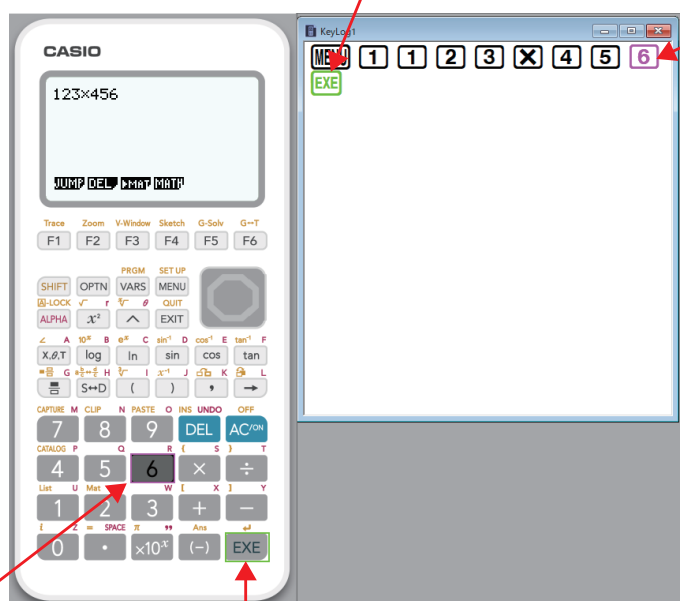
Keys appear in the sequence you press them.

3. Click  to stop Key-Log recording.
4. Click  to save the Key-Log file.

To perform Key-Log auto play of a recorded key operation

1. Click  and then open the Key-Log file you want to play.
2. Click  to start playback.



The next key to be played back is green.



Played key operations are magenta.

The last key to be played is framed in magenta.

The next key to be played is framed in green.





- Click  to pause playback.
- Click  to restart playback after pausing it.

3. To stop playback, click . Stopping playback causes all keys to return to their original colors.


Note

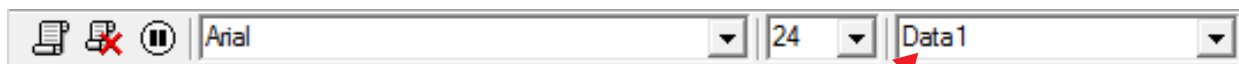
- You can use the Options dialog box (page EN-21) to configure playback settings like the key playback interval following a pause, the color of playback keys, etc.
- Simultaneous playback of multiple Key-Log files is not supported. If you try to open a Key-Log file while another Key-Log file is already open, the currently open file will close automatically. If the currently open file has been edited, a message “At least one file has unsaved edits. Save edits?” will appear asking if you want to save it before closing.

To playback a Key-Log record manually (STEP playback)

1. Click  and then open the Key-Log file you want to play.
2. Click  to play the first key operation in the Key-Log.
3. Keep pressing  to play Key-Log contents one step at a time.
4. To stop playback, click .

To edit a Key-Log record

1. Click  and then open the Key-Log file you want to edit.
2. Select the Key-Log record you want to edit.



Select the Key-Log record from this menu.

3. Edit the key operations and text of the Key-Log record.
 - You can use normal text input and editing operations to edit the keys in a Key-Log record.
 - When inputting text, you can specify the font and font size you want to use.




Font

Font Size

4. Click  to save the Key-Log file.

To add a Key-Log record to the currently open Key-Log file


After opening the Key-Log file to which you want to add the record, click .

This automatically assigns the Key-Log record a name (Example: "Data1") and displays it in the menu.

To rename a Key-Log record

1. Select the Key-Log record you want to rename from the menu.
2. Click the name of the Key-Log record and then change it.
3. Press the [Enter] key.

To delete a Key-Log record


1. Select the Key-Log record you want to delete from the menu.
2. Click  to delete the selected Key-Log record and display the next one.

Note

- There must be at least one Key-Log record in memory. You will not be able to delete a Key-Log record if it is the only one left in memory.

■ Inputting a Pause Character


A pause character causes Key-Log playback to pause automatically when it reaches the character.

To input a pause character, click .

■ Copying Keys or Text and Pasting It into Another Application

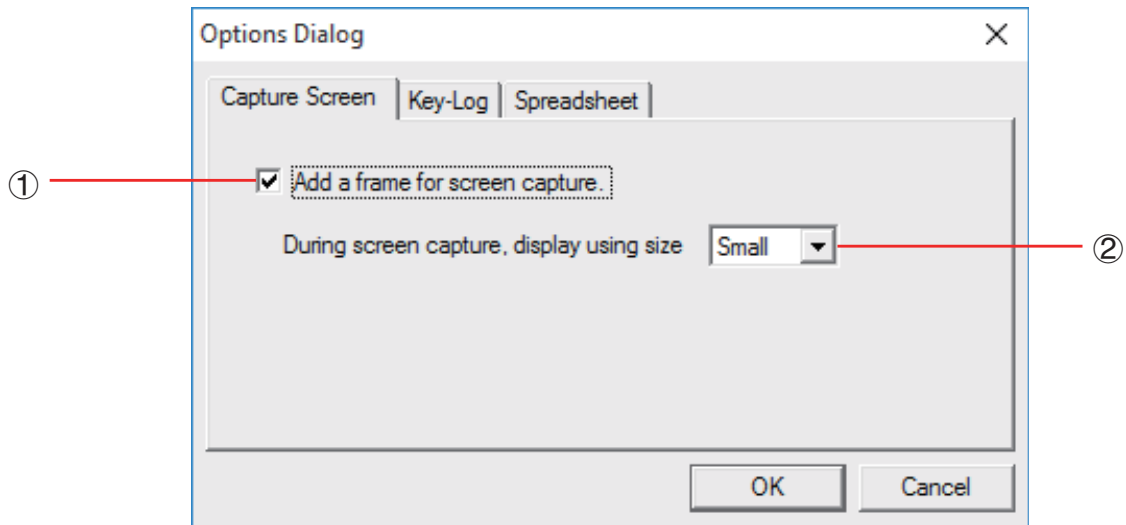
Keys and text can be copied and pasted into other applications in order to create operation example handouts, assignments, etc.

To copy keys or text and paste it into another application

1. Drag the cursor across the keys or text you want to copy.
2. Click  to copy the selected keys or text to the clipboard.
3. Open the other application and then paste the contents of the clipboard.

