



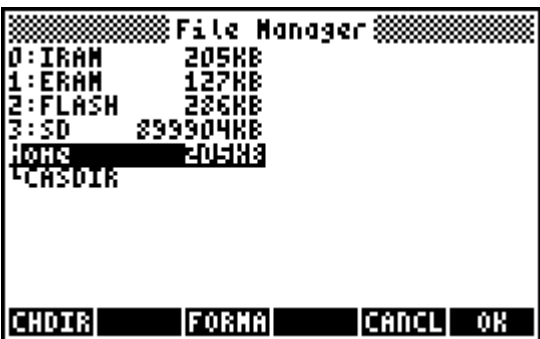



1 Installation

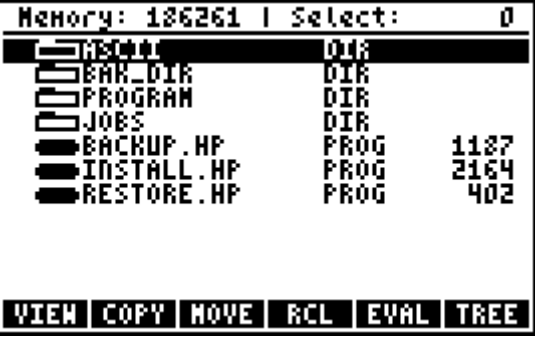

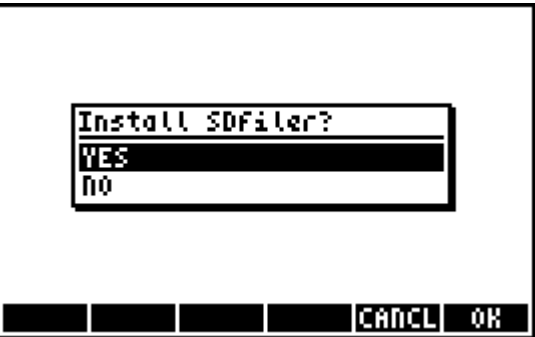
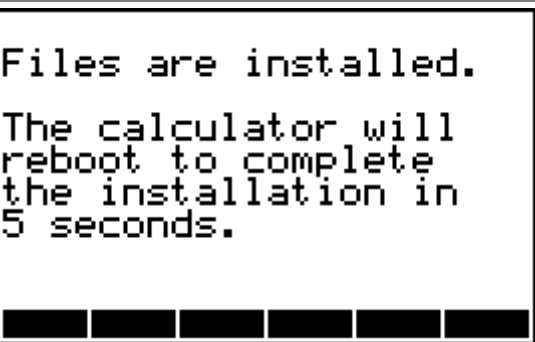
You can install and preview **COGO+ Pro**, **COGO+ Std** or **COGO+ Lt** prior to purchasing an Activation Code. The software functions in a DEMO mode until activation.

1.1 Install COGO+ Pro or COGO+ Std with SD Card

Installation requirements:

1. Internet connection to download files
2. Software to unzip *.zip files, such as [7-Zip](#)
3. SD card **NOTE: THE 49G+ AND 50G CALCULATORS DO NOT RECOGNIZE SDHC CARDS, A SD CARD IS 2 GB OR SMALLER CAPACITY.**
4. SD card reader to transfer the files to the SD card
5. HP 49g+ or 50g calculator. **NOTE: FOR COGO+ TO FUNCTION AS INTENDED YOU SHOULD HAVE ROM VERSION 2.00 OR LATER INSTALLED, OLDER 49G+ CALCULATORS MAY REQUIRE A ROM UPDATE.**
6. Minimum 125KB of free space in the HOME directory of your calculator

