



TI Connect™ CE Software

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Introduction to the TI Connect™ CE Software

The TI Connect™ CE software makes exchanging information between your graphing calculator and your computer quick and easy.

Supports any TI-8x graphing calculator with a USB port, which include:

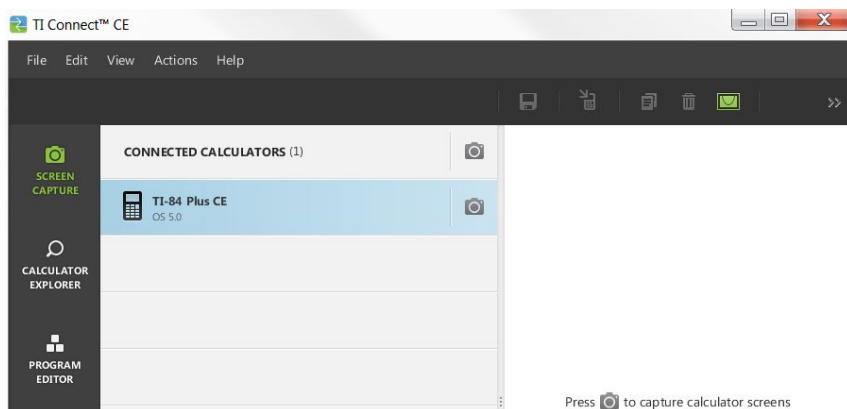
- TI-84 Plus CE
- TI-84 plus CE-T
- TI 84 Plus C Silver Edition
- TI-84 Plus
- TI-83 Premium CE
- TI-83 Plus.fr
- TI-82 Advanced

Note: Use TI Connect 4.0 which supports calculators with an I/O port only:

- TI-83 Plus
- TI-89
- Voyage 200
- TI-73 Explorer

Using the TI Connect™ CE Software Window

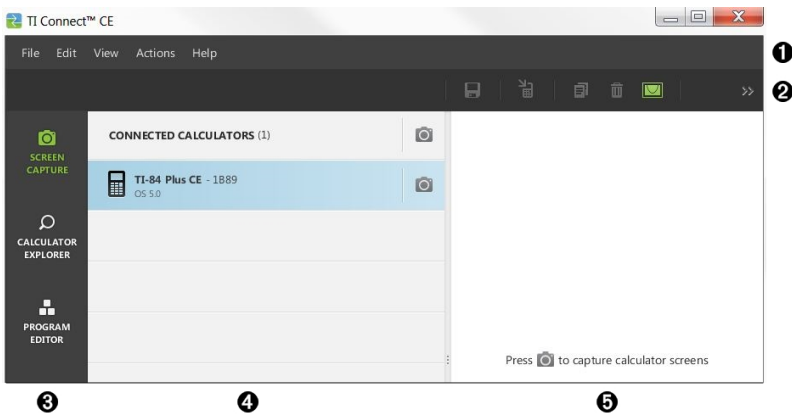
The TI Connect™ CE software window contains tools you can use to exchange information between your calculator and your computer.



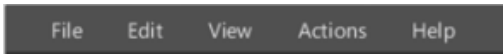
The TI Connect™ CE software includes three workspaces:

- **Screen Capture:** allows you to manage screen captures
- **Calculator Explorer:** allows you to manage calculator content
- **Program Editor:** allows you to work with data variables

Parts of the TI Connect™ CE Software Window



1 Menu Bar - Use these menus to manage calculator files and screens to view calculator information, and to get help.



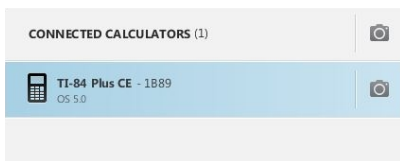
2 Toolbar - Use these icons to manage computer files and screens.



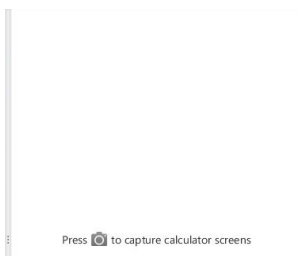
3 Workspace Panel- Use this panel to select workspaces (Screen Capture, Calculator Explorer, and Program Editor).