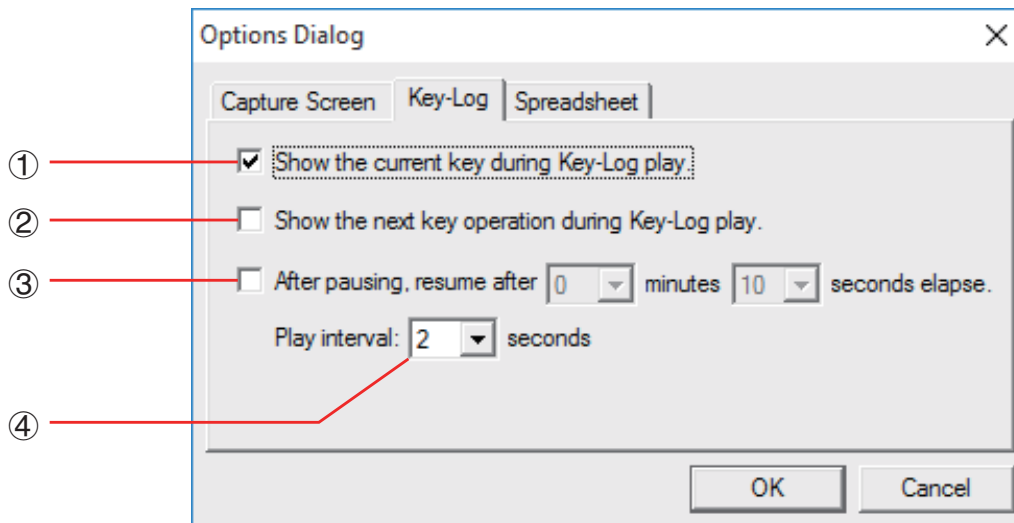
6. Configuring Options Dialog Box Setting

■ LCD Screen Capture Settings



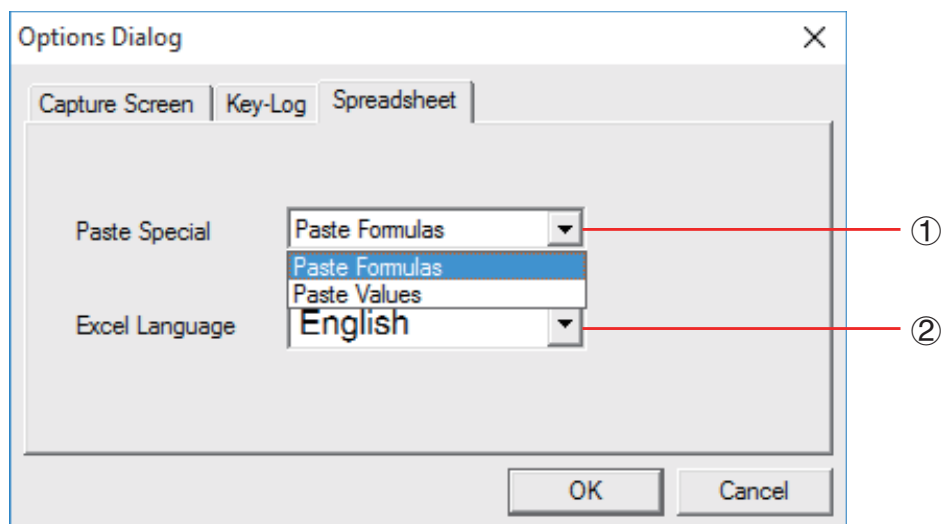
- ① Select this option to add a frame to an LCD screen capture.
- ② Specifies the screen size during LCD screen capture. Supported sizes are Small, Normal and x3.

■ Key-Log Playback



- ① Select this option to highlight the current key in magenta.
- ② Select this option to frame the next key in green.
- ③ Specifies how much time should be allowed to elapse to resume paused playback. You can set an interval in the range of 10 seconds to 10 minutes in 10-second steps.
- ④ Specifies the key playback interval during auto play. You can set an interval of 0.1 second, or any interval in the range of 0.5 to 5 seconds, in 0.5-second steps.

■ Spreadsheet Setting



- ① You can configure Copy & Paste so either values or Excel formulas are pasted into a spreadsheet.

Paste Formulas ... Pastes formulas.

Paste Values ... Pastes values only.

- ② You also can specify the language to be used when pasting to Microsoft Excel.
Whenever you copy from Spreadsheet and paste to an Excel formula, the formula will be converted to the selected language.

Example: CellIf(→ IF(: English
 → SI(: Spanish
 → SI(: French
 → WENN(: German

When using the following language versions of Excel, configure the Excel Language setting as shown below.

Arabic: English2

Slovenian: English3

Portuguese (European): PortugueseEu


Portuguese (Brazilian): PortugueseBr

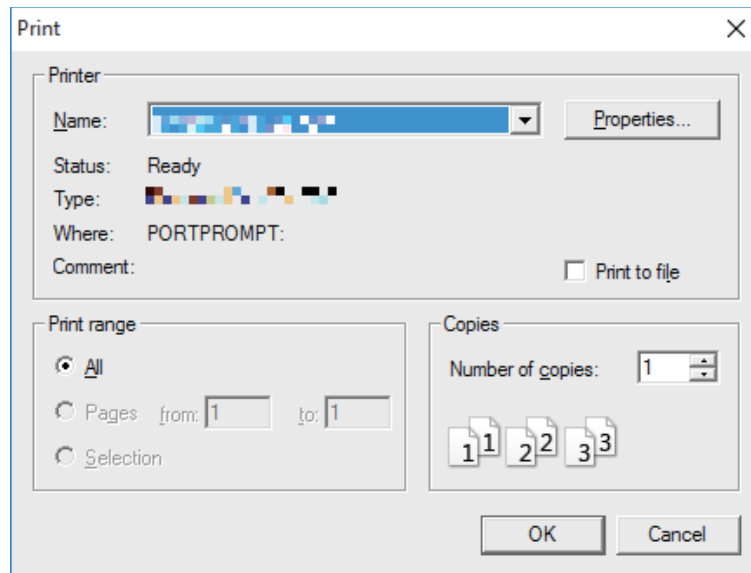
- For details about copying and pasting Excel formulas, see page EN-32.

7. Other Functions

Printing

You can use the following procedure to print LCD screen captures.

1. Click the window of the LCD screen capture that you want to print to select it.
2. Click . This will display the Print dialog box.