Step	Description
Step 1	Download and save the COGOpro.zip or COGOstd.zip file on your computer.
Step 2	Extract the contents of the zip file. This can usually be achieved by ‘right-clicking’ on the file and selecting “Extract here” or “Extract files” or similar. THE RESULT SHOULD BE A DIRECTORY NAMED COGOPLUS WITH FILES AND SUB-DIRECTORIES WITHIN IT.
Step 3	Copy the entire COGOPLUS directory to your SD card. IT IS IMPORTANT TO PLACE THIS DIRECTORY INTO THE ROOT DIRECTORY OF THE SD CARD AND NOT INTO SOME DIRECTORY THAT EXISTS ON YOUR SD CARD.
Step 4	Insert your SD card into your calculator’s card slot and open the File Manager. TO OPEN THE FILE MANAGER USE , THEN  KEY. 
Step 5	Press the  key to browse the SD card, or select 3:SD and press the  key.
Step 6	Locate the COGOPLUS directory on the SD card, then select it and press the  key to browse the directory.

Step 7	<p>Select the INSTALL.HP program and press F5 EVAL to run the installation program.</p> <p>NOTE: USE THE BACKUP.HP FILE IN THE DIRECTORY TO CREATE BACKUPS AT ANY TIME. THE RESTORE.HP FILE RESTORES A SAVED BACKUP. SEE Chapter 4 FOR MORE INFORMATION ON BACKING UP AND RESTORING THE CALCULATOR.</p>	
Step 8	<p>A backup prompt provides the option to back up your calculator before installing the software. If you choose to back up your calculator, you will need to enter a name to store the backup file. ALL BACKUPS ARE STORED IN THE COGOPLUS\BAK_DIR DIRECTORY ON THE SD CARD.</p>	
Step 9	<p>The program displays the name of the file that is currently being installed. For example "Installing L930.HP" is shown while installing Library 930. FIVE SEPARATE LIBRARIES WILL BE INSTALLED (930, 931, 932, 933 AND 934) WITH COGO+ PRO, WHILE FOUR LIBRARIES (930, 931, 932 AND 933) ARE INSTALLED WITH COGO+ STD.</p>	
Step 10	<p>The option to install SDfiler is presented if the software is not already installed. SDfiler IS A THIRD PARTY APPLICATION THAT WILL BE OF BENEFIT TO ANYONE EXPORTING ASCII FILES TO THE SD CARD AND IMPORTING THESE FILES INTO CAD OR VIEWING THEM ON THE COMPUTER. TWO ADDITIONAL LIBRARIES WILL BE INSTALLED (935 AND 936) FOR THE SDFILER APPLICATION.</p>	
Step 11	<p>A screen displays the message that all files have been installed and a six second countdown begins until the calculator automatically reboots to complete the installation.</p>	

Update with SD Card

To update **COGO+ Pro** or **COGO+ Std** with your SD card simply follow the same instructions as for a fresh installation. Overwrite all existing files when copying a new **COGOPLUS** directory to the SD card by choosing “Yes to all” to replace the old files with the latest files. Any additional files you have stored within the **COGOPLUS** directory will be left intact.



1.2 Install COGO+ Pro or COGO+ Std with USB Cable

Installation requirements:

1. Internet connection to download files
2. Software to unzip *.zip files, such as [7-Zip](#)
3. HP Calculator Connectivity Kit (Conn4x) available from [HP Website](#)
4. HP 49g+ or 50g calculator. **NOTE: FOR COGO+ TO FUNCTION AS INTENDED YOU SHOULD HAVE ROM VERSION 2.00 OR LATER INSTALLED, OLDER 49G+ CALCULATORS MAY REQUIRE A ROM UPDATE.**
5. Minimum 125KB of free space in the HOME directory of your calculator

NOTE: These instructions are for the Windows Operating System and are provided to allow installation with the minimum available memory on the calculator.