- 4** **Calculator List Panel** - Use this list to view all connected calculators and to select one calculator for display.



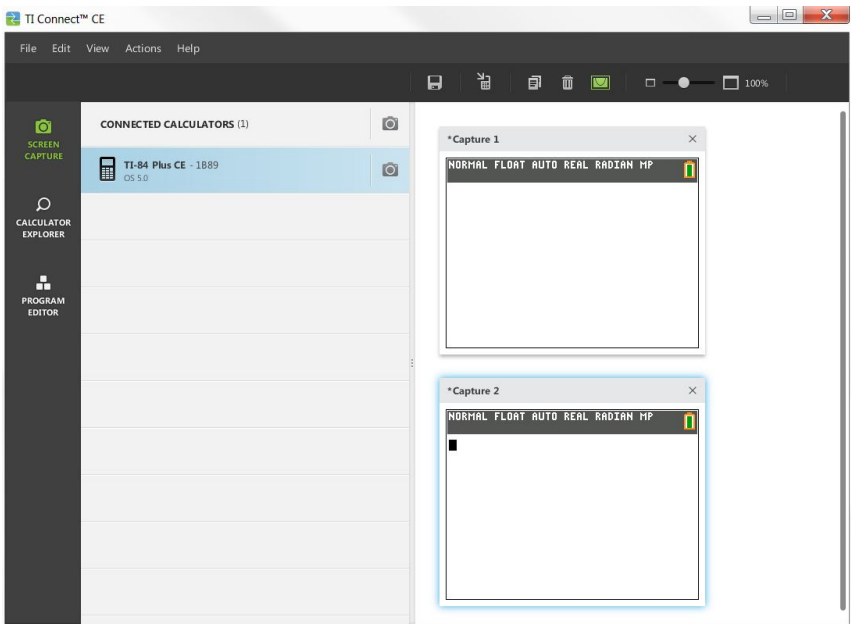
-
- 5** **Content Panel** - Use this panel to view and manage the calculator files and screen on connected calculator(s).



Note: You can complete most of the actions in these menus by dragging and dropping items to your connected calculator or computer.

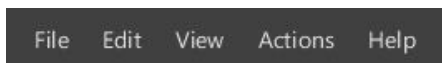
Using the Screen Capture Workspace

The Screen Capture workspace allows you to manage calculator screen captures.



Parts of the Screen Capture Window

Menu Bar - Use these menus to manage files and images, to view calculator information, and to get help.



Note: You can complete most of the actions in these menus by dragging and droppings items from the Content Panel.

Toolbar - Click these icons to save, send, copy, delete, and resize files.



1 Save a file to the computer.

2 Send a file to a calculator.

3 Copy a file.

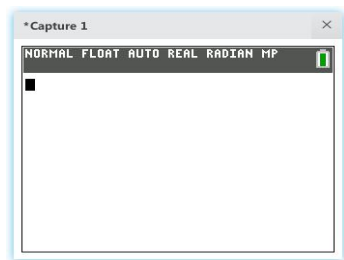
4 Delete a file.

5 Add or remove a border from all captured screens.

6 Change the size of all captured screens.

7 View the screen capture size.

Content Panel - View screen captures in the Content Panel.



Capturing and Using Screens

In the Screen Capture workspace, you can capture and view screens from your calculator.

Before you Begin

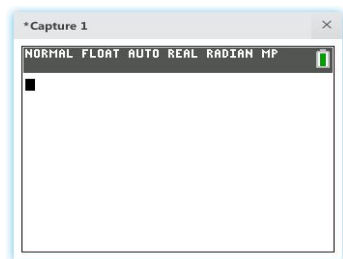
Connect the calculator to the computer and make sure it appears in the Calculator Panel.

To Capture Calculator Screens

1. On the TI Connect™ CE software Workspace Panel, click the **Screen Capture** workspace.
2. Display the screen on your calculator that you want to capture.
3. Click  next to the desired calculator in the Calculator List Panel.
 - If more than one calculator is connected, click on CONNECTED CALCULATORS to capture screens from all calculators.

Saving Calculator Screens as Files

The Screen Capture workspace lets you save captured or existing images from your calculator as a PNG.