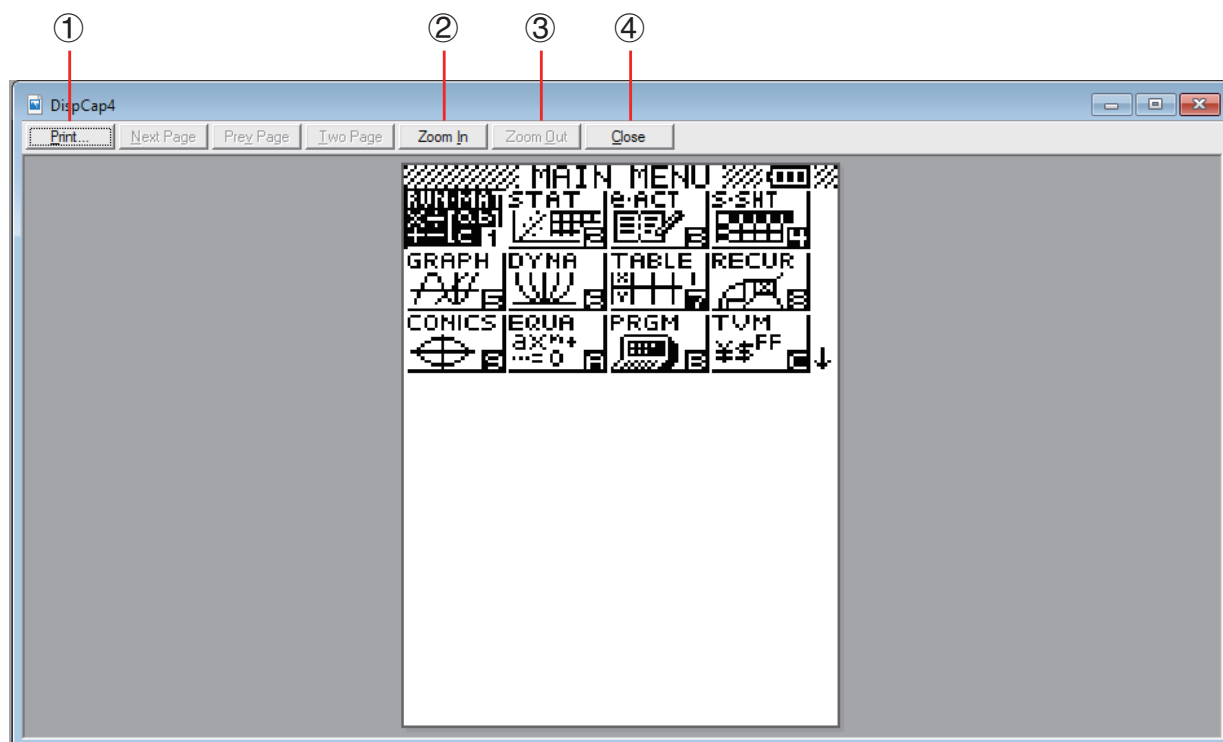
3. Click [OK] to start printing.

Important!

- Each screen image is printed on a separate page.
- Images are printed in accordance with width setting of the paper size selected on the Print dialog box.
- If you are printing a bitmap image that was created using another application and does not fit within the preview area, only the part within the preview area will be visible. Also, only that part will be printed.

■ Print Preview

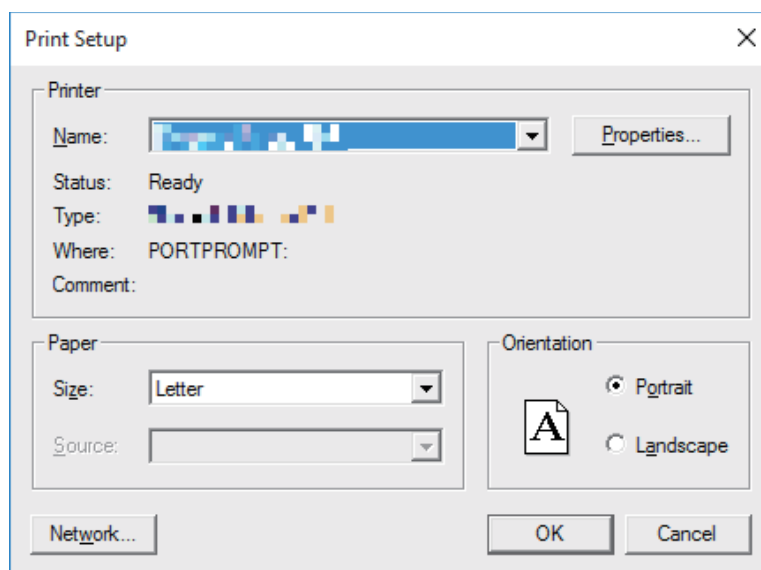
Selecting [Print Preview] on the [File] menu displays the print preview image.



- ① Displays the Print dialog box.
- ② Enlarges the preview image.
- ③ Reduces the size of the preview image.
- ④ Closes the print preview window image.

■ Print Setup Dialog Box

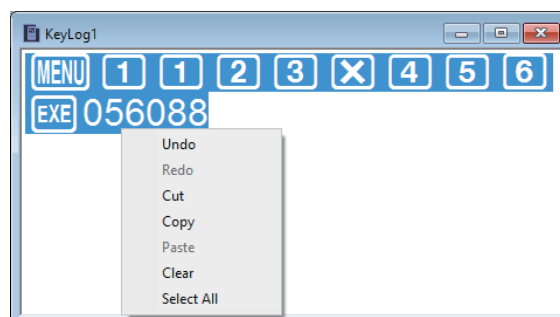
Selecting [Print Setup] on the [File] menu displays the Print Setup dialog box.



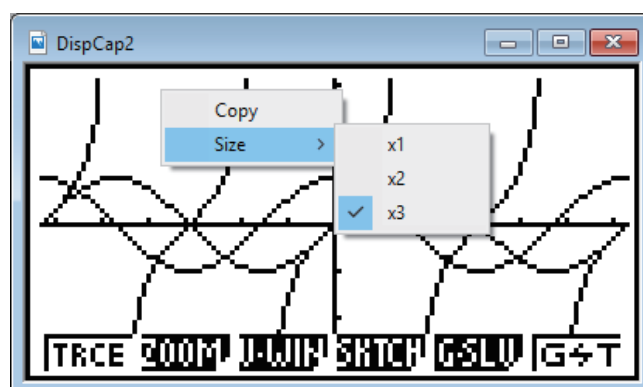
Shortcut Menu

Right-clicking the mouse displays one of the shortcut menus shown below.

- During Key-Log Editing

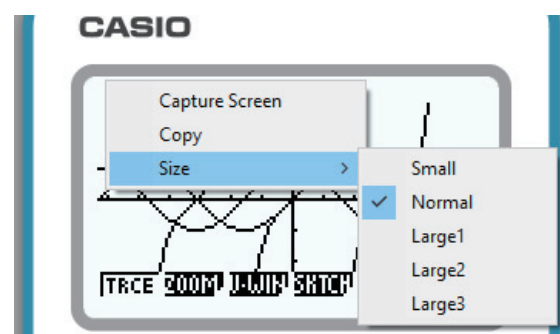


- During Bitmap Display of the Calculator Screen*



A screen zoom operation affects only the screen where you display the shortcut menu. If you have multiple screens on the display, the other screens are not affected by the zoom operation.

- When Using the Emulator*



* Select [Copy] to copy the screen to the clipboard.

- On the Emulator Keypad



8. File Types Supported by fx-Manager PLUS Subscription for fx-9860GIIIseries

fx-Manager PLUS Subscription for fx-9860GIIIseries supports files with the file name extensions described below.

Extension	Description
g1m, g2m	Emulator or calculator user memory data file (variables, programs, etc.)
g1e, g2e	eActivity file
g1a	Add-In application
g1l	Add-In message
g1n	Add-In menu
g1k	Key-Log file
bmp	Bitmap file
txt	Text file
csv	CSV file
py	Python file

Note

- You can use the MEMORY application to import all file types (except g1k) into the emulator.
- Files with the extension g1k can be used in Key-Log files.