Step	Description
Step 1	Download and save the COGOpro.zip or COGOstd.zip file on your computer.
Step 2	Extract the contents of the zip file. This can usually be achieved by ‘right-clicking’ on the file and selecting “Extract here” or “Extract files” or similar. THE RESULT SHOULD BE A DIRECTORY NAMED COGOPLUS WITH FILES AND SUB-DIRECTORIES WITHIN IT.
Step 3	Locate and open the COGOPLUS directory and then open the PROGRAM sub-directory. If you downloaded the COGOpro.zip file you should see L930.HP, L931.HP, L932.HP, L933.HP, L934.HP, L935.HP and L936.HP in this sub-directory. You will be missing the L934.HP file if you downloaded the COGOstd.zip file.
Step 4	Connect your calculator to the USB cable and start the Connectivity Software, then from the File Menu select “Connect” to start the connection.
Step 5	Drag and drop the first file L930.HP from the PROGRAM sub-directory on your computer into your HOME directory on the calculator.

Step 6	Disconnect (File Menu/Disconnect) from the connectivity kit following the transfer. Next, on your calculator you should see the softkey for (F1 A) labelled L930 , if not press the (VAR) key. Press (F1 A) to recall the library file to the stack, then enter 2 STO to store library 930 in Port 2.	
Step 7	Purge the L930 variable by quoting it and entering the command PURGE. To quote the L930 variable, press the (') key followed by (F1 A) .	
Step 8	Repeat steps 4-7 for L931.HP, L932.HP, L933.HP and L934.HP if installing COGO+ Pro , or just for L931.HP, L932.HP and L933.HP if installing COGO+ Std .	
Step 9	Reboot (warmstart) the calculator to complete the installation. HOLD DOWN THE (ON) KEY AND PRESS THE (F3 C) KEY, THEN RELEASE BOTH TO REBOOT.	

Update with USB Cable

To update **COGO+ Pro** or **COGO+ Std** using the Connectivity Kit software, first delete the existing libraries from Port 2 then follow the same instructions as for a fresh installation. To delete a library from a Port, enter the Port and Library ID in the format :Port:LibID, for example :2:930, followed by the PURGE command. Repeat this step for libraries 931, 932, 933 and 934.

LIBRARIES MAY ALSO BE DELETED BY USING THE FILE MANAGER.



1.3 Install COGO+ Lt on HP 48gii, 49g+ or 50g with USB Cable



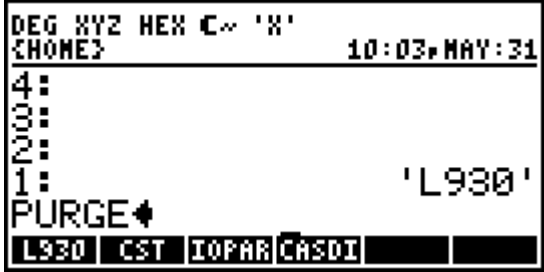


Installation requirements:

1. Internet connection to download files
2. Software to unzip *.zip files, such as [7-Zip](#)
3. HP Calculator Connectivity Kit (Conn4x) available from [HP Website](#)
4. HP 48gii calculator
5. Minimum 100KB of free space in the HOME directory of your calculator. **NOTE: THERE ARE TWO VERSIONS OF THE 48GII PRODUCED. THE EARLIER VERSION DOES NOT HAVE ENOUGH MEMORY TO RUN COGO+ LT. THE LATER VERSION HAS FOUR BATTERIES, BOTH USB AND SERIAL CONNECTORS, AND MORE MEMORY.**

NOTE: These instructions are for the Windows Operating System and are provided to allow installation with the minimum available memory on the calculator.