Note: The asterisk at the beginning of an image name indicates that the image is not saved.

To save an existing screen

1. Click the captured screen in the Content Panel.
2. Click .

To save multiple screens

1. Click **Edit > Select All**.
2. Click .

To rename a screen capture

1. Place your cursor at the beginning of the screen name field.
Ex: Capture 1.
2. Double-click the name to select it.
3. Type in a new name for the computer file.

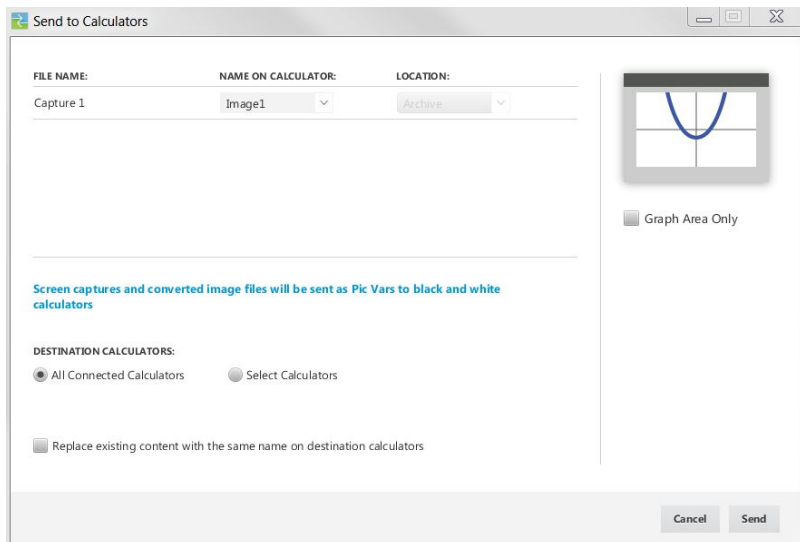
To save a new screen capture as a PNG file

1. Click the image.
2. Click .
3. Navigate to a desired save location.
4. Use the default file name or type a new file name.
5. Click .

To send screen captures to connected calculators

This Screen Capture only feature provides a way to take a screen capture of a graph on the high resolution calculators, crop to the graph area and then convert only the graph area to a Background Image. Check **Graph Area Only** to create this type of Background Image.

1. If you have not already done so, capture the screen.
2. Click the screen capture to select it.
3. Click .

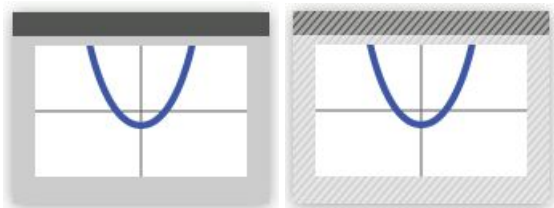


- **FILE NAME:** This may differ from the **NAME ON CALCULATOR** depending on what you named the screen capture on your computer.
- **NAME ON CALCULATOR:** select the background image (it should be the default, but you may change the background image name using this menu).
- **GRAPH AREA ONLY:** In the right panel, select whether you want to send just the graph area, or the entire screen. When sending a screen capture back to a calculator, it is best to send the graph area only.

Cropping an Image

A screen capture of the graph area includes the full screen of the TI-84 Plus CE, status bar, graph border, and the graph area.

TI Connect™ CE software allows you to crop the image to a Graph Area Only size to create a Background Image Var. You can crop a screen to Graph Area only in the Send to in the Send to Calculators dialog box.



☐ Graph Area Only

☒ Graph Area Only

- **DESTINATION CALCULATORS:** Select whether you want to send the image to all connected calculators, or just selected calculators (from a check list).

Note: Screen captures and converted image files will be sent as Pic Vars to black and white calculators.

To send files to multiple calculators

1. Select the **Select Calculators** button on the dialog box.
2. Check the boxes to next to the calculators you want to select.
3. Click **Send**.

Dragging and Dropping Screen Captures to Computer Applications

Using the Screen Capture workspace, you can drag and drop captured screens into many computer applications. This feature lets you use calculator screens in your documents.

To drag and drop screens into computer applications

1. Open or capture the screen.
2. Drag and drop the screen to an open document or presentation computer software application.