9. Differences between fx-9860GIII Calculator and fx-Manager PLUS Subscription for fx-9860GIIIseries Functions

■ LINK Application

Calculator: Data transfer execution supported.

Emulator: Data send/receive, and configuring cable, wakeup, and capture settings are not supported.

■ SYSTEM Applications (Contrast, Auto Power Off, OS Update)

Calculator: Contrast adjustment, auto power off setting configuration, and OS Update supported.

Emulator: Contrast adjustment, auto power off setting configuration, and OS Update not supported.

■ Program Application

Calculator: Stores created text files in Main Memory Program folder.

Emulator: Stores created text files in Storage Memory Program folder.

■ Installing an Add-In

You can perform the following procedure on the emulator to install an Add-In application or Add-In language.

To install an Add-In application or Add-In language

1. From the Main Menu, enter the **MEMORY** mode.



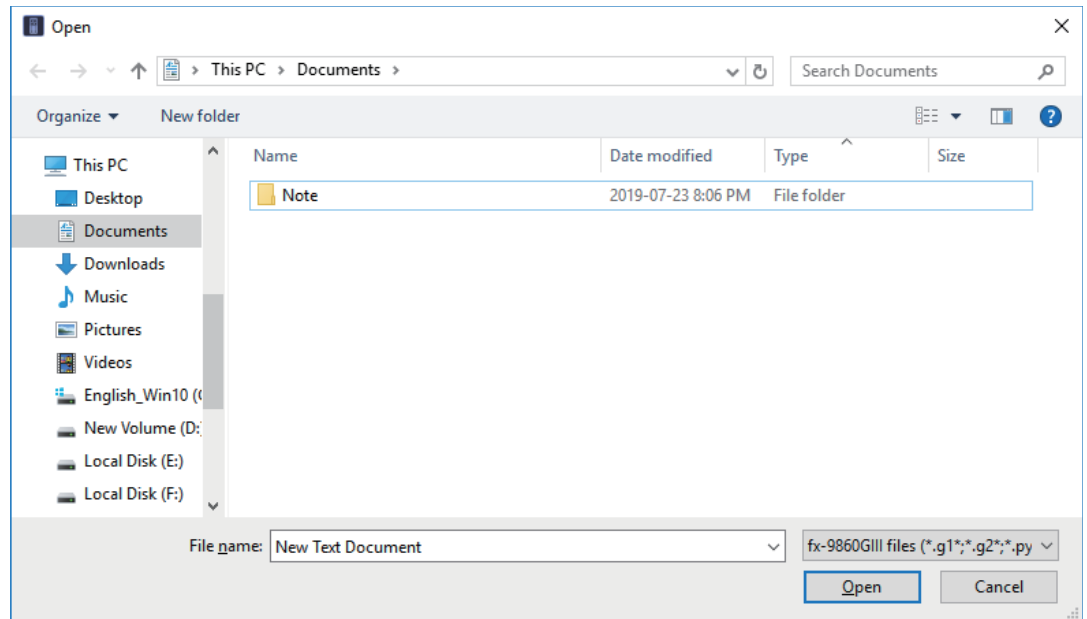
Memory Manager

F1: Main Memory
F2: Storage Memory
F3: Import/Export
F4: Backup
F5: Optimization

MAIN MEM PC BKUP OPT

2. Click **F3** (PC) **F1** (IMP).

- This displays a dialog box for opening a file.



3. Select the Add-In file you want and then click [Open].



4. Select the folder where you want to save the Add-In file and then click **F1** (SAVE).



5. Click **EXIT**.

6. If you are installing an Add-In application, click **MENU**.

- The icon of the application you just installed should be visible on the Main Menu.
- Some Add-In applications may act differently on the calculator than they do on the emulator.

■ Importing and Exporting Files

You can perform the following operations on the emulator to import and export files.

To import a file

1. From the Main Menu, enter the **MEMORY** mode.

```
Memory Manager
F1:Main Memory
F2:Storage Memory
F3:Import/Export
F4:Backup
F5:Optimization
MAIN SMEM PC BKUP OPT
```

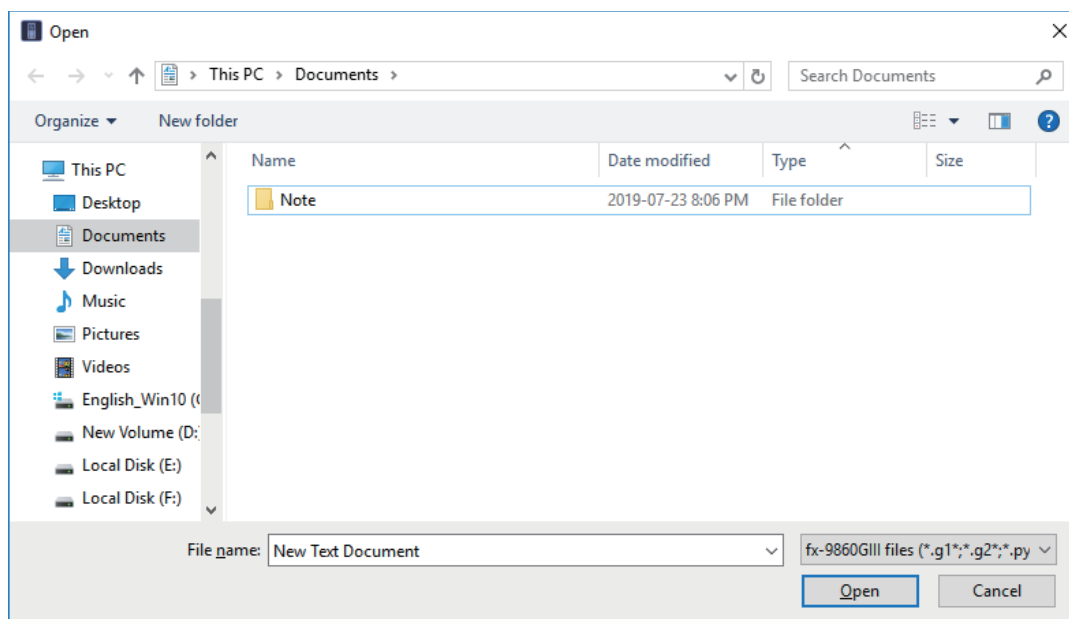
2. Click **F3** (PC).

```
Import/Export files
F1:Import files
F2:Export files

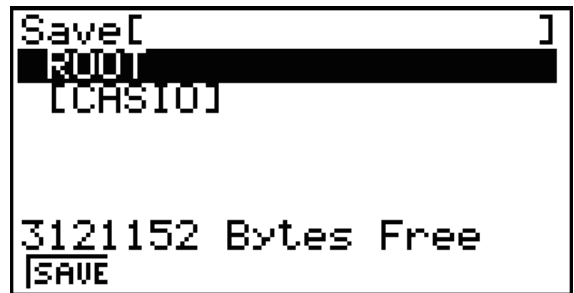
IMP EXP
```

3. Click **F1** (IMP).

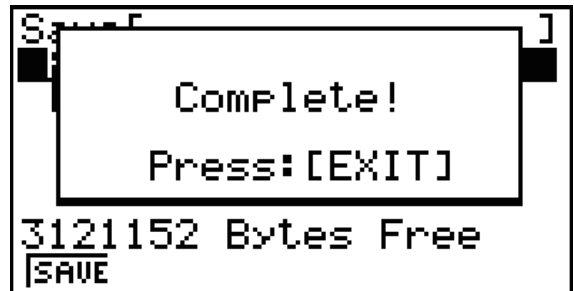
- This displays a dialog box for opening a file.