Step	Description
Step 1	Download and save the COGOlt48.zip file on your computer if installing on the 48gii, or download and save the COGOlt50.zip file on your computer if installing on the 49g+ or 50g.
Step 2	Extract the contents of the zip file. This can usually be achieved by 'right-clicking' on the file and selecting "Extract here" or "Extract files" or similar. THE RESULT SHOULD BE A DIRECTORY NAMED COGOPLUS WITH THREE FILES IN IT.
Step 3	Locate and open the COGOPLUS directory, you should see L930.HP, L931.HP and L932.HP in this directory.
Step 4	Connect your calculator to the USB cable and start the Connectivity Software, then from the File Menu select "Connect" to start the connection.
Step 5	Drag and drop the first file L930.HP from the COGOPLUS directory on your computer into your HOME directory on the calculator.
Step 6	Disconnect (File Menu/Disconnect) from the connectivity kit following the transfer. Next, on your calculator you should see the softkey for [F1 A] labelled L930 , if not press the [VAR] key. Press [F1 A] to recall the library file to the stack, then enter 0 STO to store library 930 in Port 0. On the 50g it is recommended to store the libraries into Port 2 by entering 2 STO instead of 0 STO.



Step 7	Purge the L930 variable by quoting it and entering the command PURGE. To quote the L930 variable, press the  key followed by  .	
Step 8	Repeat steps 4-7 for L931.HP and L932.HP.	
Step 9	Reboot (warmstart) the calculator to complete the installation. HOLD DOWN THE  KEY AND PRESS THE  KEY, THEN RELEASE BOTH TO REBOOT.	

Update with USB Cable

To update **COGO+ Lt** using the Connectivity Kit software, first delete the existing libraries from Port 0 then follow the same instructions as for a fresh installation. To delete a library from a Port, enter the Port and Library ID in the format :Port:LibID, for example :0:930, followed by





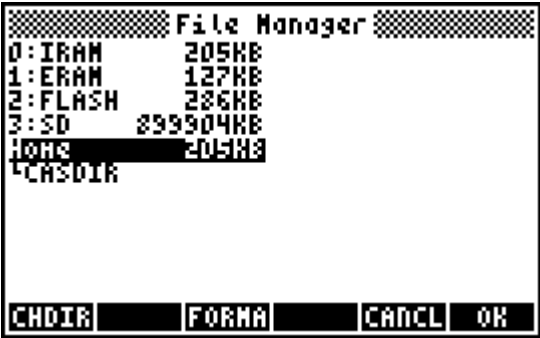




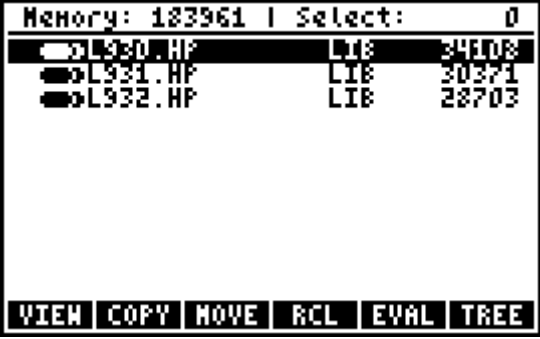




the PURGE command. Repeat this step for libraries 931 and 932. LIBRARIES MAY ALSO BE DELETED BY USING THE FILE MANAGER.

1.4 Install COGO+ Lt on HP 49g+ or 50g with SD Card

Installation requirements:

1. Internet connection to download files
2. Software to unzip *.zip files, such as [7-Zip](#)
3. SD card **NOTE: THE 49G+ AND 50G CALCULATORS DO NOT RECOGNIZE SDHC CARDS, A SD CARD IS 2 GB OR SMALLER CAPACITY.**
4. SD card reader to transfer the files to the SD card
5. HP 49g+ or 50g calculator. **NOTE: FOR COGO+ TO FUNCTION AS INTENDED YOU SHOULD HAVE ROM VERSION 2.00 OR LATER INSTALLED, OLDER 49G+ CALCULATORS MAY REQUIRE A ROM UPDATE.**
6. Minimum 125KB of free space in the HOME directory of your calculator

Step	Description
Step 1	Download and save the COGOlt50.zip file on your computer.