Using the Calculator Explorer Workspace

Calculator Explorer workspace allows you to manage calculator content.

TI Connect™ CE

File Edit View Actions Help

SCREEN CAPTURE

CALCULATOR EXPLORER

PROGRAM EDITOR

CONNECTED CALCULATORS (1)

TI-84 Plus CE - 1B89
OS 5.0

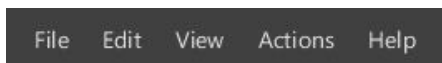
TI-84 Plus CE

Archive: 2,050 kB available | RAM: 154 kB available

NAME	TYPE	SIZE	LOCATION
012 Y	Real Number	9 B	RAM
Image2	Background Image	22 kB	Archive
Image1	Background Image	22 kB	Archive
Image5	Background Image	22 kB	Archive
Image4	Background Image	22 kB	Archive
Image3	Background Image	22 kB	Archive
012 X	Real Number	9 B	RAM
012 V	Real Number	9 B	RAM
{...} L1	Real List	47 B	RAM
{...} L2	Real List	47 B	RAM
{...} L3	Real List	2 B	RAM
{...} L4	Real List	2 B	RAM
{...} L5	Real List	2 B	RAM
{...} L6	Real List	2 B	RAM
Cabri Jr	Flash Application	102 kB	Archive
CelSheet	Flash Application	122 kB	Archive

Parts of the Calculator Explorer Main Window

Menu Bar - Use these menus to manage files and images, to view calculator information, and to get help.



Note: You can complete most of the actions in these menus by dragging and droppings items from the Content Panel.

Toolbar - Click these icons to add, transfer, or delete files from your calculator.



1

Add content from your computer.

2

Send selected content to your computer.

3

Send selected content to another connected calculator.

4

Delete the selected file.

5

Refresh the view of a connected calculator's contents.

Content Panel - Select files you want to manage from this panel.

TI-84 Plus CE			
Archive: 2,250 KB available RAM: 15,438 KB available			
name	type	size	location
010 Y	Real Number	9 B	RAM
Image2	Background Image	22 KB	Archive
Image5	Background Image	22 KB	Archive
Image5	Background Image	22 KB	Archive
Image4	Background Image	22 KB	Archive
Image3	Background Image	22 KB	Archive
012 X	Real Number	9 B	RAM
012 Y	Real Number	9 B	RAM
1 ₁	Real List	47 B	RAM
1 ₂	Real List	47 B	RAM
1 ₃	Real List	2 B	RAM
1 ₄	Real List	2 B	RAM
1 ₅	Real List	2 B	RAM
1 ₆	Real List	2 B	RAM
Calcnr	Flash Application	102 KB	Archive
CatSheet	Flash Application	122 KB	Archive

Selecting a Connected Calculator

The TI Connect™ CE software allows you to simultaneously connect multiple calculators. Click on the calculator you want to work with to select it. The selected calculator becomes the default calculator for all TI Connect™ CE software actions.

Before you Begin

Connect the calculator to the computer and make sure it appears in the Content Panel.

Copying Calculator Files to the Computer

You can copy most data, files, and programs from your calculator to your computer as a content backup, to send to others, or to free up calculator memory.

To copy a file from the calculator to the computer

1. Click on the file name to select it.
2. Drag and drop the file into a folder on your computer or onto your desktop.

Warning: Do not disconnect the cable during a transfer.

To copy a file from the computer to the calculator

1. Navigate to the desired file on your computer.
2. Drag the file to the Calculator List Panel and hover over the desired calculator.
3. Release the mouse button when you see  **Copy**.
4. Select a file name from the drop-down menu. This will be the name of the file on your calculator.
5. Click **Send**.