4. Select the file you want to import, and then click [Open].



5. Select the folder where you want to import the file and then click [F1](SAVE).



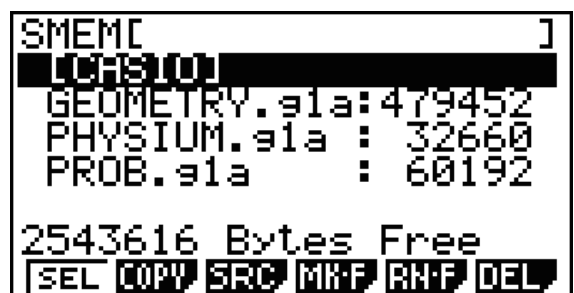
6. Click [EXIT].

To export a file

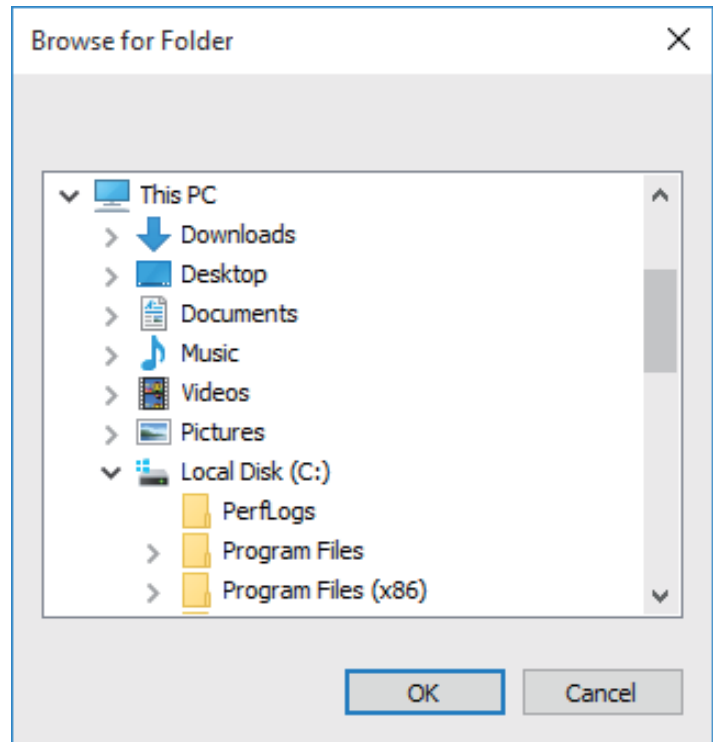
1. From the Main Menu, enter the **MEMORY** mode.

2. Click [F3](PC).

3. Click [F2](EXP).



4. Highlight the file you want to export. Next, click **F1**(SEL) and then **F2**(COPY).
- This displays a dialog box for selecting the destination folder of the exported file.



5. Select the destination folder you want and then click [OK].



6. Click **EXIT**.

■ OFF (+)

Calculator: Turns off power.

Emulator: Does not turn off the emulator. ( +  does not perform any operation.)

■ COPY & PASTE

Calculator: COPY & PASTE supported on the calculator.

Emulator: COPY & PASTE supported on the emulator, and between the emulator and other applications running on the computer.

Copy and paste of fx-9860GIII calculator-specific input codes between fx-Manager PLUS Subscription for fx-9860GIII series and other applications is not supported in some cases.

Supports copy and paste between an emulator spreadsheet and an Excel spreadsheet running on your computer.

- Copy and paste of the following formulas is supported between an emulator spreadsheet and an Excel spreadsheet running on your computer.

+, −, *, /, ^, =, <>, >, <, >=, <=, \$, :

IF, MIN, MAX, AVERAGE, MEDIAN, SUM, PRODUCT

LOG, FACT, POWER, SQRT, LOG10, LN, PI

SIN, COS, TAN, ASIN, ACOS, ATAN, SINH, COSH, TANH, ASINH, ACOSH, ATANH

ABS, GCD, LCM, MOD, TRUNC, INT, ROUND, PERMUT, COMBIN, RAND, NOT, AND, OR

The table below shows how some formulas may be modified automatically when a paste operation is performed.

Modified Formulas

Spreadsheet	Paste Operation*	Excel
×	↔	*
÷	↔	/
≠	↔	<>
≥	↔	>=
≤	↔	<=
Omitted multiplication sign	→	*
CellIf(	↔	IF(
CellMin(	↔	MIN(
CellMax(	↔	MAX(
CellMean(	↔	AVERAGE(
CellMedian(	↔	MEDIAN(
CellSum(	↔	SUM(
CellProd(	↔	PRODUCT(
logab(#1,#2	↔	LOG(#2,#1
#1 ²	→	#1 ^{^2}
#1 ⁻¹	→	#1 ^{^-1}

Spreadsheet	Paste Operation*	Excel
#1!	\Leftrightarrow	FACT(#1)
#1 $\times\sqrt{\quad}$ #2	\rightarrow	#2^(1/#1)
#1 \div #2	\rightarrow	#1/#2
$\sqrt{\quad}$ #1	\Leftrightarrow	SQRT(#1)
$\sqrt[3]{\quad}$ #1	\rightarrow	#1^(1/3)
log #1	\Leftrightarrow	LOG10(#1)
ln #1	\Leftrightarrow	LN(#1)
e^#1	\Leftrightarrow	EXP(#1)
$10^{\#1}$	\rightarrow	10^#1
π	\Leftrightarrow	PI()
E#n1	\rightarrow	10^#n1
#n1E#n2	\rightarrow	#n1 * 10^#n2
#1^#2	\leftarrow	POWER(#1, #2)
sin #1	\Leftrightarrow	SIN(#1)
cos #1	\Leftrightarrow	COS(#1)
tan #1	\Leftrightarrow	TAN(#1)
\sin^{-1} #1	\Leftrightarrow	ASIN(#1)
\cos^{-1} #1	\Leftrightarrow	ACOS(#1)
\tan^{-1} #1	\Leftrightarrow	ATAN(#1)
sinh #1	\Leftrightarrow	SINH(#1)
cosh #1	\Leftrightarrow	COSH(#1)
tanh #1	\Leftrightarrow	TANH(#1)
\sinh^{-1} #1	\Leftrightarrow	ASINH(#1)
\cosh^{-1} #1	\Leftrightarrow	ACOSH(#1)
\tanh^{-1} #1	\Leftrightarrow	ATANH(#1)
Abs #1	\Leftrightarrow	ABS(#1)
GCD(	\Leftrightarrow	GCD(
LCM(	\Leftrightarrow	LCM(
MOD(	\Leftrightarrow	MOD(
Int #1	\Leftrightarrow	TRUNC(#1)
Intg #1	\Leftrightarrow	INT(#1)
RndFix(	\Leftrightarrow	ROUND(
#1P#2	\Leftrightarrow	PERMUT(#1,#2)
#1C#2	\Leftrightarrow	COMBIN(#1,#2)
P(	\Leftrightarrow	NORMSDIST(
Ran#	\Leftrightarrow	RAND()
Not #1	\Leftrightarrow	NOT(#1)