Step 2	Extract the contents of the zip file. This can usually be achieved by ‘right-clicking’ on the file and selecting “Extract here” or “Extract files” or similar. THE RESULT SHOULD BE A DIRECTORY NAMED COGOPLUS WITH THREE FILES IN IT.
Step 3	Copy the entire COGOPLUS directory to your SD card.
Step 4	<p>Insert your SD card into your calculator’s card slot and open the File Manager. TO OPEN THE FILE MANAGER USE , THEN  KEY.</p> 
Step 5	Press the  key to browse the SD card, or select 3:SD and press the  key.
Step 6	Locate the COGOPLUS directory on the SD card, then select it and press the  key to browse the directory.
Step 7	<p>Select the L930.HP library file and press  COPY to copy the file.</p> 
Step 8	<p>Note the message at the top of the screen “PICK DESTINATION”. Select 2:FLASH and press  OK. The calculator returns to the SD directory when the file copy is completed.</p> 
Step 9	Repeat Steps 7 and 8 for L931.HP and L932.HP.
Step 10	Reboot (warmstart) the calculator to complete the installation. HOLD DOWN THE  KEY AND PRESS THE , THEN RELEASE BOTH TO REBOOT.


Update with SD Card

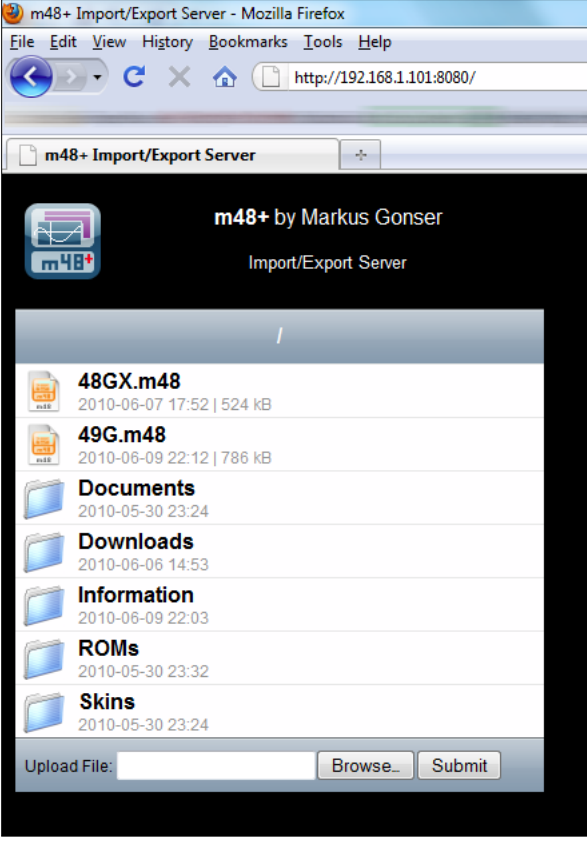
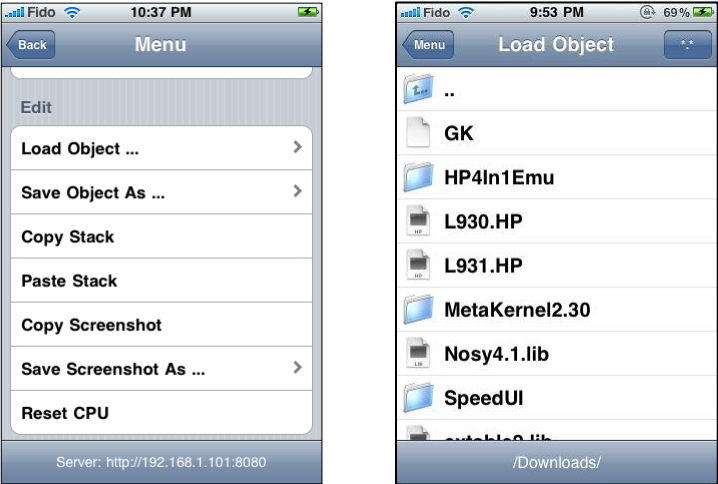
To update **COGO+ Lt** with SD Card, first delete the existing libraries from Port 0, 1 or 2 then follow the same instructions as for a fresh installation. To delete a library from a Port, enter the Port and Library ID in the format :Port:LibID, for example :0:930, followed by the PURGE command. Repeat this step for libraries 931 and 932. **LIBRARIES MAY ALSO BE DELETED BY USING THE FILE MANAGER.**