Sending Files to Connected Calculators

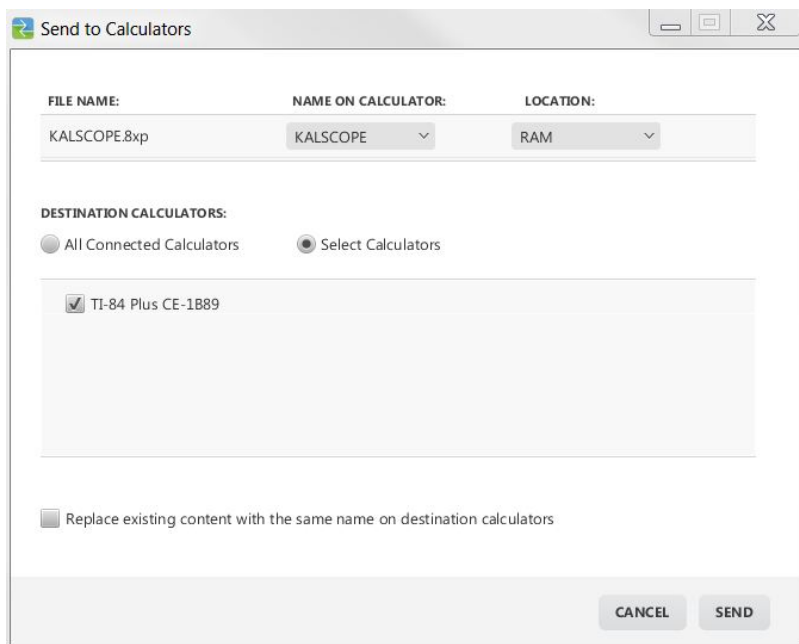
You can send files to calculators connected to TI Connect™ CE software.

Warning: Do not disconnect the cable during a transfer.

To send files to connected calculators

1. Click the file(s) to select it.

2. Click .



- **DESTINATION CALCULATORS:** Select whether you want to send the file to all connected calculators, or just selected calculators (from a check list).

To send files to select calculators

1. Select the **Select Calculators** button on the dialog box.
2. Check the boxes next to the calculators you want to select.
3. Click **Send**.

Converting and Sending Background Images

The TI-84 Plus CE can display background images and Pic Vars. These variables display in the graph area.

Note: All information on background images also applies to the TI-84 Plus C Silver Edition and the TI-83 Premium CE.

Working with Background Images

The TI Connect™ CE software automatically converts any image you send to a connected calculator into a Background Image Var. Your image may display differently in the graph area than you expect given the conversion to the pixel dimensions of 83 x 133.

Note: For best results, please edit your image to be proportional to 83 x 133 pixels prior to the conversion to 83 x 133 pixels.

The conversion to the Background Image Var uses 16-bit color.

You can also upload a Background Image Var into the TI-84 Plus CE emulator view in TI-SmartView™ CE software.

On the TI-84 Plus CE, a Background Image Var displays as the background in the graph area only. A background image will display scaled for the MODE screen settings of Full, Horizontal, and Graph-Table. This preserves any mathematical modeling done on a background. You cannot edit a background image while working on the TI-84 Plus CE. Background images run from and are stored in Archive memory.

Sending a Background Image to a Connected Calculator

You can send a background image and display it in the graph area of the TI-84 Plus CE.



1. Open the TI Connect™ CE software.
2. Choose the Calculator Explorer workspace.
3. Connect the TI-84 Plus CE to the computer using the cable.
4. Turn on the TI-84 Plus CE.
5. Choose the image you want to convert.
6. Drag the picture to the Calculator List Panel and hover over the desired calculator.
7. Release the mouse button when you see .
8. Select an Image# name from the drop-down menu (Image0 - Image9). This will be the name of the image on the TI-84 Plus CE.

Note: The Image# name you choose becomes the image name on your calculator. Note this Image# name (or make it part of the file name on your computer) for identification when you want to send or share this file.

WARNING: Pre-loaded images are stored in Image1 - Image5. Use other Image# to avoid overwriting the pre-loaded images.

9. Click **Send**.
 - Rename the computer file so you can identify your Image Var later (bridge, fountain, etc.) The Image# internal calculator var name will not be changed.
 - To save the background image to your computer, drag the Image# from the Calculator Explorer to your desktop or to the folder where you want to save it.

- To display your new background image in the graph area of the TI-84 Plus CE, press **[2nd]** **[format]** change the **Background** setting to the Image# you just sent to the calculator (example: Image5), and press **[graph]**.

Note: From the graph screen on the calculator, you can also change the Background using **[draw]; BACKGROUND; 1:BackgroundOn** interactive command.