Spreadsheet	Paste Operation*	Excel
#1 And #2	↔	AND(#1,#2)
#1 Or #2	↔	OR(#1,#2)

* The following are the meanings of the symbols in the “Paste Operation” column of the above table.

↔: Either way

→: From emulator spreadsheet to Excel

←: From Excel to emulator spreadsheet

- For information about how formulas are modified when using a non-English version of Excel, see the Formula List (page EN-35).
- If a paste operation includes an unsupported formula or an operation whose value causes an error, only the final value will be pasted without the formula.
- If a formula being pasted into an emulator spreadsheet exceeds 255 bytes after being modified as described in the table above, only the final value will be pasted without the formula.
- An error will occur if the argument of a formula is outside the argument range of the location where it is being pasted.
- When pasting a formula with a relative cell reference (such as: =A1+1) from Spreadsheet to Excel, make sure you paste it into the cell with the same name as the cell you copied it from. Copying it into a different cell will cause an incorrect cell reference.

Formula List

Calculator	English	French	German	Spanish	Portuguese (European)	Czech	Danish	Dutch	Finnish	Calculator
CellIF	IF	SI	WENN	SI	SE	KDYŽ	HVIS	ALS	JOS	CellIF
CellMin	MIN	MIN	MIN	MIN	MÍNIMO	MIN	MIN	MIN	MIN	CellMin
CellMax	MAX	MAX	MAX	MAX	MÁXIMO	MAX	MAKS	MAX	MAKS	CellMax
CellMean	AVERAGE	MOYENNE	MITTELWERT	PROMEDIO	MÉDIA	PRŮMĚR	MIDDEL	GEMIDDELDE	KESKIARVO	CellMean
CellMedian	MEDIAN	MEDIANE	MEDIAN	MEDIANA	MED	MEDIAN	MEDIAN	MEDIAAN	MEDIAANI	CellMedian
CellSum	SUM	SOMME	SUMME	SUMA	SOMA	SUMA	SUM	SOM	SUMMA	CellSum
CellProd	PRODUCT	PRODUIT	PRODUKT	PRODUCTO	PRODUTO	SOUČIN	PRODUKT	PRODUCT	TULO	CellProd
RndFix	ROUND	ARRONDI	RUNDEN	REDONDEAR	ARRED	ZAOKROUHLIT	AFRUND	AFRONDEN	PYÖRISTÄ	RndFix
GCD	GCD	PGCD	GGT	M.C.D	MDC	GCD	STØRSTE.FÆLLES.DIVISOR	GGD	SUURIN.YHT.TEKLJÄ	GCD
LCM	LCM	PPCM	KGV	M.C.M	MMC	LCM	MINDSTE.FÆLLES.MULTIPLUM	KGV	PIENIN.YHT.JAETTAVA	LCM
MOD	MOD	MOD	REST	RESIDUO	RESTO	MOD	REST	REST	JAKOJ	MOD
P	NORMSDIST	LOI.NORMALE.STANDARD	STANDNORMVERT	DISTR.NORM.ESTAND	DIST.NORMP	NORMSDIST	STANDARDNORMFORDELING	STAND.NORM.VERD	NORM.JAKAUMA.NORMIT	P
PI	PI	PI	PI	PI	PI	PI	PI	PI	PII	PI
Ran#	RAND	ALEA	ZUFALL.SZAHL	ALEATORIO	ALEATÓRIO	NAHČÍSLO	SLUMP	ASELECT	SATUNNAISLUKU	Ran#
^	POWER	PUISSANCE	POTENZ	POTENCIA	POTÊNCIA	POWER	POTENS	MACHT	POTENSSI	^
log	LOG	LOG	LOG	LOG	LOG	LOGZ	LOG	LOG	LOG	log
!	FACT	FACT	FAKULTÄT	FACT	FACTORIAL	FAKTORIÁL	FAKULTET	FACULTEIT	KERTOMA	!
√	SORT	RACINE	WURZEL	RAIZ	RAIZQ	ODMOCNINA	KVROD	WORTEL	NELIÖJUURI	√
log10	LOG10	LOG10	LOG10	LOG10	LOG10	LOG	LOG10	LOG10	LOG10	log10
ln	LN	LN	LN	LN	LN	LN	LN	LN	LUONNLOG	ln
10^	EXP	EXP	EXP	EXP	EXP	EXP	EKSP	EXP	EKSPONENTTI	10^
sin	SIN	SIN	SIN	SENO	SEN	SIN	SIN	SIN	SIN	sin
cos	COS	COS	COS	COS	COS	COS	COS	COS	COS	cos
tan	TAN	TAN	TAN	TAN	TAN	TG	TAN	TAN	TAN	tan
sin-1	ASIN	ASIN	ARCSIN	ASENO	ASEN	ARCSIN	ARCSIN	BOOGSIN	ASIN	sin-1
cos-1	ACOS	ACOS	ARCCOS	ACOS	ACOS	ARCCOS	ARCCOS	BOGCOS	ACOS	cos-1
tan-1	ATAN	ATAN	ARCTAN	ATAN	ATAN	ARCTG	ARCTAN	BOGTAN	ATAN	tan-1
sinh	SINH	SINH	SINHYP	SENOH	SENH	SINH	SINH	SINH	SINH	sinh
cosh	COSH	COSH	COSHYP	COSH	COSH	COSH	COSH	COSH	COSH	cosh
tanh	TANH	TANH	TANHYP	TANH	TANH	TGH	TANH	TANH	TANH	tanh
sinh-1	ASINH	ASINH	ARCSINHYP	ASENOH	ASENH	ARCSINH	ARCSINH	BOOGSINH	ASINH	sinh-1
cosh-1	ACOSH	ACOSH	ARCCOSHYP	ACOSH	ACOSH	ARCCOSH	ARCCOSH	BOGCOSH	ACOSH	cosh-1
tanh-1	ATANH	ATANH	ARCTANHYP	ATANH	ATANH	ARCTGH	ARCTANH	BOGTANH	ATANH	tanh-1
Not	NOT	NON	NICHT	NO	NÃO	NE	IKKE	NIET	EI	Not
Abs	ABS	ABS	ABS	ABS	ABS	ABS	ABS	ABS	ITSEISARVO	Abs
Int	TRUNC	TRONQUE	KÜRZEN	TRUNCAR	TRUNCAR	USEKNOUT	AFKORT	GEHEEL	KATKAISE	Int
Intg	INT	ENT	GANZZAHL	ENTERO	INT	CELÁ.ČAST	HELTAL	INTEGER	KOKONAISLUKU	Intg
nPr	PERMUT	PERMUTATION	VARIATIONEN	PERMUTACIONES	PERMUTAR	PERMUTACE	PERMUT	PERMUTATIES	PERMUTAATIO	nPr
nCr	COMBIN	COMBIN	KOMBINATIONEN	COMBINAT	COMBIN	KOMBINACE	KOMBIN	COMBINATIES	KOMBINAATIO	nCr
And	AND	ET	UND	Y	E	A	OG	EN	JA	And
Or	OR	OU	ODER	O	OU	NEBO	ELLER	OF	TAI	Or