1.5 Install COGO+ Lt on m48+ for iPhone

Installation requirements:

1. Internet connection to download files
2. Software to unzip *.zip files, such as [7-Zip](#)
3. iPhone, iPod Touch or iPad
4. m48+ App installed on your device, available at the App Store
5. HP 49g calculator setup on m48+ as per the instructions under “Tips’n’ticks ...”
6. Minimum 100KB of free space in the HOME directory of your m48+ calculator
7. PC or Mac with Wi-Fi internet connection

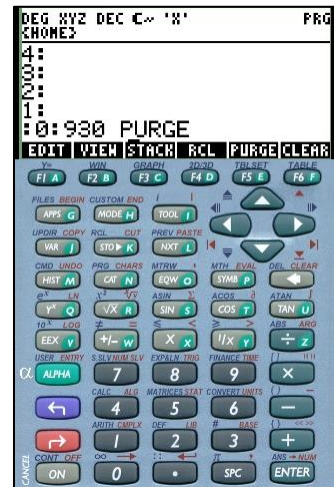
Step	Description
Step 1	Download and save the COGOlt48.zip file on your computer.
Step 2	Extract the contents of the zip file. This can usually be achieved by ‘right-clicking’ on the file and selecting “Extract here” or “Extract files” or similar. THE RESULT SHOULD BE A DIRECTORY NAMED COGOPLUS WITH FILES AND SUB-DIRECTORIES WITHIN IT. MAKE A NOTE OF WHERE YOU SAVED THIS DIRECTORY.
Step 3	<p>Under “Settings” within the m48+ App “Enable on WLAN” for the Import/Export Server. The server IP address will be visible when you return back to the “Menu”.</p> 

<p>Step 4</p>	<p>Enter the IP address into your browser to start the Import/Export. Next open the directory within the Import/Export Server window where you wish to save the files to, for example a 'Downloads' directory. Next click "Browse.." to locate the COGOPLUS directory that was extracted earlier. Open the directory and select one of the files (L930.HP, L931.HP or L932.HP) and click "Submit". Repeat for the other files so that all three files are transferred. You may disable "Enable on WLAN" once all files are transferred.</p>	
<p>Step 5</p>	<p>Select 'Load Object' from the Menu and find the L930.HP, L931.HP and L932.HP files.</p>	

Step 6	<p>Select one of the files and return to the calculator to store it into Port 0 and then repeat for the other files.</p>  
Step 7	<p>Reboot (warmstart) the calculator to complete the installation. HOLD DOWN THE  KEY AND PRESS THE  KEY, THEN RELEASE BOTH TO REBOOT.</p>

Update on m48+

To update **COGO+ Lt** on m48+, first delete the existing libraries from Port 0 then follow the same instructions as for a fresh installation. To delete a library from a Port, enter the Port and Library ID in the format :Port:LibID, for example :0:930, followed by the PURGE command. Repeat this step for libraries 931 and 932. **LIBRARIES MAY ALSO BE DELETED BY USING THE FILE MANAGER.**