Deleting Calculator Files

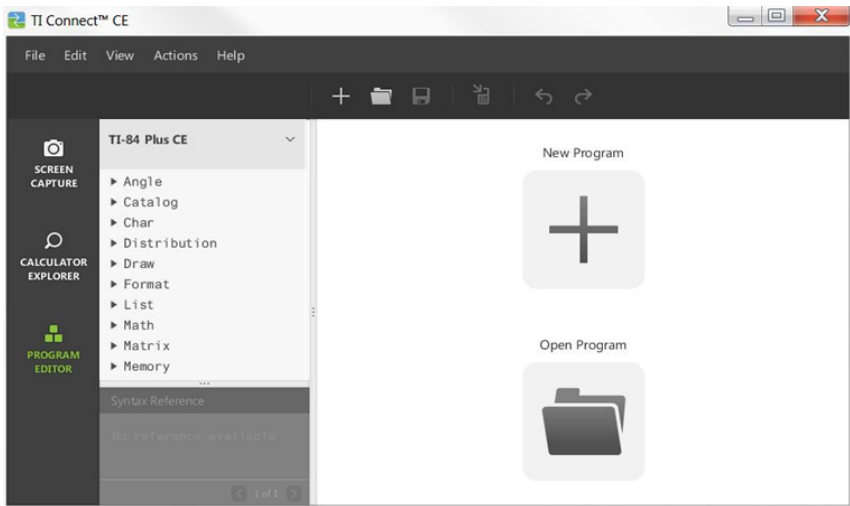
You can delete data, files, and programs from your calculator.

To delete files from the calculator

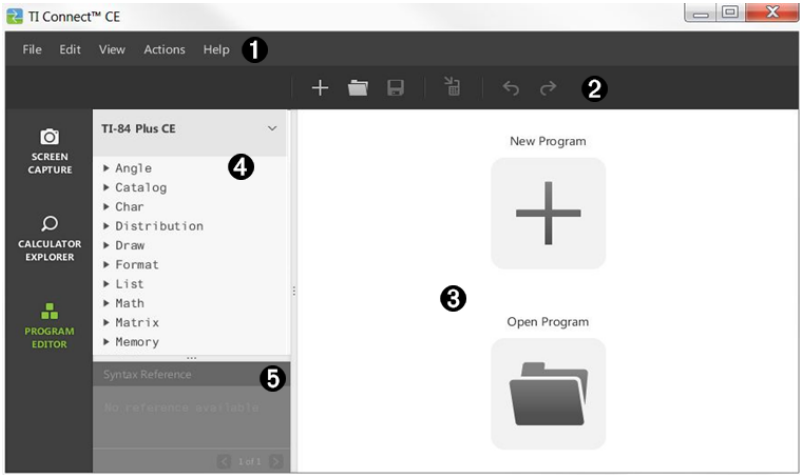
1. Click on the file name to select it.
2. Press .

Using the Program Editor Workspace

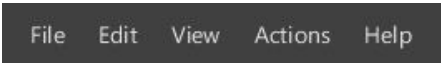
The Program Editor Workspace allows you to work with data variables.



Parts of the Program Editor Workspace



-
- 1 Menu Bar** - Use these menus to manage files and programs, and to get help.



Note: You can complete most of the actions in these menus by dragging and droppings items from the Content Panel.

-
- 2 Toolbar** - Click these icons to add, open, and save programs, and to send programs to your calculator.



-
- 3 Content Panel** - Use this panel to create, view, and edit programs.



-
- 4 Catalog Panel** - Use this panel to select your calculator type and then choose from lists (by category) to create programs.



-
- 5 Syntax Reference Panel** - Use this panel to view the proper syntax of each command along with required and optional arguments.



Creating a New Program

When no programs are open, the Content Panel displays only the New Program and Open Program icons.

To create a new program

- ▶ Click the **New Program** icon.



To open an existing program

1. Click the **Open Program** icon.
2. Navigate to the appropriate folder.
3. Click **Open**.



Editing a Var Name

New program names are PROG##. The numbers run in sequence, ex: PROG01, PROG02.

To change the program name

- Click inside the **Var Name** box and type in a new name up to 8 letters or numbers (first cannot be a number.)