Calculator	Hungarian	Italian	Norwegian	Polish	*1) Portuguese (Brazilian)	Swedish	Russian	Turkish	*2) Arabic	*2) Slovenian	Calculator
CellIF	HA	SE	HVIS	JEŻELI	SE	OM	ЕСЛИ	EĞER	IF	IF	CellIF
CellMin	MIN	MIN	MIN	MIN	MINIMO	MIN	МИН	MIN	MIN	MIN	CellMin
CellMax	MAX	MAX	STØRST	MAX	MÁXIMO	MAX	МАКС	MAK	MAX	MAX	CellMax
CellMean	ÁTLAG	MEDIA	GJENNOMSNITT	SREDNIA	MÉDIA	MEDEL	СРЭНАЧ	ORTALAMA	AVERAGE	AVERAGE	CellMean
CellMedian	MEDIÁN	MEDIANA	MEDIAN	MEDIANA	MED	MEDIAN	МЕДИАНА	ORTANCA	MEDIAN	MEDIAN	CellMedian
CellSum	SZUM	SOMMA	SUMMER	SUMA	SOMA	SUMMA	СУММА	TOPLA	SUM	SUM	CellSum
CellProd	SZORZAT	PRODOTTO	PRODUKT	ILOCZYN	MULT	PRODUKT	ПРОИЗВЕД	ÇARPIM	PRODUCT	PRODUCT	CellProd
RndFix	KERÉKÍTÉS	ARROTONDA	AVRUND	ZAKR	ARRED	AVRUNDA	ОКРУГЛ	YUVARLA	ROUND	ROUND	RndFix
GCD	GCD	MCD	SFF	GCD	MDC	SGD	НОД	OBEV	GCD	GCD	GCD
LCM	LCM	MCM	MFV	LCM	MMC	MGM	НОК	OKEK	LCM	LCM	LCM
MOD	MARADÉK	RESTO	REST	MOD	MOD	REST	ОСТАТ	MOD	MOD	MOD	MOD
P	STNORMELOSZL	DISTRIB.NORM.ST	NORMSFORDELING	ROZKŁAD.NORMALNY.S	DIST.NORMP	NORMSFÖRD	НОРМСТРАСП	NORMSDAĞ	NORMSDIST	NORMSDIST	P
π	PI	PI.GRECO	PI	PI	PI	PI	ПИ	PI	PI	PI	π
Ran#	VÉL	CASUALE	TILFELDIG	LOS	ALEATÓRIO	SLUMP	СПИЧС	S_SAYI ÜRET	RAND	RAND	Ran#
^	HATVÁNY	POTENZA	OPPHØYDI	POTĘGA	POTÊNCIA	UPPHÖJT.TILL	СТЕПЕНЬ	KUVVET	POWER	POWER	^
log	LOG	LOG	LOG	LOG	LOG	LOG	LOG	LOG	LOG	LOG	log
!	FAKT	FATTORIALE	FAKULTET	SILNIA	FATORIAL	FAKULTET	ФАКТР	ÇARPINIM	FACT	FACT	!
√	GYÖK	RADQ	ROT	PIERWIASTEK	RAIZ	ROT	КОРЕНЬ	KAREKÖK	SQRT	SQRT	√
log10	LOG10	LOG10	LOG10	LOG10	LOG10	LOG10	LOG10	LOG10	LOG10	LOG10	log10
ln	LN	LN	LN	LN	LN	LN	LN	LN	LN	LN	ln
10^	KITEVŐ	EXP	EKSP	EXP	EXP	EXP	EXP	ÜS	EXP	EXP	10^
sin	SIN	SEN	SIN	SIN	SEN	SIN	SIN	SİN	SIN	SIN	sin
cos	COS	COS	COS	COS	COS	COS	COS	COS	COS	COS	cos
tan	TAN	TAN	TAN	TAN	TAN	TAN	TAN	TAN	TAN	TAN	tan
sin-1	ARCSIN	ARCSEN	ARCSIN	ASIN	ASEN	ARCSIN	ASIN	ASIN	ASIN	ASIN	sin-1
cos-1	ARCCOS	ARCCOS	ARCCOS	ACOS	ACOS	ARCCOS	ACOS	ACOS	ACOS	ACOS	cos-1
tan-1	ARCTAN	ARCTAN	ARCTAN	ATAN	ATAN	ARCTAN	ATAN	ATAN	ATAN	ATAN	tan-1
sinh	SINH	SENH	SINH	SINH	SENH	SINH	SINH	SINH	SINH	SINH	sinh
cosh	COSH	COSH	COSH	COSH	COSH	COSH	COSH	COSH	COSH	COSH	cosh
tanh	TANH	TANH	TANH	TANH	TANH	TANH	TANH	TANH	TANH	TANH	tanh
sinh-1	ASINH	ARCSINH	ARCSINH	ASINH	ASENH	ARCSINH	ASINH	ASINH	ASINH	ASINH	sinh-1
cosh-1	ACOSH	ARCCOSH	ARCCOSH	ACOSH	ACOSH	ARCCOSH	ACOSH	ACOSH	ACOSH	ACOSH	cosh-1
tanh-1	ATANH	ARCTANH	ARCTANH	ATANH	ATANH	ARCTANH	ATANH	ATANH	ATANH	ATANH	tanh-1
Not	NEM	NON	IKKE	NIE	NÃO	ICKE	HE	DEĞİL	NOT	NOT	Not
Abs	ABS	ASS	ABS	MODUL.LICZBY	ABS	ABS	ABS	MUTLAK	ABS	ABS	Abs
Int	CSONK	TRONCA	AVKORT	LICZBA.CALK	TRUNCAR	AVKORTA	ОТБР	NSAT	TRUNC	TRUNC	Int
Intg	INT	INT	HEL TALL	ZAKR.DO.CALK	INT	HELTAL	ЦЕЛОЕ	TAMSAYI	INT	INT	Intg
nPr	VARIÁCIÓK	PERMUTAZIONE	PERMUTER	PERMUTACJE	PERMUT	PERMUT	ПЕРМУТ	PERMUTASYON	PERMUT	PERMUT	nPr
nCr	KOMBINÁCIÓK	COMBINAZIONE	KOMBINASJON	KOMBINACJE	COMBIN	KOMBIN	ЧИСЛКОМБ	KOMBINASYON	COMBIN	COMBIN	nCr
And	ÉS	E	OG	ORAZ	E	OCH	И	VE	AND	AND	And
Or	VAGY	O	ELLER	LUB	OU	ELLER	ИЛИ	YADA	OR	OR	Or

*1) Atualiza o conversor em português incorporado.