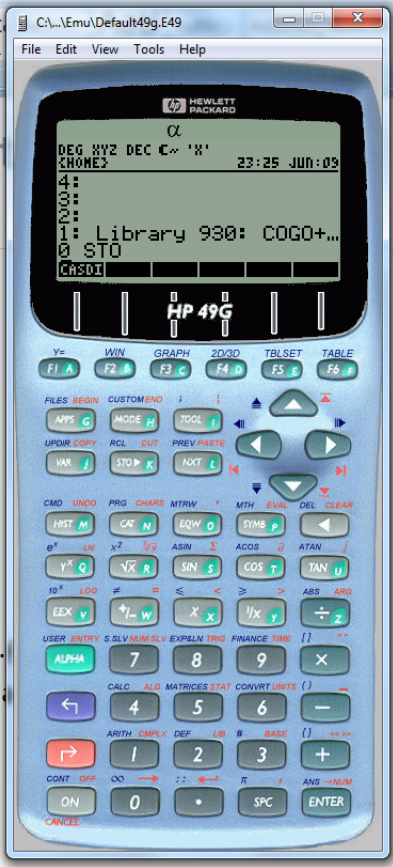


1.6 Install COGO+ Lt on Emu48 for Windows

Installation requirements:

1. Internet connection to download files
2. Software to unzip *.zip files, such as [7-Zip](#)
3. Emu48 installed on your Windows PC, Emu48 is included with [Debug4x](#)
4. HP 48gii or 49g calculator setup on Emu48
5. Minimum 100KB of free space in the HOME directory of your Emu48 calculator

Step	Description
Step 1	Download and save the COGOlt.zip file on your computer.





Step 2	Extract the contents of the zip file. This can usually be achieved by ‘right-clicking’ on the file and selecting “Extract here” or “Extract files” or similar. THE RESULT SHOULD BE A DIRECTORY NAMED COGOPLUS WITH FILES AND SUB-DIRECTORIES WITHIN IT. MAKE A NOTE OF WHERE YOU SAVED THIS DIRECTORY.
Step 3	Open Emu48 and load your 48gii or 49g calculator
Step 4	<p>From the “Edit” drop-down menu select “Load Object...” and browse to the COGOPLUS directory. Select one of the files and return to the calculator to store it into Port 0 and then repeat for the other files.</p> 
Step 5	Reboot (warmstart) the calculator to complete the installation. CLICK THE ON KEY AND PRESS THE F3C KEY, THEN RELEASE BOTH TO REBOOT.

Update on Emu48




To update **COGO+ Lt** on Emu48, first delete the existing libraries from Port 0 then follow the same instructions as for a fresh installation. To delete a library from a Port, enter the Port and Library ID in the format :Port:LibID, for example :0:930, followed by the PURGE command. Repeat this step for libraries 931 and 932. **LIBRARIES MAY ALSO BE DELETED BY USING THE FILE MANAGER.**

1.7 Running COGO+







Once installed, there are several ways to run the software. All the options should work regardless of RPN or ALGebraic mode set and should be consistent across all three editions of **COGO+**.

1. Open the library menu by using  then . This will display all the libraries installed on the calculator as softkeys. Find the softkey labeled **COGO+** and press it to reveal the available commands within the library. Press  **COGO+** to start the software.
2. Lock Alpha mode and enter the command name **COGO+** directly.
3. Press the  key to open the applications menu. Somewhere near the bottom of the list will be an entry similar to *15.SGS COGO+ Pro*. The number in front of the name may vary.



1.8 COGO+ Library Menu

When you open the library menu by using  then  and selecting **COGO+**, you will see a full row of softkeys. There are three pages of available commands, use the  key to cycle through the menu pages.

First Page Menu

1.  **COGO+** - Starts the COGO+ software.
2.  **DMS->** - Converts a number on the stack from DMS to decimal degrees.
3.  **->DMS** - Converts a number on the stack from decimal degrees to DMS.
4.  **DMS+** - Adds the DMS number on Level 1 of the stack to the DMS number on Level 2 of the stack.
5.  **DMS-** - Subtracts the DMS number on Level 1 of the stack from the DMS number on Level 2 of the stack.
6.  **DMSx** - Multiplies the DMS number on Level 2 of the stack by the factor (decimal) on Level 1 of the stack.