VAR NAME:

Protecting Your Program

TI Connect™ CE software allows you to protect your program from being edited after the program is sent to a connected calculator.

To protect your program

- Click the check box next to the lock icon.  

Saving a Program to Your Computer

The asterisk at the beginning of a program name indicates that the program is not saved.

To save a program

1. Click .
2. Navigate to the appropriate folder.
3. Click **Save**.

Closing a Program

To close a program

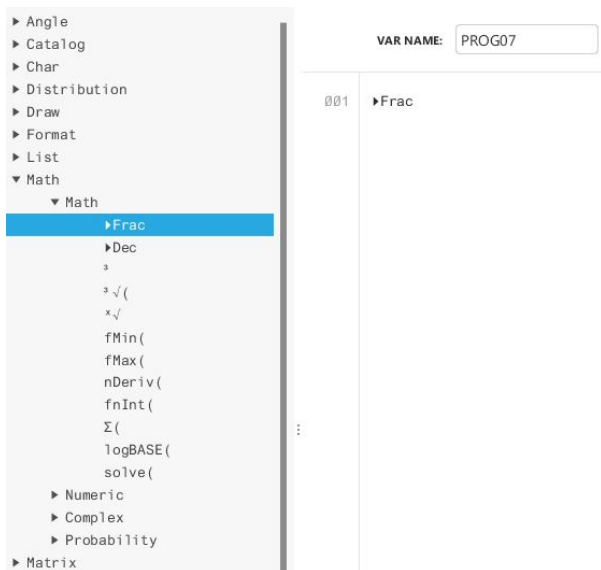
- Click the **x** by the program name.

Using the Catalog Panel

The Catalog Panel contains a list of calculator commands, functions, variables, and symbols you can use to create programs.

To expand or collapse a Catalog level

- Click the triangle beside each Catalog entry.



To place a Catalog entry in the Content Panel

- ▶ Drag and drop the Catalog entry into the Content Panel.

-OR-

- ▶ Double-click the Catalog entry.

Note: Either of the above will place the Catalog entry after the cursor.

Note: It is a best practice to use the catalog of commands and symbols to paste to the editor to avoid syntax error due to incorrect use of upper and lower case in commands. (Ex. nDeriv and not Nderiv; Thick and not thick)

Note: The commands are not made into the calculator commands (tokens) until the program is sent to the calculator. If there is an error when your program sends to the calculator or runs on the calculator, check to see if every command in the calculator program edit mode is actually a command token. When a command is a token on the calculator, the cursor will be on the first character and then jump over the command as a token. If the cursor moves letter by letter through a command, that command did not get converted! Delete and paste the command from the calculator.

Note: The language setting of TI Connect™ CE determines how the text is interpreted as a command token for the calculator. Opening programs and

sending back to the calculator with TI Connect™ CE in different languages may result in undesired command tokens leading to syntax errors.

Using the Syntax Reference Panel

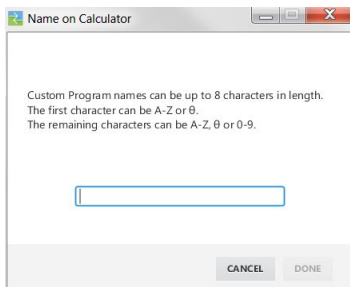
The Syntax Reference Panel displays the syntax of each Catalog entry, including required and optional arguments.

Sending a Program to a Calculator

You can send a program to a connected calculator.

To send a program to a connected calculator

1. If you have not already done so, save the program.
 2. Click .
- **FILE NAME:** This may differ from the **NAME ON CALCULATOR** depending on what you named the program on your computer.
 - **NAME ON CALCULATOR:** select the program name (it should be the default, but you may change the program name by clicking **Custom**).



- **LOCATION:** Choose whether you save the program in the calculator's RAM or Archive.
- **DESTINATION CALCULATORS:** Select whether you want to send the program to all connected calculators, or just selected calculators (from a check list).