*2) Pretvorí samo decimalni simbol in ločilo.

تحويل الرموز والفواصل العشرية فقط

Note

- Some mathematical functions do not copy and paste correctly between Microsoft Excel 2010 and the Emulator Spreadsheet. Change the functions below in Excel to the proper function names.

	Pasted Function Name	Correct Function Name (Rename as shown below.)
Czech	NE	NENÍ
Danish	MIDDEL	GENNEMSIT
	STØRSTE.FÆLLES.DIVISOR	FÆLLES.DIVISOR
	HELTAL	HEL
Hungarian	GCD	LKO
	LCM	LKT
Dutch	AFRONDEN	AFRONDING
	WORTEL	VWORTEL
Norwegian	STØRST	MAKS
Polish	LCM	NAJW.WSP.DZIEL
	MOD	NAJMN.WSP.WIEL
Portuguese (Brazilian)	MÍNIMO	MÍN
	MULT	PRODUTO
	DIST.NORMP	DISTNORMP
	FATORIAL	FATO
	TRUNCAR	TRUNC
Turkish	TOPLA	TOPLAM

■ Examination Mode

Calculator: Examination Mode supported.

Emulator: Examination Mode not supported.

10. Error Message Table

Message	Description	Required Action
An error occurred while reading the file <file name>. The file may be corrupted.	Wrong file format.	Check the file to see if it is corrupted.
There is no more playable data.	There are no playable keys to the right of the input cursor.	Move the input cursor to the left of the keys you want to play back, and perform the play operation.
You cannot delete all Key-Log records at once. Before deleting the selected record, first add new record.	You are trying to delete all Key-Log records, which is not allowed.	To delete all of the current records, first add a different record. At least one Key-Log record must be remaining in memory.
<file name> This file is read-only. Use a different file name.	You are trying to save a read-only Key-Log file after editing or recording to it.	Save the Key-Log file under a different file name.
A problem occurred while adding a Key-Log record. After confirming there is enough memory capacity to store the record, try again.	Some problem occurred while adding a Key-Log record.	Make sure there is enough free memory remaining to complete the operation and try again.
A problem occurred while writing to the file <file name> because not enough disk space is available. Check the remaining capacity of your disk and try again.	There is not enough disk space available to save the file.	Make sure there is enough free memory available and try again.
This application cannot be started up because the DLL version is wrong. This may be due to a problem during installation. Re-install the application.	Your computer has the wrong DLL version.	Installation may have failed, so re-install the application.
A problem occurred while reading file <file name>. The disk being read from may be damaged or may not exist. Check the disk and try again.	A problem occurred while reading from a disk.	Check the disk for data corruption and confirm that the disk exists. Then try again.
A problem occurred while writing file <file name>. The disk being written to may be damaged or may not exist. Check the disk and try again.	A problem occurred while writing to a disk.	Check the disk for data corruption and confirm that the disk exists. Then try again.

Message	Description	Required Action
A problem occurred while reading file <file name>. The file may have been moved or deleted.	A problem occurred when you tried opening a file from the list of previously opened files on the File menu.	Check to see if the file has been moved or deleted.
There is not enough memory. Increase memory capacity and try again.	There is not enough memory to perform the operation.	Increase memory capacity and try again.
A problem occurred while launching the emulator. Try re-starting the application. If you still cannot launch, it could mean that the emulator is damaged. Update the emulator or reinstall it.	A problem occurred during emulator startup.	Try restarting the application. If this does not work, it could mean that the emulator is damaged. Update the emulator or reinstall it.
A problem occurred while launching the manual (***.pdf) viewer. Download the viewer from the site below and reinstall it. http://get.adobe.com/reader/otherversions/	A problem occurred during manual viewer startup.	Download and install a new viewer from http://get.adobe.com/reader/otherversions/ .
The following characters cannot be used in a Key-Log record name. :\/?*[]	The Key-Log record name you are trying to use contains an illegal character.	The following characters are not allowed in Key-Log record names. :\/?*[]
A system error has occurred. (1) Shut down all other applications that you are not currently using. (2) Check how much free space is available on your computer's hard disk. (3) Exit the emulator and restart it. If this does not correct the problem, it could be the emulator files have been corrupted. Please reinstall the emulator.	—	Follow the steps that are shown on the display and try again.
The path and/or filename exceeds the maximum length allowed by your Windows operating system.	The number of letters in the path or file name you specified exceeds the allowable limit.	Shorten the specified path or file name.

Message	Description	Required Action
A problem occurred while importing <file name>. Note that import of a file created on another model is not supported.	Some problem occurred while importing the file.	Make sure that the file was created using a calculator with the same model name as this calculator.
A Key-Log file cannot be created or opened while Key-Log data is being played back or recorded. Stop playback or recording and try again.	You are trying to create a new Key-Log file or open an existing Key-Log file while Key-Log data is being played back or recorded on the calculator.	Stop playback or recording and try again.
File Extension Error	The file you selected has an invalid file name extension.	Make sure that the extension of the file you are selecting is bmp or jpg.
<path> Invalid Extension	The file path you selected has an invalid file name extension.	Make sure that the extension of the file path you are selecting is bmp or jpg.
A problem occurred while accessing the registry. Check to make sure that the emulator is installed correctly.	Some problem occurred during registry access.	Re-installation of the emulator is recommended.
A system error has occurred. Exit the emulator and restart it. If this does not correct the problem, it could mean that the emulator file is damaged. Reinstall the emulator.	A system error occurred.	Re-installation of the emulator is recommended.
Invalid File Name	You specified an invalid file name.	Make sure that you are specifying the file name correctly.
Invalid Folder Name	You specified an invalid folder name.	Make sure that you are specifying the folder name correctly.
Too Many Files Selected	The number of files you selected exceeds the allowable limit.	Reduce the number of selected files.
This data was created by a different model or different version. Because of this, some key names may be wrong. Though the Key-Log will play back, some operations may not be performed correctly.	You are attempting to open a Key-Log file (g1k) whose version is older than that of the software you are currently running. Note that operations may not match the operations in the Key-Log file.	—

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