Second Page Menu

1.  **DMS/** - Divides the DMS number on Level 2 of the stack by the factor (decimal) on Level 1 of the stack.
2.  **BACKU** - Launches the BACKUP.HP program from the **COGOPLUS** directory on the SD card to create a calculator backup. The full command name is **BACKUPsgs. SD CARD WITH THE COGOPLUS DIRECTORY IS REQUIRED.**

3. **[F3] RESTO** - Launches the RESTORE.HP program from the **COGOPLUS** directory on the SD card to restore a previously saved backup. The full command name is **RESTOREsgs**. **SD CARD WITH THE COGOPLUS DIRECTORY IS REQUIRED.**
4. **[F4] UPDAT** - Launches the INSTALL.HP program from the **COGOPLUS** directory on the SD card to update **COGO+** to the latest files that are stored in the **COGOPLUS/PROGRAM** directory, the full command name is **UPDATEsgs**. **SD CARD WITH THE COGOPLUS DIRECTORY IS REQUIRED.**
5. **[F5] RCLsg** - Recalls the 3D coordinates of a point number in the current **COGO+** job. With a point number on Level 1 of the stack, invoke this command to return the Northing on Level 4 of the stack, the Easting on Level 3 of the stack, the Elevation on Level 2 of the stack, and the number 1 on Level 1 of the stack to indicate a successful operation. When the point does not exist, only the number 0 is returned on Level 1 of the stack. The full command name is **RCLsgs**.
6. **[F5] ST0sg** - Stores the 3D coordinates from the stack to a point in the current **COGO+** job. With the Northing on Level 4 of the stack, the Easting on Level 3 of the stack, the Elevation on Level 2 of the stack, and the point number on Level 1 of the stack; this command will store the coordinates. A overwrite prompt ensures existing points are not accidentally overwritten, and all points stored this way will receive the point descriptor **SGSsto**. The full command name is **STOsgs**.

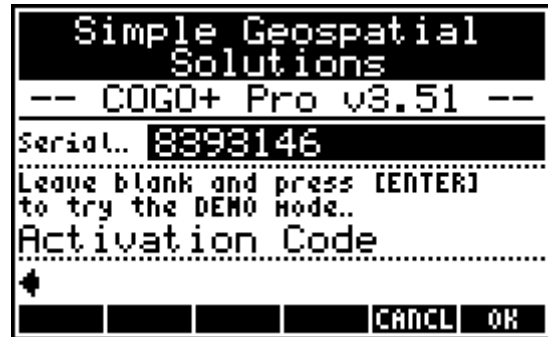
Third Page Menu

1. **[F1] op911** - Emergency 2 step data recovery operation that attempts to correct corrupt memory issues on the calculator. All **COGO+** data will be lost during this operation, however the user variables in the HOME directory should be intact after the operation is complete. Step 1 saves all the data from HOME to a temporary place on the SD card, the user then performs a hard reset and runs Step 2 to restore the HOME directory. This method does not guarantee success, but is recommended to try to save the HOME directory before performing a hard reset to restore the calculator to factory settings. **SD CARD IS REQUIRED.**
2. **[F2] SGS** - Displays the *Simple Geospatial Solutions* logo on the screen.
3. **[F3] about** - Displays information about the installed **COGO+** version, the calculator serial number and activation code and contact information for *Simple Geospatial Solutions*. The full command name is **aboutCOGO+**.

1.9 Activation Code

An activation screen appears when you run the software for the first time, or any time prior to activation. Enter your code to activate the software or leave blank to try the DEMO mode.

The serial number required to generate the activation code is displayed on this screen. ***You will need this serial number when you purchase the activation code.***



THE DEMO MODE PROVIDES LIMITED FUNCTIONALITY AND IS INTENDED TO ALLOW AN EVALUATION OF THE SOFTWARE PRIOR TO PURCHASING AN ACTIVATION CODE.