To send programs to multiple calculators

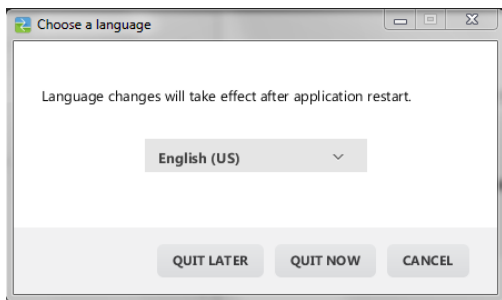
1. Select the **Select Calculators** button on the dialog box.
2. Check the boxes to next to the calculators you want to select.

3. Click **Send**.

Language Settings

If you wish to develop a TI-Basic program in a language different than your computer OS language setting, you can re-launch TI Connect™ CE in another language.

1. Select **File > Change Language**.
2. Select the language change after restart of the application.



- **QUIT LATER** - Retains the language selected and TI Connect™ CE will launch in this selected language the next time TI Connect™ CE is launched.
- **QUIT NOW** - Restarts TI Connect™ CE in the selected language.
- **CANCEL** - No language change. Computer OS language will be the default.

Maintaining Your Calculator

Updating the Calculator Operating System

TI Connect™ CE software lets you download operating systems for graphing calculators.

Before you begin

- Backup your calculator files (RAM, Archive, and Apps).
- Make sure your calculator is turned on and securely connected to the computer.
- If you have multiple calculators connected with USB computer cables, disconnect all of them except the one you intend to update.

Warning: Do not disconnect the cable during a transfer.

To update graphing calculator operating systems

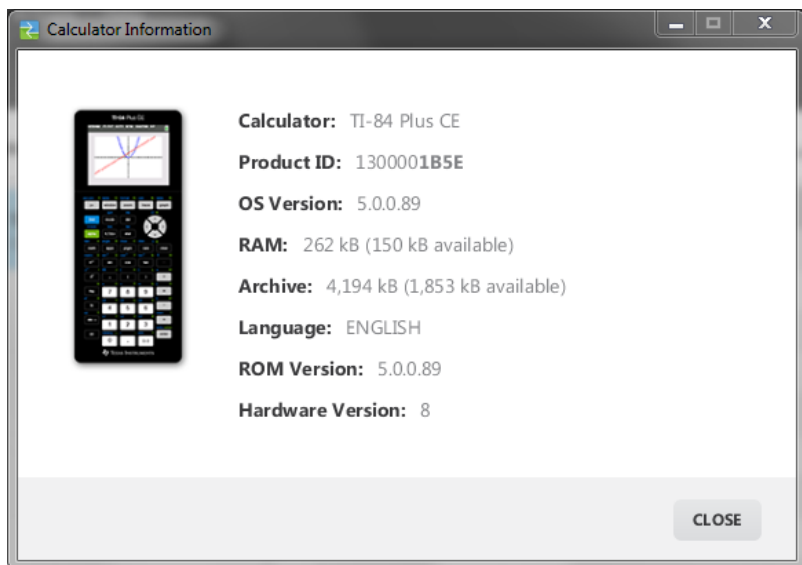
1. Click **Actions > Send OS**.
2. Navigate to the correct OS file for your model of calculator stored on your computer.
3. Click **Open**.

Getting Calculator Information

TI Connect™ CE software allows you to get information about your calculator's type, product ID, OS Version, RAM, Archive, Language, ROM Version, and Hardware Version.

To view calculator information

- ▶ Click **View > Calculator Information**.



Compatibility with Graphing Calculators

Please refer to the TI-84 Plus CE Getting Started Guide for compatibility with graphing calculators. Also see the TI-83 Premium CE Getting Started Guide.

Note: In general, TI-84 Plus CE graphing calculator files are compatible with other TI-84 Plus and TI-83 Plus models.

Apps, Operating Systems and some data files with unsupported numeric types do not share between models.

TI-Basic programs may need to be modified to correctly display on the high resolution color screen models.

General Information

Texas Instruments Support and Service

General Information: North and South America

Home Page:	education.ti.com
KnowledgeBase and e-mail inquiries:	education.ti.com/support
Phone:	(800) TI-CARES / (800) 842-2737 For North and South America and U.S. Territories
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For Technical Support

Knowledge Base and support by e-mail:	education.ti.com/support or ti-cares@ti.com
Phone (not toll-free):	(972) 917-8324

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Home Page:	education.ti.com

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